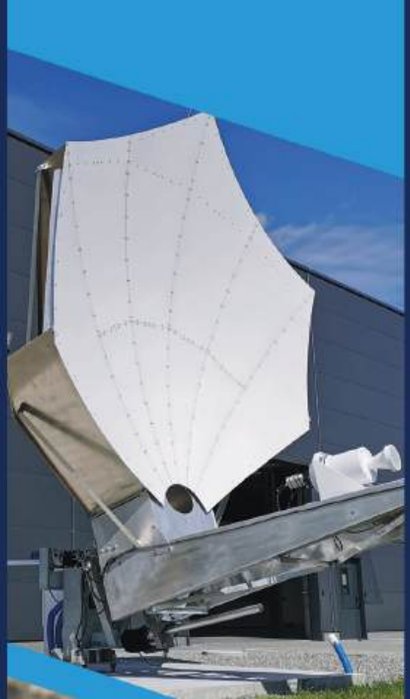










POLISH DEFENCE & SECURITY EQUIPMENT CATALOGUE 2026

PL

BBN NATIONAL SECURITY BUREAU

Ministry of National Defence

Polish Defence and Security Equipment Catalogue

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FOREWORD

The fourth edition of Polish Defence and Security Equipment Catalogue 2026 features our country's best and advanced defence industry technologies, products and services available for export to partners worldwide. The portfolio of Polish manufacturers constitutes wide range of armament and defence systems, including widely needed unmanned platforms and counter-UAS systems. Therefore, it seems worthy to explore this catalogue to find out how Polish industry can help to meet your defence and security requirements.

This Catalogue also serves as a unique tool for potential partners worldwide who are seeking international research collaboration and business development opportunities, as well as mutually beneficial partnerships. Over recent years, our defence industrial base has grown and matured, especially in high-tech and niche areas, and is steadily adapting to evolving defence requirements. Notably, the aerospace sector has become an emerging star of Polish industry, particularly in unmanned systems, satellite technologies, suborbital flight technologies, and other space-related ventures.

The publication is also excellent occasion to highlight that the origins of our defence industry date back to November 1918, when Poland regained independence. During rebuilding the state, the emphasis was placed on the systematic development of scientific and technical expertise and on the creative potential of researchers, designers and engineers. In 1936 the Central Industrial Region was established along the Vistula and San rivers as a modern design-and-manufacturing complex. The legacy of these efforts continues to shape today's defence sector. Many enterprises founded there remain in operation today, producing the armament for Polish Armed Forces. Some of their weaponry, including modern artillery systems, have been used successfully by Ukrainian military fighting against Russian aggressor, becoming battle-proven and highly evaluated. Moreover, the lessons learned by Polish defence companies from Ukrainian conflict and our rising defence expenditure provide additional impulse for further growth and innovation development of miliary and dual-use industrial base. There is not only increase in defence production capability in Poland, but R&D initiatives and investments are also on the rise. Generally business opportunities for defence and dual use innovators are improving significantly.

A strong international example of this phenomenon is Poland's full participation in NATO's DIANA Accelerator Programme (Defence Innovation Accelerator for the North Atlantic). This year, Poland further strengthened its innovation infrastructure by establishing the first NATO DIANA Living Lab at Gdańsk University of Technology, in partnership with Fort Kraków - one of NATO DIANA's 16 accelerator sites - and with the support of the Ministry of National Defence. The launch of the Living Lab represents a crucial step forward in Poland's effort to accelerate the adoption of innovative solutions by providing a near-operational environment that is accessible to defence primes, investors, and end users from Allied nations. Its strategic location near the Baltic Sea creates unique opportunities for testing and trials of air, land, and maritime technologies.

It is worth highlighting that exporting Polish technology and capabilities to interested Allies and partner nations not only strengthens our defence industrial base, but also builds on existing relationships and may contribute to security in Europe and beyond. Poland is strongly committed to promoting export opportunities for its domestic defence industry and to seeking opportunities to integrate it into global supply chains.



Władysław Kosiniak-Kamysz
Deputy Prime Minister,
Minister of National Defence

Today's security environment is highly unpredictable and marked by rapid change. Responding effectively to emerging threats requires the strengthening of defence capabilities and close cooperation between the state, the Polish Armed Forces, scientific community, and the domestic defence industry.

A modern and well-equipped army is the foundation of Poland's security. In the coming years, the most important areas of its development will include building capabilities in unmanned technologies, artificial intelligence, space technologies, and long-range precision strike systems.

Lessons learned from the ongoing war in Ukraine show that the effectiveness of combat operations is increasingly determined by the use of unmanned systems and by the ability to detect, counter, and neutralise such threats. Polish defence enterprises are responding actively to these challenges by developing modern and advanced military systems.

This catalogue presents the potential of the Polish defence industry and security sector – innovative solutions designed and developed in Poland that support the creation of a modern deterrence and defence system and strengthen our country's position as a reliable and responsible partner within NATO and the EU.



Bartosz Grodecki
Secretary of State,
Head of the National Security Bureau

I am honoured to present the 4th edition of the *Polish Defence and Security Equipment Catalogue 2026*, a flagship state publication showcasing the capabilities of over 120 domestic entities with proven expertise in advanced military and dual-use technologies. This edition features nearly 500 solutions designed to strengthen deterrence and defence capabilities, all available for export. Many are already established on the global market, while others reflect the growing innovation and competitiveness of Poland's defence and security sector.

In the face of a rapidly evolving security environment, the unprecedented modernisation of the Polish Armed Forces, alongside similar efforts across Europe, underscores the strategic importance of a strong and resilient national defence technological and industrial base. Poland continues to invest in the development of advanced capabilities across key domains, including autonomous and unmanned systems, C4ISR, aerospace, artillery, and air defence.

This *Catalogue* reflects the depth, reliability, and technological maturity of Polish defence and security enterprises. I encourage you to examine its contents and to engage with partners in Poland in addressing current and future capability requirements.

AEROSPACE AND SPACE 23

AIR AND MISSILE DEFENCE 63

ARMOURED VEHICLES AND ARTILLERY SYSTEMS 85

COMMUNICATION EQUIPMENT AND C4I SYSTEMS 119

CYBER AND INFORMATION PROTECTION 161

ENGINEERING, LOGISTIC AND CHEMICAL EQUIPMENT 179

FORCE PROTECTION AND MOBILITY 219

NAVAL VESSELS AND SYSTEMS 253

SENSORS 259

SIMULATION AND TRAINING 287

SOLDIER UNIFORMS AND EQUIPMENT 311

UNMANNED SYSTEMS (UxS) AND COUNTER-UxS 333

WEAPONS SYSTEMS, AMMUNITION AND EXPLOSIVES 391

COMPANIES 433

NATO DIANA IN POLAND 518

CONTENTS

INTRODUCTION 3
PRODUCTS 21

AEROSPACE AND SPACE 23
Aerial Target ”Szerszeń-M1” – Modernized Version system 24
Airfield Hydraulic Power Unit LZH/N series II-Fl 25
Automatic Flight Stabilization System (AST-1) 26
Autonomous mobile launcher 27
Board Support Package (BSP) 28
Bootloader (BSW) 28
CANopen On-Board Protocol Stack 28
CUSTO-PROBE – Multi hole pressure measuring probes 29
Digital Flight Data Recorder S2-3a 30
DRI-GNSS-DEV 31
ekoSKY 2.0 32
Farada G1-B VTOL type 33
Farada G2 VTOL type 34
Farada Helen 35
Flaris LAR01 + 36
Fuel quantity measurement and indicating system 37
GNSS – FREE NAVIGATION SYSTEM (FOR UAS 38
GRACE – Green bi-propellant apogee rocket engine for future spacecraft 39
GROUND POWER UNIT LUZES V/D SERIES V 40
HUSSAR SAR Radar – X-Band Terrain Imaging, Moving & Change Detection 41
HyperSat Eagle HR EO – a 1m GSD high resolution Earth Observation microsatellite 42
HyperSat Nano HR EO – a 3m GSD high resolution Earth Observation microsatellite 43
HyperSat satellite family Versatile, Reliable, and ITAR-Free Solutions 44
HyperSat Seagull SAR Microsatellite 45
ICE Cube On-board Control Unit 46
ILR-33 AMBER 2K 47
Impact energy absorbing technology 48
Lenses 49
Liquid Rocket Fuel HTP (hydrogen peroxide)
in concentrations ranging from 85% to 98% and DMAZ (2-dimethylaminoethylazide) 50
MiniSat Propulsion Control Unit (SAT-ECU) 51
Prisms 52
SAR Satellite 53
Scanway Camera System (SCS) 54
Scanway Optical Payload (SOP) 55
Space Optical in-house production 56
Suborbital Rocket Systems 57
Synthetic Aperture Radar (SAR) Payload 58
Unmanned Aerial Vehicle System - Orlik 59

Unmanned Aerial Vehicle System - Wizjer 60
XY-SAR-X Portable X-Band Sar Radar 61

AIR AND MISSILE DEFENCE 63
Anti-aircraft Rocket-artillery System PSR-A PILICA 64
BYSTRA – Mobile 3D Short Range Radar 65
Cable Harnesses 66
CKE-1T Thermal Target Sight for Anti-Aircraft Gun and Missile System 67
Control and Measurement Station (SKP) 68
Distributed passive Drone Detection system for anti-aircraft gun and missile system 69
DRI-EO-12 70
Electro Optical Systems 71
FIELDctrl 3D MIMO Radars: Advance, Range, Runway, Ultra, Follow 72
IFF Mark XIIA - Family Products 74
MSI-DS TERRAHAWK PALADIN 75
P-18PL - Mobile Long Range Radar Station for Early Target Detection 76
POPRAD - Mobile Anti-Aircraft Missile System 77
Repairs, Modernizations, Modifications, Integration, Maintenance at the Depot Level 78
SA-35 Self-Propelled Gun System 79
SKYctrl L containerized system 80
SKYctrl S containerized system 81
Twin-Round Mobile Air Defence Manpads System KUSZA (Crossbow) 82
ZU-23-2CP - Anti-aircraft Artillery System 83

ARMOURED VEHICLES AND ARTILLERY SYSTEMS 85
ADS – Safety System 86
AEDO – Safety System (Automatic Emergency Door Opening) for Use in Military Vehicles and Facilities 87
AMRV G10 88
APC 4x4 ONCILLA 89
Authorized maintenance, repair, and overhaul of U.S.-made equipment 90
Authorized maintenance, repairs, overhauls, modification and modernization of the Leopard 2 tanks 91
Battery Management System 92
BÓBR – A modern 4x4 amphibious armoured vehicle 93
Borimex Gearboxes Range 94
BORSUK – Amphibious Infantry Fighting Vehicle 95
Boxes and panels assembly 96
BWR-1S/1D vehicles 97
Cable harnesses 98
Heated observation devices OPO-120F, OPO-125F, OPO-130F 99
Hydraulic and Electric Vehicle Winches 99
Hydraulic System for Anti Craft Defence Vehicles 100
Hydropneumatic Suspension for Tracked Vehicles 101
KRAB 155 mm – Self-propelled howitzer 102
Lightweight composite armour 103
M17T Thermal Imaging Periscope 104

Mobile Fuel Tanker 105
Oil Hydraulic Systems for Tracked and Wheel Vehicles 106
Oil Hydraulics for Special Applications 107
Overhauls and Retrofitting of MBT Leopard 2A4/T-72/PT-91 108
Overhauls of Armoured Recovery Vehicle 109
Power Pack - designer and manufacturer 110
RAK 120 mm - Automatic Mortar Turret System 111
ROSOMAK 8x8 APC 112
Special Transporter JELCZ brand Type 663.45. 113
Tajfun - Heavy-duty Operational Vehicle 114
TUR VI 115
Vehicle Control Unit 116
WARAN - 4x4 Multi-Purpose Tactical Vehicle 117

COMMUNICATION EQUIPMENT AND C4I SYSTEMS 119
ACO STREAMER 4K Secure Communication System 120
BMS JASMINE 121
C3IS JASMINE 122
COMP@N H09 Narrowband SDR Tactical Radio 123
CSD EP System Client 124
CyView C2 125
Digital Baltic 126
Dual-band parabolic antenna APD-09 127
FlyAway SMART Terminal 128
FONET Reliable Vehicle Communication System 129
FONET MK2 - Reliable Vehicle Communication System 130
HMS JASMINE Headquarters Management System 131
J-SWARM Multi-UAV Fleet Management & Control System 132
Keyboard WBK-40 133
Logarithmic Reflector Antenna ARL-09/20/M 134
Mobile Command Post Module 135
Mobile Command Post's Module MMSD Division Sub Unit 136
Mobile Satellite Terminal - MTS-4.6 137
Onboard computer KP 104E-2 138
Onboard computer KP SBC-35-2 139
Onboard monitor BM-12-S 140
Plumla NGN 141
Plumla SSL 142
Portable And Transportable Satellite Terminal PPTS-1.8 v.2 143
Portable Communication Set PZŁ-1 144
R-450C-01 Wideband Tactical MANET Radio 145
R-460AM-2 Digital Radio Relay 146
RP-201-01 Router 147
RKP-8100 148
SatPack AutoMate 149

SatPack Cobalt Terminal 150
Tactical Radio Router 8 151
Tactical Terminals 152
TacNet400 153
Topaz - C4I system 154
Troposcatter Terminal PZT-1 155
UAV Radio Data Link - SMR-10-S Airborne Radio Module, BMR-10-N1 Ground Radio Module 156
VoIP Communications Terminals - AC-30IP-01 Gateway CV-12r-01 157
VSAT MASTER 148 Satellite Terminal 158
WRK-01 159

CYBER AND INFORMATION PROTECTION 161
Biometric Engine 162
Cyber Bastion 162
eID & EUDIW 163
eKYC 163
Filter Tuning Software (FTS) - Microwave Filter Tuning Optimisation & Automation 164
Fudo Enterprise & Fudo Share Access 165
Hardware Random Number Generator SGCL-1MB-2 F 166
Mobile Access Node – SIL720-MWD 167
Mobile Data Center 168
Mobile IT 5U Platform – ShMRC1905H 169
OREC AI-Based software for object detection and classification on SAR imagery 170
OREC – Intelligence AI-Based software for automated SAR monitoring with instant alerts 171
Portable VTC System - MVTC/WRB 172
Safety of Critical Data Electromagnetic and Ballistic Protection in a Transportable (Mobile) Container 173
SecureVisio cybersecurity management platform 174
Shielded Cabinet SIL720 - SzE19xx Series 175
TEMPEST NATO SDIP-27 and EU IASG 7-03 compliant IT equipment 176
Video Conference Set 177 177

ENGINEERING, LOGISTIC AND CHEMICAL EQUIPMENT 179
Alu and Talu Halls - Mobile Military Infrastructure Solutions 180
Ambulance 181
Antimicrobial coatings 182
Battlefield-ready hardware 183
BAOBAB-K Scattered Mine Laying Vehicle 184
Castelior ST Series - Engineered Protection 185
Castelior ST - A Precise Response to Evolving Drone Technology 186
CD Fuel Tankers 187
CN33 Fuel Tankers 188
Curtain-sided cargo bodies 189
Field Hospitals and Modular Medical Facilities 190
Flatrack Load Platforms 191
General Purpose Truck with Crane 192

Hydrogen Peroxide Decomposition Catalysts 193
Industrial Doors - Vertical Lift Systems for Fabric Structures 194
Logistics Trailer 195
LUNAR – Rotary Detonation Kiln For Disposal of Explosives and Ammunition 196
Metal wires and powders for 3D printing 197
Mobile Container Kitchen (KKP 200) with Integrated Decontamination System 198
Modular Field Fortification System 199
MS-20 DAGLEZJA - A Wheeled Vehicle-Launched Support Bridge 200
ND33 Fuel Distribution Tanker 201
Professional military containers for uniformed services 202
Rear Dump Trucks 203
Recycling of military equipment 204
RFS Structures - Mobile Aircraft Hangars 205
Semi-Trailer DOB70W 206
Semi-Trailer ST555-20W.M and ST775-20W.M 207
Semi-Trailer ST775-20W 208
Semi-Trailer ST775-24W.H-PA 209
SK_KII Directional Radiation Probe 210
Soft magnetic cores 211
Trailers 211
Universal Expandable 20’ Containers 212
UVC Decontamination Systems - Ceiling & Column Mounted 213
Vibration damping technology 214
ZA Series: Advanced Solutions for Defence Systems - NCS-180-45-31(9), NCS-120-42-20(9) 215
ZA Series: Next-Generation Intelligent Ammunition Protection - NCS-T120-2, NCS-M120-2 and NCS-M60-2 216
ZMR Combat Engineer Demining and Reconnaissance Equipment 217

FORCE PROTECTION AND MOBILITY 219

AD-2000 Parachute System 220
Air Conditioning Systems and Components for Military Vehicles, Shelters and Various Platforms 221
ALEXA Light Weight Gas-Tight Eod Container 222
AMSTA Digital Border and Critical Infrastructure Protection System 223
Armoured Observation Container (OKO) 224
Ballistic Protection System 225
BurnTec - Hydrogel First Aid Dressing for Burns and Other Skin Injuries 226
CHRONOS 1 Armoured Mobile Observation and Command Container 227
Container-Based Surveillance and Counter-Drone Systems 228
DEDAL (AD-95s.3 AZ-95s.3) series 3 Parachute System 229
EVA Gas-Tight Explosion-Proof Container 230
FaceCOV Biometric Gate - 3 variants: VIP / ActiveSCAN / Container TRIPLEX 231
Feniks Future Parachute System 232
Feniks Military G-9 Parachute System 233
Feniks S Parachute System 234
Fuel Operated Heaters 235
Heavy-class Airport Rescue and Firefighting Vehicle SCANIA 6x6 236

Heavy Wheeled Recovery and Technical Rescue Vehicle ASTRA 8×8 237
Heavy Wheeled Recovery and Technical Rescue Vehicle SCANIA R520 8×8 238
Hovercraft PRC – 650 239
Mobile Camouflage 240
Modular Shelters – EMER Security Shelters 241
Multi-Purpose High-Mobility Excavator SCANIA 8×8 242
NS-Series 243
Portable C-UAS Systems 244
ROSA 3 245
Static Camouflage 2D Multispectral Winter Camouflage Net 246
Static Camouflage Optical and Multispectral Static Camouflage 2d Single and Double-Sided Versions 247
Static Camouflage Optical and Multispectral Static Camouflage 3D 248
STOPFIRE® Fire Extinquishing and Explosion Suppression System 249
Thermal and Anti-Radiation Inner Liners 250
Universal Run-Flat Tire Insert 251
Ventilation and CBRN units 251

NAVAL VESSELS AND SYSTEMS 253
Kormoran II-class minehunters 254
Miecznik-Class Frigate 255
MLM – PROMIENICA 256
Ratownik-Class Rescue Vessel 257
Series of ships SNSS (Saab Naval SIGINT Systems) 257

SENSORS 259
AeroWinch 260
AURORA & EOS Ultra low light cameras 261
DRI-INS 262
EagleCompanion 263
GOSK Optoelectronic system 264
GS3L Ground Station 265
Hertz GNSS Regulated Services Terminal (HGRST) 266
Hertz GPS Terminal 4 Pollux (HGPST4 Pollux) 267
Hertz GPS Terminal uGram (HGPST uG) 268
Hydra - Multicolour Photometry for Orbital Object Characterisation 269
ISR140Z Multicolor Photometry for Orbital Object Characterization 270
KDT Fire-control-system 271
KTD-60.3/90.3 Argos Daylight-thermal observation head 272
KTL Thermal modules 273
Marine Guard Station 274
MAWOS - Mobile Meteorological Station 275
MEDIUM SATELLITE TERMINAL STS 276
MM Edge AI 277
Perseus - High-End Ground-Based Observation System 278
Reconfigurable REVOBEAM Antenna Product Series 279

Small Intelligent Light Satellite Terminal SilPack Series 280
32-channel IR Detection Module 281
XY-PCL-C - PORTABLE PASSIVE RADAR 282
XY-PCL-MU - Mobile Passive Radar 283
XY-RF MUR - RF Multichannel Universal RecordeR 284
ZIG T 2R Optoelectronic head 285

SIMULATION AND TRAINING 287
Combat Training Support System “ŚNIEŻNIK” 288
Container shooting range MoST-2 289
Container Shooting Range 290
CQB House Shooting Range 291
ESIM Engineering Simulator 292
Mobile Bullet Traps 293
Mobile Container Shooting Range MoST-1 294
Mobile Container Shooting Range (40 FT HC) 295
Mobile Shooting Target - Robotic Target™ 2WD, Robotic Target™ 4WD 296
Modular Tactical Shooting Ranges - MoST-5 and MoST-10 297
MoST-SH Modular Shoot House 298
OBRTrain Platform Overview 299
OPA Advanced Damage Control & Firefighting Simulator 300
Pneumatic Decoys 301
POJEDYNEK Mobile Indoor and Outdoor Small Arms Training & Simulation System 302
SJCL-6P Driving Simulator for Leopard 2A4 Main Battle Tank 303
SOKOL Parachute Simulator 304
ŚNIEŻNIK Integrated Small Arms Indoor Training System 305
Tactical Simulators for Combat Vehicles (APC/ROSOMAK) 306
Training Simulators 307
Unity, Unreal Engine 5 & VBS4 Ready 3D Content 308
Ważka – ST Advanced UAV Operator & Anti-Drone Combat Training System 309

SOLDIER UNIFORMS AND EQUIPMENT 311
A.C.T. Bandage (Active Compression Treatment) 312
ARCHANGEL line – lightweight protective insert 313
BULLETPROOF AND KNIFEPROOF VEST VIP 0.3S VEST + spike protection 314
CBRN-E protective suit 314
DAYTIME MODULAR SIGHT DCM-1 315
FPV Drone Transport Backpack VESPULA 315
FPV Drone Transport Bag VESPULA MAX 316
HB-04 ballistic helmet 317
HP-05 ballistic helmet 317
Individual Anti-drone Systems: Antidrone Poncho 318
Individual Anti-drone Systems: Individual Winter Camouflage Suit 319
KKT-01 Bullet Proof Vest 319
Laser Target Designators 320

LASER WARNING SYSTEM SSP-1 OBRA-3 320
Modular Bulletproof Vest MKO 3.0 321
MP-6 Filtering gas mask 322
MUP-RESCUE PACK MARINE PILOT SUIT 322
NIGHT VISION GOGGLES PNL-2ADM 323
NIGHT VISION GOGGLES PNL-3X 323
NIGHT VISION MONOCULAR/GOGGLES MU-3M/MU-3ADM 324
OMNIDIRECTIONAL OBSERVATION SYSTEM SOD-1 325
OSA – PERSONAL ALARM SYSTEM 325
PATROL LINE – ballistic inserts 326
ROCK 2.0 Vest 327
ROCK one Vest 327
STABILIZED COMMANDER'S OPTOELECTRONIC HEAD GOD-1 328
STABILIZED GUNNER'S OPTOELECTRONIC HEAD GOC-1 328
STABILIZED OBSERVATION AND TRACKING OPTOELECTRONIC HEAD FOR ANTIAIRCRAFT SYSTEMS GOS-1 329
THERMAL IMAGING BINOCULARS NPL-1T 329
THERMAL IMAGING MONOCULAR MT-1 329
WARRIOR LINE – ballistic inserts 330

UNMANNED SYSTEMS (UxS) AND COUNTER-UxS 333
aisBlade – Autonomous Wind Turbine Inspection System 334
aisPilot – Onboard Autonomy and Flight Computer System 335
AMRFleet and AMRWeb 336
AMRSim 336
AMRSys 338
BECCARII – All-Terrain Manned VTOL Vehicle 337
Berni_FPV3 337
Berni_ONE 338
BLUSZCZ – Unmanned Scatterable Mine-Laying System 338
BSP "Pchła" – Ultra-Silent Micro Reconnaissance UAV 339
Crow – ISR Plane 339
Defender Line of RF JAMMING products 340
DJ-25 Jammer – Unmanned Aerial Vehicle (UAV) jammer system 341
Drone VPL 7 342
Drone VPL 10 343
Drone VPL 15 344
EagleOWL Integrated System 345
EUM-2207 Compact Propulsion Motor for Unmanned Systems 346
EUM-3115 High-Performance Propulsion Motor for Unmanned Systems 346
EUM-4014 High-Efficiency Propulsion Motor for Unmanned Systems 347
FLYEYE – Unmanned Aerial Reconnaissance System 348
Flyfocus Cableguard - CableGuard Patented Tethered UAS 349
Flyfocus Lemur - Vertical takeoff landing fixed-wing aircraft 350
Flyfocus Polaris - Ultimate aerial surveillance tool 351

Follow me 352
FT-5 – Tactical Unmanned Aerial Reconnaissance System 352
FUTURE TASK FORCE – Manned–Unmanned Future Task Force 353
GLADIUS – Reconnaissance–Strike System 354
GNOM – GROUND LOITERING MUNITION 355
HAASTA UAS 356
HAWK C-UAS 357
HAWKEYE 358
HEXA 50 359
HEXA 300 359
HEXA Fire 359
LMS WARBLEFLY 360
Low-noise propeller design 361
MADDOS – Multi-sensor Automatic Dron Detection & Observation System 362
MADDOS VTOL – Vertical take-off and landing UAV 363
Mobile Platform for Surveillance and Counter-Drone Systems 365
OGAR 3 – Micro Class Unmanned Reconnaissance System 366
OWLFPV-R / OWLFPV-F Tactical FPV Drone 367
PIAP FENIX Lightweight EOD & reconnaissance robot 368
PIAP GRYF EOD mobile robot 368
PIAP HUNTeR 369
PIAP IBIS Heavy robot for pyrotechnic operations 369
PIAP IBIS TRANSPORT 370
PIAP PATROL Robot for C-IED and CBRN tasks 371
Proprietary UAV Avionics & Subsystems 371
RAFI – Light Modular Recon Drone 372
ReconPATROL™ 373
ReconSKY 374
SMILE – Real-time linear infrastructure monitoring system 375
STORMRIDER – Unmanned Surface Reconnaissance-Strike Unit 375
TACTIC 376
Tethered Drone 377
Thermoplastic enclosures for electromagnetic interference shielding 378
U – Core Swarm Operating System 378
UAV detection, identification and localization system – RAVEN 379
UGV 6x6 SERVAL Tactical Platform 380
Unified Defense Managment System (UDMS) 381
UNL Universal High Mobility Unmanned Vehicle with Reconnaissance and Combat Version Goblin 382
VIA-FPV10-PL Heavy-Lift Long-Range FPV System 383
VIA-Q1500HL-PL Heavy-Lift Logistics UAV 384
Warmate – Lightweight Loitering Munition System 384
Warmate 5 – Heavy-Class Loitering Munition System 385
Warmate TL-C Tube-Launched Loitering Munition – Combat Variant 385
WASP 386
Waterscan 387

WIELKI v2 388
X-FRONTER – Personal Reconnaissance-Strike System 389
XERALL ATD – All Terrain Multi Modal Unmanned Platform 389

WEAPONS SYSTEMS, AMMUNITION AND EXPLOSIVES 391
122 mm Ammunition with HE-462 Projectile and Reduced Charge for D-30/2S1 392
122 mm BARREL 392
152 mm Ammunition with HE-540 Projectile and Full or Reduced Charge for D20/2S3 392
155 mm Artillery High-Explosive Base-Bleed Round with Extended Range 393
ALEX-338 Sniper Rifle 393
ARTILLERY & MORTAR NITROGLYCERINE POWDERS 394
BORE CLEANING FOAM 394
Barrels – up to 20” 395
CONTROLLED ANTI-TANK ANTI-VEHICLE MINES SPPŁW 395
DEGREASER CLEANER 396
ELECTRIC 396
ELECTRONICS 397
Explosive Device for Armament Neutralization “PULS” 397
FALCON A2 QD-MAX SILENCER 398
FILLING SERVICES 398
FLAME signal mine 399
GAk-81 399
GUN CLEANER 399
GUN OIL 400
GX WARHEADS FOR UNMANNED VEHICLES 400
HEAT MINE FOR MANUAL LAYING MR-123 401
HEXOGEN (RDX) 401
HUNTER 30 mm Remote Control Weapon Station 402
JACK – AKM-based Rifle 402
LMC 2021 Light Infantry Mortar 403
LMP-2017 60 mm Light Infantry Mortar 403
M107 155 mm Artillery Ammunition 404
M18A1 Claymore Safe and reliable directional mine 404
MND-26 Anti-Personnel Mine Pressure-activated 405
MOD-26 Anti-Personnel Mine Tripwire-activated 405
MODULAR SEMI-AUTOMATIC PISTOL (MPS ARMY) 406
Modular Weapon System ZMT MWS-25 406
MON-100 Directional fragmentation anti-personnel mine 407
“Moskit” anti-tank guided missile 407
MS 60 FLAME – Anti-Personnel Mine Simulator -Tripwire-activated 408
MSBS 40x46 mm Grenade Launcher 408
MSBS GROT C14 FB-A3 ASSAULT RIFLE 409
Nitrocellulose combustible cartridge cases for mortar and artillery ammunition 410
OCTOGEN (HMX) 411
Open Protected Turret System (12.7 mm) 411

OPTIC CLEANER 412
Pangolin – family of explosive reactive armours 412
PIAST – AR-15 Platform Rifle 413
POMBS Portable Minefield Breaching System (L-POMBS / H-POMBS) 413
Propellants 414
Pyrocartridges 414
PYROTECHNICAL PRODUCTS 415
RCWS 12.7 mm (Browning M2) 415
RCWS 12.7 mm (NSVT) 416
Recoilless Anti-tank Missile Launcher RPG-75-M 416
Recoilless Launcher for Thermobaric-cumulative Missiles RPG-75-MP 416
Recoilless thermobaric missile Launcher 417
Reserve batteries for precision-guided munitions 417
RGP 40 Multi-shot Grenade Launcher 418
Rockets S-5KO, S-5MO 418
ROCKET PROPELLANT CHARGES 419
Shaped Bottom Charge (KŁD) 419
SŁK CHELICER Directional Engineer Charge 420
SYNTHETIC GREASE 420
Tactical Heads for Unmanned Aerial Vehicles 421
TECHNOLOGICAL LINE FOR HTPB (hydroxyl-terminated polybutadiene) PRODUCTION 422
TNT 423
TRAINING AMMUNITION IMITATOR OF A CANNON SHOT ISA – 155 423
UKM 2020S General-purpose Machine Gun 424
Universal Shaped Charge UŁK 425
WKM-Bm/NSW-UTIOS Heavy Machine Gun 425
WLKM 12.7 Multi-barrel Machine Gun 426
ZMT WKW-50 Large Caliber Sniper Rifle 426
ZMU-05 – Remote-Controlled Weapon Station Land Version 427
ZMU-05N – Remote-Controlled Weapon Station Naval Version 428
ZSMU A3/A3B/A5 Remotely Controlled Weapon Station 429
ZSMU-30 Remote-Controlled Arming Module 430
ZSSW-30 Remote-Controlled Turret System 431

COMPANIES 433

Adapt-E 434
Advanced Protection Systems S.A. 434
Aerobits Sp. z o.o. 435
AIR-POL Sp. z o.o. 436
ALEHALE Sp. z o.o. 436
ALIVE Sp. z o.o. 437
AMZ-KUTNO S.A. 438
AP-FLYER Sp. z o.o. 438
Asseco Poland S.A. 439
AUTOCOMP MANAGEMENT Sp. z o.o. 440
B4 Limits Sp. z o.o. 440
BC Arms Sp. z o.o. 441
BELLARE P.S.A. 442
BORIMEX Sp. z o.o. 442
B-Technology Sp. z o.o. 443
Bydgoskie Zakłady Elektromechaniczne BELMA S.A. 444
BZB UAS Sp. z o.o. 444
CASTELIOR Sp. z o.o. 445
Centrum Rozwojowo-Wdrożeniowe Telesystem-Mesko Sp. z o.o. (Development and Implementation Center Telesystem-Mesko Ltd.) 445
Comet Andrzej Mostek Spółka komandytowa 446
Creotech Instruments S.A. 447
D.N.I.-PL Sp. z o.o. General Nano Protection 447
D.S.GERMAZ Sp. z o.o. 448
DEMARKO S.A. 449
Dobrowolski Sp. z o.o. 449
Domar MS Sp. z o.o. 450
DRI Solutions Sp. z o.o. 451
Elbo Sp. z o.o. 451
Enamor International Limited Liability Company 452
Etronika Sp. z o.o. 452
Eumotors sp. z o.o. 453
EUROTECH Sp. z o.o 454
Eycore Sp. z o.o 454
Fabryka Broni "ŁUCZNIK" – Radom Sp. z o.o. 455
Farada Group Sp. z.o.o. 456
Flaris Sp. z o.o. 457
Flyfocus Sp. z o.o. 457
Fudo Security Sp. z o.o. 458
Fundacja Bezpieczna Cyberprzestrzeń (Cybersecurity Foundation) 458
GISS Sp. z o.o. 459
HERTZ SYSTEMS Sp. z o.o. 460
Huta Stalowa Wola S.A. 461
ICEYE POLSKA Sp. z o.o. 461
Identt 462
Instytut Techniczny Wojsk Lotniczych (Air Force Institute of Technology) 463
Jakusz Sp. z o.o. 463
JAS Technologie Sp. z o.o. 464
Jastrzębska Spółka Węglowa S.A. 465
JB Tacticals 465
JELCZ Sp. z o.o. 466
JPBC Sp. z o.o. sp. kom. (Grupa Pietrucha) 467
KIKGEL sp. z o.o. 467
KLIMAWENT S.A. 468
Lubawa S.A. 468
MACRO-SYSTEM Sp. z o.o. 469
MASKPOL S.A. 470
MIRANDA Sp. z o.o. 470
MISTA Sp. z o.o. 471
Mobile Monitoring Sp. z o.o. 472
MODULAR SYSTEM Sp. z o.o. 472
N7 Space Sp. z o.o. 473
Nowak Innovations Sp. z o.o. 474
NOXODA 474
OBRUM Sp. z o.o. 475
Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej S.A. 476
PCO S.A. 476
PGZ Stocznia Wojenna Sp. z o.o. 477
PIT-RADWAR S.A. 478
PONAR Wadowice S.A. 478
Przedsiębiorstwo PREXER Sp. z o.o. 479
Przedsiębiorstwo Produkcyjno-Handlowe MAWA Sp. z o.o. 480
PZL DEFENCE S.A. UNIMOT GROUP 480
RATAJ Sp. z o.o. 481
REKORD Hale Namiotowe Sp. z o.o. 481
Remontowa Shipbuilding S.A. 482
Revobeam Sp. z o.o. 483
ROSOMAK S.A. 483
SATIM Satellite Monitoring 484
Scanway S.A. 485
SecureVisio Cybersecurity management platform 482

Sentinel Eagle 486
Sieć Badawcza Łukasiewicz
– Instytut Lotnictwa ILOT
(Łukasiewicz Research Network
– Institute of Aviation) 486
Sieć Badawcza Łukasiewicz
– Instytut Metali Nieżelaznych IMN
(Łukasiewicz Research Network
– Institute of Non-Ferrous Metals) 487
Sieć Badawcza Łukasiewicz
– Przemysłowy Instytut Automatyki i Pomiarów PIAP
(Łukasiewicz Research Network
– Industrial Research Institute for Automation
and Measurements) 488
Sieć Badawcza Łukasiewicz –
Przemysłowy Instytut Motoryzacji PIMOT
(Łukasiewicz Research Network
– Automotive Industry Institute) 489
SILTEC Sp. z o.o. 490
SmartDrones Sp. z o.o. 491
Solaris Optics S.A. 491
SpaceForest Sp. z o.o. 492
Special Production Plant "GAMRAT" Sp. z o.o. 493
SybillaTechnologies Sp. z o.o. 494
SZCZĘŚNIAK Pojazdy Specjalne Sp. z o.o. 494
Tech Robotics Sp. z o.o.
Niewiadów Polska Grupa Militarna S.A. 495
TELDAT Sp. z o.o. sp.k. 496
Terra Robotics (Terra Hexen Sp. z o.o.) 496
TRANSBIT Sp. z o.o. 497
Unmanned Systems Poland Sp. z o.o. 499
VEGA 499
Vertigo Global Sp. z o.o. 500
ViaDrone SWARM Sp. z o.o. 500
VIGO Photonics S.A. 501
VIMANA Sp. z o.o. 501
WB GROUP 502
Webasto Petemar Sp. z o.o. 503
WISS Samochody Specjalne Sp. z o.o. 504
Wojskowe Centralne Biuro Konstrukcyjno-Technologiczne S.A.
(Central Military Bureau of Design and Technology) 504
Wojskowe Zakłady Lotnicze Nr 2 S.A.
(Military Aviation Works No. 2) 505
Wojskowe Zakłady Łączności Nr 1 S.A. 506
Wojskowe Zakłady Motoryzacyjne S.A. 506
Wojskowe Zakłady Uzbrojenia S.A. (WZU S.A.) 507
Wojskowy Instytut Chemii i Radiometrii (The Military
Institute of Chemistry and Radiometry) 508
Wojskowy Instytut Łączności – Państwowy Instytut
Badawczy (Military Communications
Institute – National Research Institute) 509
Wojskowy Instytut Techniczny Uzbrojenia
(Military Institute of Armament Technology) 509
Wojskowy Instytut Techniki Pancernej i Samochodowej
(The Military Institute of Armoured
and Automotive Technology) 510
Wytwórnia Broni Popiński 511
XY-Sensing Sp. z o.o. 511
Zakłady Chemiczne "Nitro-Chem" S.A.
("Nitro-Chem" Chemical Works) 512
Zakłady Mechaniczne "BUMAR-ŁABĘDY" S.A. 513
Zakłady Mechaniczne "Tarnów" S.A. 514
Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o.
Niewiadów Polska Grupa Militarna S.A. 515
ZAMET-GŁOWNO 2 sp. z o.o. sp. k 516
ZURAD Sp. z o.o. 517

NATO DIANA IN POLAND 518

CATALOGUE



AEROSPACE AND SPACE

Aerial Target "SZERSZEŃ-M1" Modernized Version

Instytut Techniczny Wojsk Lotniczych
(Air Force Institute of Technology) ► p. 463

PURPOSE

Field training for military units in conducting live fire exercises with STRZAŁA-2M and GROM man-portable air defence systems (MANPADS) as well as artillery firing exercises.



SMCP-WU "SZERSZEŃ-M1"

- Wingspan 3.2 m
- Maximum take-off weight 35 kg
- Flight speed 70–180 km/h
- Operating radius 20 km
- Service ceiling 1000 m
- Flight time 120 min
- Programmable flight route
- Equipment:
  - Tow target sleeve with hit sensor or radar reflector
  - Parachute landing system
  - Radar reflector (optional)

AIRFIELD HYDRAULIC POWER UNIT LZH/N SERIES II-F

Wojskowe Centralne Biuro Konstrukcyjno-Technologiczne S.A.
(Central Military Bureau of Design and Technology) ► p. 504

The LZH/N Series II-F features two independent hydraulic lines suitable for parallel operation when supplying the aircraft's hydraulic systems (lines "A" and "B"). Due to the complete separation of the hydraulic lines, the unit can be used to drain contaminated oil from the aircraft into one of the tanks, while the other line can operated to supply the aircraft from a separate tank.

Benefit for the soldier:

- Increased operational readiness by enabling full hydraulic system checks without starting the aircraft engine, reducing time to mission and fuel consumption.
- Improved efficiency and tempo of operations through simultaneous servicing of two hydraulic lines or two aircraft, accelerating turnaround in high-demand scenarios.



The LZH/N – series II unit is built on a two-axle trailer suitable for towing on airport taxiways at the speed of up to 20km/h. It features lighting which can be connected to 12V or 24V electrical system of the towing vehicle. Two drive units are mounted on the chassis frame above the rear axle for the unit's A and B hydraulic systems, respectively.

Airfield Hydraulic Power Unit LZH/N Series II-F is designed to:

- check the aircraft's hydraulic system without starting its engine;
- fill the aircraft's hydraulic systems;
- purify the working fluid in the aircraft's system;
- check for leaks in hydraulic components.

Automatic Flight Stabilization System (AST-1)

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486



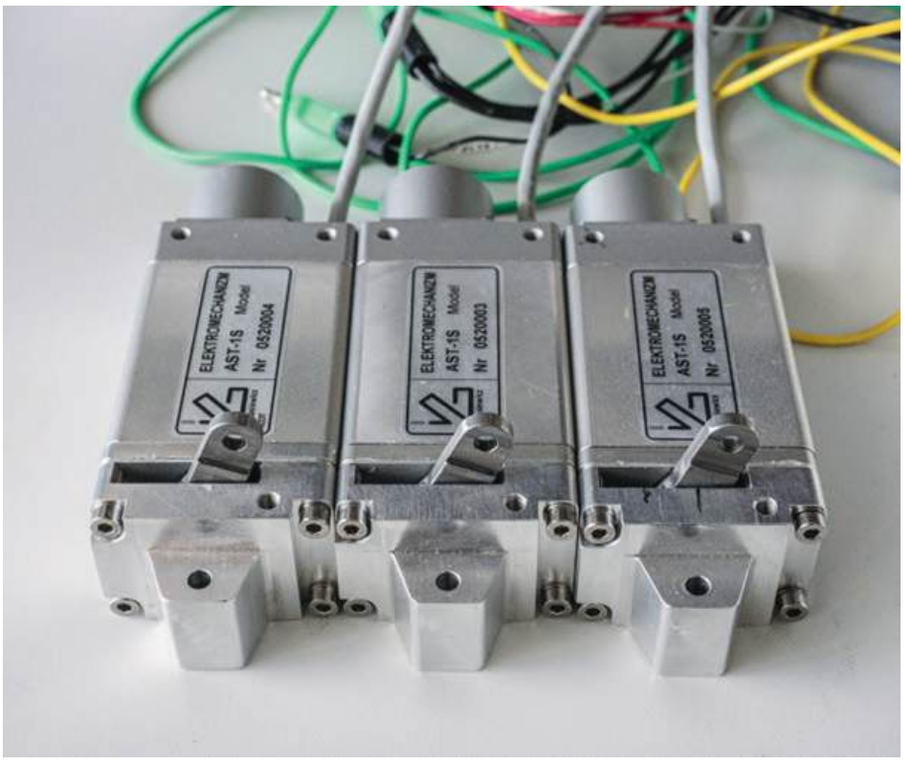
The AST-1 is a compact automatic flight stabilisation system designed to enhance flight safety, handling qualities, and operational reliability across aircraft operations. The system uses electric actuators to control the trim tabs, ensuring stabilisation in pitch, yaw and slip compensation, without interfering with the primary control system.

The system enables automatic maintenance of flight parameters, relieving the pilot during long missions and improving control in emergency situations. The AST-1 has been flight-tested on a PZL-130 Orlik aircraft and has undergone full environmental testing in accordance with the DO-160 standard, confirming its robustness and reliability.

The device is characterised by its low weight (0.5 kg), compact dimensions and a wide range of interfaces (ARINC 492, RS-232, analogue and digital signals), which facilitates integration with various platforms. The system can be used in training, patrol, observation and special-purpose aircraft, increasing flight stability, reducing pilot workload and improving operational safety.

Benefit for the soldier:

- enhances aircraft stability during demanding military maneuvers;
- reduces pilot workload during missions;
- improves precision and situational awareness, boosting overall mission.



Autonomous mobile launcher

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

The launcher is designed to launch single-stage and multi-stage suborbital rockets with parallel and stacked stages. The product was developed by the Łukasiewicz - Institute of Aviation to launch the ILR-33 AMBER 2K rocket, but its technical capabilities have been extended to rockets of significantly larger scale. The launcher will find application in areas where the construction of permanent launch facilities is not possible. It can also be used as an additional launcher, for example, in case of simultaneous launches of several rockets. The launcher is adapted for transport within ISO containers, which eases logistics issues and enables fast deployment.



Key specs include:

- Designed to work in a wide range of weather conditions.
- Equipped with hydraulic moving support system, allowing autonomous loading and unloading to/ from a transport trailer.
- Fully autonomous operation (built-in power sources and control systems).
- Precise lifting of the launcher arm complemented by the unique feature of precise azimuth angle setting.
- Remote communication and adjustments performed from the rocket launcher command center.
- Convenient long-distance land and sea transport, and the possibility of storage in a standard-size container.

Technical Information

Maximum elevation angle	90°
Launch angle	possibility to remotely adjust the launch azimuthand elevation angles
Maximum mass of the rocket	3 000 kg
Maximum thrust of the rocket	80 kN



Benefit for the soldier:

- enables rapid and flexible deployment of rocket launch capability without fixed infrastructure;
- increases operational resilience through autonomous operation in diverse weather and terrain conditions;
- reduces logistical burden by containerized transport and remote launcher control.

Board Support Package (BSP)

N7 SPACE ► p. 473

Ready to deploy, cost effective driver library for ARM and LEON-based space systems

Key features:

- SAMV71Q21(RT), SAMRH71F20, SAMRH707F18
- ECSS criticality category B pre-qualified
- Static memory allocation
- Object-oriented design
- No dependency on any external library
- Used as a base for BSW – tested in flight software
- RTEMS integration layer
- ESA ECSS qualification test suite and data pack included

More details at
https://bootloader.space/#bsp

Bootloader (BSW)

N7 SPACE ► p. 473

Ready to deploy, cost effective boot software for ARM and LEON-based space systems.

Key features:

- SAMV71Q21(RT), SAMRH71F20, SAMRH707F18, Leon3 based systems
- Demonstration version working on SAMV71 Xplained Ultra and SAMRH71F20-EK available
- ECSS criticality category B pre-qualified
- Based on ESA SAVOIR (Flight Computer Initialization Sequence Generic Specification)
- High code and decision coverage
- Self test of the critical CPU modules
- Failure reporting through boot and death reports
- Bare metal design (no RTOS used)
- Execution from internal or external non-volatile memory
- ESA ECSS qualification test suite and data pack included

More details at
https://bootloader.space/#bsw

CANopen On-Board Protocol Stack

N7 SPACE ► p. 473

Highly customizable and configurable open-source library targeted for critical embedded systems

- ECSS criticality level B validation test suite and documentation:
  - Qualification data pack compliant with ECSS-E-ST-40C and ECSS-Q-ST-80C standards
  - ECSS-E-ST-50-15C validation tests
  - 100% line, branch and MD/DC coverage by unit-tests

See more at:
https://canopen.space

- C language API of the library provides:
  - Pure C99/C11 interface
  - Object-oriented design
  - Static memory allocation
  - No external libraries dependencies
  - C++ wrappers (for non-critical software)
- Full compliance with CiA 301 and ECSS-E-ST-50-15C:
  - PDO, SDO, SYNC, EMCY, NMT
  - Support for ECSS-based bus redundancy in NMT service and 'time objects'

CUSTO-PROBE
Multi-hole pressure measuring probes

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

The CUSTO-PROBE product family includes standard and fully customised probes in various configurations (straight, L-type, cobra, or bespoke), with multiple tip options, i.e. with one up to 5 dynamic pressure holes. It is also possible to enrich the design with static pressure holes. Which gives wide benefits of the dynamic and static pressure measurement in nearby volume. Diameters of the tip can be as small as 1.70 mm, with angular measurement uncertainty significantly smaller than 1°.

Featuring a robust single-piece design, the probes are produced through an optimized in-house process covering CAD (including MES and vibration response), additive manufacturing, heat and surface treatment, and DT/NDT quality control, ensuring precise aerodynamic measurements.



Designed for demanding environments, CUSTO-PROBE can operate in media up to 300°C in elevated pressure (with optional temperature measurement) and supports wind tunnel calibration up to Mach 0.9 and ±45° flow angles, with dedicated software, flexible mounting solutions, and unique probe identification. Probe calibration can be performed in air flow with temperatures ranging from ambient up to 300 °C

Łukasiewicz – Institute of Aviation provides a comprehensive range of services, including design, manufacturing, calibration, and measurement data processing software.

Benefit for the soldiers:

- delivers precise aerodynamic data for military aircraft and missiles, improving control and performance,
- supports reliable testing in harsh conditions, enhancing system readiness,
- enables accurate calibration of advanced platforms, strengthening mission effectiveness and survivability.

DIGITAL FLIGHT DATA RECORDER S2-3a

Instytut Techniczny Wojsk Lotniczych
(Air Force Institute of Technology) ► p. 463

Digital Flight Data Recorder (FDR) S2-3a with a semiconductor memory was designed at ITWL (Air Force Institute of Technology) in Warsaw, Poland. It is used as a basic Flight data recorder in the Polish Air Forces. FDR S2-3a replaced FDR SARPP-12 and BUR-1 early used on a board Russian airplanes and helicopters. The introduction of FDR S2-3a into service in Polish Air Forces limited to the minimum cost of the operation of FDR system (no maintenance costs, high reliability) and increased reliability & quality of recorded airplanes flight parameters.

Technical data (for example):

- Max time of continuous data recording in maintenance cartridge ≥ 24h;
- Max time of continuous data recording in protected unit ≥ 10h;
- Number of on/off inputs (digital inputs) - 32;
- Number of analogue continuous inputs - 22;
- Number of frequency inputs - 3;
- Number of GPS inputs - 4;
- Data and time recording.

The OAZ software enables, among other things:

- Decoding of data from the Maintenance Cartridge and the Protected Unit,
- Archiving of records and scaling plots in the database,
- Flight analysis based on recorded parameters,
- Segmentation of records into any number of parts (i.e. flights),
- Edition, the listings, and the archiving of failure-, service-, and mission-imposed exceedances of parameters,
- Aircraft motion animation,
- Flight route displayed against a digital map,
- Marking of characteristic points on the plots (with markers),
- Edition and report on the calibration patterns introduced.

Data is stored in the maintenance cartridge and the protected unit and it is read out by means of Flight Data Decoding System "OAZ" in Flight Control Laboratory. The flight data decoding system OAZ operated in the WINDOWS environment on any computer measuring interfaces that facilitate data transmission from S2-3a airborne recorders. The item is used to decode flight parameters recorded in any device from the S2-3a family. It is also used to decode records of flight parameters of the CASA C-295M.

The protected unit S2-3a-K has been intended to survive aircraft failure or air accident/crash and to maintain measurements taken. It satisfies specific standards and withstands:

- Impacts resulting in overloads up to 3400 g for 6,5 ms;
- Penetration with a metal [piercing] mandrel Ø 6,35 mm load down 227 kg mass;
- Compression with a statistic force 22,25 kN;
- Temperature of 1100 °C for 30 minutes;
- Deep salt water pressure of 60 MPa, for 30 days and nights;
- Exposure to corrosive fluids.

The FDR S2-3a consists of:



- Data acquisition block S3-1a-2;



- Maintenance cartridge S3-1a-2K;



- Protected unit (a black box) S2-3a-K



- Pilot number panel S2-3a-P

DRI-GNSS-DEV

DRI Solutions Sp. z o.o. ► p. 451

DRI-GNSS-DEV is a multi-band GNSS hardware receiver for software-defined radio (SDR) development and GNSS signal analysis. It enables rapid prototyping, signal search and support for multiple constellations including GPS, Galileo, GLONASS and BeiDou.

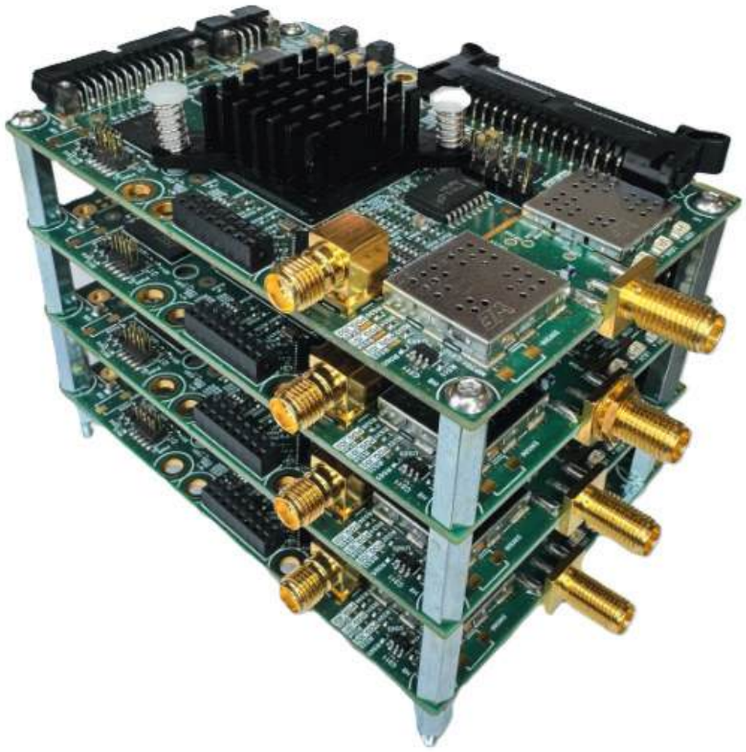


DRI-GNSS-DEV Hardware Components:

- 2 x RF Front-Ends for receiving radio waves through the antenna and converting them to digital samples (ADC),
- Intel FPGA core for fast SIS signal processing,
- 2 x ARM CORTEX M7 for calculating PVT messages (Position, Velocity, and Synchronization).

DRI-GNSS-DEV Software Components:

- Sample VHDL-based software for GALILEO signal processing including: data acquisition, satellite tracking and demodulation,
- Sample C-based software for calculating position, velocity and synchronization – PVT based on GALILEO signals.



By combining three modules, the system can be used for testing signal interference and spoofing. It enables rapid updates and development of new PVT algorithms, jamming detection algorithms, and improved processing quality of space-based SIS signals. System is also an excellent tool for exploring the fundamentals of GNSS receiver design through practical, example-based software implementations.

Key futures:

- Testing multi-constellation Fusion algorithms,
- Analysis of SIS interferences mitigation,
- Testing of SDR algorithms,
- GNSS raw data recording,
- The ability to analyze signal jamming and spoofing.

The DRI-GNSS-DEV system allows for testing algorithms for jamming and spoofing with GNSS satellite signals. This type of information increases soldier operational awareness and decision-making, allowing for more informed use of equipment in given operational conditions.

ekoSKY 2.0

BZB UAS Sp. z o.o. ► p. 444

The original vertical take-off aircraft of Polish production. One of the first Polish vertical take-off and landing (VTOL) aircraft. It is made of advanced composite materials and equipped with the latest electronic components. Powered by electric motors, which allow it to fly for up to 150 minutes. The Plug&Play system, vertical take-off, and landing make flight preparation and operation surprisingly simple and convenient

Developed with Passion – Built with Experience

We care about the safety and quality of our machines, which is why we tested individual parts of the unmanned aerial vehicle in laboratory conditions. Thanks to durability tests, we checked in practice what maximum loads our structure can carry and whether it corresponds to our calculations.

Appropriate arrangement of fibers, proper annealing of our components and many other parameters increase load resistance by more than 200%.



Proven and Reliable Electronics

We have performed electromagnetic compatibility tests of our aircraft. We have checked the system's resistance against external disturbances and the emission of high intensity electromagnetic waves on undesirable frequencies – the emissivity of the aircraft is within norm does not cause dangerous coupling and it does not interfere with any devices installed in the aircraft. We also identified which antennas give us the greatest range and we also investigated the most advantageous place of their installation. The test were carried out in accordance with the RED Directive: 2014/53/EU and the EMC Directive: 2014/30/EU.



- Flight Time – up to 150 min
- Maximum Payload Mass – 1,5 kg
- Cruising Speed – 20 m/s (72km/h)
- Mass (MTOM) – 16 kg
- Assembly Time – 10 min
- Takeoff/Landing – Vertical
- Range – 180 km



Benefit for a soldier

Maximum Situational Awareness and Operational Safety

VTOL launch requiring only 5x5m of space enables covert operations from forests or fortifications without the need for open-field exposure. Vertical landing protects sensor heads, while long flight endurance provides deep reconnaissance and information superiority.

Farada G1-B
VTOL type

Farada Group Sp. z o.o. ► p. 456

The VTOL (Vertical Take-Off and Landing) drone is designed to redefine aerial surveillance and operational efficiency. Its clever design ensures a maximum take-off mass (MTOM) of under 25 kg and a wingspan of up to 3,6 m. Additionally, the drone generates 40 kg of thrust during vertical take-off and landing, enabling operations in challenging weather conditions. Despite its lightweight structure, it can carry a payload of up to 3 kg.

The drone is equipped with redundant systems that meet the highest aviation standards. With a built-in GSM module, it offers unlimited communication range. Throughout the entire flight, the UAV is protected from interception by third parties, thanks to specially encrypted codes. The user can also provide the communication with the drone by a radio link, which is crucial in areas where there is none cellular network or it is disrupted.

UAV thanks to its good flight profile can reach up to 200 km of flight range. Operating at altitudes of 1,000 m above sea level, with a ceiling of 3,000 m, this drone is suitable for versatile deployments across various terrains. It boasts a flight endurance of 2 hours, flying autonomously from takeoff to landing, making it a reliable asset for a wide range of missions such as:

ISR Missions

- Rapid deployment enabled by VTOL functionality.
- Support for advanced high-resolution imaging payloads:
  - Thermal Imager (640x512, 15x zoom MWIR with 1,5o nFOV)
  - Color Zoom Camera (2160p QFHD, video at 30 fps, max zoom x90)
  - Laser Pointer
  - Laser Range Finder
  - Automatic object tracking
  - Artillery Fire Adjustment Software
  - Efficient Stabilization
  - Moving Target Indicator
  - Onboard video recording (32Gd)
  - High precision Geo-Location
- Up to 2 hours of continuous flight time for persistent area surveillance.
- Great for short and long-range surveillance missions.





Farada G2
VTOL type

Farada Group Sp. z o.o. ► p. 456

With an impressive wingspan of 4.3 meters, the UAV weighs 40 kg, complemented by an additional 7 kg battery weight and 12 kg fuel weight, housed within a 16-liter fuel tank. This configuration supports a Maximum Take-Off Mass (MTOM) of 65 kg. Powered by an 125 cc internal combustion engine.

Operating efficiently at altitudes of 1000 meters and capable of reaching a ceiling of 3000 meters above sea level, this drone is built for demanding missions across diverse environments.

Engineered for versatility, the drone features a gimbal camera and payload capacity of up to 12 kg. It excels in various flight parameters, with a minimum speed of 24 m/s, a cruise speed of 26-29 m/s, and a top speed of 32 m/s. Thanks to ybits hybrid propulsion system, the aircraft is able to archive a range from 600 to 800 km depending on weather conditions.



The Farada G2 is a UAV that have many possibilities of use for example:

ISR Missions

- Capability to remain airborne for up to 8 hours, performing area surveillance.
- Easy deployment thanks to VTOL capability.
- Ability to carry very high-resolution cameras.
- With satellite connectivity, it can operate over distances of up to 800 km with a single flight.
- After mission completion, thanks to the built-in engine generator, the plane requires only refueling and it's ready for the next mission.

Resupply

- Delivery of cargo, medical supplies, and other payloads; depending on the size and weight of the shipment, the flight range may be reduced.

Farada HELEN

Farada Group Sp. z o.o. ► p. 456



The flight characteristics of this multirotor drone are tailored for optimal performance. It can hover at zero speed and cruise at 12 m/s, with a top speed of 16 m/s. The drone's flight duration extends up to 58 minutes, covering a range of up to 50 km.

With a total weight of 20 kg, including a 10 kg battery, this drone supports a substantial payload capacity, enabling it to carry cargo up to 20 kg. Its Maximum Take-Off Mass (MTOM) is an impressive 40 kg, supported by a total thrust of 100 kg, ensuring powerful lift and maneuverability.

The Farada HEAVY LIFTER is a UAV that have many possibilities of use for example:

Supplied on cargo

- → Capability of carrying up to 45 lbs (20 kg) for 10 miles (16 km).
- → Possible delivery of package by airdrop or after landing.

Perimiter Protection

- → A special mounting allows for quick change of accessories such as:
  - Multispectral Camera
  - Speaker
  - Searchlight
  - Stun Grenade Launcher
  - Automatic object tracking (onboard)

Mobile radio mast

- → With the use of an additional battery, it can hover for above an hour, carrying 12 lbs of equipment on board to transmit and amplify the radio signal to increase range.

Flaris LAR01 +

Flaris Sp. z o.o. ► p. 457



The Flaris LAR 1+ unmanned aerial combat vehicle is capable of carrying a weapons payload of up to 450kg for longer-range and longer-endurance missions. Agile and capable of operating from short, unpaved airstrips, the LAR1+ delivers a powerful mission capability for defence and special forces, specifically designed to counter UAVs and helicopters.

With a cutting-edge engine, outstanding aerodynamics, and a cruise speed of 645 km/h, as well as high fuel efficiency and simple servicing, the LAR1+ represents powerful force projection in a cost-effective UAV.

SPECIFICATIONS:

Wing Span	8.7m
Length	8.3m
MTOW	2,200kg
Payload	450 kg
Cruise Speed	645 km/h
Cruise Altitude	30,000 ft
Communication System	Satellite Communication

Fuel Quantity Measurement and Indicating System

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

A certified, high-reliability solution developed and maintained by the Łukasiewicz – Institute of Aviation under EASA Part 21G and Part 145 approvals.

Designed for operation on board the PZL M28 Skytruck and Bryza aircraft, the PPM-1 system features a modular architecture composed of independent yet fully integrated assemblies. This ensures both operational flexibility and ease of maintenance.

The system delivers accurate, real-time measurement of fuel mass in each individual tank, as well as the total fuel quantity, displayed in either pounds (lbs) or kilograms (kg). Its robust design and precision measurement capabilities support enhanced flight safety, efficient fuel management, and reliable performance in demanding operational environments.





Benefit for the soldiers:

- ensures precise fuel monitoring for mission-critical aircraft, improving range planning and mission execution reliability,
- enhances safety during demanding operations through accurate real time data,
- reduces logistical risk by supporting efficient fuel management in combat conditions.

GNSS – FREE NAVIGATION SYSTEM (FOR UAS)

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

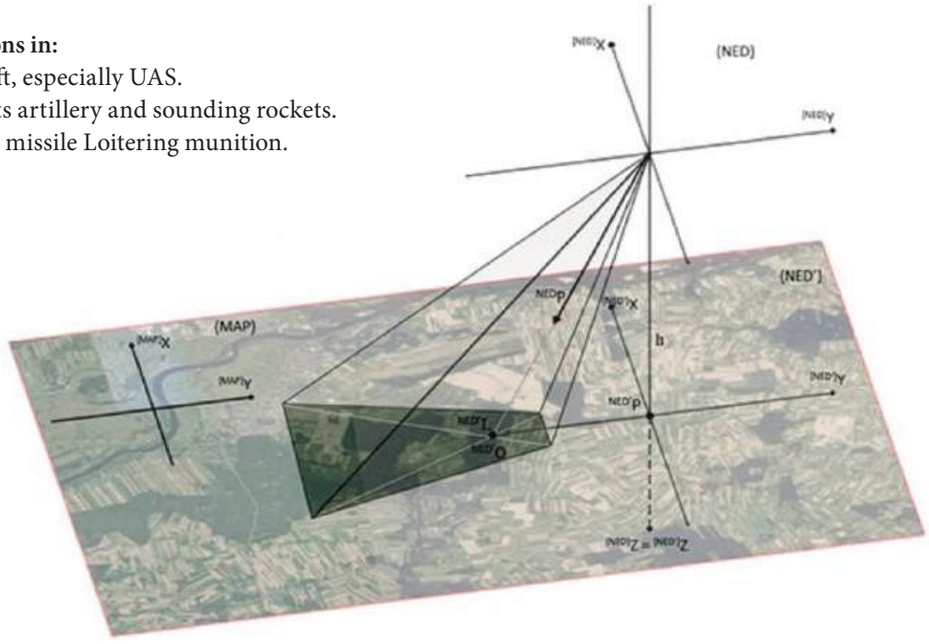
A device enabling precise location without access to satellite signals. It is designed for installation in unmanned aerial vehicles and rockets, allowing navigation in areas with intentional radio-electronic interference, distortions, or weak satellite signals. It is based on a combination of inertial and vision navigation methods to determine the orientation and position of an object.



Key Features
The device consists of:
- IMU sensor (accelerometer and gyroscope).
- Vision-based navigation camera.
- Computing platform.
- Navigation algorithm software.

Benefits:
- Navigation without access to satellite signals.
- Accurate location determination up to 5 meters.
- Provides precise data.

Installations in:
- Aircraft, especially UAS.
- Rockets artillery and sounding rockets.
- Cruise missile Loitering munition.

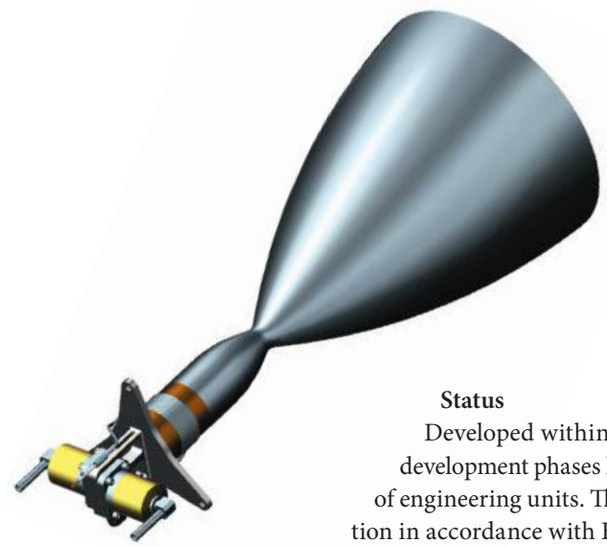


Benefit for the soldiers:
- ensures precise guidance of UAS and loitering munitions in conditions of heavy interference,
- enhances the systems' resistance to electronic warfare,
- improves strike effectiveness and mission reliability in environments without access to GNSS.

GRACE
Green Bi-Propellant Apogee Rocket Engine for Future Spacecraft

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

GRACE is a 500 N class apogee engine providing a non-toxic alternative to conventional storable apogee propulsion systems based on hydrogen peroxide (98% H2O2) and TMPDA fuel. It supports raising satellites to orbit and high-energy manoeuvres with simplified ground handling and safety operations comparable to standard storable propellants.



Key features

- Multi-role application:
  suitable both as a spacecraft apogee/main propulsion subsystem and as the main engine of a microlauncher upper stage as well as medium-size launcher kick stage.
- Reduced toxicity propellants: high test peroxide (HTP) 98%+ and green fuel (TMPDA).
- Dual-mode capability:
  monopropellant operation on catalytically decomposed HTP and bipropellant operation.
- Operational benefits:
  reduced ground operations burden and improved safety management compared to conventional storable propellants.
- Competitive performance: designed to approach state of the art MON/MMH apogee systems while improving handling characteristics.

Status

Developed within projects funded by the European Space Agency (ESA). Two development phases have been completed, covering design, integration, and testing of engineering units. The ongoing phase focuses on manufacturing process qualification in accordance with ESA requirements.

Benefit for the soldier:

- a faster availability of space-enabled support, less downtime in communications, positioning, and situational awareness during operations;
- more resilient space architecture supporting troops. This improves the survivability and maneuverability of satellites, including the ability to reposition or extend mission life under contested conditions;
- increased responsiveness of military space support. Dual-use engines enable faster integration of satellites with available launch systems, including responsive or tactically relevant launches.



Awards

Top prize in the "Product of the Future – Higher Education and Research Institutions" category at the 26th edition of the Polish Product of the Future competition (PARP), December 2025.



GROUND POWER UNIT LUZES V/D SERIES V

Wojskowe Centralne Biuro Konstrukcyjno-Technologiczne S.A.
(Central Military Bureau of Design and Technology) ► p. 504



GPU LUZES V/D SERIES V is a modern, mobile ground power unit designed to supply power to aircraft onboard systems, start their engines, and perform technical inspections of onboard equipment.

The unit is mounted on a standard 15-foot container frame, allowing installation on virtually any truck platform, which enhances operational versatility and flexibility. GPU LUZES V/D s. V is powered by a diesel engine, providing full autonomy without the need for an external power source.

The unit is capable of simultaneously supplying power to two aircraft, streamlining operational support and improving service efficiency. Tablet-based control ensures intuitive system management and enhances operator comfort.

Additionally, GPU LUZES V/D s. V is fully air-transportable, allowing rapid relocation between different sites to meet operational needs.

Tactical and Technical Features

- the unit is able to simultaneously provide two types of energy 28 V d.c. and 115 V a.c. during aircraft technical inspection
- 28 V d.c. (operates two aircraft simultaneously)
- three-phase a.c.; voltage 115/200 V 400 Hz (operates two aircraft simultaneously)
- single-phase a.c.; voltage 115 V 400 Hz (operates two aircraft simultaneously)
- three-phase a.c.; voltage 3x36 V 400 Hz (operates one aircraft) during aircraft engine startup
- voltage 28 V d.c. (operates two aircraft – one after the other)
- three-phase a.c. voltage; 115/200 V 400 Hz (operates two aircraft – one after the other)

Standards

- MIL-STD-704 F_CHG-1, Aircraft Electric Power Characteristic
- ISO 6858:2017 AIRCRAFT – Ground Support Electrical Supplies
- IATA Airport Handling Manual (AHM) 40th

Benefit for a soldier:

- Enhanced mobility and operational flexibility thanks to the containerised, easily transportable design and the ability for rapid deployment in field conditions.
- Reduced aircraft mission preparation time through simultaneous power supply to two platforms, directly increasing operational tempo and responsiveness.



HUSSAR SAR Radar
X-Band Terrain Imaging, Moving & Change Detection

SpaceForest Sp. z o.o. ► p. 492



HUSSAR Technical Specifications

Parameter	Minimal	Maximal	Unit
Frequency range	9	11	GHz
Range (radar to target)	150	15000	m
Finest range resolution	30	15	cm
Elevation angle of the beam	25	65	°
Supply (voltage & power)	36 /110	52 / 180	V / W
Weight (with and without housing)	7.8	10	kg
Temperature range	-10	50	°C
Dimensions (including aircraft integration)	120x20x20 (84x45x15)		cm
Interfaces (Control & Data Storage)	Ethernet / USB		
Operation modes	Stripmap, Spotlight, GMTI		

Learn more at www.spaceforest.pl and discover how HUSSAR can enhance your operations

HUSSAR radar is a portable X-band system utilizing SAR technology for high-resolution terrain imaging and motion detection with a spatial resolution of up to 15 cm. It operates independently of the time of day and weather conditions.

The system can be integrated with UAVs, planes and helicopters, offering an imaging range of up to 15 km. It is designed to meet the need for rapid access to reconnaissance data, eliminating the necessity to wait for satellite passes.

The system is equipped with a mechanically stabilised antenna, an onboard real-time SAR processor and a low-probability-of-intercept (LPI) FMCW radar. It supports Stripmap and Spotlight modes, ensuring high image quality. GMTI/MMTI functions enable the detection and tracking of moving targets, while CCD allows for the analysis of terrain changes between consecutive passes.

HUSSAR supports border monitoring and security (suitable for police and military) as well as civilian applications: surveying, mapping and natural disaster impact assessment.

HUSSAR radar series consists of lightweight, modular SAR radars for unmanned and manned platforms. They are designed for flexible integration (power, control, mounting) and provide immediate access to data thanks to real-time processing.

Benefit for a soldier

HUSSAR SAR Radar provides real-time situational awareness by enabling terrain change detection and moving target detection regardless of weather conditions or time of day. High resolution supports rapid decisions and effective response while increasing operational security.



Radar solution developed and offered in partnership with XY-Sensing.

HyperSat Eagle 2.0 HR EO
a ~1m GSD high resolution Earth Observation microsatellite

Creotech Instruments S.A. ► p. 447

HyperSat Eagle HR EO enables high-resolution (~1m GSD) Earth Observation in the visible and near infrared parts of the spectrum. Eagle HR EO is constructed and manufactured according to the highest quality standards, adhering to tailored ECSS requirements. The first satellite has been successfully launched by Creotech Instruments in August 2024.



HyperSat Eagle 2.0 HR EO is a verified satellite with space heritage offering high-resolution Earth Observation at ~1m GSD in PAN, RGB, NIR, advanced pointing accuracy, and secure data communication. With an ITAR-free design, 5-year lifespan, and compatibility with major launch systems, it ensures reliable and flexible performance.

Benefit for the soldier

HyperSat Eagle 2.0 HR EO provides high resolution optical imagery enhancing the situational awareness on a strategic, tactical and operational level. Due to enhanced data bandwith and high spacecraft agility enabling dynamic tasking, the satellite decreases age of information getting actionable insights to the hands of the soldier reliably and quickly.

Key Specifications:

- Compact Size: 1/2 plate smallsat, stowed: 780 × 750 × 830 [mm], deployed: 780 x 1750 x 830 [mm] and ~125kg mass (payload dependent)
- Customisable payload tailored to mission needs
- Swath 7km x 5km minimum
- Propulsion options (chemical or electrical)
- Advanced AOCS for precise maneuvering and pointing
- Redundancy offered as a standard
- Launch System: compatibility with wide range of key launchers
- Offers secure and rapid data transmission with AES-256 encryption, supporting up to 400 Mbps X-band downlink and CCSDS/PUS compliance



HyperSat Nano 2.0 HR EO
a ~3m GSD high resolution Earth Observation microsatellite

Creotech Instruments S.A. ► p. 447



HyperSat Nano MR EO is cost effective and multimission microsatellite. It enables high-resolution (~3m GSD) Earth Observation in the visible and near infrared parts of the spectrum. Nano MR EO is constructed and manufactured to the highest quality standards, adhering to tailored ECSS requirements. The first constellation based on HyperSat Nano bus has been successfully launched and is operational since November 2025.

HyperSat Nano 2.0 MR EO is a verified satellite with space heritage offering medium-resolution Earth Observation at ~3m GSD in PAN, RGB, NIR, advanced pointing accuracy, and secure data communication. With an ITAR-free design, 5-year lifespan, and compatibility with major launch systems, it ensures reliable and flexible performance.

Key specifications:

- Compact size: ESPA-class, 1/4 plate sat, deployed: 450 x 1200 x 610 [mm], stowed: 450 x 450 x 610 [mm], ca. 45kg satellite mass
- Spacious Payload Bay: able to accomodate 27U payload and up to 10kg mass
- Customizable payload tailored to mission needs
- Swath: up to 18km @ 500km orbit
- Optional electrical propulsion
- Advanced AOCS for precise and agile maneuvering and pointing
- Launch System compatibility supports key launchers
- Offers secure and rapid data transmission with AES-256 encryption, supporting up to 1Mbps S-band uplink and 400 Mbps X-band downlink and CCSDS/PUS compliance.
- Optional Services: satellite registration, logistics, insurance, launch and mission operation managed by Creotech Instruments.

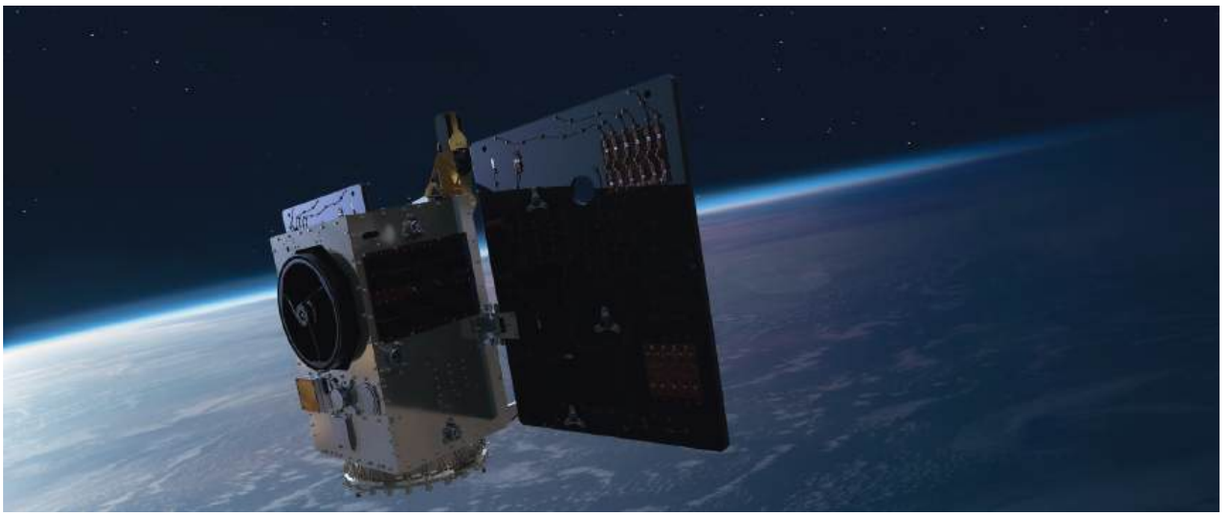
Benefit for a soldier

HyperSat Nano 2.0 MR EO provides high resolution optical imagery (VIS+NIR) enhancing the situational awareness. Due to enhanced data bandwith and wide swath, the satellite is an ideal backbone of a high-revisit constellation, delivering up-to-date information in the hands of the soldiers.



HyperSat satellite family
Versatile, Reliable, and ITAR-Free Solutions

Creotech Instruments S.A. ► p. 447



The HyperSat smallsat platforms are offered in three main configurations, optimised for the current rideshare options:

- HyperSat Kestrel for 30-50kg microsatellites,
- HyperSat Eagle for 90-150kg smallsats,
- HyperSat Seagull for 250-350kg smallsats.

Possible payloads include, among others: Earth Observation (Optical, Thermal Infrared and SAR), SIGINT, communications, PNT from LEO, in orbit servicing. All platforms are delivered with optional secure ground segment as a service or as a deployable system set up at customer's chosen site.

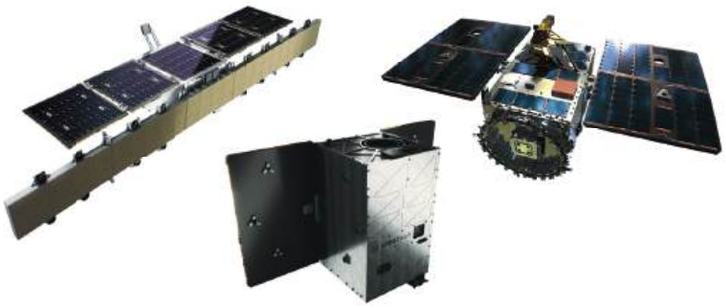
The platforms use the same common-core modular avionics, designed from the ground up to cover entire 10 – 250 kg range of buses. Satellites utilize the same encrypted TM/TC & data comms stack, interoperable with most ground segments in Europe, allowing flexibility in expanding and replenishing constellation over time, adding new payloads and orbits as required.

The HyperSat family has been chosen by the Polish MOD in Microglob project, ESA in Camila Constellation, other institutional and commercial customers to realise variety of mission profiles. The in-orbit-demonstration mission of HyperSat family has been successfully launched in 2024.

Full ownership of the spacecraft can be transferred to the end-user. Support from Creotech Instruments is available throughout the entire delivery timeline: from requirements specification to ongoing support during nominal mission operations.

Notable examples of HyperSat product family include:

- MIKROGLOB Satellite Earth Observation System composed of four microsatellites to be launched in2027.
- PIAST microsatellite constellation composed ofthree formation-flying MR EO Kestrel spacecrafts launched in 2025.
- EagleEye – a maiden flight mission of HyperSat Eagle variant, successfully launched in 2024 on Transporter 11 mission.



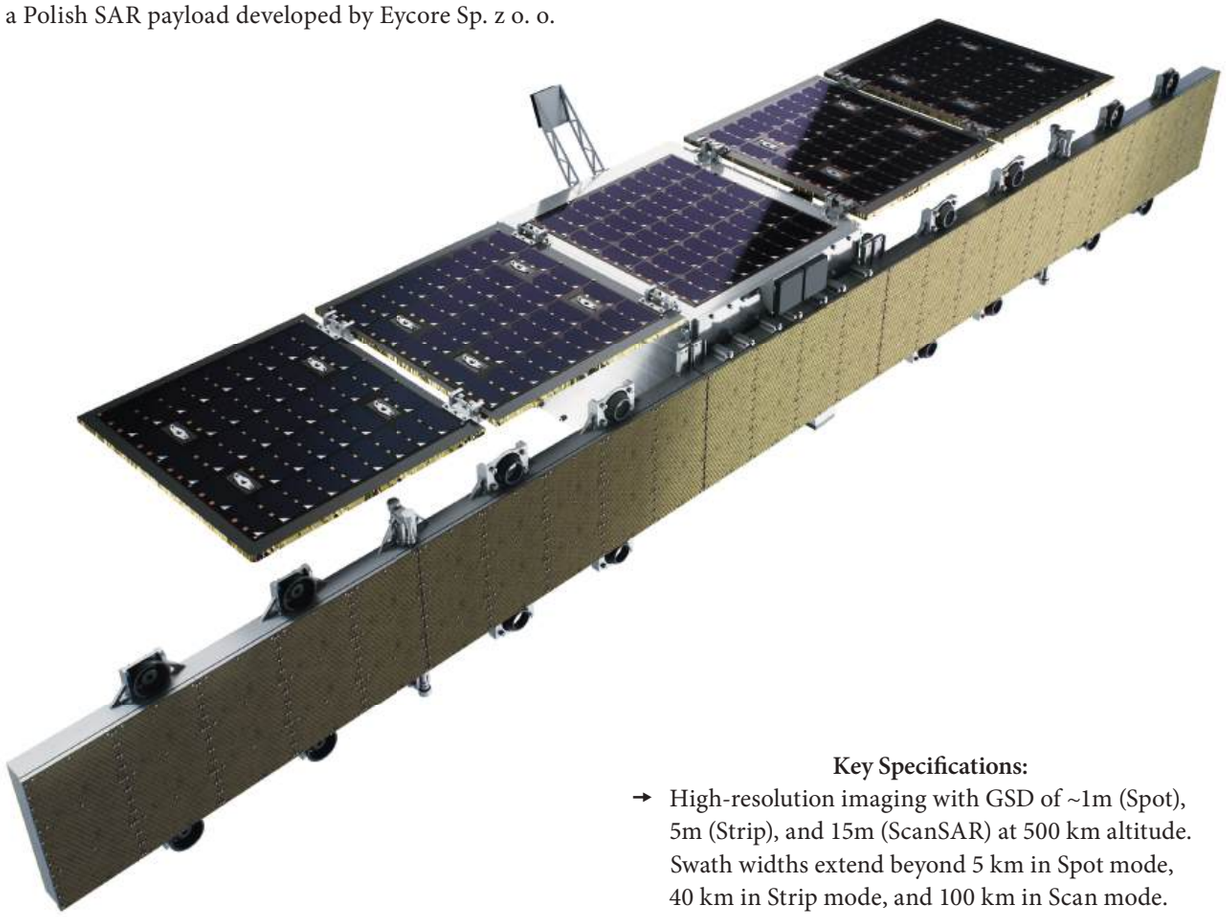
Benefit for the soldier

HyperSat family of products can be used to design a multi-sensor, hybrid radar & observational constellation addresing comprehensive soldiers' use cases by gathering Earth Observation data in variety of methods, including visible light and thermal observations, radar X-band, SIGINT.

HyperSat Seagull SAR Microsatellite

Creotech Instruments S.A. ► p. 447

Creotech Instruments S.A. presents the HyperSat Seagull platform, a state-of-the-art ITAR-free microsatellite for high-resolution Synthetic Aperture Radar Earth observation. This spacecraft is designed for a cost-effective and sovereign access to 24/7 global monitoring and includes a Polish SAR payload developed by Eycore Sp. z o. o.



Benefit for a soldier

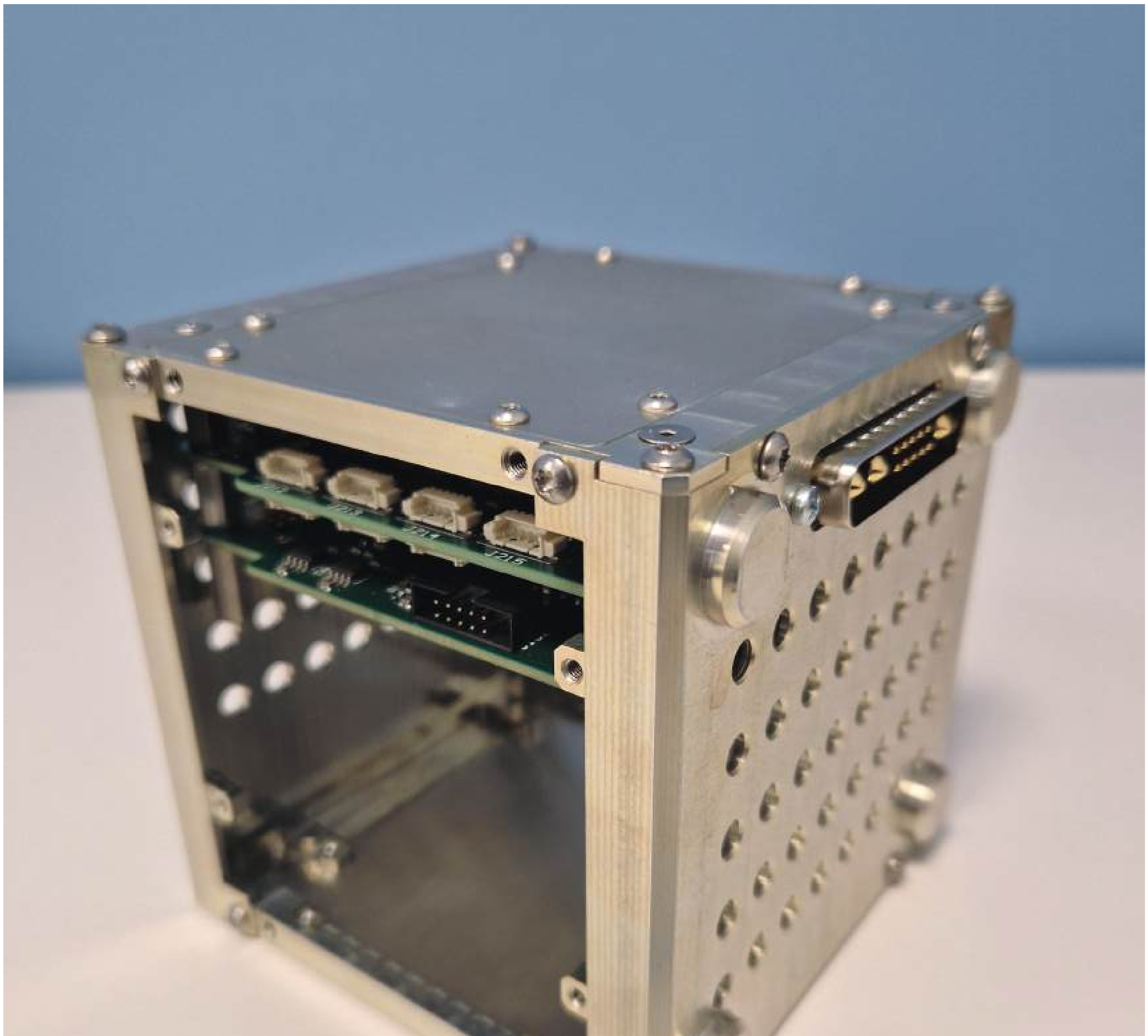
HyperSat Seagull provides high resolution Synthetic Aperture Radar enhancing the situational awareness regardless of weather, in day and night.

Key Specifications:

- High-resolution imaging with GSD of ~1m (Spot), 5m (Strip), and 15m (ScanSAR) at 500 km altitude. Swath widths extend beyond 5 km in Spot mode, 40 km in Strip mode, and 100 km in Scan mode.
- Offers secure data transmission with AES-256 encryption, supporting up to 400 Mbps X-band downlink and CCSDS/PUS compliance.
- Designed for extended mission longevity with a 5-year operational lifespan, enabled by a redundant HyperSat architecture.
- Dimensions: 1005 x 900 x 865mm (folded) / 1005x4300x865mm (unfolded)
- Mass: ~320 kg, ensuring compatibility with a wide range of launch vehicles.
- Optional Services: satellite registration, logistics, insurance, launch and mission operation managed by Creotech Instruments.

ICE Cube
On-board Control Unit

N7 SPACE ▸ p. 473



The complete, ready-to-use OBC module for CubeSats and ISS in-orbit experiments

- Fully compatible with ISS ICE Cube Facility
- Based on Microchip radiation tolerant SAMV71Q21RT
- 2x64 MiB SDRAM, 2 GiB NAND Flash
- TC/TM over Ethernet with PUS-C protocol
- OBCU-payload interfaces: UART, GPIO, I2C, SPI, ADC
- Power protection for payloads OVP, OCP
- Created following the ECSS standards for software development and quality
- Power consumption <~1 W Independent power control and data lanes
- Integrates a TC/TM link protocol based on ESA's Packet Utilization Standard ver. C (PUS-C)
- Developed in collaboration with Space Research Centre of the Polish Academy of Sciences (CBK PAN)

See more at:
https://obc.n7space.com

ILR-33 AMBER 2K

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

The ILR-33 AMBER 2K is an innovative, eco-friendly suborbital rocket entirely designed by the Łukasiewicz – Institute of Aviation. It is the first rocket in the world to use hydrogen peroxide as an oxidizer at a concentration above 98%. In 2024, a successful flight reaching an altitude of 101 km was conducted. This flight validated the rocket and its components in a space environment, confirming the readiness of the systems for similar missions in the future. Technologies based on High-Test Peroxide (HTP) were positively validated, paving the way for further development of eco-friendly space propulsion systems.

The AMBER 2K rocket is available both as an autonomous product and as a platform for specialized research services. It can be tailored to various missions and payload requirements, with a wide range of civilian and military applications. The rocket also plays a significant role in scientific research, serving the development and testing of new technologies. Several components of the rocket (nose cone, valves, motors, pyrotechnic igniters, etc.) are successfully used in other R&D and commercial projects.

Military Scenarios:

- Use as an air target ballistic imitator – for detection by ground infrastructure (radars) and engagement.
- Testing of the booster separation mechanism.
- Validation of military technologies in a suborbital environment.
- Technological platform for rocket technologies testing.
- Ground infrastructure testing.
- Specialized training.



Civilian Scenarios:

- Microgravity research.
- Atmospheric sounding (60-120 km).
- Communication solutions testing.
- Scaling technology to a new generation of small launch vehicles.





Benefit for the soldier:

- enables realistic training and validation of air defence systems using true ballistic targets;
- improves detection, tracking, and engagement confidence before combat deployment;
- reduces operational risk by verifying sensors and ground infrastructure under real flight conditions.

Impact energy absorbing technology

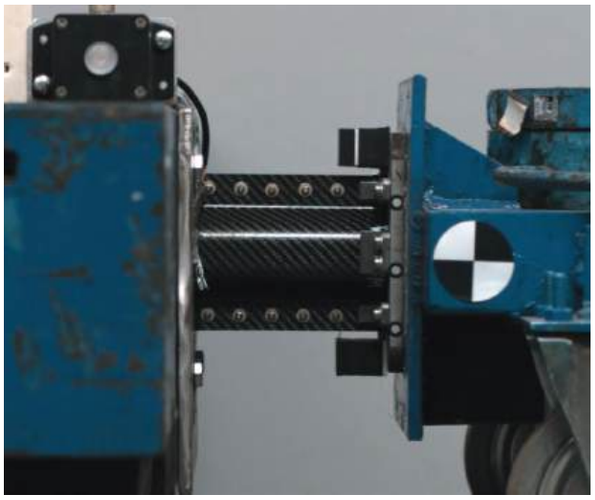
Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

The Łukasiewicz Institute of Aviation has developed an innovative technology for manufacturing lightweight impact energy-absorbing components from thermoformed thermoplastic composites. The production process, which utilizes a hydraulic press, enables the rapid and efficient forming of structures with a high degree of repeatability.

Composite absorbers provide stable energy absorption characteristics without sudden force peaks, significantly improving structural safety. Thanks to the use of carbon or glass fibres and a wide range of polymer matrices (including PA6, PC, PPS, PEI, PEEK), these components can be up to 70% lighter than steel and 40% lighter than aluminium while maintaining comparable strength.

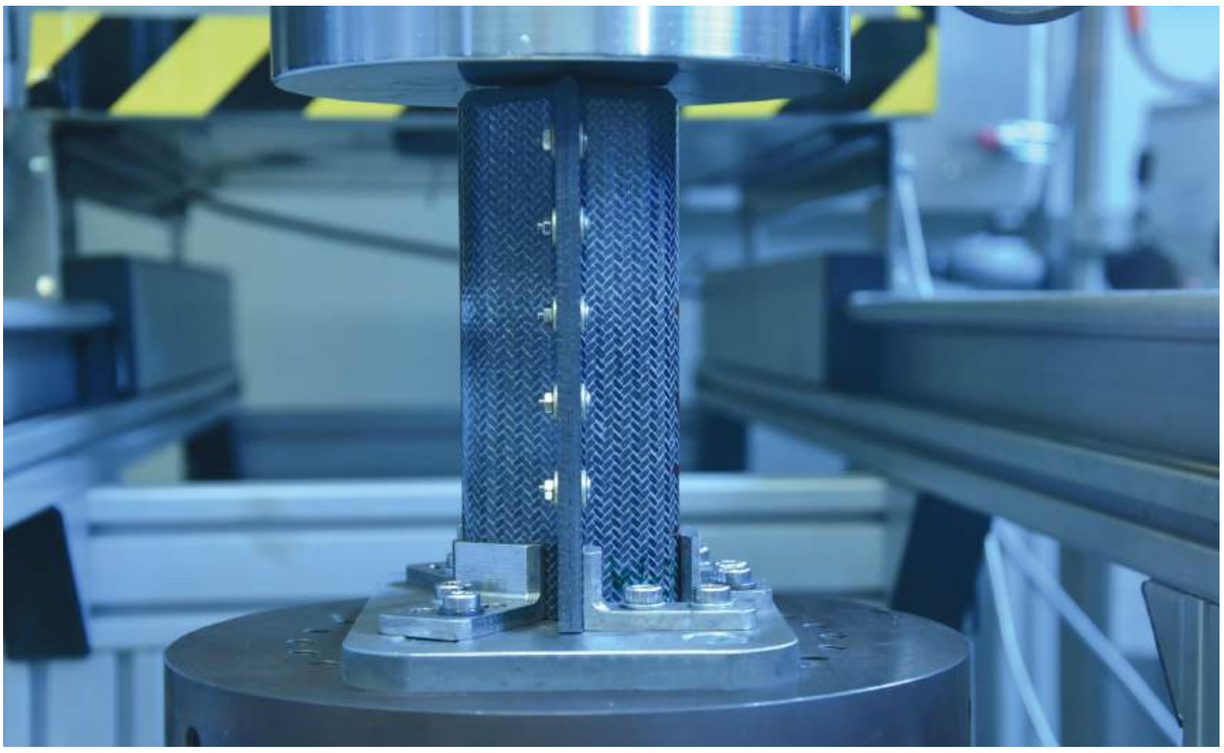
The technology enables the design of absorbers tailored to specific applications, supported by numerical analyses and tests confirming their effectiveness. Thermoplastic composites offer high chemical and corrosion resistance, easy integration with existing production processes, and the ability to be joined by screwing, bonding or welding. An additional advantage is the material's recyclability.

The solution is used in the aerospace industry (seats, floors, landing gear) and in the automotive sector, particularly in front and rear bumpers, where effective and predictable impact energy absorption is crucial.



Benefit for the soldier:

- increases crew protection by reducing blast and impact forces transferred to military vehicles;
- enhances platform survivability through predictable, stable energy dissipation;
- lowers system weight, improving mobility, payload capacity and overall mission performance in combat conditions.



LENSES

SOLARIS OPTICS S.A. ► p. 491

Lenses are fundamental refractive elements used to control light in optical systems. They are commonly used in imaging systems, such as space applications. Our in-house resources provide reliable solutions for producing customized, high-performance lenses of all types, including spherical, cylindrical (milled or produced from semi-finished products), and achromatic (doublets), as well as lenses optimized from UV to IR ranges.

All production steps, from raw material processing to thin-film coatings, take place on the premises. Most elements are circular in shape, but since our production is customized, we can also provide lenses with cut edges. We work with a variety of optical materials, including glass, glass ceramics, quartz, and crystals.

Technical specification – lenses



Our lens dimensions and other parameters are:

	Standard	Non-standard*
Material		on request
Range of diameters		4 –300 mm
Diameter tolerance	±0.1 mm	±0.01 mm or better
Clear aperture	90%	>95%
Thickness tolerance	±0.1 mm	±0.05 mm or better
Radius tolerance		on request
Centering accuracy	2’	0.2’
Surface form error at 633 nm	λ/4	λ/20
Surface finish (Scratch-Dig)	60-40	10-5 or better
Microroughness	<2 nm RMS	0.25 nm RMS
Coatings		on request

*** Individually analyzed upon request**

Our metrological capabilities:

- Diameter/ dimensions
- Thickness
- Radius
- Surface parameters: surface finish, surface accuracy, microroughness
- Centricity
- Focal length



LIQUID ROCKET FUEL

HTP (hydrogen peroxide) in concentrations ranging from 85% to 98% and DMAZ (2-dimethylaminoethylazide)

Jakusz Sp. z o.o. ► p. 463

Jakusz produces and offers a continuous supply of:



- HTP (hydrogen peroxide) up to 98% – clean and cost-effective rocket fuel
  - Simple Storage and Handling: HTP (98% H_2O_2) is easy to store at room temperature without special equipment, minimizing operational costs and simplifying procedures.
  - Environmentally Safe: Decomposing into water and oxygen, HTP is both environmentally friendly and safe for personnel.
  - Dual Role - Propellant and Oxidizer: HTP serves both as a powerful oxidizer for satellite engines and as a propellant for gas generators in auxiliary power units (APUs), making it highly versatile in the rocket industry.





- DMAZ (2-dimethylaminoethylazide) - a safer alternative for rocket propulsion
  - **Non-toxic Substitute:** DMAZ offers similar properties to monomethylhydrazine (MMH) but is much safer and non-carcinogenic.
  - **Versatile Usage:** Suitable for both bipropellant systems (as fuel with an oxidizer) and monopropellant applications, DMAZ ignites spontaneously with certain oxidizers, eliminating the need for additional ignition systems.
  - **Stable and Reliable:** Unlike other organic azides, DMAZ is stable, impact-resistant, and non-explosive – an ideal choice for green propulsion in the space industry.

Jakusz cooperates in propulsion development projects with the European Space Agency (ESA) since 2015.

MiniSat Propulsion Control Unit (SAT-ECU)

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

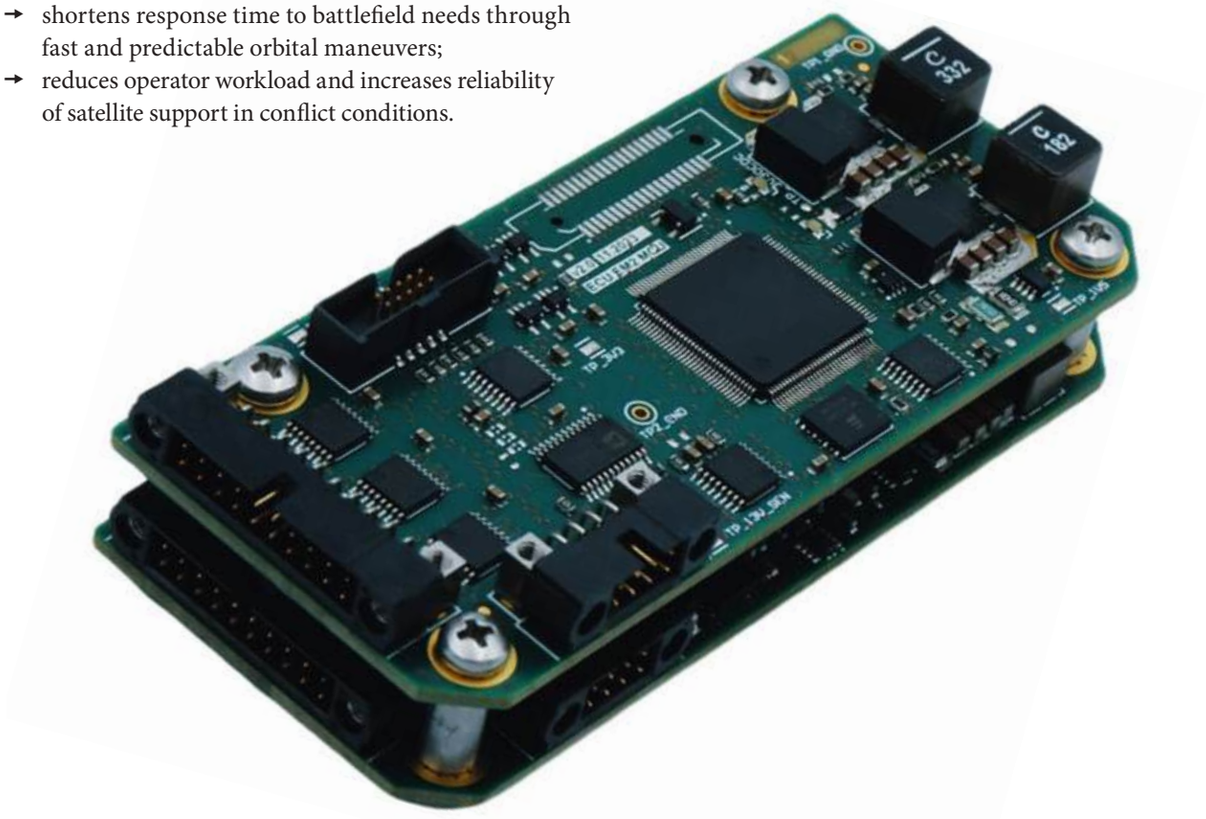


Compact electronic device designed for operation in the space environment in Earth orbit. The SAT-ECU is responsible for on-orbit data acquisition, control and management of a propulsion module, including thermal control and fluidic subsystems. It communicates with the satellite OBC/AOCS via an RS422 interface using the MODBUS protocol and transmits telemetry data during operation.

The device features small dimensions and low power consumption, making it suitable for nanosatellite platforms. It supports multiple interfaces for temperature and pressure monitoring, heater and valve control, and has been qualified for space operation through vibration, environmental, vacuum (TVAC) and radiation tolerance tests, with radiation tolerance up to 10 krad. It has been successfully integrated with a nano-satellite platform and a hydrogen peroxide propulsion module. Flight operation is planned.

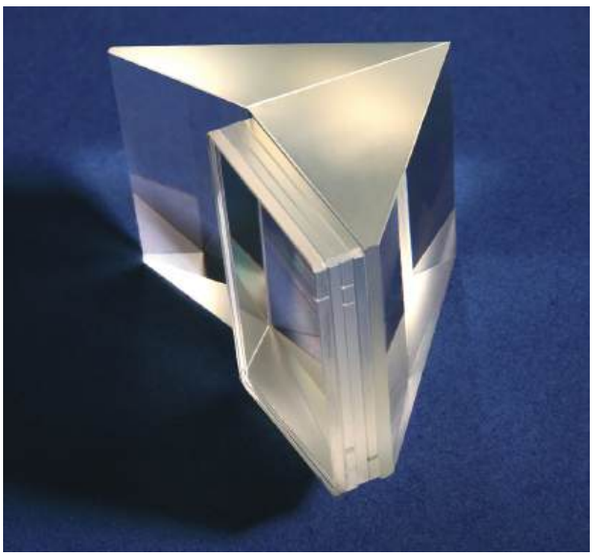
Benefit for the soldier:

- ensures continuous ISR and communications support by enabling precise orbit control of military satellites;
- shortens response time to battlefield needs through fast and predictable orbital maneuvers;
- reduces operator workload and increases reliability of satellite support in conflict conditions.



PRISMS

SOLARIS OPTICS S.A. ► p. 491



Prisms are optical elements typically used for directing light rays or changing the image orientation relative to the subject (rotation, inversion). Solaris Optics offers a wide range of reflective prisms, such as right-angle prisms, Dove prisms, and penta prisms.

Prisms are categorized into: dispersion and reflection prisms. Dispersion prisms split light into its spectral components due to the material's dispersive properties. When polychromatic light refracts twice at the prism's surfaces, it exits at an angle of deflection, which varies by wavelength. A common example is the equilateral prism (60° refraction angle), made from high-dispersion materials like SF10.

Reflection prisms function like plane mirrors, used to redirect light or alter image orientation (rotation, inversion). Their surfaces are flat, with mirrors for reflection, though total internal reflection can also be utilized with finely polished surfaces.

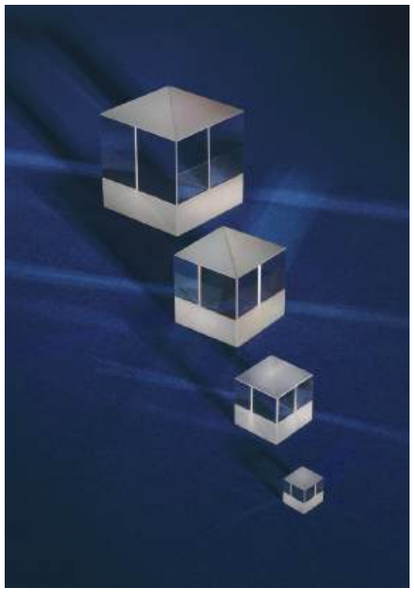


Measurement capabilities:

- Dimensions
- Thickness
- Surface parameters:
  - surface finish,
  - surface accuracy,
  - microroughness
- Angular tolerances
- Spectral characteristics
- Transmitted wavefront error

Technical specification – priswms

	Standard	Non-standard*
Material		on request
Range of sizes		4 –100 mm
Size tolerance	±0.1 mm	±0.01 mm or better
Clear aperture	90%	>95%
Thickness tolerance	±0.1 mm	±0.05 mm or better
Angle accuracy	2’	on request
Pyramidal error	2’	on request
Surface form error at 633 nm	λ/4	λ/20
Surface finish (Scratch-Dig)	60-40	10-5 or better
Microroughness	<2 nm RMS	0.25 nm RMS
Coatings		on request



* Individually analyzed upon request

SAR Satellite

ICEYE Polska Sp. z o.o. ► p. 461

ICEYE's SAR satellite is an Earth-observation satellite equipped with a synthetic aperture radar payload designed to deliver reliable, high-resolution radar imagery of the Earth's surface. Using radar instead of a traditional optical camera, it provides consistent coverage of any location on the planet, day or night and in virtually all weather conditions, including through cloud, smoke, and darkness. This makes it a dependable asset for missions that demand assured access to timely information, such as border and maritime security, critical-infrastructure monitoring, and emergency and disaster response, when ground access and optical imagery are often constrained.

The onboard SAR instrument is an active sensor: it transmits microwave pulses toward the Earth and measures the echoes reflected back from the surface and man-made objects. As the satellite travels along its orbit, the radar collects multiple echoes from the same area from slightly different positions, and signal processing combines these measurements into a single, high-detail "synthetic aperture" radar image. This technique enables both wide-area coverage and focused, high-resolution imaging within one system, while remaining unaffected by weather or lighting. By capturing the physical characteristics and structural changes of the observed scene over time, the SAR satellite supports precise change detection, activity monitoring, and damage assessment, giving users a robust basis for rapid, informed decision-making.



Benefit for a soldier

ICEYE's SAR satellites provide persistent, all weather ISR, giving soldiers near real time awareness of enemy activity, routes and key terrain. They enable earlier detection, more precise targeting, safer maneuver, and reduced tactical surprise in contested environments.

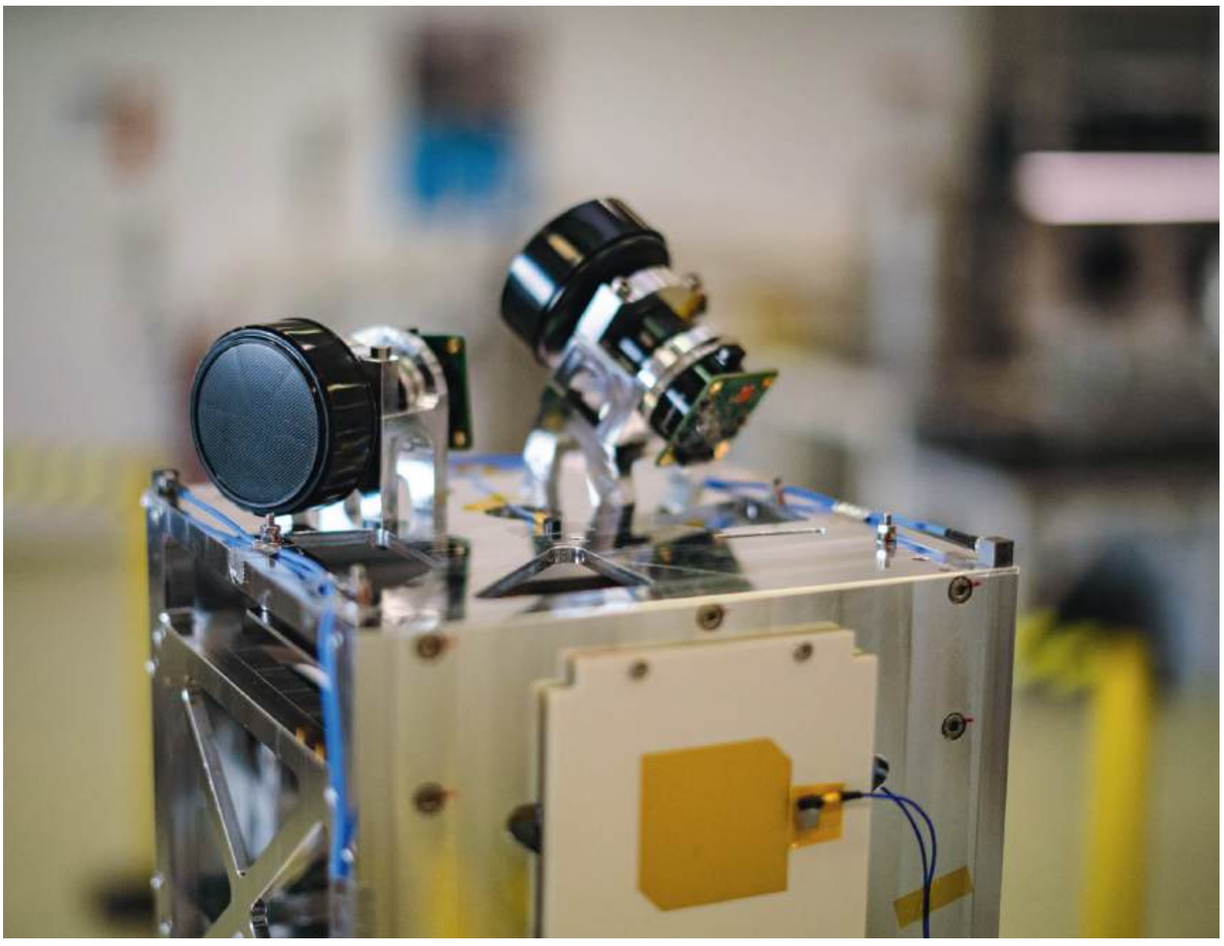


Scanway Camera System (SCS)

Scanway S.A. ► p. 485

The Scanway Camera System is a product line of camera systems dedicated for a wide range of space applications. The SCS was developed as a combination of Scanway's experience in developing proprietary vision systems for quality control in the manufacturing industry on Earth and familiarity with designing components dedicated to space. It is a relatively simple camera system that relies on cameras and other sensors for its operation and has the ability to analyze changes or processes using machine learning and DL-based vision algorithms. Applications of vision systems in space: self-diagnosis of space vehicle modules and objects approaching the vehicles, observation of space vehicle processes while operating in space, control of production and service processes in space, possible applications to SSA. When the SCS is applied to space infrastructure, it allows for conducting self-diagnosis of the satellite based on the acquired images.

The cameras can collect data from both the exterior and interior of the vehicle, and their range of applications includes, for example, assessment of the degradation of photovoltaic panels, verification of the operation of mechanisms, verification of the operation of the AOCS systems, or thermographic analysis of electronic components. Analysis of images captured by the cameras is carried out in specially designed electronics using FPGAs and artificial intelligence algorithms.

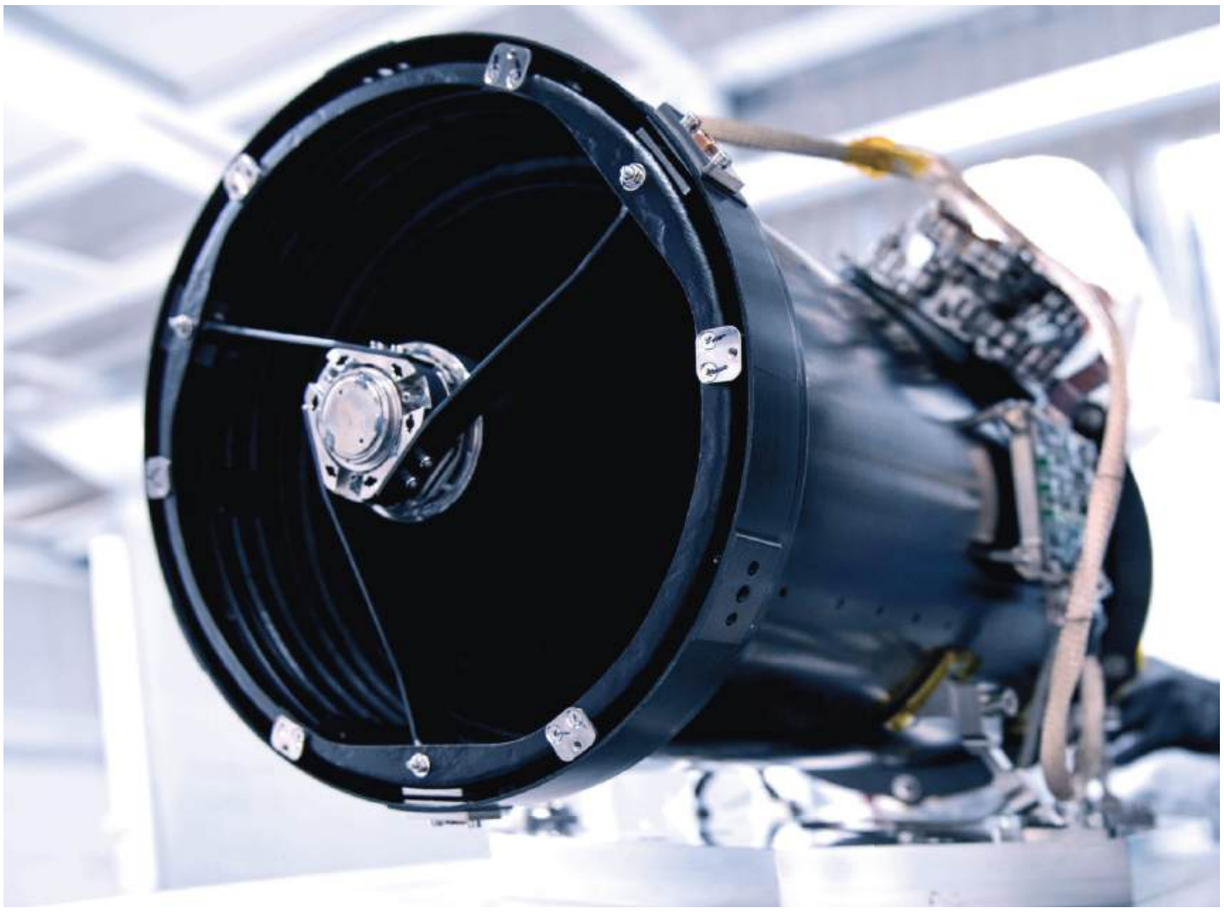


Benefit for the soldier

The Scanway Camera System (SCS) delivers reliable visual data for space-based surveillance, inspection and situational awareness, helping soldiers access critical information faster. Its onboard image acquisition and processing capabilities support quicker threat assessment and decision-making while reducing dependence on continuous communication with ground infrastructure.

Scanway Optical Payload (SOP)

Scanway S.A. ► p. 485



Scanway Optical Payload is a product line of cameras for Earth observation and other remote sensing applications, mainly designed for small satellites (nano- and microsatellites). The instruments have different apertures, depending on the mission objectives, altitude and platform size, resulting in imaging capabilities tailored to the specific mission (imaging at different spectra and resolution). The company's past projects and activities have resulted in telescopes dedicated to working with 3U, 6U platforms and microsatellites of up to about 70 kg.

The company is currently developing optical solutions also dedicated to Earth observation constellations or for lunar-surface observation. Thanks to the use of modern materials and an innovative approach to design, the telescopes of the SOP line have athermal properties that maintain high imaging quality parameters during on-orbit operation. The scalability and modularity of the structure exemplify the optimum price combined with the best technical performance. Scanway offers support at every stage of optical payload delivery: design, manufacturing, testing, integration and operation of the telescope in orbit. Imaging obtained with the SOP telescopes has many applications such as monitoring natural disasters, studying climate change, supporting agriculture and urban development, object classification, and military applications. The instrument can also be used for other remote sensing applications, such as on-orbit Space Situational Awareness (SSA).

Benefit for the soldier

SOP telescopes provide soldiers with a critical intelligence advantage at the operational level. Thanks to advanced high-resolution imaging and short-wave infrared (SWIR) capabilities, they effectively detect concealed military objects and penetrate visual obstacles such as smoke. As the primary optical payload within the PIAST system for the Polish Armed Forces, they ensure independent, European access to strategic data from orbit, enabling full situational awareness on the modern battlefield.

Space Optical in-house production

SOLARIS OPTICS S.A. ► p. 491



Solaris Optics manufactures not only single components but also optical systems. We can manufacture these systems according to our customers' requirements, and we are also able to support them throughout the entire design process, starting from the initial feasibility study, optical design, and tolerancing to the optomechanical design. We source the mechanical parts from our trusted suppliers and assemble the systems in-house. After the assembly, we characterize the systems in our laboratory.

Solaris Optics has extensive experience in manufacturing a wide range of precise optical systems, from simple mounted doublets to complex objectives. Our team can manage the entire design process, including the optomechanical design and the tolerance analysis. We can also work based on our customers' designs. The optical elements of the system are fully manufactured in-house, while the mechanical parts are sourced from trusted mechanical workshops.

The assembly of systems is carried out by our experienced personnel. In most cases, we use the drop-in assembly method; however, when tight positioning requirements must be met, we perform precision assembly using designed adjustment movements. Mounted systems are characterized with the use of OptiCentric and OptiSurf devices, which enables the measurement of air gaps, tilt, and decentration of elements within the assembly.

Our capabilities

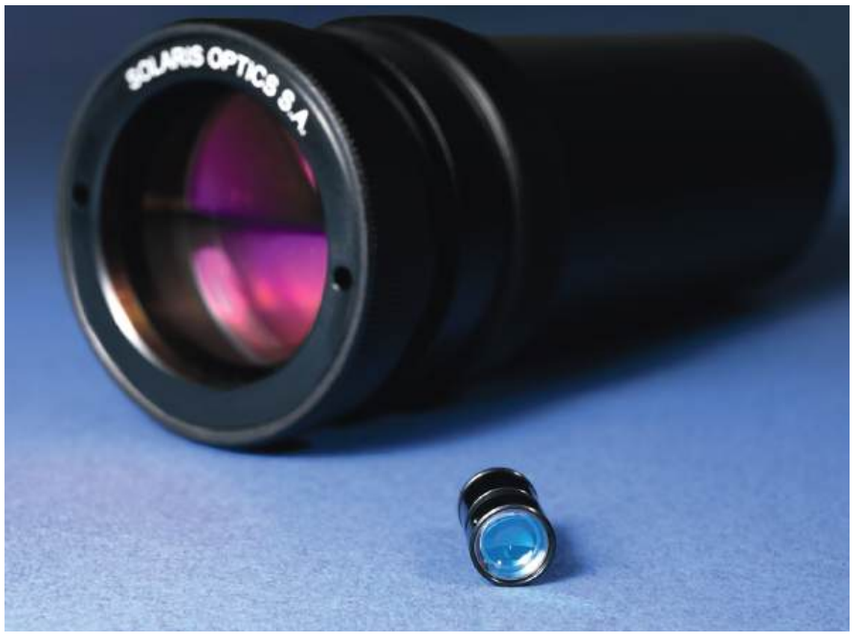
Parameter	Standard	Precision
Air gaps tolerance	±0.05 mm	±0,02 mm
Decentration of the elements	±0.04 mm	±0.015 mm
Tilt of the elements	4'	<1'

Types of our systems:

- Objectives for different spectral ranges, from NUV to NIR
- Zoom systems
- Beam expanders

Our metrological capabilities:

- Diameter/dimensions
- Air gaps
- Decentration
- Spectral characteristics
- Focal length
- Transmitted wavefront error
- Magnification



Suborbital Rocket Systems

SpaceForest ► p. 492







SpaceForest develops a comprehensive rocket system including PERUN and VIRA launch platforms and the RASEL autonomous tracking and telemetry system.

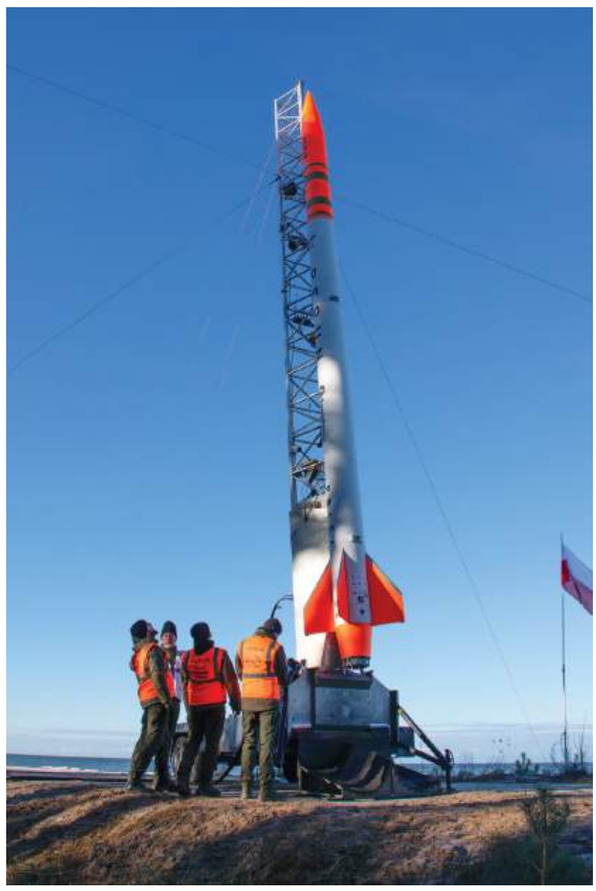
PERUN is a suborbital rocket designed to carry research payloads of up to 50 kg to an altitude of 150 km. It provides several minutes of microgravity, full component recovery and the safe return of research equipment. It utilizes an eco-friendly hybrid engine with a thrust control system. Additionally, it can serve as a realistic ballistic target simulator for testing and calibrating defence systems.

VIRA is a supersonic modular rocket designed for testing technologies under high-speed conditions. It allows for rapid configuration adjustments for various missions including testing electronics, materials and defence systems.

A key element of the system is RASEL – an autonomous tracking and communication system providing two-way connectivity, real-time data transmission and precise positioning of flight vehicles. The ground station allows for full mission control in all conditions.

The SpaceForest rocket system enables the integration and handling of research payloads ranging from qualification and R&D support to safe launch and recovery procedures. Its modular architecture and mobile launch infrastructure allow for flexible mission planning and flight execution from various locations. The solution supports both scientific experiments and technology tests for the defence sector.



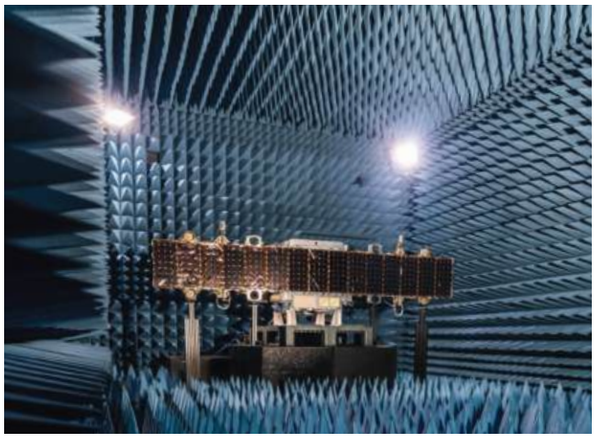


Benefit for a soldier

The system enables rapid testing of defence tech in real flight conditions. PERUN rocket mimics a ballistic target for system calibration, while VIRA allows for short turnaround time for testing electronics, materials, and defence system tuning. RASEL ensures real-time tracking, providing precise telemetry data throughout the entire mission.

Synthetic Aperture Radar (SAR) Payload

Eycore Sp. z o.o. ► p. 454





Eycore's synthetic aperture radar (SAR) sensor is built with a modular design in mind to meet the various operational needs of our customers. The SAR sensor consists of two key components:

- Internal Payload Assembly (IPA)
- SAR Antenna Assembly (SAA)

Both of these components are satellite platform-agnostic and can readily be scaled up and seamlessly integrated with a wide variety of third-party satellite platforms. This versatility gives our customers the freedom to select a satellite platform of their choice and customise the design to meet their very own specific mission needs and applications.

Through long-standing and trusted partnerships between Eycore and reputable satellite integration and launch providers, we are also able to offer a complete end-to-end solution by delivering to our customers a flight-ready satellite integrated with our SAR. This removes any unnecessary overhead on our customers and minimalises their technical risks so that their mission objectives remain on track for success.

Beyond product delivery, Eycore is also able to provide comprehensive support throughout the entire space mission lifecycle. This includes services such as launch coordination, mission ground segment management, satellite tasking, downstream data services and operator training.

Additionally, we can facilitate direct connections with our trusted industry partners for further expertise and support, thereby ensuring our customers have access to all the correct resources that are needed for success.

Benefit for the soldier

Gives soldiers fast, reliable reconnaissance regardless of weather conditions, improving situational awareness and decision-making in the field. Flexible integration with different satellite systems and full mission support reduce delays and technical friction, ensuring critical intelligence is available when and where it is needed most.







Unmanned Aerial Vehicle System – Orlik

Wojskowe Zakłady Lotnicze Nr 2 S.A. ► p. 505

ORLIK is a tactical, short-range unmanned aerial vehicle system. The system is designed to conduct reconnaissance missions within a 100 km radius using a four-sensor electro-optical turret and a SAR radar. Reconnaissance operations can be conducted for up to 6 hours, both in day and night conditions. The takeoff mass of the aerial platform is 150 kg. The platform is launched from a special launcher that is a part of the kit, and it does not require airport infrastructure to land. The system was developed in accordance with NATO standardization agreements STANAG 4586 and 4703, and as well as applicable Defense Standards.



System purpose:

- Identifying the enemy (objects, equipment, routes, areas of operation), weather and terrain conditions
- Guarding and monitoring of objects and areas for a specified time (bases, areas of interest)
- Indicating targets and determining firepower data in real time
- Real-time impact assessment with correction of readings
- High-resolution imaging of terrain and objects
- Identifying changes occurrence in a given area
- Identification, marking, and description of detected objects
- Transmitting information to the command post

Basic technical parameters of the aerial platform:

- Max. Take-Off Mass (MTOM): 150 kg
- Endurance: 6 h
- Radio communication range (LOS): up to 150 km
- AMSL ceiling: 5000 m
- Operating altitude: 2000-3500 m
- Operating speed: 90-120 km/h
- Maximum speed: 150 km/h
- Airframe structure: composite
- Drive: combustion engine
- Start: from a launcher or classic
- Landing: classic wheeled landing
- Emergency landing: by parachute

One kit consists of the following:

- 5 aerial platforms with electro-optic turrets
- 2 SAR radars (SAR/GMTI)
- 1 ground control station
- 1 ground data terminal
- 1 movable video terminal
- 1 portable video terminal
- 1 launcher

Electro-optic turret:
Sensors comprising the electro-optic turret:

- Visible light camera
- Infrared (IR) camera
- Laser rangefinder
- Laser pointer



Unmanned Aerial Vehicle System - Wizjer

Wojskowe Zakłady Lotnicze Nr 2 S.A. ► p. 505

Product description: WIZJER is a mini category unmanned aerial vehicle system for both civilian and military purposes, designed to conduct reconnaissance missions within a 30 km radius using a dual-sensor electro-optic turret operating in day and night conditions. It is characterized by a low noise emission rate, while the weight of the airframe ready for flight is 13 kg, allowing for up to 3 hours of observation time. The automation of the mission and the ability to land using a parachute and airbag ensures complete safety of use. The system was developed in accordance with standardisation agreements NATO STANAG 4586 and 4703, as well as applicable Defense Standards.



One kit consists of the following:
- 4 aerial platforms with EO/IR heads
- 1 ground control station
- 1 ground data terminal
- 1 portable data terminal
- 1 launcher

EO/IR Head:
- Optic zoom 30x
- TV sensor resolution 1920x1080
- IR sensor resolution 640x480
- Automatic target tracking
- Real-time determining of observed objects' coordinates

System Purpose

Surveillance/reconnaissance system for both military and civilian use:
- Military application:
  - Detection
  - Reconnaissance
  - Identification
  - Target and object coordinates indication
- Supervision and monitoring of widespread objects (forest areas, ports, mines, power grid lines)
- Monitoring of state-border-adjacent areas

Basic technical parameters of the aerial platform:
- Max. Take-Off Mass (MTOM): 13 kg
- Endurance: 3 h
- Radio communication range (LOS): up to 30 km
- AMSL ceiling: 4000 m
- Minimum speed: 65 km/h
- Maximum speed: 120 km/h
- Propulsion: electric motor
- Start: from the launcher
- Landing: by parachute

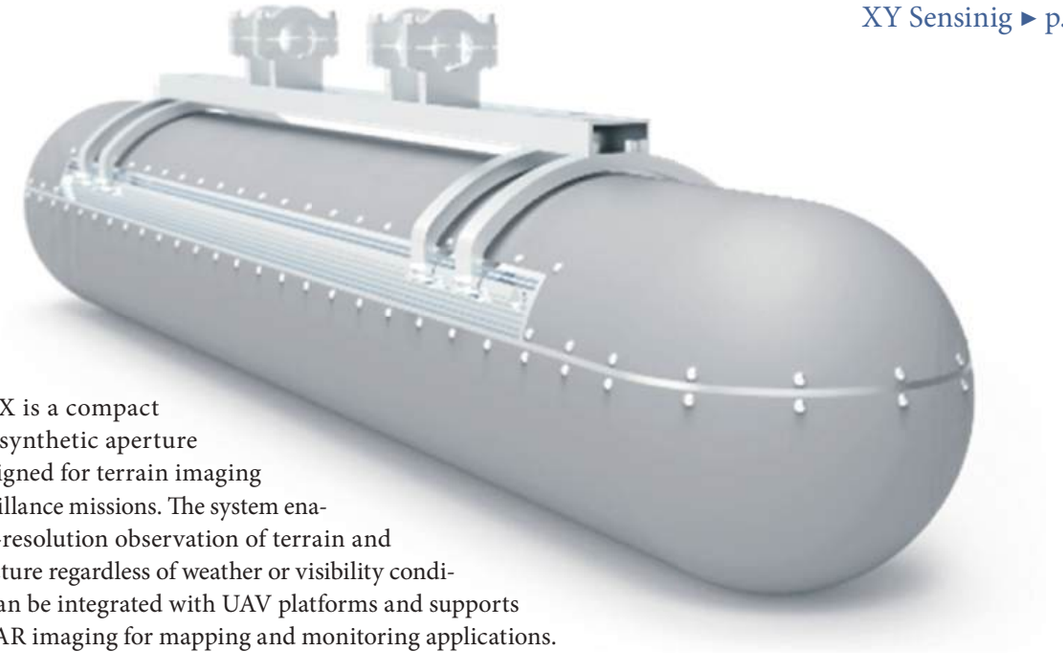


Starting and Landing System:
- Composite launcher
- Parachute
- Landing airbag



XY-SAR-X
Portable X-Band SAR Radar

XY Sensinig ▸ p. 511



XY-SAR-X is a compact airborne synthetic aperture radar designed for terrain imaging and surveillance missions. The system enables high-resolution observation of terrain and infrastructure regardless of weather or visibility conditions. It can be integrated with UAV platforms and supports reliable SAR imaging for mapping and monitoring applications.

Technical specification

PARAMETER	MIN	TYPICAL	MAX	UNIT
Transmit bandwidth	50		1000	MHz
Pulse Repetition Frequency	0.5		10	kHz
Transmitted power		10		W
Finest range resolution		30		cm
Antenna elevation beamwidth		20		°
Antenna azimuth beamwidth		7		°
Length x width x height		120 x 20 x 20		cm
Weight		10		kg
Supply voltage		12/24		V
Supply power		180		W

Key features

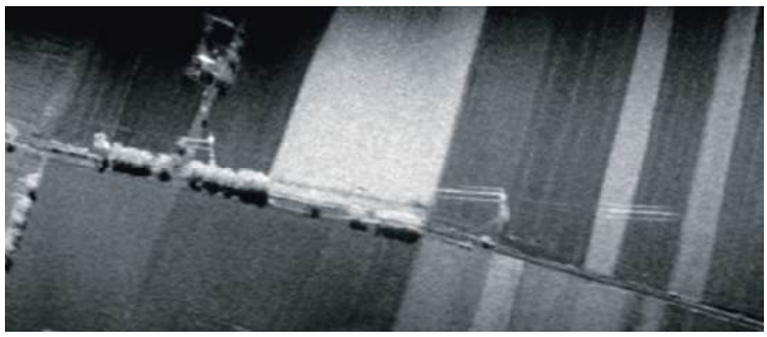
- Synthetic aperture radar
- FMCW radar architecture
- Stabilized antenna system
- Onboard SAR processing

Main applications

- High-resolution terrain mapping
- Natural disaster monitoring
- Infrastructure stability assessment support
- UAV reconnaissance

Benefit for the soldier

The use of the system increases situation awareness by terrain mapping especially when troops operate in new unexplored area, seaborne objects tracking, embarkation/debarkation ports observation. XY-SAR-X may be used to monitor natural disasters as well as significantly contribute to Infrastructure stability assessment, especially bridges or dams.



Imagining sample

Radar solution developed and offered in partnership with Space Forest Ltd.



AIR AND MISSILE DEFENCE

Anti-aircraft Rocket-artillery System PSR-A PILICA

Zakłady Mechaniczne Tarnów S.A. ► p. 514



The PILICA Anti-Aircraft Missile and Artillery System is a very short-range air defense system (V-SHORAD). The PSR-A PILICA Fire Unit is designed to combat low-flying air targets and lightly armored ground and surface targets. PSR-A PILICA has an integrated subsystem for detection, identification and combat management as well as combating air, ground and surface objects.

Thanks to the increased precision of detecting and tracking aerial objects, the PSR-A PILICA is able to destroy combat aircraft and helicopters. The PSR-A PILICA is characterized by a full range of fire in the horizontal plane, covering 360 degrees. In the vertical plane, the firing angle reaches from -3 degrees to +75 degrees, which allows to aim at both short negative angles and high elevation angles. The practical rate of fire reaches the level of 400 rounds per minute for the firing unit, which ensures a very high intensity of fire during combat operations.

The GROM/PIORUN MANPADS and 23 mm ammunition for the 2A14 cannon with OFZT, BZT, APDS-T and FAPDS-T rounds (domestic or foreign) can be used to fire at air targets. For firing at ground and surface targets, 23 mm rounds for the 23 mm 2A14 cannon with OFZT, BZT, APDS-T and FAPDS-T rounds can be used.

Benefit for a soldier

The system provides reliable short-range air defense and effective fire support against ground targets, enhancing subunit protection. A High firepower and precision enable rapid neutralisation of threats, while system mobility allows flexible support in dynamic combat operations.



BYSTRA
Mobile 3D Short Range Radar

PIT-RADWAR S.A. ► p. 478



- Instrumental range – 80km
- Features own power generator, spoofing and decoy systems
- Resistance to passive countermeasures or active jamming
- Ability to detect threats with low-RCS

The BYSTRA Redeployable Radar is designed for detecting and localising air targets at short ranges and for supporting air-defense units that cover tactical battle groups against attacks from the air. BYSTRA is a multifunction and multi-mission radar with versatile capabilities and various applications, including detection and tracking of typical air threats such as combat aircrafts and helicopters (also when hovering), as well as missiles, UAVs and mortar shells.

The radar can operate in several modes matched to the predefined combat missions. In each mode, an omnidirectional search is performed by rotating the antenna and by scanning space using software formed antenna beams. This enables the effective use of the radar resources and allows for adjusting search patterns to characteristics of a deployment site and to the accomplished function (detection/tracking) or the combat mission.

The Bystra radar is a modern and crew-safe radar station. Its short deployment time allows for rapid mission completion and equally rapid relocation to another workstation. This minimises the risk of enemy forces targeting the station.



Cable Harnesses

Wojskowe Zakłady Uzbrojenia S.A. ► p. 507



Cable Harnesses - WZU S.A. specialises in the design and manufacture (production) of highly specialised electric cable harnesses, also including fiber optic wires, intended for military (army) equipment and vehicles. Cable harnesses are a part of advanced military technology, designed with the use of, but not limited to, specialised software HARNWARE, which controls construction process of harnesses from electrical and mechanical perspective. Cable harnesses of our production feature high reliability in everyday use in combat conditions. Cable harnesses we manufacture may use a wide range of connectors for industrial and military applications.

For the user:

- Enhancing the combat capabilities, reliability, and functionality of the equipment
- Adapting equipment / systems to the demands of the modern battlefield



CKE-1T Thermal Target Sight for Anti-Aircraft Gun and Missile System

Przedsiębiorstwo PREXER Sp. z o.o. ► p. 479

The CKE-1T thermal imaging sight, working as an autonomous fire control system, is designed to conduct combat operations in day and night conditions, especially in all conditions of limited visibility. The CKE-1T has a thermal imaging module allowing for detection and engagement of the target at night.

The CKE-1T target sight can be used in modernised 23 mm anti-aircraft sets, e.g. ZU-23-2, while combating air targets. The sight is equipped with a programmable thermal imaging module adaptable to working conditions. The device can be equipped with a laser rangefinder.

The CKE-1T target sight works with DJ-25 - Unmanned Aerial Vehicle (UAV) jammer system.

Target detection in limited visibility conditions:

→ Helicopter (4x6m)	5800 m
→ SUV car (2x4m)	3800 m
→ Single soldier (1,5x0,7m)	1350 m
→ Standard NATO target (2,3x2,3m)	2950 m

Thermal imaging module parameters:

→ Spectrum range	8÷14 µm
→ Thermal sensitivity NEDT	< 50 mK
→ Digital optical zoom	2x, 4x
→ Matrix	640x480, optional 1024x768 or 1280x1024
→ Horizontal viewing angle	17°
→ Vertical viewing angle	13°

Range of entered distances:

→ by means of the manual switch	2÷30 hm
→ using the footswitch	programmable
→ automatically	2÷24 hm





Benefit for a soldier:

- → autonomous fire control system
- → Increasing battlefield awareness
- → Work in day and night conditions



Control and Measurement Station (SKP)

Centrum Rozwojowo-Wdrożeniowe Telesystem-Mesko Sp. z o.o.
(Development and Implementation Center Telesystem-Mesko Ltd.) ► p. 445



The Control and Measurement Station (SKP) is used for the automatic execution of periodic inspections and multiple tests of missiles, launch mechanisms, authorisation keys, and the MANPADS PIORUN systems. The testing includes verifying electrical and optical parameters (missile launch and pyrotechnic circuits are not tested). By utilising the SKP, users can monitor the condition of products throughout their entire lifecycle, ensuring full operational readiness of the systems and enabling informed decision-making.



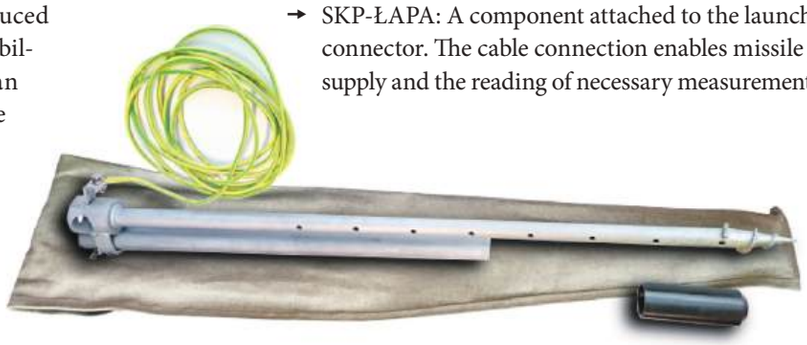


Purpose and Components of the SKP Set:

- SKP-RAK (Rocket Tester): Enables the verification of missile readiness for target tracking based on the analysis and measurement of designated electrical parameters of the missile.
- SKP-TMS (Launch Mechanism Tester): Checks the technical functionality of the Launch Mechanisms (MS), including readiness to launch the missile, selection of launch conditions, and issuing start command signals.
- SKP-TKA (Authorisation Key Tester): Verifies the technical functionality of Authorisation Keys (KA).
- SKP-SO (Operator Station): Collects and stores test data from SKP-TKA and SKP-TMS testers as well as logs from ZPA.
- SKP-JC: A management and control block for the testing processes, housed in a PELI case.
- SKP-KOL: A device generating a radiation beam simulating a target with a spectral profile similar to an actual target.
- SKP-ŁAPA: A component attached to the launcher connector. The cable connection enables missile power supply and the reading of necessary measurement signals.

Benefit for a soldier

SKP full operational readiness – assurance of technical reliability of PIORUN systems at all times. Fast and automated diagnostics – reduced inspection time, high repeatability, and elimination of human error. Optimised maintenance costs – condition-based servicing without unnecessary inspections. Early fault detection – increased reliability and operational safety of the system.



Distributed passive Drone Detection system
for anti-aircraft gun and missile system

Adapt-E ▸ p. 434

We develop a next-generation, distributed system for drone detection designed to enhance airspace security through scalability, affordability, and operational flexibility.

Our solution introduces a novel approach to counter-UAS challenges by moving away from heavy, centralised infrastructure in favour of a lightweight, networked architecture based on cooperation between multiple sensing nodes.

A key element of the system is its ability to leverage a community-driven sensor network, where distributed users and operators contribute to a shared detection ecosystem, significantly increasing coverage and system resilience without requiring dense, dedicated infrastructure.

The system is designed to operate effectively in environments where traditional counter-drone solutions are impractical due to cost, complexity, or infrastructure requirements.

Rather than replicating existing anti-drone systems, this solution focuses on achieving an optimal balance between technological capability, accessibility, and real-world impact on security.

By combining advanced signal intelligence concepts with a distributed, community-enabled sensing model, Adapt-E delivers a flexible and future-ready approach to modern airspace monitoring.

Key capabilities include:

- Passive signal detection using innovative methods for identifying drone activity without active emissions
- Distributed and community-enabled sensor networks for wide-area coverage
- Scalable architecture allowing gradual system expansion depending on operational needs
- Cost-efficient deployment model significantly reducing entry and scaling barriers
- Real-time data aggregation and analysis across networked nodes
- User-driven and cooperative framework supporting decentralised operational models

It is particularly suited for:

- critical infrastructure protection,
- urban and semi-urban environments,
- temporary deployments and event security,
- distributed defence and civil security applications.

Benefit for a soldier:

Improves early situational awareness of low-altitude aerial threats through distributed sensing, increasing force protection and survivability. Reduces cognitive load by automating detection and expands coverage without requiring dense dedicated infrastructure.



DRI-EO-12

DRI Solutions Sp. z o.o. ► p. 451

DRI-EO-12 is a stabilised optoelectronic system design for detection, recognition and identification. It is equipped with VIS day camera, MWIR or LWIR infrared surveillance camera, low light SWIR camera, laser designator for missile guidance and laser range finder. Target tracking, geo-pointing, a 30x optical continuous zoom, radiometry and isotherm functionality, robust 4 axis stabilization, integrated INS/GPS allow to use this system in wide range of military and industrial missions, including surveillance, reconnaissance, search and rescue. This system was designed for use onboard ground, sea and aircraft vehicles. With its 6DOF hybrid vibration damping system (active and passive), DRI-EO stabilizes all optical devices ensuring a stable image and laser beam at the micro-radian level.



The DRI-EO-12 system effectively visualises the battlefield, detecting high-priority targets. Information about detected hostile and fake targets allows for more effective use of combat assets, while also increasing soldiers' operational knowledge and effectiveness.

SENSORS SPECIFICATION

Thermal imager

→ Spectral band	3 ÷ 5 µm
→ Resolution	1280 x 1024 px
→ Field of view	38° to 1.9°

SWIR spotter

→ Spectral band	600 ÷ 1700 nm
→ Resolution	1280 x 1024 px
→ Focal length	250mm

Daylight

→ Resolution	1920 x 1080 px
→ Field of view	58.1° to 2.3°

Laser designator

→ Laser type	Nd:YAG
→ Wavelength	1064 nm
→ Compatibility	NATO STANAG 3733
→ Range	up to 10 km

Laser rangefinder + pointer

→ Repetition rate	10 Hz
→ Range	up to 30 km
→ Accuracy	±1 m

SYSTEM SPECIFICATION

Additional futures

→ Video tracker	YES
→ GEO-pointing	YES
→ Video outputs	2 x HD-SDI
→ Video streaming	RTSP
→ GNSS receiver	Integrated multi-band

Stabilization, Steering and Vibration isolation

→ Azimuth range	360° continuous
→ Elevation range	-20° ÷ +110°
→ Slew rate	60 °/s
→ LOS stabilization	Based on fiber optical gyroscope (FOG)
→ Outer axis	Azimuth and Elevation
→ Inner axis	Yaw, Pitch and Roll
→ Vibration Isolation	Passive 6 DOF

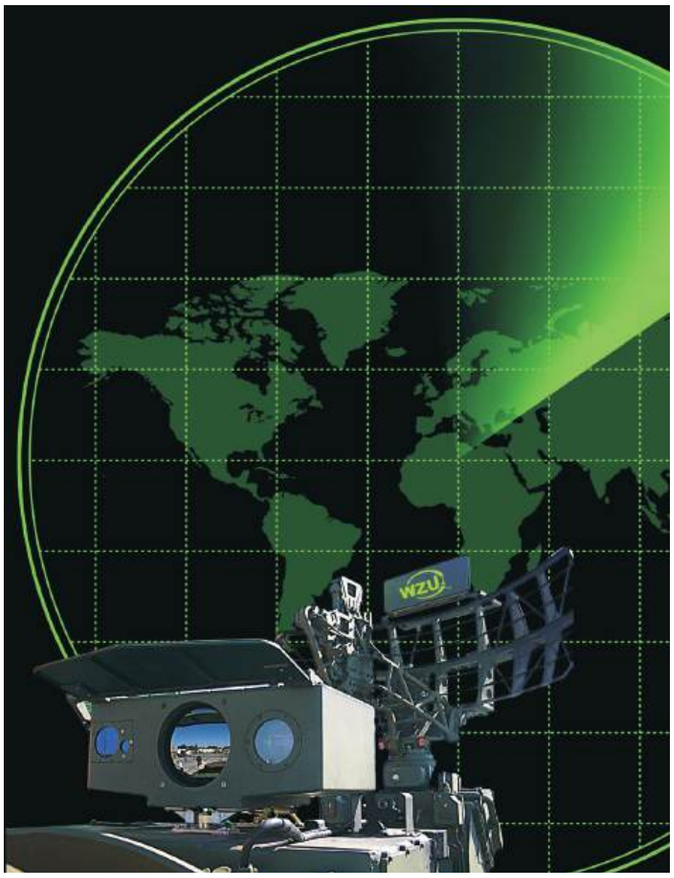
Power and weight

→ Power	24÷28VDC, < 180W (420W peak)
→ Dimension	Ø 290 mm
→ Weight	~20 kg

Electro Optical Systems

Wojskowe Zakłady Uzbrojenia S.A. ► p. 507

Optoelectronic Head is a new generation device integrating passive optoelectronic sensors operating in the bands from visible to thermal as a means for detection, recognition, identification, and observation, and following integration onto the platform for specification of angular coordinates of remote targets in the visible spectrum and in the infrared. It may operate in various weather conditions, both during the day with sunlight or artificial lighting as well as in the conditions of limited visibility. Optoelectronic Head operates in a set of devices which enable manual and automatic guidance of the head optical axis on the target under observation. The laser range finder, as a component of the equipment, enables identification of range to the target from 100 m to 30.000 m.



Capabilities

- passive detection – identification – thermo-video recognition, no detection of own position,
- control over the airspace,
- eye-safe laser range finding,
- data on the target range and azimuth,
- positioning, determination of co-ordinates,
- potential adjustment to any platform.

Purpose

The optoelectronic head may be adjusted to any fire control platform of anti-aircraft systems, in particular, for the following air defence systems:

- 2K12 KUB (SA-6),
- 9A33BM2 OSA (SA-8),
- 2K11 KRUG (SA-4),
- an example of a different type of platform – Combat Field Reconnaissance System integrated onto a HUMVEE platform.



Advantages of Application

- Replacing the previous sight enables the systems to thermally detect the target and to improve detection range.
- Limited radar radiation and improved radio electronic camouflage.
- Upgrade and improvement of missile weapons which are a significant potential in use by Land Forces, Air Force, Air Defence and Navy of the Republic of Poland

For the user:

- Enhancing the user's expertise and operational capabilities
- Enhancing the combat capabilities, reliability, and functionality of the equipment
- Adapting equipment to the demands of the modern battlefield

FIELDctrl 3D MIMO Radars: Advance, Range, Runway, Ultra, Follow

Advanced Protection Systems S.A. ► p. 434

Advanced Protection Systems designs, manufactures and supplies top-of-the-range MIMO 3D radars for LSS (Low-Slow-Small) target monitoring.

Precise target detection information provides an advantage over competing radars. Distance, angle and height are provided in real time. Innovative technology allows other sensors – cameras as well as effectors – jammers – to automatically target the drone.

Artificial intelligence and machine learning algorithms enable automatic classification – the FIELDctrl 3D MIMO radars accurately distinguish drones from birds. What is more, they are able to track multiple objects of different classes simultaneously.

FIELDctrl 3D MIMO radars can accurately detect all types of drones: rotary and fixed-wing, radio-controlled and non-radio-controlled, fully autonomous, and class 1–3. They even detect microdrones at distances up to 6 km.

Swarms, hovering drones and drones moving across the radar beam, i.e. having a zero Doppler velocity, are also effectively detected, tracked and classified.

Advance 3D MIMO Radar



Field of view (azimuth/elevation)	90°/60°
Radar type	FMCW
Output power	80 W, 19 dBW
Frequency of operation / frequency tuning range	from 9.7 to 10 GHz
Class of emission	300 MFXN
Bandwidth	300 MHz
Supply voltage	24 VDC and 230 VAC variants
Ingress protection	IP66/IP67
Dimensions (LxWxH) excl. mounting brackets	645 x 360 x 180 mm
Weight (panel only)	31.4 kg
Effective detection and classification range for micro UAVs – RCS 0.01 m^2	3 km
Minimum target altitude (AGL)	1 m
Minimum UAV detection speed	0 m/s (hovering drone)
Colour version available	RAL colors

Range 3D MIMO Radar



Field of view (azimuth/elevation)	90°/30°
Radar type	FMCW
Output power	80 W, 19 dBW
Frequency of operation/frequency tuning range	from 9.7 to 10 GHz
Class of emission	300 MFXN
Bandwidth	300 MHz
Supply voltage	24 VDC and 230 VAC variants
Ingress protection code	IP66/IP67
Dimensions (LxWxH) excl. mounting brackets	645 x 360 x 180 mm
Weight (panel only)	31.4 kg
Effective detection and classification range for micro UAVs – RCS 0. 01 m^2	5 km
Minimum target altitude (AGL)	1 m
Minimum UAV detection speed	0 m/s (hovering drone)
Colour version available	RAL colours

Runway 3D MIMO Radar



Field of view (azimuth/elevation)	45°/20°
Radar type	FMCW
Output power	80 W, 19 dBW
Frequency of operation/frequency tuning range	from 9.7 to 10 GHz
Class of emission	300 MFXN
Bandwidth	300 MHz
Supply voltage	24 VDC and 230 VAC variants
Ingress protection code	IP66/IP67
Dimensions (LxWxH) excl. mounting brackets	850 x 567 x 190 mm
Weight (panel only)	40,6 kg
Effective detection and classification Range for micro UAVs – RCS 0. 01 m^2	8 km
Minimum target altitude (AGL)	1 m
Minimum UAV detection speed	0 m/s (hovering drone)
Colour version available	RAL colors

Ultra 3D MIMO Radar



Field of view (azimuth/elevation)	90°/90°
Radar type	FMCW
Output power	200 W, 23 dBW
Frequency of operation/frequency tuning range	from 9.7 to 10 GHz
Class of emission	300 MFXN
Bandwidth	300 MHz
Supply voltage	230 VAC
Ingress protection code	IP66/IP67
Dimensions (LxWxH) excl. mounting brackets	840 x 680 x 320 mm
Weight (panel only)	81 kg
Effective detection and classification range for micro UAVs – RCS 0.01 m^2	6 km
Minimum target altitude (AGL)	1 m
Minimum UAV detection speed	0 m/s (hovering drone)
Colour version available	RAL colors

Ultra 3D MIMO Radar



Field of view (azimuth/elevation)	90°/90°
Radar type	FMCW
Output power	80 W, 19 dBW
Frequency of operation/frequency tuning range	from 9.7 to 10 GHz
Rotating angle	EL: +70° ~ -70°
Bandwidth	100 or 300 MHz
Supply voltage	24 VDC and 230 VAC variants
Ingress protection code	IP66/IP67
Dimensions (LxWxH) excl. mounting brackets	1625 x 715 x 672 mm
Weight (panel only)	91 kg
Effective detection and classification range for micro UAVs – RCS 0.01 m^2	5 km
Minimum target altitude (AGL)	1 m
Minimum UAV detection speed	0 m/s (hovering drone)

IFF Mark XIIA
Family Products

PIT-RADWAR S.A. ► p. 478

PIT-RADWAR S.A. offers a full range of IFF Mark XIIA devices which include a family of ground/vehicle-based interrogators. PIT-RADWAR's interrogator family consists of: IDZ-50, ISZ-50, IKZ-50P and IKZ-M, dedicated for long-, medium-, short range- and for MANPADS, respectively.

Equipping a radar station or MANPADS with modern IFF devices eliminates the possibility of friendly fire. This is a key safety feature on the modern battlefield. Indispensable both for the individual soldier and at the tactical level.

Mark XIIA's Mode 5 ready

- IDZ-50 long range IFF Mark XIIA interrogator, supports identification in Mode 1,2,3/A,C,S (up to Level 2) and 5 (up to Level 2). Range up to 470 km.
- ISZ-50 medium range IFF Mark XIIA interrogator, supports identification in Mode 1,2,3/A,C,S (up to Level 2) and 5 (up to Level 2) and ATC interrogation formats 3/A,C,S. Range up to 240 km.
- IKZ-50P short range IFF Mark XIIA interrogator, supports identification in Mode 5 Level 1 (can be software upgradeable to Level 2. Range up to 25 km.
- IKZ-M MANPADS IFF Mark XIIA interrogator, supports Mode 5 Level , range up to 25 km.



IDZ-50



IKZ-50P



ISZ-50



IKZ-M

MSI-DS TERRAHAWK PALADIN

Advanced Protection Systems S.A. ► p. 434

The MSI-DS TERRAHAWK PALADIN system is the result of cooperation between APS and UK-based MSI Defence Systems. Radar panels and a soft-kill effector (jammer) are designed and manufactured by APS; a hard-kill effector, the 30 mm MK44 Bushmaster chain gun, is made by Northrop Grumman Corporation. The entire set is controlled by the APS-developed CyView C2 system. The C2 system allows the MSI-DS TERRAHAWK PALADIN platforms (currently four) to be combined into one module and managed together.

Benefit for a Soldier

Enhances soldier protection by detecting, tracking, and neutralizing UAV threats with both jamming and precision fire. Networked control boosts situational awareness, rapid response, and survivability across multiple platforms in complex battlefield conditions.







The state-of-the-art 3D MIMO FIELDctrl Advance radars enable UAV detection, tracking, and classification. UAVscan be neutralised in two ways: non-kinetic (jammer) and kinetic (cannon).

The module can be controlled from any platform by assigning a MASTER or SLAVE function. This increases the system's effectiveness and survivability on the battlefield.

P-18PL
Mobile Long Range Radar Station for Early Target Detection

PIT-RADWAR S.A. ► p. 478

The P-18PL mobile radar is a long-range sensor intended for area surveillance for the purposes of monitoring the situation in the air, early detection of air attack threats, defining the attack / strike direction, defining threat types (classification of means of attack), setting targets for fire control systems and supporting the airborne operations of own forces.

Equipped with AESA-class antenna and based on the software defined radio (SDR) technique, the equipment can be easily modified and adapted to new tasks.

The P-18PL radar is a modern, long-range early warning radar. Its capabilities provide ample time to make the right tactical decisions. Its indications allow for early response to observed, approaching threats from airborne attack assets.



Main features of P-18PL:

- detection and tracking of ballistic missiles,
- detection and tracking of stealth aircraft,
- detection and tracking of hypersonic missiles,
- detection and tracking of UAVs of various classes,
- detection and tracking of helicopters in hover,
- passive mode option,
- electronic area scanning operation,
- advanced radio-electronic warfare systems,
- high flexibility in defining operation modes,
- cooperation with various types of command-control systems,
- high mobility – deployment time below 30 minutes.

The crew serving in the P-18PL radar station is fully protected against electromagnetic waves, and the vehicle cabins are adequately armored.



POPRAD
Mobile Anti-Aircraft Missile System

PIT-RADWAR S.A. ► p. 478





The POPRAD Self-propelled Anti-Aircraft Missile System (SPZR POPRAD) is intended for detection, identification and engagement short-range and low altitude air targets with the use of self-guided short-range missiles (heat-seeking missiles). The SPZR POPRAD might be used to cover columns of troops, staging points, command posts and military troops, as well as airports, harbours, industrial plants, communication hubs, etc. from air-strike means.

The core functions of SZPR POPRAD are accomplished by the integrated tracking-aiming head, which contains a high-dynamics and accuracy drives. Furthermore, set of electro-optical sensors (daylight camera, thermal camera and laser range-finder) cooperates with a video-tracker – an automatic target tracking system.

Target acquisition is based on digital data radio link delivered from the automated air defence command and control system via digital channels or is worked out autonomously. The set includes a fire control computer, a navigation and orientation system and a short-range interrogator.

The Poprad missile system's short deployment time and high mobility guarantee high survivability on the battlefield. Operators operate from a fully armoured vehicle cabin and are protected from enemy fire. Once the mission is completed, the Poprad missile system is ready for deployment within a few minutes.

The missile launching system is mounted on the Żubr-P off-road truck. Other carriers can be used as well.



Repairs, Modernizations, Modifications, Integration, Maintenance at the Depot Level

Wojskowe Zakłady Uzbrojenia S.A. ► p. 507

Repair of military technical equipment performed by Wojskowe Zakłady Uzbrojenia S.A. guarantees full restoration of operational efficiency in compliance with the demands of operational readiness.

In the course of overhaul, not only technical efficiency of the equipment, but also all the technical and operational parameters of the new equipment will be restored, including operational reliability.

Apart the above equipment and systems Wojskowe Zakłady Uzbrojenia S.A. performs overgauls of missile systems supporting equipment such as:

- equipment for fuel distribution, oxidiser and air,
- control and measuring stations,
- training simulators,
- transporters and transporting and loading equipment,
- surface-to-air anti-aircraft missiles,
- electrical power supply sources.

Modernizations include OSA combat vehicles, WEGA, KRUG and KUB missile systems and cover all major systems and subsystems of mentioned missile sets. They have been developed based on our own design solutions and carried out in accordance with WZU S.A. documentation. Modernizations increase quality by replacing a number of unreliable units with our own solutions and removing operational inconveniences. The use of latest technical solutions improves tactical and technical parameters of the sets, which correlate with performance of devices used on the modern battlefield and have a significant impact on increasing their reliability.





For the user:

- Enhancing the user's expertise and operational capabilities
- Enhancing the combat capabilities, reliability, and functionality of the equipment
- Adapting equipment to the demands of the modern battlefield



SA-35
Self-Propelled Gun System

PIT-RADWAR S.A. ► p. 478

State of the art combination of AM-35mm superior firepower, integrated with a programmable munition system, an independent optoelectronic target tracking system ZGS-35, Hybrid Fire Control System with Tuga radar and optoelectronic sensors, as well as a highly mobile third-generation 6x6 JELCZ platform. Developed for a dynamic change of a combat position with an intention to engage winged and rotary aircrafts, cruise missiles and UAV's.

The highly effective 35 mm cannon system provides effective firepower against both ground and air targets. Its mobile wheeled platform allows for rapid re-positioning and firing from a different location. The crew operating the cannon is fully protected within the vehicle's cabin, and the entire mission is fully automated.





Battlefield effectiveness and efficiency
- High performance (high precision, massive firepower, fast reaction times, high reliability, high rate of fire)
- Versatile air defence solution (effective against a wide spectrum of air targets)
- Useful for short-term protection of strategic assets and troop concentrations
- Remarkably effective against low cost, small and very small targets (i.e. Kamikaze UAV)
- Compatible with Polish Air Defence Systems
- Capable of autonomous target engagement

Easy deployment
- High mobility (tactical and strategic)
- Fast mission readiness
- No manual alignment required

Simple handling and maintenance
- Remote control
- High level of automation
- Fast reload and fire out of two ammo types

Sustainability
- Cost-efficient solution (cost-optimized)
- Reduction in logistics and personnel
- Low life-cycle costs
- Relying on proven solutions and acquired experience

SKYctrl L containerized system

Advanced Protection Systems S.A. ► p. 434

This large-scale system in an autonomous container – suitable for protecting forces, high-value assets, and command posts – has been designed so that only one operator is needed. It is possible to use different variants of the FIELDctrl 3D MIMO radars: Advance or Range.

The SKYctrl L is integrated into a mobile container adapted to difficult weather conditions. It is possible to link up to four SKYctrl L units, with the possibility of communication and data synchronisation between the individual systems using a fibre optic cable. The included radar, optoelectronic, and jamming systems are automatically raised according to operational requirements. All equipment is stored in the container during transport.

SKYctrl L is fully adapted to be transported by vehicles with high off-road mobility. No additional lifting equipment is required.









Benefit for a Soldier:

Boosts force protection with autonomous, all-weather C-UAS capability run by a single operator. Mobile container enables rapid deployment, networked coverage, and automatic sensor/jammer activation, improving response time, situational awareness, and survivability.

It is in use in the Polish Armed Forces with NSN 5865 - 430031819.

SKYctrl S containerized system

Advanced Protection Systems S.A. ► p. 434



Detection, tracking, classification and neutralisation of LSS (low-slow-small) targets.

- Precise 3D multi-target tracking radar with an MHT algorithm (multiple hypothesis tracking)
- Automatic classification; distinguishes between drones and other aerial objects
- Detection and defeat of class 1-3 drones
- Automatic jammers with directional antennas covering the communication and navigation bands of drones
- Dedicated and user-friendly C2 software; the PDQ tool for mission optimisation
- Extremely fast set up: full deployment in less than 5 minutes
- Dedicated API for radar data transfer to external systems; easy integration with hard-kill effectors
- Automatic positioning and heading control



This version of the SKYctrl system consists of a maximum of two radars and one jammer. It is possible to integrate hard-kill effectors.

The SKYctrl S is intended for use by light infantry units to protect borders and public events. It is already in service with the Polish Armed Forces and the Ukrainian Armed Forces. It is designed to meet the most dynamic needs of our partners. Its deployment time is below 5 minutes.

Twin-Round Mobile Air Defence Manpads System KUSZA (Crossbow)



Centrum Rozwojowo-Wdrożeniowe Telesystem-Mesko Sp. z o.o.
(Development and Implementation Center Telesystem-Mesko Ltd.) ► p. 445

The highly maneuverable mobile dual missile launch platform MANPADS "KUSZA" System is designed for countering air threat, including fighter jets, helicopters, UAVs and UCAVs, and other similar aerial platforms. The system is equipped with "fire and forget" type PIORUN MANPADS missiles, with highly sensitive and accurate optoelectronic sight devices, which make easy to search, track and counter the air-attacking platforms.

System configuration

PIORUN missiles are housed in standard launchers connected with autonomous Gripstock and BCU(Battery Coolant Unit). Sight and communication systems are power supplied from high-capacity platform Batteries or power supply Generator, what gives independence from external power supply for many hours of operational time.

The MANPADS "KUSZA" System is mounted on the any off-road vehicle, that enables to take a battle position in almost any terrain conditions. Simple small size and rugged construction allows to relocate quickly the deployment position with use of various transport platforms. It can be integrated with Main Command Unit and with IFF Interrogation system, as well as equipped with GPS positioning system and/or electronic compass.

Air-defence missile System includes:

- 4-6 MANPADS PIORUN missiles (operational configuration, missiles not included);
- 2 Gripstocks MS-Kusza, protected against unauthorized combat use,
- main control unit PS-Kusza; a prelaunch electronics box communicated with Gripstocks and sighting systems,
- daytime optoelectronic collimator sight system CD-Kusza with magnification range from 1x to 20x at least,
- nighttime thermal sight system CN-Kusza (including bolometric array)



ZU-23-2CP
Anti-aircraft Artillery System

Zakłady Mechaniczne Tarnów S.A.► p. 514

23 mm Double Anti-Aircraft Cannon ZU-23-2CP is equipped with the two 23 mm 2A14 cannons and a ring-shaped recursive target sight. ZU-23-2CP is a powerful mean of combat designed for anti-aircraft defence especially against airborne targets within the distance of 2500 m and height of 1500 m. The constructional qualities of the weapon ensure usage against lightly-armoured ground objects and firing posts within the distance of 2000 m.

The 23 mm ZU-23-2CP Twin Anti-Aircraft Cannon can be also used against live targets uncovered or covered in lightly hidden outdoor locations. The ZU-23-2CP is designed to fight against enemy with the following types of 23 mm ammunition: Armor-piercing Incendiary with Tracer (API/BZT), High-explosive Incendiary with Tracer (HEI/OFZT), Armor-piercing Discarding Sabot with Tracer (APDS-T) and Frangible Armor-piercing Discarding Sabot with Tracer (FAPDS-T).

Benefit for a soldier

The system delivers reliable short-range air defence and effective fire support against ground targets, enhancing unit protection. High firepower and versatility enable rapid response to a wide range of threats, while ease of operation ensures a high level of combat readiness.





ARMOURED VEHICLES AND ARTILLERY SYSTEMS

ADS – Safety System
For use in special military equipment

Nowak Innovations Sp. z o.o. ► p. 474

The ADS system is designed for automatic decompression during the initial phase of an ammunition explosion – in military vehicles, as well as in military facilities and technical structures, including mobile and stationary ammunition containers and shelters.

The ADS system prevents the rupture or destruction of a vehicle, military facility, or technical structure, thereby increasing the crew's chances of survival.

The ADS system consists of:

- Independent Electronic Control system ADS,
- fire sensors (detecting the flash of an ammunition explosion),
- high-power pyrotechnic actuators,
- safety flaps,
- opening and closing mechanism safety flaps.

Benefit for the soldiers:

The ADS system saves the lives of vehicle crews and personnel at military facilities – it enhances safety and improves survival rates on the battlefield. The ADS system effectively protects vehicles from damage – such as turret detachment caused by ammunition explosions – and safeguards military facilities from destruction, such as ammunition depots.

How does the system work?

When a projectile's cumulative jet penetrates the vehicle's armour and causes ammunition to explode, the ADS system activates automatically and, within less than 20 milliseconds, opens the safety flaps during the initial phase of the explosion's shock wave formation, directing the shock wave outside the vehicle, which prevents the vehicle from being torn apart – specifically, the turret from being torn off – and protects the crew's lives.

Possible applications:

- tanks,
- infantry fighting vehicles (IFVs) and armoured personnel carriers (APCs),
- logistics vehicles for transporting ammunition,
- mobile and stationary ammunition containers,
- shelters,
- ammunition depots,
- ships,
- aircraft and helicopters,
- industrial facilities producing explosives.



AEDO – Safety System (Automatic Emergency Door Opening) For Use in Military Vehicles and Facilities

Nowak Innovations Sp. z o.o. ► p. 474

The AEDO System is designed for emergency opening of doors and hatches on military and civilian vehicles and military facility, or technical structure, thereby increasing the crew's chances of survival. The system enables the emergency opening of jammed or blocked doors and hatches, it also provides the rapid evacuation of the crew, increases the safety of soldiers during combat tasks. The AEDO System can be activated by vehicle crews, as well as from the outside by emergency services.

The System operates after accidents:

- collision of the vehicle with another vehicle or with an obstacle,
- tilting of the vehicle beyond a certain angle or rollover,
- door blockage,
- fire or sinking of the vehicle,
- a mine or IED explosion,
- hit by anti-tank missiles and other types of ATGM.



The AEDO System consists of:

- Independent Electronic Control Unit NEUS 1,
- pyrotechnic telescopic actuators,
- impact, position, fire, smoke and water sensors,
- panel for manual control from the vehicle cabin,
- an external electronic key, to activate the AEDO System.

Power for the system is independent, via a small 12V/24V battery. IMPORTANT: the System does not damage doors and hatches, can be closed again. The AEDO System can be easily installed in new as well as used military and civilian vehicles which are already in service.



How does the system work?

First, the locks and deadbolts of the door/hatch are opened, and then the door/hatch is opened (pushed out).



Possible applications:

All types of military vehicles, as well as helicopters, aircraft, ships, and submarines, and military facilities and structures, including mobile and stationary containers and shelters.



Benefit for the soldier:

The AEDO system significantly improves the safety and chances of survival for commanders and soldiers on the battlefield. It saves crews' lives, opens jammed doors and hatches within 3–5 seconds, and enables rapid evacuation. It enhances combat capabilities, as crews no longer fear being trapped inside vehicles.

AMRV G10

D.S.GERMAZ Sp. z o.o. ► p. 448

Thanks to the structural solutions of armour and protection the highly mobile wheeled vehicle – AMRV G – designed by Germaz fully meets this requirement.

AMRV G offers its crew a high level of protection against both anti-tank and anti-personnel mines, Improvised Explosive Devices (IEDs), as well as artillery splinters and gun fire. In addition, the vehicle can be equipped with a protection against NBS warfare.

In addition to providing a high level of protection, AMRV G is also capable to perform various tasks on the modern battlefield. With its high level of mobility, modularity and possibility to ease change of equipment configuration, the vehicle can be quickly adapted to different tasks. AMRV G can be used worldwide in various missions, under a range of various weather or terrain condtions. The development of modern armoured vehicle, designed for various tasks, it is a constant search for the optimal balance between a high level of protection, mobility and payload capacity. This is a particularly important challenge, because it has an impact on the vehicle's tactical capabilities and performance. In the development of the AMRV G Germaz company used the state-of-the-art design, materials and technologies and work with the Wrocław University of Technology and Daimler AG. AMRV G is based on proven, durable, militarised UNIMOG chassis, which ensures both outstanding performance and low life-cycle costs and due to its popularity enables users to reduce the requirements for training drivers and mechanics. State-of-the-art technologies and materials, as well as the unique concept of an armoured body protect both the vehicle and its crew from a variety of threats. This is the best guarantee for safe mission accomplishment.



AMRV G will deal with difficult terrain conditions and different threats soldiers and their equipment can meet.

All solutions applied to the Germaz vehicle has been tested by both computerized analytic methods and the range tests. During extensive test has been verified resistance of AMRV G armour on explosions of various loads and also the level of crew protection against the harmful effects of the explosion.

AMRV G monocoque body - armoured citadel protecting the crew against gunfire, explosions, and the roll-over of the vehicle. The "diamond" shape of side walls increase capsule protection level against ballistic threats. The bottom of citadel is V-shaped.

The vehicle AMRV G is equipped with blast-attenuating seats with multi-point safety belts, which provides protection of the crew against the blast effects, particularly dangerous accelerations (positive and negative).



APC 4x4 ONCILLA

MISTA Sp. z o.o. ► p. 471





ONCILLA 4x4 is a battle-proven armoured platform designed for high-intensity operations where mobility and survivability are critical. Developed for reconnaissance, patrol and rapid deployment missions, it delivers reliable performance across all terrain and weather conditions.

More than 300 vehicles have been delivered for active operational use, confirming the platform's durability and battlefield effectiveness. ONCILLA provides NATO-compliant ballistic protection at STANAG 4569 Level 2 KE and mine protection at Level 2a/2b, with optional upgrade to Level 3 KE using additional armour. The vehicle carries a crew of 3 and 6 personnel, reaches up to 100 km/h on paved roads and offers a power-to-weight ratio of 18.86 hp/t for high mobility in complex terrain.

Its modular architecture enables integration of remotely controlled weapon stations and mission-specific equipment, while low infrared signature and enhanced crew safety increase survivability in combat conditions.

Benefit for the soldier:

ONCILLA significantly boosts crew survivability with STANAG 4569 Level 2 ballistic and mine protection (upgradable to Level 3). Its high mobility (up to 100 km/h and 18.86 hp/t) and low thermal signature enable fast, safe manoevres in difficult terrain, enhancing reconnaissance and patrol effectiveness while reducing soldiers' physical load.



Authorized maintenance, repair, and overhaul of U.S.-made equipment

WOJSKOWE ZAKŁADY MOTORYZACYJNE S.A. ► p. 506

WZM S.A. has been designated as the industrial partner responsible for supporting the Polish Armed Forces on behalf of PGZ S.A. and the Polish defence industry in establishing critical domestic sustainment capabilities for U.S.-origin land systems. The capability is focused on support of the M1 Abrams main battle tank fleet and support vehicles, including the M88A2 armored recovery vehicle and JAB assault bridge.



As part of our long-term capability development programme for U.S.-made tracked combat platforms, we have undertaken the following initiatives:

- We have established the Regional Competence Center for the M1 Abrams platform.
- In 2025, we entered into a strategic partnership agreement with General Dynamics Land Systems, covering Abrams maintenance and repair services, spare parts and tooling supply, specialised training support, and technical assistance.
- We have implemented intensive theoretical and hands-on training programmes both internally and in cooperation with the Ministry of National Defence to develop maintenance and repair capabilities for the Abrams fleet.
- We have assumed responsibility for Abrams tank deprocessing operations, including technical inspections, full-system diagnostics, and final vehicle configuration following maritime transport, ensuring combat-ready delivery to operational units.
- In 2025, we signed a technology transfer and licensing agreement with BAE Systems Inc. for the maintenance, repair, and overhaul (MRO) of M88A2 Hercules armoured recovery vehicles.
- In 2025, we also signed a licensing agreement with Allison Transmission to provide MRO support for X-1100-3B transmissions installed in the M1 Abrams fleet.
- Advanced planning is underway to establish a buffer stock of spare parts for U.S.-origin military equipment, including Abrams tanks, recovery vehicles, and other platforms.
- In the future, we are also expecting to expand our maintenance support to include Stryker wheeled armoured fighting vehicles.
- We are actively developing a robust supplier and subcontractor ecosystem, with the strategic objective of future co-production of spare parts and components.

These capabilities are being established primarily to support the operational readiness of the Polish Armed Forces and, over time, to provide sustainment support for Poland's allies.

Authorized maintenance, repairs, overhauls, modification and modernization of the Leopard 2 tanks

WOJSKOWE ZAKŁADY MOTORYZACYJNE S.A. ► p. 506

In addition to repairs carried out since 2016 of Leopard 2A5 and since 2014 of Leopard 2A4, in order to meet the needs of the Polish Armed Forces related to the entire cycle of operating the Leopard 2 tanks, WZM S.A. is ready to upgrade Leopard 2A5 tanks among others in the field of:

- sights: EMES 15 A2 gunner's sight and PERI R17 A2 commander's sight (exchange of thermal cameras for the third generation cameras of PCO S.A. production and a new laser rangefinder);
- main armament (120 mm cannons) and auxiliary weapons (machine guns – replacement for Polish production rifles – ZM Tarnów S.A. and/or ZSMU ZM Tarnów S.A.), ensuring the possibility of using programmable ammunition and increasing the Firepower;
- wheels and suspension system (resulting from increased weight, as a result of increased level of crew protection), including the final drive;
- preparation of the vehicle for the assembly of the BMS and day-night cameras for the driver used in terrain surveillance in front of and behind the tank;
- the electrical system, including the vehicle's power supply system by equipping the tank with an additional power supply source – the APU or APB;
- external and internal systems of digital communication;
- the fire protection system, for example by implementing an explosion and fire suppression system in the combat compartment;
- gun turret drive system (upgrade from an analog version to the digital one).

For many years, the company has been providing trainings to soldiers and technical service staff, in the field of servicing and operating the Leopard 2 A4/2A5 tanks. The offer also includes supply of specialised equipment and spare parts for inspections carried out by the army.

Moreover, the company is implementing regeneration of many components, subcomponents, like:

- the wheels' control arms,
- road and tensioning wheels,
- final drive,
- injection pumps,
- heads of MB873 engine and other components of this engine.

WZM S.A. also works on subsequent technologies that make it possible to become independent from subcontractors in the area of key components of the Leopard 2.



Battery Management System

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Motoryzacji PIMOT
(Łukasiewicz Research Network – Automotive Industry Institute) ► p. 489

The Battery Management System (BMS) is intended for all types of mobile and stationary energy storage systems based on lithium-ion cells, particularly for electric vehicles. The BMS is based on a Master–Slave topology that allows the connection of up to 896 cells in series. Both the Master module and each Slave module support the connection of 7 to 14 cells.

The Master module is built around the 32-bit NXP S32K144 microcontroller, designed for automotive applications. Additional inputs and outputs enable measurement of the total battery system voltage and current, as well as control of actuators responsible for switching the high -voltage path. The controller can be programmed in C and in MATLAB & Simulink.

Benefit for the soldier

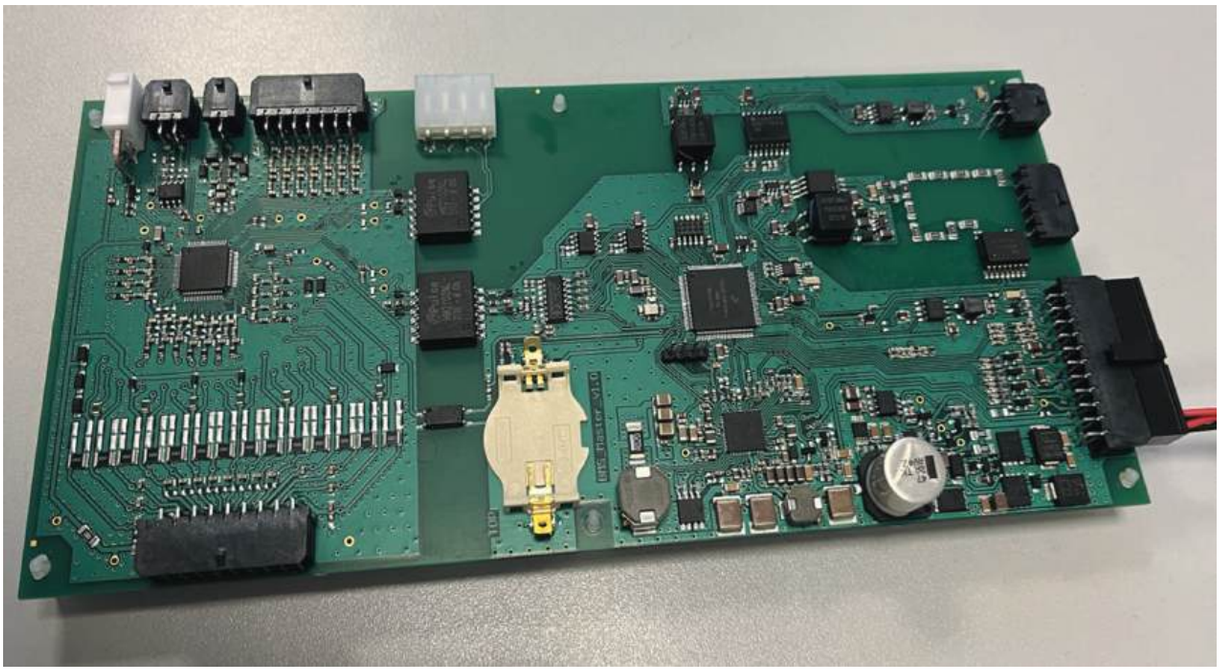
The BMS monitors the operation of the energy storage system, contributing to increased mobility of vehicles and ground platforms.

Master Module – Technical Specifications:

- supply voltage: 12 V or 24 V
- number of digital inputs: 8
- number of power/current outputs: 8
- number of high voltage measurement (up to 1000 V): 1
- number of current measurement inputs: 3
- number of temperature measurement inputs: 9
- number of CAN interfaces: 2
- supported number of Slave modules: 63
- supported number of cells: 7-14
- balancing current: 300 mA
- real time clock (RTC)
- operating temperature range: -40°C to +85°C

Slave Module – Technical Specifications:

- supported number of cells: 7-14
- balancing current: 300 mA
- number of temperature measurement inputs: 7
- current measurement capability
- power supply from the cell pack



BÓBR
A modern 4x4 amphibious armoured vehicle

AMZ-KUTNO S.A. ► p. 438



A modern 4x4 amphibious armoured vehicle, designed and built entirely by AMZ-KUTNO S.A. It is a modular platform adapted to a variety of body and destination variants, with further upgrade potential, meeting the highest quality and safety standards.

The chassis of the BÓBR 3 vehicle under the LOTR programme underwent a series of traction, environmental and functional tests, as well as was tested for bullet and mino resistance. All tests were completed with positive results.

The BÓBR 3 was designed according to the highest military standards, taking into account the maintenance of interoperability within NATO.

Advantages of the vehicle:
- The vehicle is approved for operation on public roads.
- Ballistic protection is realized in a modular way with the possibility of replacing panels with different levels of protection.
- The technical solutions used in the vehicle make it possible to overcome water obstacles without preparation.

Alternative versions::
- Artillery Reconnaissance Vehicle,
- Command Vehicle,
- Chemical Reconnaissance Vehicle,
- Tank Destroyer,
- Amphibious carrier for short-range air defence systems,
- Vehicle-carrier for strike drones / radio-electronic warfare means.

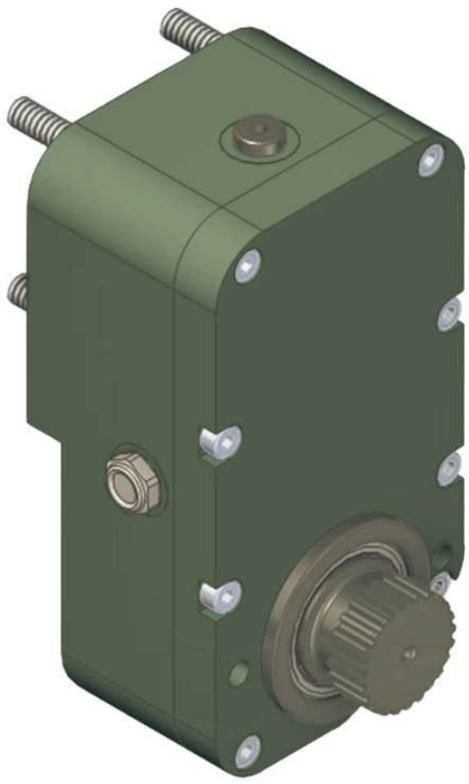
Technical Data:
- Engine: 6-cylinder 7.2 L engine and 326 horsepower
- Water propulsion: hydraulically powered thrusters
- Transmission: automatic
- Armouring: Level I and III according to STANAG 4569
- GVW: 16 tons
- V-max: 90 km/h
- V-max float: 8 km/h
- Number of seats: 5

Borimex Gearboxes Range

BORIMEX Sp. z o.o. ► p. 442

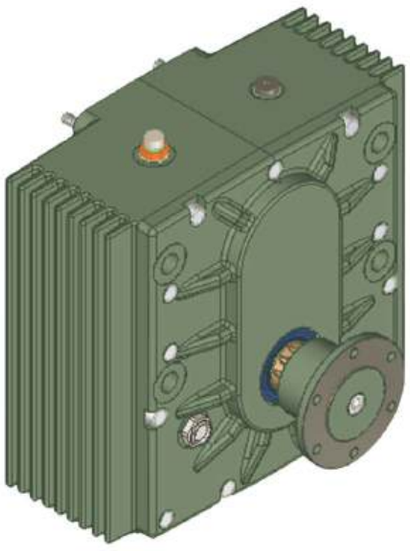
Borimex designs and manufactures dedicated gearboxes and transmission systems for military vehicles and specialised mechanical applications. The company supports customers in developing customized solutions with different gear ratios, adapted to specific operational and technical requirements. During the design process, particular attention is given to parameters such as dimensions, mounting configuration, gear ratios and the expected operating conditions of the system.

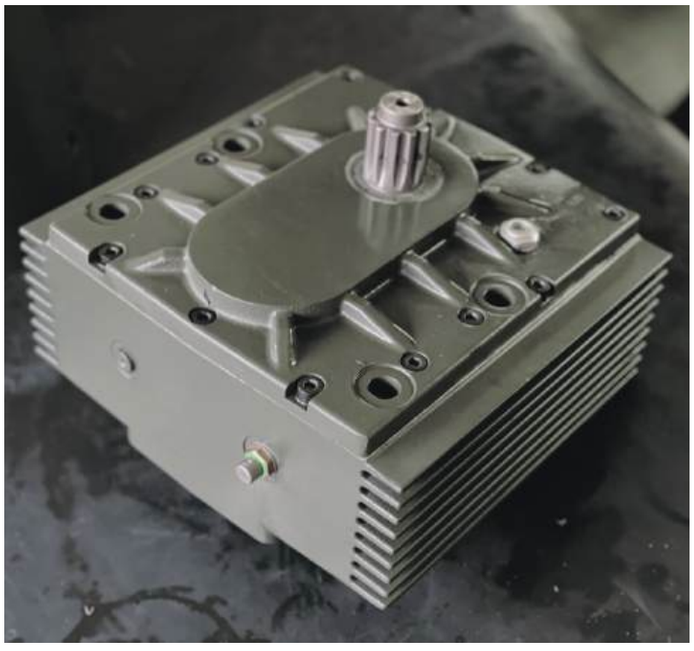
Borimex gearboxes play an important role in mechanical systems responsible for transferring power and control between the operator and the vehicle or its subsystems. Each solution is tailored to the individual needs of the customer and developed to ensure reliable operation in demanding environments. With its engineering capabilities and production facilities, Borimex provides support throughout the entire process - from design and development to manufacturing and integration with the final system.



Benefit for the soldier;

Custom gear ratios tailored to vehicle platform improve manoeuvring precision and power delivery in demanding terrain, directly enhancing crew mobility and survivability. Reduced mechanical downtime keeps vehicles mission-ready, lowering the operational burden on armoured vehicle crews in combat conditions.





BORSUK
Amphibious Infantry Fighting Vehicle

Huta Stalowa Wola S.A. (PGZ) ► p. 461

The amphibious Infantry Fighting Vehicle BORSUK ("Badger") is capable of crossing wide water obstacles, offers high manoevreability, and can operate in various terrain and weather conditions. It was constructed to address the challenges of the contemporary battlefield and designed in close cooperation with users. The vehicle features a high level of modular ballistic and mine protection to ensure crew safety, resulting in a highly ergonomic design that provides comfort and protection for the troops. Its modular construction allows a single platform to serve multiple purposes.

The Borsuk IFV is integrated with the 30 mm Remote Controlled Turret System (RCTS-30 / ZSSW-30). The RCTS-30 features a 30 mm automatic cannon with a dual-feed system, a 7.62 mm coaxial machine gun, dual ATGM (SPIKE) launchers, and smoke grenade launchers. It is designed to engage light and heavy armoured vehicles as well as other enemy assets, providing direct fire support for infantry units in combat. The system's ability to utilise programmable rounds enables effective engagement of low-altitude airborne threats and targets behind cover.

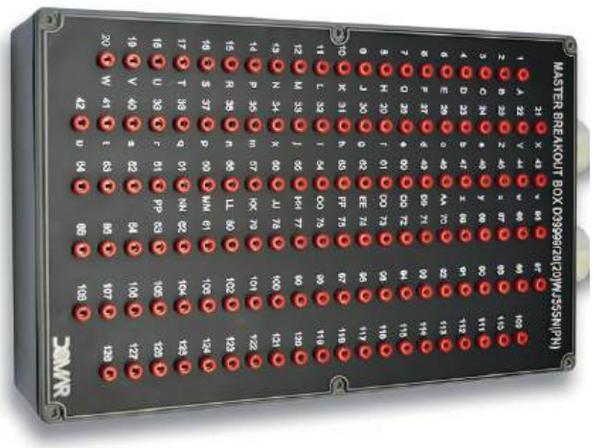
The amphibious IFV BORSUK is a project co-financed by the National Centre for Research and Development under the National Defence and Security programme.





Boxes and panels assembly

Domar MS sp. z o.o. ► p. 450



We provide comprehensive assembly of enclosures and boxes based on customer documentation, including:

- Control boxes and panels
- Power distribution boxes
- Telemetry system enclosures
- Test boxes





All our products undergo 100% quality inspection. We perform all tests and verification procedures in accordance with customer requirements. Our products are manufactured in compliance with IPC/WHMA-A-620 and IPC-A-610 standards. Our quality management system is certified to AS9100D.

We support our customers with extensive expertise in component selection, ensuring optimal performance parameters and availability. We use only high-quality components sourced from leading manufacturers worldwide.





Benefit for the soldier

Boxes

- Tested in accordance with applicable Defence Standards
- Proven high reliability in harsh operational environments
- Manufactured using components sourced from leading global defence suppliers

BWR-1S/1D vehicles

WOJSKOWE ZAKŁADY MOTORYZACYJNE S.A. ► p. 506

Execution of a long-term contract for comprehensive modification of the BWR-1S/1D vehicles

The BWR-1D and the BWR-1S Reconnaissance Combat Vehicles are floating, armoured, tracked combat vehicles equipped with specialised reconnaissance functions. Their modification was developed and implemented by Wojskowe Zakłady Motoryzacyjne S.A.

The modified vehicles have been retrofitted with technologically advanced systems and devices including:

- external communication systems based on Harris and Radmor tactical digital radio stations,
- IT system with a digital internal communication system,
- all-round observation system based on multi-function infrared JIM LR binoculars,
- integrated optoelectronic ZIG-T-2R head,
- SR Hawk Battlefield Surveillance Radar,
- navigation systems (inertial TALIN 5000 and DAGR type GPS) and positioning systems,
- SSP-1N OBRA-3 Laser Warning System,
- AP4C automatic chemical contamination control device,
- MIMID – miniature mine detector,
- DPO portable radiometer;
- as well as:
- BERBERYS type C multi-range camouflage covering,
- 2 kW generator powered from vehicle tanks,
- parking heating
- passive surveillance and sighting equipment,
- tracks with rubber pads,
- ergonomic seats for all crew members,
- expanded fuel tanks.



Cable harnesses

Domar MS sp. z o.o. ► p. 450

We manufacture a full range of cable harnesses for use in the defence industry:

- Heavy-duty harnesses using Raychem technology
- fibre-optic and tactical cables
- coaxial cables (RF)
- power cables
- hybrid harnesses
- harnesses for installation inside equipment
- spiral cables
- grounding cables

Our portfolio includes overmoulded products.

All our products undergo 100% quality control. We carry out additional tests and inspections at the customer's request. Our products are manufactured in accordance with the IPC-WHMA-A-620 and IPC-A-610 standards. Our quality system complies with the AS9100D standard.

We support our customers with our many years of experience in selecting components based on appropriate parameters and availability. In our products, we use only the highest quality components from the best manufacturers worldwide.

Benefit for the soldier
Cable Harnesses

- Manufactured using technologies specifically developed for military applications
- Built with components compliant with MIL standards
- Designed to ensure reliable operation and ease of servicing in demanding field conditions









Heated observation devices OPO-120F, OPO-125F, OPO-130F

Przedsiębiorstwo PREXER Sp. z o.o. ► p. 479

The OPO-120F, OPO-125F, OPO-130F heated observation devices are new generation periscopes with wide angle of vision both horizontal and vertical planes, in which classic glass prisms are replaced with prisms made of organic glass.

The observation devices are equipped with heated windows with laser filters that absorbs the laser light within a wavelength of 800-1200 nm.

They are designed for installation on light tanks, combat infantry cars, wheeled armoured vehicles and similar.

Optical parameters of OPO-130F:

- Observation angle in a vertical plane 45°
- Viewing angle in the horizontal plane 160°
- Periscoposity [P] 130 mm
- Absorbed laser light wavelength 800÷1200 nm
- Optical density (1064 nm) D≥5

Dimensions and weight of OPO-130F:

- Overall height 217 mm
- The dimensions of the upper part of the periscope 365x133 mm
- The dimensions of the lower part of the periscope 262x74 mm
- Mass 5,5 kg

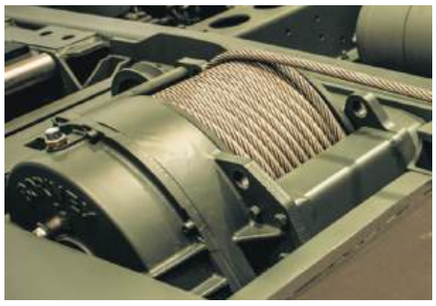


Benefit for the soldier:

- Increasing battlefield awareness
- Small mass

Hydraulic and Electric Vehicle Winches

BORIMEX Sp. z o.o. ► p. 442







Borimex designs and manufactures a portfolio of vehicle winches intended for military vehicles and specialised technical platforms operating in demanding environments.

Hydraulic winches are typically integrated into heavy military vehicles and specialised machines, where high pulling force and long-term operational reliability are required. Electric winches are more suitable for lighter platforms, providing a compact and effective solution for auxiliary recovery tasks.

Depending on the vehicle configuration, Borimex winches can be adapted for different mounting arrangements and operational requirements. The systems are designed for reliable performance in harsh field conditions, including mud, sand, dust and extreme temperatures. Borimex provides engineering support for adapting winch systems to specific vehicle platforms, including integration within the vehicle structure and customization of mounting and operational parameters.

The product range includes:

- hydraulic winches with pulling capacities from 7 to 25 tonnes, designed for heavy-duty applications and continuous operation in vehicles such as armoured platforms, recovery vehicles and engineering equipment
- electric winches with pulling capacities from 5 to 8 tonnes, intended primarily for lighter vehicles and applications where the winch is used occasionally rather than for continuous operation.

Benefit for the soldier;

Enables autonomous vehicle recovery in the field without external support. Hydraulic versions (up to 25 t) extract heavy armoured platforms from obstacles; electric versions provide lighter vehicles with self-recovery capability. Reduces crew exposure during recovery under fire and maintains operational tempo in degraded conditions.

Hydraulic System for Anti Craft Defence Vehicles

PONAR Wadowice S.A. ► p. 478



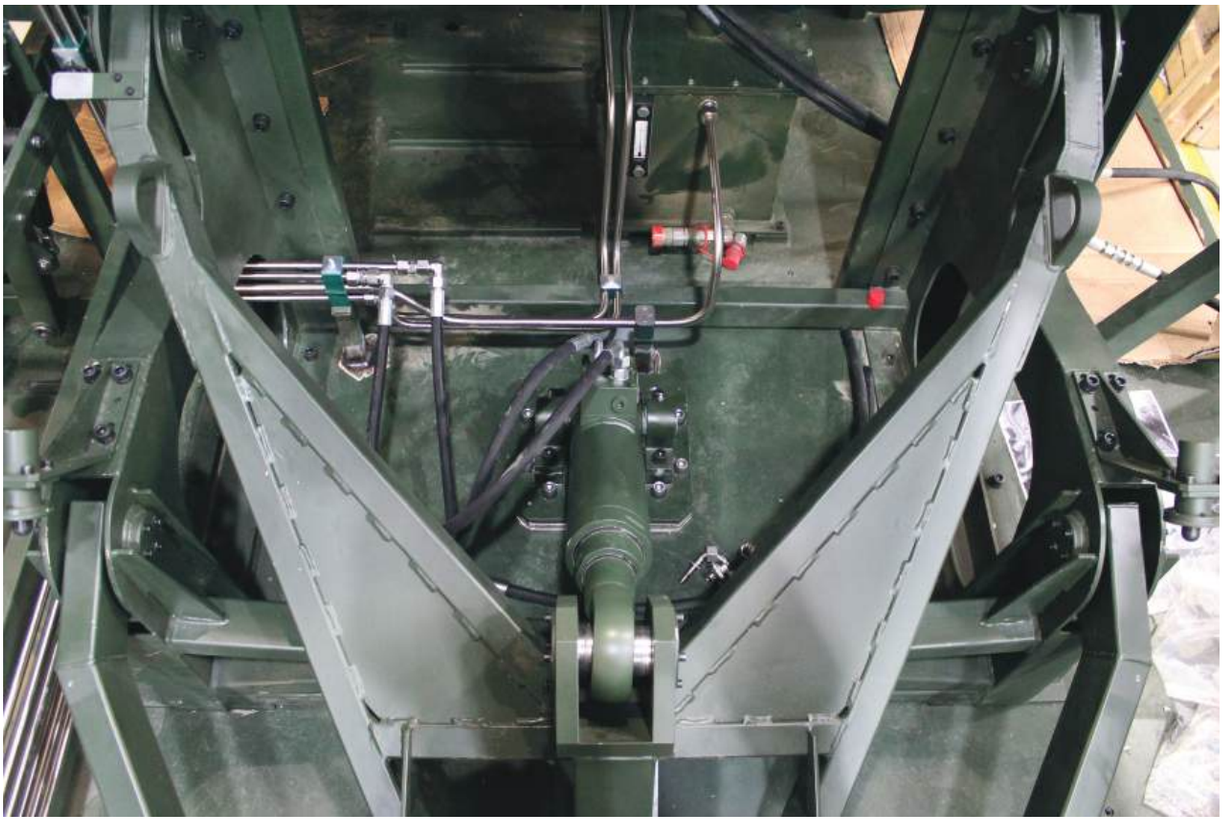
Within the scope of the project PONAR Wadowice manufactured a hydraulic drive for lifing and bolting of the head unit, consisting of:

- a powering unit/hydraulic power pack
- a block of hydraulic valves
- hydraulic cylinders as actuators.

The application uses electrical connections made in accordance with the DEUTSCH standard (high IP) and slide valves equipped with levers for manual override of the device.



The system provides precision guidance, fast target acquisition, and enhanced firing accuracy. It increases reaction speed, power, payload, and platform stabilisation while improving soldier safety via reliability in extreme conditions, overload protection, and vibration reduction. It ensures easy maintenance, rapid setup, and self-lubrication.



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ARMOURED VEHICLES AND ARTILLERY SYSTEMS

Hydropneumatic Suspension for Tracked Vehicles

PONAR Wadowice S.A. ► p. 478



PONAR Wadowice developed vehicle suspension systems that can be loaded with a maximum weight of 25, 35 and 45 tonnes. The designed hydropneumatic rocker arms are an element acting as a damper in the suspension of the chassis.

Function:

One rocker is mounted on one wheel assembly. In the hydro-pneumatic suspension system, a gas spring is used to support the weight of the vehicle. A hydraulic and pneumatic mechanism is built into the rocker body to provide a twisting force around the axis of rotation. The air spring provides non-linear resistance to suspension deflection.

Adjustability:

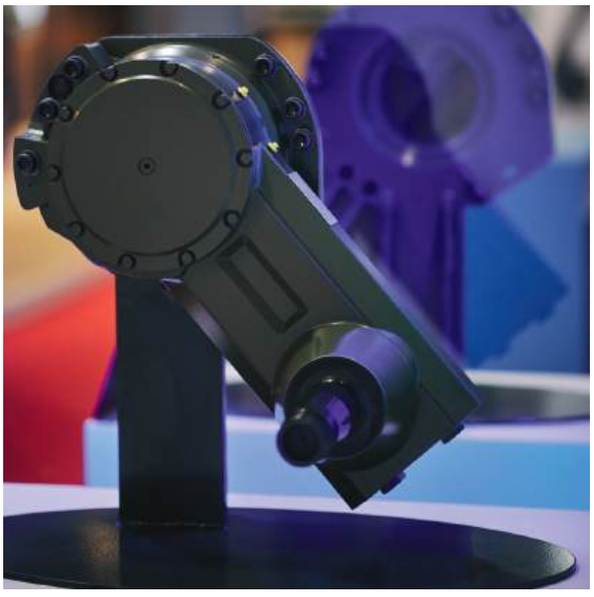
The vehicle clearance is regulated by the gas volume in the gas spring. The proper damping characteristics of the rocker arm movement are achieved through the appropriate design of the shock absorber. The design of the rocker arm allows it to be used in vehicles of various weights.

Performance:

The shock absorber provides resistance to the rotational movement of the axle rocker, the amount of resistance being a function of the rotational speed of the rocker. The mechanical energy from the rotation of the driving arm is absorbed by the shock absorber and dissipated as heat to the environment.

Testing:

Hydropneumatic rocker arms are tested on test rigs, where tightness tests, pressure tests of 970 bar, damping characteristics, tests at reduced temperature and resistance to vibration, humidity and salt fog are carried out.



The system provides damping, crew comfort, and electronics protection. It enables chassis height adjustment for ambushes or obstacles and hull tilting for better firing angles over hills. On slopes, it levels the hull to aid autoloaders and stabilisation. It improves accuracy on the move, while faster target return simplifies maintenance.



KRAB 155 mm – Self-propelled howitzer

Huta Stalowa Wola S.A. (PGZ) ► p. 461

The KRAB Self-propelled Howitzer is designed to destroy missile systems, artillery and anti-aircraft missile batteries, command posts, communication nodes, field fortifications, mechanised and motorised sub-units located deep within enemy formations, and other critical support facilities.

The KRAB self-propelled howitzers used by the Polish Army have successfully proven their value in real-life military operations in Ukraine.





Its advanced, fully equipped turret and combat-proven base platform have enabled the development of a highly lethal and reliable system that also remains ergonomic and meets the highest crew-safety standards. The KRAB howitzer is fitted with a wide range of advanced hardware and software systems, providing the platform with fully autonomous capabilities. These systems include an integrated TOPAZ C2/Fire Control System, communication means (intercom and VHS radiostation), inertial navigation and topographical positioning systems and odometer, SAASM GPS.



Lightweight composite armour

Sieć Badawcza Łukasiewicz – Instytut Metali Nieżelaznych IMN
(Łukasiewicz Research Network – Institute of Non-Ferrous Metals) ► p. 487

Lightweight, modular composite armour significantly reduces the mass of vehicles and protective shields without compromising the required ballistic protection level. The design provides ballistic resistance against anti-armour projectiles of 7.62–14.5 mm, corresponding to levels 2–4 of the STANAG 4569 standard.

This solution increases operational range, speed and mobility of military platforms such as patrol vehicles, unmanned autonomous systems or modular infrastructure shields, while enhancing soldier or equipment safety and improving fuel or energy efficiency.

Benefit for the soldier

- enhanced survivability for soldiers and vehicle crews through effective ballistic protection
- improved tactical mobility enabling faster movement and manoeuvre
- extended operational range due to reduced fuel or energy consumption
- fast and easy adaptation to mission-specific threat levels due to modular blocks







M17T
Thermal Imaging Periscope

Przedsiębiorstwo PREXER Sp. z o.o. ► p. 479



M17T periscope with additional dual camera module

The M17T periscope is a day-night observation device equipped with two cameras: a thermal imager and a daylight and fully modular display, with the possibility of adding two more cameras: daytime, or TI, e.g. as reverse cameras for the driver. The device is designed for assembly in tanks, combat cars, armoured vehicles, etc.

The M17T is dedicated to, among others, M113 tracked transporters, M1A1 Abrams tanks, M108/M109 self-propelled howitzers, M578/M88 technical support vehicles, M2Bradley/M1126 Stryker infantry fighting vehicles. There is a possibility of adaptation to other vehicles.

The M17T is dedicated as a functional extension/replacement for the M17/M19/M24 day observation devices and the AN/VVS2 night periscope devices. The M17T increases the crew's situational awareness in all visibility conditions.

Benefit for the soldier:
- Increasing battlefield awareness
- Work in day and night conditions
- Additional set of cameras for mounting on an armoured vehicle

Examples of technical parameters:

Thermal imaging camera:

Resolution	640x512
NETD	≤50 mK
Operating spectrum	8~14 µm
Viewing angle	HFOV: 61.8°

Day camera:

Horizontal resolution	1500TVL
Enhanced sensitivity system at low light levels:	Super WDR (HDR)
Min. Illumination [WDR]	0,00001 lx
Viewing angle	125°

Display:

Diagonal screen size	7 inches
Resolution	1280 x 800 pixels

Work parameters:
- Periscope power supply: from the vehicle installation
- Operating temperature: from -30°C to +65°C,
- Impact and shock resistance and environmental conditions according to MIL-STD-810

Mobile Fuel Tanker

WISS Samochody Specjalne Sp. z o.o. ► p. 504

The WISS-MCP12K is a mobile fuel tanker designed to ensure complete fuel autonomy in the most critical situations. It works perfectly both during times of armed conflict, when logistics hubs – due to their strategic function – are vulnerable to attack and sabotage, and during peacetime, when distribution failures occur, for example, as a result of natural disasters.

The advanced power supply system with integrated batteries, that are charged via solar panels, ensures full autonomy until the fuel tank is completely empty. Power can also be supplied via external power outlet. The design is optimized for loading and unloading using a hook-lift system compliant with DIN 30722, making it perfect for military and fire department fleets.

The tank of WISS-MCP12K has capacity of 10,000 l (Diesel) and is made of a WISS-patented ballistic hybrid composite (WISS Zenith 24), which provides our tanker ballistic protection (in accordance with the standard NIJ 0108.01 IIIA). This ensures protection against small-calibre firearms and recoil. It also guarantees total corrosion and UV resistance. Due to the integrated foam core the composite acts as a thermal insulator, reducing its infrared signature to protect against drone detection (FLIR). WISS-MCP12K is functioning as a strategic communication hub, it features satellite connectivity and a Wi-Fi hotspot. With RFID technology and live VPN-enabled reporting, fuel distribution operations are fully transparent and easily monitored.



Benefit for the soldier

The use of mobile fuel tankers for military purposes is a key strategic factor, that enables all logistic, military activities, ensures the continuity of military operations, and supplies motorized units and special equipment at military bases and operational areas.

Oil Hydraulic Systems for Tracked and Wheel Vehicles

PONAR Wadowice S.A. ► p. 478

PONAR Wadowice manufactures hydraulic systems that can consist of various components such as: a pump unit, a valve block in a special version, piston hydraulic cylinders with double brake valves. In order to implement the masking guidelines, the hydraulic cylinders used in this product feature a piston rod covered with a special dark coating.



The company also designed and assembled a hydraulic power unit intended for lifting and unfolding structural elements:

- a pump unit
- valve block
- oil tank
- piston hydraulic cylinders with mechanical brakes
- linear hydraulic cylinders
- rotary hydraulic cylinders.

The hydraulic system built into the product is responsible for opening and closing two halves of the roof, and also for leveling the vehicle, raising and lowering the mast, as well as locking and unlocking the mechanisms.





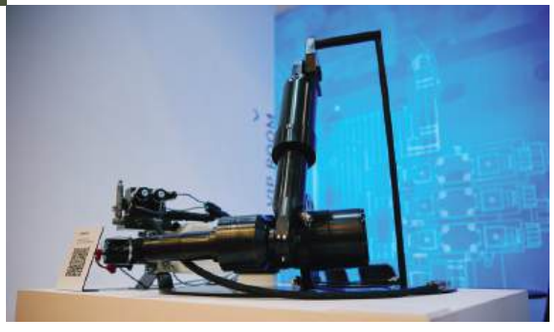


The system consists of the following elements:

- a hydraulic power pack with a valve block
- rear leveling cylinders, piston/piston rod diameter 100/80mm, stroke 1150 mm
- front leveling cylinders, piston/piston rod diameter 100/80mm, stroke 800 mm
- antenna raising cylinder, piston/piston rod diameter 63/45mm, stroke 790 mm
- roof opening cylinders, piston/piston rod diameter 50/36mm, stroke 398 mm
- hydraulic cylinder of a bolt
- swivel joint lock cylinder.

The project included the production and assembly of devices as well as hydraulic and mechanical start-up of individual elements.

This system provides mobility, smooth steering, and differential locks. Its hydrostatic drive enables precision manoevring, pivot turns, and operation of heavy loads, ramps, or cranes. It ensures stability on the move, while hydro-pneumatic suspension offers adjustable ground clearance and vibration damping for stable targeting operation.



Oil Hydraulics for Special Applications

PONAR Wadowice S.A. ► p. 478

Our offer includes special versions of our proprietary spool valves that can be used in extreme environmental conditions, such as low/high temperatures, high humidity or dustiness, salt and sea fog.

For temperatures from -40°C to +50°C …SO536

Products tested and compliant with defence standards: NO-06-A101 ÷ NO-060A108

In version up to + 90°C –TROPIK, …SO7

Elements of products in the TROPIK version are galvanized or painted with phthalic enamel, tropical cyclorubber enamel, EMSGT... electromagnets are made of DNE winding wire in accordance with PN/EN-60317-0-1

In marine version

Bodies and covers of products in marine versions are painted with ALBA LUX special alkyd enamel, while other elements are made of stainless steel.

The system enables overcoming obstacles and terrain modification via actuators, facilitating mine clearing and self-entrenching to boost crew safety. It streamlines weapon handling with autoloaders for high fire rates and launcher leveling for perfect platform alignment, ensuring superior long-range rocket accuracy and combat effectiveness.













Overhauls and Retrofitting of MBT Leopard 2A4/T-72/PT-91

Zakłady Mechaniczne "BUMAR-ŁABĘDY" S.A. ► p. 513



Our technical and maintenance services have suitable know - how and experience to carry out the inspection, overhaul, upgrading and modernisation of this type of tanks.



Overhaul works:

- basic repairs – checking the basic operational parameters of the devices replenishment of operational fluids and lubricating;
- result overhaul – detection of all defective units and restore its technical efficiency;
- medium overhaul – restore the technical efficiency of the tank. Restore the operational time to the next scheduled overhaul (major overhaul) for the chassis and all devices;
- major overhaul – restore the full operational time of the MBT. Dismounting and inspection the whole assemblies and subassemblies of the tank and checking it's nominal and permissible wear according to the standardizing defect cards.

As part of the overhaul works, tanks can be retrofitted with new components in the form of additional equipment packages with varying costs of implementation.



Overhauls of Armoured Recovery Vehicle (WZT-2/WZT-3)

Zakłady Mechaniczne "BUMAR-ŁABĘDY" S.A. ► p. 513

The design of the ARV allows to retrofitting and increase a universality through the installation of interchangeable modules of equipment and additional armaments. By using the specific type of module, vehicle can obtain a specified specialisation, which significantly expands the existing possibilities:

- minefield clearing vehicle – support of armoured division in the scope of passing through the minefield;
- scattered mine laying vehicle – support of armoured division in the scope of mining with new scattered mines;
- deactivation support vehicle – support of armoured division in the scope of tanks and other vehicles deactivation from radioactive and chemical precipitation.



Power Pack designer and manufacturer

WOJSKOWE ZAKŁADY MOTORYZACYJNE S.A. ► p. 506

Wojskowe Zakłady Motoryzacyjne S.A. is the only licensed authorised partner in Poland of the Rolls-Royce Solution (MTU) Friedrichshafen and RENK AG. The company is competent to overhaul RRS engines, including the MB873 Ka-501, and to repair the RENK HSWL 354 transmissions, which are used in the power-packs of the Leopard 2 tanks.

The company's thriving Power Pack Centre, along with its highly qualified engineering staff, also conducts research and development work on the power pack for the IFV "Borsuk" vehicle, the design of which is currently in the prototype testing phase.

separator.

As a Company, within a single entity, WZM S.A. brings together the capabilities for the comprehensive servicing of armoured tracked platforms and for providing a wide range of services in the field of power-packs – a heart of vehicles.

The quick-replacement power-pack for the IFV "Borsuk" is an original propulsion unit with the following basic technical parameters:

- weight of power unit including operating fluids: approx. 3200 kg,
- dimensions: 2436 mm x 1949 mm x 1421 mm (length x width x height),
- time of dismantling from the vehicle: less than 1 hour,
- MTU 8V199 TE20 engine (530 kW maximum power, 2700 Nm maximum torque),
- transmission X300, additionally 3040 MX by Allison Transmission (automatic, 4 forward gears, 2 reverse gears, hydrostatic steering),
- Polish-made cooling system,
- hydraulic pumps of the hydraulic system,
- an alternator with a capacity of 320 A,
- intake air filtration system with centrifugal



RAK 120 mm
Automatic Mortar Turret System

Huta Stalowa Wola S.A. (PGZ) ► p. 461



The 120 mm RAK Mortar Turret System is modular, allowing it to be mounted on any type of chassis (wheeled or tracked). The turret is equipped with the TOPAZ integrated communications, command, and fire-control system (C4I), which enables automatic interoperability with external, C4I-compliant command and fire-control systems.

Reliable operation of the mortar is ensured by the inertial navigation system with an odometer and ballistic computer, which displays the current tactical situation on the screen. One of the most crucial and innovative features of the RAK turret system is its automatic loading system, which operates regardless of the turret's and barrel's current angles.



ROSOMAK 8x8 APC

ROSOMAK S.A. ► p. 483

ROSOMAK wheeled Armoured Personnel Carrier is a vehicle based on modular design, making it possible to tailor the vehicle, as a platform, to the requirements of the contemporary battlefield. The high power output provides the APC with high top speed and good levels of manoevres - also in rough terrain. The design allows for rapid replacement of individual systems and components.





- New, modular construction multiple applications
- Designated to transport and protect the crew and infantry soldiers against small arms fire, AT grenade launchers and IEDs
- IFV version armed with 30 mm automatic cannon, dual ATGM launcher, 7,62 machine gun
- Powerpack driving system
- High level of modular ballistic and mine protection ensuring the safety of the crew and inventory
- Auxiliary power unit (APU)
- CBRN filtration system
- Firefighting and suppression system
- Omnidirectional observation system
- Breakwater



Special Transporter JELCZ brand
Type 663.45.

JELCZ Sp. z o. o. ► p. 466

A special vehicle. Truck chassis. Special Transporter
The 3rd generation Jelcz with independent suspension – three-axle vehicle type 663.45, code T60 was created from scratch by Polish engineers. The 663.45 model is supposed to be, among other things, a carrier for the Homar-A missile system, i.e. the American M142 HIMARS multiple rocket launcher. The 3rd generation JELCZ vehicles will ultimately become the basic trucks of the Polish Army.



The architecture of these vehicles is more modern than the previous one, and at the same time provides considerable development potential. The JELCZ chassis of the 663.45 type is a vehicle with a three-seater, armoured cabin with a bed.

The modules, testifying to the design difference of the premiere representatives of the third generation and being one of its basic characteristics, are the new following ones, installed for the first time in the JELCZ chassis:

- independent suspension on all axles of the vehicle
- an armoured cabin, equipped with a bed, with a flat floor enabling comfortable movement of two to four persons
- wheels equipped with Runflat inserts and the new CTI system
- fully automatic ZF transmission
- the engine retracted behind the cabin, the gearbox and the transfer case are connected directly – creating one module – power pack
- automatic locking system for transfer case and drive axle differentials (ADM)
- compact control panel with extended functionality for easy operation by the driver



Subject code in JELCZ Sp. z o.o.: T60 TS

Tajfun
Heavy-duty Operational Vehicle

WISS Samochody Specjalne Sp. z o.o. ► p. 504

The Tajfun is a heavy-duty operational vehicle built on a Scania P450 B6x6HZ CP28 chassis with 331 kW of power, an automatic transmission, and 6x6 drive, designed for riot control and neutralising threats associated with terrorist attacks. The crew cabin, which accommodates three people, is constructed from ballistic composite armoured and bulletproof glass.

The body, also made of composite material, contains a water tank with a capacity of 9,000 l, a dye tank (100 l), and an irritant gas tank (100 l). The water system, equipped with two water cannons, includes a Ruberg R-2-280 fire pump with a Cummins engine, delivering 5,000 l/min at 15 bars. The system is equipped with a FireDos system enabling the discharge of a mixture of water and special substances. GVW 35,000 kg, dimensions 9,850 mm x 2,600 mm x 3,700 mm. The vehicle is equipped with an advanced video system featuring 8 cameras on the body and 2 cameras on the water cannons. A hydraulically lifted plow, controlled from the cab, is located at the front of the vehicle and can move heavy objects up to 8 tons.

Benefit for the soldier

Although the Tajfun combat vehicle was originally designed for police use, it is perfectly suited for the military forces. In an emergency, its operational capabilities can be used to reinforce a military fleet. The crew cabin's light armoured and ventilation system, water cannons with irritant substances and a front plough for clearing roadblocks will serve perfectl in military operations and protect soldiers in a vehicle from sabotage activities and enemy attacks.



TUR VI

AMZ-KUTNO S.A. ► p. 438

It is an innovative product with a modular design, designed from the beginning in compliance with the standards and requirements of military technology. One of the variants of TUR VI is the Light Armoured Transporter, implemented in series production, designed for special operations carried out by the Police, Special Services and the Bureau of Anti-Terrorist Operations. Its design is based on an augmented mobility chassis with a 4x4 drivetrain, optionally 6x6. Due to its innovative lightweight design, the vehicle's payload reserve allows it to provide ballistic protection at the level expected by the user, while maintaining high vehicle dynamics. The vehicle also allows the use of additional special assault equipment, such as tactical entry and rescue systems. The spacious interior provides the ability to carry eight people.

Technical parameters:

- Engine: diesel - 362 hp
- Transmission - 5-speed automatic
- Suspension:
  - Front independent, reinforced, with springs and telescopic shock absorbers
  - Rear with springs and telescopic shock absorbers
- Permanent 4x4 drive or 6x6
- Armouring - Level I and II according to STANAG 4560



- Shrapnel resistance – I and II level according to STANAG 4569
- Length – 6440 mm
- Width – 2350 mm
- Height – 2640 mm

Alternative versions:

- Vehicle – armoured ambulance
- Vehicle for the transportation of specially protected persons
- Vehicle for transportation of specially protected cargoes
- Vehicle for transportation of unexploded ordnance



Vehicle Control Unit

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Motoryzacji PIMOT
(Łukasiewicz Research Network – Automotive Industry Institute) ► p. 489

Vehicle Control Unit (VCU) is designed for controlling all types of vehicles. Based on the 32-bit NXP S32K344 microcontroller, it meets all automotive grade requirements. The large number of inputs and outputs, along with five CAN interfaces, enables integration and control of all vehicle components. The controller can be programmed in C as well as in MATLAB & Simulink.

Using the VCU provides full flexibility in software development and ensures precise control over individual modules within the vehicle. Its extensive set of digital inputs and outputs, combined with five CAN buses, enables management of numerous subsystems that would otherwise require multiple separate electronic control units.

Benefit for the soldier

The VCU provides integrated control of vehicle modules and offers programmability, enabling better adaptation of control algorithms to various applications.



Technical specifications:

- supply voltage: 12 V or 24 V
- number of digital inputs: 20
- number of power/current outputs: 24
- current carrying capacity of the output: 0.5 A – 2 A
- number of PWM outputs: 6
- number of analog inputs: 8
- number of CAN interfaces: 5
- number of LIN interfaces: 1
- realtime clock
- housing: aluminum
- protection class: IP67
- operating temperature range: –40°C to 85°C

WARAN
4x4 Multi-Purpose Tactical Vehicle

Huta Stalowa Wola S.A. (PGZ) ► p. 461



This multi-purpose tactical vehicle is a medium-class armoured wheeled vehicle for a wide range of applications that allows taking 8 (2+6) crew members aboard. The design and technical parameters of the 4x4 vehicle meet the requirements of all STANAG standards applicable to this type of equipment. At the same time, the vehicle complies with valid road traffic regulations; therefore, it can be operated on public roads for emergency management or training purposes.







COMMUNICATION EQUIPMENT AND C4I SYSTEMS

ACO STREAMER 4K Secure Communication System

ZURAD sp. z o.o. ► p. 517

ACO STREAMER 4K is a portable, suitcase based system designed for secure real time transmission of high-resolution video and operational data. The solution supports encrypted communication and enables live streaming in up to 4K quality with ultra low latency (~200 ms), ensuring immediate situational feedback in dynamic environments.

The system is optimized for field operations, crisis response and cooperation with unmanned platforms, including drones. Its modular architecture allows deployment in various configurations, including portable and backpack versions dedicated to special forces and emergency services.

ACO STREAMER ensures stable connectivity in demanding conditions and can be integrated into command systems, enhancing mission-coordination and remote-decision-making capabilities.

Benefit for the soldier:

Improves real-time situational awareness and command effectiveness by delivering instant high-quality visual intelligence, enabling faster and more accurate tactical decisions in mission critical scenarios



BMS JASMINE

TELDAT Sp. z o.o. sp.k. ► p. 496

BMS JASMINE is the latest generation, comprehensive and network centric battle management system dedicated to tactical echelon (battalion, company, platoon and section) or rescue operations. This is the first BMS in Poland and one of the few in the world. The system enhances and automates the processes of command and communications and combat operations. It is designed to develop modern and comprehensive C2 onboard systems at a tactical level. The system is dedicated to all types of vehicles, vessels and flying objects in the armed forces. It can also be used by mobile troops of various types of public services, after the adjustments to their specific needs. On the base of this solution modules, the various system configurations of the same standard can be constructed using its like blocks. The solution can be also used as an autonomous system.

BMS JASMINE as an on-board ICT node provides modern, efficient, mobile, and multi-service ICT infrastructure dedicated to a tactical level, designed in IP technology; optimal selection, integration, use and monitoring of on-board equipment (including communication means, transmission media, sensors, effectors and endpoint devices); high security level by applying network devices that meet the highest level of national and NATO standards (e.g. cybersecurity) validated by penetration and vulnerability tests; interoperability with the coalition systems, among others by the implementation of NATO standards.





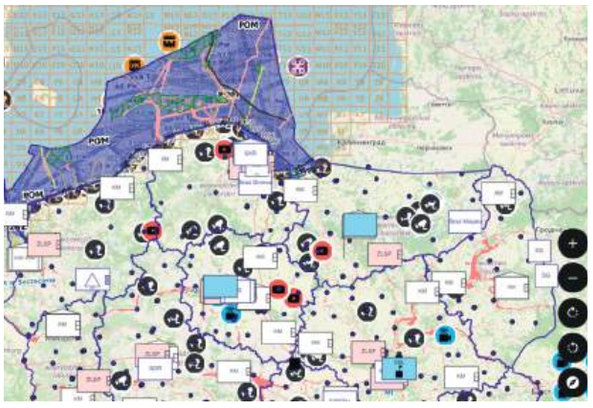


C3IS JASMINE

TELDAT Sp. z o.o. sp.k. ► p. 496

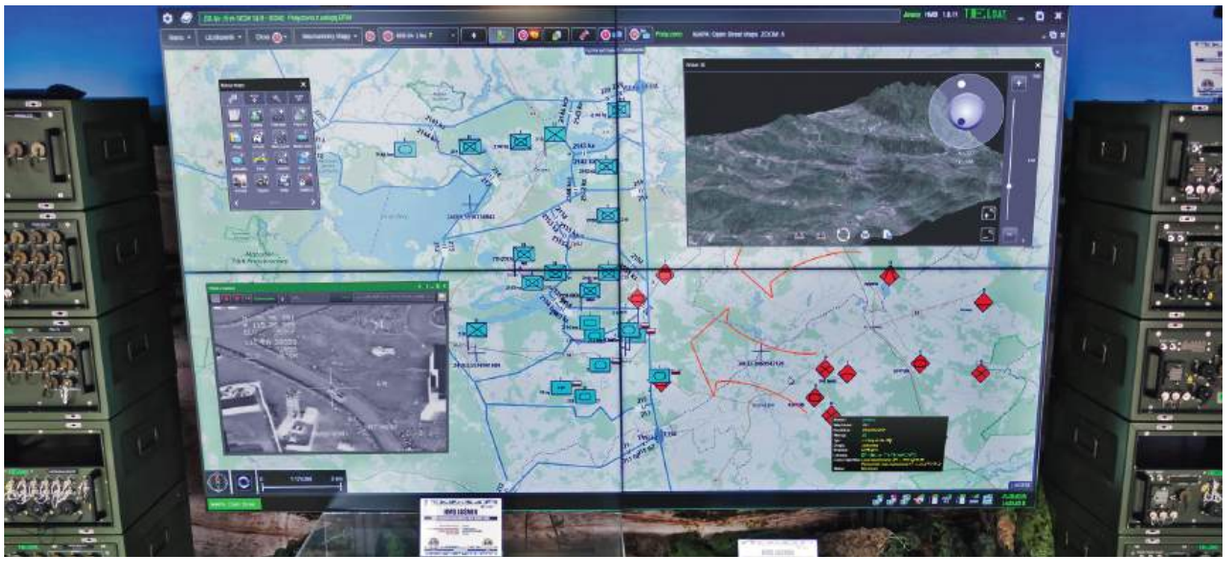
C3IS JASMINE is an automatic and comprehensive software solution – a C3I network centric system dedicated to all command echelons from operational down to dismounted soldier. The innovative and primary feature of this product is the fact that it consists of a wide range of ready to implement solutions based on the versatile Set of Services which directly fits to the requirements of the armed forces. This solution ranks with the C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) class systems. The development of this high specialised software has contributed to the significant progress of C2 systems also in the alliance dimension. It allowed to rank Poland at the forefront of NATO countries in this area.





C3IS JASMINE was designed according to the Service Oriented Architecture concept and has a fully unified and comprehensive set of services, which ensures its scalability and modular structure. The offered system incorporates many Software Modules including the following ones:

- HMS C3IS JASMINE - software / Multidomain Combat Management System for the Operational and Tactical Level;
- BMS C3IS JASMINE - software / Battlefield Management System for Battalion, Company, Platoon & Section;
- DSS C3IS JASMINE - software / Dismounted Soldier System;
- JFSS C3IS JASMINE - software / Joint Fires Support System, including JTAC;
- CMS C3IS JASMINE - software / Multilevel Crisis Management System.



COMP@N H09
Narrowband SDR Tactical Radio

WB GROUP ► p. 502

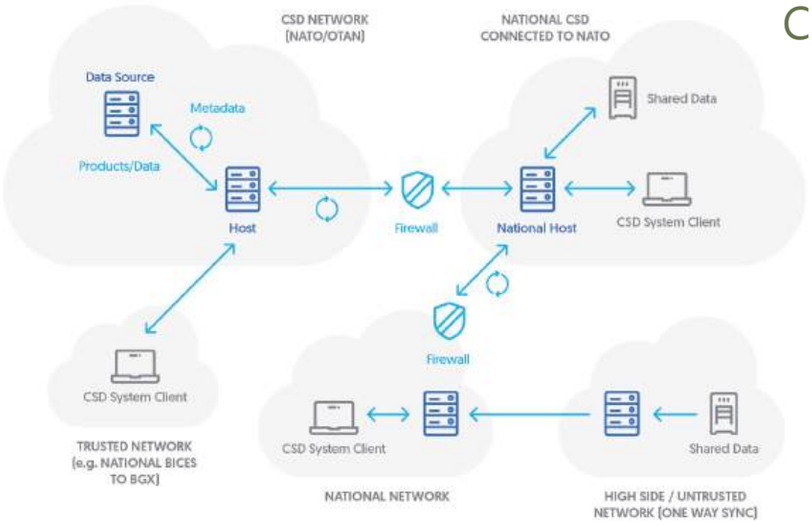
A mission-ready SDR platform with multiwaveform support and full military grade encryption.

Modern battlefield requirements, combined with limited radio spectrum availability, necessitate the use of multi-waveform radios. The COMP@N family of radios supports a wide range of waveforms (WF), ensuring secure communications through TRANSEC, NETSEC, and COMSEC mechanisms, including AES-256 encryption and SCIP (STANAG 5068) technology.



CSD EP System Client

Asseco Poland S.A. ► p. 439



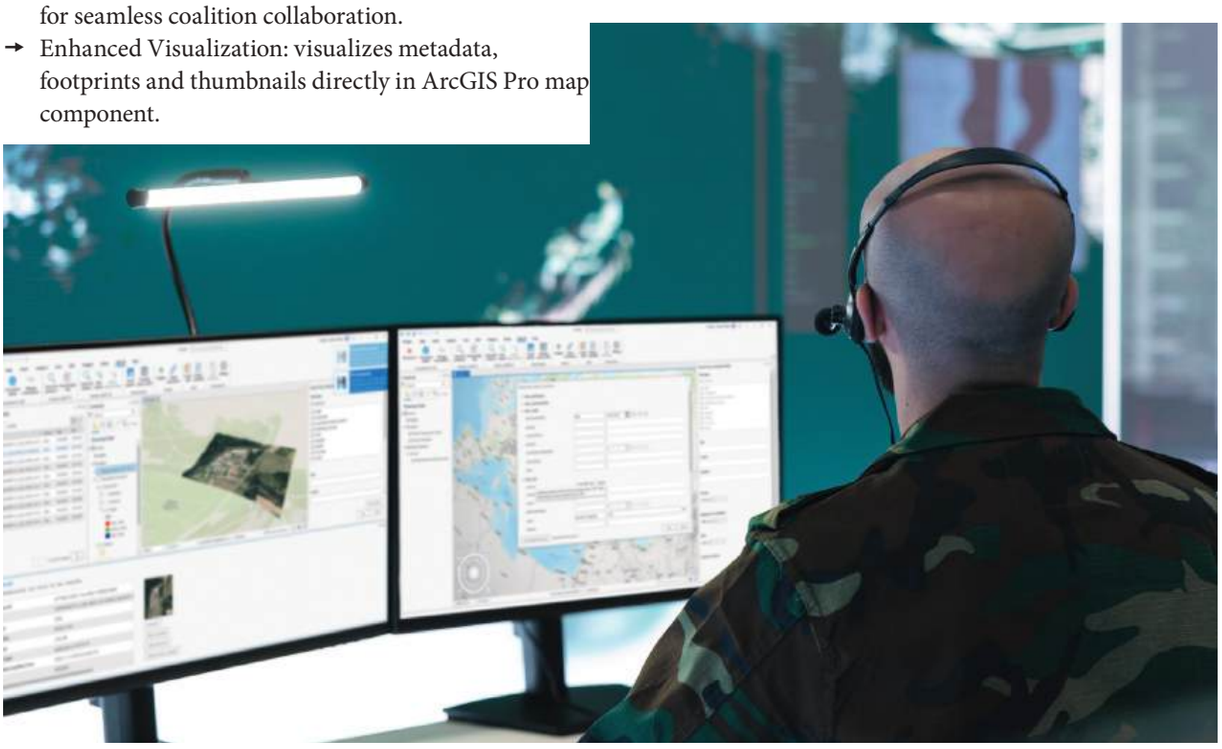
The CSD EP System Client revolutionizes intelligence sharing and efficiency within NATO coalition forces. Integrated with Esri ArcGIS Pro, it enables analysts to access reconnaissance data—satellite imagery, reports, maps, videos etc.—perform analyses, and share insights in real time. Validated at NATO CWIX, it ensures secure communication in classified networks.

Key Features

- Advanced Metadata Search: supports complex queries (STANAG 4559 AEDP-17/18) for rapid data discovery, including spatial queries and standing queries for monitoring.
- Real-Time Integration: handles FMV and GMTI streaming.
- Seamless Workflows: automates data discovery, analysis, and publishing in one application.
- Connectivity: connects to CSD servers from different manufacturers.
- Interoperability: fully compliant with NATO standards, integrates into the JISR process, for seamless coalition collaboration.
- Enhanced Visualization: visualizes metadata, footprints and thumbnails directly in ArcGIS Pro map component.

Benefits

- Operational efficiency: automates data workflows, reducing manual effort and speeding up analysis.
- Enhanced decision-making: boosts situational awareness.
- Scalability and Compliance: adapts to diverse operational needs while maintaining NATO interoperability.
- User-Centric Design: features an intuitive interface and customizable settings.
- Support for ISR Missions: provides tools for intelligence, surveillance, and reconnaissance missions.



CyView C2

Advanced Protection Systems S.A. ► p. 434

SKYctrl is an advanced system comprising specialised hardware and software. At the core of the system lies the proprietary software suite SKYctrl CyView C2 Suite, a comprehensive solution designed for detection, classification, identification, and neutralisation of mini and micro-class unmanned aerial vehicles (UAVs).

CyView C2 is a fully Polish product, conceived and developed by specialists from the Gdynia-based company APS. The company listens closely to the needs of soldiers, ensuring that the system is both user-friendly and intuitive, enhancing operators' response time.

The software is fully customisable, modular, and capable of integration with a wide range of sensors and effectors (both soft-kill and hard-kill). Among the software solutions developed and continuously improved by APS are two flagship Command and Control (C2) applications: CyView C2 Suite and CyView C2 Web Suite, each designed for different operational needs.

SKYctrl CyView C2 Suite has been developed for experienced military operators trained in kinetic and non-kinetic effectors. It is modular and integrates with RF, optical, and radar sensors. Additionally, the software is network-centric, capable of Master–Slave operation, and interoperable via NATO-compliant protocols.

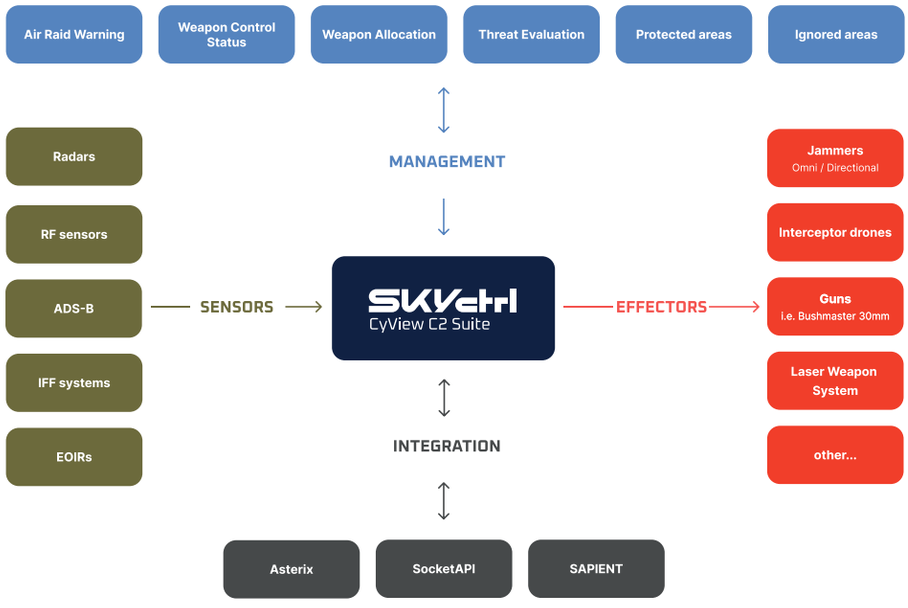
The operator interface follows User-Centered Design (UCD) principles, ensuring intuitive use, rapid training, and seamless interaction.

Benefit for the soldier

The C2 system supports soldiers by integrating data from multiple sources into a single, clear operational picture. It enables real-time decision-making, improves coordination and shortens response time, increasing mission effectiveness and team safety.

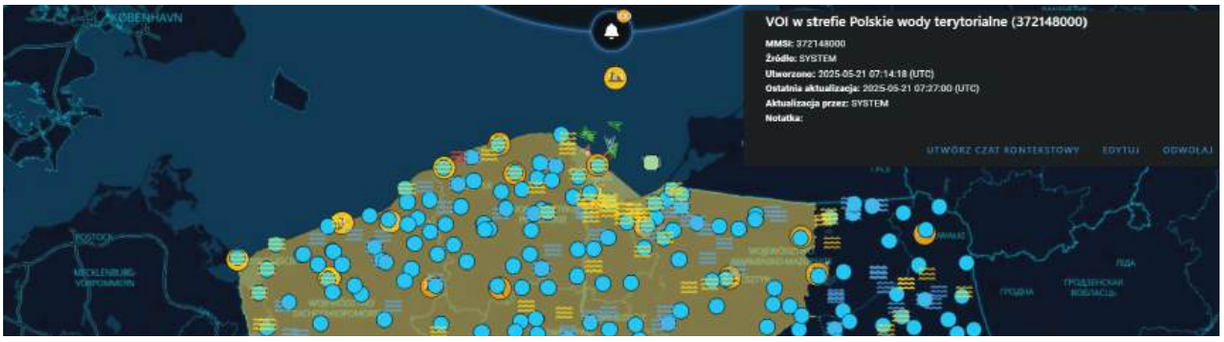






Digital Baltic

Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej S.A. ► p. 476



Digital Baltic is an advanced technology platform designed for real-time integration, visualisation, and analysis of maritime and geospatial data. The system was developed as a central tool supporting maritime situational awareness by consolidating information from multiple sources—both public and private—into a single, coherent operational picture. By leveraging GIS technologies, users are provided with a clear, map-based presentation of current and historical data, enabling rapid understanding of the maritime situation.

The Digital Baltic platform enables secure, bidirectional integration with partner systems and external institutions, supporting both data ingestion (e.g., weather warnings, navigational information) and the distribution of alerts to authorised recipients. Data within the system is organised into information domains, allowing flexible operation within selected thematic areas and their combination based on user needs. Implemented access control, role management, and audit mechanisms ensure compliance with information security requirements.



A key element of Digital Baltic is decision support through automated analytics, anomaly detection, and alert generation. The system employs both classical analytical algorithms and solutions based on artificial intelligence and machine learning to help identify unusual events, threats, and objects of interest. Data generated by AI/ML components is clearly labeled, ensuring transparency and full control over the source of information.

Digital Baltic technology is dual-use in nature and can be applied in both civilian and military environments. The system operates as separate unclassified and classified instances, enabling the processing of data at different security levels while maintaining full separation and security. Its modular architecture and compliance with international data exchange standards, including S-100, make Digital Baltic a scalable, interoperable solution ready for further development in line with user requirements.

Benefit for the solider

Enhances soldier's situational awareness by providing access to an integrated real-time operational picture. Enables faster threat detection, improves mission effectiveness and coordination, and reduces cognitive load through automated analytics and alerts.

Dual-band parabolic antenna APD-09

Wojskowe Zakłady Łączności Nr 1 S.A. ► p. 506

The APD-9 antenna was developed by Wojskowe Zakłady Łączności Nr 1 S.A. in 2020. It is built as part of the Cassegrain system with dual-polarized circular waveguide radiator for IV band. The antenna is designed for mobile digital radio links used e.g. by RWŁC-10/T, AŁCT, MCC1 (WISŁA Programmes), and other communication shelters operated by both military and civil communication systems using frequencies of 4400 MHz - 5000 MHz.

The antenna is classified as a Class N.7 device, suitable for operation in moderate cold climates. The antenna can operate at temperatures ranging from - 30C to +50C, and can be stored at temperatures from -50C to +65C.



The product is an element of a comprehensive system in which an individual soldier becomes an "element of a network". They no longer fight with what they can see with their own eyes, they can use the "eyes" of the whole army. Their survivability increases as they can notice threats earlier and their firepower is higher because they can direct it to where it is needed most.



Basic parameters of APD-9 antennas:

- Capacity to work simultaneously in two polarisations, i.e. vertical (referred to as E) and horizontal (referred to as H).
- The antenna's average energy gain over its operating frequency range is no less than 29 dB.
- The beam width for horizontal (H) and vertical (E) polarisation in the operating bandwidth is ≤5°.
- The antenna's WFS standing wave ratio, over its operating frequency range, is 2.0.
- The maximum input power of the antenna is 45 dBm.
- The antenna's back radiation is -35dB. ź The antenna is equipped with an N-type (female) connector.
- The input impedance of the antenna is 50.
- The antenna in the operating position is resistant to air flow (wind) of up to 30 m/s.
- The antenna's maximum weight does not exceed 10 kg
- The overall dimensions of the APD-9 antenna are 920x920x500mm (W/H/D)

FlyAway SMART Terminal

GISS Sp. z o.o. ► p. 459



SMART by GISS is a compete FlyAway VSAT terminal, offering a wide range of configurations suited to each customer's requirements. It comes with motorized antenna of aperture of the customer's choice form 1,5m up to 2,4m and Antenna Control Unit with auto-pointing feature as a standard, and can be equipped with Fiber Optic module, conventional IDU section, or No-IDU Modem Module with various modems. It is possible to integrate network devices, UPS, and other required accessories according to customer requirements.



Advantages:

- Flexible configuration according to the customer's needs.
- Wide range of different antenna size.
- Bespoke IDU with Integrated Terminal Controller (ZKT) or No-IDU option.
- Fiber Optic modules with L-Band signals transmission available.
- In-field, tool-less switching of the working band by changing only RF module.
- Motorizing and dedicated ACU with automated pointing feature as a standard.
- Intuitive local GUI and WEB interface.
- Powered from AC (mains) with UPS option.
- Packed with dedicated hard-case system.

FONET
Reliable Vehicle Communication System

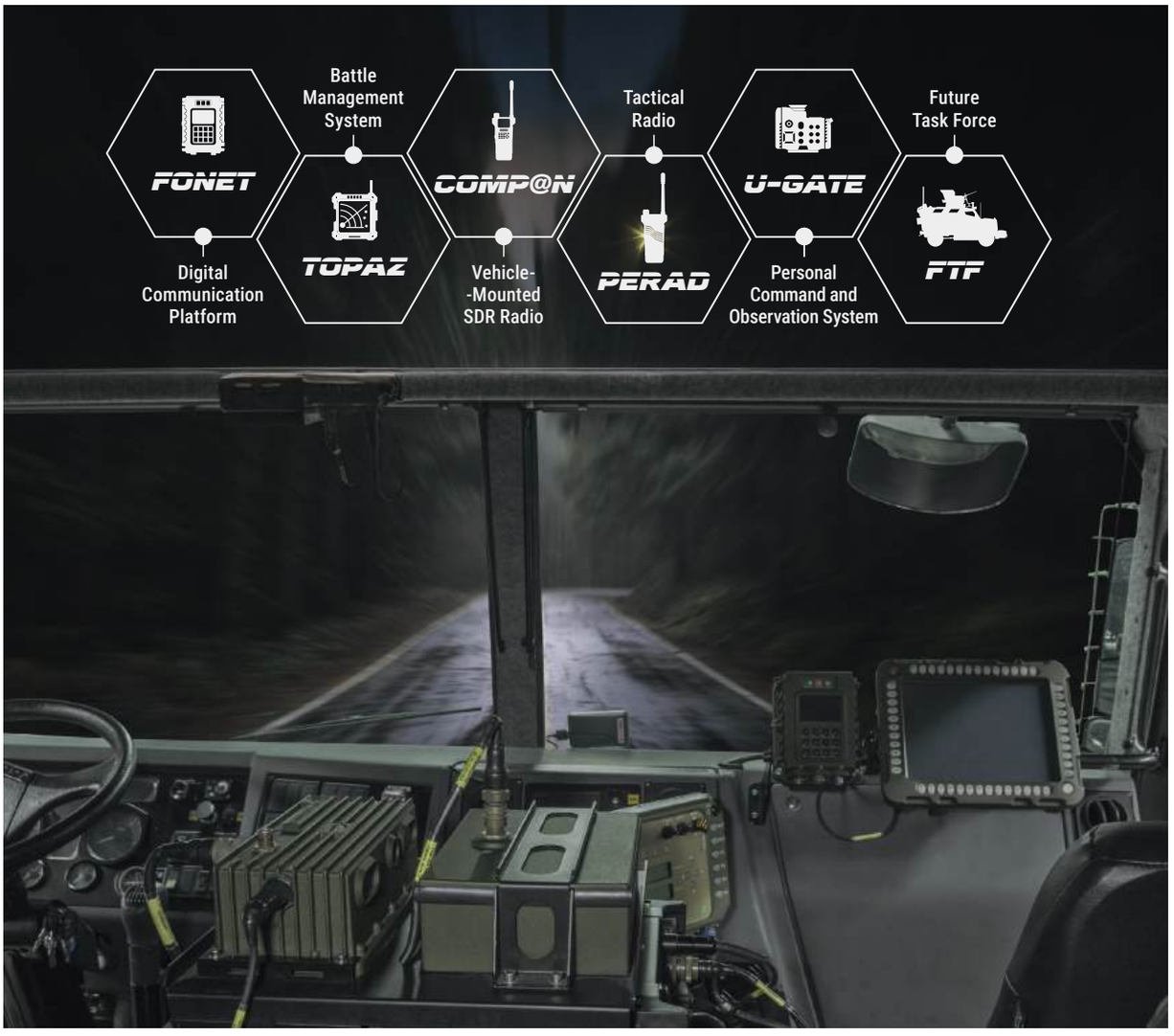
WB GROUP ► p. 502

FONET is designed to provide full integration of onboard systems in military vehicles. It enables simultaneous transmission of voice, data, and control signals. Acting as a digital communication backbone, FONET connects communication devices, weapon systems, sensors, and information terminals into a unified IP-based network architecture.

The system supports integration of various radio types and sensors and is fully interoperable with the TOPAZ command and control system. Its modular design allows adaptation to a wide range of platforms and operational scenarios – from light vehicles to land forces and naval units.



Ensures dependable voice communication and data transmission in demanding battlefield environments.



FONET MK2
Reliable Vehicle Communication System

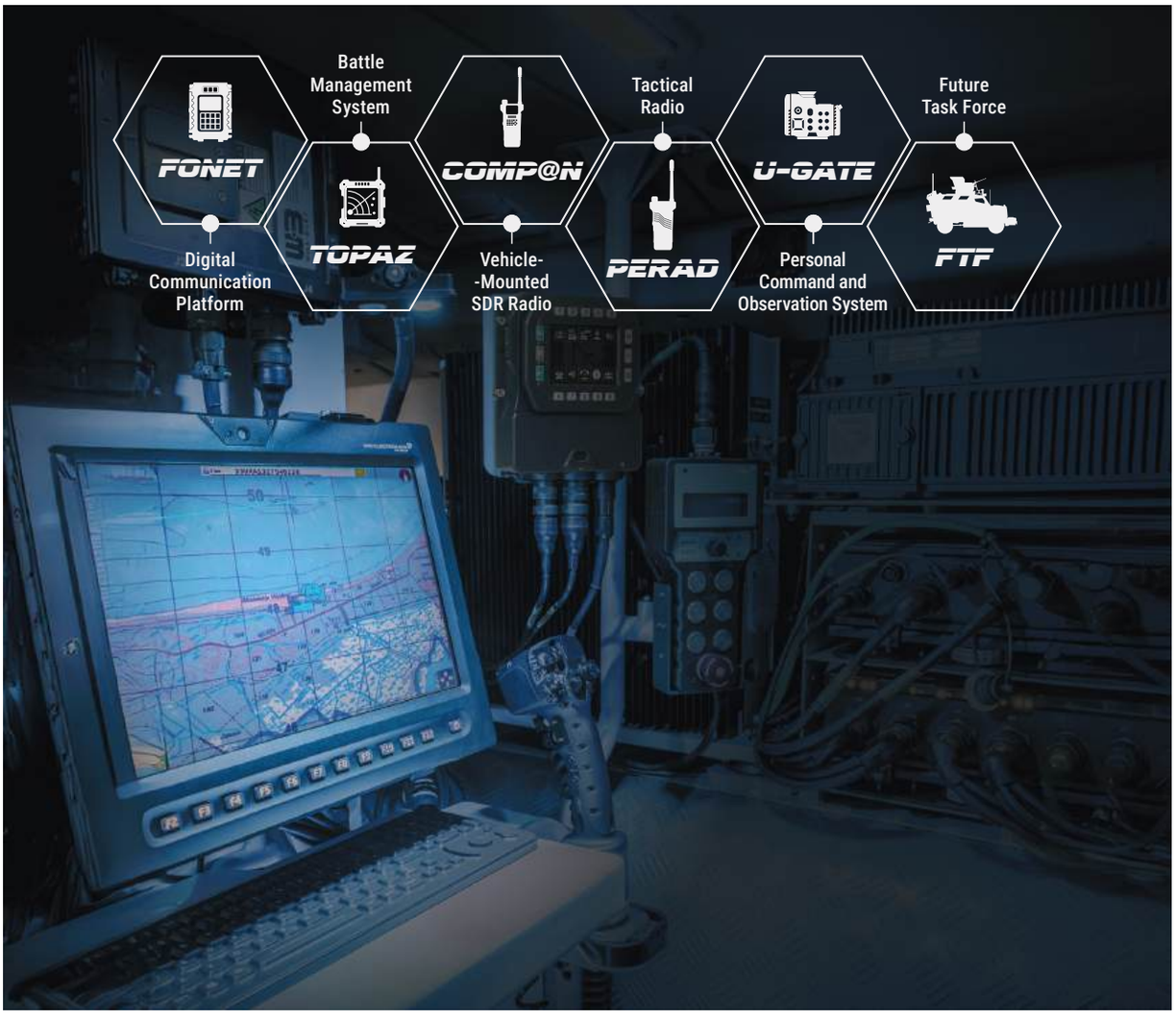
WB GROUP ► p. 502



FONET MK2 is an advanced digital communication platform designed to support tactical operations in modern military vehicles and command systems. The system features enhanced interoperability, a robust IP-based network, and seamless integration with C4ISR systems.

Powered by high-performance ARM architecture and IP technology, the system enables smooth integration of various radios, sensors, observation systems, and weapon subsystems. A modular design allows flexible adaptation to a wide range of platforms and mission profiles – from light tactical vehicles to heavy armoured units and naval applications.

MK2 offers significantly enhanced computing power, extended cybersecurity features, and increased scalability



HMS JASMINE
Headquarters Management System

TELDAT Sp. z o.o. sp.k. ► p. 496

HMS JASMINE (Headquarters Management System) in shelter and portable version is a comprehensive, network centric battle management system dedicated to the operational and tactical echelons or crisis operations structures. It is an innovative, mobile ICT infrastructure of the highest and medium command's posts echelons. This solution (also with software) is implemented and used on a large scale in the Polish Armed Forces. This highly specialised system, also the only Polish, has NATO recommendations and interoperability certificates. The system has also operational recommendations of the Polish War Studies University (ASzWoj). It's enrolled on the Approved Fielded Product List (AFPL) and it has passed the highest level tests with MIP Test Reference System (NATO - MTRS).



The system has been granted numerous awards (also by the President of the Republic of Poland and the Polish Ministry of National Defence) and has been successfully implemented and used in the Polish Armed Forces as well as in a number of largest international and Polish projects (e.g.: Multilateral Interoperability Programme and many subsequent editions of military exercises). All of this together is the primary and unique feature of this solution.



In the most cases HMS JASMINE is composed of:

- software: HMS C3IS JASMINE- Multidomain Combat Management System for Operational and Tactical Level;
- hardware: modern data communications node.



J-SWARM
Multi-UAV Fleet Management & Control System

JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A. ► p. 465

J-SWARM is an advanced command and control application developed by JSW for efficient, simultaneous management of multiple unmanned aerial vehicles. Built for complex swarm operations, it combines mission planning, real-time monitoring, and synchronized execution in a single, intuitive platform.

With its map-based interface, J-SWARM enables operators to rapidly adapt to dynamic field conditions. An integrated notification and decision-support system enhances mission safety while maximising operational efficiency during large-scale deployments.

J-SWARM empowers operators with precise, reliable coordination across multiple platforms, supporting both industrial applications and advanced security missions.

Developed within the project "Detection, classification and tracking of a submarine using a swarm of unmanned aerial vehicles deployed from a surface platform", no. DOB-SZAFIR/01/B/023/04/2021 funded by the National Centre for Research and Development (NCBR) under the Programme for the Development of Modern, Breakthrough Technologies for National Security and Defence, codenamed "SZAFIR".

Key Features:

- Native MAVLink integration for seamless compatibility with UAV autopilots
- Interactive map interface for real-time multi-drone control and monitoring
- Scalable, modular architecture adaptable from single-user to multi-platform systems
- Payload control with support for high-speed data transmission
- Advanced connection authorisation and real-time system alerts





Keyboard WBK-40

Wojskowy Instytut Łączności – Państwowy Instytut Badawczy
Military Communication Institute – National Research Institute ► p. 509



The WBK-40 keyboard is designed for use in environments subject to climatic and mechanical stresses. It can be used in wheeled vehicles and in on-site facilities. It is resistant to low and high ambient temperatures, as well as to dew and frost. The key switches, manufactured using carbon-on-gold technology, ensure a long service life and reliable operation. It is equipped with a convenient 38 mm-diameter trackball.

Benefit for the soldier

The WBK-40 keyboard is designed to ensure reliable and efficient operation by soldiers across a wide range of operational tasks, including nighttime missions. It is specifically adapted for field deployment, featuring enhanced durability and resistance to harsh environmental conditions.

Technical parameters:

- Number of keys: 92
- Trackball diameter: 38 mm
- Interface: USB
- Height: 40 mm
- Width: 390 mm
- Depth: 145 mm
- Weight : 1.7 kg
- Backlight: white
- Protection: IP 65
- Environmental standards (NO-06-A101): group N.11-O-II-A
- Operating mode: continuous, multi-shift
- Operating temperatures: -30 ÷ +50 °C
- Storage temperatures: -30 ÷ +60 °C
- Supply voltage: 5V DC

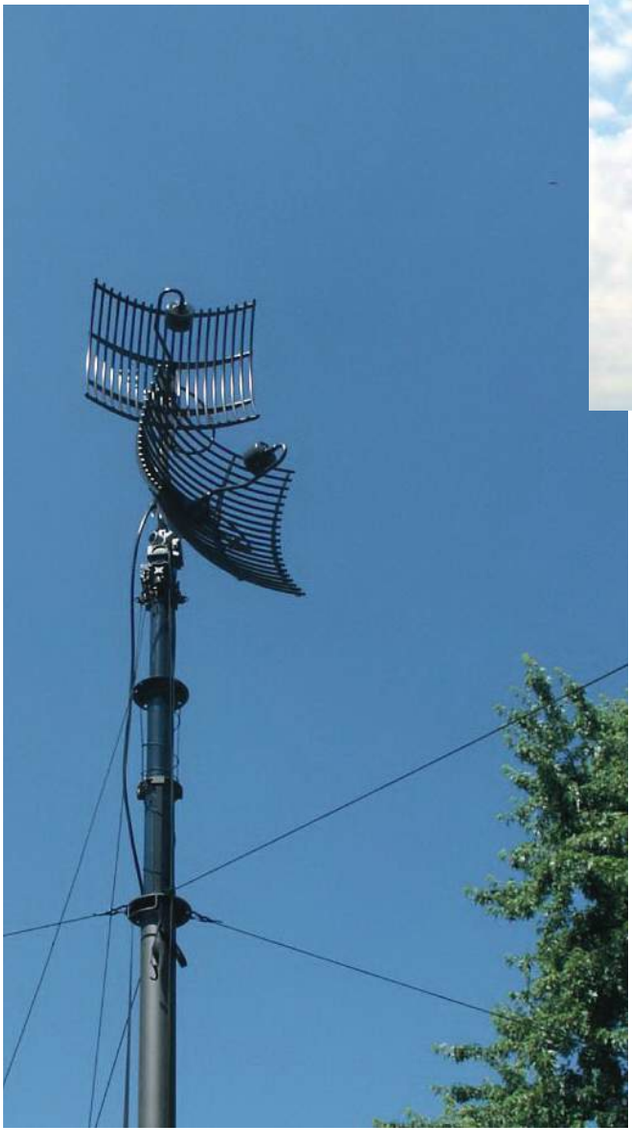
Logarithmic Reflector Antenna ARL-09/20/M

Wojskowe Zakłady Łączności Nr 1 S.A. ► p. 506

The antenna has been designed to secure operation of the mobile digital radio relays operating in the frequency range 1300 – 2700 MHz (the so-called military NATO Band III+). Manufactured from aluminium alloy and in accordance with requirements of standards for military equipment.

The product is an element of a comprehensive system in which an individual soldier becomes an "element of a network". They no longer fight with what they can see with their own eyes, they can use the "eyes" of the whole army. Their survivability increases as they can notice threats earlier and their firepower is higher because they can direct it to where it is needed most.





Parameters:

- Frequency range: 1300÷2700MHz
- Input impedance: 50Ω
- Voltage Standing Wave Ratio (VSWR): <2
- Max input power: 50W
- Antenna gain for:
  - 1300MHZ >20dB
  - 2700MHZ >25dB
- Polarisation H – horizontal E – vertical
- Width of the radiation beam in the:
  - Horizontal plane 12°
  - Vertical plane 10°
- Type of the connector: N
- Operating temperature range: -50°C to +70°C
- Max. wind speed for 25mm radial ice: <220km/h
- Fastening clip: ϕ-55mm
- Material: aluminum alloy
- Dimensions: 970x870x750mm
- Weight: 8kg

Mobile Command Post Module

Wojskowe Zakłady Łączności Nr 1 S.A. ► p. 506

The Command Post's Mobile Module - MMSD is intended to provide workplaces for Command and Staff operations in field conditions. The teleinformation infrastructure allows to create up to 3 independent teleinformation networks. Informatic equipment ensures cooperation with the Automated Systems in Support of Command and Security of Operations. A suitable configuration and junction of MMSD modules allows to use them at command posts. Short time needed for deployment and folding assures a high mobility in combat actions in the country and in missions abroad.

The product is an element of a comprehensive system in which an individual soldier becomes an "element of a network". They no longer fight with what they can see with their own eyes, they can use the "eyes" of the whole army. Their survivability increases as they can notice threats earlier and their firepower is higher because they can direct it to where it is needed most.



Equipment:

- All- terrain vehicle;
- 20 feet container;
- Computer equipment providing 16 automated workplaces;
- Air conditioning, heating systems.

Interfaces as well as connecting lines:

- 3 x CTOS;
- 3 cable lines on the PKS type ETHERNET
- RJ-45 twisted cable according to the 10/100/1000Base–Tx standard;
- 20 telephone lines from the RWŁC-10/T shelter.

Power supplying:

The MMSD module is adapted for supplying from the industrial mains or field power supplying system. Additionally, the MMSD is equipped with three UPSs providing uninterrupted operation of the information systems.



Mobile Command Post's Module MMSD Division Sub-Unit

Wojskowe Zakłady Łączności Nr 1 S.A. ► p. 506



The Command Post's Mobile Module - MMSD of the unit/subunit level is intended to provide workplaces for Command and Staff operations in field conditions.

The teleinformation infrastructure allows to create up to 3 independent teleinformation networks and 10 automated workplaces (with the possibility of extension up to 12), and use the equipment for controlling radio communication means. It also allows to use radio stations in command and control vehicles in remote locations.

Informatic equipment ensures the cooperation with the Automated Systems in Support of Command and Security of Operations. A suitable configuration and junction of MMSD modules allows to use them at lower level command posts (units and subunits). Short time needed for deployment and folding assures a high mobility in combat actions in the country and in missions abroad.



Equipment:

- All-terrain vehicle;
- 15 feet container;
- Technical module (power-generating set and technical accessories);
- Computer equipment providing 10 automated workplaces (with the possibility of extension up to 12);
- Air condition, heating.

Interfaces and connection lines:

- 2 x CTOS;
- 5 cable lines (with the strand cable PKS-4x2x0,34) type ETHERNET, according to the 10/100/1000Base–Tx standard;
- 1 XDSL line;8 lines to remote equipment from radios;
- 20 telephone lines from RWŁC-10/T shelters.

Power supplying:

The MMSD module is adapted for supplying from the industrial mains or field power-generating system or from a 3-phase power generating set 3x400/230V AC (with the tolerance of the phase voltage from 195.5V to 253V). Additionally, the module has two UPSs to maintain uninterruptible operation of computer equipment.

The product is an element of a comprehensive system in which an individual soldier becomes an "element of a network". They no longer fight with what they can see with their own eyes, they can use the "eyes" of the whole army. Their survivability increases as they can notice threats earlier and their firepower is higher because they can direct it to where it is needed most.

Mobile Satellite Terminal - MTS-4.6

Wojskowe Zakłady Łączności Nr 1 ► p. 506

The Mobile Satellite Terminal - MTS-4.6 enables to start up networks of satellite communication in TDMA or SCPC system (also as the main station - hub) and be connected with the existing telecommunications infrastructure both military as well as civilian.

It operates in three frequency ranges: C, X and Ku and in network topologies: star, mesh and point-to-point connections. It fulfils satellite parameters fully compliant with NATO standards (STANAG 4484 and 4486) as well as MIL-STD 188-164A.

The Terminal is manufactured in transportable, military version and consists of a 10ft container and FlyAway 4.6m antenna. The MTS-4.6 is transported on a two-axle trailer. Its basic features include, among others, high mobility, automation of pointing and antenna operation according to assigned data, as well as the possibility of operation in different configurations of satellite network and short preparation time for operation and transportation.

Essential characteristics:

- high mobility,
- automatic antenna adjustment and operation according to specified (introduced) data,
- possibility to operate within numerous satellite network configurations,
- possibility to operate in difficult conditions,
- short preparation time for operation and transportation.

The product is an element of a comprehensive system in which an individual soldier becomes an "element of a network". They no longer fight with what they can see with their own eyes, they can use the "eyes" of the whole army. Their survivability increases as they can notice threats earlier and their firepower is higher because they can direct it to where it is needed most.





Onboard computer KP 104E-2

Wojskowy Instytut Łączności – Państwowy Instytut Badawczy
Military Communication Institute – National Research Institute ► p. 509

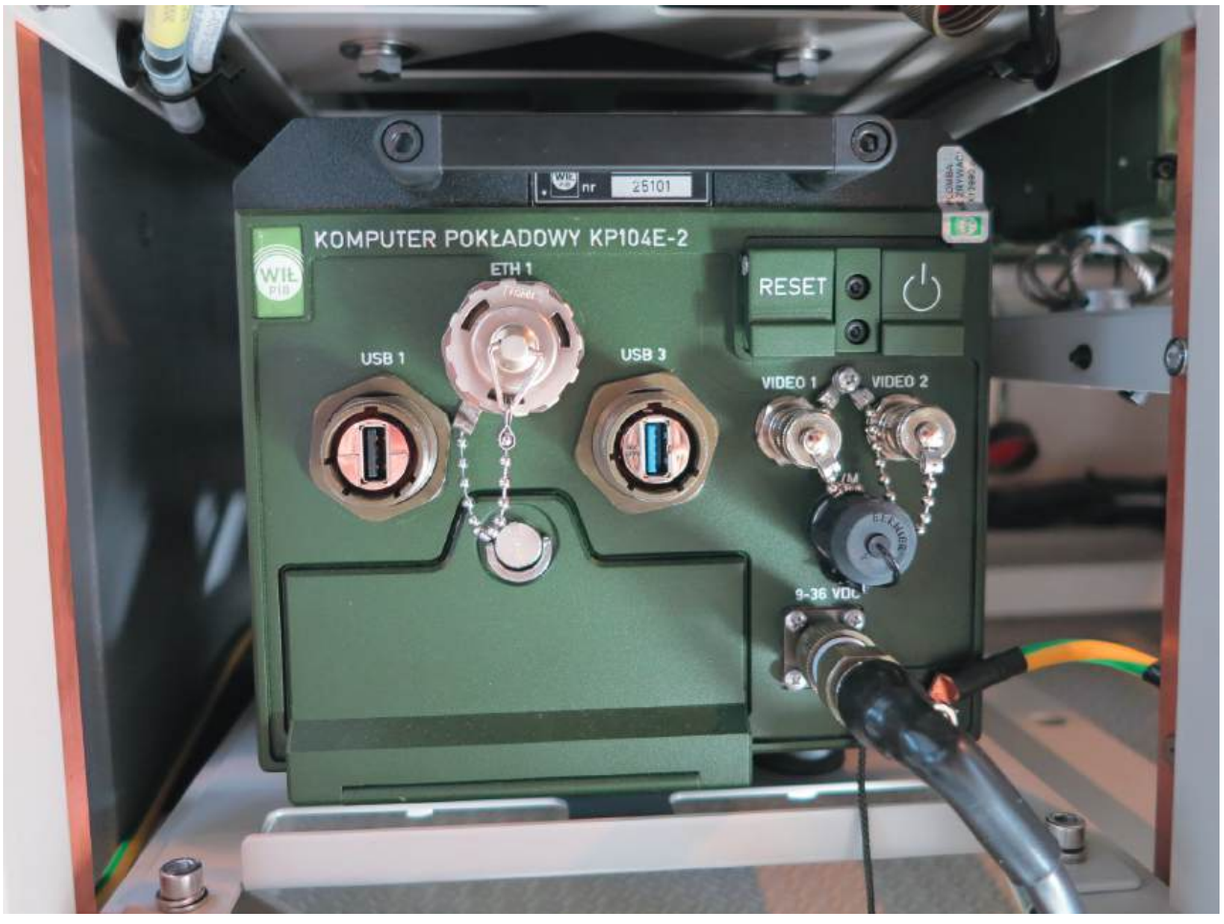
The KP 104E-2 (standard PC/104) onboard computer is a device operating in a continuous multi-shift mode. It is resistant and robust against environmental factors. The computer is classified as group N.11-O-II - equipment for continuous operation (according to norm NO-06-A101). It can be operated in moving wheeled vehicles and in on-site facilities. The onboard computer can also function as a server. It has been designed to minimise the need for maintenance. The KP 104E-2 computer meets the demands of the contemporary battlefield.

Benefit for the soldier:

The central unit of the onboard computer may function as a server, forming a foundation for tasks related to data processing and distribution within military systems. Soldiers may utilise this solution to build and configure communications systems tailored to specific mission requirements.

Technical parameters:

- Processor type: Intel® Core™ i7-470 2.8 GHz
- Processor cores: 4 (8 threads)
- RAM: 8 GB DDR3 1600 MHz
- Hard drives: 2x 1 TB M.2, 512 GB SATA III 2,5” (removable)
- Interfaces: 2x GigE LAN, 4 x USB, 8x RS-232/422/485, CAN, VGA/DVI, audio
- Power supply: 27 V DC (–18 % to +10 %)
- Power consumption: 190 W max
- Height: 189 mm
- Width: 190 mm
- Depth: 420 mm
- Weight : 8.3 kg
- Environmental standards (NO-06-A101): group N.11-O-II-A
- Operating mode: continuous, multi-shift
- Operating temperatures: -30 ÷ +50 °C
- Storage temperatures: -50 ÷ +65 °C



Onboard computer KP SBC-35-2

Wojskowy Instytut Łączności – Państwowy Instytut Badawczy
Military Communication Institute – National Research Institute ► p. 509

The KP SBC35-2 on-board computer is designed for use in environments subject to climatic and mechanical stresses. It is resistant to low and high ambient temperatures, as well as to dew and frost. Thanks to the vibration isolators used in its construction, the computer is resistant to shocks and vibrations. It can be operated in moving wheeled vehicles and in on-site facilities. The computer is compatible with numerous types of peripheral devices thanks to a large number of USB interfaces. It can be used to build ICT (Information and Communication Technology) networks. Access to LAN is provided via Ethernet (GigE LAN) interfaces. It can run applications compatible with the installed Windows/Linux operating system.

Benefit for the soldier:
The onboard computer constitutes a universal tool utilised across nearly all branches of the armed forces. It is employed as a support element for soldiers during operational activities, enabling the execution of tasks related to data processing, communication, and real-time information management.

Technical parameters:

→ Processor type:	Intel® Core™ i7-1185G7E
→ Processor cores:	4 (8 threads)
→ RAM:	32 GB DDR4
→ Hard drives:	1 TB SATA 2.5" (removable), 512 GB (M.2)
→ Interfaces:	2x GigE LAN, 4 x USB, 3 x RS-232/422/485, VGA/DVI, audio
→ Power supply:	27 V DC (–18 % to +10 %)
→ Power consumption:	150 W max
→ Height:	172 mm
→ Width:	190 mm
→ Depth:	405 mm
→ Weight :	6.8 kg
→ Environmental standards (NO-06-A101):	group N.11-O-II-A
→ Operating mode:	continuous, multi-shift
→ Operating temperatures:	-30 ÷ +50 °C
→ Storage temperatures:	-30 ÷ +60 °C
→ Case colour:	dark green - RAL 6007



Onboard monitor BM-12-S

Wojskowy Instytut Łączności – Państwowy Instytut Badawczy
Military Communication Institute – National Research Institute ► p. 509

The BM-12-S monitor is designed for use in environments subject to climatic and mechanical stresses. It features a 12.1-inch screen. It can be used in moving wheeled vehicles and in on-site facilities. It is resistant to low and high ambient temperatures, as well as to dew and frost. Thanks to its interfaces, the monitor is compatible with computers equipped with graphics cards featuring VGA or DVI connectors. An additional advantage of the monitor is its touchscreen and a wide range of operating voltages. It has 10 function keys (F1 to F10) used to control the application.

Benefit for the soldier:
The monitor is optimised for field deployment, where efficiency, durability, and space optimisation are critical factors for soldiers. Thanks to its compact form factor, the monitor offers exceptional portability and facilitates rapid installation and operation in mobile or temporary setups.

Technical parameters:

→ Interfaces:	VGA/DVI
→ Screen:	12.1”
→ Power supply:	9 ÷ 36 V DC
→ Power consumption:	25 W max
→ Height:	248 mm
→ Width:	352 mm
→ Depth:	67 mm
→ Weight:	5.5 kg
→ Environmental standards (NO-06-A101):	group N.11-O-II-A
→ Operating mode:	continuous, multi-shift
→ Operating temperatures:	-30 ÷ +50 °C
→ Storage temperatures:	-30 ÷ +60 °C



Plumla NGN

Enamor International Sp. z o.o. ► p. 452

Plumla-NGN is an FPGA based packet processor compatible with SDN OpenFlow architecture with full speed packet processing up to 160 Gbps with extremely low latency < 8µs. Ready to support high throughput network interconnections in core and access networks, 5G networks and industrial control systems infrastructure (ICS/OT).

Unique functionalities of new Plumla-NGN appliance:

- Helps optimise implementation cost of network services IPSec, IDS/IPS, packet analysis, SSL decryption, MPLS processing.
- Can be applied in your core and access networks or ICS infrastructure.
- Enhances your Security Operation Center (SOC) and Network Operation Center (NOC) capabilities.

Key parameters and features:

Compliant with SDN OpenFlow 1.3 specification and ready to be integrated with SDN controllers.

Network interfaces:

- 4 x 40 Gbps (QSFP+)
- 4 x 10 Gbps (SFP+)

Best in class network performance:

- packet processing 160 Gbps, 240M pps
- low latency - only <8µs
- 0 packet loss proved by RFC 2544 tests

Use cases:

- Network traffic redirections to cybersecurity analysis (IDS/IPS/FPC)
- Load balancing for IPSec and network services
- IP traffic tunneling
- IP filtering
- MPLS service

Benefit for the soldier:

- Receives orders and updates without delay or loss of data.
  Even under heavy network load, the soldier gets complete and timely information, reducing the risk of acting on outdated or missing data.
- Acts on real-time battlefield information.
  Data from drones, sensors, and command systems reaches the user instantly, enabling faster reaction to threats and opportunities.
- Focuses only on mission-critical information.
  The system prioritises and filters traffic so the soldier is not overwhelmed by irrelevant data, allowing quicker and clearer decision-making.
- Maintains connectivity in contested environments.
  Network stability mechanisms ensure the soldier stays connected even during cyberattacks, jamming, or traffic spikes.
- Adapts quickly to changing mission conditions.
  Dynamic network reconfiguration (via SDN) allows communication paths to adjust in real time, without requiring user intervention.

PLUMLA



Plumla SSL

Enamor International Sp. z o.o. ► p. 452



Plumla SSL is the SSL traffic decryption device providing network traffic required by the network cyber security analysts deployed in the Security Operation Center. Plumla SSL implements hardware-supported symmetric cryptography (AES 128/256) and asymmetric cryptography based on elliptic curves (ECDH, ECDSA) on FPGA cards developed specifically for the Plumla SSL device that decrypts the SSL/TLS protocol in versions 1.2 and 1.3 currently used on the Internet.

Benefit for the soldier:

- Increased survivability.
  Detection of threats hidden in encrypted traffic prevents silent compromise of communication and command systems that could expose the unit or disrupt operations.
- Enhanced situational awareness in the cyber domain
  Access to decrypted data enables more accurate identification of adversary activity and faster response to incidents affecting the mission.
- Improved operational effectiveness .
  Reliable and uninterrupted information flow enhances decision-making quality and reduces the risk of errors caused by incomplete data.
- Resilience against hybrid and cyber-enabled disruptions.
  The system limits the effectiveness of cyberattacks supporting kinetic operations (e.g., communication disruption, data manipulation).

Unique functionalities of new Plumla-NGN appliance:

- Decrypts network traffic in near real-time.
- Preserves security and privacy of financial and medical data.
- Forwards decrypted network traffic to external cyber security tools.

Key parameters and features:

- Supports symmetric and asymmetric cryptography.
- Decryption speed - minimum 2 GB/s of data traffic.
- Decryption of several thousands of concurrent user sessions.
- Implementation of the controlled Man-in-the-middle for lawful inspection.
- Supports SSL – TLS 1.2 and TLS 1.3.
- 1 Rack Unit form factor.

Use cases:

- Establishment of a Security Operations Center (SOC) to ensure full threat visibility.
- Within security systems for monitoring encrypted traffic.
- In data centers as a high-performance, lossless traffic replication device.
- In mobile deployments due to high performance, compact form, and low power consumption.

Portable And Transportable Satellite Terminal PPTS-1.8 v.2

Wojskowe Zakłady Łączności Nr 1 S.A. ► p. 506

The portable and transportable satellite terminal (PPTS-1.8) has been designed to ensure a multi-band communication at the operational and tactical level. It operates in three frequency ranges: C, X and Ku and the network topologies: star, mesh and point-to-point connections. It enables establishing of satellite communications network in TDMA or SCPC. It fulfils fully satellite parameters defined in the NATO standardized documents (STANAG 4484 and 4486) and MIL-STD 188-164A.

The terminal has been manufactured in military version and equipped with FlyAway antenna set 1.8m (v.1) or 2.4m (v.2). Moreover, additional elements of equipment used in satellite set include: IP router and switch-multiplexer ŁK-24, the emergency power supply system – power generator set (diesel) 4 kW and UPS unit.

The product is an element of a comprehensive system in which an individual soldier becomes an "element of a network". They no longer fight with what they can see with their own eyes, they can use the "eyes" of the whole army. Their survivability increases as they can notice threats earlier and their firepower is higher because they can direct it to where it is needed most.





Portable Communication Set PZŁ-1

Enamor International Sp. z o.o. ► p. 452

Portable Communication Sets establish broadband military radio relay–wired communications by leveraging radio frequency bands III, III+, and IV, 5G networks, and low Earth orbit (LEO) satellite communications. Their compact form enables flexible deployment across all levels of command, forming Command Post Communication Nodes for divisions, brigades, and regiment levels, as well as ad hoc configurations for battalion or squadron-level operations.

They facilitate expansion of existing mobile and stationary nodes communication nodes, providing the increased bandwidth required for modern C4ISR command and control systems. They feature a high level of protection against electronic warfare threats – detection and jamming – through the use of advanced frequency hopping (FH) mechanisms, adaptive power control, and dynamic frequency agility.



Key parameters and features:

- Network infrastructure (routers, UPS systems, ORION X650)
- LTE/5G and Wi-Fi modems
- LEO Ku satellite terminal
- Directional and omnidirectional antennas
- Antenna rotators (optional)
- ORION X610/X630/X650 radio stations
- Tethered drone serving as a “virtual mast”
- MIL-STD-compliant laptops for system management
- Generators and fuel supply
- Hermetic sealed transport cases

Use cases:

- Increased bandwidth and range of existing CIS nodes without the need for infrastructure changes.
- Rapid deployment of long-range command and control links in areas with no existing infrastructure.
- Continuous communication ensured through automatic switching between multiple transmission media.
- Maintained communication in heavily contested or jammed environment through advanced FH and LPI/LPD techniques
- Rapid restoration of communications in disaster-affected areas.

Benefit for the soldier:

- Supports command and coordination at every level,
  Provides stable connectivity for voice, data, and command systems, enabling the soldier to stay integrated with higher command and adjacent units.
- Establishes communication anywhere, without existing infrastructure
  The soldier can quickly set up a reliable link (radio, cellular, or satellite) even in remote or infrastructure-denied environments.
- Maintains connectivity under jamming and contested conditions
  Advanced anti-jamming features (frequency hopping, adaptive power, dynamic frequency agility) allow continued communication despite enemy interference.
- Automatically selects the best available communication link
  The system switches between radio, LTE/5G, and satellite without user intervention, ensuring continuous communication at all times.
- Deploys rapidly in the field
  Portable, modular design allows one operator to set up and activate the system quickly, supporting fast-moving operations.

R-450C-01 Wideband Tactical MANET Radio

Transbit Sp. z o.o. ► p. 497

R-450C-01 Wideband Tactical MANET Radio – designed to establish wireless local (LAN) and wide area (WAN) tactical IP networks based on IPv4/IPv6 protocols. The system enables reliable transmission of voice, data, and video in demanding operational environments.

The radio incorporates advanced anti-jamming and signal resilience mechanisms, including Frequency Hopping, as well as resistance to multipath propagation and fading effects, ensuring stable communication in complex terrain and contested electromagnetic environments.

The R-450C supports fully self-organizing Mobile Ad-Hoc Network (MANET) and MESH network capabilities, allowing dynamic network formation without fixed infrastructure. This ensures high flexibility, scalability, and continuity of communications in rapidly changing battlefield conditions.

The system is fully interoperable with C4ISR solutions, including Battle Management Systems (BMS), enabling seamless integration into modern network-centric operations.

General parameters: operating in NATO Band I (225–400 MHz), with data rates of up to 7 Mbit/s and communication ranges from several up to 50 km, depending on terrain and operational conditions.

Benefit for the soldier

Creates a self-forming and self-healing tactical network that automatically adapts to changing battlefield conditions. Soldiers benefit from continuous connectivity, rapid data exchange and reliable communication without the need for fixed infrastructure.



VIDEO- R-450C Wideband Tactical MANET Radio.

R-460AM-2 Digital Radio Relay

Transbit Sp. z o.o. ► p. 497

R-460AM-2 Digital Radio Relay – designed for the deployment of High Capacity Line-of-Sight (HCLOS) Point-to-Point, Point-to-Multipoint tactical communication system over long distance.

The R-460AM-2 radio relay, manufactured by Transbit, plays a fundamental role in ensuring a modern and reliable communication system for the Air Defence Forces and Land Forces of the Polish Armed Forces. The R-460A radio relay system meets IBCS requirements and was integrated in 2021 by Northrop Grumman and Transbit under the WISŁA Programme for the Polish Patriot air and missile defence system. It is the first non-U.S. radio communication device integrated with IBCS.

General parameters: operates in NATO Band IV (4.4–5.0 GHz) with data rates exceeding 600 Mbit/s, and NATO Band III+ (1.35–2.7 GHz) with data rates up to 100 Mbit/s. Provides communication over distances of approximately 40 km.

Benefit for the soldier:

Provides high-capacity and secure data transmission between dispersed units, enabling reliable communication over long distances. For soldiers, it ensures stable connectivity for command, situational awareness and data exchange even in demanding battlefield conditions.



VIDEO - R-460A Radio Relay-Point-to-Point, Point-to-Multipoint tactical communication.

RP-201-01 Router

Transbit Sp. z o.o. ► p. 497

The Tactical Routing Platform RP-201-01 is a versatile solution designed to perform multiple network functions simultaneously, including routing, firewall protection, and Session Border Controller (SBC) capabilities. It enables the deployment of secure military IP networks both at the wide-area (WAN) and local (LAN) levels.

Engineered for operational flexibility, the RP-201-01 can be used in both mobile environments—such as armored or tactical vehicles—and in fixed installations. This makes it well-suited for building resilient and scalable IP-based communication infrastructures in diverse mission scenarios.

The platform is based on a Cisco software architecture and can be delivered with the Cisco IOS operating system, ensuring compatibility with widely adopted networking standards and facilitating integration with existing systems. The RP-201-01 is designed to serve as a secure access point to military networks, providing reliable connectivity, advanced traffic control, and robust network protection in demanding operational conditions.



Benefit for the soldier

RP-201-01 Router provides secure and efficient data routing within tactical communication networks. It allows soldiers and commanders to exchange information, voice and data across multiple systems, ensuring reliable connectivity and interoperability in dynamic operational environments.

RKP-8100

Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej S.A. ► p. 476

The RKP-8100 radio is designed to operate in the frequency range from 1.5 MHz to 512 MHz. It provides tactical voice communications and data transmission via standard protocols and interfaces (IP, SMTP, POP3, VoIP, Ethernet, RS-232). The radio is an SDR (Software Defined Radio) system. The RKP-8100 implements waveforms defined by NATO standards required for operation in the HF and VHF bands, as well as narrowband waveforms for operation in the UHF band. The radio design is optimised for waveform operation with EPM capability. The RKP-8100 can be used as a manpack radio (20 W HF and 10 W VHF/UHF) or as a component of mobile radiocommunication systems installed on wheeled and tracked platforms.

When configured as a vehicular radio, the RKP-8100 is equipped with an additional power amplifier and the RKS-8000SA-D antenna coupler. The primary amplifier in the vehicular version is the RKP-8100AM-B, providing 150 W HF and 50 W VHF/UHF output power. In addition, the system is fitted with tunable, narrowband filters enhancing communication reliability in high co-site interference environments. These filters cover the entire HF band as well as selected VHF/UHF ranges (30 MHz–88 MHz and 225 MHz–400 MHz) and can also operate in frequency hopping (EPM) mode.

In the HF band, the RKP-8100 radio can operate with 500 W (RKP-8100WM-D) and 1000 W (RKP-8100WM-H) power amplifiers, which are also equipped with narrowband filtering systems.



Benefit for the solider

Ensures reliable tactical communications in all conditions, enhancing situational awareness and command effectiveness. With EPM capability and filtering, it resists interference and jamming, supporting mission continuity and reducing the risk of communication loss.



Technical data

Operating frequency range	1.5 to 512 MHz (HF, VHF, UHF)
Operating modes	HF FIX, HF EPM, HF ALE, VHF/UHF MANET EPM, VHF/UHF EPM, VHF FIX, UHF FIX
Frequency stability	$\pm 0{,}5 \times 10^{-6}$
Data transmission	Ethernet (IP, SMTP, POP3, VoIP) / RS-232
Remote control	Ethernet / RS-232
Environmental requirements	NO-06-A103 (MIL-STD-810E)
Electromagnetic compatibility	NO-06-A200 (MIL-STD-461D)
Operating temperature	-40°C to +55°C
Relative humidity	100% at 40°C
ALE	STANAG 4538
ARQ	STANAG 4538
HF FIX modem	STANAG 4285, STANAG 4529, STANAG 4415, STANAG 4539
EPM HF	STANAG 4444
MANET	STANAG 4691
WOKODER	STANAG 4591 (MELPe 600/1200/2400 bps)
HF/VHF/UHF FIX	STANAG 4203/4204/4205
VHF/UHF EPM	CTM

SatPack AutoMate

GISS Sp. z o.o. ► p. 459



SatPack AutoMate is a multi-orbital terminal capable of operating with satellites in GEO, LEO and MEO orbits. In paired mode, the terminal ensures seamless communication switching between satellites without any interruption. When using a single terminal, switching between satellites takes only a few seconds.

The intuitive user interface and automatic satellite pointing algorithm eliminate the need for additional equipment, such as the spectrum analyser. Thanks to the ability to utilise a high-power BUC and 1.3 m antenna dish, the AutoMate is a ten-times-lighter alternative to traditional FlyAway systems.



Advantages:

- Dedicated to be used with GEO, MEO and LEO orbits
- Automatic pointing system on a selected satellite
- No supporting devices needed – built-in antenna pointing algorithm and intuitive GUI
- Multi band working options: X, Ku, Ka
- Multi modem options

SatPack Cobalt Terminal

GISS Sp. z o.o. ► p. 459

An innovative, portable, and fully modular VSAT system has been developed to meet the most demanding requirements of our customers, elevating SatCom capabilities on higher level. Its flexible design allows the terminal to be customised to meet the specific needs of end-users, ensuring timeless quality and reliability.

Power Supply Options:

- Capable of being powered by AC (mains), DC, or BB-2590 batteries.
- With BB-2590 batteries, the power supply functions as an uninterruptible power supply (UPS), ensuring continuous satellite connectivity even during power interruptions.

Key Features:

- Various modem options for both TDMA and SCPC operations.
- Multiple RF options, including X, Ku, and Ka bands with power 20W or 40W.
- Tool-less module swapping in field environments.
- Full configurability to meet customer requirements.
- Quick setup in under 5 minutes.
- Local GUI for terminal monitoring and control.

This system boasts a military-grade design, offering reliability in all conditions with an IP67 rating. It is light to carry, weighing less than 20 kg with a 1-meter dish, and comes with a dedicated backpack or hard case for easy transport.



Tactical Radio Router 8

Wojskowe Zakłady Łączności Nr 1 ► p. 506



Product description:
TRR-8M Tactical Radio Router integrates IPv4/IPv6, MULTICAST and UNICAST, SAT, 4G/5G networks.

Unique technologies used:
- AutoWAN - a mechanism that automatically builds a WAN structure.
- tunAKI – a mechanism of automatic L3 tunnels, FULLMESH
- ARElink - a mechanism of automatic no-IP tunnels (L2)
- OSPF/AC – automatic operation of OSPF protocol.
- RAY - responsive dynamic routing
- ZERO cfg/loss

Features: monitoring, analysis, filtering, archive of detected incidents. Resistance to DdoS attacks. BLACK NETWORK ROUTER. AES256 encryption and 2/3 level encryption. Automation of connections, configuration, reconfiguration, authentication authorisation process, creation of alternative routes.

The TRR8 was equipped i.a. with the following:
- 10 Gbps optical interfaces (ZERO CFG)
- ST, CTOS, MFM,LC optical interfaces
- Ethernet 4kV 10/700us electrical interfaces compliant with ITU K.44
- ITU-T G8032 Ethernet Ring Protection Switching (ERPS) mechanism.
- WIFI 6e AX 2.4G, 5G and new 6.7 GHz radio interfaces
- Ultra-sensitive 5G modems with directional antenna systems
- Containerisation of data in data containers in IP tunneling of AES cascades
- Automatically skipped GSM/LTE/5G tunnels (SKIPnat);
- Independent cryptography at layers L2/L3/L4 (MACsec, IPsec, VPN)
- SDN "Virtual Router," "Virtual Switch."
- SD WAN
- 7 x Ethernet RJ45F

The product is an element of a comprehensive system in which an individual soldier becomes an "element of a network". They no longer fight with what they can see with their own eyes, they can use the "eyes" of the whole army. Their survivability increases as they can notice threats earlier and their firepower is higher because they can direct it to where it is needed most.



Tactical Terminals

TELDAT Sp. z o.o. sp.k. ► p. 496

In addition to comprehensive automated C4ISR systems TELDAT manufactures endpoint devices, that are one of a kind. They are, for example, the part of the family of the military, high-performance, resistant and constantly developed and tested tactical computers, dedicated to current and future military programms and projects. They are highly appreciated by customers and used by them in many military solutions. Tactical Terminals – due to their technical features are one of the most modern and robust in the ICT military world. They are ruggedised tactical computers dedicated to C4ISR solutions in armed forces or in different type of public emergency and special services. Terminals can be utilized on-board the vehicle or portable. Tactical Terminals are designed to operate in harsh military environments (that meet high military standards e.g. anti-shock, climatic and environmental). These solutions enable devices to operate in water and make them drop





and shock resistant. Tactical Terminals offer flexible, modular design that can be configured in any manner. Furthermore, they may be manufactured with the use of the latest, fastest, most efficient, and optimal electronics (CPUs, memory, storage space), interfaces, and communications modules, such as WiFi 2.4/5 GHz, 4G/LTE, 5G, Gigabit Ethernet, USB 3.0, Bluetooth 5.0, GPS, Galileo and BeiDou. This makes the terminals' architecture and functions expandable. The maintenance is also easy, throughout the whole lifecycle.





TacNet400

GISS Sp. z o.o. ► p. 459

TacNet400 is a structurally reinforced rapid response kit designed for efficient mobility and quick deployment of tactical communication networks for small and medium-sized teams. The kit consists of a rugged case, network equipment and power system, making it suitable for use in any environmental conditions.



The TacNet400 design allows for both AC and DC power supply and contains space for up to three PacStar 400 series devices, an encryption device, the LTE modem Cradlepoint IBR 600/900 or similar, essential cabling and military-type batteries. This configuration enables teams to set up and activate the kit within minutes of arriving at the operational site.

Advantages:

- High mobility and easy to use
- Quick and tool-less set-up
- Reliability in all conditions
- Possibility of use in a moving vehicle
- Ready to install:
- Up to 3 Pacstar 400-Series devices of customer choice
- KG-250X/XS & TCE 621 M encryption module
- Mobile access point (eg. Cradlepoint IBR 600/900, Peplink BR2 Pro)
- Additional power supply & network cabling
- BB-2590 or AN/PRC 152 battery set





Topaz
C4I system

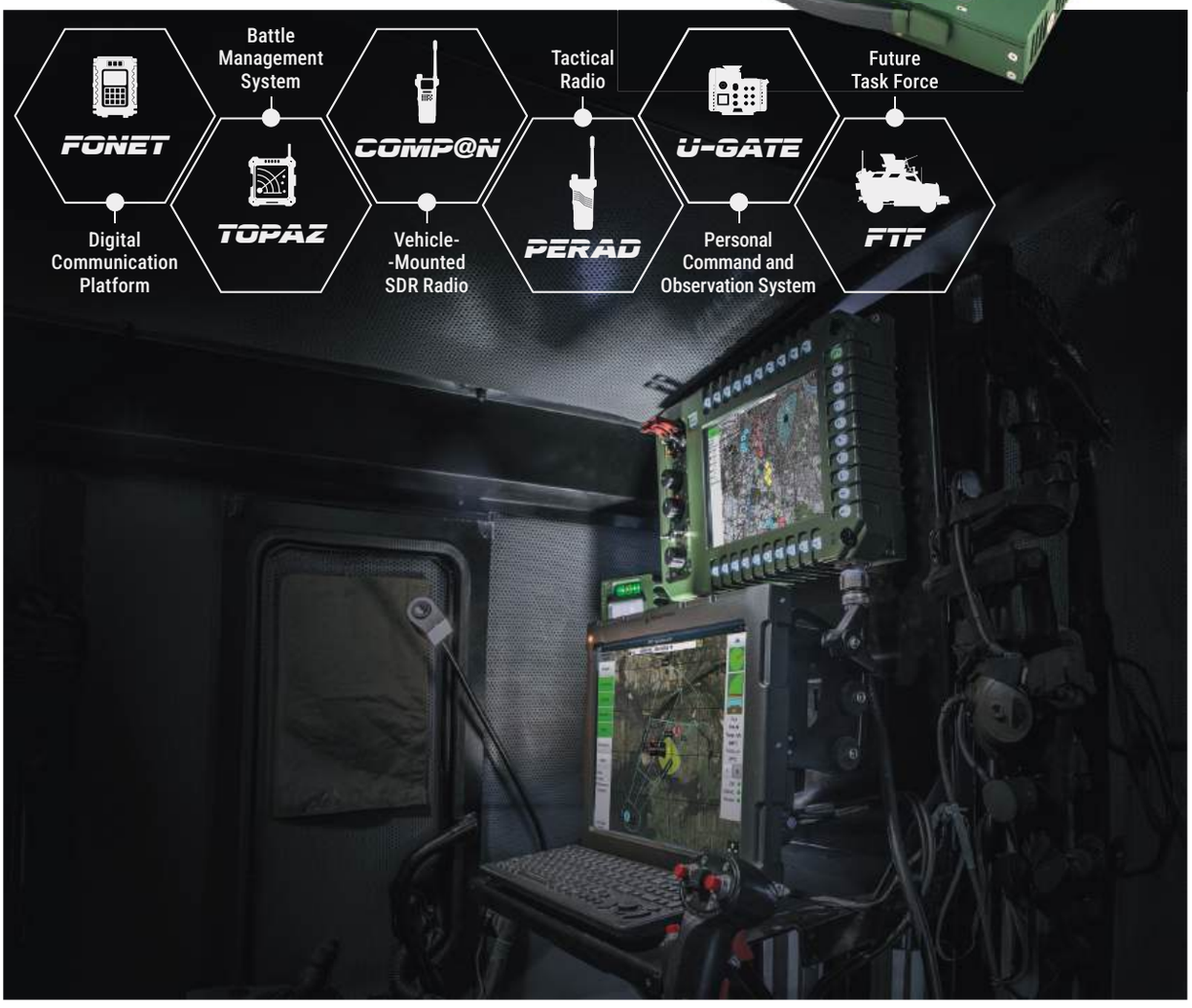
WB Gruop ► p. 502



A Command and Fire Control System Delivering Full Combat Oversight - From Reconnaissance to Strike

TOPAZ is an advanced C4I system designed to support command and control, fire coordination for land forces, and resource management across all operational levels. Its modular architecture and seamless integration with reconnaissance and fire support assets ensure unified operations from tactical to strategic levels.

Developed in accordance with NATO standards and widely deployed within the Polish Armed Forces, TOPAZ has demonstrated full interoperability in numerous international exercises (e.g.,CWIX) and has been accepted into the ASCA committee. As the national artillery system for Rocket and Artillery Forces, it is integrated into NATO's allied command chain.



Troposcatter Terminal PZT-1

Enamor International Sp. z o.o. ► p. 452

Terminal dedicated to safe BLOS communication (out of sight), providing high bandwidth, low-latency connection, which constitutes an alternative to satellite communication. It serves as an integration mode with stationary infrastructure and commercial communication systems, including 5G, Wi-Fi and low Earth orbit satellite terminals. It may be available in a portable version or as a as a trailer-integrated communications node equipped with its own power sources.

The terminal provides reliable connectivity over distances exceeding 200 km, and with a setup time of under 20 minutes, ensures operational convenience and ergonomic usability. Adaptive coding and modulation selection deliver resilience against interference and secure communication links. The modular architecture enables flexible deployment across all command levels, forming an integral component of a field communication system that meets the requirements of the modern battlefield

Key parameters and features:

- FREQUENCY RANGE: 4.4 GHz-5.0 GHz;
- RF CHANNEL BANDWIDTHS: 2.5 MHz, MHz, 10 MHz, 20 MHz (standard), 40 MHz (option);
- SSPA OUTPUT POWER: 1000 W;
- DIVERSITY OPTIONS: Single, dual frequency, dual polarization, quad frequency;
- MODULATION: QPSK up to 256APSK;
- MAXIMUM DATA RATE: Up to 180 Mbps;
- LATENCY: As low as 20 ms;
- SECURITY AES-256 encryption;
- ANTENNA APERTURE: 1.8m or 2.4m;
- USER TRAFFIC INTERFACES: 3 GbE interfaces with RJ-45 military circular connectors, 2 GbE interfaces (1000Base-LX) with TFOCA-II single-mode fiber optic connector
- MONITOR & CONTROL: Web GUI and SNMPv3

Use cases:

- Establishment of long-range C2 links
- Support for SOF missions and reconnaissance teams
- Securing military maneuver and convoy operations
- Support for air defence systems (GBAD/SHORAD)
- Interconnection between transformer substations
- Transmission of SCADA data and telemetry
- Provision of backup or temporary backbone infrastructure

Substitute or temporary backbone infrastructure

Benefit for the soldier:

- Communicates beyond line-of-sight without satellites.
  The soldier can maintain long-range communication (200+ km) without relying on satellite sys-tems, reducing dependency on vulnerable or unavailable space assets.
- Supports mission-critical coordination across dispersed units.
  Enables reliable communication between distant units, command elements, and support assets during maneuver or reconnaissance operations.
- Maintains secure and resilient communication links.
  Strong encryption (AES-256) and interference-resistant transmission ensure that communication remains protected and reliable in contested environments.
- Operates effectively under electronic warfare conditions.
  Adaptive modulation, frequency diversity, and high transmission power allow the soldier to sus-tain connectivity despite jamming and signal degradation.
- Easy to deploy.
  Setup time under 20 minutes enables rapid establishment of long-range communication links during dynamic operations.
- Provides soldiers with reliable backup connectivity when satellite and terrestrial networks are unavailable or disrupted.



UAV Radio Data Link
SMR-10-S Airborne Radio Module
BMR-10-N1 Ground Radio Module

Transbit Sp. z o.o. ► p. 497

SMR-10-S Airborne Radio Module
– designed for transmitting high bit rate data (e.g. video streams, SAR radar data) from UAV platforms. It supports bidirectional communication with system components using software-configurable bit rates. The system operates with two omnidirectional antennas and one directional antenna, and can be equipped with a retransmission module to extend UAV operational range.



General parameters:
- operating band 4400–4990 MHz,
- data rate up to 9.5 Mbit/s,
- communication range up to 150 km (LoS).



BMR-10-N1 Ground Radio Module
– designed for secure, encrypted wireless communication between the Ground Control Station and the Unmanned Aerial Vehicle (UAV). It enables the reception of high bit rate data (e.g. video streams, SAR radar data) and transmission of UAV control commands. Communication is carried out over channels with dynamically adjustable bit rates.

General parameters:
- operating band 4400–4820 MHz,
- data rate up to 9.5 Mbit/s, r
- range up to 150 km.

Benefit for the soldier

UAV Radio Data Link for Tactical Class of Drones. Ensures secure and stable communication between the UAV and ground operators, enabling real-time transmission of video, telemetry and control data. This provides soldiers with immediate situational awareness and supports faster and more informed decision-making.

VoIP Communications Terminals
AC-30IP-01
Gateway CV-12r-01

Transbit Sp. z o.o. ► p. 497

VoIP Communications Terminals
AC-30IP-01 and Gateway CV-12r-01

The CV-12r-01 Tactical VoIP Gateway is designed for building telephone communication systems that integrate analog and digital devices operating within VoIP technology based on the SIP protocol. It enables seamless voice communication across modern IP-based networks.

The gateway acts as an integration platform, connecting radio systems with Layer 2 and Layer 3 LAN infrastructure. It supports the integration of various devices, including encryption units, radio stations, onboard communication terminals (AC-30IP), and the SUS-24-01 Tactical Server.

Equipped with a built-in switch, the CV-12r-01 also provides bridging functionality for intercom connections between AC-30IP terminals. This ensures reliable and flexible voice communication in both mobile and stationary tactical environments.

The AC-30IP communication terminals are designed for in-vehicle communication, operating as an intercom and within VoIP (SIP protocol) networks. They provide onboard and external communication via radio systems and support up to five simultaneous connections, including conference calls.

In addition to voice communication, the AC-30IP terminals offer high versatility: they can display operational information, alerts, and threat warnings (e.g., contamination detection), as well as data from other onboard systems. They also feature a hands-free mode and can serve as multifunctional display terminals for various mission-critical information.



VoIP Terminal AC-30IP-01

Benefit for the soldier

VoIP Communications Terminals AC-30IP-01 and Gateway CV-12r-01 enable clear and secure voice communication within tactical IP networks and between different communication systems. Soldiers benefit from reliable voice connectivity, improved coordination and seamless integration of field communications across the command structure.



Gateway CV-12r-01

VSAT MASTER 148
Satellite Terminal

GISS Sp. z o.o. ► p. 459

The VSAT Master Terminal has been designed to establish secure broadband satellite connections via geostationary satellites, operating in X-band, both the standard Ku-band and the extended Ku-band and Ka-band, supporting various network topologies such as Point-to-Point (P-t-P), STAR, MESH, and HYBRID. This terminal is centred around a 3.8m Dual Offset parabolic antenna and equipment, enabling it to operate concurrently with multiple TDMA and SCPC modems.

Each of these network topologies can be easily accessed by each modem independently by adjusting its configuration. The station is primarily engineered to function as a master station within the network, but its final role depends on the configuration of the modem.



WRK-01

Enamor International Sp. z o.o. ► p. 452



WRK-01 military router is dedicated to mobile, military core networks for high-capacity traffic handling and radio links integration. It enables the service flexibility and delivery of Layer 2, Layer 3, IP and MPLS transport. Router is capable to handle up to 400Gbps data flow through variety on interfaces (serial, Ethernet F/O and F/X). It is based on state-of-the-art CISCO Network Convergence System platform with all services provided by the newest CISCO IOS-XE firmware. Military router is compliant with environmental, mechanical and EMC standards.

Key parameters and features:

- Operates from -40 to +50 C
- Deployment on mobile and field military vehicles (N7 according to NO-06-A103 / MIL-STD 810)
- EMC according to MIL-STD 461 and NO-06-A200
- Broad variety of network interfaces – Ethernet F/O and serial
- High data throughput – up to 400Gbb/s
- Network services L2, L3, IP, MPLS

Use cases:

- Core network military communication vehicles
- High-capacity radio links integration
- Satellite links integration
- Troposcatter radio links integration
- Multiprotocol Label Switching (MPLS)

Key Soldier-Level Benefits:

- Assured communication continuity
  Provides the individual soldier with reliable and persistent connectivity to command and unit elements, minimising the risk of isolation in operational environments.
- Real-time access to critical information
  Enables immediate reception of orders, situational updates, and intelligence data, ensuring the soldier operates with current and accurate information.
- Reliable performance in extreme environments
  Maintains full functionality across a wide range of environmental conditions, ensuring consistent operation regardless of terrain, temperature, or vibration.
- Reduced equipment footprint
  Consolidates multiple communication functions into a single device, minimising onboard equipment and simplifying logistics.
- Enhanced mobility and deployment flexibility
  Designed for vehicle and field deployment, supporting operations in dynamic and rapidly changing environments without additional setup complexity.



CYBER AND INFORMATION PROTECTION

Biometric Engine

Identt ► p. 462



Advanced Person Recognition for Global Security

The Identt Biometric Engine delivers real-time identity assurance and fraud detection by leveraging data from existing sensors and cameras, without requiring additional hardware. Available for both cloud and secure on-premises environments, the engine provides industry-leading protection against presentation attacks (PAs) and injection attacks, including deepfakes. It secures both remote end-user devices and in-person identity-verification processes.

Cyber Bastion

Fundacja Bezpieczna Cyberprzestrzeń (Cybersecurity Foundation) ► p. 458

CyberBastion is a simulation environment that helps teams build ICT resilience and respond to cyber threats. Through gamification, participants improve cyber-defence decision-making in a practical setting. Each team operates within a defined budget, with security measures grouped into eight categories: Organisation, Physical Infrastructure, Whole Network, Network Edge, Internal Network, End Devices, Applications and Data. Measures are evaluated according to their impact on prevention and incident handling across the Identify, Protect, Detect, Respond and Recover functions. The winning team is the one best prepared to withstand and manage cyber incidents. CyberBastion is delivered as a structured workshop comprising a clear opening, an exercise phase and a conclusion.

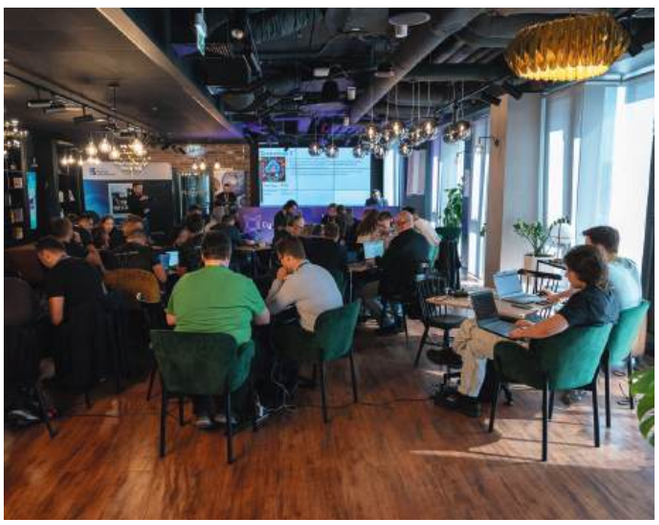
CyberBastion

CyberBastion – TTX Module

CyberBastion also includes a tabletop-exercise module for validating procedures, practising coordination and testing incident-response decisions in controlled scenarios. It draws on experience from sectoral and national exercises conducted within the NIS and NIS2 frameworks.

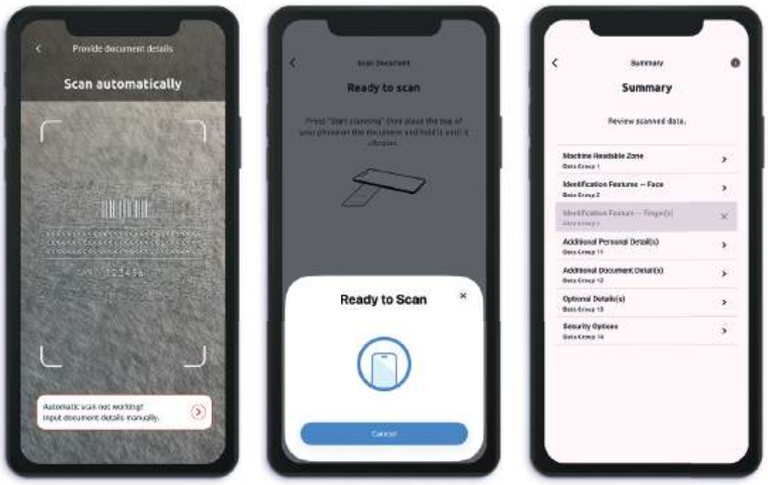
Benefit for the soldier

CyberBastion strengthens soldiers' ability to operate under cyber pressure. It trains personnel to recognise digital threats, maintain mission effectiveness when networks or devices are disrupted, and coordinate responses across units. Dynamic injects simulate multi-phase cyber incidents, requiring participants to adapt in real time. The result is improved cyber awareness, decision-making and operational resilience.



eID & EUDIW

Identt ▸ p. 462



EUDIW-Compliant Virtual Identity Assurance

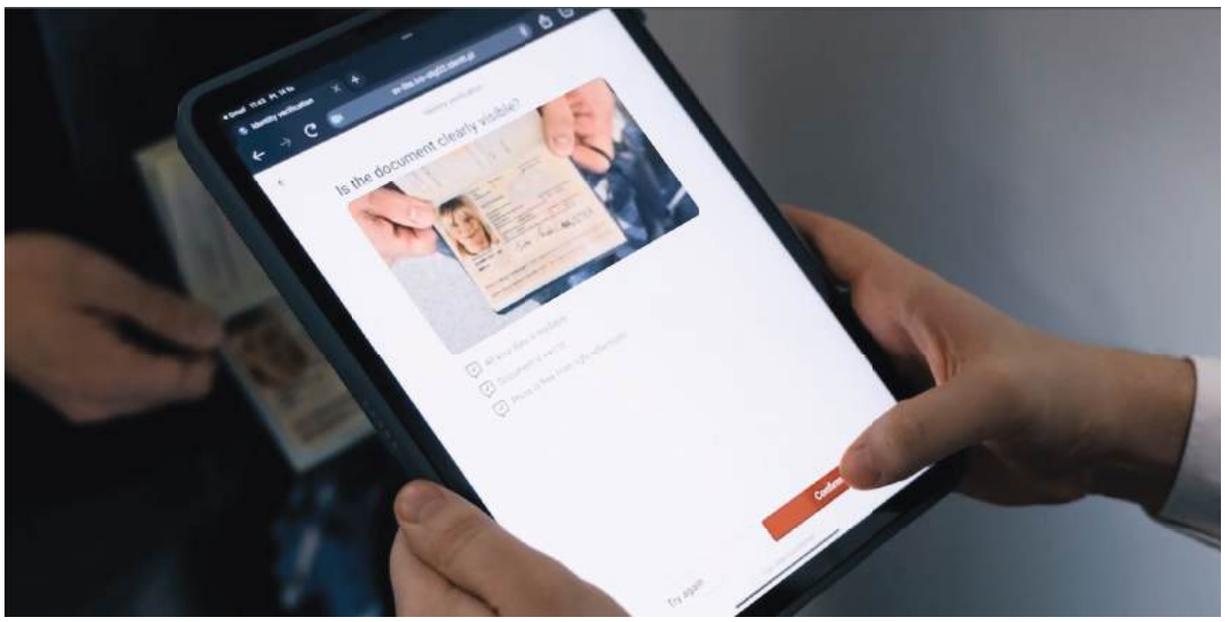
Identt's eID and e-wallet solutions combine robust cryptographic security with a seamless user experience, enabling governments and enterprises to implement interoperable digital-identity workflows. Fully compliant with the latest European Digital Identity Wallet (EUDIW) requirements, the platform integrates biometric verification to help protect against identity theft and unauthorised third-party actions, preventing the use of stolen virtual identities.

eKYC

Identt ▸ p. 462

Global eKYC and Forensic-Grade Document Authentication

Identt offers a complete AI-powered identity-verification solution for customer onboarding in the telecommunications, financial and public sectors. The solution performs automated analysis of nearly 15,000 types of identity documents. With the introduction of DocAuth, Identt provides an enhanced level of fraud prevention. This new product supports the detection of identity misuse by identifying both physical and digital irregularities. Supported by an extensive SDK ecosystem, Identt Vision and DocAuth enable secure, digital-first services that meet the rigorous security standards of the banking and defence sectors.



Filter Tuning Software (FTS)
Microwave Filter Tuning Optimisation & Automation

SpaceForest Sp. z o.o. ► p. 492





Filter Tuning Software (FTS) is an advanced suite for optimising the tuning of microwave and radio-frequency (RF) filters. It is powered by artificial-intelligence (AI) algorithms and proprietary SpaceForest computational methods. The solution increases production efficiency, ensures high process repeatability and reduces dependence on highly specialised operators.

The intuitive interface guides users step by step, indicating the elements to be adjusted, as well as the direction and recommended range of changes. This enables even less experienced tuners to achieve expert-level results, while reducing tuning time and accelerating the implementation of new filter types.

FTS supports the tuning of cavity and waveguide filters, as well as complex multiplexers, including those used in demanding applications such as space, defence and public-safety systems. The software identifies the elements requiring adjustment and provides guidance on how they should be modified, significantly improving process consistency and reducing tuning time.

The solution can be deployed on external workstations or directly on vector network analyser (VNA) platforms. It can also be integrated with existing measurement setups and industrial-automation systems. This allows flexible scaling from R&D environments to high-volume production.

FTS enables precise RF and microwave-filter tuning for radar and communications systems. Based on AI algorithms and novel computational methods, it improves production repeatability, efficiency and signal quality. It forms part of comprehensive filter-tuning and optimisation service.

Benefit for the soldier

Supports the reliable operation of radar and communications systems through precise tuning of RF and microwave filters. Improves equipment availability and operational readiness by reducing filter-tuning time and increasing process repeatability. Reduces dependence on highly specialised personnel, enabling faster maintenance and deployment of communications and sensor systems.

Learn more at www.spaceforest.pl



Fudo Enterprise & Fudo Share Access

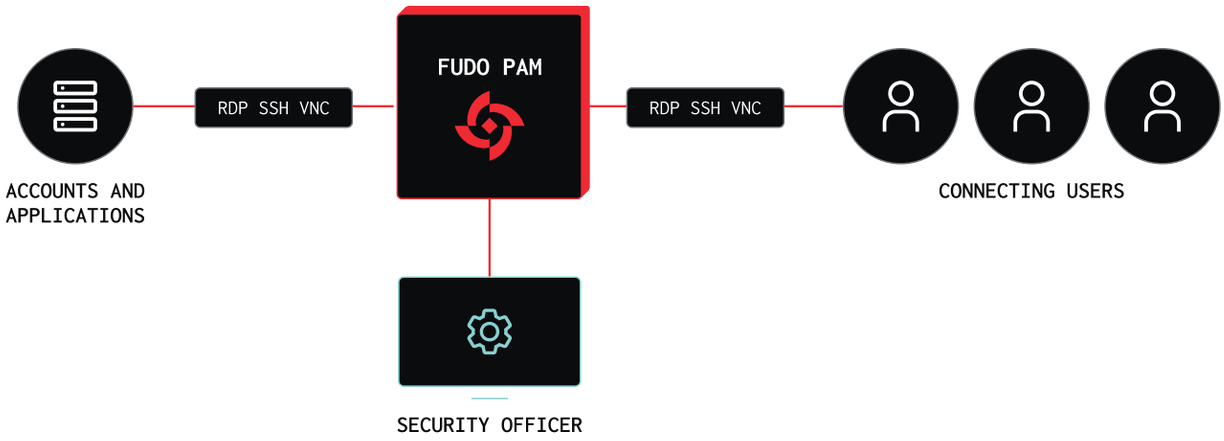
Fudo Security Sp. z o.o. ► p. 458

Fudo Enterprise is an advanced Privileged Access Management solution designed to secure remote access to critical systems and sensitive data. Built on a Zero Trust framework, it ensures that access is granted only when needed and for the required duration, minimising the risk of unauthorised access.

Fudo Enterprise provides real-time monitoring of user activity, using AI-driven behavioural and biometric analysis to detect and prevent suspicious behaviour. In the event of anomalies, the system can immediately terminate the session and notify administrators, enabling a rapid response to potential security threats.

Fudo Enterprise's AI-driven approach enables organisations to protect their most critical systems, improve operational efficiency and reduce security risks. Its ability to manage access securely while providing immediate, on-demand access makes it an essential solution for today's fast-paced, security-conscious business environment.

Fudo Share Access is a cloud-native, browser-accessible platform that provides full control and visibility over third-party access, eliminating the need for VPNs, agents or infrastructure changes. Integrated with Fudo Enterprise, it enables real-time monitoring and session recording, Zero Trust policy enforcement, and AI-powered threat detection at scale.



The solution supports a wide range of access protocols, including RDP, SSH, VNC, HTTP/S, Microsoft SQL Server and Telnet. A major advantage of Fudo Enterprise is its seamless, agentless deployment, which facilitates integration with existing IT environments.

Fudo Enterprise enables organisations to manage privileged access and monitor third-party activity through both cloud and on-premises deployments, while meeting stringent government and enterprise requirements.

Benefit for the soldier:

Fudo Enterprise helps prevent unauthorised access and monitors user activity to reduce the risk of sabotage, while Fudo ShareAccess enables secure remote access for authorised third parties. Together, the solutions help protect combat systems, critical infrastructure and command centres against internal and external cyber threats, supporting operational integrity and minimising equipment downtime.

Fudo solves the modern defence-access challenge

→ Complete control over third-party access

Fudo enforces strict, time-bound access for vendors and integrators—no agents, no hassle and no blind spots.

→ Insider-threat protection

Fudo enforces strict, time-bound access for vendors and integrators—no agents, no hassle and no blind spots.

→ Secured privileged access

Access by administrators, contractors and remote teams is visible, auditable and compliant with Zero Trust principles.

→ Agentless and isolated deployment

Fudo enables rapid deployment in air-gapped environments, requires no agents and supports full platform isolation.

Hardware Random Number Generator SGCL-1MB-2 F

Wojskowy Instytut Łączności – Państwowy Instytut Badawczy
Military Communication Institute – National Research Institute ► p. 509

A device designed to generate binary random-number sequences for use in classified-information protection systems up to the TOP SECRET.

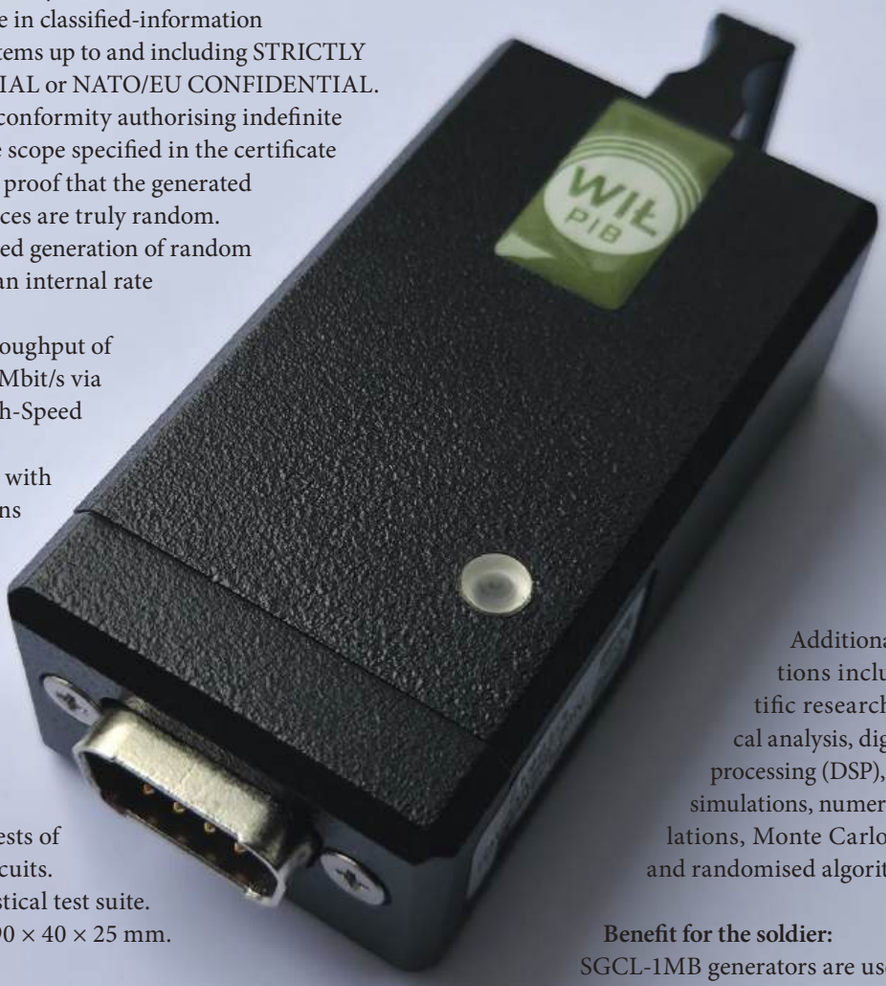
Key features and specifications

- A new version of the generator with a Type 8/2025 certificate issued by JC SKW, valid until 2030.
- Suitable for use in classified-information protection systems up to and including STRICTLY CONFIDENTIAL or NATO/EU CONFIDENTIAL.
- Certificate of conformity authorising indefinite use within the scope specified in the certificate
- Mathematical proof that the generated binary sequences are truly random.
- Hardware-based generation of random sequences at an internal rate of 16 Mbit/s.
- Operating throughput of more than 10 Mbit/s via a USB 2.0 High-Speed interface.
- Compatibility with current versions of Windows and Linux operating systems.
- Ensured integrity of transmitted random sequences.
- Internal self-tests of generation circuits.
- External statistical test suite.
- Dimensions: 90 × 40 × 25 mm.
- Weight: 150 g.
- Power supply via a USB interface or computer power supply: +5.0 V (±5%).
- Maximum power consumption: 0.7 W.
- Electromagnetic protection.
- Three-year warranty and ten-year post-warranty service.

Random sequence tests:
https://www.wil.waw.pl/wil/oferta/produkty/ochrona-kryptograficzna/

Applications

The generator can be used in cryptographic systems for protecting classified information, cryptographic workstations and electronic key-management systems (EKMS), including for the generation and distribution of cryptographic keys.



Additional applications include scientific research, statistical analysis, digital signal processing (DSP), stochastic simulations, numerical calculations, Monte Carlo methods and randomised algorithms.

Benefit for the soldier:

SGCL-1MB generators are used to generate cryptographic keys for classified-information protection systems operated by the Armed Forces and intelligence services. They ensure the availability of cryptographic keys meeting the required quality standards for systems protecting IP networks, VHF and HF radio networks, and digital communications links.

Mobile Access Node – SIL720-MWD

SILTEC Sp. z o.o. ► p. 490



The Mobile Access Node is housed in a compact 2U-high enclosure compliant with the 19-inch rack standard. It is equipped with sliding rails to provide easy access to the device. The MWD enclosure is divided into five sections, providing convenient access to the power-supply and operational sections. The device also complies with the SDIP-27 Level A standard.

The MWD is built around two Cisco ESR-6300-CON-K9 routers, one assigned to each security domain: RED and BLACK.

- In the RED section, the front panel features four 1 Gbit/s SFP ports for SFP modules compatible with the Cisco router.

In the BLACK section, the front panel features five 1 Gbit/s SFP ports for SFP modules compatible with the Cisco router: two WAN ports and three LAN portsIn addition, ports in each section ensure an independent and easy configuration of the CISCO ESR6300 routers.

In addition, the ports in each section enable independent and straightforward configuration of the Cisco ESR-6300 routers. The cryptographic-device section includes LAN ports for connecting the encryption device to the RED and BLACK sections, as well as USB Type-A host ports for each section. The top cover features an opening that allows the installation of the cryptographic device and its accessories.



Mobile Data Center

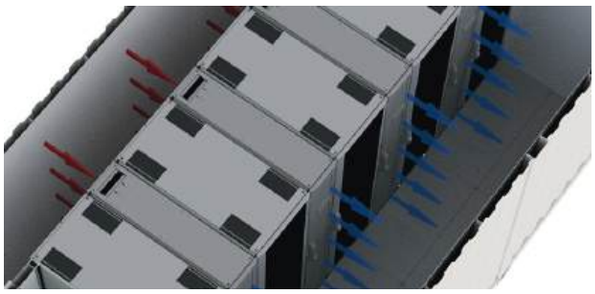
SILTEC Sp. z o.o. ► p. 490

Maximum IT power consumption:	100 kW.
Maximum number of IT rack cabinets:	10.
Maximum rack-cabinet depth:	1,200 mm.
Cooling-system redundancy:	N+1 or 2N.
Generator-set power rating:	up to 250 kVA.
Housing dimensions:	length up to 12 m, width 3 m, height 3 m.



- The system is based on a containerised enclosure adapter for the installation of IT infrastructure.
- The container comprises three separate compartments: an operational compartment containing IT infrastructure, and two technical compartments housing the generator set and air-conditioning condenserss.
- The compartment-based design enables the installation of all relevant data-centre systems within the container's dimensions. No external equipment is required.
- The containerised data centre is connected to the utility-power supply through an electrical distribution board.
- For applications requiring the transport of the data centre with IT equipment installed, the rack cabinets are mounted to the container using shock absorbers that reduce the effects of vibration and shock during transport.





- Depending on the model, the cooling capacity of a single unit ranges from 10 to 35 kW. The total cooling capacity installed in the containerised data centre can be configured at up to 100 kW.
- No cooling-system components extend beyond the external dimensions of the container.
- The electrical system is equipped with an uninterruptible power supply (UPS) and batteries, ensuring continuous power supply to IT equipment, including during power outages.
- Battery-backup time depends on the system configuration.
- An optional built-in generator set provides backup power within the container's dimensions.
- The containerised data centre can be equipped with an electric lifting system for self-loading onto, and unloading from, trucks.
- The system can be built within the container profile.
- Other optional systems include a fire-alarm system, access control, CCTV and remote monitoring of operating parameters.



Mobile IT 5U Platform – ShMRC1905H

SILTEC Sp. z o.o. ► p. 490

The SIL720-ShMRC1905H Mobile IT 5U Platform is an advanced solution designed for the secure transport and protection of sensitive electronic equipment installed in a 19-inch rack. Its design combines high electromagnetic shielding effectiveness with the mechanical durability and functionality required for demanding operational environments. The unit is equipped with an internal shielding cartridge featuring electromagnetically sealed front and rear covers, both of which can be locked with a key. The use of a grounding rail and grounding points reduces electromagnetic emissions and supports compliance with safety requirements.

The integrated, shock-mounted rack system significantly increases resistance to shocks and vibrations, making the platform suitable for transport in harsh conditions. The housing is equipped with filtered 230 V power inputs, Schuko sockets, switches and overcurrent protection.Secure data transmission is provided by WGF (Waveguide Filter) fibre-optic connectors. Optimal operating conditions for installed equipment are maintained by integrated ventilation and heating systems, as well as EMC filters, which help stabilise the internal environment regardless of external conditions.

The Mobile IT 5U Platform provides a high level of functionality in terms of ergonomics, transport and storage logistics. Side wheels, robust transport handles and a stackable construction— also compatible with solutions from other manufacturers—facilitate handling and storage.

Additional features, such as an automatic pressure-relief valve, sealing capability and dedicated accessories, including shielded power cables and a grounding cable, make the system a complete, ready-to-deploy solution. The SIL720-ShMRC1905H Mobile IT 5U Platform is intended for use in demanding environments, including military, industrial, and research-and-development applications. The solution can be customised to meet individual customer requirements, including equipment configuration, integration of additional components, and technical parameters such as power systems and signal interfaces.



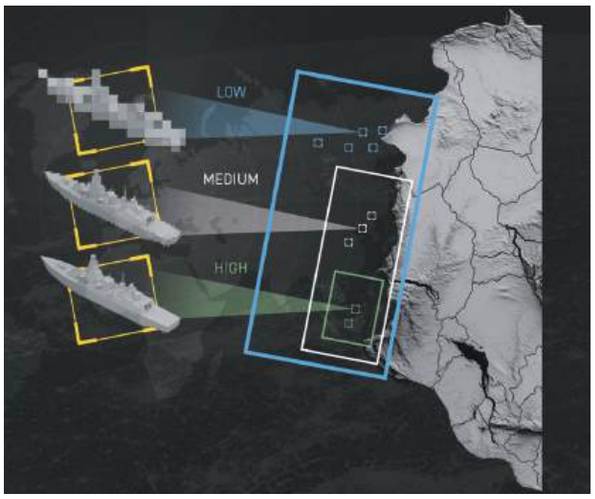
OREC
AI-BASED OBJECT DETECTION AND CLASSIFICATION

OREC
AI-Based Software for Object Detection and Classification in SAR Imagery

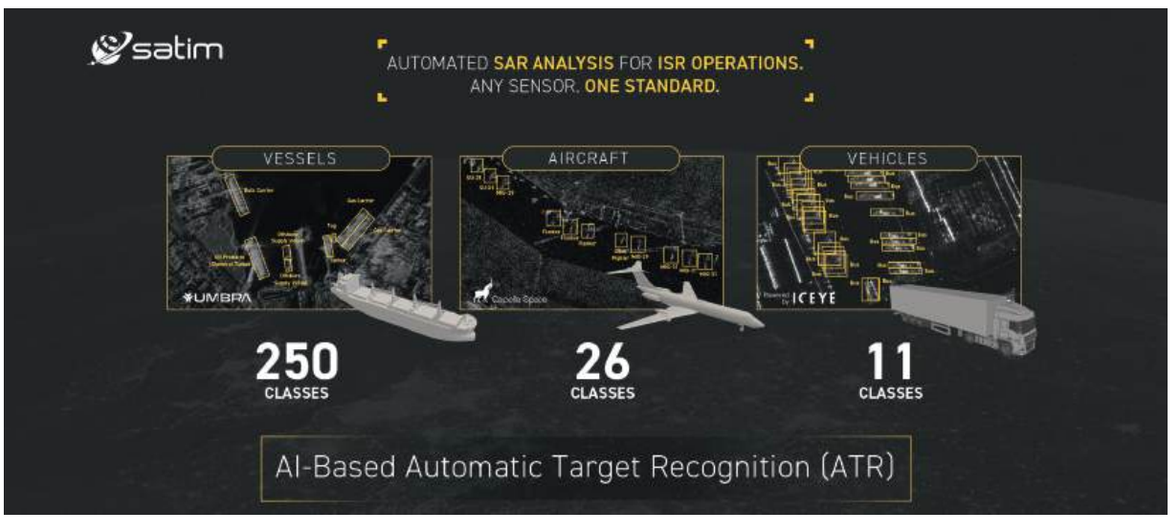
SATIM Satellite Monitoring ► p. 484

OREC is a cutting-edge, AI-driven Automatic Target Recognition (ATR) software that automatically detects and classifies vessels, aircraft, and ground vehicles. It works seamlessly with widely used SAR sensors, including UMBRA, ICEYE, Capella Space, AIRBUS, and Synspective constellations, and airborne sensors.

OREC is the most accurate and capable SAR analytics solution offered commercially. Its models are trained using a combination of real-world and synthetic data, developed by SATIM's SAR specialists. OREC reduces the analytical bottleneck to support strategic, operational, and tactical planning across both defence and commercial applications. SATIM's OREC AI offers the following noteworthy features and capabilities:



- High accuracy
  - Achieves high precision and recall rates in the detection and classification of vessels, aircraft and vehicles.
  - Vessels (250 classes): 95% detection accuracy and 90% classification accuracy.
  - Aircraft (26 classes): 90% detection accuracy and 90% classification accuracy.
  - Vehicles (11 classes): 83% classification accuracy.
- Real-time processing
  Provides results for rapid decision-making and response. Processing time per SAR image is up to several minutes.
- Scalability
  Scales efficiently to process large volumes of SAR data from multiple sources
- Adaptability
  Adapts to different SAR sensor types and imagery parameters, including resolution and acquisition modes. New object types an be added using synthetic SAR datasets to expand the object catalogue.
- Versatility
  OREC can be deployed in multiple configurations to meet different operational requirements. It can operate as a standalone solution or be integrated with C2 and C4ISR systems.

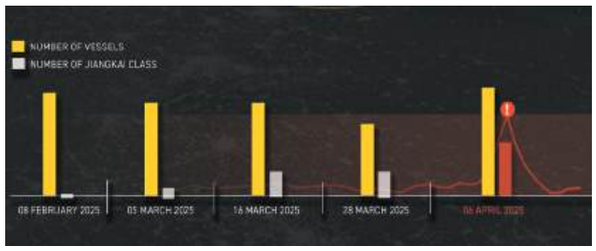


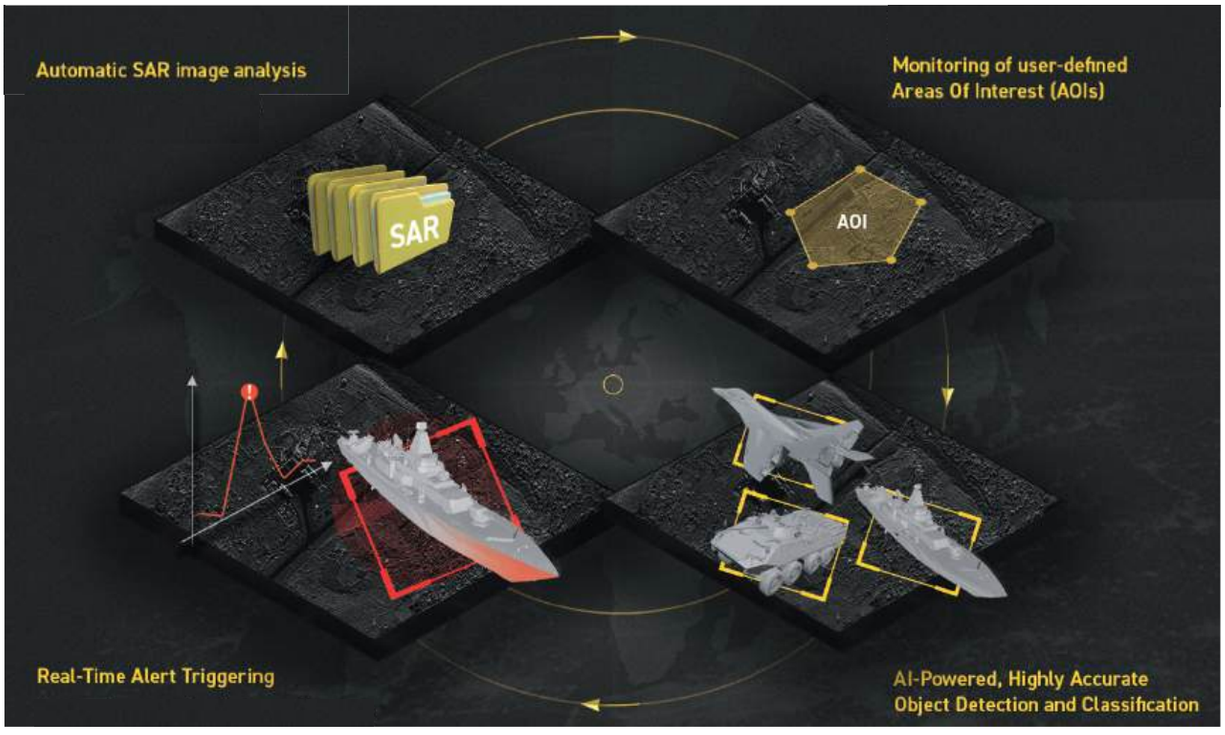
OREC INTELLIGENCE
SAR-BASED SITE MONITORING WITH ALERTS

OREC – Intelligence
AI-Based Software for Automated SAR Monitoring with Instant Alerts

SATIM Satellite Monitoring ▸ p. 484

OREC-INTELLIGENCE delivers persistent, automated monitoring of user-defined Areas of Interest (AOIs) through continuous SAR-image analysis. The system detects and classifies threats as soon as new imagery becomes available. Beyond static detection, it performs temporal pattern analysis, comparing each new image with historical baselines to identify changes in object counts, activity levels and positional patterns. Anomalies are automatically flagged and quantified. The system is compatible with all SAR sensors.





Key features:

- Continuous image analysis
  Automatic detection and classification across all incoming SAR imagery as soon as new data becomes available. No manual tasking is required between collections.
- Persistent AOI watch
  Automated tracking and reporting of defined areas. Every new SAR image is automatically analysed, with no operator intervention required between passes.
- Broad object coverage
  Vessels (250 classes), aircraft (26 classes) and vehicles (11 classes)—forming one of the most comprehensive target catalogues available in commercial SAR ATR platforms.
- Real-time alerts
  Instant notifications triggered by user-defined thresholds, including changes in object counts, unexpected activity or anomalous patterns. Alerts can be configured by mission or asset type.
- Decision-ready reporting
  Automated outputs are delivered directly to decision-makers, reducing the time from collection to action and enabling analysts to focus on response rather than data processing.

Portable VTC System - MVTC/WRB

SILTEC Sp. z o.o. ► p. 490



Portable VTC terminal, designed and manufactured by Siltec on the basis of Cisco Webex Room Bar. MVTC/WRB is a videoconferencing system in a suitcase, enabling the conduct of video-meetings in field military conditions. Resistant to demanding climate conditions such as sand, impacts, corrosion or vibrations.



Key features

- Protective case with an internal aluminium frame and vibration isolators.
- Based on the Cisco Webex Room Bar: commercial version CS-BAR-T-K9 and TEMPEST version CS-BAR-NR-K9.
- 17.3-inch Full HD hardened display with a UV filter.
- Integrated 1080p camera, microphone and audio system.
- Interfaces: RJ45/SFP, HDMI and USB Type-A/Type-C.
- Battery power system with a battery-level indicator, 230 V AC power supply and 12 V DC input. – Available in commercial and TEMPEST versions, compliant with SDIP-27 Level B standard requirements.
- Supplied with an additional accessories case.

Safety of Critical Data Electromagnetic and Ballistic Protection in a Transportable (Mobile) Container

Jakusz Sp. z o.o. ► p. 463

The solution provides a separate and fully secured server room, data-storage facility, command centre or communications centre offering high operational efficiency and resistance to changing external conditions.

- Supplied with an adapted vehicle, forming a complete transportable server-room solution.
- Enables secure data transfer and access to fixed databases and data centres, both domestically and abroad.
- Supports repeated, secure transport of backup-data archives and critical information.

Standard container configuration:

- Structure designed for repeated transport.
- Resistance to external factors, including fire.
- Resistance to external heat penetration.
- Dedicated anti-vibration and vibration-monitoring systems.
- At least three 42U IT racks, measuring 800 × 1,000 mm. Installation of four racks is also possible.
- Power-supply system, switchgear, PDUs and an uninterruptible power supply (UPS) backup system with N+1 redundancy.
- Precision air-conditioning system with N+1 redundancy, ensuring appropriate environmental conditions for IT equipment.
- Fire-suppression and early-detection system, environmental monitoring system and structured-cabling system.
- Security systems, power-supply connections and IT service lines.
- Electromagnetic protection with enhanced attenuation parameters.
- Protection against high-altitude electromagnetic pulse (HEMP) effects.
- Self-unloading system, allowing the container to be prepared
- for transport within 15 minutes without additional loading equipment.

Additional equipment options:

- Protection against acoustic eavesdropping.
- Ballistic protection in accordance with STANAG 4569.
- Chemical and biological filters.
- Automatic, extendable antennas.
- IT equipment.



SecureVisio
Cybersecurity Management Platform

SecureVisio ► p. 485

SecureVisio is a unified and automated cybersecurity management platform designed to support protection and compliance. The platform integrates nine cybersecurity solutions across security operations, risk management, compliance and data protection:

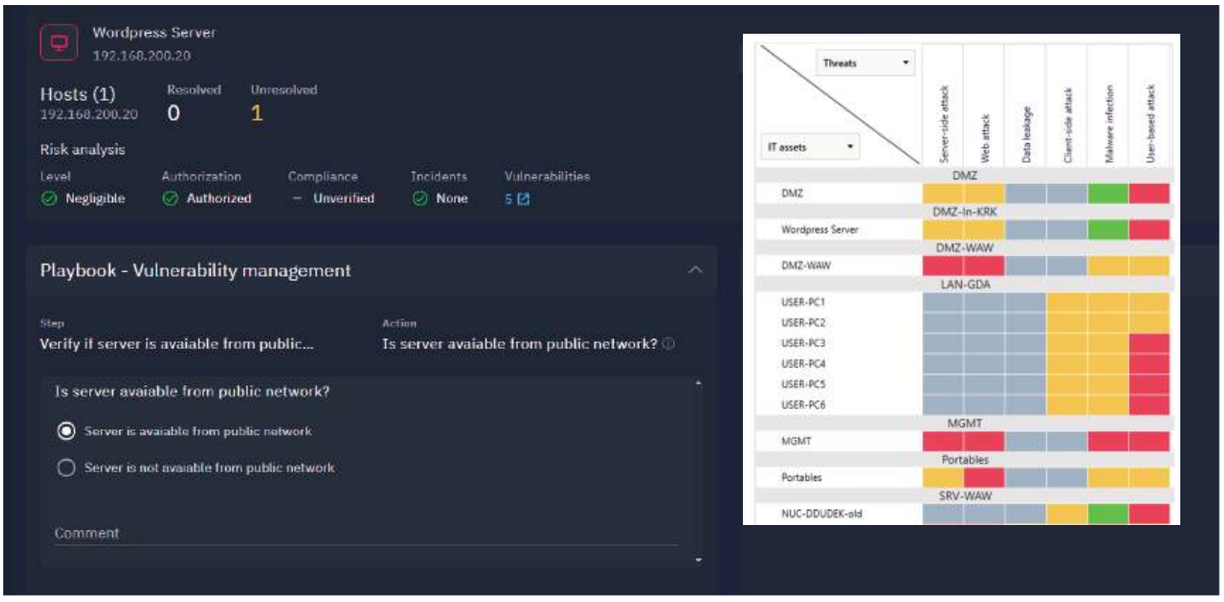
- Asset discovery.
- Risk management.
- Vulnerability management.
- Data protection.
- Threat intelligence.
- Extended Detection and Response (XDR).
- Security Information and Event Management (SIEM).
- Security Orchestration, Automation and Response (SOAR).
- User and Entity Behaviour Analytics (UEBA)

By unifying these capabilities, SecureVisio prioritises incidents and vulnerabilities according to the specific needs of an organisation. This approach enriches SIEM outputs and improves overall cybersecurity efficiency by enabling cybersecurity teams to focus on high-impact incidents and minimise false positives.

SecureVisio supports proactive cybersecurity decision-making, reduces operational risk and enhances cyber awareness across organisations through key performance indicators (KPIs), key risk indicators (KRIs) and risk-trend analysis.

Platform highlights

- Asset discovery: Automates the discovery, identification and documentation of IT assets, providing essential contextual data to other SecureVisio components.
- SIEM solution: Collects event data across the organisation, aligns alerts with the MITRE ATT&CK framework, and enriches them with contextual information to provide comprehensive visibility of the IT environment.
- Vulnerability detection: Uses various scanners and CVE feeds to automatically identify vulnerabilities in both IT and OT environments.
- Business impact analysis: Provides real-time prioritisation of security alerts and vulnerabilities, together with insights into the potential costs of security breaches and vulnerabilities affecting critical assets.
- SOAR solution: Automates threat investigation and response through easy-to-use playbooks designed for key security scenarios.
- Threat modelling and attack simulation: Visualises potential attack paths to critical assets on the network map, helping users anticipate potential cybercriminal activity.
- Compliance: Supports compliance with key regulations and frameworks, including NIS2, DORA and GDPR.
- Deployment options: Available in the cloud and on premises.



Shielded Cabinet SIL720 - SzE19xx Series

SILTEC Sp. z o.o. ► p. 490



Shielded cabinets available in versions compliant with SDIP-27 Levels A, B and C.

Key features

- 19-inch shielded cabinets available in heights ranging from 8U to 47U.
- Width: 700 mm for Level A, or 600 mm for Levels B and C.
- Depth: 700, 800, 1,000 or 1,200 mm.
- Cabinet power supply: 230 V AC.
- Internal power strip equipped with nine sockets with protective-earth contacts or Schuko sockets, rated at 16 A.
- Interface panel with USB, video and fibre-optic (FO) connectors.
- Fibre-optic channels in the bottom plate.
- Front and rear doors, left- or right-hinged, fitted with a bolt lock providing two-, three-, four- or five-point compression, depending on cabinet height.
- Fan assembly with a thermostat installed in the cabinet's top plate; four fans are installed as standard.
- Ventilation control via a thermostat as standard or an optional microprocessor control panel.
- Fixed or slide-out shelves.
- Castors to enable movement.
- Partitioned rack configuration for cryptographic solutions.

In the case of individual projects requiring the use of devices that are not available in the TEMPEST version, we suggest alternative solutions such as Shielded Cabinets. These provide effective shielding against the radiated emissions coming from such equipment. The design of the enclosure is adapted to the type, shape and configuration of the equipment to be protected.

TEMPEST NATO SDIP-27 and EU IASG 7-03 compliant IT equipment

SILTEC Sp. z o.o. ► p. 490

Siltec is a leading manufacturer and supplier of specialised TEMPEST hardware. The company offers a wide range of computers, peripherals and network equipment designed to ensure the security of processed classified information.

Siltec operates three electromagnetic-shielding laboratories, enabling the company to carry out TEMPEST-standard measurements. The company also provides dedicated equipment design, precision engineering, manufacturing and related support services.



TEMPEST equipment:

- Computers.
- Monitors.
- Scanners.
- Printers.
- Notebooks.
- Servers and network equipment.
- Shielded cabinets.
- Videoconferencing systems.
- Audiovisual equipment.
- External adapters and connectors.
- Power filters.
- Other dedicated and customised solutions.

NATO SDIP-27 compliance levels:

- Level A: SIL720 product range.
- Level B: SIL788 product range.
- Level C: SIL784 product range.



Video Conference Set

SILTEC Sp. z o.o. ► p. 490

The videoconferencing set is a complete solution designed for conducting meetings in conference rooms. Based on the Cisco Webex Room Bar, the system integrates a camera, microphones and speakers, ensuring high-quality video and audio, as well as convenient operation across various videoconferencing platforms. The set is supplied with a display and stand, enabling rapid deployment and comfortable use in office environments.



Based on

- Cisco Room Bar CS-BAR-NR-K9.
- 27-inch or 55-inch display; commercially available model.



Integrated camera

- 12 MP camera sensor.
- Operation in 1080p mode at 30 fps.
- 5× digital zoom.
- Horizontal field of view: 120°.
- Vertical field of view: 95°.
- Automatic adjustment of focus, brightness and white balance.
- Integration with the built-in speaker-recognition module, enabling automatic framing of people in the room during videoconference meetings.
- Camera lens with an f/2.5 aperture.

Speakers

- High-quality speakers with a frequency response of 100 Hz to 20 kHz.

Microphones

- Built-in four-microphone module providing:
  - high-quality audio with a frequency response of up to 20 kHz;
  - automatic gain control (AGC);
  - automatic noise reduction.

TEMPEST compliance

- Device compliant with SDIP-27 Level A requirements.

Control panel

- Room Navigator touchscreen colour LCD control panel.



ENGINEERING, LOGISTIC AND CHEMICAL EQUIPMENT

Alu and Talu Halls
Mobile Military Infrastructure Solutions

Rekord Hale Namiotowe sp. z o.o. ► p. 481



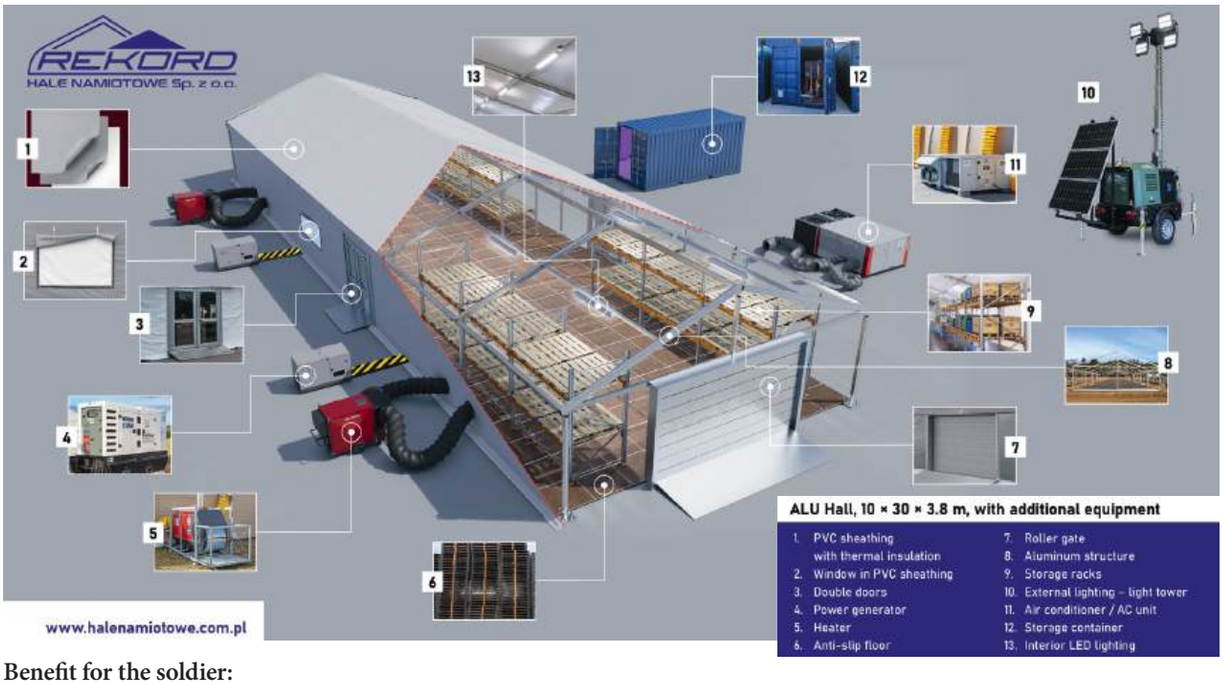
ALU and TALU halls are versatile, robust, and fully modular aluminum and steel structures for commercial, industrial, and military use. Their smart frame design allows rapid assembly, flexible configuration, and virtually unlimited extension, with spans from 5–30 m and ridge heights of 3.8–8.8 m.

Constructed from high-strength aluminum alloys (EN-AW 6005, EN-AW 6082) and PVC-coated polyester fabric, the halls offer excellent resistance to UV, fungi, and extreme temperatures (–30°C to +70°C). The durable double-sided membrane ensures long service life with minimal maintenance, while side walls can include safety glass, PVC panels, sandwich panels, or membrane fabric.

Optional gates, doors, and windows provide effortless access, enhancing operational efficiency. The halls can also integrate technical installations, modular flooring, and HVAC systems, enabling the rapid creation of fully functional, mission-ready spaces.

Applications:
- storage for military equipment and materials
- maintenance and repair facilities
- troop accommodation
- field kitchens and sanitary facilities
- conference rooms and command centers
- event and logistics spaces

Key benefits:
- modular, scalable aluminum-steel structure
- high airtightness and weather resistance
- double-tensioned membrane for durability
- rapid installation and adaptability to mission requirements
- configurable with gates, insulation, and technical systems



Benefit for the soldier:

Enables rapid deployment of multi-purpose infrastructure, enhancing unit mobility and autonomy. Protects personnel and equipment, improves living conditions, and reduces time to establish operational support.

Ambulance

DEMARKO S.A. ► p. 449

The ambulance is created on the base of IVECO chassis MUV 70W18EIII. Purposely selected due to extensive GVW of 7 000 kg in comparison with its compact size. The container dedicated for transport of four casualties on stretches, optimally maintains the off-road conditions providing at the same time maximum space in the medical compartment. The filter ventilation system ensures safety of the persons inside vehicle cabin and medical container. The system meets the requirements of Defence Standards. Comfortable cabin secures driver's comfort of work, comparable with modern vans. A proven, reliable diesel engine, adapted to use NATO F-34 fuel, while still meeting EURO III exhaust pollution standards.





The 132 kW of power and 420 Nm of torque ensure high top speed as well as excellent dynamic during off-road operations. The medical container is well equipped with medical equipment-securing capability to provide first aid to the transported 4 patients on stretches or 6 persons between which two are still transported on stretches while the remaining four are travelling in a seating position. The modern One-Touch-Click Technology™ implemented to operate with top stretches makes patients' handling easier and faster. The electric installation fitted on the ambulance secures assembly of all kinds of lights required on military operations.



Antimicrobial Coatings

Sieć Badawcza Łukasiewicz – Instytut Metali Nieżelaznych IMN
(Łukasiewicz Research Network – Institute of Non-Ferrous Metals) ► p. 487

The antimicrobial coatings are composite protective layers based on copper, silver and titanium, designed to protect frequently touched surfaces exposed to pathogens. The active layer reduces the presence of bacteria, viruses and fungi while maintaining performance under intensive use.

The coating adheres well to metals and ceramics, is resistant to abrasion and is easy to clean. It can be applied to equipment used in both civilian and military infrastructure, such as fittings, handles, medical devices, transport surfaces and weapon components.

In military applications, the coatings enhance sanitary safety in operational bases, field camps and medical points. They can be applied to sanitary fittings, high-touch surfaces, handles, medical equipment, transport interiors and weapon components. The solution supports the limitation of pathogen transmission in environments with restricted access to hygiene resources, contributing directly to personnel safety and sustained operational readiness.



Benefit for the soldier

- reduced risk of infections in bases, vehicles and field facilities
- increased force availability by limiting illness-related downtime
- improved sanitary safety in camps and crisis environments
- reduced reliance on intensive hygiene procedures under resource constraints
- protection of frequently touched equipment and surfaces used by personnel

Battlefield-Ready Hardware

Adapt-E ▸ p. 434

We design and deliver rugged, mission-ready hardware platforms tailored for simulation, training, and operational environments. Our systems are engineered to perform reliably in demanding field conditions while maintaining full compatibility with modern digital training ecosystems.

Our hardware solutions cover the complete lifecycle – from concept and prototyping to production and integration – ensuring seamless alignment with software, simulation platforms, and user requirements.

Key capabilities include:

- Ruggedised computing systems (portable, embedded, and vehicle-mounted),
- Custom-built operator stations and instructor consoles,
- Integrated simulation hardware (cockpits, control panels, replicas, and peripherals),
- Edge computing and data processing units for real-time applications,
- Modular architecture design enabling scalability and future upgrades,
- Human-machine interfaces (HMI) optimised for training and operational use,
- Power management and connectivity solutions for field deployment.

All systems are developed with a strong focus on:

- Reliability in harsh environments (shock, vibration, temperature, dust),
- Low SWaP (Size, Weight, and Power) optimisation,
- Interoperability with military standards and ecosystems,
- Rapid integration with simulation platforms and digital twins.

Our hardware integrates seamlessly with our software and 3D pipelines, enabling fully immersive, end-to-end training systems – from standalone simulators to networked, multi-user environments.

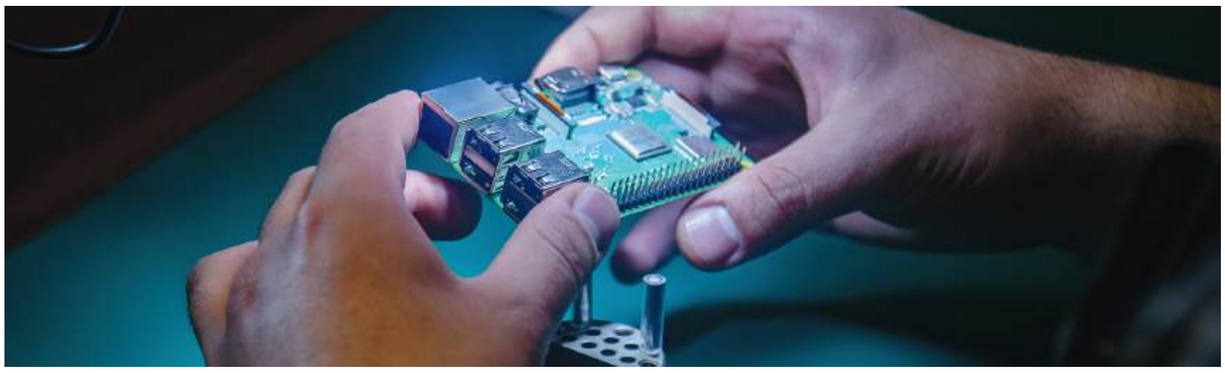
Designed for defence, training, and R&D applications, Adapt-E hardware solutions support modern, network-enabled operations where real-time data processing, reliability, and modularity are critical to mission success.

Benefit for the soldier:

Provides soldiers with reliable, rugged systems for simulation and field operations, increasing operational continuity in harsh environments. Enhances mobility, reduces equipment failure risk, and lowers physical and cognitive burden through integrated, mission-ready interfaces.







BAOBAB-K Scattered Mine Laying Vehicle

Huta Stalowa Wola S.A. (PGZ) ► p. 461





BAOBAB – K Scattered Mine Laying Vehicle enables deployment of minefields of various sizes, density, and self-destruction time. The minefield laying process has been fully automated: both rotation and movement of platforms with launchers (mine throwers) are carried out automatically by using a commander's control station, which also allows for a quick transition from transport to combat mode (and vice versa).

The user can choose between the automatic or manual mode of the control system. In the automatic mode, the computer calculates the launcher's settings and retains launching frequency during vehicle travel to ensure the correct parameters of the minefield. BAOBAB-K features 6 mine throwers (20 barrels in each thrower to be loaded with mine cassettes), a single mine cassette is loaded with 5 mines, so in total one vehicle carries up to 600 mines.



Castelior ST Series
Engineered Protection

Castelior sp. z o.o. ► p. 445

In professional operations, standard solutions are rarely enough. Castelior presents the ST Series—a proprietary line of certified modular crates designed for those who demand durability and precision. It's not just a box; it's a high-performance mobile base.

Custom Interiors by Design Experts

The heart of the ST Series is its adaptability. Our dedicated engineering team develops custom interiors tailored to your exact requirements. We utilize a wide range of materials—from technical foams and polymers to lightweight alloys—to create a secure, organised environment for your most sensitive equipment. Every inch is optimized for protection.

Versatility in Action

The ST Series is built to evolve with your mission. We can configure the interior to serve as:

- Mobile Racking Systems: Integrated drawers and organisers for field workshops or technical service kits.
- Medical Response Units: Specialised layouts for first-level medical units, ensuring rapid, intuitive access to critical equipment.

Direct Quality & Short Supply Chain

By choosing Castelior, you benefit from a short supply chain. As the manufacturer, we provide direct quality oversight, faster lead times, and full technical support. Our crates meet rigorous certification standards, making them the reliable choice for the most demanding professional sectors.

Benefit for the soldier

ST cases feature hybrid durability to absorb impacts and IP67 protection. Custom interiors allow for field medical unit setups, ensuring gear is organised. With easy storage and ergonomic side handles, this modular solution provides rapid deployment and safety in the toughest conditions.



Castelior ST Series – Built to protect. Designed to perform.

Castelior ST
A Precise Response to Evolving Drone Technology

Castelior sp. z o.o. ► p. 445

Following dynamic shifts in the technology market, Castelior is expanding its portfolio with new, dedicated solutions for unmanned systems. The ST series transport cases are a Polish product, developed by our expert engineers to provide world-class protection for advanced drone optics and electronics.

Versatility and a Short Supply Chain

While drones are a key new priority, the ST series remains fully adaptable. We design interiors for any specialised requirement—from medical units to advanced communication systems. By choosing Castelior, you benefit from a short supply chain and certified quality directly from the manufacturer. This allows us to provide rapid turnaround and full project personalisation, meeting the rigorous standards of the defence sector and emergency services.

Engineering Without Compromise

Utilising rotomoulding technology, we create shells with extreme resistance to impacts and harsh weather conditions. However, the most critical work happens inside. Our in-house design team develops custom mounting systems using technical foams and composite materials, ensuring absolute security for drone units and their sensitive peripherals.

Benefit for the soldier

ST series offer hybrid durability that absorbs impact energy in the field. IP67-rated dust and water resistance ensures reliability, while easy storage and custom interiors adapt to any mission. Ergonomic side handles allow for rapid deployment, keeping your gear safe and ready for action.



Castelior – delivering security wherever technology matters most.

CD Fuel Tankers

Dobrowolski Sp. z o.o. ► p. 449

The CD series fuel tankers are highly specialised tankers designed for the transport and on-site distribution of fuels classified under ADR Class 3. These tankers combine robust engineering with advanced fuel management technology to deliver reliability, safety, and full operational control in the field. Available in capacities ranging from 5 000 to 10 000 liters, the CD series tankers offer flexibility to match the scale of operations. Each tanker is fully compliant with ADR requirements and marked with the LGBF code, confirming its suitability for the safe transport of flammable liquids under international regulations.

Inside the tank is equipped with a precision-welded baffle system and reinforcing rings, effectively reducing liquid surge during transport. This not only improves driving stability but also significantly enhances operational safety, particularly on uneven or off-road terrain. A defining feature of the CD series is the integration of the Heconomy Mobil system, a sophisticated onboard solution for managing fuel distribution. Designed to support efficient refuelling operations directly at the worksite, the system ensures that every fuelling process is controlled, monitored, and fully documented.





The system manages the entire process, all fueling activities are stored and can be seamlessly transferred to central management software, allowing for real-time oversight, reporting, and analysis. The CD fuel tankers deliver consistent results in the most challenging conditions.

Benefit for the soldier

CD Series fuel tankers enhance soldier survivability through improved vehicle stability and safety systems. Real-time fuel monitoring increases situational awareness, while efficient on-site refuelling sustains operational tempo. Automation reduces physical and cognitive load, enabling greater mobility and mission effectiveness.



CN33 Fuel Tankers

Dobrowolski Sp. z o.o. ► p. 449

The CN33 fuel tanker is a modern tanker designed for the safe transportation of liquid fuels and efficient aircraft refuelling operations. With a 33 m³ tank capacity, the tanker provides an optimal balance between high transport efficiency and operational flexibility, making it ideal for military airports, fuel depots and industrial facilities. Built from high-quality carbon steel, the tank features a durable welded construction designed to ensure long service life and reliable performance under demanding conditions.



Benefit for the soldier

The CN33 fuel tanker enhances mission readiness by enabling fast, safe aircraft refuelling and reliable fuel supply. Its stable, surge-controlled design improves safety in transport, while ADR-compliant systems reduce risk. High capacity and durability enable sustained operations while reducing workload demands on personnel.

The tank has a design formed by 4 cylindrical sections connected with a conical transition and closed with slightly convex end caps. To enhance stability during transport, the interior of the tank is equipped with conical baffles that function as both structural reinforcements and anti-surge partitions.

The tanker is equipped with two top manholes with reinforced necks for easy inspection and maintenance operations. Each manhole cover includes a filling cap with pressure-vacuum breathing valves and flame arresters, ensuring safe ventilation and protection against fire hazards. Designed in compliance with ADR safety regulations, the CN33 tanker guarantees secure transport of hazardous fuels while maintaining the highest operational standards. Thanks to its durable construction and advanced safety features, the CN33 fuel tanker is a dependable choice for professional fuel transport and aircraft refuelling operations.





Curtain-Sided Cargo Bodies

Elbo sp. z o.o. ► p. 451

Curtain-sided cargo bodies represent a versatile logistics solution designed to support military operations in diverse and demanding environments. Integration with various chassis platforms, in both medium and heavy payload classes, allows for flexible configuration tailored to specific transport missions, from supply delivery to containerised operations.

The design enables the transport of 20-foot containers, two 10-foot containers, or palletised cargo, and in medium-duty variants, also personnel. The vehicles are adapted for the transport of hazardous materials in compliance with ADR regulations, expanding their use to specialised tasks. Opening side panels and a movable roof system provide rapid access to the cargo space, significantly reducing loading and unloading times.

The body is built on a robust frame made of S355 steel, hot-dip galvanised for enhanced corrosion resistance and durability in intensive use. The floor, made of 27 mm waterproof, anti-slip plywood, ensures cargo stability and transport safety. Aluminum side panels, steel or aluminum front walls, and reinforced structural posts increase overall strength and resistance to damage.

The system also includes multiple lashing points along the frame, central stanchions, and configurable rear options, either a drop-down tailgate or double rear doors.



A military-standard tarpaulin (RAL6031) and a reinforced frame structure provide reliable protection of transported goods in all conditions.

This solution is engineered for maximum operational efficiency being mobile, durable, and ready for deployment in demanding environments.

Benefit for the soldier:

Enhance transport efficiency and flexibility, improving unit mobility. Allow quick loading and secure transport, increasing the pace of operations and reducing the physical and cognitive burden on soldiers in diverse conditions.



Field Hospitals and Modular Medical Facilities

Rekord Hale Namiotowe sp. z o.o. ► p. 481

We offer comprehensive solutions for field and modular medical facilities, designed for rapid deployment and full operational readiness in both military and civilian applications. The systems are scalable, fully equipped, and compliant with international standards, enabling a variety of medical functions to be performed in the field.

SCOPE OF APPLICATION:

- Level I–III field hospitals – from basic care and triage points to fully equipped hospitals with operating rooms and intensive care
- CSU – Casualty Staging Unit – advanced stabilisation areas prior to evacuation of the wounded
- Temporary operating rooms and diagnostics – mobile CT modules, X-ray, laboratories, dentistry
- Mobile surgical units and customised medical solutions – transportable, ready for immediate use.

Thanks to their mobility, functionality, and reliability, Rekord medical systems enable quick installation and conduct of medical activities in demanding field conditions, ensuring full cooperation with the customer from conceptual design to on-site implementation.

Benefit for the soldier;

Delivers advanced medical care close to the point of injury, significantly increasing survivability and reducing time to treatment. Streamlines evacuation, sustains combat effectiveness, and reduces logistical burden on deployed units.





Flatrack Load Platforms

ZAMET-GŁOWNO 2 sp. z o.o. sp. k ► p. 516

Reliable and robust structures designed to transport various types of cargo, including vehicles, tanks, bulk materials and palletized cargo. With a modular design and various loading options, they provide high logistical efficiency in military, rescue and civilian operations.

Available Dimensions

- Versions: 1x20' and 2x10'
- Gross Weight: 18,500 kg
- Maximum payload Capacity: 16,500 kg





Benefit for the soldier – Logistical value

Flatrack significantly increases the mobility of troops and the pace of operations. It enables the rapid loading and transport of various types of equipment without the need for additional handling equipment.

For example, an armorued vehicle can independently drive onto a platform placed directly on the ground.



Loading methods

- Hooklift system - fast and safe loading
- Forklift - convenient operation on loading areas
- Crane device / HDS - possibility of loading in difficult terrain conditions
- Overhead crane - effective solution in logistics bases and warehouses

The platform, along with its cargo, is then hoisted onto a transport vehicle equipped with a hooklift system. The entire process is quick, safe, and can be performed by a single operator.

As a result, flatracks are a crucial element of the logistics system, directly impacting the dynamics and effectiveness of operations.

ENGINEERING, LOGISTIC AND CHEMICAL EQUIPMENT

General Purpose Truck with Crane

DEMARKO S.A. ► p. 449



The family of vehicles with different payload and superstructure developed for particular missions. All of them are successfully operated by the units of the Polish Armed Forces. Among them one of payload 6 500 kg, curb weight 25 496 kg and GVW 32 000 kg. Capable to transport among others fourteen (14) EURO pallets, two (2) containers ISO 10' and one (1) container 20". Additionally, to ensure better performance, equipped with articulated crane with max lifting capability of 22 000 kg at arm length of 3 m and 360° angle of work. The loose or weather sensitive cargo can be transported under tarpaulin.



The vehicle is adapted to operate with a trailer, with a total of of GCW 60 000 kg. The electric system and all related elements are compliant with ADR requirements making the vehicle appropriate for transport of dangerous materials and goods.

The presented truck configuration is one of many different kinds produced by DEMARKO S.A. superstructures fitted on chassis selected by a customer. The general-purpose superstructures of various arrangements, prime movers and multi-lifts for load platforms of the type FLATRACK are also members of family. All vehicles are designed individually, following customer`s specific requirement.



Hydrogen Peroxide Decomposition Catalysts

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

Catalysts designed for the decomposition of high-concentration hydrogen peroxide (98%+), have been developed to support rocket and space propulsion applications. These catalysts are characterised by high decomposition efficiency and long operational lifetime in rocket engines.

Key features:

- Robust - safe exposure to decomposition products of 98% hydrogen peroxide: a mixture of steam and oxygen at temperatures up to 940°C
- Efficient - achieved through the use of one or multiple active materials with catalytic activity comparable to silver
- Cold - start capable: Immediate, on-demand energy and actuation without ignition systems
- Active phase - platinum, modified silver, manganese oxides
- Application for monopropellant HTP thruster, liquid rocket engines and high energetic applications.

Benefit for the soldier

- Ensures reliable and immediate start in rocket systems supporting battlefield operations. Systems remain ready-to-use throughout deployment cycles without frequent inspections or warm-up procedures.
- Increases system reliability under extreme conditions, reducing the risk of mission failure. Catalytic beds operate across a wide temperature range and are insensitive to dust, vacuum, humidity, and low pressure.
- Enables fail-safe activation of emergency or mission-critical systems even after power loss, EMP exposure, or system damage.
- Silent and low-signature energy generation. Decomposition of H_2O_2 produces no flash, smoke, or detonation shock typical for pyrotechnics. Good for reduced detection risk during covert deployment, recovery, or emergency actions.
- Application to unmanned and autonomous battlefield systems. Catalytic peroxide systems are well suited for emergency propulsion or attitude control of UAVs and UGVs, deployment of sensors or loitering assets, emergency power for autonomous platforms.



Industrial Doors
Vertical Lift Systems for Fabric Structures

Rekord Hale Namiotowe sp. z o.o. ► p. 481

Industrial doors are robust, modular vertical lift systems designed for all types of fabric structures, including RFS hangars and TALU halls. They provide large, reliable access openings for aircraft hangars, technical halls, and storage units, ideal for military and operational environments.

The lightweight yet durable construction resists wind, dust, snow, and extreme temperatures (–60°C to +70°C). No heavy floor tracks are required, enabling operation on uneven or temporary surfaces and simplifying installation. The multi-belt modular lifting system ensures smooth, fast, and safe operation.

PVC cladding is highly wear-resistant, optionally transparent or with integrated windows, and provides good thermal and acoustic insulation. Doors can be fully customised in size and equipped with automated control systems for rapid opening and closing, maximising internal usable space.

Key benefits:

- large, unrestricted access openings with vertical lift
- modular, lightweight, and durable design
- operation on uneven or temporary surfaces
- resistance to extreme temperatures and environmental conditions
- low maintenance with long-lasting materials
- fully customizable dimensions and automated controls

Applications:

- aircraft hangars
- maintenance and service facilities
- storage and logistics units
- shelters for ground support equipment and specialised vehicles



Benefit for the soldier:

Provides fast, reliable access, reducing response time and increasing operational tempo. Enables efficient equipment movement in all conditions, supporting mission continuity and lowering unit burden.



Logistics Trailer

Elbo sp. z o.o. ► p. 451

The operational support logistics trailer is a mobile platform designed to provide field accommodation and sustainment for units of up to 20 personnel. Engineered for deployment in demanding operational environments, it enables rapid establishment of field infrastructure and ensures effective operation in harsh terrain and climatic conditions.

The module integrates a complete field support system, allowing fully autonomous operation without reliance on fixed infrastructure. It includes rapid-deployment tents, an independent power supply, climate control and lighting systems, as well as a mobile sanitary unit. The entire setup is optimised for fast deployment and minimal time to achieve operational readiness.

With a curb weight of 2,360 kg, the trailer offers a payload capacity exceeding 2.5 tonnes while maintaining high tactical mobility. The system features NSR-type rapid-deployment tents, a generator paired with air conditioning units, full sleeping arrangements, and air distribution and lighting systems, enabling continuous operation even in low-visibility conditions.

An integrated sanitation module and additional storage capacity enhance unit self-sufficiency. The solution is designed for durability under intensive use and can be seamlessly integrated with broader logistics support systems, providing reliable operational support in any environment.

Benefit for the soldier

Operational support logistics trailer. Enables rapid deployment of a secure field base, enhancing survivability and operational comfort. Reduces physical and cognitive load through system autonomy and improves combat readiness by shortening the time needed to achieve operational capability.



LUNAR – Rotary Detonation Kiln
For Disposal of Explosives and Ammunition

Jakusz Sp. z o.o. ► p. 463

Lunar – Rotary Detonation Kiln for Disposal of Explosives and Ammunition

- a comprehensive solution for destruction of:
  - obsolete ammunition which may pose a threat of uncontrolled detonation or environmental pollution,
  - residues from the manufacture of explosives including items associated with the production, e.g. paper, scrap metal, cleaning cloths etc.,
  - defective ammunition from the production process,
  - confiscated ammunition,
- small- and medium-calibre ammunition containing:
  - explosives, e.g. TNT, RDX, A-IX-2,
  - propellants, e.g. nitrocellulose powder, nitroglycerine powder,
- solution for military and civil sectors,
- placed in a container construction transportable by road, rail and sea,
- stationary, transportable devices,
- destruction is carried out in a way that is safe for human life and health, property and the environment,
- integrated with the Post-Detonation Gas Purification System - the gases generated during the destruction process are directed to the purification system,
- maximum single charge of the kiln: up to 0.6 kg net of explosives in TNT equivalent,
- presumed system efficiency of approximately 40 kg of explosives in TNT equivalent/hour,
- maximum dimensions of the items fed into incinerator (length x width x height): 300 x 150 x 130 mm,
- required personnel: 2-3 persons,
- implemented internationally.





Metal Wires and Powders for 3D Printing

Sieć Badawcza Łukasiewicz – Instytut Metali Nieżelaznych IMN
(Łukasiewicz Research Network – Institute of Non-Ferrous Metals) ► p. 487

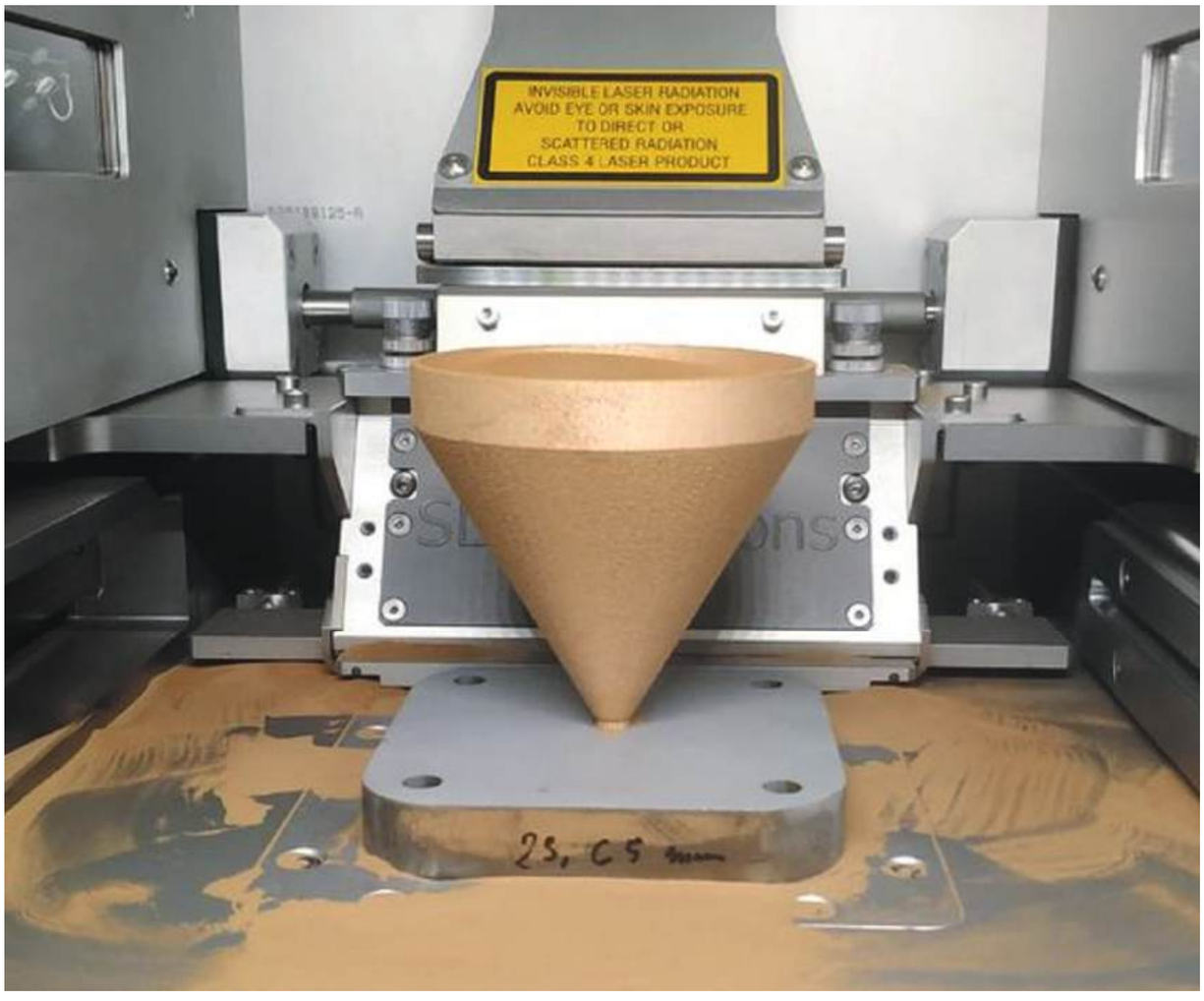
Components manufactured using cu-based wires in 3D printing have stable performance under variable loads and in aggressive environments. This supports the military in producing parts for communication systems, electronic cooling assemblies, ground vehicle components and maritime infrastructure elements.

Metal powders for 3D printing are prepared from non-ferrous and high-melting-point metals such as copper, silver, tungsten, rhenium and molybdenum, as well as composite and micro-/nanopowders. These powders can be used in components operating in demanding conditions — at high temperatures, under heavy mechanical loads or in corrosive or arc-erosive environments.

The ability to print complex geometries using conductive and high-melting-point materials allows the armed forces to quickly manufacture spare parts, restore structural components and produce modular equipment elements in operational scenarios where delivery time is critical.

Benefit for the soldier

- → significantly reduced time to restore equipment functionality in combat area
- → increased autonomy through local production of spare parts
- → rapid adaptation of equipment to evolving tactical requirements
- → reduced logistical load and dependency on transport
- → improved combat readiness during extended and dispersed operations



Mobile Container Kitchen (KKP 200) with Integrated Decontamination System

ZURAD Sp. z o.o. ► p. 517



The KKP 200 Mobile Container Kitchen is a fully self contained, field deployable food service unit designed for military operations and crisis response scenarios. Built on a standard ISO container platform, it enables preparation and distribution of up to 200 meals per cycle in extreme climatic conditions (from –30°C to +50°C).

A key feature of the system is its integrated UV C decontamination capability, ensuring effective elimination of pathogens from working surfaces and protection against biological threats. The system supports both HACCP (accidental contamination prevention) and Food Defence standards (intentional contamination / sabotage protection), significantly increasing operational safety.

The kitchen includes a dedicated technical compartment enabling monitoring and control of all systems, including air conditioning and decontamination modules, also remotely. The interior is designed with stainless steel surfaces and drainage systems allowing full wash down cleaning under field conditions.

Energy efficiency and operational continuity are enhanced by infrared heating panels with standby mode, maintaining minimum temperature, preventing freezing of installations and ensuring system readiness with significantly reduced energy consumption. Designed for resilience, the system ensures operational continuity in environments exposed to epidemiological threats, chemical contamination incidents or deliberate disruption attempts.

Benefit for the soldier:

Ensures safe food supply in high-risk environments by reducing biological and chemical exposure, maintaining operational readiness and minimising logistical and sanitary vulnerability in expeditionary missions.









Modular Field Fortification System

JPBC Sp. z o.o. sp. kom. (Grupa Pietrucha) ► p. 467

The Modular Field Fortification System is a scalable, rapidly deployable solution designed to enhance mobility, protection, and operational effectiveness in demanding environments. Built around proven PolGrid geogrid technology, the system enables fast terrain stabilisation, construction of temporary and permanent access roads, and reinforcement of low-bearing soils—ensuring reliable movement of personnel and heavy equipment in all conditions.

The system also includes modular trench and field fortification components, allowing for quick construction of defensive positions, shelters, and protected operational zones. Lightweight, durable, and easy to assemble, these structures require minimal tools and manpower, significantly reducing deployment time while maintaining high structural integrity.

PolGrid can also be set up as a lightweight mesh to block drones, providing extra safety for buildings and people against UAV threats. This additional functionality expands the system's operational value without increasing logistical burden.

Designed with a dual-use approach, the system is equally effective in military operations and civil engineering applications, including emergency response, infrastructure protection, and temporary road construction. Its modular architecture, low weight, and ease of transport ensure rapid deployment, reusability, and adaptability to evolving mission requirements.

Benefit for the soldier

Improves survivability through rapid fortification and trench construction, while stabilised routes enhance mobility in difficult terrain. Lightweight, modular design reduces physical load and setup time. Additional UAV protection increases safety, enabling sustained operations and better battlefield positioning.











MS-20 DAGLEZJA
A Wheeled Vehicle-Launched Support Bridge

OBRUM Sp. z o.o. ► p. 475

MS-20 "DAGLEZJA" mobile bridge enables the crossing of water and terrain obstacles with a span of up to 20 meters (in accordance with STANAG 2021) by the heaviest NATO vehicles, including ABRAMS main battle tanks, as well as infantry units. The MS-20 "DAGLEZJA" set includes a Jelcz C662D.43 6×6 towing vehicle, a 6×6 hydraulic semi-trailer, a bridge layer and a PM-20 span with load capacity up to MLC 85/133, allowing safe passage of the heaviest military platforms.

The design of the PM-20 span allows its expansion from 3m in the transport position to 4m in the working position. The footbridge filling the space between the girders allow safe crossing the bridge by soldiers and civilians.

The system achieves full operational readiness in less than 30 minutes, including complete technical preparation. The set is approved for driving on public roads which is an important feature allowing moving MS-20 without additional traffic assistance.



Benefit for the soldier:

Enables rapid and secure manoeuvre across otherwise impassable terrain, maintaining operational tempo and reducing exposure to threats during crossings. Enhances unit effectiveness by minimising physical effort and pressure on soldiers while ensuring reliable support for both vehicles and dismounted personnel.

Main features:

- Supports all types of vehicles – tracked or wheeled – and infantry for obstacle crossings up to 20 m
- Unique inter-span fillings for increased personnel safety
- Load capacity of the PM-20 span: MLC 85/133

Advantages:

- High mobility
- Rapid launch and retrieval across obstacles – under 10 minutes (excluding technical preparation)
- Optional armoured crew protection
- Approved for public roads traffic





ND33 Fuel Distribution Tanker

Dobrowolski Sp. z o.o. ► p. 449

The ND33 fuel distribution tanker is designed for the safe transportation of aviation fuel and efficient direct aircraft and helicopter refuelling. The system combines a durable tank structure with a compact distribution module, ensuring reliability and operational efficiency in demanding aviation environments. The tank has a capacity of 33 m^3 and is manufactured from high-strength carbon steel. Its welded construction consists of cylindrical tank and low-convexity end caps. Internal conical baffles reinforce the structure and reduce fuel movement during transport, improving operational safety. Two top manholes provide access for inspection and filling. Each is equipped with filling covers with breathing and flame-arresting valves, while the tank also features a measuring strip and pneumatic level sensor for accurate fuel monitoring. The distribution unit, installed between the cab and the tank, is built as a compact modular system mounted on a common frame. This design allows easy installation and maintenance.





All distribution equipment is enclosed in a protective locker, safeguarding the system from contamination, mechanical damage and unauthorized access. The ND33 fuel distribution tanker ensures efficient refuelling with an integrated distribution unit designed for direct fueling operations for various types of aircraft and helicopters.

Benefit for the soldier

The ND33 fuel tanker enhances mission effectiveness by enabling fast, safe refuelling of aircraft and helicopters directly in the operational area. Its stable design improves transport safety, while integrated monitoring increases situational awareness. Efficient systems reduce workload and refuelling time, supporting sustained air operations.



Professional Military Containers for Uniformed Services

Modular System Sp. z o.o. ► p. 472

The functionality of container and modular construction, fast implementation time according to individual needs, cost optimisation, mobility and the possibility of introducing changes over time, contribute to the growing interest in container products as an alternative to traditional construction.

Our painstakingly created military containers are designed to withstand even the most extreme environments, crafted in response to detailed assessments and suggestions, meeting the unique needs of military infrastructure around the globe.

Securing the required licences and certifications allows us to reliably provide customised solutions as promised, strengthening our capacity to safeguard and cater to a variety of markets.







Benefit for the soldier

The ventilation, air-conditioning and heating systems installed ensure the soldiers' comfort throughout the year, regardless of external weather conditions. Specially designed facilities facilitate effective recovery and rest, as well as the performance of duties. These solutions are designed to enhance the soldiers' operational effectiveness, regardless of their location or the mission they are carrying out.

NATO standards

The solutions we employ are meticulously designed to align with the rigorous standards and specifications necessary to secure military infrastructure essential for NATO unit operations spanning decades.

These standards include a wide variety of security measures designed to meet the strict needs of today's defence strategies and protocols, making sure our equipment remains effective and durable over time.

Our modular systems represent the pinnacle of adaptability and versatility, serving as the cornerstone of military preparedness across a spectrum of operational environments worldwide.

Whether deployed in arctic climates, arid deserts, or dense urban landscapes, our solutions are engineered to excel under diverse conditions, ensuring seamless integration and functionality for uniformed services over extended periods.



Our modular systems make it possible to build multifunctional facilities:

- military modules
- office modules
- sanitary modules
- modular residential buildings
- medical modules
- rest and refreshment space,
- catering outlets,
- shops, kiosks, pharmacies,
- hotels, motels, leisure facilities,
- sports facilities at playgrounds and recreational areas,
- schools, kindergartens, nurseries,
- outpatient clinics and other medical facilities,
- background during fairs, concerts and open-air events,
- car showrooms

and many other spaces in various branches of the economy and public utilities.

Rear Dump Trucks

Elbo sp. z o.o. ► p. 451



The company's rear dump trucks represent advanced transport solutions designed for operation in demanding environments where durability, reliability, and off-road capability are critical. Developed with military applications and logistics support in mind, they are built from high-grade steels, including HARDOX, ensuring resistance to intensive wear, impact, and extreme loads.

The flagship rear tipper, type 1W ("halfpipe"), features a curved body design with a bent floor, enhancing structural strength while enabling fast and efficient unloading in all conditions. Designed for 3- and 4-axle vehicles with a gross vehicle weight of 26–32 tonnes, it offers payload capacity of up to 18 tonnes and can be equipped with mission-ready features such as a heated floor and STANAG-compliant lashing systems.

The range is further complemented by three-way and two-way tippers in both medium- and heavy-duty configurations, allowing for flexible unloading in confined spaces and challenging terrain. Their robust design ensures stability, damage resistance, and operational efficiency across diverse logistics scenarios.

The overall package is reinforced by solutions that enhance field functionality, including heavy-duty hydraulic systems, tilting underrun protection beams, service access ladders, and integration with trailers and transport systems. This is equipment engineered for dependable operational support, where performance and durability are mission-critical.

Benefit for the soldier

Provide reliable logistical support in all conditions, increasing mobility and mission pace. Enable fast transport and unloading of materials, improving mission effectiveness while reducing soldiers' physical workload.



Recycling of Military Equipment

Sieć Badawcza Łukasiewicz – Instytut Metali Nieżelaznych IMN
(Łukasiewicz Research Network – Institute of Non-Ferrous Metals) ► p. 487

Łukasiewicz – IMN offers technologies enabling safe dismantling and recovery of critical elements such as nickel, cobalt, copper and iron from decommissioned military equipment, that is a capability essential for national resource security. This reduces dependence on imported raw materials and supports greater logistical independence, as well as lowers production and modernisation costs within the armed forces.

Recycling technologies support modern resource management, lower operational costs, reduce waste generation and minimise disposal expenses. They allow safe handling of equipment at the end of its life cycle, delivering economic and environmental benefits.

Benefit for the soldier

- greater control over strategic raw materials, reducing geopolitical supply risks
- improved quality and traceability of recovered metals
- increased resilience of the defence industry through closed-loop material economy
- stabilised production costs
- reinforced national material sovereignty supporting continuity of force modernisation and readiness



RFS Structures
Mobile Aircraft Hangars

Rekord Hale Namiotowe sp. z o.o. ► p. 481



RFS hangars are modular, mobile structures for aviation, logistics, and technical operations. Designed for rapid deployment and year-round use in harsh climates, they require no permanent foundations and can be easily assembled, dismantled, and relocated.

They serve as aircraft hangars (planes, helicopters, UAVs), maintenance facilities, logistics hubs, and protective shelters for equipment and vehicles. Ideal for military and uniformed services needing speed, flexibility, and reliability.

The lightweight aluminum frame with a high-strength PVC-coated membrane ensures durability and full weather protection. The modular system allows flexible configuration, scalable span (15–60 m) and length (extendable in 5 m modules), and fast installation.

Various gate types (sectional, rolling, sliding) provide easy, efficient access, enabling smooth operation of equipment and vehicles.

Key benefits:

- rapid deployment and mobility
- modular, scalable design
- resistance to harsh weather
- durable, waterproof cladding
- easy access via functional gates
- adaptable to mission requirements

Optional systems include heating, ventilation, lighting, gates, anchoring, and insulation, enabling fast creation of fully functional operational spaces.

Benefit for the soldier

Enables rapid deployment of protected aviation infrastructure, enhancing mobility and mission continuity. Protects assets from degradation, shortens mission prep and maintenance time, and reduces logistical burden on units.



Semi-Trailer DOB70W

Dobrowolski Sp. z o.o. ► p. 449

The DOB70W semi-trailer is a high-performance platform designed for the safe and efficient transport of tracked and wheeled armoured vehicles. Engineered to transport a wide range of military vehicles—including infantry fighting vehicles, armoured personnel carriers, main battle tanks, and other heavy equipment—the DOB70W ensures reliable performance in both logistical and operational environments. The semi-trailer DOB70W is fully compatible with military transport requirements used by NATO forces and the U.S. Army. A maximum payload capacity of the semi-trailer is 67.5 tons. Its robust construction and advanced engineering enable the safe handling of extremely high axle loads while maintaining full operational safety.

The trailer features a reinforced steel frame and six heavy-duty axles, providing excellent structural strength and stability even under extreme loads. Its advanced pneumatic suspension system ensures weight distribution across all 6 axles, enhancing road handling and reducing stress on transported vehicles during long-distance road transport. The DOB70W is also equipped with specialised loading ramps and multiple heavy-duty securing points, enabling fast, safe, and efficient loading and unloading operations in both base and field conditions. Built for reliability and operational readiness, the DOB70W semi-trailer significantly improves the mobility of armoured units by enabling rapid and secure road transport of heavy military vehicles.

Benefit for the soldier

The DOB70W semi-trailer increases operational mobility by enabling rapid transport of heavy armored vehicles. Its high payload capacity and stable suspension improve safety. Efficient loading systems shorten deployment time, while robust design ensures reliability in demanding conditions, reducing operator workload and enhancing mission readiness.





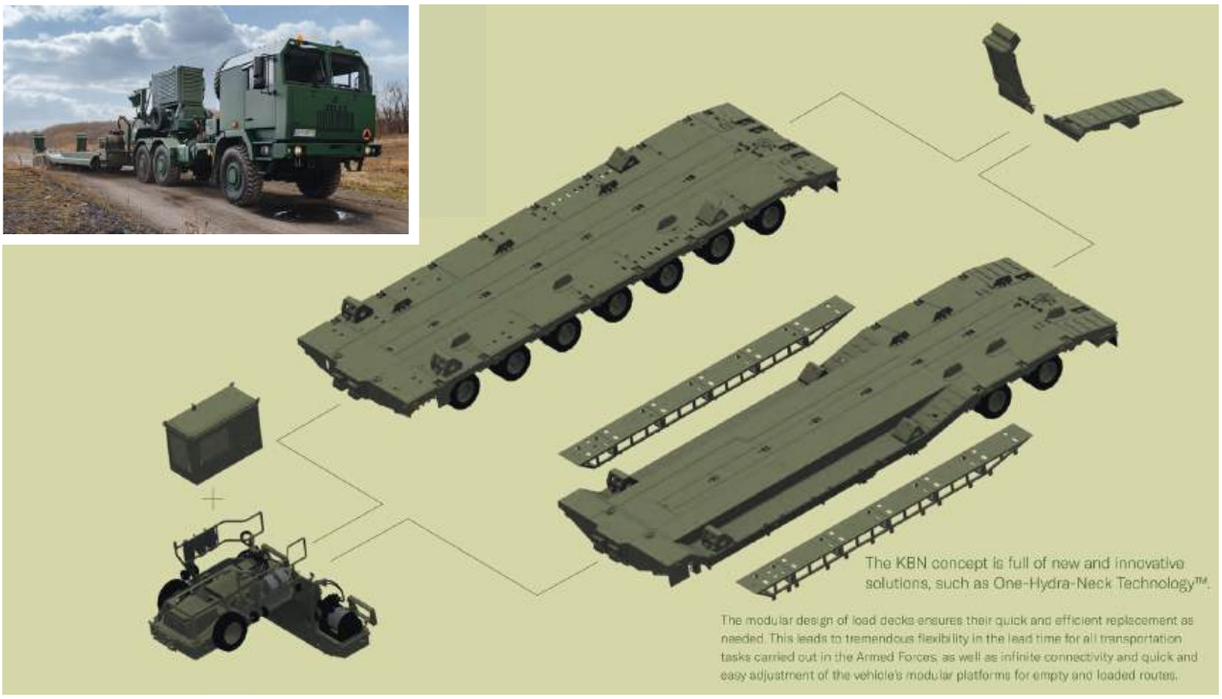


Semi-Trailer ST555-20W.M and ST775-20W.M

DEMARKO S.A. ► p. 449

Modular concept. The system of two semi-trailers consists of two trailer platforms adapted to be connected to the one universal goose neck. Hydraulic cylinders, in addition to the height adjustment system, allow adjustment of the load effecting a fifth wheel of a tractor. The proposed arrangement of these three elements, two kinds of load platforms along with universal goose, make transport organization more efficient, faster and flexible. This way, the multirole arrangement was made, dedicated for the transport of cargo, vehicles but also heavy and high combat equipment like howitzers or mobile air defence systems up to 50 000 kg weight the first configuration.

A heavy, armour vehicles or cargo in many different arrangements up to 70 000 kg total weight, the second configuration. To secure all required functions related to loading and unloading processes the goose neck is equipped with power generator in One-Hydra-Neck Technology as well as two winches of 24 000 kg each. The arrangement of winches and the guiding rope wheels allows for loading and unloading of damaged vehicles but also facilitates self-recovery. Electric 24 V waterproof system is built in such an arrangement as to ensure that the multirole transport system can be used not only in military operations but also civil ones.





Semi-Trailer ST775-20W

DEMARKO S.A. ► p. 449



The effectively proven during many years of operation semi-trailer of the Heavy Equipment Transport (HET) family with a payload of 70 000kg, is dedicated and respectively equipped for transportation of heavy and armoured vehicles of both wheeled and tracklaying types. Having cargo deck of 10 550 mm length at total semi-trailer length of 15 530 mm, it is capable to perform efficiently and effectively transportation of all heavy vehicles available and deployed currently by any army worldwide. The standard cargo deck of 3 450 mm width and 960 mm height supported with hydraulically operated ramps, is equipped with a system of rope wheels dedicated for loading and unloading damaged vehicles using winches mounted on a tractor. A simple, running gear consisting of seven extra wide axles with twin wheels provides exceptional stability. The five axles with hydraulic steering secure excellent manoeuvrability, extending tires` live. Wheels equipped with Run-Flat inserts allow the trailer to run even after a tire puncture. The goose neck with adjustable coupling with height ranging from 1 250 mm up to 1 650 mm allows for marriage and operation with many different prime movers. The 24V waterproof electric installation is configured to be equipped with military as well as civil lights systems.



Semi-Trailer ST775-24W.H-PA

DEMARKO S.A. ► p. 449



The already successfully, practically proven semi-trailer of the Heavy Equipment Transport (HET) family with a payload of 70 000 kg, is dedicated to and respectively equipped for the transportation of heavy and armoured vehicles of both wheeled and tracklaying kinds. Having cargo deck of 11 400 mm length at total length of 16 380 mm, it is capable of performing efficiently and effectively the transportation of all heavy vehicles deployed by any army worldwide. The standard cargo deck width of 3000 mm can be extended smoothly up to 3500 mm, using a dedicated hydraulic system, which considerably improves the comfort of loading and transport of wide combat vehicles. The unique, independent, hydraulic suspension secures tactical mobility at the highest level. Supported by inclinometers, accelerometers and encoders, it has an extraordinary rotating and swinging capability. The suspension stroke of up to 650 mm secures the semi-trailer`s capability to perform successful missions almost in every terrain, thanks to the possibility of lifting up respectively the entire cargo deck. Originally of 1100 mm height. The articulated goose neck, which is also hydraulically powered and electronically controlled, secures the semi-trailer`s capability to be married with every prime mover with the fifth wheel height from 1250 mm up to 1650 mm. A specialized rope guiding wheel system extends the deployment range and enables efficient loading and unloading of damaged vehicles. The hydraulically operated and electronically controlled rear ramps effectively support the process.



SK_KII Directional Radiation Probe

Wojskowy Instytut Chemii i Radiometrii – WIChiR
(Military Institute of Chemistry and Radiometry – MICR) ► p. 508

The SK_KII Directional Radiation Probe is designed for the detection and measurement of ionizing radiation (gamma and neutron) resulting from a nuclear explosion in the vicinity of the warship or originating from sources of gamma and neutron radiation. The data recorded by the SK_KII may be used to signal the exceeding of specified alarm thresholds. SK_KII is one of the components of the warship's Nuclear, Biological and Chemical Defence (NBCD) subsystem, which enables:

- measurement of gamma radiation dose rate,
- determination of the direction from which the gamma radiation originates (the highest gamma dose rate value),
- detection of neutron radiation,
- generation of alarm signals,
- generation of control signals for executive devices (e.g., a filtration and ventilation unit).

On warship, the device is mounted on a shock-absorbing base dedicated to this product.





Technical Specification

Parameter name	Range
Power	20 V – 30 V
Current Consumption	< 0,6 A
Measured Radiation Type	gamma, X, neutron
Measurement range: → absorbed dose rate → ambient dose equivalent rate	 0,05 µGy/h ÷ 10 Gy/h 0,05 µSv/h ÷ 10 Sv/h
Energy range of measurable radiation	65 ÷ 1250 keV
Energy of detected neutrons	> 2 MeV
Permissible indication error	± 20 %
Neutron counting method	Sum of counts since the instrument was switched on
Operating temperature range	25 °C ÷ +35 °C
Ability to set alarm thresholds	Dose rate alarm thresholds: one freely adjustable threshold for the absorbed dose rate in the air (Gy/h) and one for the ambient dose equivalent rate (Sv/h).
Weight	12 kg
External dimensions	Length 384 [mm], Width 164 [mm], Height 106 [mm]

Benefit for the soldier

SK_KII Directional Radiation Probe plays a crucial role in protecting warship crew live by detecting and managing radiation hazards at sea. Its contribution can be explained in several key ways:

- Early detection of danger - radiometric probe continuously monitors radiation levels on board, and If there is a sudden increase e.g. caused by a nuclear weapon, reactor malfunction, radioactive leak, or external contamination, than the system immediately alerts the crew. This early warning allows sailors to react before exposure becomes life-threatening;
- Prevention of radiation exposure - by measuring radiation doses, this probe helps ensure that crew members are not exposed to dangerous levels, that could cause radiation sickness. Controlling exposure, significantly reduces the risk of severe health effects or death;
- Support for critical decision-making - Commanders rely on real-time data from radiometric probe to make informed decisions, such as: changing the ship's course, limiting time spent in contaminated areas, sealing off affected compartments. These actions minimize overall crew exposure;
- Safety during rescue and emergency operations - when operating in hazardous environments, such as after nuclear accidents or during rescue missions, radiometric probe guides crews by indicating safe and unsafe zones. This allows sailors to carry out missions, while reducing unnecessary risk.

In summary, SK_KII acts as an invisible safety shield: it detects radiation, provides critical data, and enables fast, informed responses. Without it, warship crew would be exposed to an undetectable and potentially deadly threat, making many naval operations far more dangerous.

Soft Magnetic Cores

Sieć Badawcza Łukasiewicz – Instytut Metali Nieżelaznych IMN
(Łukasiewicz Research Network – Institute of Non-Ferrous Metals) ► p. 487



Soft magnetic cores provide high magnetic induction, low power losses and the ability to miniaturise key electrical systems, enabling lighter, more efficient and more reliable solutions for military applications.

This means more stable, efficient and cooler operation of modern switched-mode power supplies, converters, control systems and sensors — extending the service life of military equipment such as radios, communication systems, drones, radars and mobile power units.

Amorphous and nanocrystalline materials also reduce the mass of transformers and inductors, making military hardware lighter and more energy-efficient, which is essential in mobile operations.

Benefit for the soldier

- increased reliability of communication systems
- longer operating time of equipment powered by limited energy sources
- reduced size and weight of power supplies, radars and electronic systems
- lower thermal stress on equipment, improving endurance in prolonged operations
- improved stability of system performance in harsh conditions

Trailers

ZAMET-GŁOWNO 2 sp. z o.o. sp. k ► p. 516





Versatile Transport Trailers

Transport trailers are sturdy and durable structures designed for transporting flatracks, container systems with special equipment and boats. We offer both lightweight universal trailers and specialised truck trailers for maximum functionality in military, rescue and civilian transportation.

Application

- Transportation of ISO containers (1x20', 2x10')
- Carriage of cargo platforms
- Compatible with specialised containers built to DIN 30722 standards

Key Parameters

- For 3-axle trailers
- Gross vehicle Weight: up to 24,000 kg
- Maximum payload: up to 19,400 kg
- For 2-axle trailers
- Multi Lift System - loading with the back of the trailer

Key Advantages

- Durable and robust design - built for heavy-duty use
- Compatible with container systems - easy integration with various transportation standards
- Customisation options - adaptable to individual transport needs

Benefit for the soldier

Logistics value. One truck can transport various modules:

- flatracks (general cargo, equipment)
- specialised containers (e.g., medical, workshop, command)

No need for a dedicated vehicle for each task.

Universal Expandable 20' Containers

ZAMET-GŁOWNO 2 sp. z o.o. sp. k ► p. 516

The innovative extendable containers with hydraulic legs are a versatile solution suitable for a wide range of applications in the military, rescue and civilian sectors. Thanks to an advanced hydraulic system, unfolding and positioning the container is fast, safe and possible even on in difficult terrain.

Key Parameters

- Working area: ~23 m² when the side walls are extended
- One-person operation - ready for use in ~15 minutes
- Workshop equipment - configurable according to user needs (air conditioning, generator, dynamic drying, filtration and ventilation systems, etc.).
- Loading Options
- Crane systems
- Multi Lift system with H-frame
- Forklift truck
- Self-loading - hydraulic support legs integrated into the container structure

Certifications and Markings

- Certificate of obtaining the type of construction
- Container metrics
- CSC (KBK) certificate
- Marking in accordance with PN-EN ISO 6346:1999
- International identification numbers
- CSC-type approval certificates from recognized certyfying bodies

Benefit for the soldier

Depending on the type of container, for example, a medical container as a mobile stabilisation point, placed behind the battlefield, can significantly impact soldier survivability. It can provide first aid and maintain vital functions before transporting the soldier to the hospital. Crucially, it shortens the so-called "golden hour"—the time from injury to treatment.





A similar idea also applies to other types of containers:

- logistics (supplies, ammunition)
- workshop (equipment repairs)
- command (communications and coordination)

Containers can serve as:

- Field kitchens - fully equipped, ready to prepare meals under any conditions
- Mobile hospitals and medical posts - providing immediate assistance in operational areas
- Bathhouses and sanitary facilities - with full hygienic facilities, adapted to extreme conditions
- Command centre - modern operational space for management personnel
- Mobile workshops - with equipment adapted to the customer's requirements
- Mobile warehouses - adapted for storage of equipment and supplies

UVC Decontamination Systems
Ceiling & Column Mounted

ZURAD Sp. z o.o. ► p. 517

ZURAD UVC Decontamination Systems are advanced solutions designed for rapid and effective disinfection of personnel spaces, vehicles and medical environments. Utilising ultraviolet C radiation, the systems eliminate viruses, bacteria and other biological threats from both washable and non washable surfaces.

Available in ceiling-mounted and column-mounted configurations, the systems can be adapted to various operational scenarios, including ambulances, medical facilities, command posts and field infrastructure. Certified for medical and biological applications, the devices offer safe and automated operation with high efficiency and minimal maintenance requirements.

The systems can also be deployed in mobile or remotely controlled configurations, making them suitable for both stationary and field use, including crisis response and CBRN environments.

Benefit for the soldier:

Enhances biological protection and operational readiness by reducing contamination risks, protecting personnel health, and enabling safe operation in high-risk environments.







Vibration damping technology

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

Łukasiewicz – Institute of Aviation have developed a vibration damping technology, which has been used and tested in a turbine blade prototype and a cutting tool. Vibration damping occurs through the use of one or more chambers filled with powder inside the element. This allows for the transfer of vibration energy into the volume of the powder, which leads to its dissipation. In addition to the aviation industry, this technology will also find applications in other sectors such as rail transport, manufacturing, and energy industries.

Key features:

- The use of granular materials enabled:
  - vibration reduction through increased energy dissipation in the powder,
  - vibration amplitude decrease,
  - product weight reduction,
  - more precise adjustment of the component's operating vibration frequency.



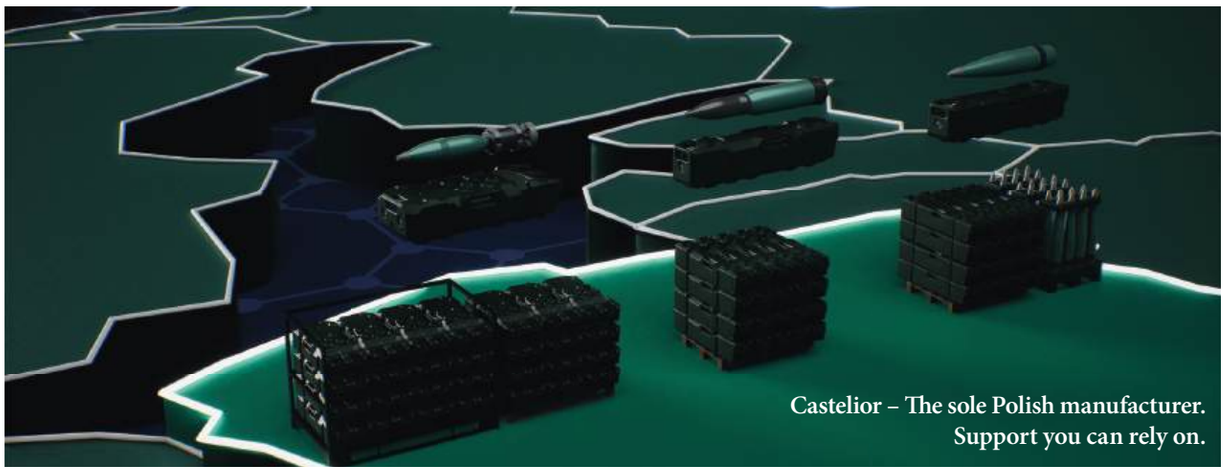
- The versatility of the technology allows for its implementation both at the design stage and as an upgrade for existing structures.
- Vibration reduction decreases the risk of damage or unplanned equipment downtime. It thus contributes to extending the product's lifespan and improving its operational characteristics.

Benefits for the soldiers

- increases reliability of weapon systems and onboard equipment by reducing harmful vibrations;
- extends service life of platforms operating in harsh combat conditions;
- improves accuracy and performance of critical components, supporting mission effectiveness and readiness;
- supports modernisation of existing equipment.

ZA Series: Advanced Solutions for Defence Systems NCS-180-45-31(9), NCS-120-42-20(9)

Castelior sp. z o.o. ► p. 445



The modern battlefield demands equipment that is not only high-performing but, above all, reliable and intuitive. The latest addition to the Castelior ZA Series is a direct response to these challenges—systems specifically designed for the secure transport and rapid deployment of advanced launchers and missile systems.

Polish Engineering and Supply Chain Sovereignty

By choosing the Castelior brand, you are supporting the re-polonization of the defence sector. We are the only manufacturer of transport cases in Poland with full in-house design and production capabilities. Shortening the supply chain and maintaining independence from foreign entities is a guarantee of national security and service reliability. When you buy from us, you choose a product built by Polish engineers for the Polish Armed Forces.

Design Rooted in Technical Dialogue

At Castelior, we don't create solutions in a vacuum. Our greatest strength lies in technical dialogue. Every project within the ZA Series is born from direct consultations with end-users—soldiers and operators. Their field experience allows us to refine ergonomics, handle placement, and opening mechanisms, ensuring that operation remains instinctive even under high-stress combat conditions.

Benefit for the soldier

Built for the Polish Armed Forces, the ZA Series ensures mission success through user-driven design. Consulted with soldiers for peak ergonomics, these IP67-rated cases offer rapid, instinctive deployment and total environmental protection. Reliable, domestic, and battle-ready.



ZA Series: Next-Generation Intelligent Ammunition Protection
NCS-T120-2, NCS-M120-2 and NCS-M60-2

Castelior sp. z o.o. ► p. 445



When it comes to ammunition storage and transport, safety is non-negotiable. In response to these critical demands, Castelior presents the ZA Series—the most advanced solution in the ammunition case segment. This system is engineered to provide absolute cargo isolation and comprehensive environmental control.

Innovative Multi-Level Construction

The ZA Series stands out with its unique structural design. A rugged outer shell houses independent, waterproof inner cores, each equipped with its own hinged lid. This allows users to access specific compartments without exposing the rest of the cargo. This modularity significantly enhances operational convenience while protecting the remaining ammunition from humidity, dust, and external contaminants.

Benefit for the soldier

The ZA Series is the only Polish ammo case of its kind. Built for "Less to take, faster to leave," it ensures rapid extraction. With IP67 and UN certification, its custom-shaped cores match your specific ammo, providing mission-critical safety and mobility in the field.

Smart Monitoring – Total Command

What sets the ZA Series apart is the integration of digital oversight. Each core can be retrofitted with advanced sensors for real-time verification of internal conditions:
Humidity indicators and temperature sensors for climate control.

G-shock sensors to monitor impact and transport vibrations.

This technology allows the end-user to quickly and non-invasively verify the condition of the cartridges during storage and transit. By choosing the ZA Series, you invest in the highest standard of safety, backed by Castelior's engineering precision and a commitment to mission-critical reliability.



ZMR
Combat Engineer Demining and Reconnaissance Equipment

Lubawa S.A. ► p. 468

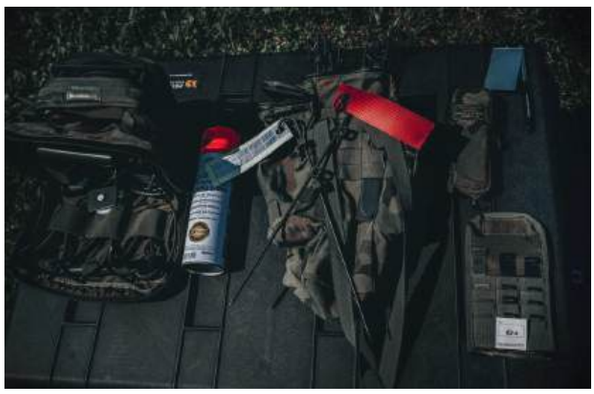
ZMR is a modern, modular mine-clearing and reconnaissance equipment kit developed by Lubawa SA in collaboration with military engineering units. The system is designed for reconnaissance, marking and securing terrain, particularly by sapper sub-units.

The kit comprises over 130 components divided into functional modules, allowing for flexible configuration to suit a specific mission. It includes, amongst other things, mine detection tools, surveying equipment, terrain marking systems and command equipment such as GPS, a compass and a rangefinder.

The ZMR has been designed for use in challenging terrain and climatic conditions. The kit's design was developed with the involvement of end-users and has been positively assessed by military institutions.

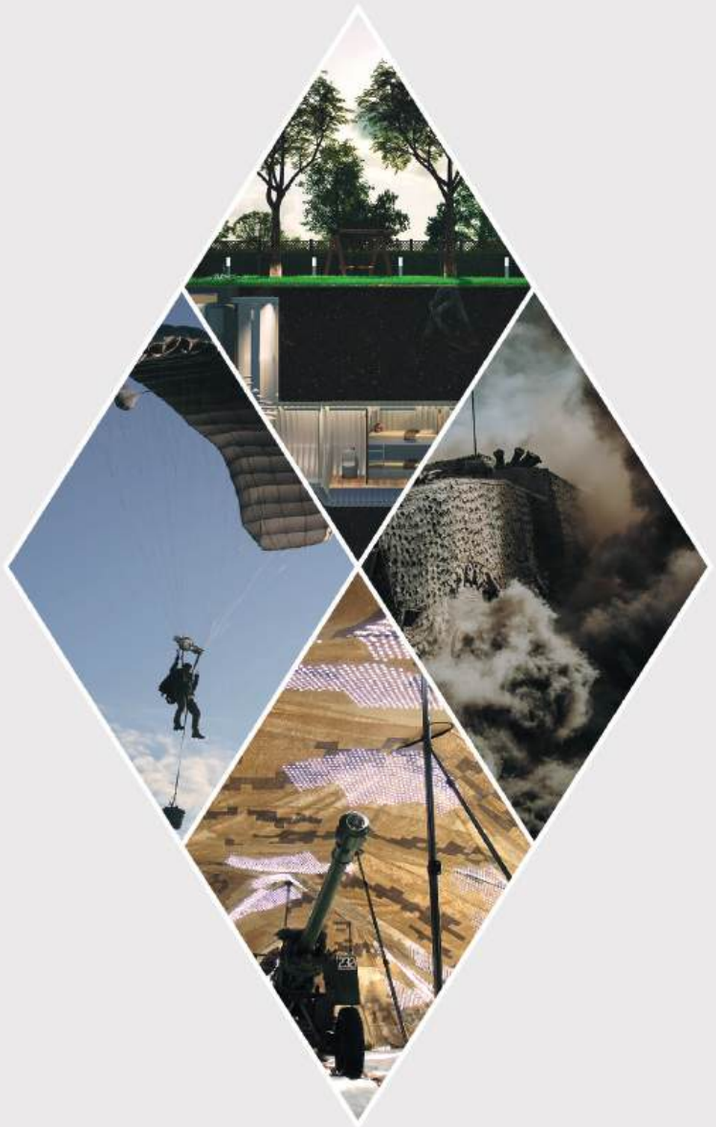






The system's key advantage is its modularity and comprehensiveness – it enables an entire sapper team to be equipped with a coherent, compatible set of tools, thereby enhancing the efficiency and safety of field engineering operations.





FORCE PROTECTION AND MOBILITY



AD-2000 Parachute System

Air-Pol Sp. z o.o. ► p. 436



Thanks to its two-stage main parachute deployment and stabilization system, the AD-2000 parachute system allows delayed deployment jumps by jumpers who are not proficient in the free-fall technique. Thus, AD-2000 minimises the training time of soldiers for ram-air parachute jumping. The excellent lift-to-drag ratio of the canopy used in AD-2000 makes possible flights of up to 30 km whilst also very good manoeuvrability allows the jumper to freely choose the landing spot.

AD-2000 is equipped with:

- a special version of the CYPRES-2 automatic device with the reserve canopy,
- a three-ring, single-grip main canopy release system,
- wide size adjustment of harness with cushions,
- harness for cargo container which allow both lowering of the container and its emergency release during the flight,
- RSL.



Specification of AD-2000 Parachute System

- NSN number: 1670-43-000-0615.
- Certificate number (in accordance with ETSO C23d): 64.086.010.
- Canopy area [m^2 / ft^2]: 27.87 m^2 / 300 ft^2.
- Main canopy - number of jumps / service life: 1500 jumps / 12 years.
- Reserve canopy - number of jumps / service life: 20 jumps / 12 years or 40 documented packings.
- Assembly weight [kg / lbs]: 17.5 kg / 38.58 lbs.
- Suspended load [kg / lbs]: Min 78 kg / 171 lbs, Max 140 kg / 308.64 lbs.
- Min jump altitude [m / ft]: 200 m / 650 ft.
- Descent speed with the stabilizing parachute [m/s / ft/s]: 30-35 m/s / 98.5-115 ft/s.
- Deployment systems:
  - static line,
  - two-stage deployment system
  - stabilisation / manual deployment with KAP-3P1 automatic device,
  - RSL,
  - manual deployment of reserve parachute with CYPRES automatic device.







Benefit for a soldier

Increases accuracy and safety during the drop and significantly reduces the dynamic load during opening and landing

Air Conditioning Systems and Components for Military Vehicles, Shelters and Various Platforms

Webasto Petemar Sp. z o.o. ► p. 503



Key features

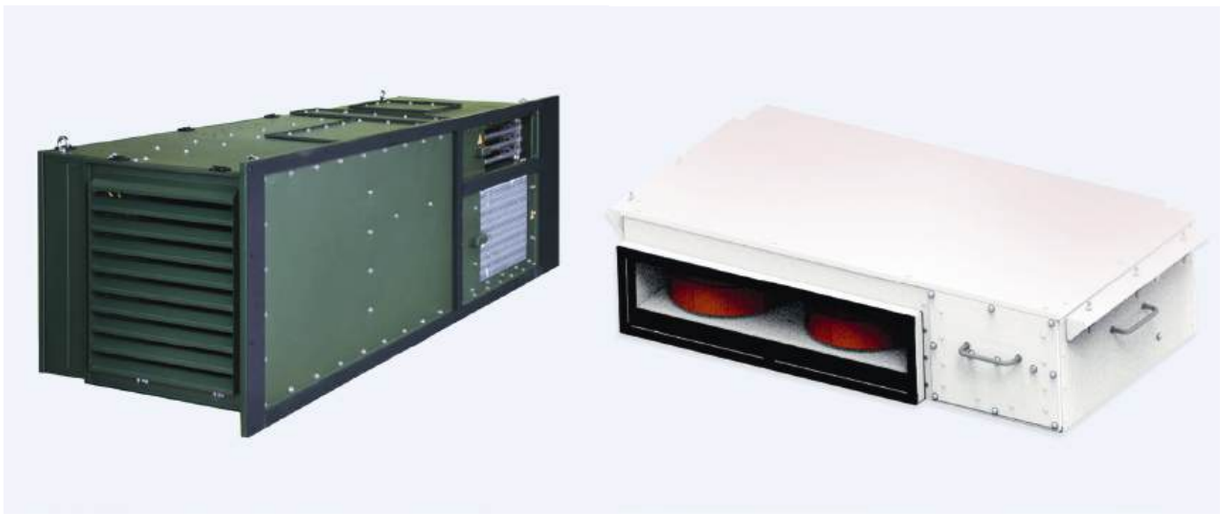
- Modular and flexible vehicle crew space evaporators& HVACs
- Robust and efficient single / double Condenser Units
- Powerful and space saving customized air-conditioning system

Air-conditioners for military shelters (sample products)

- Breeze 6 – silent, split ACU (230V AC or 3x400V AC)
- Breeze 7E – powerful, split ACU with heating function
- UKG12 – extremely compact, powerful monoblock HVAC unit
- RCP control box - integrated solution for ACUs and CBRNs system control

Benefit for a soldier:

- Maintains physical performance and concentration in high-heat environments
- Reduces heat stress, exhaustion, and dehydration risk
- Ensures thermal comfort in crew compartments, shelters, and platforms
- Protects electronics, sensors, and mission equipment from overheating
- Modular and space-saving design adapts to different vehicles and layouts
- Robust, reliable operation in demanding military conditions



ALEXA
Light Weight Gas-Tight EOD Container

Jakusz Sp. z o.o. ► p. 463

Gas-tight EOD container design provides:

- maximum level of protection against shock wave, fire and fragmentation,
- strengthening CBRNE security,
- rapid isolation and transport of hazardous materials with a maximum weight of 1,5 kg TNT equivalent,
- isolating hazards and moving them away from populated areas.

A cost-effective, mobile, easy-to-use solution for: special forces / border guards / police / bomb disposal units / public facility security services.

The ALEXA container is suitable for mounting on a robotic drive unit and on a pick-up chassis enabling:

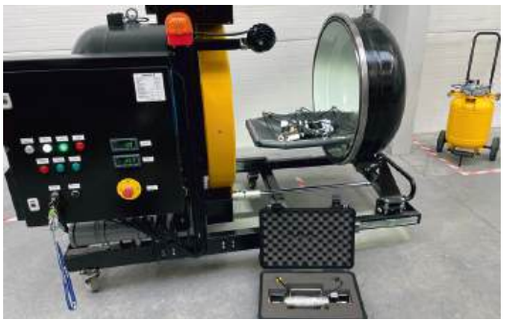
- placing close to the hazard and fast isolation of hazardous materials,
- rapid movement to the place of danger, in crisis and war situations,
- operating in confined spaces and heavy traffic areas.

Additionally the design of the ALEXA container allows sampling of post-detonation gases from a closed container and:

- checking pressure inside the container body,
- venting of gases after detonation,
- sampling of gases from inside the container into special containers for further analysis.

Parameters:

- wired or radio remote control,
- fully automatic container opening/ closing system,
- possibility to work with a EOD robot,
- wide range of carriers/vehicles to use in terms of permissible gross weight of the vehicle.





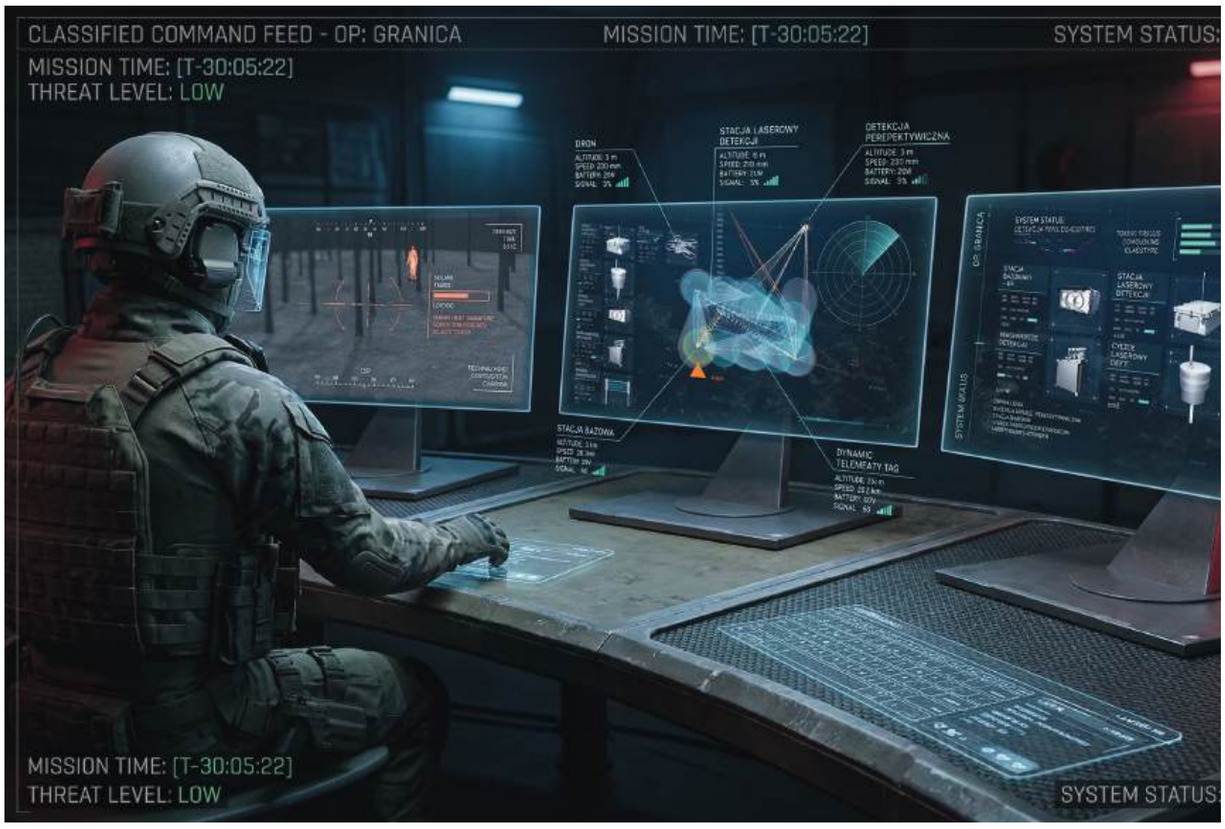


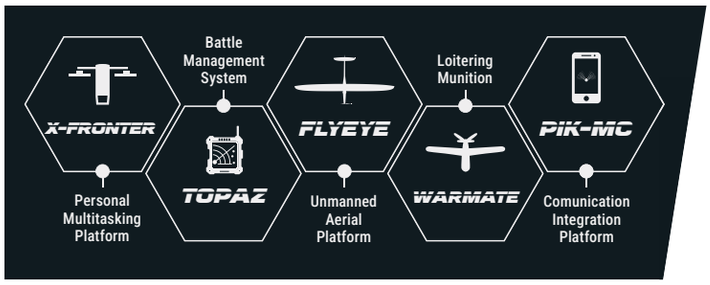
Technical parameters

Maximum explosive	1.5 kg (TNT)
Type of container	gas-tight
Maximum weight of transported object	50 kg
Maximum size of transported object	600 mm x 450 mm x 400 mm (LxWxH)
Maximum size of the container	1200 mm x 1500 mm x 1300 mm (LxWxH)

AMSTA
Digital Border and Critical Infrastructure Protection System

WB GROUP ► p. 502







AMSTA is an intelligent perimeter, border, and critical infrastructure protection system that monitors an area continuously and discreetly, allowing for complete situational awareness. Using artificial intelligence and advanced sensors that can detect vibrations and images, the AMSTA system automatically finds, identifies, and follows the movements of people and vehicles. It can operate in wired or wireless configurations, in all terrain conditions, with minimal logistical requirements. AMSTA supports patrol operations, secures infrastructure, and enhances border and critical infrastructure control – without the need for large forces or resources.

Armoured Observation Container (OKO)

Siltec Sp. z o.o. ► p. 490

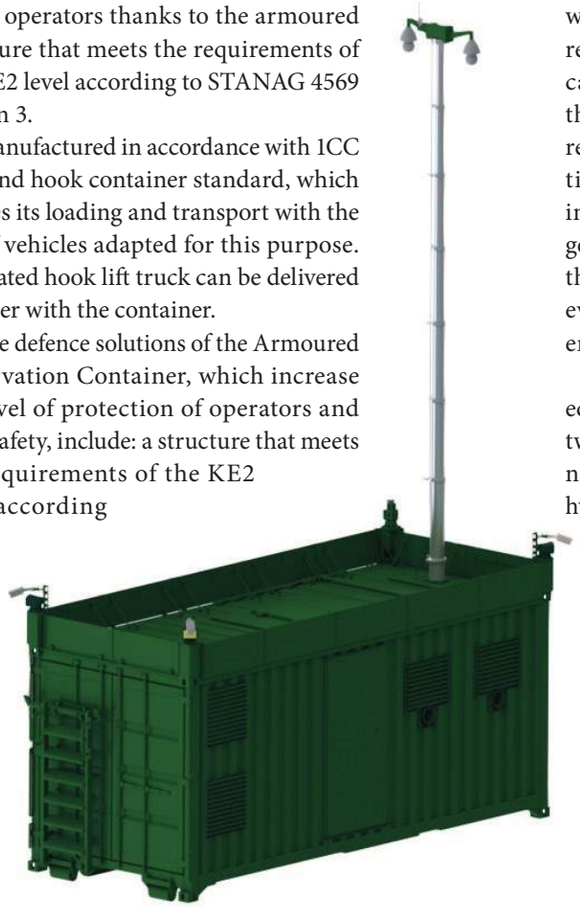
Armoured Observation Container (OKO) allows you to view and record the image around the container from six cameras, including two mounted on the mast, while ensuring the protection and safety of the container operators thanks to the armoured structure that meets the requirements of the KE2 level according to STANAG 4569 edition 3.

Manufactured in accordance with 1CC load and hook container standard, which enables its loading and transport with the use of vehicles adapted for this purpose. Dedicated hook lift truck can be delivered together with the container.

The defence solutions of the Armoured Observation Container, which increase the level of protection of operators and their safety, include: a structure that meets the requirements of the KE2 level according to STANAG 4569 edition 3, shooting positions, an evacuation hatch, windows with tilting louvers and a filter-ventilation system.

For observation activities, the container is equipped with two high-speed cameras mounted on an 8-meter retractable pneumatic mast, four stationary cameras located with remotely controlled external floodlights at the corners of the container, a simultaneous viewing and recording system, an operator's desk and a communication system. The container has the option of connecting an external mains supply or operating from a power generator installed in the technical space, equipped with the function of automatic in case of the power loss. In the event of a temporary power failure, the UPS device will enable data recording and proper system termination.

In addition, the Armoured Observation Container is equipped with an air-conditioning system and air heaters, two beds, weapon racks, a refrigerator, LED lighting, external lighting with motion sensors, as well as a sanitary and hygienic room.







Ballistic Protection System

WISS Samochody Specjalne Sp. z o.o. ► p. 504

MDS-BR4 – Ballistic Protection System. It is the result of an evolution in material engineering. The armour is made of a hybrid composite that provides ballistic protection in accordance with NIJ 0108.01 IIIA. It offers full protection against small-caliber firearms (9mm Parabellum and .44 Magnum). It is fully corrosion-resistant and can withstand temperatures up to 1000°C. Thanks to its built-in insulating layer, it makes an excellent thermal barrier. Due to the relatively low weight of its components, it is an ideal alternative to heavy steel. Weight reduction reaches up to 30%.

Benefit for a soldier

Ballistic shields have many possible applications in the military area. They are perfectly suited both, for the personal protection of soldiers on the battlefield, and for securing strategic buildings. These shields are capable of preventing small-caliber bullets and shrapnel / explosive fragments from entering the interior of a room where officers and key personnel are located. Due to the wide range of protective parameters, we provide the following protection: ballistic, anti-shrapnel, fire-resistant (800 degrees Celsius), thermal camouflage, thermal insulation and corrosion resistance.



The ballistic shielding system can be used in various fields:

- Construction – securing buildings and windows (ballistically and thermally)
- Automotive – armouring vehicles or their components
- Military and police services – protective shields and inserts for bulletproof vests



BurnTec Hydrogel First Aid Dressing for Burns and Other Skin Injuries

KIKGEL sp. z o.o. ► p. 467

BurnTec hydrogel dressings are an aqueous composition of natural and synthetic polymers cross-linked by a beam of electrons. Thanks to radiation processing, the product features sufficient mechanical strength and is fully sterile. In the form designated for end users, it is a 3.5 mm thick hydrogel sheet, containing polymers and over 90% water, constituting a three-dimensional network.

To ensure appropriate mechanical resistance, the entire surface of BurnTec has been strengthened with a medical-quality non-woven fabric with margins which make it easy to remove it from the packet and enables quick and easy application.

- a durable hydrogel pad guarantees even covering over the whole affected area
- it cools the injured area and ensures a soothing effect for up to 24 hours
- it is absorbent, wound secretion and bacteria are kept within the gel
- it is permeable to water vapor and oxygen but impermeable to bacteria – it helps protect wounds from external contamination
- hydrogel ensures an optimally moist environment – it accelerates the formation of epidermis
- immediate application of the dressing reduces the risk of scars
- it is soft and flexible –it adheres well to the wound and adapts to the shape of the body
- it does not stick to the wound, so the dressing can be changed painlessly
- it is biocompatible and does not cause allergic reactions

BurnTec® is a modern hydrogel dressing used in the following situations:

- first-, second- and third-degree burns (thermal, chemical, electric)
- sunburns
- abrasions and skin irritations
- bruises and swelling (insect bites)
- other skin injuries

Hydrogel dressings are flexible and elastic what facilitates application. They adhere well to the body and, thanks to the addition of non-woven fabric, they are durable, tear-resistant and convenient to apply. The hydrogel structure of the dressing makes it possible to maintain an optimal moist wound environment. For superficial burns (e.g. sunburn), the dressing moisturizes the affected area very efficiently, while for exuding wounds, wound secretion is absorbed and contained within the hydrogel structure. Additionally, the dressings let air through and constitute a barrier to bacteria, protecting the wound against external contamination.

Regarding the use of BurnTec®, it has been established that:

- the dressing removes heat very effectively and cools the affected area, offering relief from pain, considerably improving the patient's comfort
- when the dressing is replaced, wound exudate is removed from the wound together with the dressing
- the dressing prevents drying of the wound as well as scab formation on its surface and at the same time protects it from damage and potential external contamination
- immediate application of the dressing reduces the risk of hyper-trophic scars
- replacement of the dressing is painless – the delicate hydrogel sheet does not destroy granulation or new epithelium

In the recent time BurnTec® dressings distributed in the USA by the North American Rescue Company were on equipping in IFAK (Individual First Aid Kits) of elite American US Marines Forces. Our dressings gained an approval of the FDA agency, they have a NSN code (NATO Stock Number), furthermore our company received the NCAGE Code (NATO Commercial and Government Entity Code).

Key benefits for soldiers

- Pain relief: Thanks to its cooling effect, hydrogel reduces pain and swelling.
- Infection protection: These dressings create a barrier against external contaminants (bacteria, dirt) while allowing the wound to "breathe."
- Wound moisturization: They maintain an optimal, moist environment, accelerating the healing process.
- Ease of use in the field: They are easy to apply, flexible, and conform well to the body, which is important in difficult field conditions.

In the context of tactical medicine, rapid application of hydrogel can significantly reduce the time a soldier is out of action due to injuries.

CHRONOS 1
Armoured Mobile Observation and Command Container

ALEHALE Sp. z o.o. ► p. 436

CHRONOS 1 is a specialist, armoured, mobile observation and command container designed to support modern operational environments, including high-threat areas, CBRN zones, and operations with unmanned aerial vehicles (UAVs).


CHRONOS1 photo from back before conducting a firing test

The container is equipped with:

- 24/7 CCTV monitoring (remote viewing and recording up to 90 days)
- Autonomous power supply via a low-noise generator
- Ergonomic interior for a two-person operational crew with rest space for rotational shifts
- Optional equipment: CBRN filtration, EMP protection, anti-drone netting, observation turrets, weapons, and multi-spectral camouflage.

An integrated Automatic Emergency Door Opening (AEDO) system allows personnel evacuation in 5 seconds from inside or outside the container without damaging locks or mechanisms.

Applications:

- Observation and command at forward operating bases (FOB) or combat outposts (COP)
- UAV command and control
- Border and airspace surveillance
- Operations in CBRN-contaminated environments
- Operations in electronically contested environments
- Safe shelter during attacks.

Built on a 10' ISO sea container, it enables rapid transport, deployment, and operation under combat conditions, while providing full ballistic protection against 7.62×51 mm NATO rounds. It features four BR7 bulletproof observation windows for maximum situational awareness.



Technical Data:

- Dimensions: 2.438 m (W) × 2.591 m (H) × 2.991–6.0 m (L);
- Weight: approximately 5,000 kg;
- Exterior paint: plain or military camouflage.

Benefit for a soldier

CHRONOS 1 increases the safety and effectiveness of soldiers. It provides protection (a structure resistant to 7.62×51mm NATO fire, BR7 ballistic glass) and situational awareness (24/7 monitoring = faster decision-making and response). The AEDO system increases crew survivability (rapid evacuation).



Container-Based Surveillance and Counter-Drone Systems

ALIVE Sp. z o.o. ► p. 437



Modular, rapidly deployable container-based system integrating advanced surveillance and counter-drone technologies. Designed for high-risk sites such as power plants, airports, and government facilities, each self-contained unit provides comprehensive coverage and adapts swiftly to evolving threats.

Within each reinforced container: thermal imaging cameras, perimeter radars, and motion sensors enable real-time monitoring and automated alerts. Integrated anti-drone capabilities — radar detection, RF analysis, and jamming — detect, track, and neutralise unauthorised UAVs. Each unit operates independently with built-in power, communications, and climate controls, ensuring uninterrupted functionality across all environments.





Benefit for a Soldier

The containerised design enables rapid redeployment to new locations without loss of operational readiness. Modular sensor and neutralisation architecture allows mission-tailored configuration — providing equally effective protection for permanent facilities and temporary forward positions.

Key Features

- Reinforced modular container — weather-resistant and tamper-proof
- Thermal imaging, perimeter radar, and motion sensor array
- Integrated anti-drone: radar detection, RF analysis, and jamming
- Fully autonomous power, communications, and climate control
- Scalable deployment — standalone or integrated into broader security ecosystems
- Rapid setup for critical infrastructure: power plants, airports, government sites

DEDAL (AD-95s.3 AZ-95s.3) series 3 Parachute System

Air-Pol Sp. z o.o. ► p. 436



DEDAL series 3 troop parachute (AD-95s3+AZ-95s3) is designed for basic and advanced training jumps, combat-training jumps and combat jumps. The AD-95s.3 parachute system can be equipped with a steerable or non-steerable main canopy. The purpose of the DEDAL series 3 parachutes are airborne troop landing operations with combat equipment from high and low altitudes. Parachute harness supports standard containers with equipment and weapons. The AD-95s.3 canopy has a unique ability to change the functionality of the parachute by the jumper when airborne. After deployment, the parachute falls vertically (no forward speed). The forward speed appears only if the jumper decides to open the drive slots that give the canopy horizontal speed and allow the parachute to manoeuvre.

The AZ-95s.3 reserve parachute is designed to rescue a jumper in case of partial or total failure of the main canopy. Deployment of the canopy is accelerated by a spring mechanism. AZ-95s.3 can be deployed with either hand. In addition, the parachute can be equipped with an AAD.

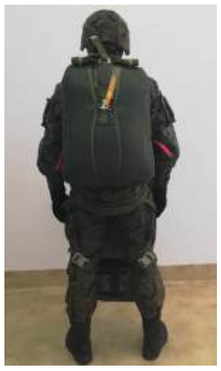
Specification of DEDAL series 3 Parachute System

- NSN number: 1670-43-002-2634 + 1670-43-002-2635.
- Certificate number: 64.086.006a + 64.086.005a.
- Canopy type: conical, steerable (optionally non-steerable).
- Canopy area [m^2 / ft^2]: 110 m^2 / 118 ft^2 + 63 m^2 / 538.21 ft^2.
- Canopy diameter [m / ft]: 13.2 m / 43.31 ft + 9.8 m / 26.24 ft.
- Rotation time [s]: ~12 s (main canopy).
- Main canopy [number of jumps / service life]: 150 jumps / 12 years (max 20 years).
- Reserve canopy [number of jumps / service life]:
  - 1 jump at 350 km/h,
  - 12 jumps at up to 225 km/h,
  - 20 deployments in auxiliary mode, / 12 years (max 20 years).
- Assembly weight [kg / lbs]: 18.5 kg / 40.8 lbs + 8 kg /18 lbs.
- Max suspended load [kg / lbs]: 185 kg / 408 lbs.
- Deployment speed of the main parachute:
  - Min 120 km/h / 65 KTS,
  - Max 400km/h / 216 KTS with min. 3-second delay.
- Deployment speed of the reserve parachute:
  - Min 110 km/h / 60 KTS;
  - Max 277.8 km/h / 150 KTS;
  - Max 400km/h / 216 KTS with min. 5-second delay.
- Min jump altitude (main canopy) [m / ft]: 150 m / 492 ft.
- Min jump altitude (reserve canopy) [m / ft]: 100 m / 328 ft.
- Descent speed [m/s / ft/s] (main canopy): 5.4 m/s / 17.7 ft/s (at 185 kg).
- Descent speed [m/s / ft/s] (reserve canopy): 7.9 m/s / 26 ft/s (at 185 kg).
- Forward speed [m/s / ft/s]: 0 ÷ 4.5 m/s / 0 ÷ 14.76 ft/s.
- Descent speed with a stabilizing drogue parachute [m/s / ft/s]: 35 m/s / 115 ft/sec.

Benefit for a soldier.

Increases accuracy and safety during the drop and significantly reduces the dynamic load during opening and landing.





- Deployment systems:
  - static line,
  - static line with spring-loaded pilot chute,
  - two-stage stabilised deployment system backed with KAP-3P1
  - automatic device,
  - manual deployment by ripcord backed with KAP-3P1 automatic device.

EVA
Gas-Tight Explosion-Proof Container

Jakusz Sp. z o.o. ► p. 463

EVA mobile EXPLOSION-PROOF CONTAINER for the isolation and transport of hazardous and explosive materials:

- gas-tight, providing a maximum degree of protection against shock wave, fire and fragments,
- resistant to detonation of:
  - 8 kg in TNT equivalent - gas-tight,
  - 10 kg in TNT equivalent - non-gas-tight,
- protection against CBRN agents,
- decontamination system that enables neutralisation of products generated during explosion, ensuring complete protection of the surrounding,
- a system allowing the collection of gas samples from a closed container,
- self-propelled / with own drive,
- radio-controlled with option of manual emergency opening,
- steering axle allowing close approach to the load pick-up point,
- tested and certified by research institutes,
- operating in various climate and environmental conditions, at temperatures of -20°C + 40°C, on sand, in dust, high humidity and rain,
- comprehensive solution for border guard / military / police / EOD services / public facility security services,
- operation compatible with EOD robot.

EXPLOSION-PROOF CONTAINER can be installed on trailers, mobile platforms or adapted for installation on vehicles.







Maximum load dimensions	width 670 / height 500 / length 1,170 mm
Maximum dimensions of closed container (ready for transport)	width 2,000 / height 2,300 / length 3,500 mm
Maximum weight of transported material	80 kg
Set weight - container and mobile platform	6000 kg

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FORCE PROTECTION AND MOBILITY

FaceCOV Biometric Gate
3 variants: VIP / ActiveSCAN / Container TRIPLEX

ZURAD Sp. z o.o. ► p. 517



FaceCOV is an advanced modular biometric gate designed for high efficiency access control and automated identity verification in critical security environments. Based on cutting edge AI algorithms, the system enables real time facial recognition—even for moving individuals—with unmatched speed and accuracy. The solution integrates biometric scanning of face, fingerprints and documents, while ensuring compatibility with external databases, monitoring systems and security infrastructures.

Available in three operational variants:

- VIP – single lane gate for controlled access and watchlist management
- ActiveSCAN – multi-sensor system with extended detection capabilities
- TRIPLEX Container – mobile solution with up to 3 gates, offering throughput of up to 5000 persons/hour



With scalable architecture, encrypted data transmission (AES 256), and seamless integration with existing VMS platforms, FaceCOV delivers a unified security ecosystem for border control, mass events and critical infrastructure protection.

Benefit for a soldier

Significantly increases situational awareness and operational security by enabling rapid identification of persons of interest, minimising reaction.

Feniks Future Parachute System

Air-Pol Sp. z o.o. ► p. 436

The Feniks Future Parachute System is dedicated to parachute training of soldiers who have previously mastered jumps with a free-fall opening system. It is perfectly suited for parachute sport and as a parachute for instructors conducting AFF training. The container is available in different sizes depending on the user's requirements regarding the main and reserve canopy assembly. Depending on the order, the harness is custom-manufactured to size or with the possibility of adjustment to ensure maximum comfort for jumpers who remain on stand-by for a long period of time.





Benefit for a soldier.
Increases air mobility, accuracy and safety during drop and significantly reduces the dynamic load during deployment and landing.

Specification of Feniks Future Parachute System

- Classification in accordance with Common Military List of the European Union (2020/C 85/01): ML 10.h.1.
- Certificate number (in accordance with ETSO C23d): 64086002.
- Canopy area [m^2 / ft^2]:
  - 10.87 m^2 / 117 ft^2,
  - 11.51 m^2 / 124 ft^2,
  - 12.26 m^2 / 132 ft^2,
  - 13.00 m^2 / 140 ft^2,
  - 14.86 m^2 / 160 ft^2,
  - 15.79 m^2 / 170 ft^2,
  - 16.25 m^2 / 175 ft^2,
  - 18.58 m^2 / 200 ft^2,
  - 19.97 m^2 / 215 ft^2,
  - 20.44 m^2 / 220 ft^2.





- Reserve canopy area [m^2 / ft^2]:
  - 13.28 m^2 / 143 ft^2,
  - 13,74 m^2 / 148 ft^2,
  - 13,74 m^2 / 148 ft^2,
  - 13.93 m^2 / 150 ft^2,
  - 16.25 m^2 / 175 ft^2,
  - 17.46 m^2 / 188 ft^2,
  - 19.32 m^2 / 208 ft^2,
  - 19.97 m^2 / 215 ft^2,
  - 21.18 m^2 / 228 ft^2.



- Assembly weight [kg / lbs]: ~11.5 kg / ~25.35 lbs.
- Min/Max suspended load [kg / lbs]: 165 kg / 264.55 lbs.
- Max deployment speed [km/h / KTS]: 277.8 km/h / 150 KTS.
- Deployment system: soft BOC pilot chute.
- Backup:
  - AAD – dedicated CYPRES II,
  - RSL.

Feniks Military G-9 Parachute System

Air-Pol Sp. z o.o. ► p. 436

Fenix G-9 Military is a parachute system designed for HAHO jumps. The G-9 canopy is a cross-over of a parafoil and a parachute which makes it an ideal solution for long distance gliding flights.

Due to its parameters, the G-9 canopy is very demanding which makes it suitable primarily for very experienced soldiers. A wide range of applications is possible thanks to a variety of available deployment systems, regardless of the equipment and its size. The harness has been designed to provide maximum comfort and convenience for the jumper during long flights.

The parachute can be adjusted to the height and dimensions of the jumper.

Benefit for a soldier.

Increases air mobility, accuracy and safety during drop and significantly reduces the dynamic load during deployment and landing.



Specification of Feniks Military G-9 Parachute System

- Classification in accordance with Common Military List of the European Union (2020/C 85/01: ML 10.h.1.
- Certificate number (in accordance with ETSO C23d): 64086004.
- Main and reserve canopy area [m² / ft²]: 34.83 m² / 375 ft².
- Number of cells: 11.
- Lift-to-drag: 6+.
- Assembly weight [kg / lbs]: 23 kg / 50.70 lbs.
- Min/Max suspended load [kg / lbs]: 181.43 kg / 400 lbs.
- Max deployment speed [km/h / KTS]: 277.8 km/h /150 KTS.
- Descent speed of deployed canopy [m/s / ft/s]: 2.5 m/s / 8.20 ft/s.
- Descent speed with the drogue parachute [m/s / ft/s]: 45 m/s / 147.63 ft/s.
- Deployment systems:
  - soft BOC pilot chute,
  - grip/spring-loaded chute,
  - static line,
  - static line to deploy drogue,
  - two-stage/drogue.
- Backup:
  - AAD - dedicated CYPRES II,
  - RSL.

Feniks S Parachute System

Air-Pol Sp. z o.o. ► p. 436

The Feniks S parachute system is the foundation of the entire Feniks parachute series. It is designed for parachute training both for beginners and for advanced jumpers as well as for skill-honing trainings. It is a perfect set for basic trainings, sport and leisure, as well as advanced parachute training. With correctly selected sizes of the main canopy and reserve, it perfectly plays its role as a parachute for students and AFF instructors. Its container is designed to provide maximum comfort for jumpers also during long standby periods.The technical solutions implemented in the system ensure that jump masters can move safely on board the aircraft without the risk of accidentally deploying the parachute. Feniks is designed for all parachute trainers. In the "back-to-back" system, Feniks has containers for the reserve and main parachutes and an integrated harness for a single jumper.





It is perfectly suited for parachute sport and as a parachute for instructors conducting AFF training. The container is available in different sizes depending on the user's requirements regarding the main and reserve canopy assembly. Depending on the order, the harness is custom-manufactured to size or with the possibility of adjustment to ensure maximum comfort for jumpers who remain on stand-by for a long period of time.

Specification of Feniks S Parachute System

- Classification in accordance with Common Military List of the European Union (2020/C 85/01): ML 10.h.1.
- Certificate number (in accordance with ETSO C23d): 64086003.
- Canopy area [m^2]:
  - 21.36 m^2 / 230 ft^2.
  - 23.22 m^2 / 250 ft^2.
  - 24.15 m^2 / 260 ft^2,
  - 25.08 m^2 / 270 ft^2.
  - 26.01 m^2 / 280 ft^2.



- Reserve canopy area [m^2 / ft^2]:
  - 21.18 m^2 / 228 ft^2,
  - 21.83 m^2 / 235 ft^2,
  - 23.04 m^2 / 248 ft^2,
  - 23.22 m^2 / 250 ft^2,
  - 24.61 m^2 / 265 ft^2,
  - 25.08 m^2 / 270 ft^2,
  - 26.75 m^2 / 288 ft^2,
  - 26.94 m^2 / 290 ft^2,
  - 27.87 m^2 / 300 ft^2.



- Assembly weight [kg / lbs]: ~15.5 kg / ~33 lbs.
- Min/Max suspended load [kg / lbs]: 181.4 kg / 400 lbs.
- Max deployment speed [km/h / KTS]: 277.8 km/h / 150 KTS.
- Deployment system:
  - soft BOC pilot chute,
  - grip/spring-loaded chute,
  - static line.
- Backup:
  - AAD – dedicated CYPRES II,
  - RSL.

Benefit for a soldier.

Increases air mobility, accuracy and safety during drop and significantly reduces the dynamic load during deployment and landing.

Fuel Operated Heaters

Webasto Petemar Sp. z o.o. ► p. 503



Webasto Air Top Evo 55M - air heating system for crew and equipment spaces

Webasto Thermo Pro 90 HD - reliable water heating system for demanding defense vehicles

- Multiple fuel compatibility i.a. F34 and F54 Fuels declared in Heater Type Approvals
- Adapted to defense requirements
- EMC suppression to meet MIL 461G (with VG-certified connectors available)
- Suitable for vehicles, shelter and special equipment applications

Benefits for a soldier:

- Keeps crews warm, alert, and mission-ready
- Reduces fatigue and cold-related stress
- Enables fast vehicle start and immediate deployment
- Protects mission-critical electronics and equipment
- Uses standard NATO fuels (F-34 / F-54) in the field
- EMC-safe – no interference with radios or command systems.



Heavy-class Airport Rescue and Firefighting Vehicle SCANIA 6x6

SZCZĘŚNIAK Special Vehicles ► p. 494

The vehicle is built on a three-axle Scania P450B6X6HZ XT (6×6) chassis. It is powered by a six-cylinder engine with a maximum output of 331 kW (450 HP). A crew of three is accommodated in a short, single-module, two-door cab.

The firefighting body consists of three modules: an equipment module, a module with extinguishing agent tanks, and a pump-and-equipment module.

The extinguishing agent tanks are made of composite materials. They have a capacity of 8,000 litres for water and 800 litres for foam concentrate. An additional complement to the vehicle's extinguishing capabilities is a powder unit AP 180, with a capacity of 180 kg of powder, as well as a CO_2 system with cylinders (2×30 kg), providing a total of 60 kg of carbon dioxide.





At the rear of the body, there is a pump-and-equipment compartment. It houses a fire pump with a capacity of 6,500 l/min at a pressure of 8 bar. The water-foam system is equipped with a foam proportioning system, allowing concentrations of 1% or 6%. The vehicle is also equipped with an electrically driven hose reel for rapid intervention, featuring a 60-meter high-pressure hose.

At the front of the cab, a bumper-mounted water-foam monitor with a capacity of 1,600 l/min is installed, while on the roof there is a main water-foam-powder monitor with a capacity of 3,200 l/min or 10 kg/s of powder. Both monitors are controlled via joysticks located in the driver's cab.

Benefit for a soldier

Firefighting vehicle on a Scania P450B6X6HZ XT (6×6) chassis with a 450 HP engine and 3-person cab. Carries 8000 l water, 800 l foam, plus powder and CO_2 systems. Equipped with a 6500 l/min pump, hose reel, and remotely controlled front and roof monitors for rapid response.



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FORCE PROTECTION AND MOBILITY

Heavy Wheeled Recovery and Technical Rescue Vehicle ASTRA 8×8

SZCZĘŚNIAK Special Vehicles ► p. 494

Heavy wheeled recovery and technical rescue vehicle on ASTRA 8×8 chassis is designed for technical support, rescue operations, and the recovery of heavy combat and transport vehicles both on the battlefield and on roads. It is equipped with an advanced ROTATOR 3000.2 telescopic crane with a reach of up to 10,1 m and a lifting capacity of 40 tons, a UH-14.2 recovery device (evacuation arm) enabling suspended towing of vehicles weighing up to 14 000 kg, as well as a comprehensive system of hydraulic winches with a pulling force of up to 25 tons. The vehicle has been engineered and manufactured in Poland to perform technical rescue, recovery, and operational support tasks under the most demanding environmental and tactical conditions.

The vehicle body is equipped with an advanced ROTATOR crane, model 3000.2, featuring a lifting capacity of 40 000 kg at a boom angle of 50°. The system offers continuous 360° rotation (operational range up to 270°) and a hydraulically extendable telescopic boom with a length ranging from 6,2 m to 10,1 m. The vehicle can also be optionally equipped with ballistic protection and NATO-compliant communication systems.

The product significantly enhances the operational capabilities of the Armed Forces, Territorial Defence Forces, industrial rescue units, and other crisis response services by enabling rapid recovery of damaged heavy equipment during wartime operations, training exercises, accidents, various types of disasters, and natural catastrophes.

Benefit for a soldier

Heavy wheeled recovery vehicle on an ASTRA 8×8 chassis for technical support and evacuation of heavy equipment in the field and on roads. Equipped with a ROTATOR 3000.2 crane (40 t, up to 10,1 m), UH-14.2 recovery arm, and winches (up to 25 t). Designed in Poland for operation in demanding conditions.





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FORCE PROTECTION AND MOBILITY
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Heavy Wheeled Recovery and Technical Rescue Vehicle SCANIA R520 8×8

SZCZĘŚNIAK Special Vehicles ► p. 494

Heavy Wheeled Recovery and Technical Rescue Vehicle (CKPEiRT) is a highly mobile specialised unit designed for technical support, rescue operations, and the recovery of heavy combat and transport vehicles in both battlefield conditions and on public roads.

The vehicle is equipped with an advanced towing system (towing boom), enabling the recovery of vehicles weighing up to 9 000 kg (at 2 m outreach) up to 20 000 kg (at minimum outreach), as well as a comprehensive system of hydraulic winches with a pulling capacity of up to 24 tonnes. It has been engineered to perform technical rescue, evacuation, and operational support tasks in the most demanding environmental and tactical conditions.

An emergency power supply system enhanced operational lighting, camera systems with blind spot detection, and remote control of selected working functions ensure operator safety and high operational effectiveness under all conditions. The vehicle can also be optionally equipped with ballistic protection and communication systems compliant with NATO standards.

The vehicle combines mobility, power, and efficiency, making it a complete solution for difficult tasks like rescue and recovery, which can greatly improve the effectiveness of military and emergency response teams.



Benefit for a soldier

Heavy wheeled recovery and technical rescue vehicle (CKPEiRT) for support, rescue, and recovery of heavy vehicles in the field and on roads. Equipped with a towing boom (9–20 t) and hydraulic winches (up to 24 t). Features power supply, lighting, cameras, and remote control. Optional ballistic and NATO systems. Designed for demanding operations.



Hovercraft PRC – 650

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

Hovercraft PRC-650 has been designed for rescue and patrol operations on inland waterway, especially in winter conditions, on fragile ice and in water bodies with low water level. It is an improved version of the previous generations of the Institute of Aviation's hovercraft.

Modifications included the propulsion system, control system, hovercraft ergonomics, and the possibility of transporting it - including the possibility of carrying it by helicopter. As a result of the work, the hovercraft's power was increased and a larger propulsion fan was installed. In terms of ergonomics, comfort, and overall design, the hull length was extended and the cabin entrance widened. The hovercraft features an expanded dashboard and an advanced control system that significantly improves ease of operation for the user. These improvements positively enhance the hovercraft's role and performance in patrol and rescue missions.

Design features:

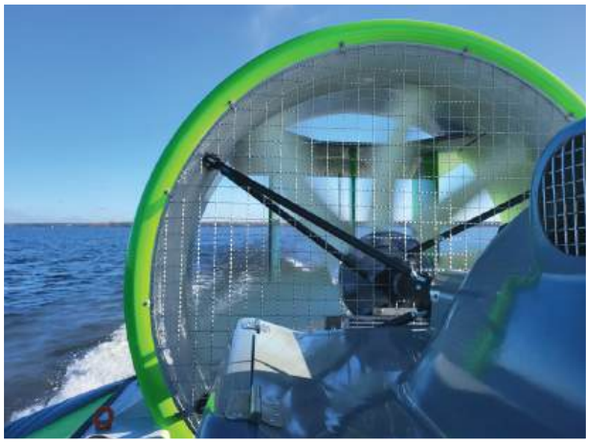
- Designed to be transported by helicopter or in a sea container
- Stable and safe piloting
- Smooth transition to planing
- The possibility of reducing thrust without changing the pressure in the cushion with simultaneous full manoeuvrability control
- Expanded cabin and doors make it easier to take the victim out of the water

Technical specification

engine	Bukh SeaAll R210 (SOLAS) 2,2L diesel
engine power	210 H.P.
hull dimension	6,5 m x 2,2 m x 2,3 m
maximum speed on ice	70 km/h
fuel tank	90 litres
fuel consumption	20-25 litres per hour
weight of empty unit	1300 kg
disposable weight	900 kg
height of fixed obstacles	0,35 m

Benefits for a soldiers

- enables rapid troop movement and casualty evacuation across ice, shallow water and large scale flooded area,
- improves mission reach thanks to helicopter transportability,
- enhances patrol and force- protection tasks by ensuring stable handling and quick response in harsh environments.





Mobile Camouflage

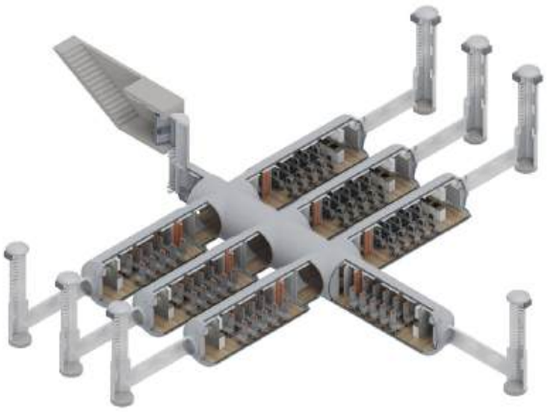
MIRANDA Sp. z o.o. ► p. 470

Mobile camouflage designed for camouflaging vehicles both on the move and at a standstill. It is made of custom-made panels for each vehicle. It provides multi-band UV, VIS, NIR, TIR, RADAR protection. It effectively changes the thermal and radar signatures of vehicles, making them impossible to detect. This results in a significant increase in survivability and a reduction in the loss of resources on the the modern battlefield.

Mobile camouflage imitates the texture of the natural environment, leaves, and terrain, providing a sense of space and enhanced protection in forest, desert or mountain environments. The modular design of the mobile camouflage allows the camouflage panels to be adapted to a specific vehicle and quick installation on vehicles. The use of a panelled design also allows for easy replacement of damaged camouflage components.

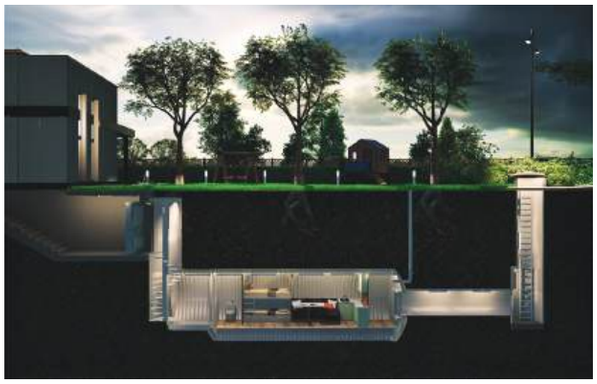


Changes the thermal and radar signature of vehicles, making them impossible to detect.



Modular Shelters – EMER Security Shelters

RATAJ Sp. z o.o. ► p. 481



Solutions based on high-density polyethylene (HDPE). SHELTERS are an innovative and effective solution compared to traditional concrete structures. The first noticeable advantage is their LIGHTNESS, which facilitates transport and assembly of the entire structure, ensuring QUICK implementation of the entire project. The finished shelter can be installed in one day and also allows for relocation if necessary. The flexibility of this modern material allows for easy adaptation and modernization of the structure, which is crucial in the context of dynamic changes in defence technologies. In addition, the corrosion and crack resistance of polyethylene make these shelters more durable and resistant to structural damage, especially in prolonged crisis situations.



Each project is developed based on the client's actual needs, local conditions, and the intended functions of the facility. We do not rely on rigid, predefined solutions - instead, we tailor the structure, layout, technical parameters, and level of protection to the specific application. This approach ensures that our facilities are functional, cost-effective, and designed to meet both current requirements and future needs. Our solutions are not designed exclusively for times of crisis. We develop them according to the "dual-use" concept, which means they can be used on a daily basis as utility, technical, or storage spaces. In the event of a threat, the facility can quickly change its function to provide protection.

Benefit for a soldier:

Hermetic protective modular units equipped with an NBC filtration system, designed for efficient transport and rapid deployment in demanding field conditions. They support the establishment of blockposts, protection points, and operational facilities. Fully scalable and configurable to meet mission-specific requirements and terrain conditions.







Multi-Purpose High-Mobility Excavator SCANIA 8×8

SZCZĘŚNIAK Special Vehicles ► p. 494





The UDS 214.3 mounted on a Scania chassis is a multifunctional excavator with high mobility, designed for engineering support as well as rescue and disaster response operations.

The excavator is equipped with a telescopic boom that allows smooth adjustment of the digging reach up to 14.60 meters (horizontally, with extension sections) and a rotating head capable of full 360° rotation. Thanks to the possibility of mounting various tools—such as a ripping shovel, profiling shovel, leveling shovel, detachable cutting blade, rock grapple, and asphalt cutter — the machine gains exceptional operational versatility.

The UDS 214.3 can also function as an auxiliary crane, lifting loads of up to 7,5 tons. Optionally, the vehicle can be fitted with an integrated armoured cab.

The combination of a specialized excavator's functionality with the excellent mobility of the chassis makes the UDS 214.3 highly effective in operations carried out by engineering units of Armed Forces. The vehicle can be used, among other things, for constructing fortifications and storage facilities, demolishing engineering obstacles, rebuilding and repairing road infrastructure, and conducting rescue operations.

The use of such modern and versatile equipment significantly enhances the operational potential of engineering units and increases defense capabilities within NATO structures.

Benefit for a soldier

UDS 214.3 on a Scania chassis is a mobile multifunctional excavator for engineering, rescue, and disaster response. Telescopic boom (basic reach up to 10m) and 360° head; supports multiple tools. Lifts up to 7.5 t as a crane. Optional armoured cab. Boosts effectiveness of military engineering and crisis units.



NS-Series

LUBAWA S.A. ► p. 468

The NS-SERIES is a universal structure designed to perform various tasks, from command posts, through field hospitals, warehouses, etc. The tent is composed of a rigid frame made of unified aluminium profiles with a quick deployment system, which minimises the time required to put up the tent. The sheathing is made of fire-resistant polyester fabric, with special finishing ensuring thermal and light reflex (thus improving the efficiency of lighting and air conditioning systems). It meets the requirements for accommodation of 4 people (NS-18) up to 10 people (NS-30) with the equipment.

The NS-SERIES tent is suitable for all terrain conditions (mountains, uplands, lowlands, deserts, forests and lakes, etc.) and climatic zones (polar, moderate and inter-tropical),



including conditions of high air and ground humidity, intensive sunlight, as well as low temperatures, intensive rain and snow. The operating temperature range is from -30°C to +60°C. Inside the tent there is a possibility of maintaining comfortable temperature from +18°C to +21°C, regardless of climatic zones, thanks to the use of additional equipment, e.g. air conditioners, heaters, power generators.

The NS-SERIES is available in multiple size variants, ranging from NS-18 to NS-26 up to NS-30, offering increasing usable space and capacity depending on operational needs. This range allows users to select the appropriate configuration while maintaining compatibility within a unified modular system.

PARAMETER	NS-18	NS-26	NS-30
HEIGHT [m]	2,30 – 2,50	2,30 – 2,50	2,30 – 2,50
WIDTH [m]	4,80	4,80	4,80
LENGTH [m]	3,42	5,20	5,95
USABLE AREA [m²]	16,50	25,00	28,50
WEIGHT [kg] ±10%	215	240	265
SETUP TIME [min]	15	20	25
HANDLING [persons]	4	4	4
ACCOMMODATION	4 – 6	6 – 8	8 – 10









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FORCE PROTECTION AND MOBILITY
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Portable C-UAS Systems

AP-FLYER Sp. z o.o. ► p. 438

Designed for today's modern battlefield, soldier-carried and vehicle-based anti-drone system provides a powerful defense against aerial surveillance and attack. Engineered with the latest technology, it offers unmatched reliability and performance in neutralising drone threats at range.

Handheld jammer (Handheld-9 Drone C-UAS)

- Range: up to 2km
- Covers 9 frequency bands
- Weight: <7.5 kg
- Operating time on single battery: up to 60min
- Features: digital display, inbuilt compass, optical scope, active cooling, IP65
- Safety: MIL-STD & Radiation hazard certificate

Manpack jammer (Manpack-9 Drone C-UAS)

- Range: over 2.5km
- Covers 9 frequency bands
- Weight: <18 kg
- Operating time on single battery: up to 60min
- Operating time from AC source: unlimited
- Features: digital display, optical scope, active cooling, IP55, hot-swap battery

Vehicle protection system (MADDOS MDP)

- Automatic operation – Detect & Defeat
- Protection of vehicles and convoys
- Detection range up to 3km
- Neutralisation range up to 1km
- Designed to neutralize FPV drones
- Swarm drone detection and neutralisation
- Operational On the Move (OTM)
- Ruggedized and shock resistance compliant with MIL-STD 810H





Benefit for a soldier

Portable C-UAS systems increase force protection against UAVs. They provide rapid detection, identification, and mitigation of drones in the immediate operational area, significantly improving unit survivability and operational security during field operation.

ROSA 3

PZL DEFENCE S.A.
UNIMOT GROUP ► p. 480

High-mobility single-track vehicle "ROSA". In cooperation with its technology partner, PZL Defence has developed a high-mobility electric single-track vehicle. Its range is up to 150 km on a single charge. The solution was developed around the concept of creating a low-cost, easy-to-operate means of transport for patrol missions. In its standard configuration, it can carry one operator along with additional equipment within the cargo space. Options for modifying the concept to meet specific user requirements are available



Benefit for a soldier

Easy to use and reliable, this lightweight EV offers high off-road capability and silent operation. Its modular design is perfect for stealthy patrol, reconnaissance, and combat missions where mobility and silence are critical.



Static Camouflage
2D Multispectral Winter Camouflage Net

Miranda Sp. z o.o. ► p. 470

The 2D Multispectral Winter Camouflage Net is designed to protect people and equipment. The nets are made of durable materials and feature a unique spatial structure with concave and convex sections, ensuring better blending with the natural environment and providing protection across the full spectrum: UV, VIS, NIR, SWIR, TIR, and RADAR electromagnetic radiation.

The UV reflection properties of the winter camouflage net are comparable to those of a snow-covered environment, providing advanced protection against early detection devices operating in the UV range.

The camouflage pattern and color parameters are tailored to the environment in which the camouflage is used. The nets blend perfectly with natural surroundings and provide effective protection against optical reconnaissance systems, both aided and unaided.

The latest solutions use lightweight, high-strength textiles with excellent performance characteristics. The design of the net fabric ensures excellent situational awareness. The external environment remains clearly visible to the observer from beneath the camouflage net. In the winter version, it is possible to create additional openings.



Increased survivability due to effective camouflage and protection against detection across multiple spectral ranges (UV–RADAR).

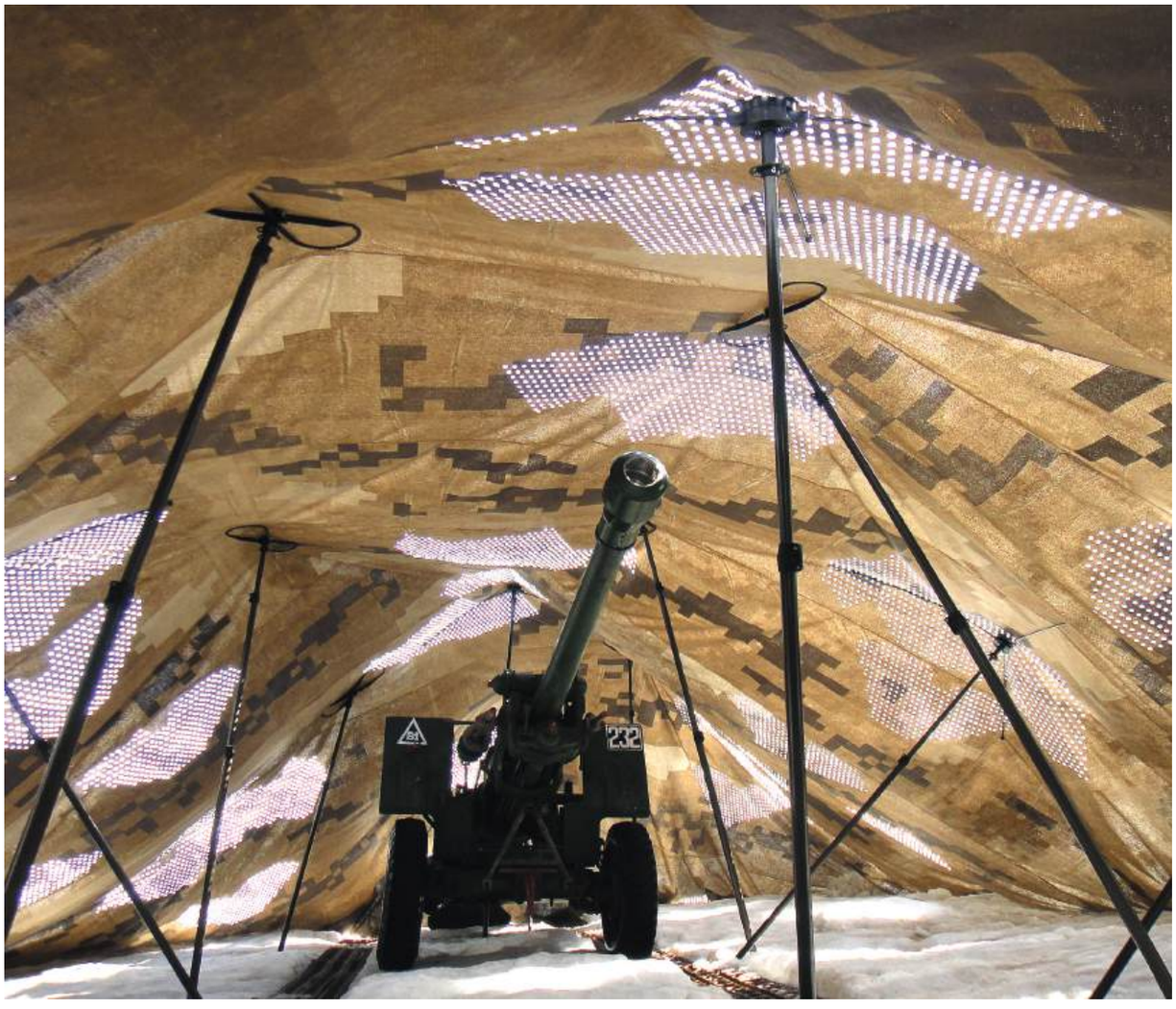
Static camouflage
Optical and Multispectral Static Camouflage 2d Single and Double-Sided Versions

Miranda Sp. z o.o. ► p. 470

2D multispectral camouflage nets are designed to protect people and equipment. They are made of durable materials and have a unique spatial structure in the form of concave and convex sections ensures better blending in with the natural environment, and providing protection across the entire spectrum of UV, VIS, NIR, SWIR, TIR, RADAR electromagnetic radiation. The camouflage pattern and color parameters are designed for the environment in which the camouflage will be used. They perfectly blend in with the natural surroundings and provides effective protection against optical recognition systems and the aided and unaided eye.

The latest solutions are made of lightweight high-strength textiles with very good performance parameters. The design of the net fabric provides excellent situational awareness. The external environment is perfectly visible to the observer from under the camouflage net. Double-sided printing allows using the same camouflage in two different terrains, e.g. forest and desert terrain, or rocky desert and mountainous terrain which makes it possible to quickly relocate troops. The camouflage nets are supplied with the accessories necessary for proper installation.

Advanced protection against early detection devices operating in the UV spectrum.



Static Camouflage
Optical and Multispectral Static Camouflage 3D

Miranda Sp. z o.o. ► p. 470

3D multispectral camouflage nets are designed to protect people and equipment. They are made of durable materials, have a unique spatial structure, and provide protection across the entire spectrum of UV, VIS, NIR, SWIR, TIR, RADAR electromagnetic radiation.

The 3D version imitates the texture of the natural environment, foliage and terrain, giving the impression of spatiality and providing increased protection in forest environments. A special dedicated camouflage pattern blends in perfectly with the natural surroundings and provides effective protection against optical recognition systems and the aided and unaided eye.

The design of the net fabric provides excellent situational awareness. The external environment is perfectly visible to the observer from under the camouflage net. The load-bearing and filling layer is created from materials with higher tensile and tear strength, which ensures greater longevity of the camouflage in harsh conditions.

Camouflage nets are supplied with the accessories necessary for proper installation.



Protection against optical reconnaissance systems

STOPFIRE®
Fire Extinquishing and Explosion Suppression System

Wojskowe Centralne Biuro Konstrukcyjno-Technologiczne S.A.
(Central Military Bureau of Design and Technology) ► p. 504

The detection-extinguishing STOPFIRE system is an extremely efficient, fast system intended to detect fuel fires and explosions at their early stages and to quick fire extinguishing and explosion suppression in the crew compartment, engine compartment and outside a combat vehicle.

The system reacts to armour puncture by a cumulation jet and to fuel fire or explosion through automatic start-up of extinguishing equipment and release of an extinguishing agent, thus preventing the fire from spreading and preventing complete vehicle destruction.



This system is characterised by very high selectivity of hazard detection and identification. Optimal selection of optical head parameters guarantees start-up of extinguishing devices if phenomena, such as fuel explosion, cumulation jet, fire, etc. are detected on one hand, whilst on the other, ensures lack of reaction to phenomena which do not pose any actual dangers to security of the vehicle crew.

The product is completed individually, according to the given type of the combat vehicle. The decisive completion condition is the size and installed area of the supervised space of crew and engine compartments, as well as the size of the protected, external surface of the vehicle.



SUB-SYSTEM FUNCTION	HAZARD DETECTION TIME	HAZARD ELIMINATION TIME
CREW COMPARTMENT PROTECTION (fuel explosion, cumulation jet, fire)	< 3 ms	<150 ms as a rule 80–120 ms
ENGINE COMPARTMENT PROTECTION (fire)	< 5 sec	< 20 sec
EXTERNAL VEHICLE PROTECTION (flame on the outer surface of the vehicle caused by spilling incendiary mixture)	Manual control, elimination time depends on the hazard type and may be up to 60 sec	

Benefit for a soldier:

- Increased survivability of the crew through immediate detection and suppression of fire or explosion at a very early stage, including reactions to armour penetration by a shaped charge.
- Enhanced protection in combat conditions by automatically activating extinguishing systems without the need for crew intervention, reducing reaction time in critical situations.
- Adaptability to different combat platforms ensures optimal protection coverage tailored to specific vehicle layouts, increasing overall effectiveness in diverse operational environments.

Thermal and Anti-Radiation Inner Liners

Miranda Sp. z o.o. ► p. 470

Thermal and anti-radiation inner liners are used as internal hangar linings. Depending on the type, they provide protection against external temperature changes and against thermal infrared and microwave recognition. Technological solutions used in the lining, prevent the detection of equipment and people inside the hangar using radar waves. The effect of hiding from radar is achieved by absorbing and scattering the energy of microwave radiation. The fabrics used in the anti-radar inner liner have flame-retardant and self-extinguishing properties.

Each layer of the composite performs its own function, giving the whole its unique properties while maintaining a relatively low mass per unit. This translates into the possibility of using a lighter support structure for the hangar.



Prevents identification of objects inside the structure

Universal Run-Flat Tire Insert

Mista Sp. z o.o. ► p. 471

Run-Flat Tire Insert is a universal solution designed to maintain vehicle mobility in case of tire puncture or complete loss of pressure. Installed inside the wheel, the insert preserves the structural integrity of the tire and prevents rim damage, enabling continued operation in critical conditions. Designed for military and security vehicles operating in high-risk environments, it ensures continued mobility after ballistic damage or tire failure.

The system allows driving for more than 50 km at zero tire pressure, ensuring mission continuity across various terrains and road surfaces. Fully compatible with standard Central Tire Inflation Systems (CTIS), it supports stable performance without affecting existing vehicle systems.

The insert is designed for secure mounting within the wheel assembly and can be adapted to different vehicle types and wheel sizes. Its robust construction ensures durability, operational reliability and reduced risk of immobilization in demanding operational conditions.

Benefit for a soldier:

The Run-Flat Tire Insert ensures continued vehicle mobility after tire puncture or ballistic damage, allowing driving for over 50 km at zero pressure. It prevents immobilization in hostile areas, maintains mission continuity, and greatly reduces risk for the crew.





Ventilation and CBRN units

Webasto Petemar Sp. z o.o. ► p. 503



Ventilation and CBRN units (sample products)

- UFK 120 - shelter air filtration and ventilation system (CBRN)
- UFP 200 - vehicle air filtration and ventilation system (CBRN)

Benefits for a soldier:

- Provides clean, breathable air in contaminated environments
- Protects against CBRN threats to ensure survivability
- Maintains operational capability inside vehicles and shelters
- Supports high concentration and endurance during missions
- Ensures controlled overpressure and filtration for safety
- Reliable protection in static and mobile deployments



NAVAL VESSELS AND SYSTEMS

Kormoran II-class minehunters

Remontowa Shipbuilding S.A. ► p. 482

Kormoran II-class minehunters are built by the consortium consisting of Remontowa Shipbuilding S.A. (leader), OBR CTM S.A. and PGZ Naval Shipyard from Gdynia.

The first 3 vessels: ORP „Kormoran", ORP „Albatros" and ORP „Mewa" are already in service. The next 3 will be delivered in 2026 – 2027.

Kormoran II-class minehunters are in fact multipurpose mine countermeasure platforms. They are designed to perform minehunting operations (searching for, identifying, and neutralising naval mines and other explosive ordnance, whether suspended in the water column or resting on the seabed) within the Polish Exclusive Economic Zone, operating autonomously or as part of task groups.

An additional task is the protection of critical maritime infrastructure such as ports, terminals, underwater pipelines and cables, and offshore wind farms. Kormoran II-class minehunters are intended to cooperate with allied naval forces in the Baltic and North Sea regions and are designated to be part of the Standing NATO Mine Countermeasures Groups.

Benefit for the soldier

Enables detection and neutralisation of mines from a safe distance, reducing crew exposure to threats. Provides high situational awareness through advanced sonar systems and ensures precise operations in hazardous areas. Low vessel signature decreases the risk of detection.



Miecznik-Class Frigate

PGZ Stocznia Wojenna Sp. z o.o. ► p. 477

Miecznik (Swordfish) is a modern, multi-purpose frigate developed under the Miecznik Programme, designed to provide comprehensive naval combat capabilities across a full spectrum of maritime operations. The frigates are built to enhance naval capabilities in sea surveillance and area control, protection of naval bases, engagement of surface, subsurface, and coastal land targets, as well as maritime air defense - both in national and allied NATO operations. The vessels are based on Babcock International's Arrowhead 140 (AH140) platform, adapted to meet specific operational and technical requirements. The integrated combat management system (CMS) is supplied by Thales, under the TACTICOS platform.

Basic parameters:

- Overall length – approx. 138 m,
- Maximum width – approx. 20 m,
- Height – approx. 10 m (1 deck),
- Maximum displacement (including accessories and plating) – approx. 7,000 t,
- Range – approx. 8,000 nautical miles,
- Max speed – 28 knots,
- Propulsion – 4 diesel engines in CODAD arrangement
- Crew – 120 persons + approximately 60 additional personnel.







MLM – PROMIENICA

Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej (PGZ) ► p. 476

The EEG sweep plays a key role in countering naval mines equipped with non-contact fuzes. The effectiveness of the sweep is based on the identification of a specific type of vessel through the analysis of its characteristic physical field signatures.

The complex structure of the sweep includes a set of elementary magnetic and electric field generators, interconnected by cable harnesses both among themselves and with onboard power supply and control equipment.

The process of determining optimal operating parameters and physical field modelling configurations of vessels using the "Signature Management Tool" has been automated. As a result, sweep operation is comprehensive and simplified. The system enables control via the onboard interface of the control and monitoring unit. The sweep interface software includes all necessary functions for entering, configuring, and monitoring key mine countermeasure parameters, including automatic determination of sweep lane widths at various depths.

The sweep precisely simulates various ship physical fields, including magnetostatic fields (SM), alternating magnetic fields (AM; 50–300 Hz), static electric fields (UEP), and extremely low-frequency electric fields (ELFE; 1–10 Hz).

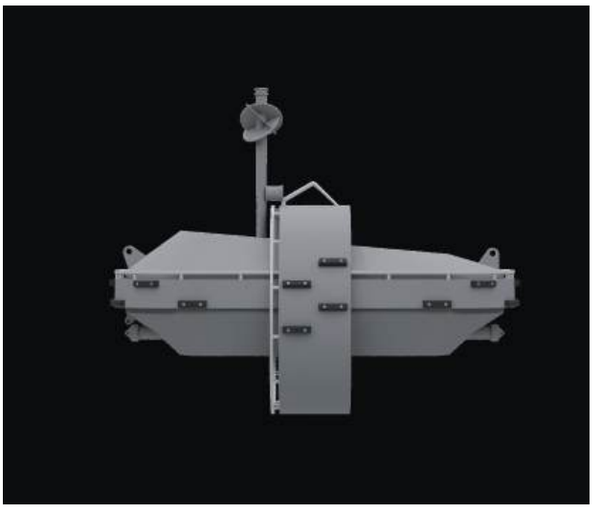


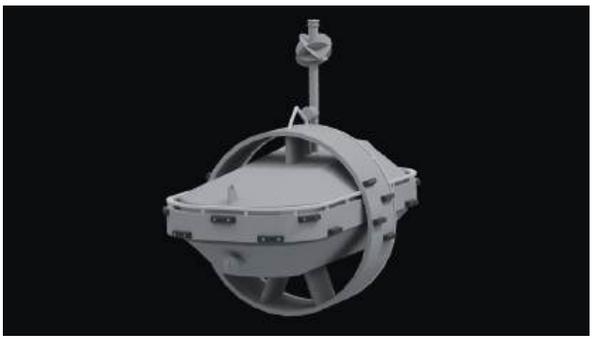
Technical Data

- Length of inter-generator cables 5.5 to 20.5 m
- Main tow cable length Depends on the shock resistance of the towing vessel (100 to 200 m)
- Maximum system length 34.5 to 94.5 m
- Operating depth in the sweep area 5 to 40 m
- Sweeping speed up to 8 kn
- Towing resistance (5 generators, v = 8 kn) 40 kN
- Number of generators in the system up to 5
- Power supply voltage 3 × 400 V @ 50/60 Hz
- Maximum power demand (5 generators) 80 kVA
- Length of a single generator 2.95 m
- Diameter of a single generator 1.6 m
- Weight of a single generator 1350 kg

Benefits for a solider

Enhances crew survivability by effectively neutralising mines with non-contact fuzes. Improves operational safety and vessel mobility through precise ship signature simulation and automated sweeping processes, reducing operator workload.





Ratownik-Class Rescue Vessel

PGZ Stocznia Wojenna Sp. z o.o. ► p. 477

Ratownik is a specialised support vessel designed primarily for the rescue protection of submarine operations, equipped with dedicated specialist equipment. Beyond submarine rescue, the vessel is designed to conduct a wide range of missions — from supporting underwater operations to recovering submerged military technology. It also addresses the growing need to monitor and protect Critical Underwater Infrastructure (CUI) in the Baltic Sea, including subsea cables and pipelines. The vessel is intended to safeguard critical undersea infrastructure and to support NATO allied operations in the Baltic Sea region.



Basic parameters:

- Overall length: 96 metres
- Maximum breadth: 19 metres
- Maximum displacement: 6,500 tonnes
- Range: 6,000 nautical miles
- Maximum speed: 16 knots
- Crew: 100 persons plus 9 additional specialist personnel



Series of ships SNSS (Saab Naval SIGINT Systems)

Remontowa Shipbuilding S.A. ► p. 482

A series of ships SNSS (Saab Naval SIGINT Systems), built under the codename "Delfin", are designed for reconnaissance operations and for gathering intelligence on the naval activities of other states, as well as for monitoring critical infrastructure in Polish maritime areas. These vessels will provide essential information enabling the early detection of threats to national security.



Benefit for the soldier

Enhances situational awareness through advanced SIGINT capabilities. Enables early threat detection and improves survivability by operating at a safe distance. Supports decision-making with reliable intelligence data and increases operational effectiveness through precise identification of emission sources.

The delivery of the new vessels, which will enter service in the coming years, will strengthen Poland's naval capabilities in the strategically vital Baltic Sea region.



SENSORS

AeroWinch

Jastrzębska Spółka Węglowa S.A. ► p. 465

AeroWinch is a high-precision onboard winch system developed by JSW for automated deployment and retrieval of mission-critical payloads. Designed for seamless integration with UAV, USV, and UGV platforms, it enables accurate placement of sensors, hydrophones, cameras, and other devices in water or hard-to-reach environments.

Engineered for reliability in harsh conditions, AeroWinch synchronizes with the host platform's onboard computer to ensure safe, coordinated operations. Its intelligent control unit provides real-time cable length monitoring and adjustable winding speeds, maintaining stability during complex tethered missions.

Key Features:

- Precise deployment of measurement sensors in demanding operational zones
- Waterproof 8-core neutral-buoyancy cable (up to 25 m) with IP68 connectors
- Real-time cable tracking and configurable winding/unwinding speeds
- Low power consumption and optional internal battery for flexible integration

AeroWinch enhances capabilities in maritime surveillance, environmental monitoring, and SAR operations. Developed within the project "Detection, classification and tracking of a submarine using a swarm of unmanned aerial vehicles deployed from a surface platform", no. DOB-SZAFIR/01/B/023/04/2021 funded by the National Centre for Research and Development (NCBR) under the Programme for the Development of Modern, Breakthrough Technologies for National Security and Defence, code-named "SZAFIR".





AURORA & EOS
Ultra low light cameras

NOXODA ► p. 474

The NOXODA AURORA and EOS camera series redefine low-light surveillance by delivering true full-color imaging using only natural ambient light. Unlike conventional night vision systems, they require no infrared illumination, enabling completely passive observation without revealing the observer's position.

Designed for operation in extremely challenging lighting conditions, the cameras provide reliable color imagery from moonlight down to natural starlight, while maintaining exceptional image quality over observation distances measured in kilometers.

Supporting ONVIF and RTSP protocols, AURORA and EOS integrate seamlessly into existing surveillance networks and are engineered for continuous operation in critical infrastructure, border protection, defense and other demanding security environments.

Unlike thermal imaging, AURORA and EOS provide full-color identification of people, vehicles and objects while remaining completely passive, significantly improving situational awareness and evidence quality.





Key Features

- True full-color imaging using natural ambient light
- No active IR illumination required
- Ultra low light sensitivity down to 0.00008 lux
- Long-range color observation measured in kilometers
- Completely passive operation without revealing the observer
- ONVIF & RTSP compatible
- 24/7 operation for mission-critical surveillance

Applications

- Border security
- Critical infrastructure
- Airports & ports
- Energy sector
- Military facilities
- Industrial sites
- Coastal surveillance
- Long-range perimeter protection

DRI-INS

DRI Solutions Sp. z o.o. ► p. 451

The DRI-INS is a high performance GNSS-Aided Inertial Navigation System (GNSS/INS) that incorporate three gyroscopes, three accelerometers, barometric sensor and laser altimeter. Module can be integrated with two GNSS antennas, providing precise heading information. Low noise MEMS gyroscopes and accelerometers, temperature compensation and sensor fusion technique provides robust, reliable and accurate navigation data to many military, space and industrial applications. The DRI-INS can also operate in inertial data recorder mode, allowing for full capture of the dynamics of the tested object. Data recorded at a frequency of 2 kHz can be crucial for precise analysis, for example, of object vibrations in the process of selecting a vibration isolation system for a navigation system. The device was designed to use with both unmanned and manned marine, ground and aerial platforms. The IMU is factory calibrated and compensated for temperature effects.

Device features

→ Roll angle range	±180°
→ Pitch angle range	±90°
→ Heading measurement range	0÷360°
→ Static accuracy	< 0.1° RMS
→ Temperature compensation	-40°C ÷ +85°C
→ Sensor fusion algorithm	Kalman Filter
→ Navigation data rate	100Hz
→ IMU output frequency	Up to 2000Hz
→ Dual antenna heading - DAH	√
→ MicroSD card slot	√
→ Interfaces	RS232 / RS422 CAN / USART
→ Input voltage	5 ÷ 24 V
→ Weight	60 / 80 g

Sensors overview

→ Gyroscopes range	125 °/s	500 °/s	2000 °/s
→ Bias stability (1σ)	2 °/hr	2.5 °/hr	6 °/hr
→ Accelerometers			40 g
→ Bias stability			13 µg
→ Pressure sensor		10 ÷ 1300 mbar	

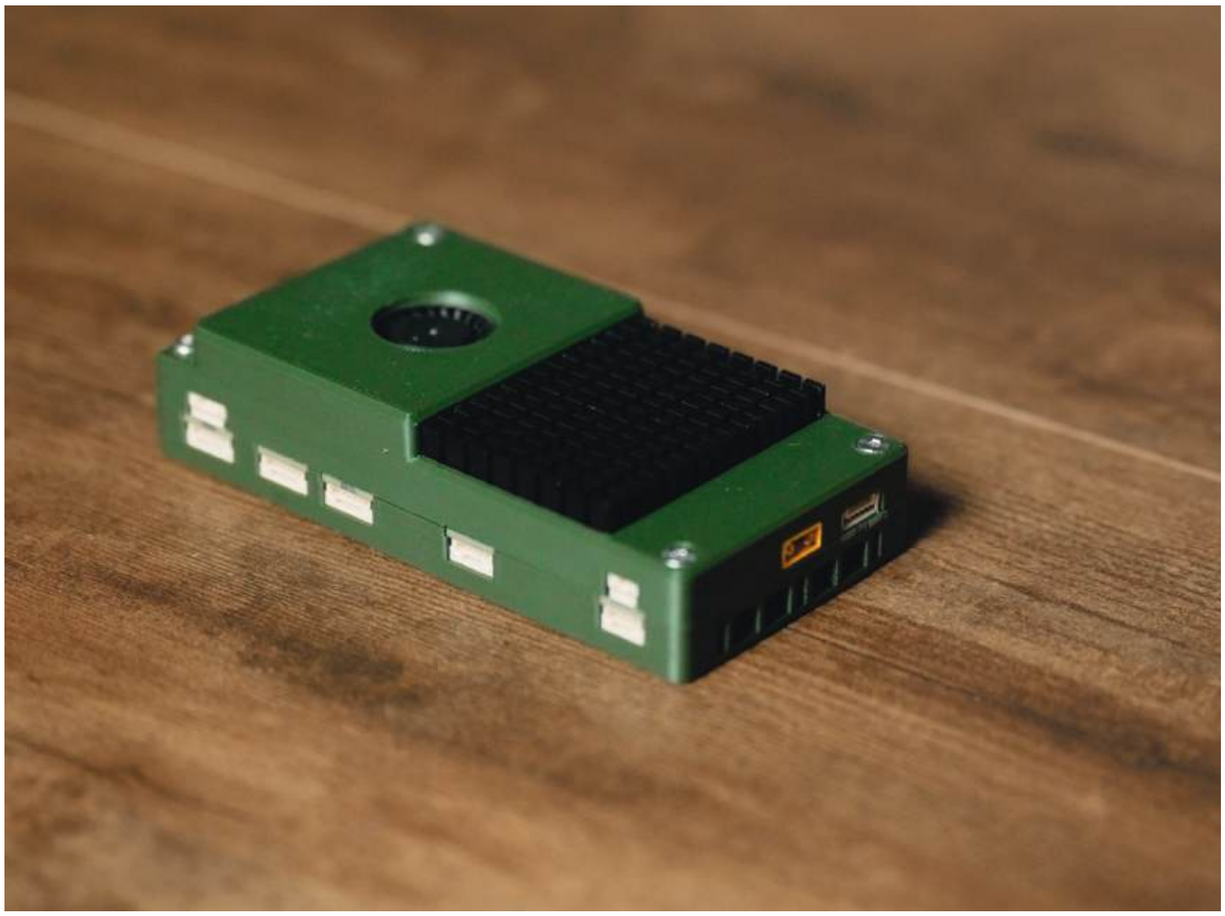


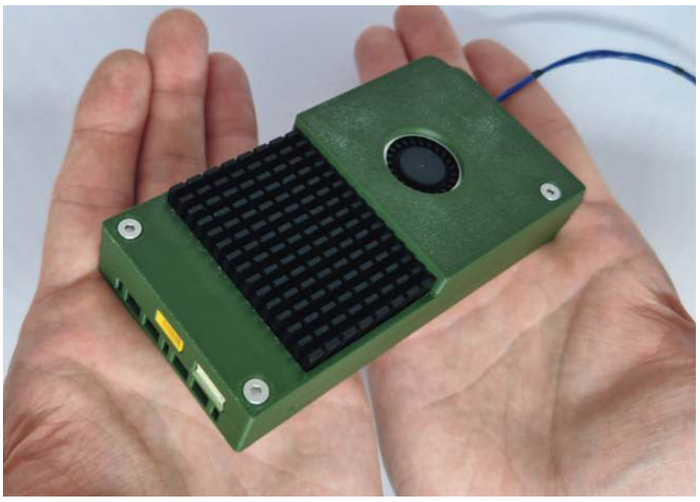
→ Multi-band GNSS receiver
- 1cm accuracy in RTK mode
- up to 25Hz output rate
- GPS L1/L5
- GLO L1/L5
- GAL E1/E5
- BDS B1/B2

→ Compass (option)	3 axis, tilt compensated
→ AGL (option)	Laser, 100m range

EagleCompanion

Sentinel Eagle ► p. 486





EagleCompanion is a vision based navigation module:

- Drop-in replacement for GPS on ardupilot based platforms. Equipped with a downward camera.
- 200g, 12cm x 6cm x 3cm.
- Positioning error:
- ~2% when using pure visual-inertial odometry,
- with map-matching reduced to < 15m even for long flights (uploaded maps from satellites or drone footage).

Benefit for the soldier

Executes waypoint-defined missions even in GNSS-contested environments. Maintains stable hover from 5 m to 1000 m. Supports autonomous altitude reduction beyond line of sight, enabling precise payload delivery from lower altitudes.

GOSK
Optoelectronic system

Etronika Sp. z o.o. ► p. 452



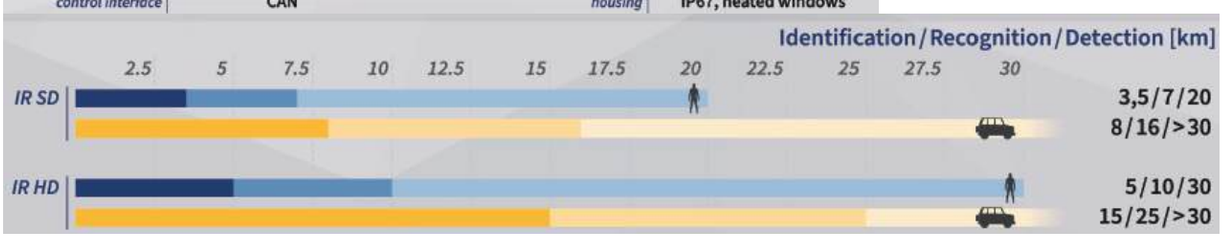


The GOSK optoelectronic observational head is a device that allows observation and tracking distant land, waterborne and airborne objects. It consists of cooled thermal camera with continuous optical zoom, varifocal high-resolution daylight camera, eye-safe laser rangefinder and pan-tilt platform. The head is adapted to mast mounting. Video signals from both cameras are transmitted in HD-SDI standard whereas the communication with the device is realised over CAN bus. There is a possibility of head integration with object tracking system as well as transmission video and communication via Ethernet interface.

Benefit for the soldier

Enables observation and target tracking through a single advanced electro-optical system reducing operator workload and simplifying crew operations. Provides precise targeting capability for rapid effector response to emerging threats. Enhances firing unit safety through remote operation, eliminating the need for personnel to be physically exposed.

Thermal camera (IR)			
detector		cooled FPA	
spectral response		3 to 5 µm	
sensitivity		NEDT < 20 mK	
pixel size	10 µm		15 µm
resolution	1280×720 px (HD)		640×512 px (SD)
lens		parfocal	
field of view (H)	14° to 1°		15° to 0.9°
digital zoom		2× and 4×	
Daylight camera (TV)			
detector		1/3" CMOS image sensor	
resolution		1920×1080 px	
lens		parfocal, 32×	
field of view (H)		20° to 0.6°	
digital zoom		2× and 4×	
Rangefinder		*Supply*	
type	diode-pumped solid-state laser	*supply voltage*	48 VDC
wavelength	1.54 µm	*average current consumption*	less than 10 A
range	above 20 km	*Mechanical parameters*	
safety class	1M	*angular range in azimuth*	n×360°
Video and control		*angular range in elevation*	−45° to +90°
video output	HD-SDI for each camera	*angular velocity*	0.1°/s to 60°/s
control interface	CAN	*operating temperature*	−30°C to 55°C
		housing	IP67, heated windows



GS3L Ground Station

AEROBITS Sp. z o.o. ► p. 435

The GS3L Ground Station is an advanced multi-sensor airspace surveillance system designed to provide reliable situational awareness and support secure integration of manned and unmanned aircraft in modern airspace environments. In its most advanced configuration, the system combines Mode-A/-C/-S, ADS-B, FLARM, UAT and Remote ID receivers with an integrated multi-constellation GNSS module, enabling simultaneous detection, identification and tracking of aircraft and drones operating within the same airspace. In distributed deployments, multiple GS3L units can operate as a multilateration (MLAT) network, enabling precise triangulation of targets and providing an additional layer of position validation and anti-spoofing capability.

By integrating multiple airspace monitoring technologies into a single platform, GS3L enables comprehensive detection of cooperative airspace users including commercial aircraft, general aviation platforms and unmanned aerial systems. This multi-sensor architecture significantly improves airspace visibility and supports monitoring of complex and dynamic environments.

The system is powered by an embedded Linux-based computing platform, enabling advanced data processing and flexible integration with external command, control and monitoring systems. LTE and Ethernet connectivity allow secure real-time transmission of surveillance data and deployment within distributed airspace monitoring networks.

Designed for continuous outdoor operation, GS3L is housed in a weather-resistant IP67 enclosure and powered via Power over Ethernet (PoE) for simplified installation and reduced infrastructure requirements. The system supports applications including airport surveillance, critical infrastructure protection, U-Space and UTM systems, national airspace monitoring networks.



Benefit for the soldier

Enables identification of friendly UAVs and real-time monitoring of air traffic. Objects not detected by the system can be classified as potential threats. Enhances force protection, reduces risk of surprise and supports decision-making and airspace control.

Hertz GNSS Regulated Services Terminal (HGRST)

HERTZ SYSTEMS Sp. z o.o. ► p. 460



HGRST – Advanced GNSS Regulated Services Terminal for Land Platforms

The HGRST is a high-performance, multi-system GNSS receiver engineered for military land platforms. It integrates multi-frequency civilian GNSS with encrypted GPS M-Code and Galileo PRS modules, supported by an internal Inertial Navigation System (INS) to ensure precise PVT (Position, Velocity, Time) data even in jammed or spoofed environments. Fully compliant with European Commission PRS requirements and NATO standards, the device addresses the strategic needs of modern armed forces.

The terminal supports a wide range of communication protocols, including FMS/OBD-II vehicle interfaces, CRPA antenna control, and interoperability with external high-grade INS systems. Featuring an integrated NTP Time Server and precise timing outputs (1PPS, XHQ, 10 MHz), the HGRST provides secure synchronisation for onboard systems via Ethernet (TLS 1.3). The terminal is designed to meet the rigorous requirements of modern tactical environments.



Benefit for the soldier

HGRST provides ultimate positioning certainty for land platforms. By combining M-Code, Galileo PRS, and INS, it ensures the crew never "goes blind," even in tunnels or dense urban terrain. It protects against enemy spoofing and delivers stable data for onboard weapon systems, allowing the soldier to navigate and engage targets with high confidence.

Hertz GPS Terminal 4 Pollux (HGPST4 Pollux)

HERTZ SYSTEMS Sp. z o.o. ► p. 460

HGPST4 Pollux – Military-Grade GPS Navigation for Land Platforms

The HGPST4 Pollux is a high-performance, military-grade GPS receiver with a SAASM cryptographic module, designed for secure and reliable navigation in demanding environments. It supports M-Code and operates in Precise Positioning Service (PPS) mode, ensuring precise positioning even in jamming or spoofing conditions.

The HGPST4 Pollux is a reliable, versatile solution for land-based military platforms, ensuring secure and accurate navigation in challenging environments. It is a vital tool for modern military operations, including battlefield management, reconnaissance, and secure communications.





Benefit for the soldier

HGPST 4 Pollux ensures reliable navigation for vehicle crews in hostile environments. SAASM/M-Code protection prevents position deception, reducing "friendly fire" risks and ensuring the vehicle stays on the designated route. Precise timing synchronizes secure communication systems, keeping the soldier connected with command under heavy jamming.

Hertz GPS Terminal uGram (HGPST uG)

HERTZ SYSTEMS Sp. z o.o. ► p. 460

The HGPST uG is an advanced military-grade cryptographic GPS receiver designed for integration with mini and micro UAV platforms. Using the SAASM or M-Code uGram module, it delivers unmatched accuracy and security for applications requiring precise location data in demanding conditions.

The HGPST uG is a reliable solution for UAV missions demanding precision, security, and reliability. Trusted by defence forces, it ensures consistent performance even in GPS-denied environments, making it ideal for border monitoring, intelligence, and search and rescue missions.

Benefit for the soldier

HGPST uG ensures UAV operator mission success in GPS-denied areas. M-Code protection prevents drone hijacking (spoofing) and signal loss during electronic warfare. High-precision positioning allows the soldier to provide flawless target coordinates for artillery, shortening the sensor-to-shooter cycle and increasing strike effectiveness.



Hydra

Multicolour Photometry for Orbital Object Characterisation

SybillaTechnologies Sp. z o.o. ► p. 494

Cutting-Edge Space Object Identification

Hydra is a powerful telescope system designed for multicolor photometry. It allows for a detailed analysis of satellites and orbital objects. By measuring the way different materials reflect light, Hydra can determine what a satellite is made of, what kind of platform it uses, and whether it carries additional components like solar panels or antennas. This information is invaluable for intelligence, strategic planning, and space security.

Precise Tracking and Detailed Observations

Hydra isn't just another telescope—it's built for accuracy. With up to six optical tubes mounted together, it can capture synchronized multicolor observations and help analysts to recognize key features like shape, size, external equipment, and even surface wear and degradation. This ability to collect multiple data points at once makes Hydra a highly efficient tool for object classification in the space. The HGPST uG is a reliable solution for UAV missions demanding precision, security, and reliability. Trusted by defence forces, it ensures consistent performance even in GPS-denied environments, making it ideal for border monitoring, intelligence, and search and rescue missions.

Versatile Coverage Across Different Orbits

Hydra is perfect for tracking objects across vast distances, from Low Earth Orbit (LEO) to Geostationary Orbit (GEO). It can monitor satellites as close as 200 km above the Earth and as far as 35,786 km in GEO. Hydra ensures continuous monitoring across all key orbital regimes by keeping an eye on fast-moving low-orbit satellites or geostationary assets.

Real-Time Data Processing for Immediate Insights

Speed matters when tracking objects in space. Hydra features industrial-grade computing systems, GPS modules, and specialized cooling, ensuring stable and real-time data processing. It works seamlessly with Sybilla Technologies' software tools, such as ABOT and Astrometry24Net, handling everything from scheduling observations to processing the results.

Military Applications – A Strategic Asset

Hydra isn't just about observation; it plays a critical role in space defense. Working alongside Perseus, Hydra enhances surveillance missions by adding another layer of intelligence.

Key benefits include:

- Joint Operations: Complements Perseus for a more complete picture of space activity
- Risk Assessment: Helps identify a satellite's manufacturer, purpose, and condition, allowing decision-makers to assess potential threats
- Strategic Insight: Provides critical data for military planning and security operations

Proven Deployment in European Defence Projects

Hydra has actively contributed to key European defense initiatives, including the SAURON project under the European Defence Industrial Development Programme (EDIDP), aimed at strengthening the EU's defence capabilities. Additionally, Hydra plays a significant role in the EON project, supporting cutting-edge research and development in space surveillance and threat assessment. Active systems operate in Spain, Poland and in Hungary.

Identifies and classifies satellites affecting military operations, reducing uncertainty at command level. Protects space dependent capabilities, improves situational awareness and delivers clearer tasking, enhancing survivability and combat effectiveness for deployed units.



ISR140Z

Multicolor Photometry for Orbital Object Characterization

Vertigo Global Sp. z o.o. ► p. 500

The ISR140Z is a triple-sensor, gyroscopically stabilised electro-optical ISR gimbal developed by Vertigo Global for tactical UAV and special-purpose platform applications. The direct-drive torque motor mechanism delivers stabilisation accuracy below 120 µrad RMS, enabling effective observation at maximum magnification in dynamic flight conditions. The system integrates three core sensors: a daytime EO camera (1/1.8" CMOS, Full HD 1920×1080, 30× optical zoom, HFOV 1.8°–55.0°), an uncooled LWIR thermal sensor (640×480, 5× optical zoom, 50 FPS), and a Class 1 laser rangefinder at 1550 nm (range up to 10,000 m, accuracy 0.75 m). Onboard image processing provides: digital stabilisation, automatic moving-object tracking, Moving Target Indicator (MTI), EO/IR image fusion, scene tracking, picture-in-picture, 4× digital zoom, and enhancement algorithms (defog, denoise, CLAHE). Target geolocation is supported using LRF or digital elevation models (DEM). Video output is MISB ST 0601 compliant with KLV metadata for C2 system integration. The gimbal provides 360° continuous pan rotation and tilt from –110° to +100°. Environmental protection: IP64 rated, operating temperature –40 to +55°C. Weight: 1,700 g; dimensions: Ø140 mm × 230 mm. Power supply: 22.0–28.0 V, typical 25 W; interfaces: Ethernet, RS-232. H.264/H.265 encoding, 128 GB onboard storage. Operated via the VERTIGO SENTINEL application. Manufacturer: Vertigo Global Sp. z o.o., ul. Solec 63, 00-409 Warsaw, Poland | office@vertigo.global | vertigo.global5.



KDT
Fire-control-system

Etronika Sp. z o.o. ► p. 452

The KDT fire control system is a modern, modular solution for integration with remotely controlled weapon stations on light armoured vehicles such as the Oncilla. It enhances crew survivability, situational awareness, and overall combat effectiveness across all operational conditions.

The system provides an integrated fire control and observation suite, including:

- KDT-N1 optronic sight - multi-sensor system combining an uncooled thermal imager with dual daylight channels (narrow and wide FOV), ensuring effective target detection and tracking in both visible and IR spectrum.
- MON-10 multifunction display - operator interface providing fused sensor imagery and real-time system status. It integrates ballistic solutions matched to the weapon system for fast and accurate engagement.
- MR-1 control manipulator - ergonomic control unit enabling precise operation of turret drives and key system functions, reducing workload and improving response time.
- High-precision drive system with controllers - delivers smooth and accurate turret rotation and weapon elevation for rapid target acquisition.
- PWGD-6 smoke grenade launcher control panel - enables quick and reliable deployment of smoke screening systems to enhance survivability in combat.
- Integrated power and wiring architecture - ensures stable and reliable operation of all subsystems in field conditions.

Benefit for the soldier

Enhances situational awareness through combined visible and infrared imaging, enabling safe target engagement without exposing personnel to enemy fire. Maintains full effectiveness in day and night conditions, while its intuitive interface keeps operators focused on mission execution and survivability.

Thermal camera (IR)	
detector	uncooled microbolometric FPA
pixel size	17 µm
spectral response	8 to 12 µm
sensitivity	NEDT < 25 mK
resolution	640×480 px
field of view (H)	10.3°
digital zoom	2×
Daylight camera (TV)	
detector	1/2.6" colour CMOS sensor, global shutter
resolution	1920×1080 px
field o view (H)	switched: 28°–14°–4°–2°
Video & control	
video output	three separate analogue CVBS PAL signals
control interface	RS-422
Monitor	
display	10" colour LCD panel
resolution	1920×1200 px
special functions	Picture-in-Picture, ballictic corrections for installed weapon
Manipulator	
type	biaxial with control buttons for critical functions of sight, w drives and weaponry



KTD-60.3/90.3 Argos
Daylight-thermal observation head

Etronika Sp. z o.o. ► p. 452

Optoelectronic heads KTD 90.3 and KTD 60.3 Argos are devices dedicated to the surrounding observation and elevation of the situation awareness of the armoured vehicle crew. Each head consists of three sets of daylight thermal cameras with a wide angle field of view: cameras in the KTD 90.3 have 90° of the horizontal field of view, and in the KTD 60.3 have 60°. The juxtaposition of several heads in the key points allows for full coverage of the observation space around the vehicle.

The sensor head delivers separate video signals in analogous CVBS PAL format for each camera, optionally as well in digital standard SDI od FPD Link III. Sensor heads are supplied from the onboard vehicle supply and controlled via the CAN or RS 485 interface. Heads have hermetic housing, which allows for operation in external conditions in a wide range of temperatures and relative humidity. Windows heating defrosts and dries optical surfaces, and sprinklers, supplied from onboard cleaning fluid installation, allow to keep those surfaces clean.



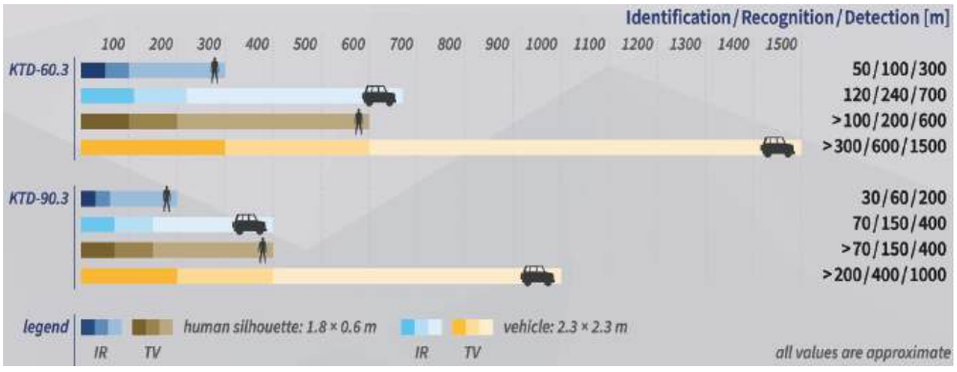
KTD-60.3 Argos



KTD-90.3 Argos

	KTD-60.3	KTD-90.3
Thermal cameras (IR)		
field of view (H)	180° (3×60°)	270° (3×90°)
detector	uncooled bolometric FPA	
resolution	640×480 px	
pixel size	17 µm	
spectral response	8 to 12 µm	
sensitivity	NEDT < 45 mK, optionally < 25 mK	
Daylight cameras (TV)		
field of view (H)	180° (3×60°)	270° (3×90°)
detector	1/3" CMOS image sensor	
resolution	1920×1080 px	
Image parameters		
digital zoom	2× and 4×	
IR polarity	white hot, black hot	
IR colour palette	B&W, Fire, Green, Colour, Red Hot	
TV colour palette	B&W, colour	

	KTD-60.3	KTD-90.3
Video and control		
analogue video output	separate CVBS PAL for each camera	
digital video output	separate SDI for each camera or three FDP-Link III channels	
control interface	RS-485 or CAN 2.0B with configurable termination	
Supply		
supply voltage	15–36 VDC (nominal 24 VDC)	
power consumption	less than 50 W	
Mechanical parameters		
operating temperature	–40°C to 50°C	
dimensions (W×H×D)	310×94×276 mm	
housing	IP68, heated windows	
weight	6.5 kg	



Benefit for the soldier

Enhances 360° situational awareness with a panoramic view without requiring crew dismount. Accelerates threat detection and improves maneuverability in complex environments. Enables transmission of video and threat data between convoy elements and command systems. Supports image georeferencing and overlay of video on digital maps.

KTL
Thermal modules

Etronika Sp. z o.o. ► p. 452

General purpose thermal imaging module KTL is designed for observation during the day as well as at night, also in harsh environment like fog and smoke. Device is based on uncooled microbolometric detector. Module can be equipped with various field of view from wide range athermalised lens. Optionally the module can be equipped with a shutter unit. Image is transmitted to display or recorder via analogue PAL video signal or digital. The thermal module KTL may be used in surveillance and perimeter security, SAR actions, unmanned aerial vehicles, process or equipment monitoring. As an option module may have function indicating the object or area which temperature is in defined range by image colouring. The KTL is an optimal solution where high image quality, small dimensions and lightweight are required.

Benefit for the soldier

The miniature KTL module enhances situational awareness through all-condition target detection, enabling faster threat recognition and decision-making. Its compact design allows seamless integration with UAVs and autonomous systems, extending observation without risking personnel.

Lenses	
field of view (H)	any in the range from 3° to 90°
Image parameters	
polarity	white hot, black hot
colour scheme	B&W, Fire, Green, Colour, Red Hot
digital zoom	2× and 4×
calibration	NUC, BPR
Detector	
type	uncooled bolometric FPA
resolution	640×480 px
pixel size	17 µm
spectral response	8 to 12 µm
sensitivity	NEDT < 25 mK
Video and control	
analogue video	CVBS PAL
digital video	MIPI CSI-2 (2 lanes), optional SD-SDI
control interface	RS-485 or UART 3 V
Supply	
supply voltage	12 VDC
power consumption	less than 1.8 W
Mechanical parameters	
operating temperature	–30°C to 50°C
shutter	optional
*dimensions**	36×36×30 mm
*weight***	52 / 116 g

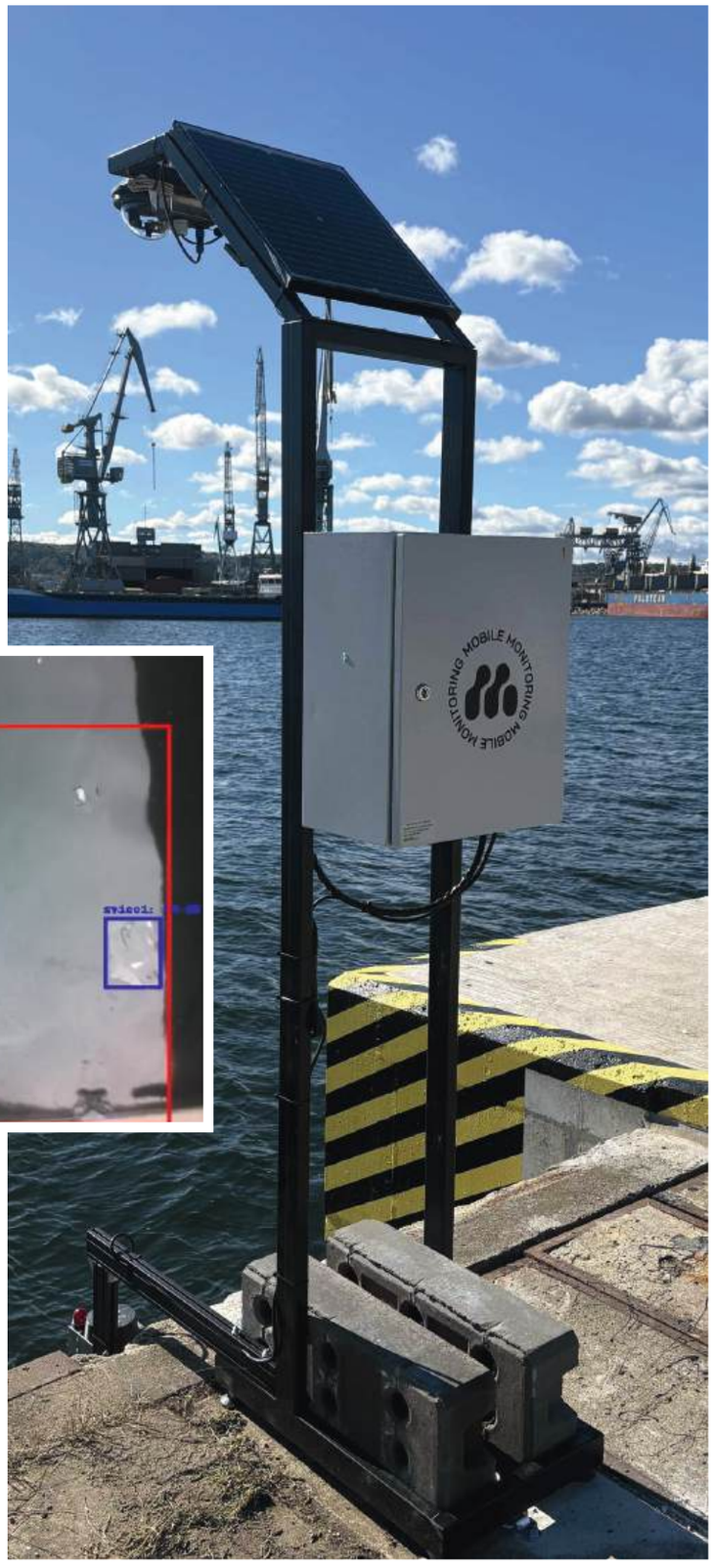
** lens, lens mount, and shutter not included*
*** bare module / with 35 mm lens and side mount*

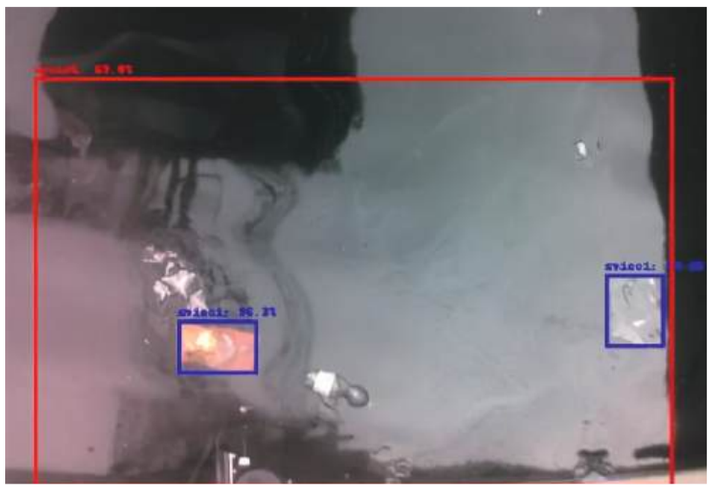


Marine Guard Station

MOBILE MONITORING Sp. z o.o. ► p. 472

Marine Guard Station is an autonomous monitoring platform for continuous surveillance of water quality and surface conditions in inland and marine environments. The system combines multi-parameter water sensors with AI-based visual analysis (RGB and thermal) to detect oil spills, chemical contamination, floating debris, vessel movement and abnormal activity. It enables early identification of environmental and operational threats. The station operates autonomously for extended periods using solar power and transmits data via LTE. It provides real-time alerts and supports remote monitoring through a secure platform, enhancing situational awareness in maritime operations, border protection and critical infrastructure security.





Benefit for the soldier

Provides early detection of water contamination, oil spills and surface threats, improving situational awareness in operational zones. Enables rapid response and protects personnel operating near contaminated or hostile environments, while reducing the need for direct exposure in high-risk areas.

MAWOS
Mobile Meteorological Station

Comet Andrzej Mostek Spółka komandytowa ► p. 446



MAWOS is an advanced meteorological system designed to deliver precise and reliable data in all operational conditions. It is well-suited for military, rescue, and demanding field applications where access to infrastructure is limited.

Based on COMET's proprietary technologies (software, communication, and power systems), it ensures high quality, flexibility, and full system control.

Flexible and Scalable System

The modular design allows configuration to be tailored to current needs and enables easy system expansion:

- operation with selected sensors
- capability to expand to full AWOS systems
- integration with existing infrastructure

Accurate Measurements

The system integrates professional-grade sensors that provide real-time, high-precision data:

- wind, temperature, humidity
- atmospheric pressure
- visibility and present weather
- precipitation
- cloud base height (LIDAR)

Technologies without moving parts, combined with sensor heating systems, ensure stable performance in all conditions.

Reliability and Continuous Operation

- resistance to frost, icing, and precipitation
- automatic sensor heating
- robust construction
- system self-diagnostics

Result: reliable data with uninterrupted operation.

Communication and Software

- radio and Ethernet communication
- integration with IT systems

COMET software enables:

- data visualization and analysis
- generation of SYNOP, METAR, and SPECI reports
- remote system management



Power Supply and Mobility

- mains and backup power (LiFePO4)
- autonomous field operation
- quick installation and dismantling
- transport in durable protective cases

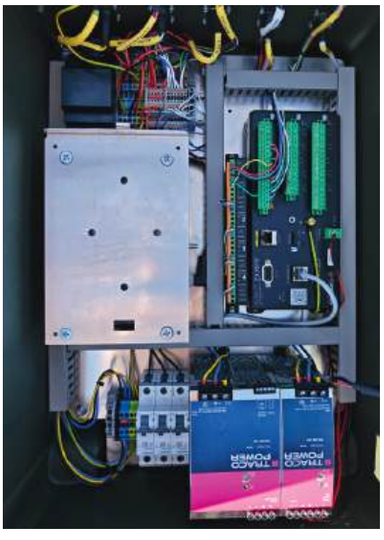
MAWOS is ready for operation in a short time — wherever mobility and reliability are critical.

Applications

- aviation (including AWOS)
- military and mobile operations
- UAV / drone operations
- environmental and infrastructure monitoring
- energy and hydrology
- emergency services and research

Operational Value for the Military User:

- Enhanced survivability
  Rapid detection of weather threats reduces risk to personnel and equipment.
- Improved situational awareness
  Access to real-time meteorological data supports decision-making in dynamic operational environments.
- Increased mission effectiveness
  Accurate data improves the efficiency of operations, including aviation and UAV activities.
- Full operational mobility
  Rapid deployment and independence from infrastructure enable operations in any environment.
- Reduced soldier workload
  Automated measurements and reporting minimise the need for manual handling and analysis.
- Cybersecurity
  The system is not connected to any network, ensuring full independence and data integrity, with no risk of cyber attacks.



MEDIUM SATELLITE TERMINAL STS

SILTEC Sp. z o.o. ► p. 490

EDF category of action:
Advanced passive and active sensors

This lightweight, portable satellite terminal is designed for quick deployment and easy handling by a two-operator crew. It supports satellite communications using FDMA (SCPC) and TDMA (MF-TDMA) in full-mesh, star (hub & spoke), hybrid topologies, as well as dedicated point-to-point links.

The terminal features a 2.4 m antenna (other sizes available) operating in the C, X, Ku, and Ka bands, with a positioner for both manual and automatic satellite acquisition. It is compatible with major satellite operators such as Intelsat, Eutelsat, WGS, Skynet, XTAR, Inmarsat, and Govsat.

Delivered with monitoring and control software and packed in rugged transport cases, the terminal is designed for durability and ease of operation. It supports a wide AC input voltage range and is built to operate reliably in diverse environmental conditions.





MM Edge AI

MOBILE MONITORING Sp. z o.o. ► p. 472

MM Edge AI is an edge-computing module for real-time video analysis performed directly on the device. The system processes video streams locally using AI algorithms, eliminating the need for continuous cloud connectivity. It integrates with existing IP camera infrastructure (RTSP/ NVIF) and enables detection of vessels, floating objects, intrusions and abnormal activity within defined monitoring zones.

The system supports both RGB and thermal cameras. Local processing reduces latency and ensures secure operation in closed or communication-denied environments. MM Edge AI transforms video streams into actionable alerts, enhancing situational awareness in maritime operations, border protection and critical infrastructure security.



Benefit for the solider

Provides real-time detection of vessels, intrusions and floating threats directly on the device. Increases situational awareness and shortens reaction time. Enables operation in communication-denied environments and reduces cognitive load



Perseus
High-End Ground-Based Observation System

SybillaTechnologies Sp. z o.o. ► p. 494



Performance Details:

- FOV: 7.89 x 5.93 deg (46.79 deg^2) per telescope, 187.15 deg^2 combined
- PX scale: 1.986 arcsec/px
- Slew speed: 50deg/s
- Time tagging: 1ms
- Precision: less than 2 arcsec RMS (subpixel)



Comprehensive Space Monitoring

Perseus is an advanced space surveillance system that delivers precise tracking and monitoring of objects in Earth's orbit. Perseus provides crucial situational awareness, early threat detection, and comprehensive analysis for military and governmental agencies. These capabilities are crucial, especially now, when the defense and security sector increasingly depend on space assets.

High-Precision Object Detection and Tracking

Perseus uses a network of ground-based optical sensors to identify and track space objects with exceptional accuracy. A field of view (FOV) of 7.89° × 5.93° per telescope and a combined 187.15°² coverage makes the system highly effective in wide-area monitoring and reducing blind spots in surveillance. With precision of less than 2 arcseconds RMS (subpixel level) Perseus provides reliable detection of even the smallest and fastest-moving objects in orbit.

Rapid Response to Emerging Threat

Perseus can quickly reorient to track new threats with a slew speed of 50°/s. It ensures immediate response to potential hostile activities or space debris threats. The system's time tagging accuracy of 1 millisecond guarantees precise event recording, critical for military and intelligence applications.

Data Fusion and Automated Intelligence

Perseus processes high-resolution imagery. This makes it provide effectively real-time assessment of space activities. The system generates up to 3 million measurements per month, so it provides unparalleled data density for improved decision-making.

Enhancing National Security Through Space Awareness

The space-based threats evolve. This is why maintaining robust surveillance capabilities is crucial. Perseus strengthens defense operations with reliable monitoring, early detection, and threat mitigation. Its main focus is to ensure the protection of national space assets and maintain strategic advantage.

Tested in all conditions

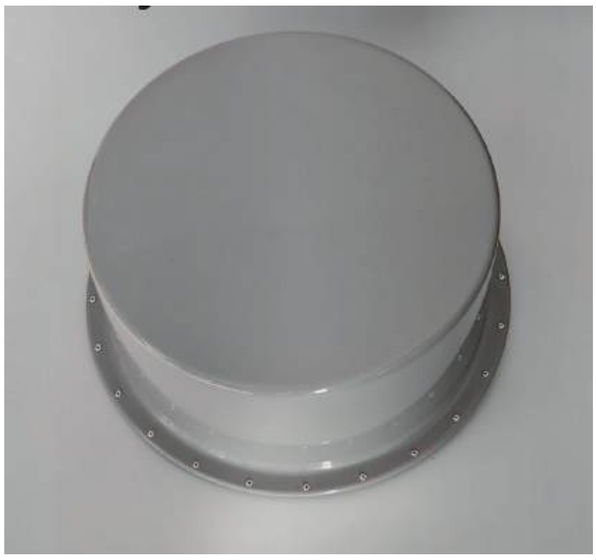
PERSEUS has demonstrated its reliability and performance in some of the most challenging environments around the world. The system has been successfully deployed in Australia, South Africa, the USA, and Chile, where it operates under diverse atmospheric and observation conditions. It also plays a critical role in POLSA's POLON network, contributing to Poland's space surveillance capabilities and strengthening international space security efforts.

Ensures reliability of satellite enabled navigation, communications and ISR. Early space threat detection increases survivability, improves situational awareness and shortens decision cycles, allowing soldiers to focus on mission execution, not system availability.

Reconfigurable REVOBEAM Antenna Product Series

REVOBEAM Sp. z o.o. ► p. 483





The Reconfigurable REVOBEAM Antenna Product Series is designed to dynamically adapt radiation patterns in response to mission-specific requirements. The system supports full reconfiguration within the horizontal plane over a 0–360° range, generating up to 12 directional beams to ensure precise spatial coverage across a wide frequency spectrum.

It delivers stable gain throughout the operating frequency range while maintaining low return loss (VSWR), ensuring high transmission and reception efficiency. The system is capable of determining the direction of both its own radio emissions and external jamming signals. Furthermore, it enables selective interference mitigation by suppressing jamming signals originating from specific directions.

The solution is lightweight, facilitating easy handling and rapid deployment, and is compliant with the NO 06 A107 standard. It operates reliably within a temperature range of -40°C to +60°C. Miniaturised variants are also available, optimised for integration with unmanned aerial systems (UAS).

Benefit for the soldier:

Advanced EW antenna system providing Spectrum Superiority and LPI/LPD protection. Features dynamic beamforming, null-steering, and precision DF to counter Electronic Attacks. Ensures Assured C2 and EMSA in contested EMOE. Its expeditionary design reduces Cognitive Load, delivering Tactical Overmatch.



Small Intelligent Light Satellite Terminal SilPack Series

SILTEC Sp. z o.o. ► p. 490



Silpack is a manpack class SATCOM terminal equipped with two replaceable antennas (60 and 100 cm) operating in X, Ku and Ka Bands. With its capability of replacing modems, the terminal assures a flexible solution for different communication topologies.

The terminal is delivered with a positioner which allows pointing of the antenna to the proper satellite. Equipped with a software package a tool for monitoring and control purposes of the embedded devices.

Technical specification

Antenna
- Frequency bands – X, Ku, Ka
- Dish diameters – 60, 80, 100 cm

Ku Band
- TX frequency [GHz] – 13,75–14,50
- RX frequency [GHz] – 10,70–12,75
- Polarization – Linear
- BUC – 8 W (Other options available)
- PLL LNB

X Band
- TX frequency [GHz] 7,90–8,40
- RX frequency [GHz] 7,25–7,75
- Polarization – Circular
- BUC – 10
- W PLL LNB

Modems
- ND Satcom Skywan 5G mini
- Comtech UHP-210
- Teledyne Qlite
- Other options on request

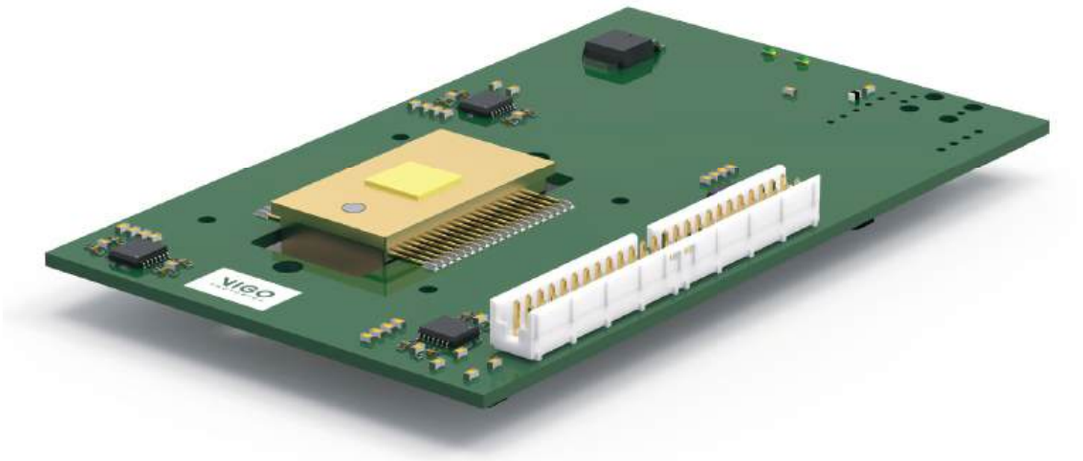
Functionalities
- Ethernet LAN (1 Gb/s) x 2
- GPS receiver
- Compass
- Satellites and locations database
- Angles calculation
- Pointing support
- M&C software
- AZ/EL/POL – adjustable in wide range
- Levelling

Power supply advanced
- AC 100–240V, 45–60Hz, DC 12–36V
- Batteries BB2590/U, BB-390B/U
- Car lighter, car battery

Environmental conditions
- Operating temperature -30° ÷ +50°
- Storage temperature -40° ÷ +60°
- Humidity 100 %
- Weight (backpack not included) < 20 kg

32-channel IR Detection Module

VIGO Photonics S.A. ► p. 501



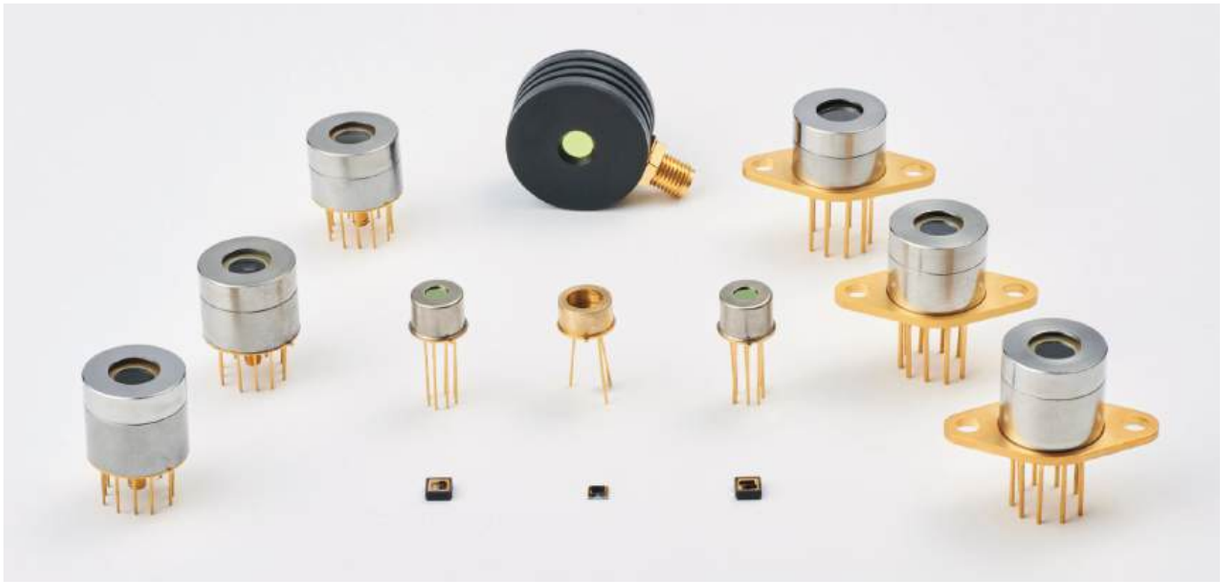
VIGO Photonics develops high-performance infrared detectors based on HgCdTe, InAs, InAsSb, and InGaAs- among the most advanced materials for IR detection. Our solutions are optimised for MWIR (3-8 µm) and LWIR (8-16 µm) ranges, meeting strict requirements of security and defense applications. Mechanical and environmental stresses- such as temperature, pressure, and shock- can affect detector sensitivity and accuracy, which is why VIGO designs its devices for reliable operation in harsh conditions, including munitions, anti-missile systems, and laser warning systems.

Our portfolio includes compact, multi-element infrared detectors and modules with up to 32 channels. These can be customized in geometry, packaging, spectral response, and pixel characteristics, and are available as standalone units or with integrated amplifiers. They offer both broadband and wavelength-specific detection, ensuring low NETD and high performance.

The 32MM-5 module features a 32-element, thermoelectrically cooled photovoltaic array based on an InAsSb superlattice. It integrates a transimpedance AC-coupled amplifier and TEC controller in a compact design, ideal for IR imaging, spectroscopy, gas analysis, and other multichannel detection systems.

Benefit for the soldier

The 32MM-5 module provides soldiers with a tactical edge by instantly detecting fire and explosions. Its extreme sensitivity allows for immediate response to threats and real-time toxic gas monitoring. As the heart of a warning system, it saves lives, minimizes thermal signatures, and ensures safety in a dynamic, high-risk combat environment.





XY-PCL-C
PORTABLE PASSIVE RADAR

XY-Sensing Sp. z o.o. ► p. 511

XY-PCL-C is a portable passive radar system designed for area of interest airspace surveillance, detection and tracking airborne objects with different velocity and radar cross section (aircraft, helicopters, gliders, balloons and drones). Build in container may be transported wherever is tactically needed. Modern passive detection technology relays on radio waves illumination coming from other industrial sources. The system may work in autonomous mode as well as part of integrated air defence system.

Key features

- Modern passive radar technology
- 360° surveillance coverage
- High manoeuvrability and independence
- Air objects detection and tracking

Main applications

- Air surveillance within area of interest
- Objects of interest tracking
- Airway smuggling detection
- Command and control support

Radar solution developed and offered in partnership with SkyRad, Vortex and SpaceComm Ltd.

Technical specification

PARAMETER			UNIT
Illuminators of Opportunity (IOs):	DVB-T	470-862	MHz
	FM	88-108	MHz
Coverage	360°		
Instrumented range	0,05	300	km
Height/elevation	0	15	km
Target speed	5	1 000	m/s
Processing and display capacity:			
Bistatic plots	10 000		
Bistatic tracks:	1 000		
IOs	10 000		
Update rate / information refresh rate	1		s
Operation temperature	–30	+50	°C
Weight		5 000	kg

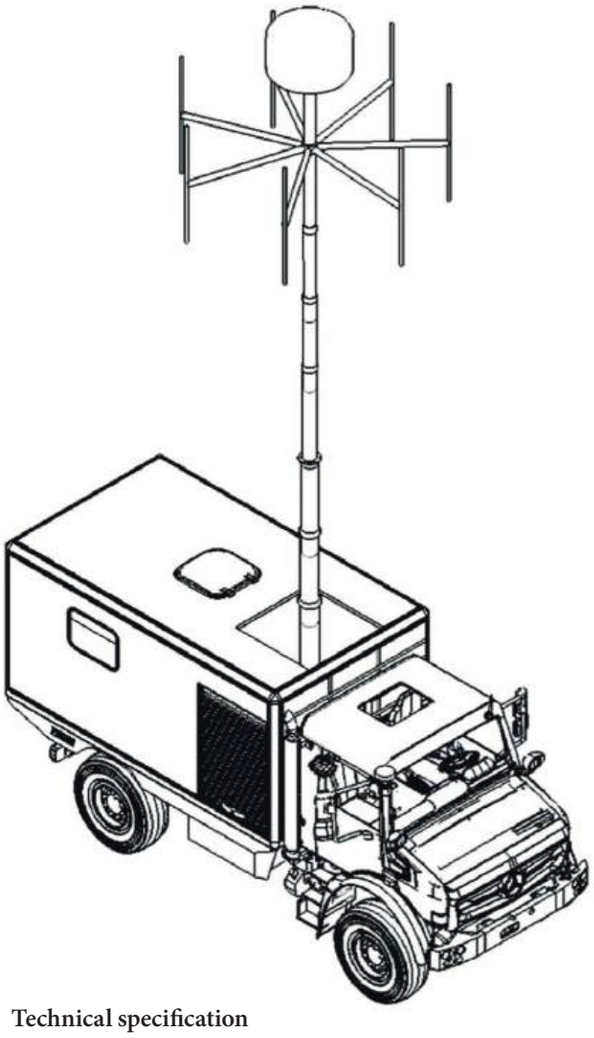
Specifications subject to change without notice

Benefit for the soldier

The system may be used in peace time, crisis and war environment. In peace time the system is particularly beneficial when used against smuggling with airborne objects (drones, balloons) across the state border. Maybe also used to support protection of high value aspect events like ex. NATO summit. In crisis the system is beneficial to support protection of critical infrastructure against being harassed by any types of UAVs (No Fly Zone support). In war time may be used based as air coverage gap reductor.

XY-PCL-MU
Mobile Passive Radar

XY-Sensing Sp. z o.o. ▸ p. 511



XY-PCL-MU is a mobile passive radar system designed for rapid deployment and airspace surveillance, detection and tracking airborne objects with different velocity and radar cross section (aircraft, helicopters, gliders, balloons and drones). Mounted on a vehicle system goes wherever is tactically needed (including off road). Modern passive detection technology relays on radio waves illumination coming from other industrial sources. The system may work in autonomous mode as well as part of integrated air defence system.

Key features

- Modern passive radar technology
- 360° surveillance coverage
- High manoeuvrability and independence
- Air objects detection and tracking

Main applications

- Air surveillance within area of interest
- Objects of interest tracking
- Airway smuggling detection
- Command and control support

Radar solution developed and offered in partnership with SkyRad and Vortex.

Technical specification

PARAMETER			UNIT
Illuminators of Opportunity (IOs):	DVB-T	470-862	MHz
	FM	88-108	MHz
Coverage	360°		
Instrumented range	0,05	300	km
Height/elevation	0	15	km
Target speed	5	1 000	m/s
Processing and display capacity:			
Bistatic plots	10 000		
Bistatic tracks:	1 000		
IOs	10 000		
Update rate / information refresh rate	1		s
Operation temperature	–30	+50	°C
Weight		5 000	kg

Specifications subject to change without notice

Benefit for the soldier

The system may be used in peace time, crisis and war environment. In peace time the system is particularly beneficial when used against smuggling with airborne objects (drones, balloons) across the state border. Maybe also used to support protection of high value aspect events like ex. NATO summit. In crisis the system is beneficial to support protection of critical infrastructure against being harassed by any types of UAVs (No Fly Zone support). In war time may be used as rapid air coverage gap reductor.

XY-RF MUR
RF Multichannel Universal RecordeR

XY-Sensing Sp. z o.o. ► p. 511

XY-RF MUR is a multichannel RF receiver and recording system designed for acquisition and digital processing of wideband radio-frequency signals. The device receives analog RF signals, converts them into digital form and transmits them to a host system for further analysis or storage. Based on RFSoC FPGA technology, the system enables stable long-term data acquisition and flexible signal processing.

Main applications

- RF signal monitoring
- Radar signal recording
- Spectrum analysis
- Electronic warfare research

Key features

- Multichannel RF signal receiver
- RFSoC FPGA processing platform
- Wideband RF signal acquisition
- GNSS synchronisation support

Benefit for the soldier

The receiver and recording system may be used to monitor already recognised and collect new wideband radio-frequency signals within area of interest (ex. border area). Left for longer period within or nearby area of interest may collect data for further analysis resulting in interesting information about transmission density, rules of transmission, signals and identifications scores etc.



In partnership with SkyRad and Vortex.

PARAMETER		
Number of analog inputs	8	
ADC sample rate	4.096 GS/s	
Frequency range (3dB band)	3.0 GHz	
Useful input frequency range	4 GHz	-5.2 dB attenuation at 4GHz
Maximum number of channels	32	Up to 4 frequency channels per analog input
Channel sample rate	8-512 MS/s	May be set to: 512/256/128/64/32/16/8 MS/s
Channel useful bandwidth		80% of configured sample rate
SFDR[1]	43 dBFS 47 dBFS	For 685 MHz, 256 MS/s For 685 MHz, 8 MS/s
ENOB	9.7 bits 10.4 bits	For 685 MHz, 256 MS/s For 685 MHz, 8 MS/s
SNR	60 dB 64 dB	For 685 MHz, 256 MS/s For 685 MHz, 8 MS/s
ADC resolution	12 bits	
Output sample format	16 bits I/Q	
Maximum data rate	18.6 Gb/s	Over network interface
Maximum total sample rate	512 MS/s	All active channels combined
External synchronization error	< 3.9 ns	
Reconfiguration time	< 100 ns	

Specifications subject to change without notice
[1]Measured at channel output. Input signal is a single sine wave spanning the full scale of the ADC

ZIG T 2R
Optoelectronic head

Etronika Sp. z o.o. ► p. 452

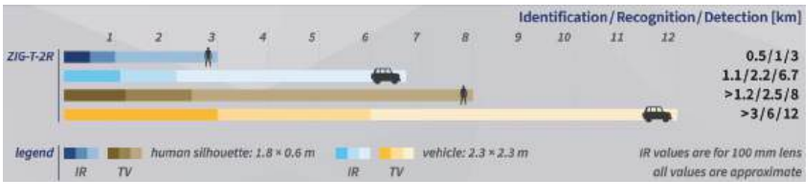


The ZIG T 2R is a multi sensor optoelectronic observation head that combines an uncooled thermal imaging camera, two switchable daylight cameras with a wide and narrow field of view, and a laser rangefinder. The device is dedicated mainly to modernised armoured reconnaissance vehicles, such as the BPzV and BRM 1K. It has tilt adjustment of sensors with moving parts inside the device. The housing is hermetic and has heated windows. A special adapter allows mounting the optoelectronic sensor head on military vehicles.

Benefit for the soldier

Enables precise target detection and identification in day and night conditions, improving unit safety. Supports observation and targeting without exposing the crew to direct threat. Reduces time between detection and engagement, maintaining performance in adverse weather and increasing operator survivability.

Thermal camera (IR)				
detector	uncooled microbolometric FPA			
pixel size	17 µm			
spectral response	8 to 12 µm			
sensitivity	NEDT < 45 mK, optionally < 25 mK		NEDT < 45 mK	
resolution	640×480 px		1024×768 px	
lens	60 mm	100 mm	60 mm	100 mm
field of view (H)	10.4°	6.2°	16.5°	10°
digital zoom	2× and 4×			
Daylight cameras (TV)				
detector	1/3" CMOS image sensor			
resolution	1920×1080 px			
field of view (H)	switched: 30°–15°–4°–2°			
Rangefinder				
type	diode-pumped solid-state laser			
wavelength	1.54 µm			
range	above 9 km			
safety class	1M			
Video and control				
video output	analogue CVBS PAL signal, H.264 separate streams over 100Base-T Ethernet			
control interface	RS-422, Serial-over-Ethernet			
Supply				
supply voltage	18 to 30 VDC			
current consumption	less than 10 A (with heating and inclination drive on)			
Mechanical parameters				
sensors inclination	−10° to +20°, accuracy: 0.01°			
operating temperature	−30°C to 50°C			
housing	IP67, heated windows			
dimensions without adapter	240×260×290 mm			
weight without adapter	12 kg			





SIMULATION AND TRAINING



Combat Training Support System "ŚNIEŻNIK"

Wojskowy Instytut Techniczny Uzbrojenia
(Military Institute of Armament Technology) ► p. 509

The ŚNIEŻNIK combat training suport system is an advanced project for complex training of soldiers in garrison conditions on a virtual battlefield. The system provides a comprehensive solution for conducting fire training for soldiers of mechanised, motorised, anti-aircraft, artillery or sharpshooter units at shooting ranges, battlefield or in facilities. The high resolution of the screens and emitting characteristic sounds of the environment reflect the sounds of the battlefield. The trainnees use real types of combat weapons, adapted to shooting in the Śnieżnik, equipped with laser modules, pneumative reloading systems and simulators of optical sights. The system also reflects the ballistics of the bullets, corresponding to the types of ammunition. In addition, environmental and atmospheric factors, types of propellant charges and fuse settings were also provided. The Śnieżnik enables significant savings in the training process due to the lack of costs of ammunition fuel, other material resources, no need to move to training grounds and no use of weapons and military equipment. The Śnieżnik system enables comprehensive commander training across multiple domains. It supports fire control instruction while accommodating the simultaneous participation of units from various branches of the armed forces, making it well-suited for combined arms training scenarios. The system further allows commanders to rehearse situations that cannot be replicated on conventional barracks training grounds, and to operate in environments that closely mirror the conditions of potential mission or operational areas. Additionally, it offers unrestricted training opportunities with no limitations imposed by adverse weather conditions.

Benefit for a soldier

The first goal of combat support training system "Śnieżnik" is to develop shooting skills of individual soldiers. Big volume of different scenarios (terrains, wheather conditions, wind influence, day, night, thermal vision) let trainees improve effective firepower.

Second aim of system is combat training as a squad team on virtual battle field. These exercises develop commanding skills and use of appropriate armament in tactical situations. System enhances truly soldier's situational awarness and tactical capabilities of units.

System Śnieżnik has been introduced to Polish Armed Forces and is used over 15 years in many military units. The Śnieżnik system enables comprehensiveThe system is continuously expanded with new functionalities to better meet the evolving needs and expectations of its users.

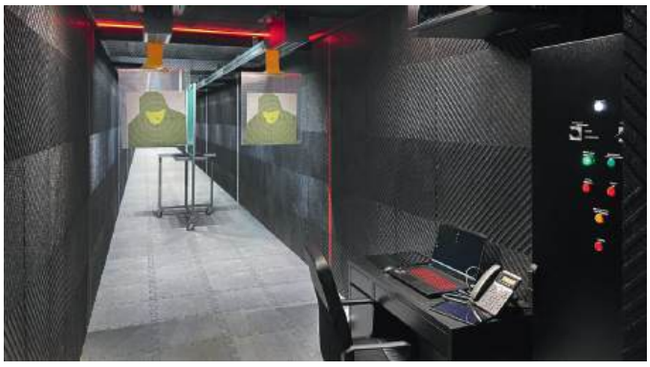


Container shooting range MoST-2

KLIMAWENT S.A. ► p 468

MoST-2 container shooting range:

- can be used as training facility for uniformed services and as commercial facility
- is fully covered shooting range
- has 25m shooting line
- has two shooting stalls
- is equipped with tactical lighting system, target retrieval system and CCTV
- is equipped with long life granular bullet trap
- provides possibility of using ammunition of 3600 J maximum initial energy of the bullet, including weapons listed below:
  - pneumatic weapons, 4.5 mm (shot)
  - rimfire pistols and rifles, e.g. 5.6 mm
  - centerfire pistols and rifles,
  - e.g. 7.62 mm, 9.65 mm, 11.43 mm
  - smoothbore shotguns, e.g. 12 gauge,
  - rifles and carbines, e.g. 7.62 mm NATO (not supported: armour-piercing, tracer and incendiary rounds)
- allows trainings from fixed or moving firing lines
- consists of four modules than can be placed on a flat surface in any location
- guarantees the highest air quality due to perfect ventilation system









Benefit for a soldier

The MoST-2 enables safe, controlled, and accessible live-fire training in confined or urban environments, significantly increasing training frequency and availability. For the soldier, this translates into consistent skill maintenance and improved shooting accuracy without the need for large training areas. The enclosed structure minimises environmental distractions, allowing focused development of marksmanship fundamentals and weapon handling. This reduces cognitive load during live operations, as core shooting skills become automatic. Increased repetition leads to higher confidence, improved reaction speed, and ultimately greater survivability in close-range engagements.

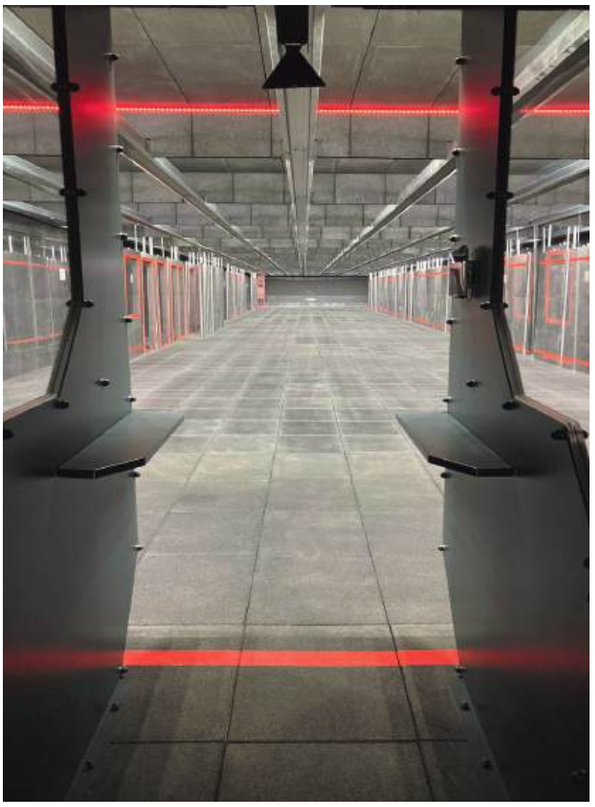
Container Shooting Range

GISS Sp. z o.o. ► p. 459



The GISS container shooting ranges are specially designed systems consisting of mobile ballistic modules. They allow for the construction of highly specialised training facilities anywhere, catering to the shooting and tactical training needs of uniformed services and civilians alike. These facilities are capable of hosting a variety of training sessions, offering shooting distances ranging from 5 to 200 meters with both fixed and adjustable firing lines. They feature between two to eight shooting positions, accommodating individual, paired, or group training scenarios.

By utilising standard equipment and live ammunition during training, these ranges elevate the level of practical training, enhancing concentration and building confidence in acquired skills. The internal training support systems enable comprehensive analysis of training sessions, facilitating identification of individual and group errors, thereby aiding in their prevention during future training and operational missions. In addition to the ballistic modules, the facility can also be equipped with various modules to support the overall functioning of the center. These modules may include space for training, office, social, logistics, and communication units, housing amenities such as a shooting control station, weapon cleaning room, restroom, training area, waiting room, locker room, or a medical facility.



CQB House Shooting Range

GISS Sp. z o.o. ► p. 459

The armoured CQB House manufactured by GISS is a specially designed system of portable ballistic panels allowing a life-sized training facility to be built. This allows for tactical trainings to be organized in conditions most similar to those prevailing on a modern battlefield.

It is also possible to carry out a wide spectrum of live fire trainings undertaken in preparation for the following types of operation:

- Military Operations in Urban Terrain – MOUT.
- Close Quarters Battle – CQB.
- Hostage Rescue Operation – HR.
- Counterterrorism – CT.
- Special Reconnaissance – SR.
- Direct Action – DA.
- Personal Security Detachment – PSD.

In addition to comprehensive preparation for the implementation of the above-mentioned operations, by using the appropriate elements the CQB House also allows basic skills to be improved, such as situational shooting or even breaching, without exposing trainees to the danger of loss of health or life.

Internally installed training support systems enable comprehensive analysis of training and identification of individual and group mistakes, helping to avoid them in the future during training and combat operations.

Systems that can be used to make training more attractive:

- Artificial smoke system to allow for training in conditions of limited visibility
- Audio system – generating sounds of the battlefield
- Monitoring system for training participants
- Specialised simulation lighting system
- System of mobile targets
- System of integrated bullet-traps





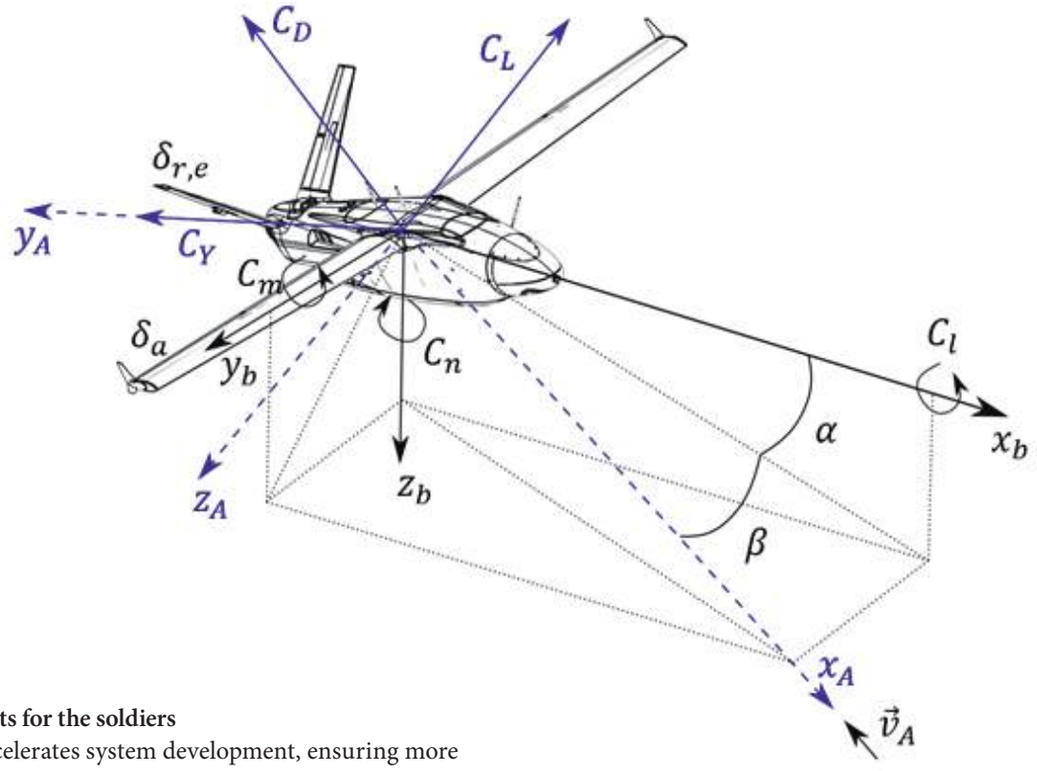
ESIM Engineering Simulator

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

ESIM Engineering Simulator - Tool for engineering simulations of various unmanned aerial vehicle configurations to optimise parameters and test new concept. The simulator enables virtual UAV flight operations, offering a realistic representation of real-world conditions and system behaviour through the integration of Hardware-in-the-Loop (HIL) technology. The Esim simulator replaces early-stage physical testing with advanced simulation capabilities. This accelerates the development process, enables early detection, resolution of design issues, and reduces the risk of costly hardware damage. In addition, the platform reduces the risks associated with UAV development missions, directly enhancing operational safety. It also enables the execution of complex or high-risk scenarios that would be difficult, unsafe, or impossible to perform in real-life conditions.

Key specs include:

- Modeling Digital Twin of the UAV and the environment with interactive elements
- Simulation models: HIL (Hardware in the Loop) and SIL (Software in the Loop)
- Testing UAV in configurations with different types of propulsion
- Testing UAV with different of payloads, e.g. cameras, sensors, cargo
- Performance analysis of UAVs in different structural configurations and varying takeoff weights
- Energy consumption analysis
- Creating virtual UAV missions in selected atmospheric conditions
- Flight stability assessment
- Analysis and development of navigation systems, control systems and mission management algorithms
- Test flights on a virtual UAV model



Benefits for the soldiers

- accelerates system development, ensuring more reliable platforms in the field,
- enables the creation of a simulation environment in which virtual platforms have parameters corresponding to real-world platforms.

Mobile Bullet Traps

KLIMAWENT S.A. ► p 468



KMR-600 mobile bullet trap
Mobile bullet trap on a wheeled dolly and a backstop. 50 mm anti-ricochet panels installed on one backstop side.



KMB-600 mobile bullet trap
Mobile bullet trap on a wheeled dolly and a backstop. 50 mm anti-ricochet panels and 300 mm solid blocks installed on one backstop side.

The mobile bullet traps are intended for live-fire tactical training in sheltered and outdoor shooting ranges. The mobile bullet traps can be deployed in linear series or as standalone units. They facilitate any deployment configuration for building "shoot houses". The mobile bullet traps withstand live round fire with a maximum bullet energy of 3600 J, including the following calibres: 9 mm, 5.62 mm, and 7.62 mm (and 7.62 NATO) (excluding: armour-piercing, tracer and incendiary rounds).

The KMB-600 bullet traps withstand live round fire with a maximum bullet energy of 6600 J, e.g. 338 LM.

The offer of Mobile Bullet Traps consists of:

- KMR-600 mobile bullet trap (ballistic resistance to 3600J, weight: 150kg)
- KMB-600 mobile bullet trap (ballistic resistance to 6600J, weight: 345kg)

Benefit for a soldier

The KMR mobile bullet trap enables safe and flexible live-fire training in diverse locations, supporting rapid setup of shooting environments without permanent infrastructure. For the soldier, this means increased access to realistic training conditions and more frequent live-fire exercises. The ability to train in varied configurations enhances adaptability and situational awareness. By enabling dynamic drills with immediate feedback, the system improves shooting accuracy and reduces reaction time. This contributes directly to higher combat effectiveness while minimising physical and cognitive strain through repeated, structured practice.

Mobile Container Shooting Range MoST-1

KLIMAWENT S.A. ► p 468

MoST-1 mobile container shooting range:

- → can be used as a personalised shooting range, commercial
- → facility as well as training facility for uniformed services,
- → has one shooting stall,
- → has 7 m shooting line,
- → is equipped with multifunctional firearms symulator designed to address both basic and advanced firearms training and simulate differ distances,
- → is equipped with long life granular bullet trap,
- → provides possibility of using ammunition of 3600 J maximum initial energy of the bullet, including weapons listed below:
  - pneumatic weapons, 4.5 mm (shot),
  - rimfire pistols and rifles, e.g. 5.6 mm,
  - centerfire pistols and rifles, e.g. 7.62 mm,
  - 9.65 mm, 11.43 mm,
  - smoothbore shotguns, e.g. 12 gauge,
  - rifles and carbines, e.g. 7.62 mm NATO (not supported: armour-piercing, tracer and incendiary rounds),
- → guarantees the highest air quality due to a perfect ventilation system.











Benefit for a soldier

The MoST-1 brings training capability directly to the unit, eliminating logistical barriers and enabling rapid deployment of shooting infrastructure. This mobility ensures that soldiers can maintain readiness regardless of location, including forward operating environments. Frequent, on-site training improves weapon proficiency, reduces skill degradation, and enhances muscle memory. As a result, soldiers experience lower cognitive strain during combat situations and demonstrate faster, more accurate engagement of targets. The system supports continuous readiness, directly contributing to increased operational effectiveness and survivability.

Mobile Container Shooting Range (40 FT HC)

Zakłady Mechaniczne "Tarnów" S.A. ► p. 514

The Mobile Container Shooting Range 40FT HC is designed to conduct secure training and shooting practice with application of live ammunition, using standard-issue and combat weapons. The complete shooting range consists of two or more connected containers where training can be conducted within 5 m to 50 m distance in steady position or in motion from various standpoints and firing lines. Installed interactive training simulator – multimedia trainer, allows application of various training programs/methods (using stationary shooting targets, speed shooting, shooting to moving targets, precision shooting training and training with active and neutral targets) and to program own tactical scenarios and combat situations developed according to the user's needs. Interactive multimedia training simulator allows to shot with live ammunition, laser pointers and to extend the line of fire up to 200 m.

The advantage of the shooting range is that it can be set and ready in any area within a very short time. It allows to use ammunition of maximum muzzle energy of 3600 J, including:

- Rimfire pistols and rifles, for example, 5.6 mm
- Centerfire pistols, revolvers of caliber up to 11.43 mm
- Rifles and carbines of caliber: 5.6 mm, 5.56 mm, 7.62 mm (excluding armor-piercing, tracer and incendiary rounds)



Benefit for a soldier

Enables realistic live-fire training with combat ammunition in controlled conditions, increasing safety and effectiveness. Flexible configuration and tactical simulations enhance response to a variety of threats and improve readiness for combat readiness.

Mobile Shooting Target
Robotic Target™ 2WD, Robotic Target™ 4WD

Tech Robotics S.A. ► p. 495





This is a lightweight and mobile remotely controlled platform. Two drive wheels on a flat surface allow for highly dynamic manoeuvrability. ROBOTIC TARGET™ is capable of operating on existing shooting range objects without modifying the shooting range infrastructure.

Our targets can work with various attachments mounted on our platform, such as the 3D TECHFLEX™ Shooting Range Dummy Target. Our mobile shooting targets enhance the skills of every shooter. Each of the wheels is powered by a separate motor. With control over direction and speed, an instructor can simulate an unlimited number of scenarios.

In a fraction of a second, a simulated target without any warning can become a threat. The purpose of the mobile shooting target is to conduct dynamic training with non-linear scenarios.

Training with the robotic shooting targets can assist soldiers or officers in improving various skills: accuracy, tactical and situational awareness, decision-making, speed and reaction time, safety, scenario-based force-on-force training.

Modular Tactical Shooting Ranges
MoST-5 and MoST-10

KLIMAWENT S.A. ► p 468



MoST-5 and MoST-10 are indoor shooting ranges for all kinds of shooting trainings. They are made of steel modules which can be transported to any location which has a flat surface. MoST systems are not fix to the ground. The time of building the shooting range is between 180 and 360 days depending on the MoST size.

MoST systems are available in eight sizes:

- MoST-5 – 5 m lane width, either 25, 50, 100 or 200 m shooting line
- MoST-10 – 10 m lane width, either 25, 50, 100 or 200 m shooting line

The modular design of the MoST systems allow the range length to be modified by the adding or removing modules. Each MoST range can also be disassembled and relocated at any time.

MoST-5 and MoST-10 provide possibility of using ammunition of 3600 J maximum initial energy of the bullet, including weapons listed below:

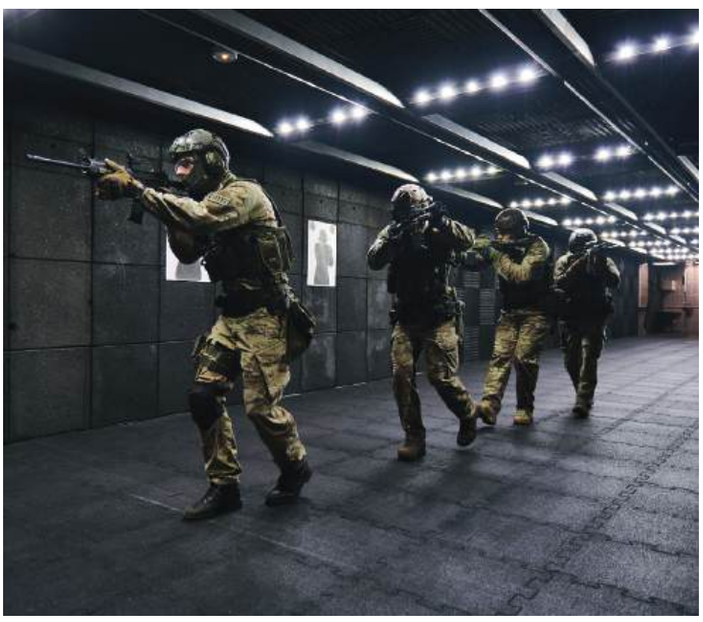
- pneumatic weapons, 4.5 mm (shot)
- rimfire pistols and rifles, e.g. 5.6 mm
- centerfire pistols and rifles, e.g. 7.62 mm, 9.65 mm, 11.43 mm
- smoothbore shotguns, e.g. 12 gauge
- rifles and carbines, e.g. 7.62 mm NATO (not supported: armour-piercing, tracer and incendiary rounds)

The ballistic equipment consists of:

- long life granular bullet trap
- anti-ricochet panels
- target retrieval system
- tactical and emergency lamps
- audio system
- CCTV system

Benefit for a soldier

The MoST-5 provides a highly adaptable live-fire training environment that directly enhances soldier survivability and combat effectiveness. By enabling realistic, repeatable tactical scenarios—including dynamic movement, close-quarters engagement, and team coordination—it strengthens situational awareness and decision-making under stress. The modular design allows units to tailor training layouts to mission-specific requirements, improving readiness for urban and hybrid warfare environments. Additionally, controlled infrastructure reduces cognitive load during training progression, allowing soldiers to focus on tactics, communication, and precision. This results in faster skill acquisition, improved reaction times, and greater confidence in real-world engagements.



MoST-SH Modular Shoot House

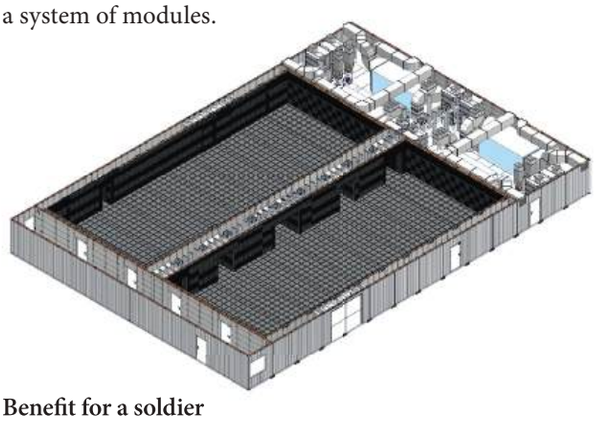
KLIMAWENT S.A. ► p 468

MoST-SH Modular Shoot House

- A modular system for live ammunition training.
- Available as a fully customised, sheltered training room: a shoot house, an outdoor shooting range, an in-vehicle combat training site, etc.
- Supports scaling of training difficulty, variations in scenario conditions, and challenging CQB training situations.
- Deployable as a training facility with near-life-like conditions.
- Supports live ammunition training with a maximum energy of 3600 J.
- The modular design enables deployment in stages over time.



MoST-SH is for creating combat and firing practice facilities covering any area and room configuration, based on a system of modules.





Benefit for a soldier

The MoST-SH provides a realistic close-quarters battle (CQB) environment where soldiers can train in complex, high-risk scenarios such as room clearing, hostage rescue, and urban combat. This significantly enhances situational awareness, spatial orientation, and decision-making under pressure. By replicating real operational conditions, the system allows soldiers to develop instinctive reactions, reducing cognitive overload during actual missions. Training in configurable layouts improves adaptability and tactical flexibility, while repeated exposure to dynamic scenarios increases confidence and survivability. The result is a highly prepared operator capable of precise, coordinated action in confined environments.





OBRTrain Platform Overview

OBRUM Sp. z o.o. ► p. 475



The OBRTrain platform is an advanced training solution developed by OBRUM to support interactive learning for military equipment, including remote access capabilities and tools for managing specialised training programs.

The system enables the development of various training applications, such as virtual simulators for maintenance and troubleshooting, HMI training systems for operating control panels and power systems, and dedicated modules improving diagnostic and repair skills. It is compatible with Windows 8 and newer systems, as well as standard web browsers, and can be integrated with e-learning platforms.

OBRTrain allows instructors to assign structured training paths to individual users via database-connected workstations. Training modules include mandatory tests and exercises, supported by an automated evaluation system that reduces administrative workload while providing real-time access to results.

A key element of the platform is the use of detailed 3D models, enabling users to interact with virtual equipment components in a realistic environment. These models support both graphical visualization and structured navigation, and their level of detail can be adjusted to meet user requirements and protect sensitive data.

The platform enhances training effectiveness, improves safety and reduces costs by enabling learning without direct access to physical equipment. It also supports both initial and refresher training, increasing operational readiness and ensuring proper maintenance practices.

Benefit for a soldier

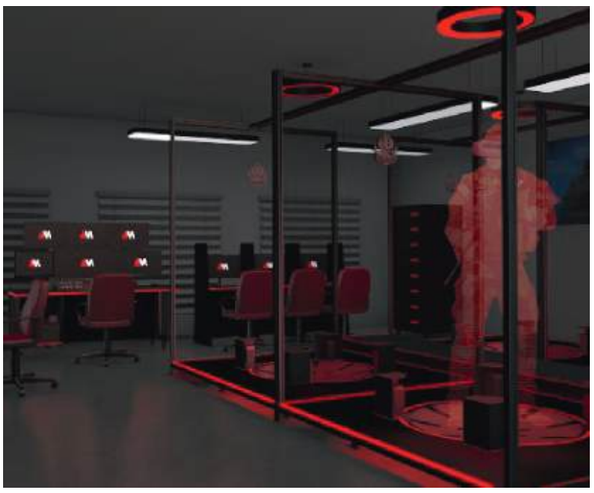
Enables effective training in a controlled environment, improving operational readiness and confidence in task execution. Enhances decision-making and coordination while reducing cognitive burden and minimising the risk associated with real-world training.



OPA
Advanced Damage Control & Firefighting Simulator

Autocomp Management Sp. z o.o. ► p. 440

DC (Damage Control) is a sophisticated, high-technology training complex designed to prepare naval and maritime personnel for life-threatening emergency situations at vessel. Engineered to meet rigorous damage control standards and instructions, the system provides a high-fidelity environment for practicing fire suppression, leak sealing, and emergency shoring in real vessels conditions.



The OPA simulator is a vital asset for maintaining the highest levels of ship survivability. It transforms theoretical procedures into muscle memory, ensuring that crews are ready to respond decisively to any disaster, saving lives and protecting strategic maritime assets.

Key Capabilities:

- Realistic Fire and Water Scenarios: Real 3D environment of Navy Vessels requiring trainees to use actual firefighting equipment and protective gear.
- Dynamic Flood Simulation: 13 integrated training VR stations with motion system and moving platform connected into a single network system enabling shared training and interaction between trainees
- Management Training: Integrated communication systems and damage control consoles for instructor and operator allow for training in reporting, decision-making, and resource allocation under intense pressure of trainee.
- Scalability: The modular design allows for the replication of specific compartments or all vessels, ensuring that training is tailored to the vessel's architecture.





Pneumatic Decoys

Lubawa S.A. ► p. 468

Decoys are designed to mislead an observer from actual targets and to misrepresent the information about the actual number of deployed forces. Decoys also function as targets for training operations and life fire exercises. The product presented shows the technological and construction possibilities available. Lubawa SA provides variety of options for decoys such as JELCZ 442.32, T-72, KTO ROSOMAK, BWP-1.





Various other forms may also be designed:

- Pneumatic decoys are used for simulation of actual equipment in the real battlefield environment as well as in a group consisting of decoys only.
- The vehicle is based on a pneumatic frame.
- The outer sheathing is made of masking fabric and the elements shaping the outline and details specific to the equipment of the vehicle are made of textiles, plywood and polyurethane foam.
- The inflatable decoy imitates the signature of the real object in the spectra of detection for visible, thermal, and radar.





POJEDYNEK
Mobile Indoor and Outdoor Small Arms Training & Simulation System

Autocomp Management Sp. z o.o. ► p. 440

POJEDYNEK is a streamlined, fully mobile simulation platform designed by Autocomp Management to provide high-fidelity marksmanship and tactical training in any environment. Drawing on over 30 years of expertise in "high-tech" defense solutions, this system adapts the core precision of the world-renowned ŚNIEŻNIK system into a compact, "plug-and-play" format.



Key Features:

- Extreme Mobility: The system is rugged, durable case and equipment, allowing for rapid deployment in rooms or temporary field facilities without the need for permanent infrastructure.
- Durable Weapon Replicas: Training is conducted using high-quality weapon replicas equipped with precision laser and sensory modules that accurately replicate the weight, balance, and trigger feel of actual firearms.
- Advanced Ballistics and Scenarios: The system utilizes sophisticated algorithms to simulate realistic projectile trajectories and recoil. Trainees can engage in diverse scenarios, from basic marksmanship to complex tactical manoeuvers in varied virtual terrains according to individual or group scenarios.
- Comprehensive After-Action Review (AAR): Instructors have access to detailed analytical tools to monitor every shot and movement, ensuring precise feedback and the rapid correction of trainee habits.





POJEDYNEK is an optimized, cost-effective solution that transforms theoretical skills into muscle memory. It is a reliable, combat-proven system ready for immediate implementation to enhance the readiness of modern security and armed forces.

SJCL-6P
Driving Simulator for Leopard 2A4 Main Battle Tank

OBRUM Sp. z o.o. ► p. 475

SJCL-6P is an advanced training simulator developed by OBRUM to support comprehensive preparation of LEOPARD 2A4 tank drivers for modern battlefield conditions. The system enables realistic training across a wide range of operational scenarios, including diverse traffic situations, off-road and cross-country driving, varying climate zones, weather conditions, seasons, and day or night operations.

The simulator faithfully reproduces the driver's compartment, with particular emphasis on control systems, diagnostic panels and observation devices, ensuring high training accuracy and operational realism. The core configuration includes a driver's cabin with a visual system, an instructor/operator station, a 6DOF motion platform and a hardware suite integrated with dedicated simulation software.

The motion platform with six degrees of freedom precisely reflects vehicle dynamics such as movement, tilting and acceleration, enhancing immersion through realistic reproduction of forces acting on the tank. Advanced software generates a detailed virtual environment, enriched with spatial sound effects and tools for monitoring and evaluating training sessions.

The system allows training in various terrain conditions based on a built-in database of maps, as well as in asymmetric conflict scenarios, supporting threat recognition and decision-making in combat situations. It also includes simulation of failures and damage, enabling training in maintenance procedures performed by drivers.

The simulator supports instructor-defined tactical tasks and repeatable training scenarios using extensive databases of objects, maps and events. Integration with other simulation systems is ensured through HLA/DIS communication modules compliant with NATO standards.



Benefit for a soldier

Enables safe skill development in highly realistic conditions, improving readiness to operate in complex environments. Enhances situational awareness and decision-making effectiveness while reducing cognitive load and the risk of errors in real-world operations.



SOKOL Parachute Simulator

AIR-POL Sp. z o.o. ► p. 436

The Parachute Simulator SOKOL™ is a high-performance e.sigma product for the entire spectrum of parachute operations training. SOKOL™ is a holistic solution, which encompasses all functionalities of a jump, including HALO and HAHO jumps and all types of canopies, including reserves and troop parachutes aswellaspilot chutes.

SOKOL™ was specifically developed for the multistage and comprehensive training of all parachute jumpers, from beginners right up to paratroopers and Special Forces. All the functionalities were developed in cooperation with instructors and professional jumpers.

Benefits

- **Modular.** SOKOL™'s modular design and robust steel superstructure enables jumpers to train anywhere, as a single jumper or with a group of other trainees or virtual jumpers. It is also possible to integrate new regions or training locations at any time. Additionally, SOKOL™ is capable of cross-location networking and interfacing with third-party simulators.
- **Realistic.** All SOKOL™ simulators feature realistic representations of environments, horizons and descent movements. SOKOL™'s extensive 3D geo-specific visual databases offer a variety of different terrain options, serving as the basis for all types of exercise and mission planning.
- **User-centric.** Due to the advanced customisation capabilities, it is possible not only to train in numerous terrains, different times of day and weather conditions, but also in realistic environments and mission specific locations, both alone as well as in a group jumping scenario.
- **Secure.** SOKOL™ helps you acquire safe and accurate chute control, for a variety of chute and line related malfunctions. You can also practice evasive manoeuvres and collision avoidance, as well as training under stressful situation to help build confidence and calm during jumps.







It is only a technologically advanced parachute jump simulator.

Specification of SOKOL Parachute Training System

- Free Fall & Static Simulation:
  - Realistic suspension of the parachutist in an original sensor armed harness.
  - HALO/ HAHO training.
  - Fast calibration-free setup.
  - Wireless sensors for free fall steering.
  - 3D body movement simulation during free fall and static line.
- Exercise Creation & De-Briefing:
  - Recording and playback of the simulation for briefing/de-briefing.
  - Instructor station with interactive control over training scenario creation and running drill exercises.
  - Real-time observation and monitoring tool for instructor.
  - Communication system for the instructor and multiple trainees to communicate with each other during a jump simulation.
- Realistic Flight Experience:
  - Accurate parachute dynamics for various parachute types.
  - High resolution head-mounted display with high precision head sensor.
  - Ripcord/ hand/ static line or AAD activated deployment.
  - Realistic suspension during canopy ride.
  - Realistic canopy opening simulation with comprehensive malfunction simulation.
  - Steering with Risers.
  - Sound simulation for a realistic and immersive jumping experience.
  - Visual simulation of altimeter, compass and GPS.
  - Motorized force feedback system for all suspension and steering lines.
- High Fidelity 3D Databases & Models:
  - Different photo-realistic terrains and drop zones, and accurate 3D models.
  - Option to integrate additional terrains / models.
  - Realistic depiction of weather conditions and day /night setting for more holistic trainings.

ŚNIEŻNIK
Integrated Small Arms Indoor Training System

Autocomp Management Sp. z o.o. ► p. 440

ŚNIEŻNIK is a cutting-edge, modular system designed with WITU Institute for comprehensive small arms and tactical training of individual soldiers and entire subunits. It is the gold standard for laser-based training, currently utilised by the Polish Armed Forces to deliver high-fidelity combat scenarios in a safe, cost-effective environment.



Key Features:

- Realistic Ballistics: Sophisticated algorithms replicate the exact trajectory, recoil, and behavior of various weapon types.
- Weapon Support: From pistols and assault rifles to machine guns, GROM/PIORUN and Canons – all equipped with precision laser modules.
- Vehicles Support: From light HAMWEE vehicle for Autonomous Drones.
- Tactical Diversity: Supports training in open terrain, urban environments, and "shoot-house" scenarios, including day/night and adverse weather conditions.
- Advanced After-Action Review (AAR): Detailed analysis of every shot, movement, and tactical decision, allowing instructors to provide precise feedback.



The system's architecture allows for the integration of multiple stations, enabling complex, large-scale exercises. ŚNIEŻNIK effectively bridges the gap between basic marksmanship and advanced field manoevers, ensuring that troops are perfectly prepared for modern battlefield challenges without the consumption of expensive live ammunition.





Tactical Simulators for Combat Vehicles (APC/ROSOMAK)

Autocomp Management Sp. z o.o. ► p. 440



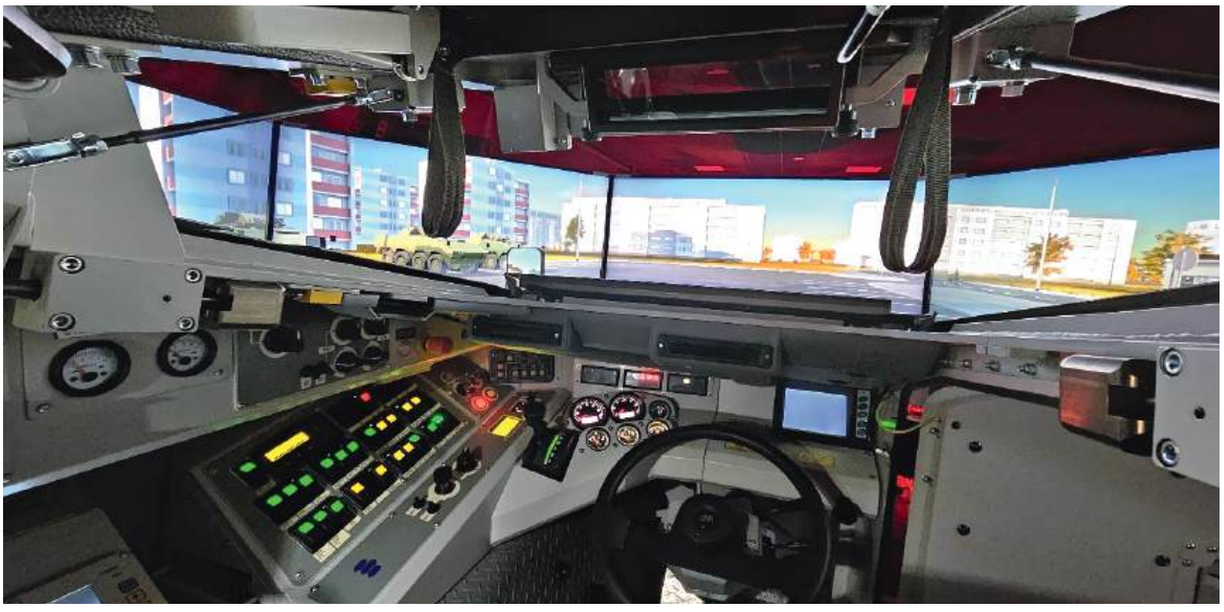


Autocomp Management offers state-of-the-art Tactical Simulators for Armoured Fighting Vehicles and Main Battle Tanks, including platforms such as the KTO Rosomak (8x8 APC) and Leopard 2 Tank. These systems are designed to train entire crews — drivers, gunners, and commanders — in a fully synchronized, immersive digital environment.

Highlights of our Simulation Technology:

- High-Fidelity Cabin Replication: 1:1 scale replicas of vehicle interiors with functional controls, sights, and communication systems. Full device and equipment replicas with optic sights and projection system
- Motion Platforms: Advanced 6-DOF (Degrees of Freedom) systems that realistically simulate terrain vibration, acceleration, and combat impacts.
- Integrated Battlefield Environment: Simulators can be networked (HLA/DIS) to allow for platoon or company-level tactical training within a shared virtual space and areas.
- Virtual base of terrain: Specific terrain mapped based on actual areas at training facilities, military training grounds, and border areas.
- Intermodular connection: Possibility of shared, intermodular training between training centres.

Our simulators significantly reduce the consumption of actual combat vehicles and lower fuel/maintenance costs. They provide a high fidelity training experience that ensures crews master vehicle operation and tactical coordination before engaging in live-fire exercises.





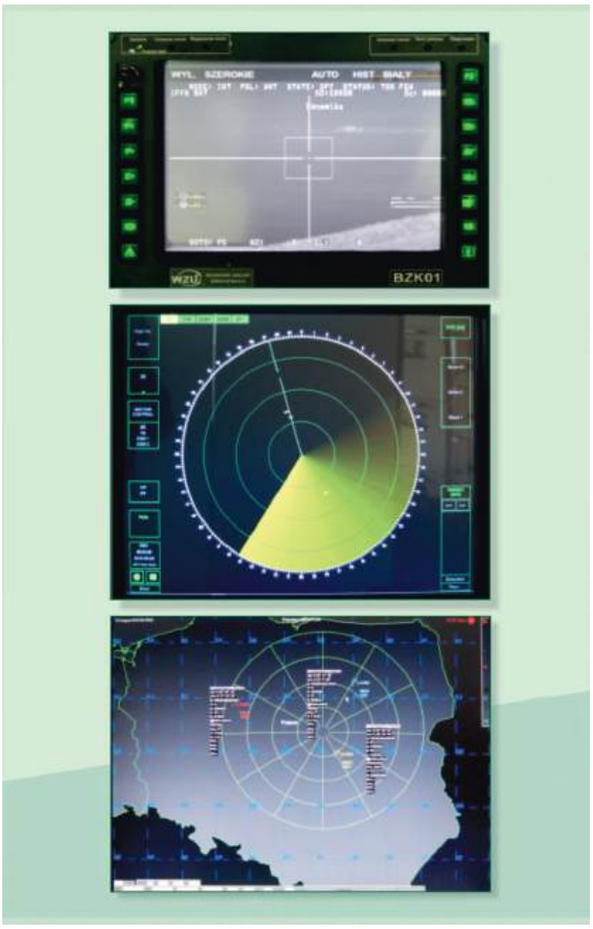
Modified Training Simulator 9F632.M1

Modified Training Simulator 9F632.M1 enables simultaneous training of 6 crews of anti-aircraft missile combat systems in a single virtual battlefield. The use of innovative electronic equipment provides top-level training capabilities – the crew is trained with real equipment.

The key element of the Modified Training Simulator 9F632.M1 is a new digital air situation imitator whose features include: generating air situation, managing flight parameters of flying objects, managing EW measures of flying objects, instructor supervision over crews in training and continuous communication with crews in training. The crews in training may also use targets generated by real data received from an external source e.g. radar.

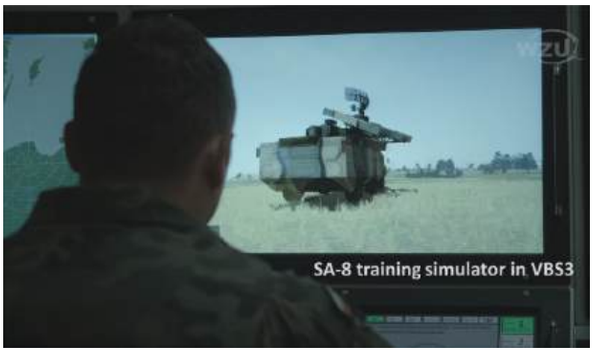
For the user:

- Enhancing the user's expertise and operational capabilities
- Enhancing the combat capabilities, reliability, and functionality of the equipment
- Adapting equipment to the demands of the modern battlefield



Simulator of Anti-Aircraft Missile Combat Vehicle PRWB OSA (SA-8) based on VBS3 technology

PRWB OSA (SA-8) operating crew training to develop habits enabling effective air target engagement in various combat zone scenarios generated in virtual space.



Unity, Unreal Engine 5 & VBS4 Ready 3D Content

ADAPT-E. ► p. 434

We deliver end-to-end 3D content production tailored for real-time simulation, training systems and interactive applications. Our team creates high-quality assets, including vehicles, weapons, props and fully immersive environments optimised for performance and visual fidelity.

Our production pipeline covers the complete asset lifecycle:

- High-poly, mid-poly and low-poly modelling for various levels of detail (LOD-ready),
- UV mapping and texture atlasing,
- Retopology and optimisation for real-time performance,
- Advanced baking workflows (normal maps, AO, curvature, etc.),
- Physically Based Rendering (PBR) texturing with industry-standard workflows,
- Material setup and shader integration,
- Collision setup and technical implementation.

All assets are fully compatible with leading real-time platforms, including Unity, Unreal Engine 5 and VBS4 and can be adapted for custom engines and web-based applications.

We ensure that every asset meets strict technical and performance requirements for defence, simulation and professional training environments, with scalable quality depending on the target platform – from high-fidelity visualisations to lightweight, web-ready solutions.



Benefit for a soldier:

Enables highly realistic, mission-relevant training environments that improve situational awareness and decision-making before deployment. Increases training efficiency, reduces cognitive load during real operations, and enhances unit readiness through immersive, repeatable scenarios.









Ważka – ST
Advanced UAV Operator & Anti-Drone Combat Training System

Autocomp Management Sp. z o.o. ► p. 440



Ważka – ST is a mobile simulation platform designed to meet the growing demands of modern drone warfare and counter-FPV operations. Developed by Autocomp Management, this integrated training system provides a dual-focus environment: preparing skilled FPV operators for reconnaissance and strike missions, while simultaneously training defence units in the effective detection and neutralisation of enemy drones.

Key Components:

- FPV Operator Station: A high-fidelity control VR station that replicates the control model, optics, and flight dynamics of various micro-FPV platforms using console or VR googles. Trainees practice observation, navigation, target tracking, and data transmission in complex virtual scenarios.
- Anti-Drone Shooter Station: Dedicated to the "anti-drone" discipline, this station trains personnel in using kinetic and electronic smoothbore shotgun. It features realistic weapon replicas equipped with laser and sensory modules to track accuracy against fast-moving aerial targets.
- Synchronized Training: The system allows for individual or group exercises where drone operators and anti-drone teams compete in real-time, enhancing tactical reflexes and coordination.
- Environmental Realism: Dynamic weather, varied urban/rural terrains, and electronic warfare interference provide a challenging and realistic training theater.
- Mobility: The system is mobile and easily configurable. Each station has its own durable transport case.

WAŻKA – ST is the ultimate training solution for military and security units looking to master the 21st-century aerial battlefield. It offers a safe, scalable, and cost-effective method to build elite drone and anti-drone capabilities.







SOLDIERS UNIFORMS AND EQUIPMENT

A.C.T. Bandage (Active Compression Treatment)

JB Tacticals ► p. 465

A.C.T. Bandage (Active Compression Treatment) is a next-generation compression bandage designed for effective haemorrhage control in tactical and pre-hospital environments. Unlike conventional solutions that rely primarily on absorption, A.C.T. Bandage uses a purpose-driven design and physical principles to generate active compression directly at the wound site.

At the core of the solution is a segmented pad structure, which ensures even distribution of pressure and effective adaptation to irregular, multi-source wounds. A key feature of A.C.T. Bandage is that it is not only an absorbent material, but primarily a compression pad acting across its entire surface. The bandage provides immediate mechanical pressure in its dry state and, upon contact with blood, increases its volume more than twofold, enhancing compression and improving bleeding control.

The integrated wound packing module offers dual functionality – it can be used to fill deep wound cavities or as an external element to reinforce pressure. This reduces the need for additional materials, simplifies procedures, and shortens response time.

Developed in Poland at the intersection of field experience and scientific support, A.C.T. Bandage addresses real-world challenges faced by users operating in dynamic and unpredictable conditions. It redefines the concept of personal trauma care by delivering effectiveness, reliability, and operational versatility.



ARCHANGEL line – lightweight protective insert

BC ARMS Sp. z o.o. ► p. 441

The ARCHANGEL line has been developed for paramedics, civil defence units and crisis response services. It focuses on protection against fragmentation, blades and irregular threats. Products within this line are characterised by high flexibility and user comfort. They provide effective protection while maintaining full mobility. The ARCHANGEL line has been designed for operations in dynamic and unpredictable environments.

ARCHANGEL

ARCHANGEL is a lightweight protective insert rated at K1 O2 level, providing protection against fragmentation and blades (S1 24/26J). It is intended for paramedics and civil response services. The flexible construction ensures a high level of user comfort. It performs well in operations requiring mobility. ARCHANGEL provides a fundamental level of protection for crisis situations.

Benefit for the soldier

Provides baseline protection against fragmentation and blades while maintaining full mobility. Low backface deformation reduces injury risk after impact. Lower weight than most systems decreases physical fatigue. Supports situational awareness and endurance in dynamic environments.



ARCHANGEL OC

ARCHANGEL OC is an enhanced version of the PRO model with increased fragmentation resistance up to O3 level. It is intended for users operating in the most demanding conditions within civil defence structures. The insert provides a high level of protection while maintaining mobility. Its construction has been optimised to address irregular threats. ARCHANGEL OC is a solution designed for situations where standard protection is no longer sufficient.

Benefit for the soldier

Increases survivability in high-fragmentation environments (O3) while maintaining mobility. Low BFD reduces trauma from impacts. Lower weight compared to typical solutions improves endurance. Supports sustained operations in unpredictable conditions.



ARCHANGEL PRO

ARCHANGEL PRO provides an enhanced level of protection rated at K2 O2 and blade resistance in accordance with NIJ 0115.00 Level I. It delivers increased protection while maintaining wearing comfort. The insert is intended for users operating in elevated risk environments. Its construction combines flexibility with high protective effectiveness. ARCHANGEL PRO is an advanced solution designed for emergency and rescue services.

Benefit for the soldier

Enhances survivability against ballistic and blade threats with controlled backface deformation. Reduced weight lowers operator fatigue during extended missions. Maintains mobility and reaction speed. Improves operational effectiveness in elevated-risk scenarios.

TECHNICAL SPECIFICATION

Cut Type	TG-MED
Size	S, M, L, XL, on order
Insert Thickness	6mm
Weight	1850g +/- 5% (M – set)
Ballistic Resistance	9x19mm 420 m/s (+/- 15m/s) 7,62x25mm 420 m/s (+/- 15m/s)
Class	PN-V-87000:2011- K2
BFD	Under 20mm
Puncture Resistance	Spike - P1(24J) Knives - S1, S2 (24J, 36J)
Class	Lvl. I (NIJ 0115.00)
Warranty	7 years / 10 years

BULLETPROOF AND KNIFEPROOF VEST VIP 0.3S VEST + spike protection

PPH MAWA Sp. z o.o. ► p. 480

Protection level:

NIJ STD-0101.06 IIIA

#2033 / BBN 3 A020-06 NIJSTD-0115.00 S1/G2

+ knife protection 25J/20 mm (HOSDB, BLADE P1/B) + additional panel SP1

The surface density of the panel is 6.38 kg/m2, which means that the weight of the vest panels in size L is approximately 2.25 kg. The thickness of the panel is 6.0 mm.

Warranty: 10 years for ballistics / vest cover 24 months.

Elite product, the highest in its class, offered by a company operating in the industry for 30 years.

Benefit for the soldier

The vest is designed for daily use either under or on top of a duty shirt. The front is fitted with an additional insert plate pocket for increased protection levels. The armour cut is designed for shooters and has adjustable shoulder straps to ensure a more comfortable and better fit. The outer cover materials are light and made from high-abrasion-resistance polyamide with PU coating. The lining is based on a knitted antibacterial Coolmax material with silver ions. The vest is used by police, military and security forces that require a higher level of protection while maintaining maximum comfort.



Front view



Back view



Side view

CBRN-E protective suit

MASKPOL S.A. (PGZ) ► p. 470



The CBRN-E protective suit is dedicated to officers of various uniformed formations. The product is characterised by a high level of protection, ensuring the user-safe functioning and performance of tasks during operations in the environment polluted with chemical warfare agents/CWAs (tests conducted with SOMAN, VX, SULPHUR MUSTARD/YPERITE) and toxic industrial agents/TICs (tests conducted with sulphuric acid and sodium hydroxide 30%). CBRN-E protective suit, a one-piece set, covers the wearer's body from head to wrists and feet (except the face). The product has a two-layer structure: the outer layer is a barrier fabric with a flame-retardant, waterproof and oleophobic finish, and the inner layer is a filter material with activated carbon. The elements to complete the protective suit are protective gloves and shoe covers, made in the same layered arrangement as the suit. The set can be additionally supplemented with protective underwear (sweatshirt, trousers, socks, balaclava), designed as a single-layer product made of filter-sorptive fabric, with an antibacterial finish.

Benefit for the soldier:

- FABRIC: Two-layer layout of barrier fabric and filter-sorptive fabric.
- RESISTANT TO: Sulphur Mustard/Yprite droplets- 24h, Sulphur Mustard/Yprite vapours- 24h, Soman droplets- 24h, VX droplets- 18h, TSP- does not soak.
- BALLISTIC RESISTANCE: Depending on the applied ballistic package up to level 4NIJ Standard.
- Buckle system allowing for quick attachment of the front panel.

DAYTIME MODULAR SIGHT DCM-1

PCO S.A. (PGZ) ► p. 476

DCM-1 includes LDK-4 aiming scope with attached small open-type MK-1 collimator. The LDK-4 sight can be used for ballistics of specific weapon type by preparing an appropriate aiming reticle. The LDK-4 aiming scope is intended for operation with thermal vision and night vision devices (PCO's NT-2 and NN-1 clip-ons) attached in front of the sight, and allowing it to be used during nighttime or in limited visibility conditions.

DCM-1 sight increases firing efficiency at small distances, it is equipped with a mesh screen which makes it harder for the enemy to detect the shooter, has option to adjust the illumination of aiming crosshairs in LDK-4 and the MK-1 sight offers a wide range of brightness adjustment for the reticle.



FPV Drone Transport Backpack VESPULA

BZB UAS Sp. z o.o. ► p. 444

Designed For Rapid Deployment

The VESPULA backpack is a revolutionary solution for 7-10" FPV drone operators. It was designed specifically for lightning-fast deployment in operational environments. The internal architecture, featuring 4 dedicated drone slots and 4 battery compartments, ensures that all mission-critical equipment is organised and ready for immediate use the moment the backpack is opened.

Optimal Ergonomics and Organisation

Equipped with two main compartments and four additional zippered mesh pockets, the backpack allows for an efficient layout of goggles, spare propellers, and mounting kits. The ergonomic suspension system is designed to minimise operator fatigue, even under a full tactical load, ensuring comfort during long-distance movements.





Proven Durability – Built with Cordura 500D

We care about the safety of your equipment, which is why the VESPULA is made of high-tenacity Cordura 500D fabric. This material ensures maximum resistance to abrasion, tearing, and harsh weather conditions. By using military-grade materials, the backpack effectively protects sensitive drone electronics during long-term field operations.



MATERIAL
Cordura 500D

BAG DIMENSIONS
500x400x350mm

COLOUR
Olive green

SET WEIGHT
2.6kg

COMPARTMENTS
2 (main compartment + outer accessory compartment)

INTERNAL POCKETS
4 zippered mesh pockets + 4 drone slots + 4 battery slots

Benefit for the soldier

Enhanced Mobility and Instant Tactical Response

The suspension system unburdens the soldier, maintaining full combat mobility. Dedicated drone and battery slots shorten deployment time to seconds, while Cordura 500D ensures mission-critical electronics survive the harshest combat conditions.

FPV Drone Transport Bag VESPULA MAX

BZB UAS Sp. z o.o. ► p. 444







MATERIAL	Cordura 500D
COLOUR	Multicam
COMPARTMENTS	2 (main compartment + top compartment)
INTERNAL POCKETS	4 internal pockets + 8 drone slots
BAG DIMENSIONS	700x400x400mm
SET WEIGHT	3.95kg



Professional FPV Equipment Transport System

The FPV Drone Transport Bag VESPULA MAX is designed for safe, organised, and efficient transport of up to eight 5-7" FPV drones along with essential accessories. Its well-thought-out internal layout allows secure placement of drones, batteries, controllers, and additional gear, minimising the risk of damage during transport. The rugged construction ensures high resistance to wear and external conditions, making it suitable for both everyday use and demanding field operations. Thanks to it's versatile design, the bag can be carried by hand or worn as a backpack, providing comfort and flexibility. Additionally, the bag is manufactured and sewn in Poland, ensuring high-quality craftsmanship and durability.

Everything in its Place

The FPV Drone Transport Bag VESPULA MAX offers organised and safe storage of 5-7" FPV equipment with a clean, functional design. The main compartment features a divider system for up to eight drones, reducing movement and improving protection. The side-opening design provides quick access to a selected model without rearranging the contents. Additional storage includes a top compartment with a pocket and three extra pockets for smaller accessories. Separate sections keep drones secure while accessories remain neatly organised and stored independently.



Benefit for the soldier

Maximizing Strike Capabilities and Mobility Optimisation

Enables a single soldier to safely transport 8 drones with full support gear. The ergonomic system protects the spine, while side access allows for an immediate tactical response without the need to unpack the entire kit.

Soldiers uniforms and equipment Soldiers uniforms and equipment Soldiers uniforms and equipment Soldiers
SOLDIERS UNIFORMS AND EQUIPMENT
Soldiers uniforms and equipment Soldiers uniforms and equipment Soldiers uniforms and equipment

HB-04 ballistic helmet

MASKPOL S.A. (PGZ) ► p. 470

Helmet shell in MICH/ACH standard, made of high-tech ballistic materials ensuring optimal protection of the user. The helmet is equipped with the BOA® Fit System that ensures a smooth fit for various head shapes.

Benefit for the soldier

- MATERIAL: REGULAR-CUT standard aramid shell secured with an edge band.
- BALLISTIC RESISTANCE: Bullet-proof 9x19 mm FMJ, 357 MAGNUM JSP shrapnel-proof V50 > 600 m/s.
- WEBBING: System of impact absorbing cushioning pads in three thickness versions.
- WEIGHT: 1450 g for a complete helmet in size 1.



HP-05 ballistic helmet

MASKPOL S.A. (PGZ) ► p. 470

Helmet shell made in HIGH-CUT standard. Thanks to deep undercuts, the helmet is compatible with various hearing protection products. Additional equipment is a masking cover with sewn tapes for attaching cables, and a pocket for a counterweight.

Benefit for the soldier:

- MATERIAL: HIGH-CUT standard aramid shell secured with an edge band.
- BALISTIC RESISTANCE: Bullet-proof 9x19 mm FMJ, 357 MAGNUM JSP shrapnel-proof V50 > 600 m/s.
- BOA® SYSTEM: Equipped with a smooth head circumference adjustment system on the nape pad.
- WEBBING: System impact absorbing cushioning pads in three thickness versions.



Individual Anti-drone Systems: Antidrone Poncho

Miranda Sp. z o.o. ► p. 470

The Antidrone Poncho "Invisibility cloak" is an individual suit for a single soldier, also in a woodland variant, that provides perfect concealment in forest and steppe conditions. The use of modern material combinations enabled the creation of concealment in the most important detection ranges: VIS, NIR, and TIR, while maintaining user comfort. The outfit was designed as a direct response to increased activity of drones carrying thermal cameras. It effectively reduces thermal signature, thereby increasing the chances of survival on the battlefield.

The individual anti-drone systems are designed for individual protection of soldiers. They provide effective protection for soldiers in the visible, near-infrared (night vision) and thermal range and effectively reduce thermal radiation.

Low weight and small dimensions do not burden the soldier's equipment. The camouflage suit is worn over the standard uniform and provides additional protection against environmental conditions. The elements used, such as reinforcements, pockets or zips, provide the necessary comfort.

→ A reliable piece of equipment during operations in extreme conditions.





Individual Anti-drone Systems: Individual Winter Camouflage Suit

Miranda Sp. z o.o. ► p. 470

The individual camouflage suit in the winter variant provides excellent protection against detection in snowy conditions. The selection of specialised materials for the construction of the outer layer of the camouflage suit and the applied camouflage print significantly affects the parameters of concealment among snow-covered vegetation. Innovative material solutions enable protection from detection in all major detection wavelengths, UV, VIS, NIR and TIR, while guaranteeing user comfort.

Individual anti-drone systems are designed for individual protection of soldiers. They provide effective protection for soldiers in the visible near-infrared (night vision) and thermal range and effectively reduce thermal radiation.

Low weight and small dimensions do not burden the soldier's equipment. The camouflage suit is worn over the standard uniform and provides additional protection against environmental conditions. The elements used, such as reinforcements, pockets or zips, provide the necessary comfort.

- protection against detection UV, VIS, NIR and TIR in snowy conditions



KKT-01 Bullet Proof Vest

MASKPOL S.A. (PGZ) ► p. 470

The KKT-01 bulletproof vest is made of a high strength laminate. The design of the vest allows for individual selection of a ballistic package. The vest can be used by police officers as a bulletproof vest as well as a tactical vest for carrying personal equipment. After applying the knife/spike protection package, the vest can be successfully used by paramedics. Thanks to the solutions used, the front ballistic panel of the vest is a single piece, increasing the user's safety.

Benefit for the soldier:

- FABRIC: The shell made entirely of CORDURA® laminate
- PALS SYSTEM: The entire shell is made in laser cut technology.
- COMFORT: Increased air circulation from the inside ensuring high comfort of use.
- MOLLE/PALS system: The entire shell is covered with laser cut MOLLE/PALS webbing.

Laser Target Designators

Centrum Rozwojowo-Wdrożeniowe Telesystem-Mesko Sp. z o.o.
(Development and Implementation Center Telesystem-Mesko Ltd.) ► p. 445



The Development and Implementation Centre TELESYSTEM-MESKO, alongside the development of 155mm and 120mm Precision-Guided Munitions (PGM) and the PIRAT ATGM, has designed Laser Target Designators (LTD) compliant with STANAG 3733. These devices are used to designate targets for all NATO laser-guided munitions utilising reflected laser radiation. Implementing its proprietary Laser Target Designator allows the company to offer a complete system to clients—strike munitions along with target designation systems.

Significantly, the LTD can operate both day and night due to interchangeable, optional sighting modules: an optical sighting scope, a daytime camera, or a nighttime camera (night vision or thermal). The built-in OLED display enables device status, measurement data display, and information on remote or manual control, while the integrated rangefinder ensures precise distance measurements to the target. With in-house technologies, we can design and manufacture custom designators tailored to client needs.

LASER DIODE DESIGNATOR (LDD):

KEY PARAMETERS OF THE DESIGNATOR:
- Laser Type: Nd:YAG
- Wavelength: 1.064 µm for the illuminator
- Programmable Pulse Repetition Time (PRT): Compliant with STANAG 3733 and others
- Laser Beam Divergence: < 0.35 mrad
- Pulse Energy: > 80 mJ
- Pulse Duration: 15 ± 5 ns
- Rangefinder Range: Up to 20 km
- Typical Operating Temperature: -35°C to +55°C
- Storage Temperature: -40°C to +70°C

SHOT SYNCHRONISATION MODULE:
- Remote setting of programmable pulse sequences
- Data transmission from GPS, goniometer, and rangefinder
- Remote laser activation
- Remote readiness and device status reading
- Programming shot delay
- Programming laser operation time

Benefit for the soldier

LPC provides precise munition guidance using a 1064 nm laser, enabling effective target engagement at distances of up to 5 km. The integrated rangefinder (up to 20 km) and modular design enhance flexibility, operator safety, and operational efficiency in all conditions.

LASER WARNING SYSTEM SSP-1 OBRA-3

PCO S.A. (PGZ) ► p. 476

The SSP-1 OBRA-3 is a vehicle self-shielding system designed to detect when vehicles or military objects are being targeted by pulsed laser rangefinders or laser illuminators. It can be integrated with a smoke grenade launcher to automatically deploy a smoke screen in the direction of the detected laser radiation.



System components:
- 4 to 8 identical detection heads (depending on vehicle or object size),
- reading and control dashboard,
- electronics block with direction update unit,
- connecting cables,
- smoke grenade launcher unit (not included in the standard kit from PCO S.A.).

Distinguishing features:
- safety interlock: prevents smoke grenades from firing when the tank hatch is open,
- reflected signal identification: the 'OBRA-3' system recognises signals from its own laser rangefinder to avoid confusion,
- broad spectral detection: detects radiation within the 0.6 µm to 11 µm range.

Modular Bulletproof Vest MKO 3.0

Lubawa S.A. ► p. 468

The MKO 3.0 is a modern, modular protective vest designed to provide maximum safety and comfort for the wearer in operational conditions. Its design allows for flexible adjustment of the level of ballistic protection and equipment configuration to suit the specific requirements of the mission.

The vest is designed to be lightweight and ergonomic, offering freedom of movement whilst maintaining a high level of protection. The quick-release system (Quick Release with TUBES buckles) allows for instant donning and doffing, and the wide range of adjustments ensures a perfect fit to the body.

The MKO 3.0 also serves as a platform for carrying tactical equipment. Thanks to the Laser Cut System (LCS) technology and compatibility with the MOLLE/PALS system, the user can easily attach pouches and accessories, whilst maintaining low weight and high durability. The interior of the vest features a spacer mesh and 3D panels, which improve ventilation and wearing comfort.

The ballistic protection system allows for the use of hard plates (SAPI standard) and soft textile inserts. Hard inserts provide protection against, amongst others, 7.62 mm ammunition (K4 and K3A classes), whilst soft elements protect against shrapnel (O3 class). The modular design allows protection to be extended to additional areas, such as the neck, groin or thighs.

The greatest advantage of the MKO 3.0 is its versatility – the user can configure the vest as a lightweight equipment carrier, a classic plate carrier or a full protective kit with extended ballistic protection. As a result, it performs well in both combat operations and tasks requiring mobility and a personalised fit of equipment.











MP-6 Filtering gas mask

MASKPOL S.A. (PGZ) ► p. 470



MP-6 gas mask with a combined filter is designed to protect against harmful effects of chemical warfare (CW) agents, toxic industrial and radioactive substances and biological agents. The mask meets the requirements of the civil standard PN-EN 136: 2001 and the defence standards NO-06-A107 and NO-A2014: 2005.

Benefit for the soldier:

- FACIAL PART: Made of anti-allergic rubber in 3 sizes for a better fit.
- VISOR: Two polymer glasses with impact-resistant properties (V=215 m/s) with the possibility of mounting additional adapters for corrective lenses.
- SOUND CHAMBER: A sound system with a diaphragm enabling conversation.
- HYDRATION SYSTEM: Allows for the intake of fluids in a contaminated area.

MUP-RESCUE PACK MARINE PILOT SUIT

Instytut Techniczny Wojsk Lotniczych (Air Force Institute of Technology) ► p. 463

MUP-Rescue pack is dedicated to the staff of military aircraft.

It is available in the following versions:

- MUP-Rescue Pack 'P' – Survival kit in the version for the pilot,
- MUP-Rescue Pack 'N/T' – Survival kit for navigator and flight engineer,
- MUP-Rescue Pack 'R' – Survival kit in the version for the rescuer.

MUP-Rescue Pack is dedicated to staff flying above water areas. It protects against hypothermia in case of water landing after an aircraft emergency evacuation.

MUP-Rescue Pack includes the following elements:

- MUP-1 ver. m (drysuit, underwear and warming items),
- two-function vest,
- specialist footwear intended for MUP-Rescue Pack,
- optional elements.

Benefit for the soldier

A key feature of the MUP-RP is the ability to increase survival rates in emergency situations over water by protecting the survivor from hypothermia. It is made of flame-retardant and antistatic materials, its comfortable – breathability reduces overheating, sweating, and pilot fatigue. The design of the MUP-Rescue Pack allows for quick reconfiguration.







NIGHT VISION GOGGLES PNL-2ADM

PCO S.A. (PGZ) ► p. 476

The PNL-2ADM Night Vision Goggles are a stereoscopic image intensification device designed for observing terrain, detecting targets, reading maps, and driving under natural night conditions. It is adapted for mounting on a ballistic helmet and on the head-harness. PNL-2ADM utilises the latest PHOTONIS 18mm image intensification tubes, which, combined with the use of new generation gradient optics, provide excellent detection, recognition, and identification (DRI) parameters and an extended bandwidth (compared to Gen 3), ranging from 400 nm to over 1,100 nm. Goggles weigh less than 520g (incl. CR123A battery)

Additionally, thanks to the built-in infrared illuminator, the goggles enable the illumination of targets with infrared light in total darkness (tunnels, basements, densely forested areas, etc.). The goggles are compatible with Wilcox helmet mounting equipment and the PCO S.A.'s newest external battery power supply from PCO S.A.



NIGHT VISION GOGGLES PNL-3X

PCO S.A. (PGZ) ► p. 476

PNL-3X are the latest aviation goggles produced by PCO S.A. They are a completely new design based on many years of experience in the design and operation of the PNL-3 and PNL-3M goggles. They are intended for use in flight by helicopter pilots and other crew members under low light and night conditions, without the need for any artificial light sources. This makes them more effective for border patrol, law enforcement support, search and rescue missions, HEMS, and aerial firefighting.

Key Functional Features of the PNL-3X Goggles:

- Designed in accordance with civil and military aviation standards to withstand specific operational conditions in aviation.



- New, reliable emergency release mechanism for goggles from the mount and helmet, ensuring full pilot safety.
- Equipped with an automatic on/off system when raised/lowered.
- It utilises the latest 4G image intensifiers.
- Thanks to the use of new generation gradient optics, provide excellent detection, recognition, and identification (DRI) parameters and an extended bandwidth (compared to Gen 3), ranging from 400 nm to over 1,100 nm.
- Visibility of the laser beam (including 1064 nm laser markers) for military and public safety purposes (e.g., police, border protection, fire service).
- Can be turned on/off and operated with one hand (right or left).
- Compatible with cockpit night lighting and displays thanks to the built-in internal Minus Blue filter (class A, B, or C).
- Thanks to the new four-battery power supply, they can operate for over 40 hours in continuous mode without the need to replace batteries.
- The goggle-power supply system is perfectly balanced, not causing strain and neck-muscle fatigue.
- One of the lightest goggles on the market – their weight is 475g (total weight of the complete goggles is 871g).

Currently, PCO S.A. is in the final stages of obtaining ETSO certification for the PNL-3X Goggles.

NIGHT VISION MONOCULAR/GOGGLES MU-3M/MU-3ADM

PCO S.A. (PGZ) ► p. 476

The MU-3M night vision monocular is a standalone, versatile observation device utilising the most advanced and unique 16 mm 4G image intensifier. It is a advanced passive night vision device that features a compact and exceptionally lightweight design, robustness and reliability in the field, excellent detection, recognition, and identification parameters. It can be used handheld, mounted on a head harness or a ballistic helmet, or installed on a MILSTD-1913 rail alongside an optical sight, such as the DCM-1 Modular Day Sight.

What sets the MU-3M apart from many of its competitors is its exceptional durability and the highest quality workmanship, confirmed by an individual testing procedure for each manufactured device.

The MU-3ADM night vision goggles are a modular stereoscopic device consisting of two reliable MU-3M monoculars offering excellent craftsmanship, compact size and high image quality.

Functionality:

1. Mounts on any type of helmet, can be head-mounted.
2. Designed for individual observation of the surrounding area at night.
3. The goggles can be tilted upward and placed on the helmet.
4. Can be used with a thermal imaging attachment, enabling observation in night vision and thermal imaging fusion modes.
5. Designed with a next-generation 16mm 4G INTENS™ image intensifier with the highest resolution.
6. Auto SHUT-OFF system turns off the goggles when the monoculars are raised or lowered.

Mounting options:

- With a swivel arm
- With a weapon mount
- With a 3x or 5x magnification attachment
- With a thermal imaging attachment
- With a double-jointed bridge
- With a GoPro camera
- With an optical sight and a collimator

On a helmet:

- After placing the MU-3M night vision goggles (2 monoculars + bridge) in the flip-up mount, the set can be mounted on a helmet (in the VAS-SHROUD mount or in a helmet mount).

In a head harness:

- A special harness allows you to mount the goggles directly on your head.

Individual preferences:

- Easily switch from left to right viewing without having to remove the monocular.
- Adjustable to individual preferences – diopter, vertical and horizontal adjustment, and goggle spacing.

Flip-up – After inserting the swivel arm into the Flip-up mount and mounting it on a helmet, the scope can be tilted beyond the field of view (similar to goggles).

Monocular with weapon mount:

- The monocular can be mounted on a NATO RAIL or PICATINNY rail using a weapon mount. When combined with a daytime optical or red dot sight, it enables effective firing in low-light conditions or at night.

Capabilities:

- Compatible with red dot and optical sights, such as the DCM-1.
- Can be mounted on a rail-mounted weapon using a weapon mount.
- Capable of conducting fire at night.





OMNIDIRECTIONAL OBSERVATION SYSTEM SOD-1

PCO S.A. (PGZ) ► p. 476

The Day/Night Omnidirectional Observation System is designed for wide-angle observation of the immediate surroundings of vehicles, enabling monitoring of the area and motion detection. It functions effectively during the day, at night, and in conditions of limited visibility. The system features independent operation of thermal imaging and TV channels, or they can work together to observe the same area, with the option to superimpose thermal images onto television images in a selected pair of cameras.

This omnidirectional observation system equips the commander and crew of armoured vehicles with a comprehensive view of their surroundings in both TV and thermal imaging modes. Information from the SOD modules is displayed on a touchscreen monitor. Each TV and thermal imaging module contains 2 TV and 2 thermal imaging channels. The system offers different display modes: panoramic view (image from four modules), modular view (selected one of four modules), or directional view (selected two modules from four: front, back, right, left).



OSA – PERSONAL ALARM SYSTEM

JAS Technologie Sp. z o.o. ► p. 464





OSA is a modern, dual-use Personal Alarm System designed for uniformed services and the military, as well as medical staff and private security personnel operating in high-risk environments. It enables automatic or intentional, immediate and precise emergency alerts in life- or health-threatening situations, significantly enhancing user safety. The system consists of a central unit, network devices, wearable components in the form of wristbands or body-worn rugged personal alarm devices. Devices communicate via BLE, Wi-Fi, LTE-M, and NB-IoT and may include GPS, an accelerometer, and an integrated high-intensity acoustic buzzer alarm. The wrist-worn device continuously monitors user parameters in real time, including GPS location, spatial orientation (X, Y, Z), inactivity or fall detection, and vital signs such as temperature, heart rate, and oxygen saturation. In case of threshold breaches, sudden changes, removal or damage attempts, or panic button activation, the system automatically triggers an alarm with user ID and location. The body-worn device is equipped with 2 panic buttons (silent, audible), an accelerometer and an acoustic alarm of up to 120 dB, enabling immediate response in emergency situations. The system is fully scalable, requires no complex infrastructure, and can be rapidly deployed in various operational configurations. It was developed in cooperation with Warsaw University of Technology, with the participation of renowned criminologist Professor Brunon Hołyst, PhD, DSc, Doctor Honoris Causa (mult.).



Benefit for the soldier

System OSA monitors a soldier's vital signs—heart rate, temperature, and oxygen saturation—as well as precise GPS location in real time. Automatic anomaly detection, a panic button, and instant alerting enhance survivability and situational awareness, especially during special operations and selection processes, reducing response time.

PATROL LINE – ballistic inserts

BC Arms Sp. z o.o. ► p. 441

The PATROL line has been developed for officers responsible for internal security, including police forces, prison services and border guards. It is designed to address threats associated with handguns, improvised weapons and commonly available black powder firearms. Solutions within the PATROL line combine low weight, high ergonomics and effective ballistic protection while maintaining comfort during everyday use. The products are designed for extended wear and dynamic operational activities. The primary objective of the PATROL line is to provide reliable protection while preserving the mobility and operational effectiveness of the officer.



PATROL A

PATROL A is a K2+ class ballistic insert designed for officers operating in elevated risk environments. The plate has been tested at velocities exceeding the standard requirements by 100 m/s, significantly increasing the safety margin. It is characterised by low backface deformation and high effectiveness in stopping handgun ammunition. The lightweight construction ensures comfort during prolonged duty. PATROL A has been developed to address real-world threats rather than only laboratory test conditions.

Benefit for the soldier

Improves survivability against handgun threats with low backface deformation. Reduced weight lowers physical load during long shifts. Enhances mobility and reaction speed. Supports effective performance in dynamic internal security operations.

PATROL B

PATROL B is an ICW (In Conjunction With) ballistic insert used with the PATROL A plate. Combined, they provide K4-level protection against armour-piercing incendiary ammunition. This modular solution allows flexible protection adjustment based on operational needs while maintaining an optimal weight-to-protection ratio.



PATROL B enables users to increase protection when higher ballistic resistance is required.

Benefit for the soldier

Upgrades protection to K4 level when combined with PATROL A, increasing survivability against rifle threats. Maintains manageable system weight for mobility. Enables mission-based scalability. Supports tactical flexibility without overloading the operator.

PATROL K

PATROL K is a K2+ class ballistic insert designed specifically for female officers.

Its ergonomic shape, adapted to female anatomy, significantly improves comfort and stability during wear. Like PATROL A, it has been tested at velocities exceeding the standard requirements by 100 m/s.

It provides a high level of ballistic protection while maintaining low weight. PATROL K combines effective protection with a design tailored to the real needs of the user.

Benefit for the soldier

Delivers effective protection with improved ergonomics for female operators. Low BFD reduces injury risk. Lower weight improves comfort and endurance. Enhances mobility and stability, supporting operational effectiveness in real conditions.



ROCK 2.0 Vest

MASKPOL S.A. (PGZ) ► p. 470



Modular tactical vest for soft and hard ballistic plates made of Cordura® fabric and laminate in laser cut technology. The entire surface is covered with a laser-cut MOLLE system which allows for attaching the equipment according to the individual preferences and needs of the user. It consists of a basic low-profile vest with soft ballistic inserts and a Plate Carrier vest with hard ballistic inserts. The front and rear panels of the vest are connected with cummerbunds in a full or slim version and a quick release system. The vest has an innovative Duraflex Quad Release system, enabling quick and easy donning and doffing of the vest, which is important during medical operations on the battlefield. When equipped with ballistic plates, the vest provides protection against bullets and shrapnel. Additional elements of the vest are: shoulder protectors, lower abdomen protector, throat and neck protector, front assault panel, patrol backpack and additional soft ballistic protection in the form of a separate vest.

Benefit for the soldier:

- FABRIC: Cover made entirely of CORDURA® laminate in laser cut technology.
- Duraflex Quad Release buckle system allows for quick donning and doffing of the vest.
- Possibility of attaching additional protection: neck, throat, shoulder, lower abdomen/ groin protectors.
- The full set includes: a low-profile vest for carrying soft ballistic inserts, a main vest for carrying hard ballistic plates, neck, throat, shoulder, lower abdomen protectors and a dedicated tactical backpack.

ROCK ONE Vest

MASKPOL S.A. (PGZ) ► p. 470



Integrated vest for carrying soft and hard ballistic inserts. Made in laser cut technology using Cordura ® laminate. The weight of the vest – from 2 to 5 kg, depending on the ballistic package used. Depending on the user's needs, the vest can be additionally equipped with shoulder, abdomen and lower spine covers, or with a ballistic collar.

Benefit for the soldier:

- FABRIC: The shell made entirely of CORDURA® laminate
- ROC SYSTEM ®: The buckle release system allows for quick donning and doffing of the vest.
- PALS SYSTEM: The entire shell is made in laser cut technology.
- COMFORT: Increased air circulation from the inside ensuring high comfort of use.

STABILISED COMMANDER'S OPTOELECTRONIC HEAD GOD-1

PCO S.A. (PGZ) ► p. 476

The GOD-1 optoelectronic head is designed for use in detection, observation, tracking, and targeting systems against ground and airborne targets under both day and night lighting conditions. It features an integrated optoelectronic module mounted on a biaxially stabilised carrier platform.

Distinguishing features:

- Enables terrain observation through TV and thermal imaging channels and measures the distance to the target
- Facilitates tracking of targets
- Compatible with a multifunctional onboard dashboard
- Features a high-resolution array in the thermal imaging channel
- Compact design
- Extended observation range
- Operating temperature range: -30°C to +50°C
- 360° observation range
- When combined, the Commander's GOD-1 head and the Targeting GOC-1 head can operate within a hunter-killer or killer-killer system configuration.

Applications:

- Fire control systems for onboard weapons.
- Observation and targeting systems.



STABILISED GUNNER'S OPTOELECTRONIC HEAD GOC-1

PCO S.A. (PGZ) ► p. 476

The GOC-1 optoelectronic head is designed for use in detection, observation, tracking, and targeting systems against ground and airborne targets under both day and night lighting conditions. It features an integrated optoelectronic module mounted on a biaxially stabilised carrier platform.

Distinguishing features:

- Enables terrain observation through TV and thermal imaging channels and measures the distance to the target
- Facilitates tracking of targets
- Compatible with a multifunctional onboard dashboard
- Features a high-resolution array in the thermal imaging channel
- Compact design
- Extended observation range
- Operating temperature range: -30°C to +50°C
- 360° observation range
- When combined, the Commander's GOD-1 head and the Targeting GOC-1 head can operate within a hunter-killer or killer-killer system configuration.

Applications:

- Fire control systems for onboard weapons.
- Observation and targeting systems.



STABILISED OBSERVATION AND TRACKING OPTOELECTRONIC HEAD FOR ANTIAIRCRAFT SYSTEMS GOS-1

PCO S.A. (PGZ) ► p. 476



The GOS-1 is a technologically advanced device featuring numerous utility functions that facilitate its integration with various systems, such as anti-aircraft weapon modules. It serves as a crucial component of the 23 mm anti-aircraft missile and artillery set ZU-23-2SP, part of the 'PILICA' system, with the videotracker being a key element.

Distinguishing features:

- Precise target tracking: operates in conjunction with the videotracker
- Wide tracking speed range: capable of homing and tracking speeds ranging from less than 100 rad/sec to over 2 rad/sec
- Compact design: combines all controls into one unit for a streamlined, integrated solution
- Small size and weight: facilitates easy integration into combat platforms (including vehicles, weapons modules, and anti-aircraft sets)
- Customisable sensor configuration: allows the integration of thermal imaging cameras, TV cameras, and laser rangefinders according to individual user requirements

Applications:

- Fire control systems for onboard weapons
- Observation and targeting systems

THERMAL IMAGING BINOCULARS NPL-1T

PCO S.A. (PGZ) ► p. 476



The NPL-1T thermal binoculars are an easy-to-use and portable thermal imaging device designed for both day and night observation in all lighting conditions. The design solutions and advanced thermal image processing methods used in the binoculars have resulted in exceptional thermal image quality while reducing weight and power consumption. The thermal image is displayed on two OLED screens or can be transmitted via digital video output to an external head-mounted display or monitor. The binoculars capture images to internal memory, with the option of transferring images to a computer. The primary power source is four AA batteries, but the binoculars can also be powered by an external source within a wide voltage range. The NPL-1T is compatible with a military GPS receiver, enabling the display of geographic coordinates and time on the screen.

THERMAL IMAGING MONOCULAR MT-1

PCO S.A. (PGZ) ► p. 476



The MT-1 thermal imaging monocular is the smallest thermal imaging device PCO S.A. offers for individual users. Despite its light weight, it provides excellent image performance. This innovative technical solution allows it to be used as a handheld observation tool or as part of a head-mounted system, either alongside night vision devices or on its own. The MT-1 can also be used with all accessories of the MU-3M monocular, expanding its operational capabilities.

Functionalities:

- Image sharpening
- Edge tracing function
- Image polarization change
- Image brightness adjustment
- Image storage function (60 photos)
- Monocular operation can be controlled via external devices (phone, computer) using dedicated PCO software
- Digital video output via USB using dedicated PCO software

WARRIOR LINE – ballistic inserts

BC Arms Sp. z o.o. ► p. 441

The WARRIOR line is developed for soldiers, special forces and units in high-risk environments. It offers top ballistic protection while maintaining ergonomics and mobility. Designs address military threats, including rifle and armour-piercing ammunition, with high resistance to multiple impacts and excellent overall performance. The WARRIOR line serves users who cannot compromise on protection and reliability.

WARRIOR Alpha

WARRIOR Alpha is a K3A class ballistic insert designed for soldiers and officers in combat conditions.

It provides effective protection against 7.62×39 PS ammunition while maintaining low weight.

The construction is optimised for ergonomics and mobility, performing well in operations requiring high movement and dynamic action. WARRIOR Alpha serves as reliable baseline protection for operational users.

Benefit for the soldier

Provides reliable rifle protection with low backface deformation, increasing survivability. Reduced weight improves mobility and reduces fatigue. Supports dynamic combat movement and sustained operational performance.

WARRIOR Bravo

WARRIOR Bravo is a K3C class ballistic insert providing extended protection against more demanding ballistic threats. It is intended for users operating in elevated risk environments. It combines a high level of ballistic protection with good ergonomics. The construction ensures stability and comfort during wear. WARRIOR Bravo is designed for operations requiring an increased level of protection.

Benefit for the soldier

Enhances protection against higher-level threats while maintaining low BFD. Optimised weight reduces physical strain. Supports mobility and weapon handling. Improves combat effectiveness in elevated-risk environments.



WARRIOR Charlie

The WARRIOR Charlie series delivers K4+ level protection with resistance to six impacts of armour-piercing ammunition, exceeding standard military requirements.

WARRIOR Charlie – Premium ballistic insert for the most demanding combat applications. Features ceramic-composite construction engineered for real combat scenarios and repeated exposure. Designed for users requiring maximum ballistic protection in high-threat environments.

Benefit for the soldier

Delivers K4+ multi-hit protection, significantly increasing survivability under sustained fire. Low BFD reduces trauma from repeated impacts. Lower weight than comparable systems improves mobility and endurance. Enables continued combat effectiveness under extreme conditions

WARRIOR Charlie Female – Combines identical K4+ protection with ergonomics specifically adapted to female anatomy. The specially designed shape improves fit, stability and comfort during extended wear while maintaining all ballistic performance parameters of the standard version.

Both variants provide superior protection for operators who cannot compromise on ballistic resistance in critical missions.

TECHNICAL SPECIFICATION

Cut Type	SAPI
Height	300mm (M)
Width	250mm (M)
Thickness	27 mm
Weight	2150g +/- 5%
Ballistic Resistance	6 rounds 7.62x39mm BZ (AP) 735 m/s (+/-15m/s)
Class	K4
Deflection after Hit	under 25mm
Multihit	Yes
Curve	Multicurved
Warranty	7 years / 10 years
Price	750$

Benefit for the soldier

Provides identical K4+ multi-hit protection with improved ergonomic fit. Low BFD enhances survivability. Reduced weight lowers fatigue. Improves stability, mobility and effectiveness for female operators in combat.

WARRIOR Delta

WARRIOR Delta is an advanced K5AB class ballistic insert providing protection against the most severe ballistic threats, including 7.62×54R B-32 ammunition. It is intended for units operating in extreme conditions. The insert is characterised by high resistance to armour-piercing ammunition. Its construction has been optimised to deliver maximum protective performance. WARRIOR Delta represents the highest level of individual ballistic protection within the BC Arms product portfolio.

Benefit for the soldier

Maximizes survivability against extreme ballistic threats (K5AB). Controlled backface deformation reduces injury risk. Optimised weight improves mobility compared to typical heavy armour. Supports high-intensity combat operations.

WARRIOR SOFT

WARRIOR SOFT is a soft ballistic insert rated at K2 O3 level, providing protection against ammunition and fragmentation. It is intended for users who require high mobility and comfort during operations.

The lightweight and flexible construction allows full freedom of movement. The insert can serve as a base level of protection or as part of a layered protection configuration. WARRIOR SOFT is a versatile solution designed for operational use.

TECHNICAL SPECIFICATION

Type of cut	SOFT
Size	M, L, XL
Protection area	1540 cm2 (size. M)
Thickness	9mm
Weight	1700g(M)
Ballistic resistance	7,62x25mm 420 m/s, 9x19mm 470 m/s
Class	K2
Fragment resistance	O3
Deflection after impact	20mm
Multihit	Yes
Warranty	7 years / 10 years
Price	800$

Benefit for the soldier

Provides flexible protection against ballistic and fragmentation threats. Low BFD improves user safety. Lightweight construction reduces fatigue and cognitive load. Supports high mobility and adaptability in dynamic operations.

TRENCH SHIELD

TRENCH SHIELD is a compact K4 class ballistic shield designed for situations where every second and every centimetere of cover matters. It provides real protection against rifle threats, allowing the user to safely lean out from behind obstacles and engage while remaining under cover. Its mobile construction enables the rapid creation of improvised fighting positions. TRENCH SHIELD is a tool for those who do not wait but act. Small form, maximum advantage.

Benefit for the soldier

Provides immediate rifle-level protection in exposed positions, increasing survivability. Lightweight design improves manoeuverability. Enables safe exposure and engagement. Supports rapid creation of covered firing positions in combat.

WARRIOR BRAVO SHIELD

WARRIOR BRAVO SHIELD is a lightweight ballistic shield designed for services responsible for internal security. Its construction allows prolonged use without excessive strain on the operator. The shield has been developed for dynamic entries, interventions and operations in urban environments. Its ergonomic shape allows full control of a long firearm without compromising protection.

WARRIOR BRAVO SHIELD combines mobility with effective ballistic performance. It is equipment for those who go in first.

Benefit for the soldier

Enhances survivability during dynamic entries and urban operations. Lightweight construction reduces operator fatigue. Supports stable weapon handling and controlled engagement. Improves tactical effectiveness in close-quarters scenarios.

WARRIOR CHARLIE SHIELD

WARRIOR CHARLIE SHIELD represents the highest level of protection in a shield configuration. Rated at K4+ level, it is designed to withstand multiple impacts and has been developed for real combat environments. The shield is intended for units operating where standard solutions are no longer sufficient. It is resistant to intense contact with hostile fire and provides a tactical advantage in the most demanding scenarios. Its design allows the operator to engage with a long firearm while maintaining full ballistic cover. WARRIOR CHARLIE SHIELD is not just a shield. It is a mobile firepower advantage.

Benefit for the soldier

Delivers maximum protection in high-threat environments with multi-hit capability. Increases survivability under sustained fire. Enables effective engagement while maintaining full cover. Provides decisive tactical advantage in extreme conditions.



UNMANNED SYSTEMS (UxS) AND COUNTER-UxS

aisBlade – Autonomous Wind Turbine Inspection System

SmartDrones Sp. z o.o. ► p. 491

Autonomous Wind Turbine Inspection System is a specialized solution for inspection of wind turbine blades and related energy infrastructure. Built around the aisDrone i900 platform, it integrates the aisPilot onboard autonomy stack, aisController ground control station and aisPlanner mission application into one workflow for automated inspection missions.

Designed as a one-click inspection system, it enables highly automated mission preparation, flight execution, data acquisition and post-mission processing. It reduces operator workload, improves repeatability and supports efficient blade assessment in demanding field conditions.

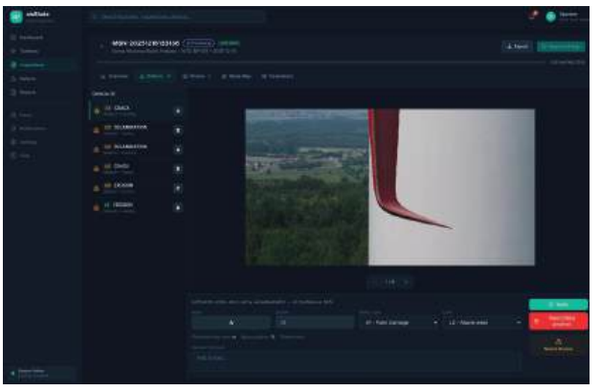
A key differentiator is its full-stack integration approach. Autonomous flight, mission planning, onboard mission logic, operator-supervised execution, data aggregation and inspection-ready outputs are developed as one coordinated ecosystem. This enables traceable end-to-end workflows from mission setup and automatic flight through data package creation, defect review and reporting.

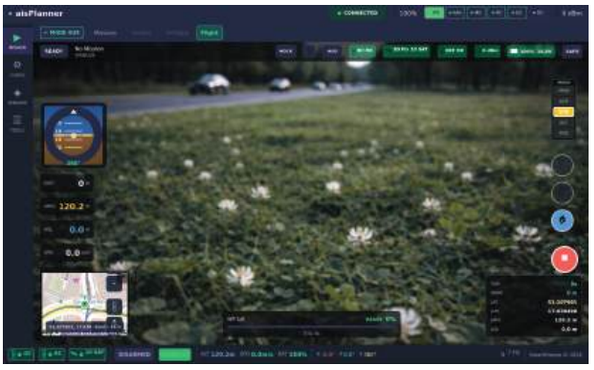
The system is designed for safe autonomous flight near structures, repeatable trajectory execution and reliable inspection outputs, delivering a scalable workflow for wind turbine operations.

Operational capabilities

- One-click mission setup and automated inspection workflow
- Autonomous blade inspection mission execution
- Repeatable flight profiles for structured inspection tasks
- Operator-supervised execution through aisController and aisPlanner
- High-quality inspection data acquisition during flight
- Post-mission data package creation and traceability
- Integration with inspection review and reporting workflows









Benefit for the soldier

Reduces soldiers' exposure to hazardous inspection tasks by automating assessment of wind turbines and other critical infrastructure. Enables one-click mission setup, repeatable data capture and inspection-ready outputs supporting infrastructure protection, energy resilience and operational readiness.

aisPilot – Onboard Autonomy and Flight Computer System

SmartDrones Sp. z o.o. ► p. 491

aisPilot is a modular onboard autonomy and flight computer system for safe autonomous operations of unmanned aerial platforms in critical infrastructure missions. It combines mission computing, flight control and navigation in one architecture, enabling reliable execution of inspection workflows.

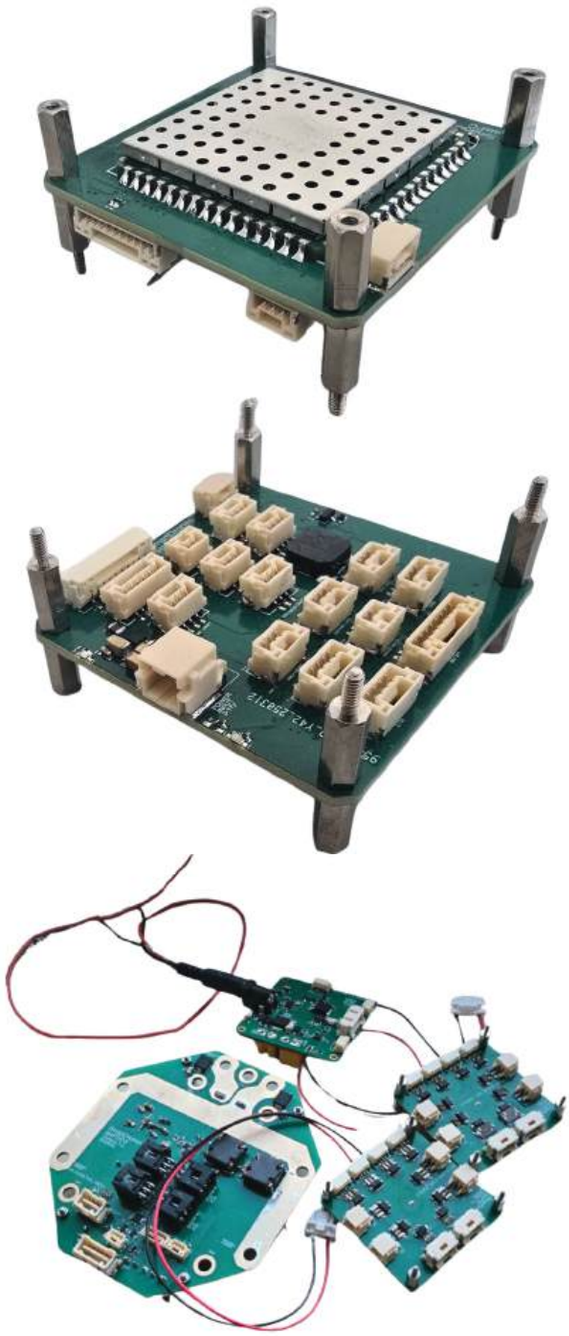
As the onboard core of the AIS ecosystem, aisPilot supports end-to-end industrial inspection missions by integrating autonomy logic, payload workflows, operator control and post-mission data processing. Its scalable architecture enables adaptation to new applications while maintaining consistency across hardware, firmware and operator systems.

Its key differentiator is a full-stack integration approach combining flight control, navigation and mission computing within one autonomy architecture, supported by communications and power-distribution infrastructure. Built on an in-house protocol and SDK stack, aisPilot supports interoperability across communications layers and mission applications, and is validated through simulation-driven development, including SiL and HiL environments.

Operational capabilities

- Integrated mission computing, flight control and navigation
- Autonomous mission execution with mission-state control
- Pre-flight and pre-arm system checks
- Sensor-based state estimation and stable flight control
- Health monitoring, failsafe and return/abort logic
- Payload coordination, onboard data handling and mission traceability
- Simulation-driven validation in SiL and HiL environments





Benefit for the soldier

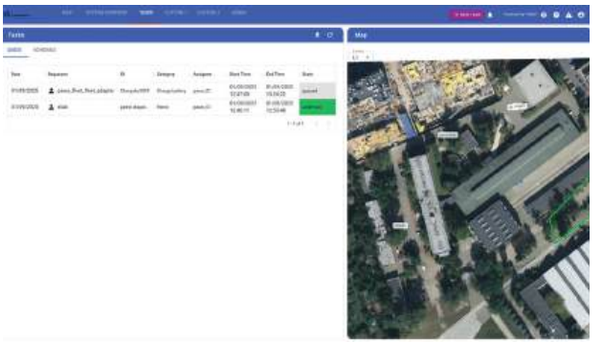
Reduces operator workload and improves mission safety through autonomous flight, health monitoring, failsafe logic and repeatable mission execution. Its modular Polish-made architecture supports rapid integration of mission-specific functions and reduces dependence on foreign autopilot suppliers.

AMRFleet and AMRWeb

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Motoryzacji PIMOT ► p. 489

Supervisory fleet management system for unmanned ground vehicles (UGVs), equipped with a graphical interface for defining and monitoring vehicle tasks. The software can be installed on a server or controller that maintains wireless communication with the vehicle.

Benefit for the soldier
The use of AMRFleet and AMRWeb improves situational awareness and reduces the mental workload associated with the supervision of unmanned ground vehicles.



AMRSim

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Motoryzacji PIMOT ► p. 489

A simulation tool designed for software developers, enabling comprehensive system testing across various test scenarios.

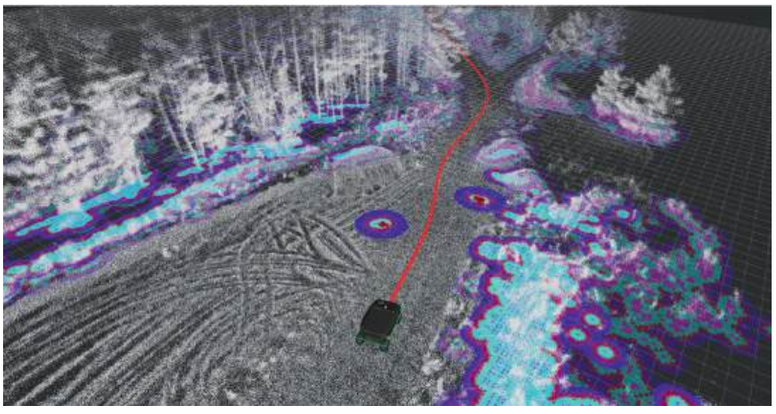
Benefit for the soldier
The use of the AMRSim tool enables simulation-based testing of unmanned vehicle software and, as a result, better adaptation of the final software version to user needs.



AMRSys

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Motoryzacji PIMOT ► p. 489

A system composed of LiDAR units/stereo cameras, RGB cameras, satellite navigation, inertial navigation, a computing unit, and dedicated software. Installed directly on the vehicle, it enables automated driving. Using a dedicated application, the operator defines the target point, while the driving path is generated by the autonomy algorithm and continuously adjusted depending on detected obstacles.



Benefit for the soldier
Integration of AMRSys into unmanned ground vehicles increases operational mobility and enables autonomous maneuvering, reducing the physical and cognitive load imposed on the operator.

BECCARII – All-Terrain Manned VTOL Vehicle

B-Technology Sp. z o.o. ► p. 443

The BECCARII (Tracked Variant) is a military multi mission platform combining tracked ground mobility, vertical take-off, sustained flight, and amphibious movement. Designed for extreme terrain, it ensures reliable mobility across mud, deep snow, sand, rubble, steep inclines and collapsed urban structures.

Its four mode locomotion enables seamless transitions between driving, VTOL ascent, airborne maneuvering and water borne traversal, granting access to operational areas unreachable to single mode systems and supporting reconnaissance, amphibious ingress, logistics and maneuvering in complex or denied environments





Provides safe, covert reconnaissance of rooms, corridors and confined spaces before entry, increasing survivability and reducing exposure to ambushes. Delivers real time high resolution video for improved situational awareness and rapid decision making. Ultra lightweight, silent and instantly deployable, reducing both physical and cognitive load while enhancing operational effectiveness in close quarters and urban missions.

BECCARII delivers true all terrain mobility through driving, vertical takeoff, flight and swimming, reaching areas no single mode system can. It enhances situational awareness, improves mission speed and reduces operational risk in complex environments





Berni_FPV3

PZL DEFENCE S.A. UNIMOT GROUP ► p. 480

This is the first in a series of four FPV drones developed by PZL Defence S.A. in collaboration with the Military Institute of Armament Technology (WITU).

The drone is designed to meet identified military requirements. It features a 650 mm frame diagonal (motor-to-motor distance) and 15-inch propellers. The platform's weight is 9.5 kg (excluding payload), with a payload capacity ranging from 3 to 5 kg. The payload consists of warheads developed by the Military Institute of Armament Technology. The platform integrates in-house developed solutions with off-the-shelf, market-proven components.

The armed variant is offered by the Military Institute of Armament Technology (WITU).

Benefit for the soldier

Using proven components and comprehensive system verification, we ensure high reliability of our solutions. Tested and certified warheads and mechanisms developed by the Military Institute of Armament Technology further enhance safety, giving operators confidence in reliable performance and secure operation.

Berni_ONE

PZL DEFENCE S.A. UNIMOT GROUP ► p. 480



Observation and reconnaissance drone developed to meet the identified needs of military and rescue services, primarily the State Fire Service and other uniformed formations. The total weight is 6 kg, with a motor-to-motor diagonal of 1000 mm. When folded, it fits into a standard PELI case measuring 50 × 50 × 50 cm. It is equipped with an EO/IR observation payload and a laser rangefinder (LRF), with the option to install alternative payloads. The design is optimized for extended endurance — up to 90 minutes on battery power. The system is based on components sourced outside China and the United States.

Benefit for the soldier

Optimized battery and propulsion enable over 90 minutes of operation, supporting advanced reconnaissance missions. The integrated payload provides precise geolocation of observed objects. Propeller design and size minimize acoustic signature, allowing safer missions at closer range.

BLUSZCZ – Unmanned Scatterable Mine-Laying System

Wojskowy Instytut Techniki Pancernej i Samochodowej ► p. 510

BLUSZCZ is an unmanned scatterable mine-laying system designed for rapid deployment of anti-tank minefields using MN-123 mines. The system integrates a mine launcher with an optionally manned TAERO mobility platform, enabling operation in both manned and unmanned modes. System was developed by consortium Military Institute of Armoured and Automotive Technology (WITPIS and companies STEKOP and BELMA

The launcher is equipped with 20 barrels and supports quick-change cassettes, with a total capacity of 100 mines. It enables mine deployment at ranges of 30–90 m and allows the creation of minefields with configurable length and density starting from 1.5 mines per running meter. The system supports stationary and on-the-move mine-laying, including automatic and manual deployment modes.

BLUSZCZ provides automatic recording and digital mapping of deployed minefields, with data transmission to command and control systems. The communication system is based on a secure broadband radio with mesh architecture and anti-jamming capability.

The platform is equipped with a sensor suite including daylight cameras, thermal imaging cameras, and LiDAR, supporting situational awareness and teleoperation. Navigation is based on a GNSS/INS system enabling precise positioning and mission tracking.

The system includes autonomous functionalities such as navigation to designated waypoints, route replay, obstacle detection, and mission route recording, supporting operation in complex environments.





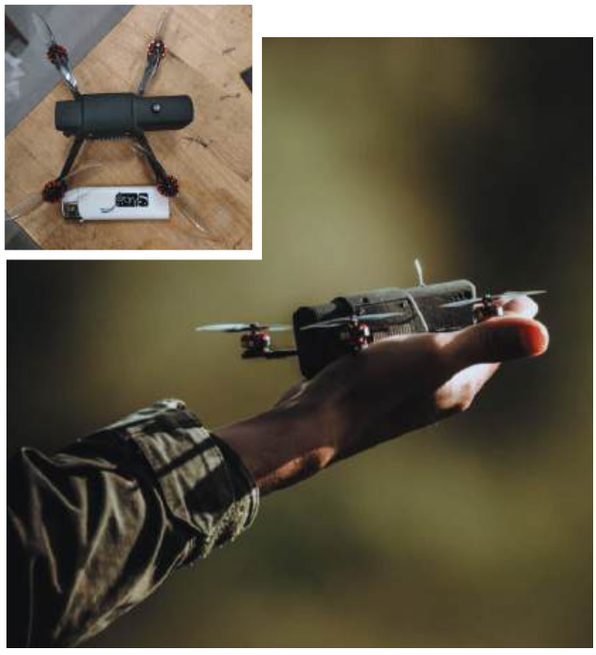
Benefit for the soldier

BLUSZCZ improves combat effectiveness by enabling rapid minefield deployment without exposing soldiers to hostile fire or hazardous areas. Manned and unmanned modes increase survivability, while installed sensors improve situational awareness. Unmanned deployment enables operations near the enemy in constrained terrain.

BSP "Pchła" – Ultra-Silent Micro Reconnaissance UAV

B-Technology Sp. z o.o. ► p. 443

The Pchła is an ultra silent nano class reconnaissance UAV designed for military, security and special operations. Weighing only 95 g, it fits in a soldier's hand and enables rapid deployment from any loadout. Its digital link provides 1080p/100 fps live video and 4K/60 fps recording with a 117–155° FOV, ensuring high quality situational awareness indoors and outdoors.



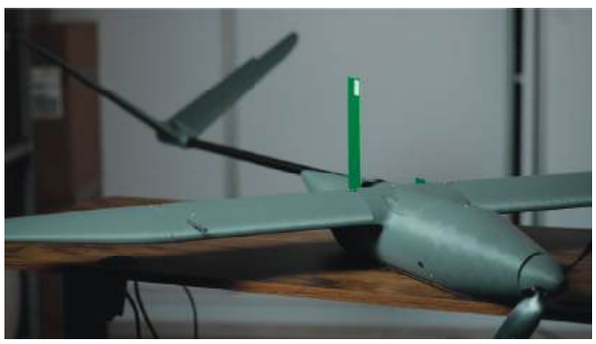


Thanks to near silent propulsion, it enables covert reconnaissance in tight, confined or urban environments. With up to 34 min flight time, 10 km range, low latency (~20 ms) and quick swap batteries, the system delivers reliable, discreet and persistent surveillance in complex operational conditions.

Provides safe, covert reconnaissance of rooms, corridors and confined spaces before entry, increasing survivability and reducing exposure to ambushes. Delivers real time high resolution video for improved situational awareness and rapid decision making. Ultra lightweight, silent and instantly deployable, reducing both physical and cognitive load while enhancing operational effectiveness in close quarters and urban missions.

Crow – ISR Plane

Sentinel Eagle ► p. 486



Crow is a low cost ISR plane equipped with Eagle Companion:

- Can fly in radio silence.
- Hand launched.
- 250+km range, 6+ hours in the air.
- Two variants: 1.55 and 2.75m wingspan, hand-launched.
- Supports a gimbal camera.
- Up to 3kg of payload.
- Encrypted video- and data-transmission.

Benefit for the soldier

Long-range platform capable of launching from a safe zone, traveling tens of kilometers into contested areas, collecting intelligence, and autonomously returning – all in radio silence. Builds situational maps using onboard image-based reconstruction.

Defender Line of RF JAMMING products

B4 Limits Sp. z o.o. ► p. 440

B4 Limits Defender Series – Modular Counter-UAS Jammer

Developed in Poland by PhD-level engineers with over 10 years in jamming technology, the Defender Series is a modular, high-performance system designed to detect and neutralize UAV threats. All critical components—including electronic boards, housing, firmware, and software—are proprietary, enabling rapid customization to client requirements or mission use cases.

Each IP65-rated, 19-inch rack-compatible module weighs ~20 kg and supports up to 2 high-power amplifiers (or 4 smaller) with up to 900 MHz instantaneous bandwidth. Modules can be added or reconfigured for increased power or bandwidth, including future expansion beyond 8 GHz, without replacing the entire system.

Defender units scan all configured frequencies simultaneously in real time, improving detection of UAVs on non-standard or unexpected frequencies. Key performance: –106 dBm sensitivity, 36 µs reaction time, and unlimited 150 MHz blocks of real-time bandwidth. High-bandwidth configurations also enable communications jamming, offering full operational versatility.

B4 Limits delivers a complete solution: antennas, accessories, and integration support. As IP owner, B4 Limits provides full customization—frequency coverage, power, and platform-specific adaptations—ensuring the optimal Defender configuration for any scenario.

Defender Series — modular, scalable, and built for modern electronic warfare.



Benefit for the soldier

The Defender line of jammers gives soldiers a combat-proven edge with fast, reactive, hassle-free threat response (auto-generated waveforms, up to 27k hops/s) and precise power. Reliable in harsh conditions (MIL-STD), modular, and NATO-validated, it ensures effective protection and seamless API/SAPIENT integration.



DJ-25 Jammer
Unmanned Aerial Vehicle (UAV) jammer system

Przedsiębiorstwo PREXER Sp. z o.o. ► p. 479

The DJ-25 Jammer is a system that enables the neutralization of enemy objects, such as commercial civilian drones used for reconnaissance purposes and engaging targets using dropped Improvised Explosives or mortar shells, at a distance of up to 2,500 meters.

The DJ-25 system is equipped with precise GPS, telemetry and radio communication jammers. Operating broadband at frequencies from 850MHz to 6 GHz.

The DJ-25 has been adapted to the technical realities of the most popular, potential air targets.



Tactical and technical data:

→ Range	2500 m
→ Output power for one channel	up to 100W (52 dBm)
→ Operating temperature range	from -30 up to +60°C
→ System weight	approx. 15 kg
→ Power supply	12V or 24V

Benefit for the soldier:

- → Cooperates with an autonomous fire control system
- → Inexpensive and easy to install
- → Susceptible to frequency modification and tuning



Drone VPL 7

VIMANA Sp. z o.o. ► p. 501

VPL 7 is designed for high operational effectiveness in dynamic mission environments, combining speed, stability, and reliable communication systems. As a result, it significantly enhances task efficiency and reduces response time in critical situations.

High dynamics and speed of operation

- speeds of up to 120 km/h enable rapid target approach and immediate task execution
- significantly reduced response time to rapidly changing operational conditions
- increased effectiveness in target interception and engagement

Mission precision and effectiveness

- stable flight and an optimal range of up to 5 km ensure precise execution of tasks at medium distances
- high repeatability and accurate flight path control
- improved operational effectiveness in reconnaissance and tactical missions

Ease of use and rapid deployment

- intuitive system operation minimizes operator workload
- quick deployment enables immediate field readiness
- no unnecessary delays in mission initiation



Final outcome

VPL 7 delivers a combination of high speed, precision, flexibility, and reliable communication, resulting in increased operational effectiveness and a decisive advantage in dynamic mission environments.

Most important achievements

Speed	up to 120 km/h
Battery	9000 mAh LiPo / LiIon 6S2P (2x6)
Frame	7 inches
Flighy range	up to 5 km
Fligth time	15 min – 2 kg.
Frequencies for radio control	5.8 GHz / 1.2 GHz TBS / ELRS
Video	Analog VTX 5.8 GHz
Payload	1.2 kg (max 2 kg.)

Benefit for the soldier

VPL 7 combines speeds of up to 120 km/h, stable flight, and a 5 km range, ensuring rapid response and precise task execution. Intuitive operation and fast deployment increase operational readiness. Result: higher effectiveness, improved reconnaissance, and an advantage in dynamic operations.

GO42 HE Warhead – High Explosive – Anti Personel

Dimensions	52x373 mm / 52x273 mm
Weight	0.7 kg.
Blast zone / Fuze type	10 m / Impact
Element of destruction	Steel balls



Unmanned Systems (UxS) and Counter-UxS
UNMANNED SYSTEMS (UxS) AND COUNTER-UxS

Drone VPL 10

VIMANA Sp. z o.o. ► p. 501

VPL 10 is designed to deliver extended operational range and increased endurance, enabling more effective mission execution over medium distances while maintaining a clear operational advantage. Its combination of speed, stability, and payload capacity ensures high performance in demanding environments.

High speed and rapid response

- speeds of up to 120 km/h enable fast reaction to evolving operational situations
- reduced response time significantly improves mission responsiveness
- enhanced capability for timely engagement and task execution

Extended range and mission endurance

- increased operational range enables effective performance over medium-distance missions
- longer endurance supports sustained operations and prolonged presence in the area of interest
- improved ability to maintain operational advantage over time

Precision and flight stability

- stable flight characteristics improve mission accuracy
- reduced risk of operational errors during critical tasks
- higher reliability in reconnaissance and tactical execution



Final outcome

VPL 10 combines extended range, endurance, payload flexibility, and reliable communications, delivering superior mission effectiveness and sustained operational advantage in complex and dynamic environments.

Most important achievements

Speed	up to 120 km/h
Battery	13500 mAh LiPo / LiIon 6S3P (3x6)
Frame	10 inches
Flighy range	up to 7 km
Fligth time	20 min – 2.2 kg.
Frequencies for radio control	5.8 GHz / 1.2 GHz TBS / ELRS
Video	Analog VTX 5.8 GHz
Payload	1.5 kg (max 2.2 kg.)

Benefit for the soldier

VPL 10 provides extended range and longer endurance, enabling effective missions over medium distances. Speeds of up to 120 km/h and stable flight enhance responsiveness and precision. Result: greater operational endurance, reliability, and an advantage in demanding conditions.

GO68 HE Warhead – High Explosive – Anti Personel

Dimensions	64x383 mm / 64x247 mm
Weight	1.2 kg.
Blast zone / Fuze type	20 m / Impact
Element of destruction	Steel balls



Drone VPL 15

VIMANA Sp. z o.o. ► p. 501

VPL 15 is engineered to deliver long-range operational reach and rapid response capability, combining high speed, stability, and advanced payload capacity. This ensures effective performance in dynamic and demanding environments while maintaining a decisive tactical advantage.

Long-range reach and high-speed response

- operational range of up to 25 km combined with speeds of up to 150 km/h
- enables rapid deployment and fast reaction to changing operational conditions
- supports effective mission execution over extended distances while preserving tactical superiority

Flight stability and operational precision

- high flight stability ensures accurate and controlled mission execution
- improved safety during complex operational tasks
- increased reliability in time-sensitive and high-risk scenarios

Enhanced payload capacity and mission versatility

- very high payload capacity significantly expands operational capabilities
- supports integration of advanced reconnaissance systems and heavier mission-specific equipment
- increases overall mission effectiveness and operational flexibility

Endurance and mission efficiency

- efficient power management enables extended time on station
- improved utilization of available mission time for sustained operations

Final outcome

VPL 15 provides a combination of long-range capability, high speed, strong payload capacity, and resilient communications, delivering superior mission effectiveness and maintaining tactical advantage in complex operational environments.



Most important achievements

Speed	up to 150 km/h
Battery	31000 mAh LiPo / LiIon
Frame	15 inches
Flighy range	up to 25 km
Fligth time	25 min – 8 kg. / 40 min – 2 kg. payload
Frequencies for radio control	5.8 GHz / 1.2 GHz TBS / ELRS
Video	Analog VTX 5.8 GHz
Payload	6 kg (max 8 kg.)

GO68 HE Warhead – High Explosive – Anti Tank

Dimensions	73x574 mm / 73x438 mm
Weight	1.2 kg
Blast zone / Fuze type	300 m RHA/Impact
Element of destruction	Cumulate Jet

Benefit for the soldier

VPL 10 provides extended range and longer endurance, enabling effective missions over medium distances. Speeds of up to 120 km/h and stable flight enhance responsiveness and precision. Result: greater operational endurance, reliability, and an advantage in demanding conditions.



EagleOWL Integrated System

JPBC Sp. z o.o. sp. kom. (Grupa Pietrucha) ► p. 467

EagleOWL is a long-endurance, autonomous UAV platform designed for reconnaissance, force protection, and counter-drone operations in complex environments. With up to 60 minutes of flight time, 45 km mission range, and payload capacity up to 12 kg, it delivers persistent situational awareness and operational flexibility in both military and civilian scenarios.

The system is built as a scalable ecosystem. OWLNEST provides a fixed or deployable docking station enabling fully autonomous 24/7 operations through precision landing, automatic charging, and mission readiness. MOBIOWL extends these capabilities into mobility—offering a vehicle-integrated docking station for rapid deployment and continuous field operations. OWLCUBE serves as a modular logistics and payload container, ensuring mission adaptability and rapid resupply in dynamic environments.

EagleOWL is engineered for reliability in contested and GNSS-denied environments, maintaining stable communication through radio or alternative transmission systems. Its resistance to harsh weather conditions, including strong winds up to 17 m/s, ensures mission continuity where conventional UAVs fail. The platform supports customizable optoelectronic payloads tailored to user needs, enabling ISR, target acquisition, and operational support across diverse mission profiles.

Designed for seamless integration, EagleOWL supports MAVLink protocol and interoperates with modern command and control systems. Its modular architecture allows rapid configuration changes, including reconnaissance sensors or mission-specific payloads such as cargo delivery or aerial deployment systems. This flexibility makes EagleOWL a force multiplier: enhancing operational reach, reducing response time, and increasing mission effectiveness in both defence and critical infrastructure protection scenarios.





Key benefits:

- 24/7 autonomous ISR capability
- High payload capacity and long endurance
- Operation in GNSS-denied and harsh environments
- Rapid deployment & mobility (MOBIOWL)
- Scalable logistics & mission adaptability (OWLCUBE)







Benefit for the soldier

Extends situational awareness and reduces exposure through persistent ISR (up to 60 min, 45 km range). Autonomous 24/7 operation lowers cognitive and physical load, while GNSS-independent control ensures mission continuity. Rapid deployment and high payload flexibility increase responsiveness and operational effectiveness.

EUM-2207 Compact Propulsion Motor for Unmanned Systems

Eumotors sp. z o.o. ► p. 453



The EUM-2207 is a compact brushless electric propulsion motor designed for lightweight unmanned and autonomous systems requiring efficient propulsion in size-constrained aerial platforms. The motor architecture combines low weight with optimized electromagnetic design, providing stable and efficient propulsion for small UAV systems.

Developed and manufactured by EUMOTORS, the motor integrates high-temperature materials and precision construction for reliable performance during demanding flight profiles. The motor is compatible with modern electronic speed controllers and UAV flight control systems, enabling straightforward integration into compact aerial platforms.

Motor components are manufactured in-house, ensuring consistent quality, traceability and supply continuity. The motor complies with relevant international standards and follows sourcing practices aligned with international security requirements.

Key features

- Maximum power: up to 191 W
- Maximum thrust: up to 662 g depending on propeller configuration
- Power system: 4S LiPo
- Weight: approx. 34 g
- Motor size: approx. Ø28 x 18 mm
- High-temperature materials: magnets rated up to 150°C and windings up to 200°C

The motor is a part of the EUMOTORS propulsion motor portfolio covering a wide range of UAV propulsion requirements.

Benefit for the soldier

Enables lightweight UAV reconnaissance missions, providing real-time situational awareness without exposing personnel. Low power consumption supports longer flight time. European-based supply chains ensure continuous availability of motors, reducing the risk of capability gaps in field operations.

EUM-3115 High-Performance Propulsion Motor for Unmanned Systems

Eumotors sp. z o.o. ► p. 453



The EUM-3115 is a high-performance brushless electric propulsion motor designed for professional unmanned and autonomous systems. The motor combines high power output with compact dimensions and optimized electromagnetic architecture, enabling efficient and reliable propulsion for demanding aerial platforms.

Developed and manufactured by EUMOTORS, the motor integrates high-temperature materials and precision construction for reliable performance during demanding flight profiles. The EUM-3115 is compatible with modern electronic speed controllers and UAV flight control systems, allowing straightforward integration into a wide range of aerial platforms.

Motor components are produced in-house, ensuring consistent quality, traceability and supply continuity. The motor complies with relevant international standards including CE and RoHS requirements and follows sourcing practices aligned with international security requirements.

Key features

- Maximum power: up to 1389 W
- Maximum thrust: over 3.2 kg depending on propeller configuration
- Power system: 6S LiPo
- Weight: approx. 117 g
- Motor size: approx. Ø38 x 34 mm
- High-temperature materials: magnets rated up to 150°C and windings up to 200°C

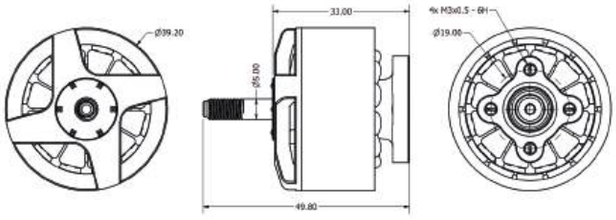




The EUM-3115 is a part of the EUMOTORS propulsion motor portfolio covering a wide range of UAV propulsion requirements

Benefit for the soldier

Supports UAV missions requiring stable flight under payload and dynamic conditions, including reconnaissance and tactical support. High power and thrust enable reliable operation. Secure European supply chains ensure motor availability, maintaining operational readiness in critical deployments.



EUM-4014 High-Efficiency Propulsion Motor for Unmanned Systems

Eumotors sp. z o.o. ► p. 453





The EUM-4014 is a high-efficiency brushless electric propulsion motor designed for unmanned and autonomous systems requiring stable thrust and efficient operation in medium-class aerial platforms. The motor architecture combines optimized electromagnetic design with robust mechanical construction, enabling reliable propulsion for demanding UAV missions.

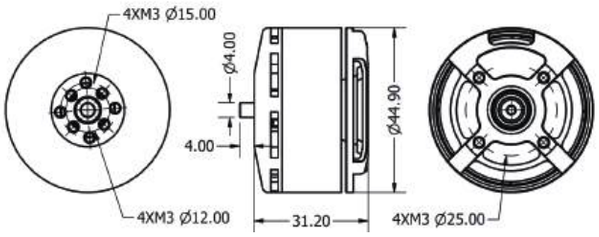
Developed and manufactured by EUMOTORS, the motor integrates high-temperature materials and precision construction for reliable performance during extended UAV operations. The EUM-4014 supports large propellers and higher voltage power systems, making it suitable for UAV platforms requiring extended endurance and efficient lift generation.

Motor components are produced in-house, ensuring consistent quality, traceability and supply continuity. The motor complies with relevant international standards including CE and RoHS requirements and follows sourcing practices aligned with international security requirements.

Key features

- Maximum power: up to 593 W
- Recommended thrust: 1–2.2 kg per motor
- Maximum thrust: up to ~3.8 kg depending on propeller configuration
- Power system: 6–12S LiPo
- Weight: approx. 140 g
- Motor size: approx. Ø45 × 31 mm
- Compatible with 15–20 inch propellers

The motor is a part of the EUMOTORS propulsion motor portfolio covering a wide range of UAV propulsion requirements.



Benefit for the soldier

Enables UAV missions requiring extended endurance and higher payload capacity, including surveillance and persistent observation. Efficient propulsion supports longer mission duration. European-based supply chains ensure continuous availability of motors, reducing the risk of mission disruption.

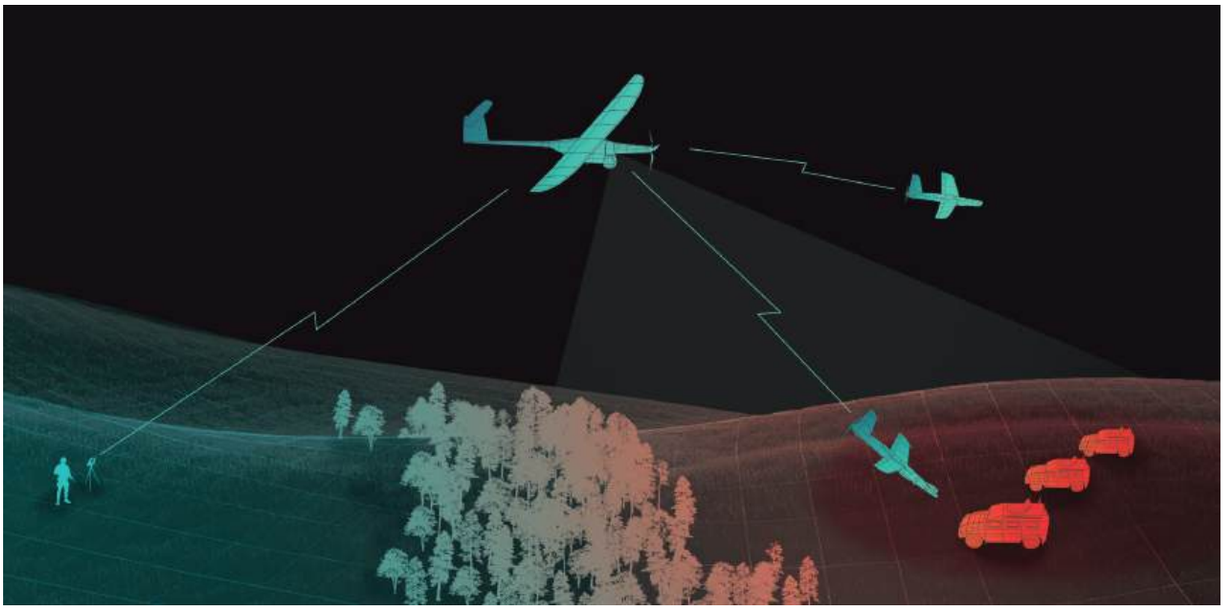
FLYEYE – Unmanned Aerial Reconnaissance System

WB Group ► p. 502

Flyeye is a combat-proven unmanned reconnaissance system designed to support battlefield observation from squad level and provide continuous data transmission to command units. Its lightweight and compact design allows it to be carried in a backpack by a single soldier.

The system can be deployed in under five minutes. Hand-launch capability and high climb rate enable missions from hard-to-reach locations. The platform features a low electromagnetic signature, making it highly effective in combat environments.





Flyfocus Cableguard
CableGuard Patented Tethered UAS

FlyFocus sp. z o.o. ► p. 457



Key Features:

- Long Range Transmission:
  Tracking antenna with digital, encrypted video, and data link allows for up to 10 km of range on EU standards (CE) and 15 km on US standards (FCC).
- Configurability:
  Thanks to the universal payload mount, attaching both our modules and those requested by the customer is not a problem.
- Tethered Power:
  High voltage supply system allows power transmission to the drone by a lightweight and durable cable. This solution enables the UAV to stay in the air 24/7.



Technical Specification:

- Materials: carbon fibre, fiberglass
- Tether endurance: up to 30 days
- Max tether altitude: 100 m
- Max takeoff weight: 16 kg
- Max payload: 5 kg
- Flight endurance: up to 30 min
- Max speed: 60 km/h
- Temperature range: from -20 to +50 °C
- Flying range: up to 15 km
- Preparation time: 10 min
- Wind resistance: 13 m/s
- Autopilot: certified or non-certified open-source
- Data transmission: Fiber-Optic (RF silent), P2P, LTE, or Satellite Radio Communication
- Takeoff/landing type: vertical, possible from moving platform with 1 m landing accuracy
- IP rating: IP55
- Remote controller: Flyfocus GCS
- Vision systems: EO/IR with optional Laser Rangefinder and Target Designator
- Safety systems: ADSB transponder, emergency parachute
- Optional payloads: upon request



Flyfocus Lemur
Vertical takeoff landing fixed-wing aircraft

FlyFocus sp. z o.o. ► p. 457



Overview:

Lemur is capable of long-endurance missions with heavy payloads.

Versatile:

Surveils during day and night with an optoelectronic surveillance gimbal equipped with advanced machine vision and A.I. algorithms capable of high-accuracy target pointing, moving object detection, and classification.

Long Range:

Capable of transporting loads over long distances. Cargo bay designed to carry up to 5 kg.



Technical Specifications:

- Materials: carbon fibre, fiberglass
- Wingspan: 4.7 m Max takeoff weight: 30 kg
- Weight with fuel: 20 kg
- Flight time: up to 8 hours with internal combustion (IC) motor or 3 hours with electric motor
- Operational cruise speed: 100 km/h
- Wind resistance: 14 m/s
- Max altitude: 4000 m AMSL
- Temperature range: from -20 to +50 °C
- Flying range: up to 800 km
- Preparation time: 10 min
- Engine: electric or internal combustion
- Autopilot: certified DO-178B, DO-254, DO-160
- Wings: 4 segments
- Data transmission: P2P, LTE, or Satellite Radio Communication
- Takeoff/landing type: vertical or classic with 2 m landing accuracy
- Remote controller: Flyfocus GCS
- Vision systems: EO/IR with optional Laser Rangefinder and Target Designator
- Safety systems: ADSB transponder, emergency parachute
- Optional payloads: upon request

Flyfocus Polaris
Ultimate aerial surveillance tool

FlyFocus sp. z o.o. ► p. 457



Technical Specifications:

- Materials: carbon-glass composite
- Propulsion: silent electric motor with a folding propeller
- Wingspan: 2.2 m Max takeoff weight: 4.5 kg
- Backpack weight: 8-14 kg
- Flight time: up to 4 hours with Thermal AI algorithm
- Speed range: 45-110 km/h
- Max altitude: 4000 m ASL
- Temperature range: from -20 to +50 °C
- Preparation time: 5 min
- Navigation: GPS + INS, additional anti-jamming systems or missions without GPS
- EO/IR payload: daytime camera 40X zoom, thermal camera 640x480
- Payload features: object tracking, recognition, target geolocation, "fly by camera"
- Takeoff: hand launch up to 45°
- Landing: inverted belly landing with 10-50° glideslope (flaps and reverse thrust)
- Backpack dimensions: 63x40x30 cm

Overview:

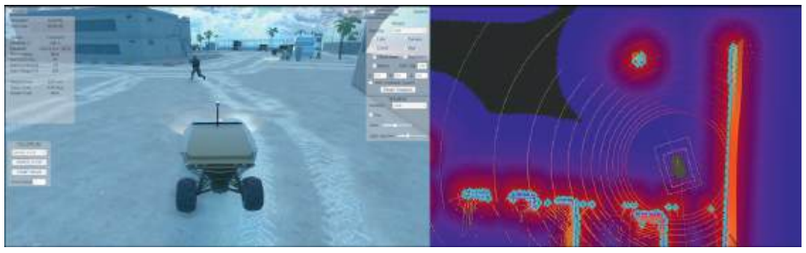
UAV Polaris is a unique aircraft designed from scratch in Poland with long-term, quiet operations in mind. It is smaller, lighter, and, above all, more cost-effective than the currently used solutions. It fits in a small backpack and carries various payloads like EO/IR, mapping cameras, communication relays, or radio-electronic warfare (SIGINT). It's hand-launched and climbs at a 45° angle, eliminating the need for ground infrastructure. The aircraft approaches the landing on its back (to protect the payload) at a 45° angle using flaps and reverse thrust. It's equipped with the proprietary "Thermal AI" algorithm, which allows it to find and use the thermal updrafts to increase engine-free flight time.





Follow me

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Motoryzacji PIMOT ► p. 489



A target following system dedicated to UGV operating in off road conditions, ensuring travel at a constant distance from a selected object. The system uses software incorporating perception and control modules. The perception module employs algorithms for object detection and tracking to determine the required distance to the target. The control module computes control signals necessary to achieve the desired vehicle position. The system provides a graphical interface allowing configuration of system parameters such as maximum vehicle speed and maximum allowed distance between the vehicle and the tracked object.

Benefit for the soldier

Unmanned vehicles equipped with the Follow me system can autonomously follow a soldier while transporting his equipment, thereby reducing the physical and mental workload of the soldier.

FT-5 – Tactical Unmanned Aerial Reconnaissance System

WB Group ► p. 502





The FT-5 is a tactical-class unmanned aerial system designed for reconnaissance, surveillance, convoy escort, disaster monitoring, and border patrol missions.

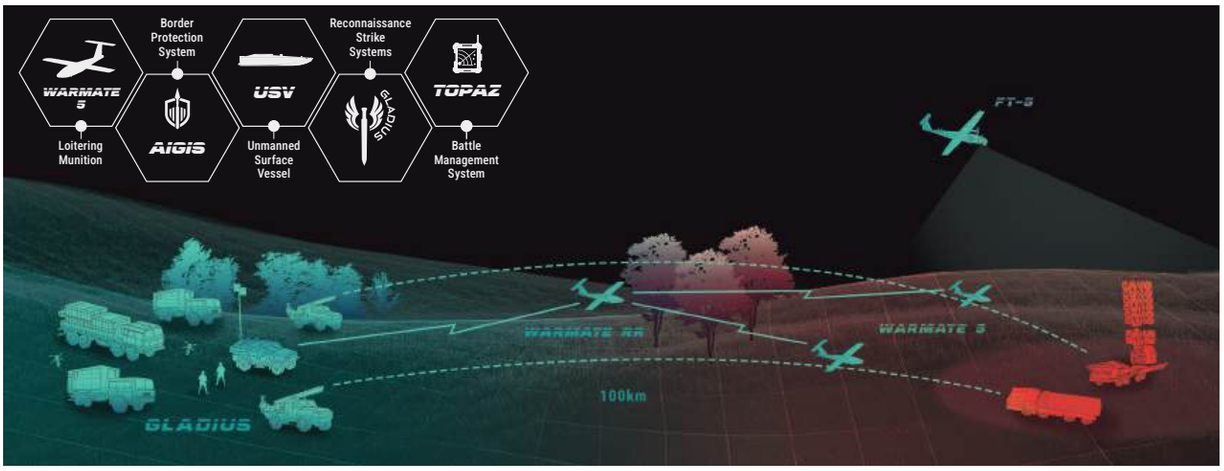
Its modular payload configuration supports a wide range of operations, including:

High-resolution day and night electro-optical sensors

Synthetic Aperture Radar (SAR)

Electronic Intelligence (ELINT) sensors

The FT-5 is available in both electric and hybrid propulsion variants. It serves as an aerial reconnaissance asset within the GLADIUS strike-reconnaissance battery and can also operate as a standalone ISR platform. Launch is performed via a universal launcher (portable or vehicle-mounted), enhancing system mobility.



FUTURE TASK FORCE – Manned–Unmanned Future Task Force

WB Group ► p. 502



The Future Task Force (FTF) is a modular combat platoon composed of a manned wheeled command vehicle and a fleet of manned–unmanned high-mobility wheeled platforms. These platforms are equipped with a variety of effectors, including:

Remote-Controlled Weapon Stations (ZMU-05 family)

Launchers for unmanned aerial systems and loitering munitions (WARMATE TL family)

Dispensers for scatterable anti-tank mines

Interchangeable mission modules enable aerial reconnaissance up to 50 km, situational awareness enhancement, precision air strikes, small arms fire support, and automated mine laying. Optional trailers can be added to increase transport capacity.

Beyond reconnaissance and strike missions, the FTF platoon is capable of conducting patrols, logistics operations, and evacuation tasks in contested environments.



GLADIUS – Reconnaissance–Strike System

WB Group ► p. 502

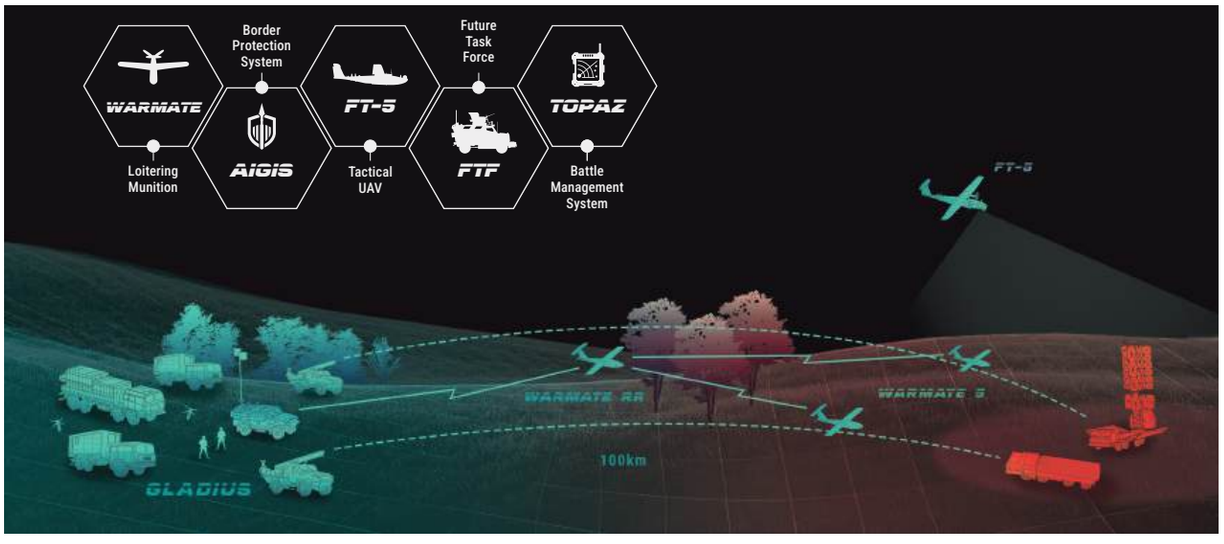
The GLADIUS system consists of an air component and a land component. The aerial element comprises FT-5 unmanned aerial reconnaissance systems (UAS) and effectors in the form of WARMATE 5 loitering munitions. FT-5 unamnned aerial vehicles, in their ELINT, IMINT, and SAR variants, provide high-quality imagery, signals, and radar reconnaissance at long ranges.

The WARMATE 5 carries combat warheads and is designed to engage high-value targets, including armoured and mechanised vehicles, command posts, and fortified positions.

The land component includes command vehicles, launcher vehicles (equipped with universal launch ramps), command-and-control vehicles, mobile analysis stations (with AI-supported reconnaissance and command systems), as well as ammunition vehicles and technical-support vehicles.







GNOM – GROUND LOITERING MUNITION

MACRO-SYSTEM Sp. z o.o. ► p. 469

GNOM is a remote-controlled electric vehicle with compact dimensions of 557 x 397 mm and curb weight of 7 kg, designed to transport GX-1 DG warheads and customized cargo up to 2 kg. As an advanced combat tool, it combines mobility, reliability, and an innovative approach to modern military operations.

The non-standard combination of combat and reconnaissance functions, low detectability, and the ability to quickly change camouflage make it a true innovation on the market. Representing a new standard in the field of unmanned combat systems, it offers armed forces exceptional versatility and effectiveness in performing the most demanding missions.

One of the key advantages of the vehicle is its top speed of up to 80 km/h and a control range of 500 meters. This allows to quickly reach its target or rapidly withdraw from the operation site, which is invaluable in the dynamically changing conditions of the battlefield.

GNOM can precisely destruct targets located in the open field, inside buildings, behind terrain obstacles, in urban areas or hidden among trees – places inaccessible to flying loitering munitions and traditional weapons. It also has an ability to strike armored vehicles from below.

Depending on a warhead used, the system is designed to perform various combat tasks, for example: destroying armored vehicles, combat vehicle crews, machine gun nests, manpower, shelters, bunkers and critical infrastructure, training of drone operators in foreground observation, guidance and fire drill missions.

LENGTH:	557 mm
WIDTH:	397 mm
WEIGHT WITH WARHEAD:	8 kg
TOP SPEED:	80 km/h
CONTROL RANGE:	500 m
VIDEO CONTROL:	using two cameras mounted on the vehicle



Benefit for the soldier

Enhanced Operational Safety: Eliminates targets from a safe distance.

Precision in Tough Terrain: Hits targets inside buildings, forests, or behind obstacles.

Unique Tactical Advantage: Strikes armored vehicles from below, the weakest point.

Low Detectability: Compact, quiet electric drive enables covert approach. Invisible to anti-drone scanners.

Mobility & Rapid Response: Speeds up to 80 km/h for fast delivery or withdrawal.





HAASTA UAS

EUROTECH Sp. z o.o ► p. 454

The HAASTA Unmanned Aircraft System was designed to be independent of the airport infrastructure, performs automatic take-off from the launcher and landing on a gliding parachute. All system elements are prepared for easy transport and quick assembly in the field.

The HAASTA platform is prepared to perform flights in difficult weather conditions with a unique construction prepared for transporting a payload of 30 kg in central part of the fuselage, which can be dropped during flight.

The HAASTA system is intuitive and easy to use, ideal product for everyday operation of various tasks.

HAASTA platform is ready for integration with payload and can work as:

- Deep Strike including Decoys: range: 1.000+ km, payload: up to 40 kg
- Bomber or Ammunition Supply Drop: range 500+ km, up to 30 kg payload to drop
- Cost effective tactical level ISR: range 1.000 km with StarLink or 200 km with direction antennas.
- Electronic Attack: 1.000+ Watts of continuous electrical on-board power for payload
- Counter UAS: Jamming payloads, delivering electromagnetic pulses to neutralize swarm drones
- Escort Jamming: Electronic Warfare support by loitering above and behind friendly convoys
- Air to Air CUAS: Armed with machine gun or Advanced Precision Kill Weapon System (APKWS)

Key features of UAS HAASTA:

- Designed to be difficult to detect and destroy thanks to small RCS/IR signature and high performance
- Cargo Drop capability – up to 30 kg
- Platform can be easily adapted to the user's operational requirements
- 20HP Hybrid propulsion (piston engine +el. motor).
- Speed: up to 280 km/h
- Altitude: up to 6.000 m
- Endurance: up to 10 hours
- Redundant avionics and 1.000 Watts on board.
- Mobile GCS, dedicated software compatible with STANAG 4586 and 4609.



Benefit for the soldier:

- Pilot is very safe, GCS far from enemy thanks to long distance and long endurance.
- Small, cost effective set of multi-purpose platforms for real time reconnaissance, cargo drop (medic, ammunition, TNT, missiles), deep strike, decoy etc. working in group.
- High survivability – difficult to detect and destroy, ideal for dangerous missions on enemy territory.
- Independent of airport infrastructure and efficient system – start from launcher, landing on parachute.
- Unique Hybrid propulsion system for silent mission, high speed 280 km/h and energy for electromagnetic effectors.







HAWK C-UAS

HERTZ SYSTEMS Sp. z o.o. ► p. 460

The HAWK system is a multi-layered counter-drone solution designed to detect, track, and neutralize unauthorized drones. HAWK employs a combination of sensors, including radars, RF Scanners, acoustic and optical devices. Such approach ensures the detection of various types of drones regardless of their construction (rotary-wing, fixed-wing, improvised (DIY), FPV, or loitering munitions) or flight mode (manual or autonomous). Neutralization is carried out using a range of non-kinetic and kinetic effectors. System management is handled by in house developed HAWK C2 software, which provides real-time airspace monitoring, operational control, definition of protection zones, and automatic alerts.

Key features:

- Detection range up to 15 km
- Neutralization range up to 10 km
- Ability to work on the move
- Advanced classifier with applied AI
- Detection of the UAV
- Detection of the operator
- Multi-layer neutralization:
  - Wideband jamming (20MHz – 6GHz)
  - Dual-band GNSS spoofing
  - Hacking
  - Interception by the drone with net launcher
  - Laser
  - Directed energy
  - Kinetic methods
- Intelligent neutralization resource allocation
- Hand-held jammers
- Supported communication via ASTERIX and JREAP-C
- Data archiving
- Open architecture
- Scalability

Benefit for the soldier

HAWK enhances combat effectiveness through early detection, tracking and layered counter-UAV of FPV, autonomous UAVs and loitering munitions. Radar, RF, optical and acoustic sensors boost situational awareness. Mobile operation, auto-alerts, operator detection and smart neutralization allocation increase survivability and reduce cognitive load.







HAWKEYE

Unmanned Systems Poland Sp. z o.o. ► p. 499

HAWKEYE is a mini-class fixed-wing UAV designed to deliver payloads of up to 8 kg for mission-specific operations at distances of up to 200 km, significantly exceeding quadcopter capabilities. It supports ISR, search and rescue, supply delivery, and strike missions, offering a cost-effective alternative to more complex or higher-risk systems.

Its fixed-wing design ensures extended range, endurance, and energy efficiency. The platform is built for autonomous operation in contested environments, including areas with strong interference or jamming, allowing missions to be completed without continuous operator control.

Features

- Payload capacity up to 8 kg
- Operational range up to 200 km
- Fixed-wing design for high efficiency and endurance
- Autonomous mission execution without constant connection
- Automatic target tracking (continues after signal loss)
- AI-based target recognition (vehicles, personnel, structures)
- AI-enhanced sensor fusion for improved situational awareness
- Resistant to interference and jamming environments
- Thermal camera with detection up to ~1.8 km (day/night)
- Stable communication: 700–1200 MHz, 2.4 GHz, 5.8 GHz
- Capable of ISR, SAR, delivery, and precision strike missions



Benefit for the soldier

HAWKEYE is the squad's "long arm," allowing it to strike or deliver supplies at ranges of up to 200 km without endangering human life. Thanks to AI and automatic target tracking, the drone will complete its mission autonomously even in the event of communication disruptions or jamming. This gives soldiers a significant range advantage and confidence in the harshest combat environments.



Technical Specification:

Wingspan:	1,6 m
Weight:	12 kg
Flight Time:	90 min
Speed:	200 km/h
Payload:	8 kg
Operational Range:	200 km



HEXA 50

Terra Robotics ► p. 496

The HEXA 50 is a compact, small, unmanned ground vehicle (UGV) designed to perform a wide range of tasks requiring high mobility, precision, and rapid deployment. With a payload capacity of up to 50 kg and a tracked drive system, it can operate effectively in urban, forested, and industrial environments, as well as in difficult, rugged terrain, supporting operations where human presence poses an increased risk. The platform supports both radio and fiber-optic communication, ensuring reliable control and secure data transmission in environments with heavy interference or the risk of signal interception.



HEXA 300

Terra Robotics ► p. 496

The HEXA 300 is a heavy-duty, multi-purpose unmanned ground vehicle (UGV) platform designed to operate in rough terrain and high-risk environments.

Thanks to its tracked drive and a payload capacity of up to 300 kg, it can serve as a ground drone for transporting materials, a base for a telecommunications mast, a mobile communications or electronic warfare station, for cargo evacuation, or for logistical support in areas where the use of manned vehicles is difficult or dangerous.

The use of fiber-optic communication enables stable control and data transmission even in environments with strong electromagnetic interference or in the complete absence of radio communication.

The platform's multi-tasking capabilities, reliability, and simplicity of design make it unrivaled in its class.



HEXA Fire

Terra Robotics ► p. 496

The HEXA Fire is unmanned firefighting robots are specialized ground vehicles (UGVs) designed to extinguish fires in locations that pose a threat to human life, such as areas with high temperatures, heavy smoke, or risks of explosions or toxic fumes.

Main tasks:

1. Extinguishing fires in fuel depots, chemical plants, tunnels, industrial facilities, and on the battlefield
2. Assisting fire departments during disasters and building fires.
3. Reconnaissance (thermal imaging camera, gas, toxin, and radiation detectors).
4. Transporting equipment, hoses, firefighting supplies, or injured persons.

The robot was designed to operate in the most extreme conditions: on uneven terrain, in extremely high temperatures, in cold conditions, and in high humidity.

Offering flexible firefighting solutions, the robot uses water, emulsion, and foam, dynamically adjusting their flow rate from 1,200 to 4,800 l/min. This adaptive system conserves water while effectively fighting fires—from small incidents in residential buildings to large-scale industrial fires.

LMS WARBLEFLY

Wojskowy Instytut Techniczny Uzbrojenia (Military Institute of Armament Technology) ► p. 509

Airframe loitering ammunition system for precision target strike. The system consists of a transport tray – a UAV launcher, an aerial platform with a warhead, a ground C2 station and a tracking antenna. The system is characterized by ease of operation, short time to prepare the platform for launch, and the ability to operate the system by one soldier. The system is equipped with GX-4 warheads specially designed for this purpose by WITU /mass of about 1.6 kg/. The GX-4 warheads family consists of: t GO-4 HE /high explosive/ warhead – used to strike personnel, unarmored vehicles and machine gun nests. The lethal radius – 30 m GK-4 HEAT shaped charge warhead – a warhead used to destroy medium and lightly armored vehicles and MBT. Armor penetration capability – min. 350 mm RHA t GTB-4 FAE thermobaric warhead – a warhead used to destroy unarmored vehicles, anti-personnel (including hidden) and bunkers and shelters. Range of effective striking – 20 m GO-1 HE-TR training warhead – a non-explosive training warhead used for operator training.

Technical data:

- Dimensions of the shipping container [mm] 200×200×1350
- Aircraft length [mm] 1075
- Aircraft span [mm] 1660
- Aircraft mass with launch tray – launcher [kg] <12
- Aircraft mass in flight with warhead [kg] 5.8
- Flight duration [min] 30
- Flight range (limited by data link) [km] >10
- Flight altitude during patrolling and search targets above ground level [m] 120÷200
- Maximum altitude (above sea level) [m] 2000
- Flight time to a target 10 km away [min] 8
- Patrolling time in the area of the potential target [min] 20
- Velocity during patrolling [km/h] 80÷105
- Velocity during attack [km/h] 150

Benefit for the soldier

The LMS WARBLEFLY system delivers immediate tactical advantage to the soldier by combining mobility, precision, and firepower in a single, easy-to-use solution. As a tube-launched munition, the airframe is deployed from a compact transport and launch tube, enabling rapid use in the field without complex preparation. The system can be carried and operated by a single soldier, significantly reducing physical burden while increasing unit flexibility.



Low-noise propeller design

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot ► p. 486

Łukasiewicz – Institute of Aviation provides advanced solutions for the design and optimization of low-noise, high-performance propellers, including those for small UAVs.

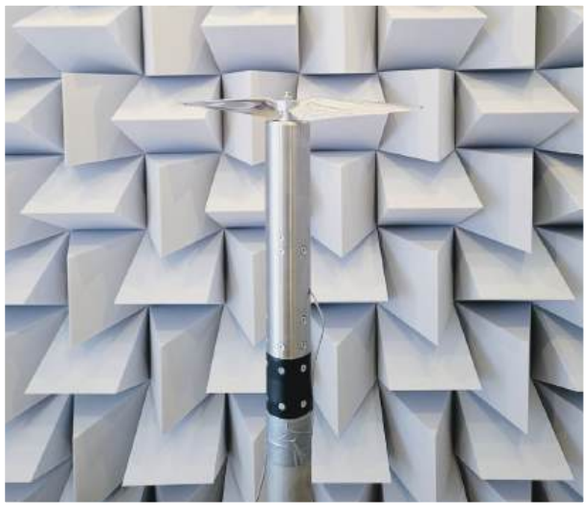
The process combines modern parametric design approaches, machine learning, and high-performance computing to deliver efficient, tailored solutions.

Multi-objective optimization enables designs to meet specific targets such as thrust, power consumption, and noise emissions.

High-fidelity CFD supports precise analysis of innovative features like winglets, while data-driven methods explore aerodynamic and acoustic trade-offs and design sensitivities.

Noise reduction is addressed for both tonal and broadband components, with final performance validated through experimental testing in an anechoic chamber.





Benefit for the soldier:

- reduces UAV acoustic signature, making reconnaissance drones harder to detect by enemy forces (e.g., they can operate at lower altitudes while remaining undetected);
- extends mission endurance and range through higher propeller efficiency and lower power consumption;
- improves effectiveness in urban and contested environments by lowering UAV noise levels.

MADDOS
Multi-sensor Automatic Dron Detection & Observation System

AP-FLYER ► p. 438

MADDOS is a comprehensive, multi-sensor C-UAS designed for medium-range operations up to 15km. With a multi-layered sensor fusion approach and precision countermeasures, it ensures rapid and unmatched threat detection, identification, and neutralization capabilities. Whether securing military bases, government facilities, or commercial assets, MADDOS is the most reliable solution to choose.

Features of the MADDOS system:

- Effective range up to 15km
- Multi-layered solution
- Combat-proven system
- Effective against NATO class I & II UAVs
- 360^0 x 90^0 protection coverage
- Highly reliable in all weather conditions
- Detection of all UAV types
- Location of drone swarms and operators
- Scalable for large areas and borders
- Operational On the Move

Software

- Data fusion and correlation
- Compliant with MIL-STD 2525 common NATO symbology
- Sensor management from single place
- Unified air picture
- Automatic operation with AI support

System configurations:

- stationary
- man-portable
- mobile mounted on vehicles

Detection systems:

- Passive RF sensor – detection of the radio communication signal between the drone and the operator.
- Radar – 3D detection of flying objects with automatic classification and distinction of UAVs from other flying targets.
- EOIR camera – dual-sensor optoelectronic system on P&T platform for target confirmation and visual tracking.

Neutralization systems:

- Multi-band jammers – interference with the drone's communication and navigation signal
- GNSS Spoofing – manipulation of the drone's GNSS receiver forcing it into uncontrollable movement
- Assassin drone – autonomous interceptor drone kinetically engaging enemy drones
- MADDOS RCWS – integrated hard-kill solution based on 23 mm or 30 mm Remote Control Weapon Station







Benefit for the soldier

MADDOS system enhances soldier survivability and situational awareness thanks to long-range detection of aerial threats, extending available decision-making time and reduces operator work-load due to automated operation. As a result, it improves reconnaissance effectiveness and tactical decision-making.

MADDOS VTOL
Vertical take-off and landing UAV

AP-FLYER ► p. 438

Designed and built to deliver unparalleled performance along with onboard cutting-edge technology. Combining real-time intelligence gathering capabilities with robust construction, it's an ultimate tool for strategic advantage in challenging environments.

- VTOL – vertical take-off and landing
- High endurance – up to 10h of flight
- Suitable for every mission scenario
- Modular design – fast field assembly
- Multi-payload capable
- Fully automatic operation
- Day and night operative
- Long range data link – up to 150km
- Operational in EW environment
- MIL-STD and DO certified avionics

VTOL 350e

VTOL 350e is a fully electric unmanned aircraft system in VTOL configuration, designed for rapid, short range ISR missions. Its endurance of up to 3h and silent operation makes it a perfect tool for law enforcement and military users.

- Propulsion: Electric
- Wingspan: 3.5m
- MTOW: 22.5kg
- Payload: 2kg
- Flight time – up to 3h
- Cruise speed: 72 km/h
- Ready to fly in 15 min
- Silent operation
- Communication range – over 40km





VTOL 600h

VTOL 600h is a long-endurance, long-range unmanned aircraft system in VTOL configuration, designed for demanding operations. Its endurance of up to 10h with a line-of-sight range of 150 km makes it a competent unmanned platform that meets various mission needs.

- Propulsion: Hybrid
- Wingspan: 6m
- MTOW: 110kg
- Payload: 20kg
- Flight time – up to 10h
- Cruise speed: 115 km/h
- Ready to fly in less than 60min
- Dual payload capable
- Communication range – up to 150km
- Payload options – EOIR cameras, SAR radar, NADIR cameras, integration of users payload
- Redundant flight controller meeting Aviation and MIL-STD standards
- Anti-jamming capabilities – operational under EW conditions





Benefit for the soldier
MADDOS VTOL enhances soldier situational awareness, while enabling reconnaissance, surveillance, and real-time target designation reducing soldiers risk by minimizing the need to enter high-threat areas.

Mobile Platform for Surveillance and Counter-Drone Systems

ALIVE Sp. z o.o. ► p. 437

Advanced mobile anti-drone solution designed for light vehicles with self-contained power systems. Compact units operate independently of external sources, supporting extended deployments in diverse environments. Equipped with cutting-edge detection and neutralization technologies, the system quickly identifies, tracks, and counters unauthorized drones, safeguarding critical assets and ensuring airspace security.

A comprehensive sensor suite — including radar, RF detection, and electro-optical/infrared cameras — delivers round-the-clock situational awareness, while user-friendly interfaces reduce training time. The platform withstands harsh conditions, guaranteeing reliable performance in demanding scenarios.

Key Features

- Vehicle-mounted, self-contained power system — independent of external infrastructure
- Multi-sensor suite: radar, RF detection, EO/IR cameras
- Automated UAV detection, tracking, and neutralization
- Lightweight design for rapid deployment and high mobility in challenging terrain
- User-friendly operator interface — minimal training required
- Suitable for law enforcement, military, and private security applications



Benefit for the soldier

Vehicle-mounted on a light platform, the system ensures full freedom of manoeuvre in forward operating areas and complex terrain. Modular architecture enables rapid reconfiguration between reconnaissance, protection, and neutralization roles — without changing the base vehicle. A single system replaces multiple specialized assets.



OGAR 3 – Micro Class Unmanned Reconnaissance System

BELLARE P.S.A. ► p. 442

OGAR-3 sets a new benchmark in micro-class unmanned reconnaissance – delivering advanced sensing, low observability and field-ready performance in a compact platform. Built for modern battlefield awareness, where precision, discretion and resilience define operational advantage. It meets strict standards including ISO 9001:2015, CE, IEC 60529. Tested in real operations with Polish Special Forces, provides clear, actionable intelligence in challenging environments.

Weighing under 1,7 kg, with a full operational set below 5 kg, OGAR-3 is designed for rapid deployment and mobility. Its compact form lets a single operator carry, launch and recover the system – on land or water – while silent operation supports covert missions.

The stabilized EO/IR payload combines dual 48 MP RGB sensors (wide and telezoom), a 640p thermal imager and a Class 1 laser rangefinder – enabling real-time detection, identification, tracking, and precise geolocation – day and night. With an operational range up to 8 km and strong resistance to GNSS spoofing and jamming, it delivers secure and uninterrupted performance even in adverse conditions.

Seamlessly integrated into command-and-control structures, OGAR-3 transmits geotagged intelligence directly to field units. From border surveillance and convoy escort to forward reconnaissance and crisis response, it is a force multiplier where it matters most.





Benefit for the soldier

OGAR-3 gives soldiers instant aerial awareness in seconds. Backpack portable and rapid to deploy, it delivers live day, thermal and laser rangefinder data directly to the operator. Designed and manufactured in Poland, with top-level cyber and technology security, it helps units move faster, safer, and with better decisions.

OWLFPV-R / OWLFPV-F Tactical FPV Drone

JPBC Sp. z o.o. sp. kom. (Grupa Pietrucha) ► p. 467

OWLFPV is a modular, high-performance FPV drone designed for precision operations in demanding environments. Built on a lightweight composite frame, flight controller, radio and video transmission of Polish production, it combines high payload capacity (up to 3.5 kg) with extended endurance up to 50 minutes without payload.

Engineered for operational flexibility, the platform supports both radio and fiber optic communication, ensuring mission continuity even in contested or signal-denied environments. It can be equipped with thermal imaging or dual-camera systems, enabling real-time reconnaissance and target observation in all conditions.

Video transmission provides near-zero latency, allowing precise control and effective maneuvering against dynamic targets. Its scalable architecture enables rapid configuration for a wide range of missions, from surveillance to tactical deployment.



OWLFPV represents a new generation of dual-use unmanned systems, combining reliability, adaptability, and operational efficiency for civil and defence applications. The platform supports modular payload systems and can be delivered as a standalone unit or in a portable backpack kit.

Integration with a Ground Control Station and antenna extension system enhances range and communication stability. High payload capacity, extended endurance, dual communication, and low-latency video ensure precise control and mission flexibility in dynamic environments.



Benefit for the soldier

Enhances lethality and situational awareness with real-time ISR and precision strike capability. Low-latency video and dual communication ensure control in contested environments, while modular payloads increase mission flexibility. Lightweight design and portable kit reduce soldier load and enable rapid deployment.





PIAP FENIX
Lightweight EOD & reconnaissance robot

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP ► p. 488



PIAP FENIX® is a light, backpack-deployed EOD & reconnaissance robot. It has been created to conduct reconnaissance in the immediate vicinity of military operations, including places inaccessible to humans. Excellent field properties of PIAP FENIX® robot (track-wheels chassis with moveable front flippers) ensure easy movement on hardened road surface, dirt roads, pathless tracts and in urban areas.

The robot's gripper can be equipped with a cable cuter, window shredder, 40mm or less-sized water disruptor, shotgun, X-RAY system, etc for required situation when operating.

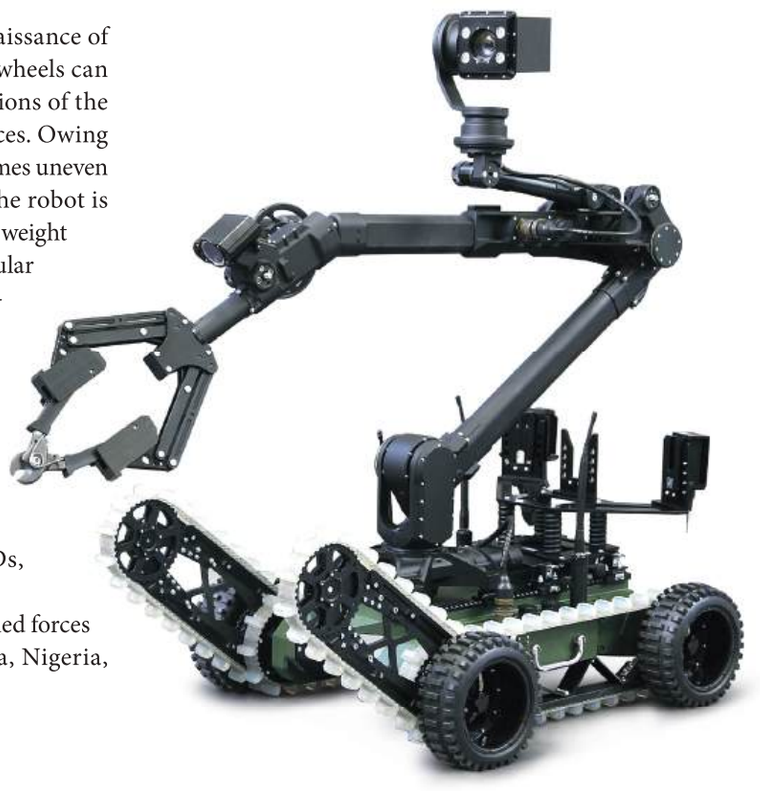
PIAP GRYF
EOD mobile robot

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP ► p. 488

PIAP GRYF® is mobile robot used for reconnaissance of terrain and hard to reach places. The Robot's wheels can easily be removed, which reduces the dimensions of the robot and thus facilitates missions in tight spaces. Owing to the applied drives, the robot smoothly overcomes uneven terrain and obstacles up to an angle of 45°. The robot is characterized by excellent maneuverability. Low weight makes it easy to transport and carry and its modular design allows for quick and easy change of additional equipment.

The robot is controlled via a modern, light control panel that, thanks to a brand-new design, allows for intuitive joystick operation in all degrees of freedom of the manipulator's arm. The large touchscreen makes it possible to inspect suspicious cargo, luggage, or IEDs, at a safe distance.

The Robot is already being operated by armed forces around the world, in South Korea, Indonesia, Nigeria, Senegal, Romania, Italy, France and Finland.



PIAP HUNTeR

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP ► p. 488

PIAP HUNTeR is a Polish unmanned land vehicle. The robot can serve to observe and patrol borders, military, or urban areas, as well as for fire support of light infantry or protection of a column of troops mechanized.

PIAP HUNTeR is equipped with daytime cameras and thermal imaging as well as a radio communication system. PIAP HUNTeR weighs over 4 tons, is 470 cm long and 220 cm high width, wheelbase 220 cm. The vehicle has a hybrid drive, which includes a power generator and electric traction motors. The power supply system used allows the robot to operate for a long-time noiseless movement in electric-only mode. PIAP HUNTeR reaches a maximum speed of up to 50 km/h. Equipped platform was equipped with six high-resolution cameras. Additionally for control and detection the enemy may be supported by the vision systems used in the unmanned aerial vehicle AREX ZMU-03 turret. Meter diameter wheels combined with a 4x4 drive system give robotic platform with high off-road capability.



PIAP IBIS
Heavy robot for pyrotechnic operations

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP ► p. 488

PIAP IBIS® is a robot designed for pyrotechnic operations and reconnaissance. Upon installation of additional devices, it can be used, among others, for disposal of dangerous objects, chemical detection, and rescue operations.

The six-wheeled chassis with independent drive of each wheel allows to operate in challenging and varied terrain. PIAP IBIS® is a fast robot (10 km/h). Special design of mobile base suspension ensures optimum wheel contact with the ground. The manipulator with extendable arm ensures a large reach (over three meters) and a high range of motion in each plane. It is the main pyrotechnic robot at the largest airports in Poland and in the service of the border guard, police and military police.



PIAP IBIS TRANSPORT

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP ► p. 488



PIAP IBIS Transport in the transport and medical evacuation version. It is a 6-wheeled mobile platform with all wheels driven and adaptive suspension ensuring optimal contact of the wheels with the ground and, consequently, high mobility. Instead of the standard robotics manipulator, a basket with a stretcher attachment was installed. MOLLE system panels are mounted on the sides of the basket, enabling the installation of various equipment (e.g. medical backpack). There are foldable shelves on both sides of the robot to expand the loading area. The maximum speed of the robot is 10 km/h, its own weight is 250 kg and the maximum load capacity is 200 kg (depending on the type of terrain and mission). The device has been adapted to transport all types of equipment and supplies, including light infantry load, such as backpacks, ammunition or hand-held single-shot anti-tank launchers, or to transport the wounded using a quickly, easily and stably mounted TALON II 90C stretcher.

The PIAP IBIS robot can be controlled from the PIAP HUNTeR robot control panel and can serve as observation support thanks to the installed PTZ head with a day-night camera with zoom and a thermal imaging camera. Radio control of a smaller robot in a network with a PIAP HUNTeR combat robot allows for mutual transmission of a radio signal, extending the operational range of one or the other unmanned platform. Both vehicles are equipped with a GNSS-based positioning system, which makes it possible to display the position, geographical coordinates and direction of robot movement (heading) on the map of the control panel, on which the route can also be marked.



PIAP PATROL
Robot for C-IED and CBRN tasks

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP ► p. 488



PIAP PATROL® is a medium EOD tracked robot used for detection and neutralization, which can support operators in the most dangerous tasks. The robot design ensures the use of several accessories at the same time. The lightweight robot control panel is integrated with mobile x-ray systems and CBRN sensors. Robot's dimensions and applied drive system allow to carry out activities both inside buildings and in difficult terrain and its compact and modular design allows it to be transported even in a passenger car.

Manipulator with 6 degrees of freedom and a gripping function enables to lift and dispose loads up to 30 kg with maximum reach of 2 m.

Proprietary UAV Avionics & Subsystems

ViaDrone SWARM Sp. z o.o. ► p. 500

ViaDrone offers a comprehensive portfolio of advanced UAV avionics and subsystems, designed and manufactured entirely in Poland. Our field-proven electronics are engineered for maximum reliability in tactical applications, providing defence integrators with a secure, sovereign supply chain.

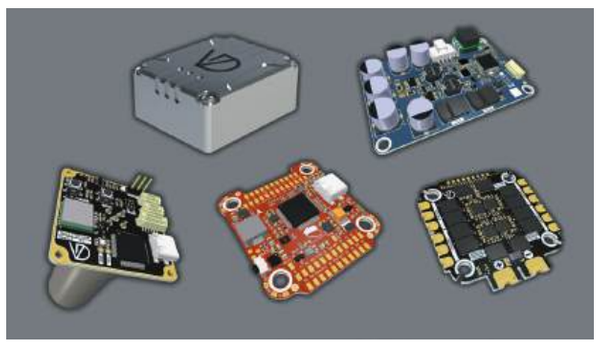
Our ready-to-sell components include:

- VIAH7CBV1-PL: A high-end Pixhawk Autopilot Bus (PAB) compatible flight controller with triple IMU redundancy, heated/isolated sensors, and aluminum casing for critical missions.
- VIAF405V3-PL: A versatile flight controller optimized for FPV systems, featuring an integrated analog switch for dual-camera setups and up to 35V input.
- VIAESC55A6S-PL: A rugged 55A 4-in-1 AM32 ESC supporting up to 6S power, featuring a dedicated shutdown pin to minimize power draw during standby below 10mW allowing deep sleep use cases.

ViaDrone also manufactures highly reliable DroneCAN peripherals. The Airspeed & Compass CAN Node integrates an RM3100 magnetometer and DLVR pressure sensor for precise navigation. Furthermore, our Heated Pitot CAN Node ensures continuous operation in adverse weather by intelligently managing heater power, minimizing electromagnetic interference (EMI).

This ecosystem is further reinforced by our GNSS modules, which feature multi-constellation tracking and anti-jamming capabilities for precise, secure positioning in contested environments.

Designed for resilience, ViaDrone avionics guarantee exceptional stability for demanding military missions.



RAFI – Light Modular Recon Drone

BELLARE P.S.A.► p. 442

RAFI represents a new approach to light, modular reconnaissance drones. It is designed to support special operations in complex environments. Optimized for tight indoor spaces and dense urban structures allows operators to see beyond obstacles before entry - checking corners, staircases and confined rooms while keeping the team at a safe distance.

By providing real-time situational awareness, RAFI helps teams detect threats, choose safer routes and prepare for breaching operations with greater confidence. It can also assist with post-action inspection and overwatch, extending the operator's reach where direct observation is risky. Reliable in low-visibility conditions and degraded communications, it is equally valuable for basic and advanced training or emergency services.

Ready for missions in complete darkness RAFI's modular, collision-resistant design allows safe maneuvering through narrow passages and confined interiors. Stable radio communication ensures smooth control, while integrated cameras and optical sensors support effective reconnaissance even in total darkness.

Key parameters (depending on configuration):

- Weight with battery: ~580 g
- Flight time: ~15 min
- Additional payload: ~220 g

Optional features: GNSS positioning, Turtle Mode, SDK integration, and mounting options for cameras, lighting, gas sensor or pyrotechnic modules.

Benefit for the soldier

RAFI goes in before you enter danger and stays your trusted partner in training. Built for rooms, corridors, urban corners, and confined spaces, it delivers instant live awareness in high-risk areas. Safe, lightweight, and easy to deploy, RAFI builds operator skill, confidence, and mission readiness.





ReconPATROL™

Tech Robotics Sp. z o.o. ► p. 495
Niewiadów Polska Grupa Militarna S.A. ► p. 515

The ReconPATROL™ family of universal remotely operated UGV platforms is a versatile system designed for a wide range of military, law enforcement, and special operations applications.

Individual platforms can perform the following roles:

- weapon carriers – for small arms and rocket systems;
- logistics transporters – for ammunition, equipment, and supplies;
- engineering platforms – for demining, breaching, and transporting explosive charges;
- combat systems – including remotely controlled ground and directional mines;
- evacuation vehicles – for casualty extraction from the battlefield;
- reconnaissance platforms – for surveillance and electronic warfare operations;
- UAV support bases – enabling drone launch and landing operations;
- inspection vehicles – for infrastructure, tunnel, and building reconnaissance;
- training platforms – for live-fire exercises, target transport, and simulation systems.

DIMENSIONS AND WEIGHT

- Overall length: 100 cm
- Width: 75 cm
- Overall height: 90 cm
- Weight (with transport basket): 60 kg (with 10” wheels), approx. 61 kg (with 14.5” wheels)
- Ground clearance: 10 cm (with 10” wheels), 16 cm (with 14.5” wheels)

PERFORMANCE

- Drive: 6 × 6
- Maximum drive power: 1800 W
- Maximum speed (on paved surface): 25 km/h
- Maximum load: 100 kg
- Recommended load: 75 kg
- Minimum turning radius: 0°
- Operating temperature range: -15°C to +40°C
- Water resistance: IP54

POWER SUPPLY

- Battery type: Lithium-ion (Li-Ion)
- Battery capacity: 20 Ah
- Operating time:

– light terrain (grass, compacted soil): up to 8 hours
– heavy terrain (sand, gravel, inclines): up to 2 hours

- Charging time (from fully discharged): approx. 9 hours

CONTROL

Radio controller in ISM band
Control range (open area): up to 2000 m









ReconSKY

Tech Robotics Sp. z o.o. ► p. 495



The ReconSKY UAV is a fully autonomous unmanned aerial system (UAS) in a flying-wing configuration. It is a modern Polish solution designed for a wide range of missions.

The ReconSKY system can be used for terrain observation, signal relay, border patrol, and critical infrastructure monitoring. Thanks to its modular design, it is easy to assemble and disassemble, allowing for quick mission readiness. Operations can be conducted autonomously, and the system can be integrated with other solutions.



Technical Specification

- Wingspan: 163 cm
- Flight time: 120 min +
- Communication system: ISM bands
- Cruising speed: 54 km/h
- Maximum speed: 140 km/h
- Flight altitude: 3,500 m Launch type: Assisted launch using a rubber-powered catapult
- Landing type: Automatic, at a designated point
- Maximum takeoff weight: 3 kg
- Communication and control range: 30 km (with line-of-sight to antennas)
- Structure: Composite
- Propulsion: Low-noise, brushless, electric motor
- Power supply: Lithium-ion battery
- Maximum wind resistance: 12 m/s
- Operating temperature: -15°C to 40°C
- Humidity resistance: Resistant to light rain
- Transport dimensions: 170 x 30 x 60 cm



SMILE – Real-time linear infrastructure monitoring system

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot ► p. 486



SMILE is an integrated system for the automated monitoring of linear infrastructure, such as power lines, pipelines, roads and railways. It utilizes data from unmanned aerial vehicles and AI-based image analysis algorithms, enabling the rapid detection of damage, anomalies and hazards.

The system automates data acquisition and processing, reducing response times and minimizing the need for on-site inspections. It supports various types of sensors (RGB, thermal imaging, multispectral), enabling the identification of issues such as corrosion, deformation, vegetation encroachment and third-party interference.

Its modular architecture facilitates integration with existing infrastructure management systems. SMILE supports network operators, transport infrastructure managers and security services, increasing the effectiveness of surveillance and enabling the early detection of threats to critical infrastructure.

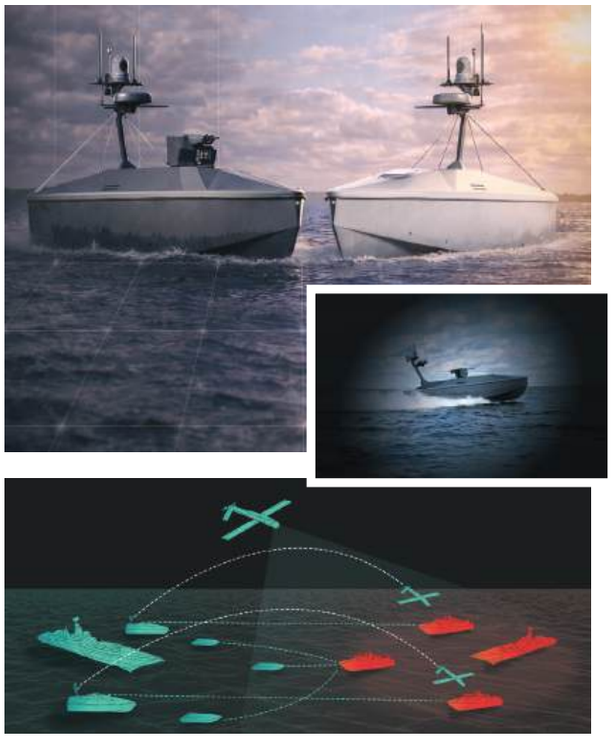
The product was designed and developed as a purely civilian solution, which means that its potential adaptation for military use is not a foregone conclusion.

Potential benefits for the soldiers may include:

- rapid detection of threats along supply routes and around bases;
- reduced response times through the automatic analysis of data from UAVs;
- enhanced protection of troops and critical infrastructure, thereby improving operational continuity in high-risk areas.

STORMRIDER – Unmanned Surface Reconnaissance-Strike Unit

WB Group ► p. 502



The STORMRIDER is a next-generation Unmanned Surface Vehicle (USV) designed to support and enhance naval operations in reconnaissance, force protection, and the security of roadsteads, ports, anchorages, and other maritime areas.

Equipped with an integrated suite of advanced sensors—including radar, sonar, echo sounder, and electro-optical payloads—STORMRIDER delivers superior situational awareness and mission flexibility. It can be fitted with a variety of effectors, such as:

- Remote Weapon Modules (ZMU-05N)
- Launchers for reconnaissance and strike systems from the WARMATE TL family

This versatile unmanned surface platform is also ideally suited for the protection of critical maritime infrastructure and rapid response missions in challenging environments. This unmanned surface platform is also suitable for the protection of critical maritime infrastructure.

TACTIC

Unmanned Systems Poland Sp. z o.o. ► p. 499



The TACTIC Indoor AI Drone is a cost-effective, Task – Specific, AI-powered solution designed for tactical, inspection, and research missions in GPS-denied environments.

TACTIC is an advanced surveillance tool designed for indoor use, intended for variety of users from industry and infrastructure management, search teams and first responders to special forces and police. Thanks to autonomous navigation, it easily navigates in tight and complex spaces, even in areas without a GPS signal.

It is powered by U-CORE Technology, a flexible and scalable architecture that tightly integrates hardware and software.

Hardware highlights include:

- Enterprise-grade, task-specific airframes
- Modular GO-TO I/O board for sensors and third-party payloads
- Secure, long-range radio system
- Integrated AI processing chip for real-time onboard computation

Software highlights include:

- Open-source framework with preloaded AI models
- Mission-specific applications for rapid customization
- Reduced need for extensive R&D investment



Specifications

Drone Dimensions:	240 x 200 x 50 (mm)
Drone Weight:	290 g
Maximum Flight Time:	10 min
Transmission Resolution:	1080p
Digital Zoom:	6X







Benefit for the soldier

TACTIC provides crucial support in indoor combat. Thanks to AI and GPS-free navigation, the drone autonomously recon tight spaces taking the risk away from the soldier. HD imagery with enhanced illumination allows for the safe detection of hidden threats, dramatically increasing the chances of mission success by providing short range, risk free, recon possibilities.

Tethered Drone

VIMANA Sp. z o.o. ► p. 501

The tethered drone is designed for long-duration, uninterrupted area surveillance and monitoring without the need to land or replace batteries. As a result, it provides a continuous real-time situational picture, which directly enhances situational awareness and significantly reduces response time to threats.





Key operational applications

- continuous monitoring of critical infrastructure, bases, convoys, and operational areas
- surveillance of borders, buffer zones, and hard-to-reach terrain
- intelligence, surveillance, and reconnaissance (ISR) support for tactical operations and command
- real-time situational monitoring for security services and operational units

Key user benefits

- uninterrupted operation – constant power supply via tether eliminates downtime related to battery charging and replacement
- Higher combat readiness – the system remains continuously airborne, ready for immediate deployment
- Reduced operational costs – no charging cycles and fewer logistical operations required
- Faster threat response – immediate detection and data transmission to the operator
- Weight to capacity ratio – The unique design allows a 15 kg unit to lift up to 40 kg of load, which is an outstanding result in this class of equipment.



Benefit for the soldier

The tethered drone enables long-duration, continuous surveillance without landing or battery replacement, delivering a real-time operational picture that enhances situational awareness and shortens response times.

Key applications include monitoring critical infrastructure, bases, convoys, borders, and hard-to-reach areas, as well as ISR support and real-time operational awareness for security forces.

Key benefits: continuous operation via tether power, higher readiness, reduced operational costs, and faster threat detection and response, Weight to capacity ratio: The unique design allows a 15 kg unit to lift up to 40 kg of load, which is an outstanding result in this class of equipment.

Most important achievements

Mass of the unit	up to 15 kg
Max load-bearing capacity	up to 40 kg
Rapid deployment winder	up to 15 m/s
Fligihy range	up to 25 km
Drive, engines	6 independent modules consisting of engine BLDC and propeller diameter up to 32 inch.
Power	Power 1 kV, power consumed aroud 6 kW
Head	Optoelectronic

Thermoplastic enclosures for electromagnetic interference shielding

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILot ► p. 486



The Łukasiewicz Institute of Aviation has developed an innovative technology for using thermoformed carbon-fiber-reinforced composite materials to manufacture lightweight electromagnetic interference (EMI) shielding enclosures. The enclosures are produced using a hydraulic press in fast and efficient processes.

Thermoplastic enclosures provide effective shielding against electromagnetic interference in the 400–3200 MHz frequency range. Thanks to their lower weight, they offer a weight-optimized alternative to aluminum enclosures. They feature high resistance to chemicals and corrosion, and their design allows for a variety of mounting methods, such as welding, screw mounting, or bonding.

Benefit for the soldiers:

- increases reliability of military UxS and electronic systems by protecting them from jamming and hostile EW activity;
- reduces platform weight, improving mobility, endurance and payload options;
- enhances survivability by ensuring stable operation of mission-critical electronics.

U-Core Swarm Operating System

Unmanned Systems Poland Sp. z o.o. ► p. 499

U-Core Swarm OS is a UAV Swarm Management System that enables multiple drones to autonomously execute missions under the supervision of a single operator. It eliminates the need for individual drone control, reducing personnel and operational complexity.

The system consists of an operator station, a master (swarm control) drone, and executive drones. The operator sends commands to the master drone, which uses AI to translate them into coordinated tasks. The system integrates with platforms such as BMS JASMINE, Delta, and ATAK, and complies with NATO data exchange standards.

Features and Swarm Capabilities

- Autonomous swarm coordination and mission execution
- AI-driven task allocation and adaptive mission planning
- Autonomous navigation and real-time decision-making
- Self-organization, scalability, and fault tolerance
- Cooperative behavior and distributed intelligence
- AI-assisted target tracking and damage assessment
- Automatic drone launch from containers
- Flexible operational area definition
- Multi-mission capability
- Real-time mission data transmission
- Situational awareness management
- Communication relay and secure swarm connectivity
- Compatible with battlefield and crisis management systems



Applications:

- Target neutralization
- Reconnaissance and mapping
- Search and rescue
- Electronic warfare and jamming
- Communication network deployment
- Crisis management and tactical support

Benefit for the soldier

U-Core Swarm OS allows a single soldier to command an entire group of drones, instead of focusing on controlling a single UAV. Through AI and task automation, the system drastically reduces cognitive load and increases firepower and reconnaissance range. This ensures maximum effectiveness with minimal risk and fewer personnel on the front lines.

UAV detection, identification and localisation system – RAVEN

Revobeam Sp. z o.o. ► p. 483

The UAV detection system operates passively in the 800 MHz–6 GHz (extended range options available) frequency band and is designed for the detection, identification, and localisation of unmanned aerial vehicles (UAVs) by analysing the radio frequency emissions generated by the drone and its operator.

Real-Time Drone Localisation

The system enables real-time positioning of UAVs and their remote controls within the coverage area of two or more detection devices. It provides accurate object position estimation, allowing for effective and precise security measures. The system can also classify UAVs by distinguishing analysed RF signals, with the capability to examine higher communication layers if needed. It can operate as a standalone solution or be integrated with other sensors via a dedicated API.

Frequency Range 800 MHz–6 GHz

The 800 MHz–6 GHz frequency range covers the main communication bands commonly used by Class 1 and Class 2 UAVs, including commercial and semi-professional drones. The system employs a wideband Software Defined Radio (SDR) receiver, which allows simultaneous multichannel monitoring and real-time spectrum analysis for signal detection and classification. The frequency range can be optionally extended.

Operating Principles

The system continuously monitors the 800 MHz–6 GHz spectrum to detect potential UAV RF activity. It analysies the modulation and frame structure of detected signals to determine signal type and protocol. Detected signals are then correlated with a signature database to identify known UAV profiles. Finally, the system geolocates the source of emissions, either the UAV, the operator or in some cases, both of them.

System Operation and Features

Multinode triangulation enables precise geolocation of RF emission sources, with accuracy depending on the sensor network geometry. Automatic threat detection allows immediate signal classification and bearing indication upon UAV takeoff. Processed data is continuously transmitted to the command post, providing operational awareness in real time.

Command & Control (C2) Features

The system includes a real-time map display of detected UAVs and emission sources, monitoring of received signal strength (RSSI), geofencing alerts for zone-based threat notifications, and automatic event logging and archiving for all system activities.

System Advantages

The UAV detection system is fully passive, making it undetectable by adversaries. It allows operator detection and localisation, functions effectively in low-visibility conditions such as night or adverse weather, and provides a cost-efficient alternative to radar-based solutions.

Typical Applications

The system is suitable for the protection of critical infrastructure and strategic facilities, security of industrial and operational sites, safeguarding personnel units and mobile components in the field, mass event protection, and integration with C-UAS systems as an early detection layer.

Integration Capabilities

It can be integrated with active and passive radars, electro-optical and infrared (EO/IR) cameras, acoustic sensors, jamming systems, and kinetic effectors. The system is adaptable to additional C-UAS components, with the RF layer always functioning as the first line of detection in integrated setups.

Available System Options

The system is available with fixed nodes in standard configurations or mobile nodes for field deployment and operational flexibility.



Benefit for the soldier

Passive C-UAS system delivering Force Protection and Tactical Overmatch. It ensures EMCON compliance via LPI operation, providing real-time UAS/GCS geolocation and automated CID. Accelerates the OODA loop and Sensor-to-Shooter links while reducing Cognitive Load. A true Force Multiplier for Dismounted Soldiers.

UGV 6x6 SERVAL Tactical Platform

MISTA Sp. z o.o. ► p. 471



SERVAL 6x6 is a modular unmanned ground platform designed to extend operational reach and reduce risk to personnel in high-threat environments. Built for logistics, combat support and remote operations, it delivers reliable performance across complex terrain. The platform features a configurable architecture supporting 4x4, 6x6 and 8x8 layouts, enabling adaptation to specific mission requirements.

With a payload capacity of up to 1000 kg and towing capability of up to 2500 kg, SERVAL can transport equipment, supplies and mission modules, including weapon systems and evacuation solutions. It reaches speeds of up to 26–28 km/h and offers an operational range of approximately 60 km on a single battery pack. Rapid deployment, with setup time of up to 10 minutes, ensures high operational readiness.

The platform provides high mobility, adjustable ground clearance and strong obstacle-crossing capability, while its modular design allows fast reconfiguration for logistics, reconnaissance, evacuation and combat support missions. Additional armour protection, airless tyres and integration-ready architecture enhance survivability and mission flexibility.



Benefit for the soldier

SERVAL reduces risks to personnel by performing high-risk tasks — such as resupply, casualty evacuation, and reconnaissance — in a remote mode. This increases unit survivability, reduces physical strain on soldiers, and allows them to focus on mission-critical objectives. Enhanced mobility and autonomy ensure sustained operations and maintain operational tempo even in complex and high-threat environments.



Unified Defence Managment System (UDMS)

Unmanned Systems Poland Sp. z o.o. ► p. 499

The Unified Defence Management System is an advanced airspace monitoring and defence coordination platform designed to protect critical areas from aerial threats. The system integrates data from multiple sources, including radar stations and radio-frequency detection systems, to create a real-time operational picture of the airspace.

UDMS continuously collects and processes radar and RF signal data to detect, identify, and track airborne objects within a range > 25km. Based on this analysis, the system generates precise target designation commands for different air defence assets, enabling rapid and coordinated responses to incoming threats.

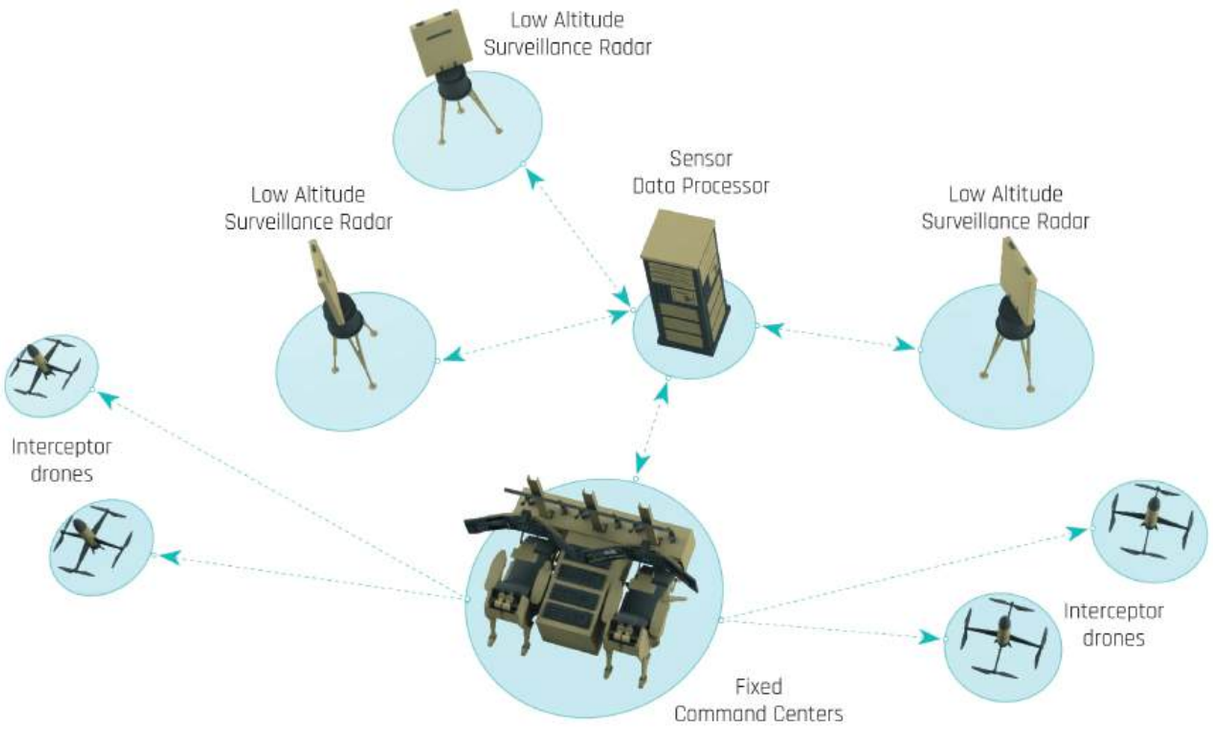
The platform can direct and control a variety of defensive systems, including electronic warfare systems, anti-aircraft missiles, gun and machine gun systems, interceptor or kamikaze UAV, and other air defence units. By combining sensor data and automated analysis, UDMS improves the speed and accuracy of threat detection and engagement.

UDMS calculates and transmit following information:

- target coordinates
- 3D interception point coordinates
- Target entry/exit from the restricted area
- Target location within the restricted area
- Combat control commands
- Telemetry data from countermeasures
- Weather conditions

The system has a built in data simulator capable of constructing target profile with given parameters allowing:

- Testing the ability of interception under given conditions
- Personnel training and combat readiness tests
- Preparing data for further analysis



Benefit for the soldier

UDMS provides soldiers with complete situational awareness, detecting threats from over 25 km away. The system automates calculations and target identification, reducing reaction time and eliminating errors under pressure. Using the precise 3D data and defence algorithms, the operator can more effectively neutralise incoming threats.

UNL
Universal High Mobility Unmanned Vehicle with Reconnaissance and Combat Version GOBLIN

MACRO-SYSTEM Sp. z o.o. ► p. 469

The UNL is an advanced, remotely controlled, unmanned electric vehicle. It fills the gap between large UGVs with dimensions similar to manned vehicles and small explosive ordnance disposal robots (EOD). Its design and functionalities translate into multitasking and a wide range of missions – from reconnaissance and combat operations, through transporting wounded soldiers evacuated from the battlefield or delivering ammunition, to accompanying smaller units in difficult terrain (transporting additional cargo with equipment).

The vehicle's size makes it extremely compact and easy to transport. It can be carried by standard delivery vehicles, as well as helicopters and airplanes, allowing for airdrop and quick movement even to hard-to-reach areas. It also has a high load capacity increased by the ability to tow the trailer.

Its reconnaissance and combat version GOBLIN is equipped with the ZMU-5 remote controlled weapon station, developed by AREX Sp. z o.o. (a WB GROUP company), with a 5.56-12.7 mm caliber machine gun. It can be used to detect and combat infantry and lightly armoured targets over distances of up to 800 m, day and night. The system is operated remotely by two soldiers – the first operator controls the vehicle in order to achieve the best fire position, the second controls the armament module and conducts fire.



UNL technical data:

External dimensions:	2.0 x 1.2 x 1.0 m (length x width x height)
Curb weight:	830 kg
Payload:	500 kg
Battery capacity:	27 kwh
Maximum speed:	30 km/h

Trailer option with a payload of up to 5 tons



Benefit for the soldier

Physical Relief (Transport): Payload up to 500 kg plus trailer for towing move heavy gear and ammo, reducing soldier strain in rough terrain.

Safe Medical Evacuation: Evacuates wounded without exposing more personnel to enemy fire.

Fire Support: GOBLIN detects and engages targets to 800 m while operators stay in cover.

Logistical Versatility: Compact size enables easy ground or air transport for isolated units.

VIA-FPV10-PL Heavy-Lift Long-Range FPV System

ViaDrone SWARM Sp. z o.o. ► p. 500

The VIA-FPV10-PL is a professional 10-inch heavy-lift, long-range First-Person View (FPV) platform engineered for demanding tactical and security operations. Designed around a rugged carbon fiber open frame, it delivers exceptional performance with an operational range of 15-25 km and a top speed of 140 km/h. Powered by a robust 6S Li-Ion power system and high-efficiency 3115 900KV motors, the platform safely carries a recommended payload of 2.5 kg (maximum MTOW up to 6.5 kg) while maintaining high wind resistance of up to 20 m/s.

A key advantage is its advanced dual-camera capability, integrating a starlight daylight camera and a high-resolution thermal imaging module, ensuring operational effectiveness in all lighting and weather conditions. The drone is controlled by ViaDrone's proprietary, Polish-designed VIAF405V3-PL flight controller, guaranteeing secure and stable flight dynamics. Paired with a high-power 2.5W VTX and reliable cross-band communication systems, the VIA-FPV10-PL is an ultimate, export-ready solution for reconnaissance, precise payload delivery, and tactical missions.



VIA-Q1500HL-PL Heavy-Lift Logistics UAV

ViaDrone SWARM Sp. z o.o. ► p. 500



The VIA-Q1500HL-PL is an advanced, heavy-lift unmanned logistics platform designed for the rapid transport of critical payloads in challenging environments. Built with a robust carbon fiber and aluminum folding frame (1500 mm diagonal), it boasts a Maximum Take-Off Weight (MTOW) of 40 kg, efficiently carrying payloads between 10 kg and 20 kg. Depending on the load, it offers an impressive flight time of up to 50 minutes and an operational range of 30 km.

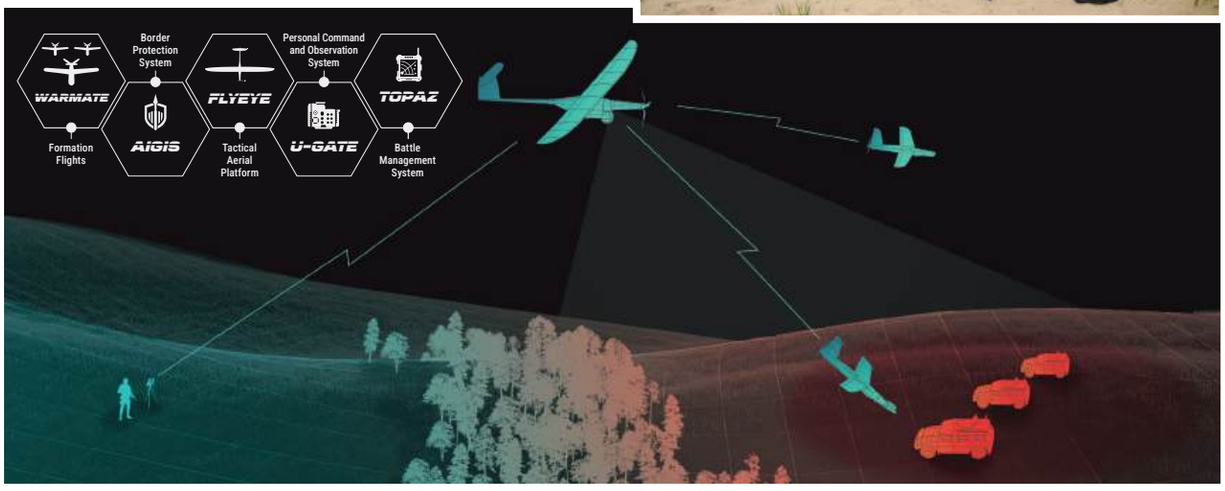
Safety and reliability are paramount. The drone is equipped with the VIAH7CBV1-PL, an advanced autopilot featuring triple sensor redundancy and a highly precise Dual-Antenna GNSS RTK system, providing exceptional resistance to magnetic interference. Multi-channel communication, utilising an 868 MHz radio link coupled with an LTE/4G backup, ensures highly secure Beyond Visual Line of Sight (BVLOS) operations. The powerful propulsion system (TWR ≥ 3:1) guarantees stability even in adverse weather conditions. Featuring a modular payload interface (compatible with 15 kg capacity winches), the VIA-Q1500HL-PL is the premier choice for frontline logistics, rapid battlefield resupply, and heavy-duty tactical transport tasks.

Warmate – Lightweight Loitering Munition System

WB Group ► p. 502

WARMATE is a lightweight, highly effective loitering munition in service with the Polish Armed Forces. Designed for precision strikes against light and medium armored vehicles, fortified positions, and enemy personnel, it features a modular design that allows backpack transport by a single soldier for rapid deployment. Implemented flight modes facilitate operation, offering autonomous attack, target loitering, and waypoint navigation capabilities.



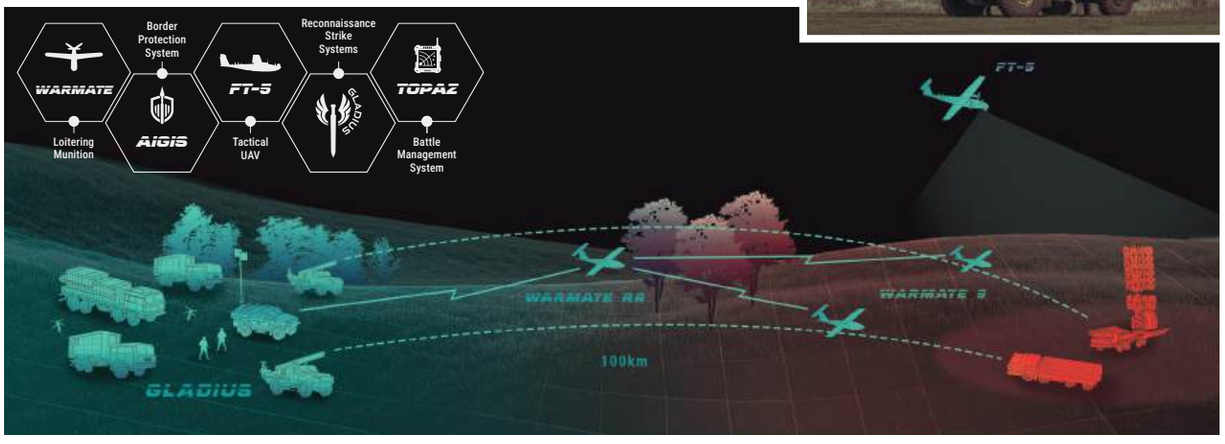


Warmate 5 – Heavy-Class Loitering Munition System

WB Group ► p. 502

WARMATE 5 is designed for long-range precision strikes against high-value targets. Interchangeable warheads including high-explosive fragmentation, shaped charge, and thermobaric variants weighing between 5 and 10 kg allow effective neutralisation of command posts, heavily armored vehicles, fortifications, defensive positions, and enemy personnel. This reconnaissance-strike system, equipped with WARMATE 5 loitering munitions, supports continuous data exchange and real-time information transfer between platforms during combat operations.



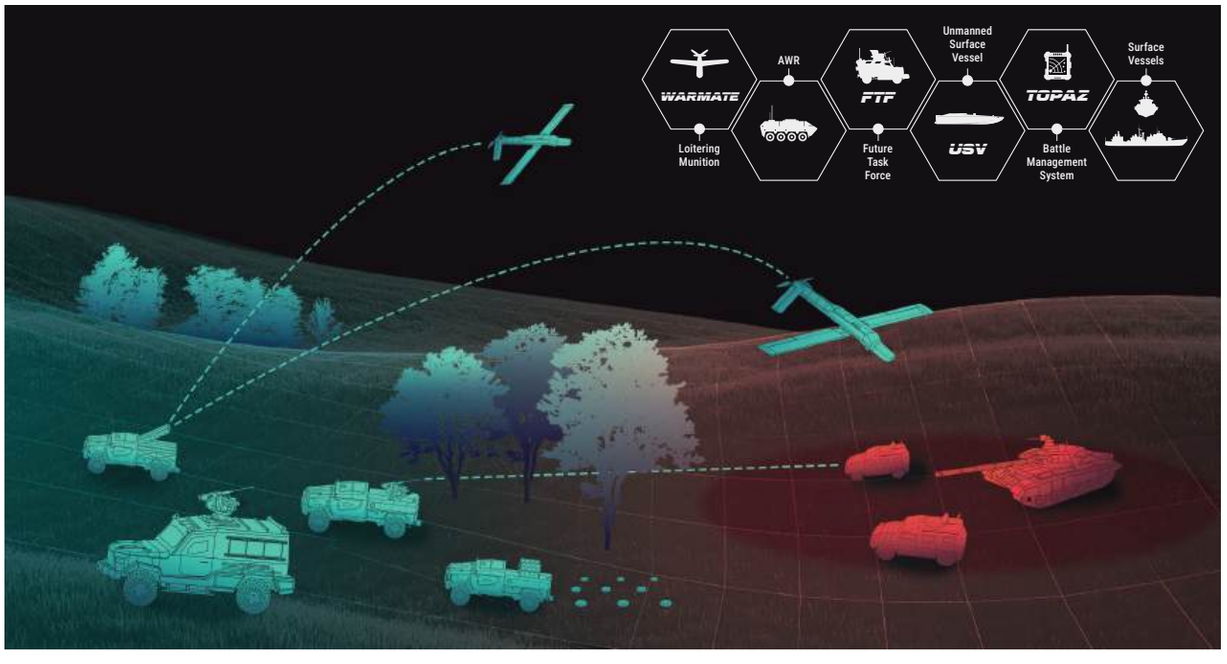


Warmate TL-C
Tube-Launched Loitering Munition – Combat Variant

WB Group ► p. 502

WARMATE TL-C is a loitering munition launched from a reusable tube launcher, enhancing mobility and enabling integration with a wide range of land and naval platforms. It delivers precision strikes against various targets using interchangeable warheads. It is fully integrated with combat management systems.





WASP

Unmanned Systems Poland Sp. z o.o. ► p. 499

WASP is a cost-effective family of Micro UAS designed for multi-role missions such as ISR, command and control, transport, and patrol. It can be easily tailored using task-specific software, payloads, and peripherals.

The system is built for autonomous and resilient operation in contested environments. It does not rely on GPS, using onboard vision systems and an internal IMU for navigation. Missions can be executed without continuous operator connection, reducing workload and increasing flexibility. Its open architecture allows integration of custom applications for specific operational needs.

Features



- Autonomous operation after target designation
- GPS-independent navigation (vision-based + IMU)
- Resistant to interference and jamming environments
- No need for constant operator connection
- Payload capacity up to 2.5 kg
- Optional optical and thermal gimbal cameras
- Configurable for ISR, transport, patrol, and C2 roles
- Stable transmission: 700–1200 MHz, 2.4 GHz, 5.8 GHz
- Analog or digital communication options
- Optional fiber optic control
- ATAK application compatibility
- Proprietary software and electronics designed in-house by Unmanned Systems Poland

Benefit for the soldier

WASP increases safety by taking on risky ISR and transport missions. Thanks to GPS-free navigation and jamming resistance, it operates reliably in challenging environments. Its autonomy and BMS integration reduce operator workload, allowing them to focus on the task in hand. It also crucially enhance situational awareness on the battlefield.



Technical specification:

Dimensions:	350 mm x 350 mm x 80 mm
Weight:	2.2 kg
Maximum Flight Time:	20 min
Speed:	90 km/h
Payload:	2.5 kg
Unit Communication Range:	15 km
RGB Camera Resolution:	12 MP
Thermal Camera Resolution:	640p
Transmission Resolution:	1080p
Recognition Range:	2 km
Optical Zoom:	8X

Waterscan

Mobile Monitoring Sp. z o.o. ► p. 472

USV Drone is a compact autonomous surface vehicle designed for environmental monitoring and maritime situational awareness, optimised for inland waters and nearshore environments. The platform is a small, mobile unit capable of collecting real-time data and supporting reconnaissance missions in rivers, lakes and coastal areas.

It can operate autonomously or via remote control and supports sensors such as water quality probes, an optional camera for object tracking and autonomous following, and optional sonar for bathymetric measurements and underwater obstacle detection. The system enables detection of environmental anomalies and monitoring of critical infrastructure.

Equipped with GPS RTK for precise navigation, the USV ensures accurate mission execution. Its compact size allows rapid deployment and operation in hard-to-access or hazardous areas, supporting maritime security, border protection and infrastructure inspection.

Benefit for the soldier

Enables remote reconnaissance and real-time data collection in inland and nearshore water areas. Reduces risk to personnel by replacing direct presence in hazardous zones. Supports detection of obstacles, threats and environmental hazards using onboard sensors and camera, improving situational awareness.



WIELKI v2

Jastrzębska Spółka Węglowa S.A. ► p. 465

WIELKI v2 is an advanced heavy-lift unmanned aerial vehicle (UAV) developed by JSW for demanding industrial and tactical missions, including ISR and specialised transport. Built on a reliable redundant X8 propulsion system, it offers a maximum take-off mass (MTOM) of up to 25 kg and high resilience in challenging environments.

The platform features an open-architecture onboard computer, enabling seamless integration and control of a wide range of sensors and external devices. Its capabilities are further enhanced by the integrated AeroWinch system with a 25 m waterproof cable for precise payload deployment. Optional floats allow safe take-off and landing on water, expanding operational versatility.

Equipped with high-precision GPS RTK navigation, WIELKI v2 ensures accurate positioning and stability during complex missions. With an 8 kg payload capacity, 15 km range, and speeds up to 20 m/s, it is optimized for tasks such as maritime target detection and SAR operations. Resistance to wind speeds up to 15 m/s and fast 60-minute battery charging support rapid redeployment in the field.

WIELKI v2 delivers a powerful combination of heavy-lift performance, precision navigation, and system integration for security and industrial applications.

Developed within the project “Detection, classification and tracking of a submarine using a swarm of unmanned aerial vehicles deployed from a surface platform”, no. DOB-SZAFIR/01/B/023/04/2021 funded by the National Centre for Research and Development (NCBR) under the Programme for the Development of Modern, Breakthrough Technologies for National Security and Defence, code-named “SZAFIR”.





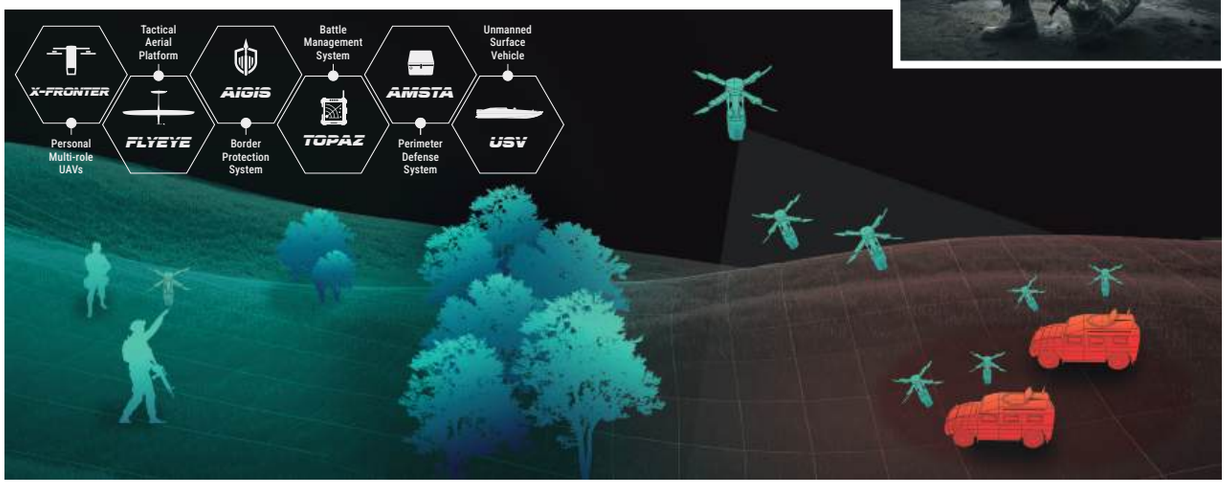
X-FRONTER – Personal Reconnaissance-Strike System

WB Group ► p. 502



X-FRONTER is a compact, modular solution designed for individual soldiers, with integration capabilities for manned vehicles and unmanned platforms. Tailored for use by military forces (both regular and special units), law encounters, and other professional users, it is suitable for visual reconnaissance in critical infrastructure systems as well as strike missions. X-FRONTER operates in both manual and automatic modes and is adapted for tethered flight, enabling extended operational endurance.





XERALL ATD – All Terrain Multi Modal Unmanned Platform

B-Technology Sp. z o.o. ► p. 443



The XERALL ATD is an advanced all terrain unmanned platform capable of operating across rough ground, water, snow, and air. Its multi modal mobility enables vertical takeoff and landing, amphibious movement, and ground traversal using integrated drives. This versatility allows effective mission execution in hard to access environments for reconnaissance, logistics support, and other operational tasks.

Enhances situational awareness by reaching inaccessible areas across land, water, snow and air. As a truly multi mission platform, it operates where no single mode system can, enabling rapid reconnaissance, reducing operator risk, and lowering physical and cognitive load.



WEAPONS SYSTEMS, AMMUNITION AND EXPLOSIVES



122 mm Ammunition with HE-462 Projectile and Reduced Charge for D-30/2S1

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The product is designed for shooting with 122 mm 2S1 and D30 howitzers in order to destroy enemy manpower in open space or field fortifications and for clearing the way through minefields and defensive fortifications, fighting artillery and destroying lightly armoured vehicles and weapons.

122 mm BARREL

DEMARKO S.A. ► p. 449



122mm barrel is dedicated for BM-21 and WR-40 Langusta launching systems. The barrel provides dedicated flight direction, missile rotation as well as securing missile during transport with loaded launchers.

The complete barrel with its assembly brackets can be used efficiently at any time, in any climatic conditions.

The barrel is dedicated to launch between others M-210F, M-21FHD missiles of 122,4 mm calibre.

Respectively protected, following Operation Instruction, can be stored in the unheated storage rooms for a long time.

Technical data of the 122 mm barrel

Calibre	122,4 mm
Length	3000 mm
Missile type	M – 21OF, M – 21 FHD „FENIKS”
Weight of the barrel	26 kg
Operating temperature range	from -40°C to +50°C
Storage temperature range	from -40°C to +50°C



152 mm Ammunition with HE-540 Projectile and Full or Reduced Charge for D20/2S3

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

Designed to destroy manpower in open space or shelters, demolish bunkers and field fortifications, fight artillery and destroy armoured vehicles. It can also be used to clear the way in minefields and defensive fortifications.



155 mm Artillery High-Explosive Base-Bleed Round with Extended Range

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The 155 mm HE ER BB rounds are designed to partially or completely destroy targets or temporarily slow down the advance of enemy forces, thus limiting their combat effectiveness. The 155 mm HE ER BB rounds primarily allow for the destruction of stationary targets, places with a high concentration of troops, field shelters, lightly armoured targets, weapon systems, military equipment, transport equipment, etc.

ALEX-338 Sniper Rifle

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514

ALEX-338 sniper rifle was designed for precision shooting to point targets over long distances (up to 2000m), lightly-armoured targets (up to 1000m) and to carry out other specialised combat tasks. ALEX-338 combines modern material solutions with ergonomics providing high accuracy and effectiveness of fire while keeping a compact construction.
High-precision and stopping power – powerful cartridge 8.6mm (.338 Lapua Magnum) guarantees high effectiveness over long distances

- Lowered recoil – mounted muzzle brake reduces recoil by 50%, what improves comfort of shooting
- Free-floating barrel – provides better rigidness of the whole construction and higher precision of shots
- Compact construction (bullpup) – shortening the rifle's length while maintaining full length of the barrel allows for greater maneuverability
- Optimal weight balance – the center of balance is set above the pistol grip what makes operating the rifle easier
- Reliable trigger – characterized by small inertia of firing mechanism elements what ensures fast reaction
- Reinforced bolt – resistant to dry firing, what increases durability of the weapon



Benefit for the soldier

Provides precise engagement of targets at very long ranges, enhancing operational effectiveness. High projectile kinetic energy, ergonomic design, and reduced recoil improve shooter comfort, enabling fast and accurate fire under demanding conditions.

ARTILLERY & MORTAR NITROGLYCERINE POWDERS

SPECIAL PRODUCTION PLANT "GAMRAT" Sp. z o.o. ► p. 493

Advanced double-base nitroglycerine–nitrocellulose powders engineered for artillery and mortar ammunition systems. These propellants are produced in a variety of forms, including strips, discs, and tubular grains, allowing precise control over burn rate and internal ballistic characteristics.

With carefully defined combustible layer thickness (starting from approx. 0.4 mm up to 3.3 mm), the powders ensure consistent ignition, stable pressure curves, and high firing accuracy. Their design supports optimal energy release and system efficiency across different calibres and weapon platforms.

Backed by extensive physicochemical testing and ballistic validation, these propellants meet stringent military performance and safety standards.



Benefit for the soldier

These advanced propellants significantly improve strike effectiveness through enhanced firing accuracy and consistent ballistic performance across different weapon platforms. Stable pressure curves and controlled energy release reduce weapon wear and increase system reliability, directly contributing to soldier survivability during sustained fire missions. The precise burn rate control enables artillery and mortar crews to deliver accurate fire support with predictable trajectories, enhancing situational awareness and coordination with manoeuvrable units. Reduced misfires and malfunctions lower the physical and cognitive burden on gun crews operating under high-stress combat conditions.

Barrels – up to 20″

Wytwórnia Broni POPIŃSKI ► p. 511







We manufacture high-quality barrels up to 20 inches in length, currently for AKM and AR-15 platforms. With full in-house production capabilities, we ensure precision, repeatability, and quality control at every stage. We are open and capable of developing barrels for other platforms based on customer requirements.

Benefit for the soldier

Provides consistent accuracy and reliability, directly impacting engagement effectiveness. High manufacturing standards ensure durability and long service life in demanding operational conditions.

BORE CLEANING FOAM

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447

BORE CLEANING FOAM is an effective cleaning foam for thorough barrel maintenance. In just 10 minutes, it removes carbon, copper, lead, and zinc deposits.

The active foam penetrates the surface and loosens fouling, making residue easy to remove.

The product contains no ammonia, alcohol, or abrasive solids. It is non-toxic, odourless, and does not emit harmful fumes, making it safe for indoor use. It is also non-flammable.

Safe for steel, aluminium, chrome, nickel, and other common materials. Suitable for all types of firearms as well as air- and gas-powered weapons.

Holds a positive WITU (Military Institute of Armament Technology – Poland) certification.

Available in 100 ml / 200ml / 400ml packaging.

Benefit for the soldier:

- Quickly removes carbon and metal fouling, maintaining barrel accuracy and consistent performance



- Non-toxic and odourless formula allows safe use in enclosed or indoor environments
- Non-flammable composition increases safety during routine maintenance in all conditions
- Foam application ensures deep penetration into the barrel, simplifying cleaning and reducing maintenance time

CONTROLLED ANTI-TANK ANTI-VEHICLE MINES SPPŁW

Bydgoskie Zakłady Elektromechaniczne BELMA S.A. ► p. 444

The SPPŁW mines are designed to combat vehicles, armoured transporters and truck/off-road vehicles.

The off-route mine SPPŁW is equipped with an acoustic-thermal non-contact fuze capable of detecting the presence of military vehicles in the mine blast zone. The EFP combat head used is capable of effectively hitting targets at a distance of several tens of metres (2-50 m), and stopping vehicles travelling in the mine blast axis.

The mine may be used for protecting national borders, defence, delaying operations, covering the withdrawal of own troops, shielding objects, such as command stations in troop deployment areas and diversification activities.

Due to its small size and weight (7 kg) two mines may be carried in a backpack and laid in the battlefield by one person in less than 5-6 minutes.

The mine can operate automatically or under operator`s supervision. The automatic mode is provided by the version without the authorisation key.



Specifications:

Weight	7 kg
Dimensions (length/height/width)	30/18/15 cm
RHA Penetration	60 mm – at a distance of 2 to 50 metres
Power supply	Battery
MW type	Composition B
Type of fuze	Non-contact
Irremovability	YES
Self-destruction	Programmable
Self-neutralisation	YES
Mode of operation	Automatic/supervised (MITL)
Sensors	Acoustic; thermal
Target selection	YES, the possibility of attacking consecutive or selected targets in column, from 1 to 9 objects,

DEGREASER CLEANER

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447

DEGREASER CLEANER is a product for fast cleaning and degreasing of metal surfaces. It removes old oil, contaminants, and moisture, restoring components to a clean, dry state.

Its penetrating formula reaches hard-to-access areas, ensuring thorough cleaning and complete moisture removal.

Leaves no residue or odor and is ideal for metal parts where precise cleaning, degreasing, and moisture control are required.

Holds a positive WITU (Military Institute of Armament Technology – Poland) certification.

Available in 100 ml / 200ml / 400ml packaging.



Benefit for the soldier

- Supports fast and efficient cleaning process during operational downtime, improving readiness
- Suitable for removing oils and lubricants not only from weapons but also from a wide range of mechanical equipment and components

ELECTRIC

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447

Electric – Contact Cleaner & Protect protects electrical devices and ensures reliable performance.

It removes grease, corrosion, deposits, and dirt, maintaining conductivity and proper function of critical components.

Leaves a durable insulating layer and extends service life, even in direct contact with water.

Available in 150 ml packaging.

Benefit for the soldier

- Ensures reliable operation of electrical systems by maintaining clean and conductive contacts in power circuits
- Removes corrosion, grease, and deposits, reducing risk of power loss or electrical faults in the field
- Protects electrical components from moisture and harsh environmental conditions, supporting mission readiness
- Extends service life of electrical installations by forming a durable protective insulating layer



ELECTRONICS

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447

Electronics Professional provides complete protection and maintenance for sensitive electronic systems.

It removes grease, corrosion, deposits, and dirt while ensuring reliable operation and optimal conductivity of circuit boards, sensors, motors, lighting, and other electrical connections.

Creates a waterproof layer that keeps moisture away and helps components last longer, even in wet or tough conditions. Available in 150 ml packaging.



Benefit for the soldier

- Ensures reliable operation of sensitive electronic systems by maintaining clean and stable performance of circuits, sensors, and control units
- Quickly displaces moisture from flooded or wet electronics, helping restore functionality in emergency field conditions
- Protects against corrosion and contaminants by forming a hydrophobic layer, supporting use in harsh environments
- Extends service life of electronic components, increasing overall system readiness and reliability

Explosive Device for Armament Neutralisation "PULS"

Wojskowy Instytut Techniczny Uzbrojenia (Military Institute of Armament Technology) ► p. 509

Explosive Device for Armament Neutralisation „PULS" is a device designed for deprivation of combat capability of armoured vehicles. It is used in contact with enemy vehicles, for example, in diversion operations or to destroy own armament when withdrawing the battlefield. The device can also be used to neutralised vehicles in urbanized area, where a stealthy approach is possible.

The characteristics of use allow sensitive areas of vehicle armour to be penetrated for efficiency of deployment. Using the device is effortless – attaching it to the vehicle and setting the triggering time. Possible use in two modes – removable (timed trigger only) or non-removable (device removal protection).

Parameters:

Armour penetration	200 mm RHA
Trigger time	up to 24h
Safety pin for transport safety	

Benefit for the soldier

The device makes it possible to restrict the enemy's combat capability by eliminating their vehicles, including armoured vehicles. Furthermore, it can be used as an IED or to destroy own vehicles if they are abandoned on the battlefield.





FALCON A2 QD-MAX SILENCER

BORIMEX Sp. z o.o. ► p. 442

Falcon suppressors designed for professional users are intended to improve operational effectiveness and shooting comfort in demanding environments. The system reduces the acoustic signature of the weapon and contributes to safer and more controlled weapon operation.

Falcon silencers are designed to:

- Reduce noise levels, enabling more discreet operation and lowering the risk of detection during tactical activities.
- Improve shooter comfort and safety by limiting exposure to high sound pressure levels, especially during prolonged firing or in confined environments.
- Reduce gas blowback toward the shooter, thanks to the RBS (Reduced Backpressure System) that optimizes gas flow inside the suppressor.
- Provide compatibility with rifles equipped with A2 standard flash hiders, allowing installation without replacing the factory muzzle device.
- Ensure durability and operational reliability, thanks to stainless-steel construction manufactured using precision laser welding technology.





The suppressor features a dual-chamber design that enables gradual gas expansion and improved gas flow control. The front section integrates a glass-breaker feature for emergency situations. Performance tests of Borimex suppressors were conducted by the Military Institute of Armament Technology (WITU).

Benefit for the soldier

Reduces weapon acoustic and visual signature, lowering detection risk during tactical operations. Limits noise exposure, decreasing shooter fatigue in prolonged engagements. RBS minimises gas blowback for greater comfort. Quick-detach fitting enables rapid configuration changes, improving operator mobility and situational effectiveness.

FILLING SERVICES

Zakłady Chemiczne "Nitro-Chem" S.A. ("Nitro-Chem" Chemical Works) ► p. 512

"NITRO-CHEM" offers a wide range of filling services. Owned lines for filling services:

- Line for casting of TNT, RDX, HMX, NTO or their compositions
- Line for screw filling of projectiles with TNT in calibres from 80 mm to 155 mm
- Line for making pressed charges for military and commercial use





FLAME signal mine

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The signaling mine is intended for the protection of military facilities, storage areas, border crossings, etc.

Description of the operation:

After pulling the tripwire, the cotter is pulled out and pin released, which, hitting the primer, causes it to detonate and firing the powder charge and to eject the signal cartridge from the body of the mine

The burning time of the cartridge is 4,5 ± 1.5 sec.



GAk-81

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The 81 mm GAk-81 smokescreen grenades are designed for firing from an OBRA, 902A, ERB-type launcher with the task of creating a smokescreen capable of preventing location and distance measurement using laser rangefinders as well as conducting reconnaissance and fire control using thermovision means. The smokescreen serves to protect individual objects, tanks, combat vehicles, artillery positions.

GUN CLEANER

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447

GUN CLEANER is an effective cleaning agent for comprehensive maintenance of firearms and air/gas-powered weapons. It removes carbon, old grease, and deposits of copper, lead, zinc, and tombac.

Its penetrating formula reaches hard-to-access areas and dissolves even stubborn residues, ensuring thorough cleaning of all components.



The product contains no ammonia, alcohol, or abrasive solids. It is non-toxic, odourless, and safe for indoor use. It is also non-flammable and biodegradable.

Safe for steel, aluminium, chrome, nickel, and other common materials. Suitable for all types of firearms as well as air- and gas-powered weapons.

Holds a positive WITU (Military Institute of Armament Technology – Poland) certification.

Available in 75 ml / 150 ml / 300 ml packaging.

Benefit for the soldier

- Effectively removes carbon and metal fouling, maintaining weapon reliability and consistent performance
- Ideal for cleaning suppressors, compensators, and other heavily fouled components
- A reliable maintenance solution for armourers and technical personnel responsible for weapon servicing

GUN OIL

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447

GUN OIL is a versatile product for cleaning, lubrication, and protection of firearms and their mechanical components.

Its penetrating formula reaches hard-to-access areas, ensuring precise lubrication. It creates a durable protective layer that reduces friction and wear while protecting metal surfaces from corrosion.

Displaces moisture and improves surface penetration, extending the service life of the firearm. It remains effective in temperatures from -60°C to +250°C without losing elasticity, even under intensive use.

Safe for metal, wood, paint, varnish, ceramics, rubber, and plastics.

Holds a positive WITU (Military Institute of Armament Technology – Poland) certification.

Available in 100 ml / 200 ml / 400 ml packaging.

Benefit for the soldier:

- Ensures reliable weapon performance in extreme environmental conditions
- Reduces weapon wear and friction, increasing service life and operational readiness
- Protective layer simplifies subsequent cleaning and maintenance of the weapon



GX WARHEADS FOR UNMANNED VEHICLES

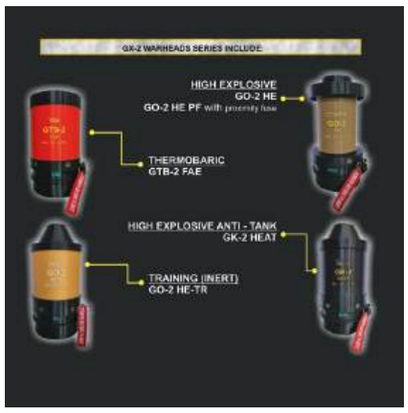
Wojskowy Instytut Techniczny Uzbrojenia (Military Institute of Armament Technology) ► p. 509

The GX series warheads are offered in a variety of sizes, mass, functionalities and capabilities. They are designed to be carried by all types of Unmanned Vehicles with or without their own vision system. The warheads are mainly used for the kamikaze-type loitering munition systems, but there is also a possibility to adapt them for dropping to avoid destruction of the carrier.

All warheads are equipped with a three stage safety system, ensuring full operational safety and the the ability to reuse the warhead after an aborted combat task. The system consists of:

- Mechanical interlock – the launch bolt with a pin, which is removed by the operator before launching;
- Authorisation code – a 4-character hexagonal code, unique for each warhead, entered from the operator's desktop;
- SA (Save-Arm) type protection system – the system has the ability to repeatedly arm and disarm the warhead from the operator's desktop







		High Explosive (HE)	High Explosive Anti Tank (HEAT)	Thermobaric
GX-1 (with camera)	1,4 kg	30 m	180 mm RHA	10-12 m
GX-1 DG	1 kg	30 m	200 mm RHA	10-12 m
GX-2	4,8 kg	50 m	700 mm RHA	50 m
GX-4	1,6 kg	30 m	300 mm RHA	20 m

Benefit for the soldier

Warheads are the munitions used in unmanned combat systems. The wide range of warheads available allows soldiers to employ them in a variety of ways – from engaging personnel and infrastructure to taking out armoured vehicles.

HEAT MINE FOR MANUAL LAYING MR-123

Bydgoskie Zakłady Elektromechaniczne BELMA S.A. (PGZ) ► p. 444

Manually laid anti-tank mines MR-123 are designed to eliminate armoured vehicles and military means of transport.

The MR-123 mine is equipped with a double-acting cumulative charge and a non-contact fuze with self-destruction and auto-neutralisation functions. The mine activates under armed vehicles passing over it or after the programmed period of self-destruction or self-neutralisation. The mine has two security devices.

The MR-123 mine is available in three versions: combat version MR-123, drill version MR-123/C and mock-up version MR-123/O. The drill versions are designed to train miner teams in laying classical mine fields.





Specifications

Weight	3.7 kg
Dimensions dia./height	167/90 mm
Type of charge	EFP HEAT, double-acting
RHA penetration capacity [mm]	60 mm RHA PLATE
Type of fuze	Magnetic, delayed or immediate
SD self-destruction	Programmable
SN self-neutralisation	Yes
CCW Convention requirements	It has a self-destruction, self-neutralisation function, and is detectable

HEXOGEN (RDX)

Zakłady Chemiczne "Nitro-Chem" S.A. ("Nitro-Chem" Chemical Works) ► p. 512

Hexogen is one of the most powerful blasting explosives. It is widely applied as a military explosive both individually (in form of different charges) and as a component of many explosive compositions. After mixing it with RDX plasticizers and other ingredients, plastic explosives are formed. Used, inter alia in HEAT charges and reactive armour.



Compositions:

- Hexogen phlegmatised with compositions waxes type A-IX-1
- Composition A3
- Composition A4
- Composition A5
- Hexogen phlegmatised with compositions waxes
- Heksogen phlegmatised with Viton
- Composition B

HUNTER 30 mm Remote Control Weapon Station

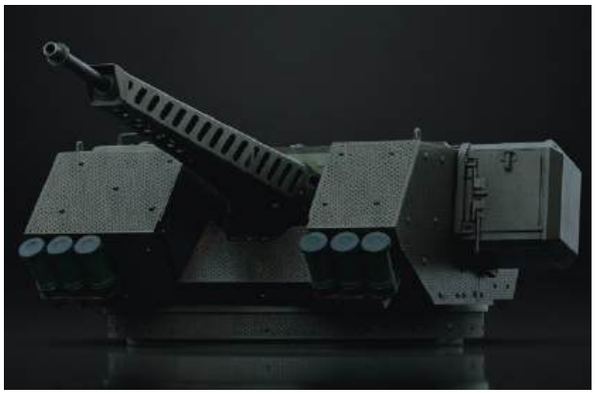
MISTA Sp. z o.o. ► p. 471

HUNTER 30 mm is a remote-controlled weapon station designed for integration on modern armoured vehicles, providing enhanced firepower, protection and targeting capability. The system supports a range of 30 mm automatic cannons, including ZTM-1 (2A72), 2A42 and M230LF, enabling flexible adaptation to operational requirements.

The station offers full 360° rotation and elevation from –5° to +40°, ensuring effective engagement of ground and elevated targets. Equipped with a thermal imager, day TV camera and laser rangefinder, it provides accurate target detection and engagement in all weather and light conditions. The system is operated by the gunner and commander, with manual backup control available in case of power loss.

With a combat weight of approximately 1700 kg and ammunition load of 300 rounds for the main gun and 2000 rounds for the coaxial 7.62 mm machine gun, HUNTER delivers sustained firepower. Ballistic protection up to STANAG 4569 Level 3 (front) enhances survivability, while optional integration of grenade launchers and anti-tank guided missiles increases combat versatility.





Benefit for the soldier

HUNTER 30 mm increases crew survivability by enabling remote weapon operation from inside the armoured vehicle. Advanced sensors (thermal imager, day camera, laser rangefinder) dramatically improve situational awareness and engagement precision in all conditions. Stabilisation allows accurate fire on the move, reducing operator workload.

JACK – AKM-based Rifle

Wytwórnia Broni POPIŃSKI ► p. 511

JACK is a modern AKM-based rifle designed for reliability and durability under demanding conditions. It combines a proven operating system with high manufacturing quality and compatibility with modern accessories. Available in calibres including 7.62×39 mm, 5.56×45 mm, 5.45×39 mm and .300 AAC Blackout.



Benefit for the soldier

Ensures reliable operation in harsh environments, increasing operational readiness and combat effectiveness. Durable construction and ease of maintenance support long-term field use.

LMC Light Infantry Mortar

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514



The 60 mm light infantry mortar LMC (Light Mortar Combat) is designed to have a destructive kinetic impact on enemy combat systems and to ensure the manoeuverability of own/allied units by striking the enemy's manpower, exposed targets, and destroying fortified surface targets, points and firing positions with semi-indirect fire.

The LMC mortar is designed to fire 60 mm MAPAM (Mortar Anti-Personal Anti-Material) ammunition from SAAB Bofors Dynamics.

It is permissible to shoot another 60 mm bullet with a calibre that complies with the STANAG 4425 ed. standard. 2 of any manufacturer, provided that the propellant charge is limited to the permissible pressure value and the digital sight is reprogrammed to implement compatible shooting tables.

Benefit for the soldier

Provides effective fire support for a unit, enabling rapid engagement of concealed and fortified targets. The lightweight design enhances mobility, while ammunition compatibility and operational flexibility allow adaptation to changing battlefield conditions.

LMP-2017 60 mm Light Infantry Mortar

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514



The LMP-2017 60 mm light infantry mortar, a direct support weapon, is designed to have a destructive kinetic impact on enemy combat systems. Thanks to its significant range and high fragmentation of the missile, mortar fire provides effective support to fighting sub-units in conditions of optical visibility in all weather conditions, both day and night. The steep trajectory of the missile and the small size of the mortar in the firing position make it possible to hit targets with semi-indirect fire, i.e., observed from the firing position.

The LMP-2017 is suitable for temperate, cold, and dry and humid tropical climates and meets the requirements of group N.14-O-II-A according to NO-06-A101÷103:2005. LMP-2017 operating temperature ranges from -40°C to +55°C. Storage temperature from -60°C to +70°C.

The minimum durability of the LMP-2017 is 1,500 shots which gives it an advantage over other designs. An additional distinguishing feature of the mortar is the number of rounds fired with uninterrupted fire – 30.

The following projectile types are used for the LMP-2017 light infantry mortar:

- O-LM60 60 mm mortar projectile with fragmentation shell
- S-LM60 60 mm mortar projectile with illuminating shell
- O-LM60N (M60-HE) 60 mm mortar projectile with fragmentation shell.





Benefit for the soldier

Provides effective and reliable fire support in all weather conditions, enhancing the ability to engage targets at various ranges. High durability and sustained fire capability increase operational effectiveness and confidence during prolonged missions.



M107 155 mm Artillery Ammunition

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The 155 mm ammunition is intended for destroying targets or temporarily slowing down the movement of enemy forces, destroying stationary targets, places with a large concentration of infantry, field covers, lightly armoured targets, weapon systems, military and transport equipment, etc. The impact of the projectile on the target is carried out by the kinetic energy of fragments of the metal parts of the shell and the shock wave of the explosive charge.



M18A1 Claymore
Safe and reliable directional mine

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

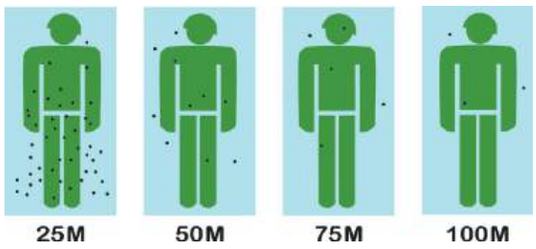
Directional fragmentation system
Used for the defence of installations and positions against advancing enemy infantry.

- Effective over a wide area
- Easy to operate
- Effective against lightly armoured vehicles such as jeeps, passenger cars, and trucks

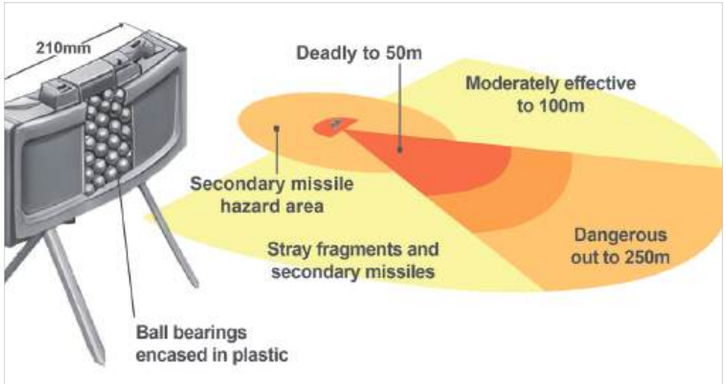
Fragments easily penetrate outer body panels, incapacitate personnel inside, and disable the vehicle.

- Lightweight and easy to carry thanks to the transport bag
- Short training time
- M68 training system available, including:
  - M57 firing device
  - M40 test set

Used with an inert body and detonator to simulate full preparation, testing, and operation



Fragmentation Pattern
Projected over an area of 2 m²



Effective Range
Fragmentation:
The M18A1 projects approximately 700 steel spherical fragments:

- Lethal up to at least 50 meters
- Effective up to 100 meters
- Hazardous up to 250 meters (forward direction)

MND-26 Anti-Personnel Mine
Pressure-activated

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

A pressure-activated anti-personnel mine designed to engage enemy personnel, featuring a plastic body. The device is equipped with an initiation system compatible with the MD-5M fuze, ensuring immediate action upon activation of the pressure mechanism.

The unified body design, shared with the tripwire-activated anti-personnel mine simulator, the pressure variant, and the MS Płomień-60 signal mine, simplifies logistics, reduces costs, and facilitates training and operation.

The solution is intended for all branches of the armed forces.



Technical Data

Explosive material:	TNT 75 g
Fuze:	MD-5M
Trigger mechanism:	Pressure
Use:	Single-use
Construction:	Plastic

MOD-26 Anti-Personnel Mine
Tripwire-activated

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515



A fragmentation anti-personnel mine with tripwire activation, designed to engage enemy personnel. It is equipped with a 75 g TNT charge surrounded by a fragmentation casing and initiated by an MD-5M fuze. The mine is emplaced using aluminum positioning stakes — two or three, depending on the number of tripwires used.

Fragments disperse in a 360° radius above ground level. The design allows the mine to be configured with one or two 10 m tripwires.

The unified body construction, shared with the tripwire-activated anti-personnel effector simulator, the pressure variant, and the MS Płomień-60 signal mine, simplifies logistics, reduces costs, and facilitates training and operational use by soldiers.

The solution is intended for all branches of the armed forces.

The mine can be supplied with a container for field transport.

Technical Data

Explosive material:	TNT 75 g
Fuze:	MD-5M
Trigger mechanism:	Tripwire
Tripwire length:	10 m
Maximum number of tripwires:	2
Use:	Single-use
Construction:	Plastic

MODULAR SEMI-AUTOMATIC PISTOL (MPS ARMY)

Fabryka Broni "ŁUCZNIK" – Radom Sp. z o.o. (PGZ) ► p. 455



The Modular Semi-Automatic Pistol (MPS) cal. 9x19 mm Parabellum is a personal weapon designed for shooting at short distances (up to approx. 50 meters). It works on the principle of short recoil of the barrel with the breech locked by skewing the barrel in the vertical plane. The MPS is a striker-fired pistol, equipped with a semi-DAO trigger system featuring initial pre-tension, which ensures safe operation when a round is chambered. The pistol is fitted with automatic trigger and firing pin safeties that disengage immediately prior to firing as the trigger is pulled.

The high accuracy of the weapon is ensured by fixed metal sights with contrasting sighting points (it is possible to replace them with solutions compatible with the SIG SAUER P320 pistol standard). The MPS belongs to the OPTIC READY group of pistols, thanks to which micro-collimators can be mounted on the slide parallel to the mechanical devices in its rear part, increasing the precision and speed of accurate shooting.

The weapon is fed from a 15-round magazine (17-roung optional), and the integrated weapon safety systems allow for safe carrying of the round in the chamber, which speeds up the first shot. The modularity of the weapon provides an ergonomic grip that allows it to fit the user's hand through the use of interchangeable overlays in three sizes. A Picatinny rail is integrated in the front of the grip, compatible with MIL Std. 1913, designed to attach a wide range of optoelectronic devices that increase the functionality of the weapon.



TECHNICAL SPECIFICATION

Ammunition	9 x 19 mm Parabellum
Range	Approx. 50 meters
Firing mode	single
Magazine capacity	17 rounds
Barrel length	102 mm

Modular Weapon System ZMT MWS-25

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514



The ZMT MWS-25 (SKW .308) is a modular semi-automatic sniper rifle fed with ammunition calibre .308 WIN or 6.5 mm Creedmoor. It can be equipped with barrels measuring from 13" to 20". The construction uses short stroke gas piston system. Gas block is equipped with adjustable four-stage gas regulator, which ensures that the weapon cooperates firmly with suppressors. The semi-automatic sniper rifle is equipped with ambidextrous safety switch, magazine button and bolt release lever. Rifle's barrel is easily interchangeable, which enables the user to change it for different length or calibre. Handguard can be offered in two mounting systems: M-LOK or KeyMod. Depending on the set the rifle may be equipped with a back plate with a hinge allowing to fold the buttstock to the right side of the upper receiver. The rifle can be quickly adjusted to a select fire variant for semi-automatic and automatic modes through changing the barrel assembly and lower receiver.

Benefit for the soldier

Provides a high rate of fire and accuracy in combat, enhancing effectiveness at medium and long ranges. The modular design allows the weapon to be tailored to the user's individual needs, while its ergonomics and suppressor compatibility improve comfort and operational discretion.

MON-100
Directional fragmentation anti-personnel mine

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515



Technical Data

Mine weight:	7.53 kg
Diameter:	236 mm
Height:	83 mm
Explosive type:	TNT
Explosive weight:	1.89 kg
Fragments:	400 pcs (cylindrical)
Casing material:	Steel

The mine is designed for directional engagement of enemy personnel and for securing and protecting specific approach routes, objects, and field positions.

The MON-100 is a directional fragmentation mine with a cylindrical metal body. Its designation "100" refers to its effective range.

In the front section, there is a layer of fragmentation elements — 400 steel fragments (rollers) approximately 10 mm in length — embedded in a resin matrix.

The MON-100 has a single central fuze socket located in the concave rear wall of the body and operates with a mounting system in the form of a metal frame or a stake-mounted bracket. This allows directional positioning of the mine and attachment to fixed terrain features or objects such as trees, walls, or poles.

It can be initiated using an electric detonator (ERG), a mechanical MUW-type fuze with an MD-5M detonator, or a non-electric detonation system (NSD).

"Moskit" anti-tank guided missile

Wojskowy Instytut Techniczny Uzbrojenia (Military Institute of Armament Technology) ► p. 509

The "Moskit" anti-tank guided missile is a response to the need to break up armoured columns while defending against an attack. The concept of the Military Institute of Armament Technology is to provide the Armed Forces with a high-end, precision means of destruction. It will excel in combat at ranges of up to 4,500 m against light- and heavily-armoured targets thanks to its 700 mm RHA tandem penetrating warhead, behind reactive armour. Thanks to the implemented aerodynamic system and the functionality of the navigation system, it attacks from the upper half-sphere hitting the most sensitive points of armor. Direction of fire is carried out through a fiber-optic module, which determines uninterrupted communication with the missile, detection and which guarantees precise impact. The propulsion technology uses smokeless fuels, and the missile moves silently thanks to its aerodynamic shape due to which detection of the launch area is made difficult, thus protecting the operators. The system consists of a transport container with a missile and an observation and targeting instrument i.e. a launcher. The system is carried by two operators. Once the system is set up, it is possible to observe targets through the optics of the instrument, followed by launch, target selection and fully passive guidance with the support of the tracking system. It is also possible to attack out-of-sight targets indicated by ISR (Intelligence, Surveillance & Reconnaissance). It is a local product, immune to supply chain disruptions and independent in critical technologies from foreign supplies, ensuring of which can be difficult in times of escalating tensions. In its design, it meets the requirements of special forces, territorial defence and artillery. The "Moskit" complements the limited number of the Spike-LR missiles in service in the Polish Armed Forces.



Benefit for the soldier

Benefit for a soldier increases combat confidence by enabling effective engagement before enemy armour reaches friendly positions, supports action from concealed firing points and improves hit probability against manoeuvering or partially exposed targets in demanding terrain.

MS 60 FLAME – Anti-Personnel Mine Simulator
Tripwire-activated

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515



Training device designed to realistically simulate the operation of an anti-personnel mine. Equipped with a 10 m tripwire mechanism. A 5.56 mm blank cartridge is used as the acoustic charge, providing safe yet clearly audible activation signaling. The simple and durable design ensures repeated use and ease of operation. The simulator enables training in detection and response to threats.
Dedicated for all branches of the armed forces.

Technical Data

Ammunition:	Blank
Calibre:	5.56 mm
Trigger mechanism:	Tripwire 10 m or 2 × 10 m
Operation:	Reusable

MSBS 40x46 mm Grenade Launcher

Fabryka Broni "ŁUCZNIK" – Radom Sp. z o.o. (PGZ) ► p. 455

The MSBS 40x46 mm grenade launcher is an individual, non-automatic, single-shot weapon intended, among others, for: combating and incapacitating manpower, destroying technical devices, buildings, firearms, lightly armoured vehicles, placing smoke screens, lighting the area, etc. The weapon has a trigger mechanism with a striker system and a double-action-only (DAO) trigger mechanism.

An adjustable wing safety fuse, the wings of which are placed on both sides of the trigger chamber, protects against an accidental shot. The MSBS 40x46 mm grenade launcher uses mechanical open-type sights, consisting of a front sight and a rear sight, located on a rotating sight atm. 40x46 mm (LV) grenade launcher cartridges are used for firing from a grenade launcher.

It is equipped with a front grip and a telescopic stock, thanks to which it can fire quickly and precisely. The gun is loaded by tilting the barrel sideways.





Technical Data

Ammunition		40 x 46 mm (LV)
Range	Up to	350-400 meters
Firing mode		single
Barrel length		200 mm

MSBS GROT C14 FB-A3 ASSAULT RIFLE

Fabryka Broni "ŁUCZNIK" – Radom Sp. z o.o. (PGZ) ► p. 455

The MSBS-GROT C16 FB-A3 is a modern modular assault rifle based on a short-stroke gas piston operating system. Designed for high reliability, ergonomics and adaptability, the rifle features a fully ambidextrous layout, allowing all primary controls — including the fire selector, charging handle, magazine release and bolt catch — to be operated from either side of the weapon. The ejection direction can also be easily configured for right - or left-handed users.

The rifle is available in 5.56×45 mm NATO and 7.62×39 mm calibres and supports both semi-automatic and fully automatic fire modes with an integrated safety mechanism.

The A3 generation introduces a number of improvements developed in response to operational feedback from military users. These include a redesigned upper receiver, improved bolt carrier group, modified gas system and a slimmer, lighter handguard, resulting in improved reliability, handling and reduced overall weight.

The rifle is equipped with a long M-LOK compatible handguard, allowing the installation of a wide range of mission accessories such as vertical grips, laser aiming modules and tactical lights. A STANAG 2334 top mounting rail, integrated with the upper receiver, enables the installation of optical sights, red-dot sights, night-vision devices, thermal sights or backup iron sights.

The modular architecture of the MSBS-GROT platform allows quick reconfiguration of the weapon, including barrel replacement and different stock configurations. The A3 version features a stock interface compatible with AR-type buttstocks, providing additional flexibility and improved user customisation.

The MSBS-GROT C16 FB-A3 is designed for accurate and effective engagement of targets at distances of up to 600 metres. The platform serves as the primary service rifle of the Polish Armed Forces and continues to evolve based on operational experience and user feedback.





TECHNICAL SPECIFICATION

Ammunition	5.56 x 45 mm
Range	500 m
Firing mode	single / full auto
Rate of fire	theoretical: up to 900 rds/min
	practical: up to 100 rds/min
Muzzle velocity	890 m/s
Muzzle energy	1 600 j
Barrel length	14.5"





Nitrocellulose combustible cartridge cases for mortar and artillery ammunition

VEGA ► p. 499

VEGA is a European company, a leading specialist in manufacturing nitrocellulose products. We continuously supply combustible containers for mortar and artillery ammunition as well as other nitrocellulose products for the domestic and international defence industry for almost 30 years. Our nitrocellulose combustible cartridge cases are among the most valuable and advanced products at the military market.

VEGA crafts solutions that meet specific needs. Each round of ammunition differs. VEGA provides bespoke solutions, designed to meet our customers' unique demands, ensuring their dominance in any situation.

Available calibres:

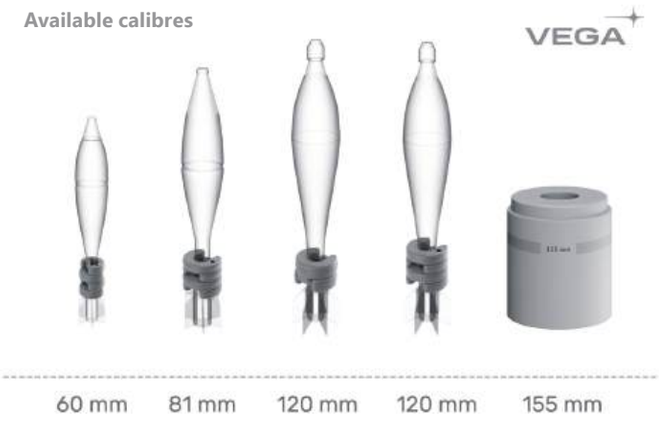
NATO

mortar: 60 mm, 81 mm, 120 mm,

artillery: 155 mm.

OTHER

mortar: 82 mm, 98 mm.





Benefit for a soldier

VEGA's combustible cartridge cases enhance operational effectiveness in real combat conditions. Proven in demanding environments, they deliver reliable performance across extreme temperatures and adverse weather, ensuring consistent ballistic behavior and repeatability in use.

Their lightweight, fully combustible design reduces residual waste and logistical burden, while minimizing barrel residue and helping maintain accuracy over successive rounds. High resistance to water, oils, and mechanical stress ensures dependable performance even under rough handling and storage conditions.

Overall, VEGA's CCCs support mission reliability, reduce operational risk, and sustain consistent fire support capability.

Our containers are:

- Precisely crafted: custom fit to the specific project by wet forming the exact shape.
- Resistant: to external conditions such as water exposure (hydrophobic material) and temperature changes (very wide range temperature of storage from -50°C to +70°C). Autoignition temperature – above 150°C.
- Highly durable: resistant to dropping, crushing and mechanical stress.
- Energetic & fully combustible: CCCs themselves contribute to the propellant's energy (propellant equivalent ~0.6), forming an active part of the charge. Their fully combustible structure ensures efficient, near-complete combustion with minimal ash residue, reducing barrel fouling and supporting consistent ballistic performance over repeated firing.
- Long lasting: can be stored over 10 years with maintained properties.
- Oleophobic: can be filled with nitroglycerin-based propellants.

We are compatible with the most widely used regulations in the industry. Our production technology as well as finished products are compliant with: EU and UK REACH, ITAR and EAR regulations. Our products are tested according to STANAG compatibility standards.

We are certified with:

- ISO 9001:2015 (No. 1692/S/2025)
- AQAP 2110:2016 (No. 1692/A/2025)

OCTOGEN (HMX)

Zakłady Chemiczne "Nitro-Chem" S.A. ("Nitro-Chem" Chemical Works) ► p. 512



Octogen is one of the most powerful series-manufactured blasting explosives. It is applied as a military explosive both individually (in form of different charges) and as a component of explosive compositions.

Compositions based on octogen (HMX)

- Compositions of octogen with trinitrotoluene,
- Octogen phlegmatised with compositions waxes,
- Octogen phlegmatised with Viton,
- Octogen phlegmatised with Viton 10%

Open Protected Turret System (12.7 mm)

MISTA Sp. z o.o. ► p. 471



Open Protected Turret for 12.7 mm Browning M2 is a manually operated weapon station designed to provide reliable fire support with simplified architecture and high durability. The system combines mechanical robustness with ease of operation, making it suitable for integration on a wide range of tactical vehicles.

The turret provides full 360° azimuth rotation and elevation from –20° to +30°, enabling effective engagement of targets in diverse operational conditions. It uses a belt-fed ammunition system with 100 rounds ready to fire, supported by additional ammunition storage within the vehicle. Manual control allows both single shots and burst firing modes.

With ballistic protection compliant with STANAG 4569 Level 2, the turret ensures enhanced operator safety while maintaining low weight and high reliability. Its open, autonomous design ensures ease of maintenance, rapid deployment and compatibility with various vehicle platforms and mission profiles.

Benefit for the soldier:

The Open Protected Turret for the 12.7 mm Browning M2 provides reliable firepower with simple manual operation and high durability. STANAG 4569 Level 2 ballistic protection enhances operator safety, while full 360° rotation enables quick reaction to threats with reduced physical strain.



OPTIC CLEANER

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447



OPTIC CLEANER is an innovative cleaning agent for precision optics. It quickly and effectively cleans glass surfaces while creating a hydrophobic coating.

Removes grease, fingerprints, pollen, and other dirt. Evaporates quickly, leaving no streaks.

Safe for various materials and anti-reflective coatings.

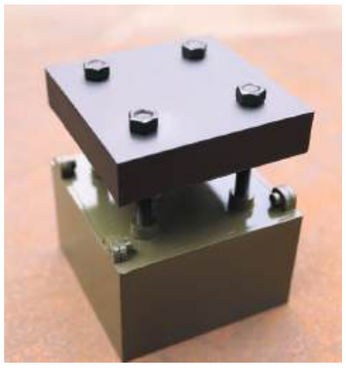
Available in 100 ml packaging.

Benefit for the soldier:

- Ensures clear and unobstructed vision on optics, cameras, drones, and thermal imaging devices
- Hydrophobic coating improves visibility in rain and harsh environmental conditions
- Leaves no streaks or residue, maintaining maximum optical clarity and precision
- Safe for existing protective and anti-reflective coatings, preserving equipment integrity

Pangolin – family of explosive reactive armours

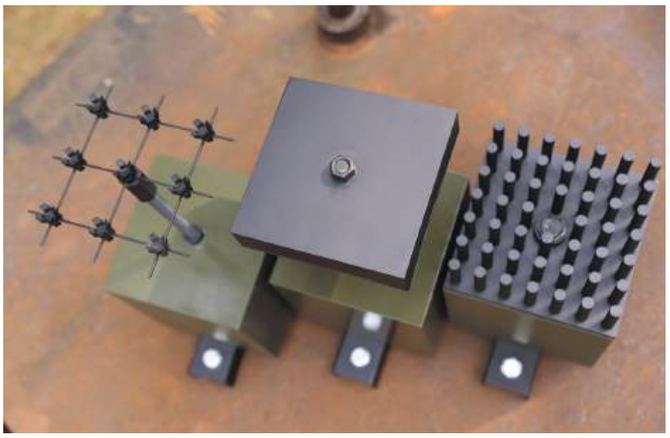
Wojskowy Instytut Techniczny Uzbrojenia (Military Institute of Armament Technology) ► p. 509



The PANGOLIN explosive reactive armours family, with attachable additional modules increasing protective capabilities, is one of the latest WITU solutions, designed to protect vehicles especially against kinetic projectiles, projectiles equipped with HEAT warheads and EFP's. The modules of the PANGOLIN ERA family are mounted on the vehicle's main armour.

The different types of PANGOLIN armour modules, depending on their application on a specific vehicle, differ in their internal design determining the protection capability of a vehicle. In the interior of the modules, explosive materials of different sensitivity as well as functional layers made of different materials with different shapes and arrangements may be used.

PANGOLIN armour modules are designed for a specific vehicle type. Developed variants include lighter solutions dedicated to armoured personnel carriers, self-propelled artillery systems (especially the Krab self-propelled cannon howitzer and the Rak self-propelled mortar), as well as heavy modules for use on tanks, including modules designed for the K2 Black Panther tank and its licensed polish version K2PL. The basic PANGOLIN armour module has the possibility of attaching additional interchangeable modules (designed in several variants) increasing both the overall level of protection of the vehicle and the effectiveness of protection of individual zones (roof, sides) against threats specific to these areas.



The effectiveness of PANGOLIN armour has been confirmed in experimental tests using several types of HEAT warheads and EFP charges.

Benefit for the soldier

Pangolin explosive reactive armour family increases vehicle's crew survivability by neutralising shaped charges and reducing penetration from threats like drone-delivered warheads, cluster submunitions and others. It enhances vehicle protection, lowers fatal damage risk, and improves resilience in modern high-threat combat environments.



PIAST – AR-15 Platform Rifle

Wytwórnia Broni POPIŃSKI ► p. 511

PIAST is a modern AR-15 platform rifle chambered in 5.56×45 mm, designed with a focus on precision, modularity, and ergonomics. Manufactured with full in-house control, including barrel production, it offers consistent quality and performance.

Benefit for the soldier

Enhances accuracy and handling, improving target engagement efficiency. Modular design allows adaptation to mission requirements while maintaining low weight and user comfort.

POMBS Portable Minefield Breaching System (L-POMBS / H-POMBS)

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The POMBS is a portable minefield breaching system designed to create safe passages through hazardous areas using a rocket-deployed linear explosive charge. The system is available in two variants: Light (L-POMBS) and Heavy (H-POMBS), each tailored to different operational requirements.

The system is intended to neutralise threats such as:

- irregularly deployed landmines,
- improvised explosive devices (IEDs),
- unexploded ordnance (UXO),
- booby traps,
- artificial obstacles such as triple-strand barbed wire.

POMBS provides a rapid and effective method for clearing safe lanes in both military operations and humanitarian missions. Its ease of use and short deployment time make it a highly effective tactical solution in demanding field conditions.

System Variants

L-POMBS (Light)

The lightweight version of the system is designed for maximum mobility and can be operated by a single soldier.

Key features:

- Carried by one soldier (single backpack),
- Fast deployment,
- High mobility and flexibility in the field.

H-POMBS (Heavy)

The heavy version offers increased breaching capability, suitable for more demanding operations.

Key features:

- Carried by two soldiers (two backpacks),
- Increased number of explosive charges.

Technical Specifications

Parameter	L-POMBS	H-POMBS
Portability	1 soldier (1 backpack)	2 soldiers (2 backpacks)
Deployment time	≤ 1 minute	≤ 1 minute
Weight	16.5 kg	23 kg (each backpack)
Dimensions	490 × 400 × 210 mm	490 × 400 × 210 mm
Linear explosive charge	75 units	248 units
Explosive content per unit	100 g	100 g
Charge spacing	1 m	0.22 m
Rocket fuze delay	28 s	28 s
Explosive fuze delay	6 s (automatic)	6 s (automatic or manual)
Cleared lane length	up to 76 m	up to 54 m
Cleared lane width	approx. 0.5 m	approx. 0.5 m



Propellants

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILOT
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486



Hydrogen Peroxide (98%+ HTP) is a high-purity oxidiser intended for use as a monopropellant or as an oxidizing agent in liquid or hybrid propulsion systems. The Institute has developed proprietary technology enabling the production, purification and handling of highly concentrated HTP, supporting stable operation, long-term storage and compatibility with propulsion system components.

Hypergolic Fuels are developed and tested as fuel formulations that spontaneously ignite upon contact with hydrogen peroxide, enabling reliable ignition and repeatable operation of propulsion systems. Research activities include fuel production, storage, passivation and compatibility studies, providing a chemical foundation for advanced propulsion solutions requiring high reliability and precise control, applicable to military and aerospace systems.

Benefit for the soldier

- Safer handling and reduced personnel exposure risk. Compared to highly toxic oxidisers and fuels, HTP-based systems present lower acute toxicity and reduced long-term health risk for personnel involved in storage, transport, and field operations.
- Enables robust and predictable propulsion for military rockets and space assets, increasing mission readiness. High-purity HTP and hypergolic fuel combinations enable ignition-independent energy release, eliminating failure modes associated with spark, pyrotechnic, or electronic ignition systems.
- Increased system reliability without dependence on complex ignition chains.
- Supports sustained operational availability through long term storability and stable performance.

Pyrocartridges

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILOT
(Łukasiewicz Research Network – Institute of Aviation) ► p. 486

Pyrocartridges are compact pyrotechnic gas-generator devices developed by the Łukasiewicz – Institute of Aviation within the ILR-33 AMBER 2K rocket programme, intended for reliable actuation and release functions in defence, aerospace and space systems. The units generate controlled hot-gas pressures in the range of 3-12 MPa, enabling operation of valves, pistons, locking and separation mechanisms, including parachute deployment systems and pyrotechnic cutters. Their robust metal casing with an M12×1 interface, electric ignition system, wide operating temperature range (–40 °C to +85 °C), compact size and low mass allow easy integration into various platforms. The design excludes primary explosives, simplifying handling, transport, and ADR compliance while ensuring repeatable and dependable performance in demanding operational environments.



Benefit for the soldier

- delivers immediate actuation of mission critical mechanisms, ensuring reliable weapon and platform execution;
- maintains consistent performance in extreme temperatures and harsh environments, reducing mission failure risk;
- simplifies logistics by eliminating primary explosives, increasing safety and readiness.

PYROTECHNICAL PRODUCTS

Special Production Plant „GAMRAT" Sp. z o.o. ► p. 493

A comprehensive range of pyrotechnical solutions developed for military training, simulation, and operational support. The portfolio includes acoustic simulators, artillery shot imitators, and explosive smoke grenades designed for both visible and infrared spectrum masking.

These products provide realistic battlefield effects, enhancing training effectiveness and operational preparedness. Engineered for reliability and safety, they deliver controlled performance in diverse environmental conditions.

Ideal for training exercises, tactical simulations, and battlefield support, these solutions bridge the gap between simulation and real-world operational scenarios.



Benefit for the soldier

These pyrotechnical solutions enhance soldier survivability by providing effective visual and infrared spectrum concealment during tactical manoeuvres and repositioning. Realistic battlefield simulation improves training quality, directly translating to better situational awareness and decision-making under actual combat stress. Acoustic simulators and artillery imitators allow units to conduct force-on-force exercises that build tactical proficiency without live ammunition risks, reducing training-related injuries. The reliable performance in diverse environmental conditions ensures soldiers can execute deception, screening, and signaling operations with confidence, enhancing overall tactical effectiveness.

RCWS 12.7 mm (Browning M2)

MISTA Sp. z o.o. ► p. 471



Remote-Controlled Weapon Station for 12.7 mm Browning M2 is a stabilised combat module designed to enhance firepower and crew protection on modern platforms. The system enables remote engagement of stationary and moving targets while maintaining high accuracy and operational safety.

Equipped with day and night observation systems, fire control computer and fully electric drives, the station allows firing on the move with aiming accuracy below 0.5 mrad. It provides full 360° azimuth rotation and elevation range from –5° to +60°, ensuring effective target engagement in various combat scenarios.

The system supports 12.7 mm Browning M2 machine gun with up to 300 rounds of ammunition and operates in temperature conditions from –32°C to +55°C. Designed in compliance with MIL-STD-810G and MIL-STD-461G, it offers ballistic protection at STANAG 4569 Level 1. Compact and integration-ready, the station can be deployed on a wide range of wheeled and tracked platforms.



Benefit for the soldier

This stabilized remote weapon station for the 12.7 mm Browning M2 allows precise target engagement while keeping the crew safely inside the vehicle. Day/night observation systems enhance situational awareness, and high-accuracy fire on the move (<0.5 mrad) is achieved with minimal physical and cognitive effort.

RCWS 12.7 mm (NSVT)

MISTA Sp. z o.o. ► p. 471

Remote-Controlled Weapon Station for 12.7 mm NSVT is an enclosed, electrically operated combat module designed for remote engagement of ground and air targets while ensuring crew safety. The system combines stabilised aiming, advanced optics and autonomous operation for deployment on modern combat platforms.

The station provides 360° rotation and elevation from –3° to +60°, with effective firing range up to 1600 m. It is equipped with opto-electronic sighting system including thermal imaging camera and dual TV cameras, enabling target detection and engagement in day and night conditions. Detection ranges reach up to 3000 m for armoured targets depending on configuration.

The system supports up to 450 rounds of 12.7 mm ammunition and features electric drive mechanisms, remote trigger and joystick-based control. Designed for integration with various platforms, it ensures reliable operation, high targeting accuracy and adaptability to combat, reconnaissance and support missions.



Benefit for the soldier

The remote-controlled station for the 12.7 mm NSVT improves crew survivability by allowing engagement of ground and air targets from a protected position. Advanced optoelectronics (thermal imaging and TV cameras) deliver superior situational awareness with detection ranges up to 3000 m and high engagement accuracy.

Recoilless Anti-tank Missile Launcher RPG-75-M

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The RPG-75 M is a recoilless launcher with an armour-piercing projectile, designed to combat tanks and armoured structures. The weapon has a telescopic design.

Length in transport position is only 630 mm.

Length in firing position is 890 mm

RPG-75 M is able to destroy objects with 300 mm armour from a range of 300 m.



Recoilless Launcher for Thermobaric-cumulative Missiles RPG-75-MP

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The RPG-75-MP dual-purpose recoilless launcher fires a thermobaric / cumulative projectile. The dual purpose of the projectile is achieved by forming the thermobaric explosive into a cumulative charge. The thermobaric cumulative charge is activated by impact fuze with a self-destruct mechanism.

The RPG-75-MP is designed to combat armoured vehicles (cumulative effect), hardened targets (cumulative and thermobaric effects) and enemy personnel (thermobaric effect).

The weapon has telescopic design.



Recoilless Thermobaric Missile Launcher

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The RTG is a recoilless launcher firing a thermobaric projectile, designed for destroying bunkers and other field fortifications. The sighting device has been designed for precise firing at the range of 300 m with temperature compensation. The RTG has a telescopic design.

Length in transport position is only 630 mm. Length in firing position is 890 mm.

Operation of the weapon is very simple, the instructions for use are placed on the launcher's tube. The training version of the launcher – RTG-Sk is designed for teaching basic operation, aiming and manoeuvering. The practice version of the launcher – RTG-Nh (Projectile filled with inert material) is designed for practicing accurate shooting.



Reserve batteries for precision-guided munitions

Sieć Badawcza Łukasiewicz – Instytut Metali Nieżelaznych IMN
(Łukasiewicz Research Network – Institute of Non-Ferrous Metals) ► p. 487

Łukasiewicz–IMN is the sole producer in Poland of reserve thermal batteries designed to power precision-guided munitions, including PIORUN, GROM, APR-120 and APR-155. Their design enables immediate activation (under one second) and stable operation in extreme environmental conditions, in temperatures from–50°C to +55°C and under shocks up to several tens of thousands of g.

The technology developed at Łukasiewicz–IMN enables maintenance-free operation, eliminates self-discharge, and offers long-term storage without any loss of performance—up to 30 years. The hermetic construction ensures safe use and complete resistance to moisture, thermal shocks and storage conditions typical for military operations. The effectiveness of BTR batteries has been confirmed in combat environments.

Domestic production ensures independence from foreign suppliers, warrants the supply chain and reduces delivery times.

Benefit for the soldier

- instant weapon system readiness with no activation delay
- improved accuracy through reliable power supply for guidance and control systems
- reduced logistical burden due to maintenance-free features
- assured functionality after long-term storage, providing advantage in sudden actions



RGP 40 Multi-shot Grenade Launcher

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514

The weapon is designed to incapacitate and combat enemy forces, destroy technical equipment, buildings, squad automatic weapons and other support weapons, lightly armoured vehicles, as well as, creating smoke screens and other non-lethal actions. RGP-40 is semi-automatic six-shot design that shoots grenades calibre 40 mm x 46 NATO. It has integrated drum with six chambers, each 140 mm long, which allows the use of wide range of ammunition, including special ammunition. Appointed with three rails on the cover for mounting additional accessories. The grenade launcher's firing capabilities allow it to cover with fire an area of 20x60 m dimension at a maximum range of 400 or 800 m.





Benefit for the soldier

Provides high firepower and the ability to engage multiple targets simultaneously, enhancing unit effectiveness. A high rate of fire and a high-capacity revolving cylinder enable continuous fire, while a wide range of ammunition types allows adaptation to various combat tasks.



Rockets S-5KO, S-5MO

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

Unguided rockets designed to be fired from aircraft launchers at armoured vehicles, hides and buildings.

The nose-cone, after tearing, creates an additional area of effect in the form of a large number of shrapnels.



ROCKET PROPELLANT CHARGES

Special Production Plant „GAMRAT" Sp. z o.o. ► p. 493

High-performance rocket propellant charges engineered for modern battlefield and aerospace applications. Manufactured in both homogeneous (ballistite-based nitroglycerine–nitrocellulose) and heterogeneous configurations, these propellants offer exceptional energy output and controlled burn characteristics.

Designed with flexible grain geometry (single- or multi-channel), the charges ensure optimized thrust profiles tailored to mission requirements. With advanced production infrastructure and rigorous ballistic testing capabilities, these solutions deliver consistent reliability in demanding operational environments.

Widely used in air-launched missiles, rocket artillery systems, anti-tank guided missiles, and rocket-propelled grenades, these propellants provide superior propulsion efficiency and operational safety.

Benefit for the soldier

These propellant charges directly enhance strike effectiveness by ensuring reliable ignition and consistent performance of missile and rocket systems in critical combat situations. The optimized thrust profiles enable precision engagement of targets, increasing first-round hit probability and reducing ammunition expenditure. Superior propulsion efficiency translates to extended operational range and improved tactical flexibility for units employing rocket artillery and anti-tank systems. By delivering dependable performance across diverse environmental conditions, these propellants reduce cognitive load on operators and increase overall mission success rates.



Shaped Bottom Charge (KŁD)

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515



The Shaped Bottom Charge (KŁD) is an explosive device designed for engineering (EOD/sapper) operations, destruction or damage of military equipment, neutralisation of explosive and hazardous objects, as well as for unconventional (sabotage) activities. It meets the requirements of the modern battlefield.

The charge is characterised by a simple design and high effectiveness against objects made of various materials.

The design of the Shaped Bottom Charge ensures full user safety. The KŁD can be operated by a soldier who has completed basic sapper training.

The Shaped Bottom Charge maintains its operational parameters both in positive and negative temperatures and after mechanical exposure.

Technical Data

Parameter	KŁD Variant I	KŁD Variant II
Total weight	811.6 g	1026.4 g
Explosive weight	350 g	350 g
Dimensions	93 × 168.5 mm	100 × 80 × 166.5 mm
Penetration	RHA plate min. 180 mm	RHA plate min. 180 mm
Initiation system	Electric (e.g. "ERG" detonator), pyrotechnic (e.g. safety fuse), continuous detonation system (STS)	Electric (e.g. "ERG" detonator), pyrotechnic (e.g. safety fuse), continuous detonation system (STS)
Casing material	Plastic	Plastic
Mounting capability	Steel, concrete, wooden objects	Steel, concrete, wooden objects

SŁK CHELICER
Directional Engineer Charge

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The SŁK CHELICER is prepared by the user directly before task execution without the need for additional accessories. The user selects the required modules from the set and then fills (loads) the charge with plastic explosive material (PE).

It can be initiated using an electric detonator, a continuous detonation system, or a pyrotechnic (fuse-based) system.



Technical Data

→ Total weight:	200 g
→ Plastic explosive (PE) weight:	80 g
→ Overall diameter:	60 mm
→ Overall height:	110 mm
→ Armour penetration (RHA):	≥ 70 mm

The SŁK CHELICER is designed for:

- → neutralisation of ammunition (deflagration or detonation),
- → removal of fuzes,
- → destruction of IEDs,
- → damaging equipment or weapon systems.

The SŁK CHELICER features a modular design and, depending on the selected module, can be used for neutralizing various types of ammunition using:

- → classical shaped charge effect,
- → shaped charge with a jet disruptor ("jet catcher"),
- → inverted EFP (Explosively Formed Projectile),
- → EGP (Explosively Generated Plasma),
- → "water charge" (hydro-shaped effect).

SŁK CHELICER consists of:

- → charge body,
- → set of EFP liners (copper, aluminum, plastic),
- → set of shaped charge liners (copper, aluminum, plastic),
- → shaped charge jet disruptor ("jet catcher"),
- → set of EGP liners,
- → set of water liners,
- → set of mounting accessories,
- → set of loading tools (rammer, pad) – optional.

SYNTHETIC GREASE

D.N.I.-PL Sp. z o.o. General Nano Protection ► p. 447

SYNTHETIC GREASE is a specialised synthetic grease with lubricating and anti-corrosion properties for firearms.

Provides high protection against friction – ideal for heavily stressed firearm systems – and prevents rapid wear.

Suitable for all weather conditions and a wide temperature range.

Safe for plastic, rubber, and wood.

Available in 40 ml packaging.

Benefit for the soldier

- → Ensures reliable performance of automatic and high-precision weapons in the most demanding combat and operational conditions.
- → Reduces friction and wear in heavily stressed mechanisms, increasing weapon reliability during sustained use.
- → Maintains stable lubrication in extreme temperatures and harsh environments, supporting mission readiness.



Tactical Heads for Unmanned Aerial Vehicles

Bydgoskie Zakłady Elektromechaniczne BELMA S.A. (PGZ) ► p. 444

Tactical heads are designed to combat lightweight armoured tanks and transporters, as well as shooters, machine-guns and resistance points.

The heads are configured for integration with Unmanned Aerial Vehicles (UAV). The integration is carried out in terms of: mechanical, electrical, functional and IT aspects, ensuring proper exchange of data and signals between devices. A UAV equipped with tactical heads enables the monitoring of the foreground, guiding and carrying out combat and drill fire tasks. The assembly and handling are performed by one operator. The heads are available in HE, HEAT, thermobaric, drill and mock-up versions. Each of the heads may be set and dismantled repeatedly during the flight, ensuring that the mission can be cancelled, interrupted or changed at any time. The heads may also be detonated at any time at the discretion of the operator.

GX-1 DG HEADS

Specifications	High Explosive head GO-1 DG HE	High Explosive Anti Tank head GK-1 DG HEAT	Thermobaric GTB-1 DG FAE	Training GO-1 DG HE-TR
Head weight	1000 g	1000 g	1000 g	1000 g
MW type	A-IX-1	OCTOGEN	TBX	INERT
Striking/piercing range	30 m	200 mm RHA	10 m	---
Diameter	62/72 mm			
Length	185 mm			
Power supply	12 V			
Daytime camera resolution	640 x 480 pix			
Centre of gravity	93.5 +/- 2 mm			



GX-1 TYPE HEADS

Specifications	High Explosive head GO-1 HE	High Explosive Anti Tank head GK-1 HEAT	Thermobaric GTB-1 FAE	Training GO-1 HE-TR
Head weight	1450 g	1450 g	1450 g	1450 g
MW type	A-IX-1	OCTOGEN	TBX	INERT
Striking/piercing range	12 m (30 m)	180 mm RHA	10 m	--
Diameter	98/122 mm			
Length	210/226 mm			
Power supply	12 V			
Daytime camera resolution	640 x 480 pix			
Centre of gravity	67.5 +/- 2.5 mm			

GX-2 TYPE HEADS

Specifications	High Explosive head GO-2 HE	High Explosive Anti Tank head GK-2 HEAT	Thermobaric GTB-2 FAE	Training GO-2 HE-TR
Head weight	4800 g	4800 g	4800 g	4800 g
MW type	COMP-B	OCTOGEN	TBX	INERT
Striking/piercing range	50 m	700-800 mm RHA	50 m	--
Diameter	140/150 mm			
Length	260/280/305 mm			
Power supply	12 V			

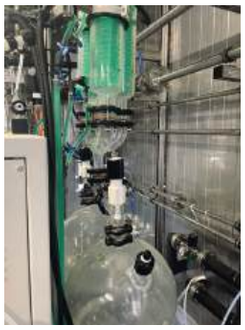


TECHNOLOGICAL LINE FOR HTPB (hydroxyl-terminated polybutadiene) PRODUCTION

Jakusz Sp. z o.o. ► p. 463







- Applications of HTPB
  - military eg. improving properties of propellants (binder to solid rocket motors), PBX compositions,
  - civil eg. rubbers industry (car tyres).

TURN-KEY LINE

- high quality of manufactured products as per military standards - compliance with MIL-P-82809 standard,
- line enables production of HTPB R-45M Resin,
- production lines in stationary or transportable (containerized) versions,
- full scope of delivery from design to start-up,
- modern equipment performed according to the EU standards,
- technological solutions and process logic ensuring high safety for people and the environment,
- modern control system based on PLC,
- 2 sublines among 1 line for alternate production of HTPB as per MIL-P-82809,
- line capacity: 60 kg/shift (by 2 sublines),
- required personnel: 3 persons,
- special safety system for reduction of any overpressure,
- incineration at the flare of butadiene residues & residual gases.

Production line is batch type and undergoes 4 stages:

1ST STAGE – polymerisation of 1,3-butadiene in presence of hydrogen peroxide and isopropanol as a solvent occurs.
2ND STAGE – gravity separation of post-reaction mixture and washing.
3RD STAGE – evaporation of purified HTPB for removal of impurities, drying.
4TH STAGE – stabilisation of purified HTPB and its transfer to a storage tank.

TNT

Zakłady Chemiczne "Nitro-Chem" S.A. ("Nitro-Chem" Chemical Works) ► p. 512





TNT IN FLAKES
Blasting explosive widely applied for filling of artillery missiles, mines and other military applications as well as for production of industrial explosives e.g. boosters, demolition charges

TNT IN SOLID PIECES
Blasting explosive applied for production of cast charges. Usage of TNT in solid pieces improves the density of the cast charge and eliminates the risk of cavities which degrades the quality of the charge.
Compositions:
TNT+HNS: 99,5% TNT, 0,5: HNS

TRAINING AMMUNITION IMITATOR OF A CANNON SHOT ISA – 155

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The Imitator of a Cannon Shot 155 mm round perfectly enables to train activity of loading and shooting alike the utilisation of live ammunition and even practice shooting. Special plug ensures complete burning of the propellant during firing. Energy created during firing is sufficient to ensure automatic functioning of the weapon system even in extreme conditions. Considering the minimal danger area (100 meters) no firing range is demanded for training and the cost of training are just fraction of the cost needed for live ammunition firing.





UKM 2020S General-purpose Machine Gun

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514



UKM 2020S General Purpose Machine Gun fed with 7.62 x 51mm NATO from M13 disintegrating belt serves as the all-purpose tool for combating variety of threats. Thanks to its high rate of fire and long range, it can be used to effectively incapacitate enemy forces, squad automatic weapons and other support weapons and technical equipment, which contributes to providing safety for soldiers. Ergonomic construction of the gun, foldable and regulatable buttstock as well as the ability to regulate the height of the bipod allow for adjustment to personal needs and preferences for the soldiers of different physique. UKM 2020S by being a general-purpose machine gun makes it possible to be used in variety of operations – ranging from difficult mountain terrains to dynamic urban combat on the streets of a city, as well as special operations. Thanks to its versatility and high effectiveness it is an invaluable asset for soldiers, by being an effective weapon regardless of the fighting environment.



Benefit for the soldier

Provides effective fire support at various ranges, increasing safety and fire superiority of the unit. An ergonomic design and adjustable stock and bipod height, improve user comfort, while the weapon's versatility enables effective operation in all combat conditions.





Universal Shaped Charge UŁK

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. ► p. 515

The UŁK universal cumulative charge is designed to make a single firing shelter in hard and frozen ground by means of explosive action.

The composition of the UŁK includes:

- one UŁK cumulative charge made of two pressed bricks made of A-IX-1, one booster and a cumulative liner, placed in a plastic housing
- two charges of PMW plastic explosive
- one holder and friction igniters

The cumulative charge may be initiated by a powder fuse or an electric igniter.

WKM-Bm/NSW-UTIOS Heavy Machine Gun

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514

High-calibre WKM-Bm Heavy Machine Gun is an automatic weapon fed with 12.7 mm x 99 NATO (.50 NMG). It can be used as the weaponry for remotely controlled weapon modules ZSMU and placed on different types of bases: pillar, tank turret, vehicle rotating turret, universal tripod, tripod for a ground use. WKM-Bm machine gun is an automatic weapon designed for destroying lightly armoured targets, squad automatic weapons and other support weapons, low flying air targets and enemy forces (also behind light cover).

Machine gun has the following features:

- Lightweight, modern construction in comparison to other machine guns of the same calibre
- High rate of fire
- Reliability
- Easy to use and maintain
- Manufactured as standard with technology to protect against humid climate and sea waters

Benefit for the soldier

Provides high firepower and effective engagement of a wide range of targets, enhancing unit fire superiority. Low weight and ease of operation improve mobility and ergonomics, while weapon reliability ensures effective performance in harsh environmental conditions.



WLKM 12.7 Multi-barrel Machine Gun

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514



The WLKM Multi-Barrel Machine Gun is an advanced externally driven electric-powered weapon based on the Gatling system, fed with 12.7x99 mm NATO (.50 BMG) loaded on M9 disintegrating ammunition belt. Four spinning barrels used in the machine gun allow to achieve maximum rate of fire at the level of 3600 rounds per minute. The WLKM is a module construction what makes it able to be easily integrated with various combat platforms. It can be used on fixed as well as mobile firing stations, as weaponry for land vehicles, watercrafts or remotely controlled weapon modules. Thanks to its versatility the WLKM works well in a variety of operating environments.

The weapon is designated to combat manpower, ground and air targets with different resistance parameters. The WLKM finds its use in protecting from unmanned combat aerial vehicles, naval mines and rocket missiles, functioning also as a weaponry of last chance. The WLKM Multi-barrel Machine Gun is an answer to the armed forces needs for modern weaponry with high stopping power and density of fire. Thanks to its innovative design and wide range of application the WLKM is a key element of modern military equipment.

Benefit for the soldier

Provides extremely high fire intensity and immediate response capability, enhancing defensive effectiveness. An exceptionally high rate of fire enables rapid target saturation, while integration with various platforms allows flexible deployment across different operational environments.

ZMT WKW-50 Large Calibre Sniper Rifle

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514



Bolt-action sniper rifle ZMT WKW-50 was designed for precision shooting at targets up to 1700 m distance, and effective destruction of technical equipment within 2000 m. The weapon is highly workable against:

- Lightly armoured all-terrain vehicles
- Field targets reinforced with light improvised shields
- Grounded airplanes and helicopters
- Radiolocation stations
- Technical and optoelectronic devices

The rifle is equipped with highly effective muzzle device, which reduces the vertical and horizontal recoil by as much as 70%. Thanks to the bullpup design, the rifle is equipped with one of the longest barrels available on the market. Such form allows greater manoeuverability and easier use of the rifle in a limited space. ZMT WKW-50 is a powerful and reliable tool for snipers who expect the highest precision, stopping power and ergonomics in every operating environment.

Benefit for the soldier

Provides effective long-range engagement of targets, enhancing the ability to neutralise critical threats. Reduced recoil and an ergonomic design improve weapon control, while the compact design allows operation in limited spaces.

ZMU-05 – Remote-Controlled Weapon Station Land Version

WB Group ► p. 502

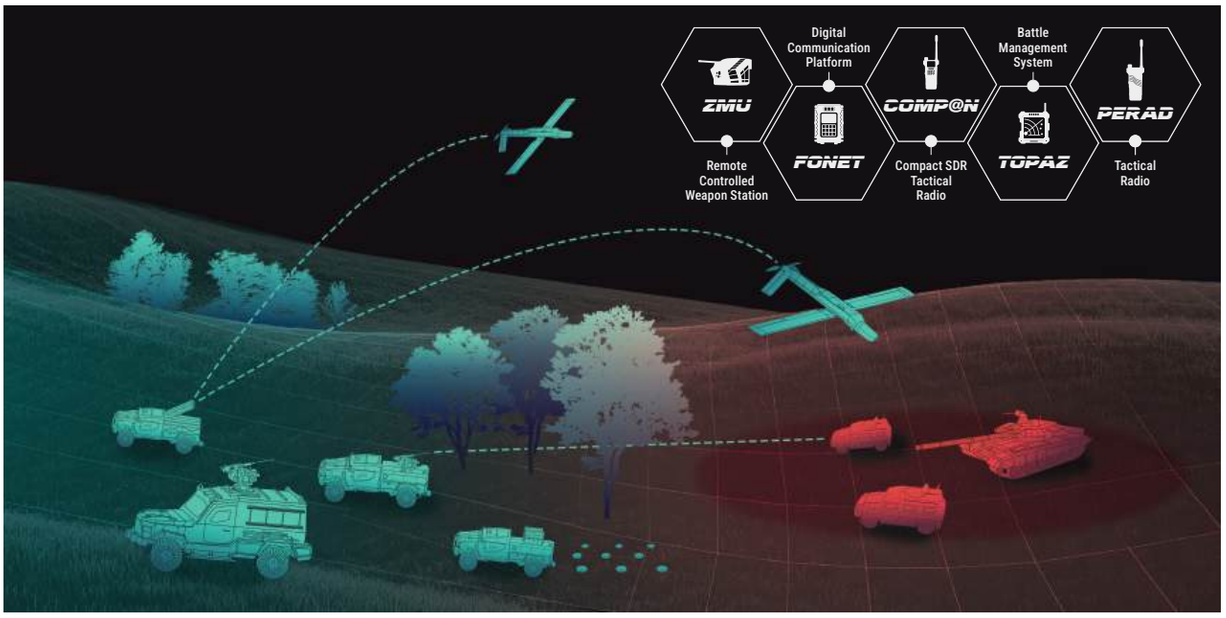
The ZMU-05 is a lightweight, remote-controlled weapon station designed for maximum mobility and compatibility. It can be installed on light vehicles, both stationary and mobile platforms, including wheeled or tracked vehicles.

ZMU-05 is compatible with a wide range of armament options, including 7.62 mm and 12.7 mm machine guns, 20 mm and 30 mm automatic cannons, and 40 mm automatic grenade launchers.

Thanks to dual stabilisation, advanced optoelectronics, and precise weapon control, ZMU-05 ensures high firing effectiveness in all conditions.







ZMU-05N – Remote-Controlled Weapon Station Naval Version

WB Group ► p. 502

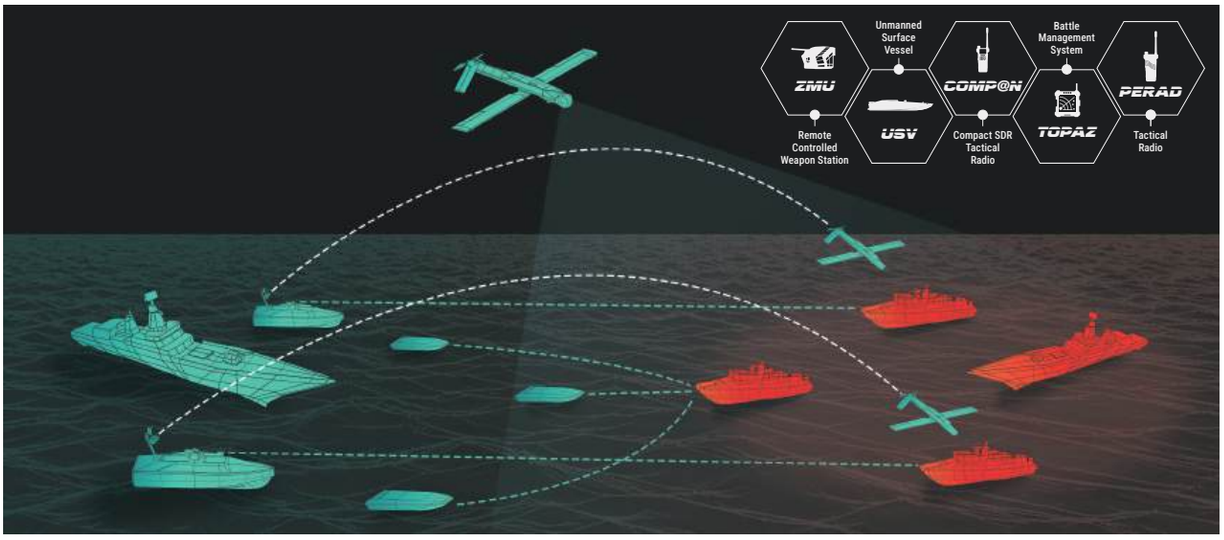
A modern close-in defence system for naval platforms, designed for warships, smaller patrol vessels, and unmanned surface vessels.

High-precision fire control is ensured by a stabilised weapon system and an electro-optical head equipped with a wide-angle 4K day camera and HD thermal imaging camera.

The lightweight, remote-controlled weapon station ZMU-05N is designed for easy integration and can be safely operated from within the carrier or via radio communication.







ZSMU A3/A3B/A5 Remotely Controlled Weapon Station

Zakłady Mechaniczne "Tarnów" S.A. (PGZ) ► p. 514









The ZSMU-1276 A3, ZSMU-1276 A3B, and ZSMU A5 are modern remote-controlled weapon modules that enable vehicle and facility crews to effectively conduct accurate fire from within the vehicle or facility, minimising risk to operators. The systems are designed to support ground units, neutralise enemy personnel, technical equipment, lightly armoured vehicles, and engage low-flying aerial targets both during the day and at night, regardless of weather conditions.

The modules are armed with 7.62 mm machine guns (UKM-2000C) in the ZSMU A3 variant and 12.7 mm machine guns (WKM-Bm) in the ZSMU A3B variant. The ZSMU A5 can be equipped with both weapon types. Depending on the configuration, their weight ranges from approximately 165 kg to 190 kg. The integrated fire control systems, weapon and camera stabilisation, and automatic target-tracking systems allow for effective engagement of stationary, moving, and small aerial targets with high accuracy, even when the vehicle is moving at speeds of up to 60 km/h on unpaved roads.

All modules are equipped with daytime and thermal cameras, laser rangefinders, and optical target-tracking systems, integrated into a compact unit with a self-cleaning function. The modules can be integrated with vehicle systems such as meteorological stations and radiation detection systems. In case of failure or power loss, manual control remains available.

The ZSMU modules are designed for installation on various platforms, including wheeled armoured personnel carriers, off-road vehicles, specialised vehicles (both wheeled and tracked), stationary facilities, and naval units. They are currently in use on vehicles such as the KTO ROSOMAK in reconnaissance, technical, and contamination detection variants, as well as other combat units. These systems ensure precision, versatility, and safety, enabling combat operations in all terrain and operational conditions.

Benefit for the soldier

The system enables precise fire without leaving the vehicle, significantly increasing operator safety. Advanced targeting systems and automatic target tracking enhance engagement effectiveness, while weapon stabilisation enables effective operation on the move.

ZSMU-30 Remote-Controlled Arming Module

Huta Stalowa Wola S.A. ► p. 461

The Remote-Controlled Arming Module ZSMU-30 is designed to engage and suppress both light and heavy armoured targets, as well as enemy infrastructure, in all weather conditions and at any time of day, providing effective fire support during combat operations. It is equipped with a 30 mm automatic cannon with a dual-feed system, a 7.62 mm coaxial machine gun, a launcher for Spike anti-tank guided missile and smoke grenade launchers.

The system features bi-axial stabilisation of the main armament and independently stabilized observation system enabling operation in hunter-killer and killer-killer modes.

The ZSMU-30 has a modular design that allows it to be adapted to user requirements, including the integration of anti-drone systems or a larger 40 mm cannon. It is intended for use on various platforms as a more capable alternative to light weapon stations in 7.62, 12.7, and 14.5 mm calibres.









ZSSW-30 Remote-Controlled Turret System

Huta Stalowa Wola S.A. ► p. 461





The Remote-Controlled Turret System ZSSW-30 (RCTS-30) is designed to engage, destroy, and suppress enemy light and heavy armoured targets as well as other objects, including enemy infrastructure, under various climate conditions, providing fire support to units during combat operations, regardless of the time of day. The system features a 30 mm automatic cannon with a dual-feed system, a 7.62 mm co-axial machine gun, eight smoke grenade launchers, and dual ATGM (SPIKE) launcher.

The turret is equipped with bi-axial stabilisation for the main armament (cannon and machine gun) and two independently stabilised observation devices: one for the commander and one for the gunner. An additional observation device allows combat operations in emergency mode. The system can operate in hunter-killer or killer-killer mode.

Together with its function workstations the turret system is autonomous not only tactically but also in terms of design, allowing it to be adapted to various carriers. The standard carrier for the ZSSW-30 (RCTS-30) is the ROSOMAK 8×8 APC. The system is also integrated with the HSW amphibious Infantry Fighting Vehicle BORSUK.



COMPANIES

Adapt-E

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We provide innovative simulators and training systems that help organizations prepare for the modern world. Our R&D centre has a strong foundation in the military sector, but we serve clients in healthcare, heavy industry and manufacturing.

Our name reflects our mission – combining Adaptation Engineering to deliver innovative solutions that meet the evolving needs of our clients. We believe that flexibility and technical excellence are the cornerstones of progress. By staying agile and open to change, we ensure that our solutions not only solve today's challenges but are ready for tomorrow's opportunities.

For over 10 years, we have been at the forefront of military research and development, specialising in creating advanced military simulators and training systems. Our military solutions are designed to replicate real-world conditions with precision, enhancing the preparedness and safety of personnel.

5 key benefits of using simulators:

- Realistic scenario replication,
- Risk-free training,
- Repetitive practice for mastery,
- Cost-effective,
- Measurable progress.

Most important achievements

- We create training software used not only in Poland, but across the world
- We work as an R&D thinktank of modern technologies in military sector
- We know the sector well since we've been in the market for 15 years

Key products and services

- Battlefield-ready hardware
- Distributed passive Drone Detection system
- Unity, UE5, VBS4 ready 3D content

- Battlefield-ready hardware ▸ p. 183
- Distributed passive Drone Detection system ▸ p. 69
- Unity, Unreal Engine 5 & VBS4 Ready 3D Content ▸ p. 183

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Advanced Protection Systems (APS) is a fast-growing Polish high-tech company, founded by two scientists: Maciej Klemm PhD and Radosław Piesiewicz PhD. APS develops the groundbreaking FIELDctrl 3D MIMO radars and, based on these radars, the SKYctrl anti-drone system, which effectively detects, tracks, classifies and counteracts unmanned aerial vehicles (UAVs). In addition, the use of ML algorithms makes it possible to automatically distinguish between birds and drones. FIELDctrl and SKYctrl have been developed entirely in Poland, and are the intellectual property of the company.

With a team of over 150 technology, military and business experts, scientists, engineers and programmers, Advanced Protection Systems independently designs, manufactures and implements every component of the technology—antennas, electronics and mechatronics—as well as software, assembly, testing and final implementation. APS also provides network-centric software (CyView C2). Any sensor or effector can be integrated. APS is flexible – it is not limited to specific solutions as it develops technologies in-house.

Our solutions are designed to protect human lives, military assets, and critical infrastructure in strategic locations. Worldwide, SKYctrl protects critical national infrastructure such as refineries, airports and seaports as well as military bases and government buildings from drone threats. APS is also a strategic supplier of SKYctrl systems to the Polish Armed Forces. The cooperation with the Polish Armed Forces was preceded by a series of rigorous tests aimed at selecting the best technology and CUAS system to protect Poland from drone threats. SKYctrl systems are also being supplied to the Ukrainian Armed Forces to defend against all classes of drone threat, including the Shahed 136. The adoption of SKYctrl by the Polish Armed Forces as well as the Ukrainian Armed Forces provides credible evidence of SKYctrl's role in protecting the airspace in conflict zones or in peacetime.

APS has won many prestigious awards, including the President of the Republic of Poland's International Achievement Award, the Armed Forces Operational Command Award at the 30th International Defence Industry Exhibition (MSPO 2022) in the Force Protection category for the SKYctrl container system, and the Defender Award at MSPO 2018.

Most important achievements

- Polish Armed Forces – SKYctrl is used in the Integrated Air Defence System
- Avinor, Norway – protection of Stavanger Airport
- SKYctrl systems are in service with the Ukrainian Armed Forces in support of the fight for independence

Key products and services (approved for export)

Advanced Protection Systems has developed several versions of the FIELDctrl 3D MIMO radar and the SKYctrl system to meet the different expectations and needs of its partners

FIELDctrl 3D MIMO radars:

- Advance
- Range
- Runway
- Ultra
- Follow

SKYctrl anti-drone system:

- SKYctrl S
- SKYctrl L
- APS&MSI DS-MSI-DS TERRAHAWK PALADIN

CyView C2

- CyView C2 ▸ p. 125
- FIELDctrl 3D MIMO Radars: Advance, Range, Runway, Ultra, Follow ▸ p. 72
- MSI-DS TERRAHAWK PALADIN ▸ p. 75
- SKYctrl L Containerized system ▸ p. 80
- SKYctrl S Containerized system ▸ p. 81

Aerobits Sp. z o.o.

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AEROBITS is a Polish technology company specialising in the development of advanced avionics and airspace surveillance systems for manned and unmanned aviation. The company focuses on the miniaturisation of avionics and the integration of multiple air traffic monitoring technologies into compact and scalable solutions.

AEROBITS designs on-board systems and ground infrastructure supporting UTM/U-Space environments and the safe integration of unmanned aircraft into controlled and uncontrolled airspace. Its technologies combine Mode A/C/S, ADS-B, FLARM, UAT, Remote ID and multi-GNSS solutions, with support for multilateration (MLAT), alongside modern communication systems such as LTE, Wi-Fi and Bluetooth.

The company's products are used worldwide by aviation operators, drone manufacturers and airspace service providers. AEROBITS solutions support airspace surveillance, drone identification, detect-and-avoid systems and advanced BVLOS operations. The company currently serves customers in over 70 countries across multiple continents.

Most important achievements

- Global deployment of Aerobits airspace surveillance solutions in over 70 countries
- Development of patented miniaturised avionics technologies for UAS integration into shared airspace
- Trusted technology partner for leading drone and aviation companies worldwide

Key products and services (approved for export)

- Micro Transponder TR-10 – ultra-miniature Mode A/C/S transponder for UAVs
- GS2L Ground Station – multi-sensor airspace surveillance system
- DRS ground receivers for airspace monitoring
- idME Remote ID devices for drone identification
- trkME multi-technology trackers for UAVs
- Miniaturised avionics OEM modules (ADS-B / FLARM / UAT / GNSS)

■ GS3L Ground Station ▸ p. 265

AIR-POL Sp. z o.o.

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Design, production, research, sale and delivery of military and civilian-use parachutes and high-altitude rescue equipment, comprehensive maintenance of parachute and Automatic Activation Devices.

Design and delivery of devices supporting the parachute training process, including jumping and open canopy flight simulators.

The most important achievements

- Supporting Member of PIA (Parachute Industry Association)
- Member the National Aviation Council the Association of Polish Aviation Industry
- Holder of ISO 9001-2015, AQAP 2110.2016, Certificate in design, production and operation on parachute equipment, Combined Airworthiness Organization Certificate, Production Organisation Certificate, NATO Commercial and Government Entity Code NCAGE Certificate

Key products and services

- Basic Parachute Main an AD-95 series 3, Basic Parachute Reserve AZ-95 series 3
- Operational Parachute AD-2000
- Sport Parachute FENIKS S/F
- High Altitude High Opening Parachute System FENIKS MILITARY G9
- Supplier of Parachute Training Simulator SOKOL M

■ AD-2000 Parachute System ▸ p. 220
■ DEDAL (AD-95s.3 AZ-95s.3) series 3 Parachute System ▸ p. 229
■ Feniks Future Parachute System ▸ p. 232
■ Feniks Military G-9 Parachute System ▸ p. 233
■ Feniks S Parachute System ▸ p. 234
■ SOKOL Parachute Simulator ▸ p. 304

ALEHALE Sp. z o.o.

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ALEHALE Sp. z o.o. is a Polish, family-owned company based in Białystok, operating since 2006 in the fields of steel construction and modular building. The company specialises in the design, production, and assembly of advanced structures, particularly specialist containers and protective solutions intended for both the civil and defence sectors.

The company is expanding its operations, focusing on solutions that enhance the safety, mobility, and resilience of operational infrastructure. In recent years, ALEHALE has extended its expertise to the defence sector, offering products dedicated to armed forces, uniformed services, and critical infrastructure protection.

The company's activities cover the full project cycle – from design and engineering, through production, to assembly and implementation. ALEHALE employs modern technologies and its own production facilities, ensuring high quality, durability, and the ability to tailor products to individual user requirements.

ALEHALE holds a licence from the Ministry of the Interior and Administration (MSWiA) for the manufacture and trade of products intended for military use and has implemented quality management systems in compliance with ISO 9001:2015 and AQAP 2110:2016, demonstrating its capability to execute projects for the defence sector and collaborate with international partners.

Most important achievements

- Developing proprietary modular protective and container solutions, including mobile security points and shelters for both military and civilian applications
- Bringing to market specialised products such as munitions storage containers, observation units, and UAV support systems, designed to meet the demands of modern operational environments
- Collaborating with leading academic institutions (including Bialystok University of Technology) to advance innovative engineering and protective technologies
- Expanding the defence-sector portfolio with products including anti-tank barriers, ballistic panels, and shelter/hide systems
- Since 2023, steadily delivering residential, sanitary, and specialised container solutions to support the Armed Forces and Uniformed Services

Key products and services (approved for export)

- Specialised containers – military and protective (e.g., observation and command units CHRONOS 1, ballistic-resistant, logistics, storage – for storing combat supplies, medical, sanitary)
- Protection and survival systems (mobile protection units and modular shelters, concealment spaces for civilians, industry, and the military, as well as infrastructure protection systems, bunker beds, and protective equipment)
- Ballistic and engineering solutions (ballistic panels, bolt-together anti-tank obstacles of the "hedgehog" type, ballistically resistant container partitions)
- Modular and steel structures (e.g., office, residential, and specialised units; steel halls and industrial structures; mobile facilities and temporary infrastructure)

■ CHRONOS 1 – Armoured Mobile Observation and Command Container ▸ p. 227

ALIVE Sp. z o.o.

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Alive (Aliff) (est. 2001, headquartered in Smardzów k. Oleśnicy, Poland) is a manufacturer specialising in the design and production of standard and special-purpose vehicle bodies for civilian and military applications. With over two decades of proven industry experience, Aliff has built a solid reputation for delivering premium-quality solutions that meet the highest standards of functionality, durability, and operational reliability.

The company operates the Aliff Defence division, dedicated exclusively to tactical and military-grade vehicle builds for armed forces and security services. Aliff is also an authorized ARB 4x4 distributor, offering a comprehensive ecosystem of vehicle accessories and off-road equipment.

All solutions are developed in close cooperation with end users, ensuring operational relevance and field-tested reliability. Aliff continuously invests in R&D, engineering expertise, and state-of-the-art production methods to remain at the cutting edge of vehicle body manufacturing.

Most Important Achievements

- Design and delivery of special-purpose vehicle bodies with integrated anti-drone systems for defence clients
- Specialised vehicle body conversions for Swedish Special Forces
- Over 20 years of uninterrupted production and delivery of vehicle body systems (est. 2001)
- Active Aliff Defence division supporting armed forces and security service procurements
- Authorized ARB 4x4 distributor — expanding tactical accessory capabilities for military operators

Key Products and Services (approved for export)

- Hardtop canopies for Ford Ranger — tactical and special forces configuration
- Hardtop canopies for Dodge Ram 1500 — heavy-duty military build
- Flatbed Canopy systems for Toyota Hilux and Isuzu D-Max
- Tactical trailer with integrated canopy (prototype)
- Mobile platforms for surveillance and counter-drone systems
- Container-based security and field shelter solutions
- After-sales service, modernization, and life-cycle support

- Container-Based Surveillance and Counter-Drone Systems ▸ p. 228
- Mobile Platform for Surveillance and Counter-Drone Systems ▸ p. 365

AMZ-KUTNO S.A.

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AMZ-KUTNO S.A. is a leader in the production of speciality vehicles and conversions based on commercial vehicles, operating since 1999.

It specialises in providing vehicles for the medical sector, uniformed services, value transport, and the army.

It offers ambulances, speciality vehicles, armoured transporters and other bespoke solutions, combining the latest technologies with an individual approach to projects.

AMZ-KUTNO S.A. is known for its high quality, innovative approach and enjoys recognition in both domestic and international markets.

The most important achievements

- Economic Award for the year 2021 in the Family Business category from the President of Poland, Andrzej Duda
- State Security Leader Award – 2022 for the LOTR vehicle
- Defender – LOTR 2022

Main services and products (approved for export)

- BÓBR 3
- TUR VI
- ŻUBR
- Armoured vehicles such as: Jeep, Toyota Land Cruiser, etc
- 4-stretcher ambulance
- Police vehicles

- BÓBR – A modern 4x4 amphibious armoured vehicle ▸ p. 93
- TUR VI ▸ p. 115

AP-FLYER Sp. z o.o.

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The AP-FLYER company has been operating on the market since 2007. Initially, the main activity of the company was VIP air services. Over time, the activity has been expanded to professional implementation (integration) of modern technologies, IT products and services – broad range of computer and telecommunication equipment, as well as products and services related to security and biometrics. The company is an authorized distributor and representative of leading

manufacturers offering advanced solutions for business, uniformed services, industry or health care. We also offer our own rugged notebooks and laptops under the brand MILBOOK.

AP-FLYER offers systems and devices for EMC laboratories. We cooperate with the leader in the field of installation of anechoic chambers used to test antenna systems and all devices, and vehicles for compliance with electromagnetic compatibility directives. AP-FLYER is the only Polish company that successfully built several chambers which meet SDIP-27/2 NATO standard.

Since 2015 we have been building a cutting-edge, multi-sensor drone detection and neutralization system MADDOS. As an experienced technology company we design and manufacture main components like passive RF sensors and active jammers. The brain of MADDOS system is an advanced C2 system, which is being developed in-house and where we integrate 3rd party sensors and effectors.

At the beginning of 2020, we opened a new department in the company that deals with the design and construction of unmanned aerial vehicles with vertical take-off and landing (VTOL) capability for ISR missions.

The company holds the following certificates: ISO 9001:2015 and WSK (Internal Control System).

Most important achievements

- Delivery of over 20 MADDOS C-UAS and UAV systems to Polish Government Institutions (only in 2025)
- Development of a fully autonomous interceptor drone (ASSASSIN)
- Major contract with EU defence customer for delivery of dozens of MADDOS VTOL UAVs
- MADDOS UAVs are in service in African and Asian intelligence agencies for border security
- Dozens of MADDOS C-UAS systems implemented in EU, African and Asian countries

Main services and products (approved for export)

- VTOL UAV 600h surveillance drone
- VTOL UAV 350e surveillance drone
- Portable C-UAS systems
- MADDOS (Multi-sensor Automatic Drone Detection&Observation System)

- MADDOS Multi-sensor Automatic Drone Detection & Observation System ▸ p. 362
- MADDOS VTOL Vertical take-off and landing UAV ▸ p. 363
- PORTABLE C-UAS SYSTEMS ▸ p. 224

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Asseco – Technology for Business. Solutions for People.

Asseco is the largest IT group in Poland and Central and Eastern Europe, with over 30 years of experience in developing advanced software for key economic sectors. It leads in IT solutions for defence and uniformed services, creating innovative software for military and public security institutions.

Asseco offers systems for intelligence support, border control, and logistics, enhancing efficiency for military and border guard services. Its solutions include crisis management systems, mission support, and near real-time data integration and processing analytical tools. Collaborating with top military and public security institutions, Asseco supports complex operations and ensures high-level security.

Most important achievements

- Comprehensive Defence Solutions: Asseco enhances global security with cutting-edge technologies in cybersecurity, border integration, and situational awareness.
- Trusted Partner: over 70 successful projects for NATO, EU, and global agencies.
- Proven Expertise: advanced solutions in image analysis, unmanned systems, and space technologies.
- Certified Security Leader: industrial and personnel security certifications.

Key products and services

- Interoperable sharing of data within the NATO Coalition (CSD EP System Client) [https://pl.asseco.com/en/sectors/public-institutions/csd-ep-system-client/]

- CSD EP System Client ▸ p. 124

AUTOCOMP MANAGEMENT Sp. z o.o.

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Autocomp Management Sp. z o.o. is a leading Polish technology company specialising in the design and production of advanced simulation systems and integrated training solutions for defence and civil sectors. With over 30 years of experience, we are a leader in providing "High-Tech" solutions that enhance the combat readiness of armed forces.

Our core expertise lies in developing comprehensive training environments, including the world-renowned ŚNIEŻNIK system, tactical simulators for armoured vehicles (APC Rosomak, tank Leopard), Navy Simulators, Drones Operators Smart Simulation Systems and specialised training software. We combine deep engineering knowledge with the latest trends in Virtual Reality (VR), Augmented Reality (AR), and laser-based weapon simulation.

Autocomp Management is a trusted partner of the Polish Armed Forces and international clients, holding all necessary licences and ISO certifications for defence production. Our products are recognized for their reliability, modular architecture, mobility and quality. We provide full support, from research and development to implementation and long-term maintenance. By choosing Autocomp, you invest in combat-proven technology that saves lives and optimises training costs.

Most important achievements

- 1989 – Founding a Company
- 2014 – New Company Headquarters
- 2018 – Finalising largest Indoor Shooting System PL project
- 2021 – Arranging biggest MOD Project Pojedynek Simulation in Poland
- 2022 – Finalising FMS Leopard Project for Norwegian Army
- 2024 – Finalising APC Pluton Project
- 2024 – Finalising Damage Control Simulator for Polish NAVY
- 2025 – Finalising biggest Shooting Area in Poland for NATO
- 2026 – FMS Leopard Project for Polish Army
- 2026 – Development of Ważka – ST Mobile Simulator

Key products and services (approved for export)

- ŚNIEŻNIK – Integrated Indoor Small Arms Training System
- Tactical Simulators for Combat Vehicles (APC/ROSOMAK)
- OPA – Advanced Damage Control & Firefighting NAVY Simulator
- WAŻKA-ST – Advanced UAV & UGV Operator & Anti-Drone Combat Training System
- POJEDYNEK – Mobile Indoor and outdoor Small Arms Training & Simulation System

- OPA – Advanced Damage Control & Firefighting Simulator ▸ p. 300
- POJEDYNEK – Mobile Indoor and Outdoor Small Arms Training & Simulation System ▸ p. 302
- ŚNIEŻNIK – Integrated Small Arms Indoor Training System ▸ p. 305
- Tactical Simulators for Combat Vehicles (APC/ROSOMAK) ▸ p. 306
- Ważka – ST – Advanced UAV Operator & Anti-Drone Combat Training System ▸ p. 309

B4 Limits Sp. z o.o.

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B4 Limits Sp. z o.o. (“B4L”), based in Bialystok, Poland, has over 10 years of RF jamming experience, culminating in the fully Polish-designed Defender wideband jammers launched in 2023. Since 2015, B4L’s PhD-level engineers gained hands-on experience with various NATO and special forces systems. In 2021, B4L began developing its own reactive FPGA-based transceiver products, focused on UAV, prison, and telecom jamming.

The team includes 30+ engineers, 15 dedicated to Defender development, combining extensive lab work with field testing. This expertise makes B4L a preferred RF jamming partner for companies across the EU, Switzerland, and the Middle East. Defender CUAV jammers have been tested in Ukraine and featured at Anaconda 2023–2024, NATO Munster (mTIE25) and Selonia (mBAT25, Baltic Trust) exercises.

B4L provides effective spectrum control, enhancing safety, protecting assets, and supporting civilian and defence operations.

Most important achievements

- Member of NATO ACT EW Innovation Continuum 26
- Part of Winning Platoon at Selonia MBAT (Baltic Trust Exercises 25)
- Best performing Jammer at Anaconda Exercises in Poland in '24
- Fully SAPIENT Compliant
- Reaction Times of 36 microseconds (max. hop following of 27'500/second)

Key products and services (approved for export)

- Defender Wideband fully Reactive jammers with full bandwidth coverage (dependent on amount of real-time bandwidth ordered) between 20 MHz – 8 GHz;
- Antennas and Peripherals for jamming application
- Software & Hardware development as a service
- RF related Mechanical Engineering.

■ Defender Line of RF JAMMING products ▸ p. 340

BC Arms Sp. z o.o.

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BC Arms Sp. z o.o. is a Polish manufacturer of advanced ballistic protection systems, designed and produced entirely in Poland using the highest-quality materials sourced from leading global and Polish suppliers. The company specialises in ballistic inserts and protective equipment for the military, uniformed services, state security formations, and civilian users. The entire production process — from material cutting to the finished product — is carried out in Poland, ensuring full quality control and repeatability of parameters.

BC Arms develops its products in close cooperation with operational users and Polish institutes, continuously adapting them to evolving threat landscapes. The company's priority is the maximum protection of the end user, including minimization of backface deformation and high effectiveness in real-world conditions.

The company also offers personal protective equipment designed specifically for women, tailored to their anatomy and ensuring optimal comfort and usability without compromising ballistic performance.

BC Arms offers customised protective equipment tailored to the specific needs of professionals — because safety is a priority, and high quality is a standard.

BC Arms is not only the shield it's the latest model of polish anti-dron ammunition, all scale of products, from 5,56 mm to 40mm (personal and automatic grenade launcher).

Most important achievements

- POLSECURE 2024 Award of the Director General of the Prison Service
- Programme Council Award MSPO 2024
- Designed and manufactured in Poland using materials from world-leading suppliers

Key products and services (approved for export)

- PATROL line — ballistic inserts for law enforcement (Police, Prison Service, Border Guard)
- WARRIOR line — high-performance ballistic plates for military and special forces
- ARCHANGEL line — protective inserts for medics, civil defence, and crisis response services
- Ballistic shields (WARRIOR ALPHA / BRAVO / CHARLIE SHIELD)
- Customised ballistic protection solutions for institutional and individual clients

■ ARCHANGEL line – lightweight protective insert ▸ p. 313
■ PATROL LINE – ballistic inserts ▸ p. 326
■ WARRIOR LINE – ballistic inserts ▸ p. 330

BELLARE P.S.A.

CONTACT

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BELLARE® is a leading Polish designer and manufacturer of micro-class drones. The company brings over 14 years of expertise in unmanned systems for defence. Research, development (mechanics, electronics, software), design and production are fully carried out in-house. Most of the product value is created and retained in Poland. Our team brings together 20+ engineers, software developers, specialists and pilots.

The company is fully privately owned and organically financed through product sales. Its systems are field-proven and deployed by local governments, universities, research institutes and the Polish Armed Forces - with a strong focus on Special Forces units. BELLARE® drones are recognized for reliability, operational effectiveness and advanced capabilities in demanding environments. Our battlefield is technology.

Most important achievements

- 100+ of OGAR-3 drones already implemented and in service with Polish Special Forces in the partnership with Prodron sp. z o.o. company
- Participation in the large-scale field exercise Iron Defender 2025

Key products and services

- Ogar 3 – Micro Class Unmanned Reconnaissance System
- RAFI – Light Modular Recon Drone

- OGAR 3 – Micro Class Unmanned Reconnaissance System ► p. 366
- RAFI – Light Modular Recon Drone ► p. 372

BORIMEX Sp. z o.o.

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Borimex Sp. z o.o. is a manufacturer of technologically advanced components and systems for the defence and security sector. With nearly 50 years of experience, the company cooperates with entities of the Polish defence industry, including the Polish Armaments Group (PGZ), delivering solutions used in military vehicles and specialised technical platforms.

Borimex specialises in the design and production of hydraulic and electric vehicle winches, gearboxes, firearm suppressors, welded structures and mechanical components used in defence equipment and special-purpose vehicles. The company also manufactures hydraulic, pneumatic and electrical assemblies as well as precision-machined metal components.

Borimex operates its own research and development department, working closely with customers' engineering teams to develop solutions tailored to specific technical and operational requirements. The company's operations comply with defence industry quality standards and NATO requirements.

Most important achievements

- Implementation of defence industry quality assurance and control systems, including:
  - AQAP 2110 Certificate and Internal Control System
  - Concession of the Ministry of Interior and Administration (No. B-010/2008)
  - NATO Commercial and Government Entity Code (NCAGE): 1835H
  - Internal Control System W-253/1/2013
  - ISO 3834-2 and ISO 15085 certifications for welding processes
- Development and expansion of the company's hydraulic vehicle winch portfolio, including centrally mounted and side-mounted solutions with pulling capacities reaching up to 30 tonnes
- Establishment of the Gomander brand of firearm suppressors, which have been tested and evaluated by institutions such as the Military Institute of Armament Technology (WITU)

- Participation in the development of an electric off-road vehicle and autonomous mobility platform
- Manufacturing of independent and stub axles based on customer documentation, supplied for heavy-duty vehicles, armoured transporters and fire brigade vehicles in Poland, France, Ireland and the United States

Key products and services (approved for export)

- Hydraulic vehicle winches with pulling capacities from 7 t to 25 t, designed for heavy-duty applications and continuous operation in military and engineering vehicles
- Electric vehicle winches with pulling capacities from 5 t to 8 t, intended for lighter vehicles and occasional recovery operations
- Gearboxes and transmission systems designed for military vehicles and specialised mechanical applications
- Falcon suppressors compatible with A2 standard flash hiders, equipped with Reduced Backpressure System (RBS) technology
- Welded structures and components for military and special-purpose vehicles
- Mechanical, hydraulic, pneumatic and electrical assemblies
- Precision machining, welding and surface treatment processes

- BORIMEX GEARBOXES RANGE ▸ p. 94
- FALCON A2 QD-MAX SILENCER ▸ p. 398
- HYDRAULIC AND ELECTRIC VEHICLE WINCHES ▸ p. 99

B-Technology Sp. z o.o.

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B-TECHNOLOGY

B-Technology is an innovative Polish company that develops advanced unmanned and manned multi terrain vehicles capable of operating on land, water and in the air.

B-Technology designs and manufactures cutting-edge all-terrain drones, UAVs, RC vehicles, focusing on unique mobility systems that combine driving and flying, swimming capabilities.

In parallel, B-Technology is developing BECCARII (https://beccarii.com/), a revolutionary hybrid electric VTOL all-terrain vehicle protected by international patents in roughly 80% of global markets.

The company also develops micro-class reconnaissance UAVs, including the ultra-small drone "BSP Pchła", designed for covert surveillance tasks.

Most important achievements

- Development of novel all terrain drones under the Xerall brand, including the world's first flying driving X TANKCOPTER, commercialized as an RC product
- Advanced development of BECCARII, the first full-scale VTOL vehicle capable of driving, flying and floating, covered by international patents
- Presentation of B Technology solutions at USAF Agility Prime, attracting interest from the U.S. Pentagon
- A Xerall drone featured in The Expendables 3, increasing international visibility
- Micro drone used by the Polish Army during FEX 24, demonstrating its potential for military surveillance applications
- Won the UAV Forge competition organized by DARPA

Key products and services (approved for export)

- XERALL ATD is the world's first drone capable of driving, swimming, flying, and performing vertical take-off
- Xerall RC vehicles, launched on commercial market
- BECCARII VTOL manned hybrid-electric vehicle capable of driving, swimming, flying, and performing vertical take-off
- R&D and prototyping services – including composite manufacturing, robotics and mechatronic development
- Granted international patent VTOL propulsion system
- Micro-reconnaissance UAV "Pchła" – a tiny, quiet, military-grade surveillance drone

- BECCARII – All Terrain Manned VTOL Vehicle ▸ p. 337
- BSP „ Pchła" – Ultra-Silent Micro Reconnaissance UAV ▸ p. 339
- XERALL ATD – All Terrain Multi Modal Unmanned Platform ▸ p. 389

Bydgoskie Zakłady Elektromechaniczne BELMA S.A.

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Bydgoskie Zakłady Elektromechaniczne BELMA S.A. is among the oldest industrial plants in the Kujawsko-Pomorskie region. The company dates back to 1868. Starting as a locksmith plant, the company produced devices for the railway, automotive, defence industry, mining, and provided various types of industrial services. Currently, it is a modern entity in terms of technology and organization, able to meet the needs of demanding customers from Poland, the European Union and the world. It has appropriate technical and production potential and highly qualified team of experienced engineering and technical staff. The company has its own design offices. It employs specialists in the field of mechanics, electrical engineering and electronics designing modern products, using computer support systems in the design and production process as well as many years of experience in precise metal processing. For a number of years we have applied a management system which adheres to EN-ISO 9000 standards, fulfilling the highest quality demands of our customers.

Most important achievements

- Design and implementation of the SPPŁW anti-tank mine
- Implementation into production of heads for unmanned systems
- Research and development work for the armed forces the latest result of which is BAOBAB-K

Main services and products

- CONTROLLED ANTI-TANK ANTI-VEHICLE MINES – SPPŁW
- TACTICAL HEADS FOR UNMANNED AERIAL VEHICLES
- HEAT MINE FOR MANUAL LAYING – MR-123

- CONTROLLED ANTI-TANK, ANTI-VEHICLE MINES SPPŁW ▸ p. 395
- HEAT MINE FOR MANUAL LAYING MR-123 ▸ p. 401
- TACTICAL HEADS FOR UNMANNED AERIAL VEHICLES ▸ p. 421

BZB UAS Sp. z o.o.

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BZB UAS is a dynamically developing expert company with an established position on the Polish market, which offers innovative solutions that meet the expectations of the most demanding customers.

Our company is the official partner of ARDUPILOT and an authorized distributor of CUBEPILOT – the largest global brands related to unmanned systems. Based on almost 18 years of experience in the unmanned systems industry and programming, we have built a team of experts who provide professional advice when purchasing equipment and training in the use of educational stations.

The fundamental value of our business is an individual approach to each client and honesty and conscientiousness in the implementation of services, which is confirmed by numerous references and hundreds of satisfied customers.

Most important achievements

- VTOL (Vertical Take-Off and Landing)

Key products and services (approved for export)

- ekoSKY 2.0
- FPV Drone Transport Backpack VESPULA
- FPV Drone Transport Bag VESPULA MAX

- ekoSKY 2.0 ▸ p. 32
- FPV Drone Transport Backpack VESPULA ▸ p. 315
- FPV Drone Transport Bag VESPULA MAX ▸ p. 316

CASTELIOR Sp. z o.o.

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Castelior – Armour-Clad Perfection, Polish Engineering. In the world of military logistics, where reliability determines mission success, Castelior stands as an undisputed leader. We are the only Polish manufacturer of certified military cases, providing advanced solutions for both transport and ammunition storage. Our products are more than just containers—they are top-tier protection systems that meet rigorous defence standards, backed by official certifications. Our brand is built on decades of experience and an uncompromising commitment to quality.

At Castelior, we do not settle for half-measures, which is why full customisation lies at the heart of our operations. We believe that equipment must be tailored to the task, not the other way around. Every project is the result of a close synergy between our in-house engineering team and the most demanding critics—soldiers and end-users. Thanks to direct consultations with field practitioners, our cases are perfectly designed to meet the specific needs of the modern military.

Our proprietary technological infrastructure allows us to implement innovations rapidly while maintaining full control over the entire manufacturing process. By choosing Castelior, you are investing in Polish reliability, elite precision, and a guarantee of safety that never fails—even in the most extreme environmental conditions.

Castelior – Because professionalism deserves protection without compromise.

Most important achievements

Our greatest achievement? It's the fact that we stay just as quiet as our cases are secure.

We take immense pride in the trust of our clients, for whom we provide "tailor-made" solutions—ranging from armoured protection for servers and medical devices to the most advanced military hardware. While professional discretion prevents us from revealing exactly what goes inside, we would like to thank the PGZ Group for their regular orders and the Special Forces for ensuring their secrets are safe with us.

Castelior – We protect the gear, we transport the silence.

Key products and services (approved for export)

- NCS-120-75-60(9)
- NCS-120-75-60(9)
- NCS-75-60-50(9)
- NCS-M120-2
- NCS-T120-2
- NCS-M60-2
- NCS-80-80-52(13)
- NCS-180-45-31(9)
- NCS-120-42-20(9)

- Castelior ST Series: Engineered Protection ▸ p. 185
- Castelior ST: A Precise Response to Evolving Drone Technology ▸ p. 186
- ZA Series: Advanced Solutions for Defence Systems ▸ p. 215
- ZA Series: Next-Generation Intelligent Ammunition Protection ▸ p. 216

Centrum Rozwojowo-Wdrożeniowe Telesystem-Mesko Sp. z o.o.
(Development and Implementation Centre Telesystem-Mesko Ltd.)

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The Development and Implementation Centre TELESYSTEM-MESKO is a Polish leader in guidance systems for missile and ammunition technologies. It is the manufacturer of "smart" solutions designed for MANPADS GROM/PIORUN anti-aircraft missiles, Precision-Guided Munitions (PGM) of 155 mm and 120 mm calibers, and PIRAT anti-tank guided missiles (ATGM). We develop and produce unique photodetectors and photodiodes for MANPADS, ATGMs, and PGMs on a global scale, as well as specialised optics and complete electronics that constitute the "intelligence" of missiles and precision munitions—ensuring unmatched target engagement accuracy.

With the development of programmes related to guidance using reflected laser radiation, we have created the Polish Laser Target Designator compliant with the STANAG 3733 standard, as well as a "silent" communication system based on "low-noise" laser rangefinders. As a result, we can offer comprehensive precision-strike systems.

We possess the capability to implement innovative solutions in the development, design, testing, and production of optoelectronic and electronic components for missile technology and "smart ammunition."

Most important achievements of TELESYSTEM-MESKO

- The "intelligence" systems for MANPADS GROM/PIORUN missiles.
- The "intelligence" systems for 155mm and 120mm PGMs and PIRAT ATGMs.
- The Mobile Missile System KUSZA, equipped with PIORUN MANPADS missiles, including an autonomous tracking and firing system.
- The Data Reading Device (UOD) for MANPADS PIORUN systems to enhance firing efficiency, as well as the Control and Measurement Station (SKP) for automated periodic inspections and repeated testing of missiles, launch mechanisms, and authorization keys for the PIORUN MANPADS systems.
- The UST-2 training devices for soldier instruction using portable anti-aircraft missile systems (MANPADS PIORUN).
- Laser Target Designators.
- "Low-noise" laser rangefinders, along with a laser-based "silent" communication system.Key products and services.
- Optoelectronics for GROM/PIORUN anti-aircraft and anti-tank missiles and for 155 and 120 mm precision-guided munitions.
- "KUSZA" (CROSSBOW).
- Control and Measurement Station.

Key products and services

- "KUSZA" (CROSSBOW)
- Control and Measurement Station (SKP)

- Control and Measurement Station (SKP) ▸ p. 68
- LASER TARGET DESIGNATORS ▸ p. 320
- TWIN-ROUND MOBILE AIR DEFENCE MANPADS SYSTEM "KUSZA (CROSSBOW)" ▸ p. 82

Comet Andrzej Mostek Spółka komandytowa

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Comet is a team of specialists developing advanced equipment for precise measurement of atmospheric conditions. We design and integrate modern systems with the highest accuracy, based on proven and cutting-edge technologies available on the market.

We combine the expertise of engineers, software developers, and a service team that operates effectively even in the most demanding field conditions. As a result, we deliver reliable solutions tailored to real user needs.

Most important achievements

- Extensive experience in designing and integrating meteorological systems
- Projects delivered in Poland and international markets (Europe, Asia, extreme environments)
- Installations operating in demanding conditions, including polar regions
- System deployments for aviation, military, industry, and research institutions
- Development of proprietary solutions in software, communication, and power systems
- Integration of systems based on leading global sensors and technologies

Key products and services (approved for export)

- Mobile Meteorological Systems – including field-deployable and transportable weather stations (e.g. MAWOS) for operational and field applications
- Meteorological Monitoring Systems – stationary and distributed measurement systems integrating multiple sensors and locations
- forecasting operations
- Atmospheric Measurement Systems (Sensors and Integration) – solutions covering measurements of wind, temperature, humidity, pressure, precipitation, visibility, and cloud base
- Meteorological Warning Systems – including lightning detection systems and severe weather monitoring solutions

- MAWOS – Mobile Meteorological Station ▸ p. 275

Creotech Instruments S.A.

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Creotech Instruments is a leading Polish integrator and manufacturer of small satellites, satellite systems, and components. The company offers complete satellite missions based on its proprietary HyperSat platform, as well as dedicated space systems. Its portfolio includes more than 45 successful space projects involving the company's subsystems.

Creotech owns its own electronics manufacturing facilities and small satellite integration infrastructure.

The company delivers large-scale space projects as a prime contractor, rather than solely as a subcontractor, which distinguishes it in the Polish market. It is one of the largest Polish contractors to the European Space Agency (ESA).

Creotech Instruments is involved in numerous national and international projects. It is currently executing a strategic project commissioned by the Polish State Treasury and the Armament Agency, called Mikroglob, and CAMILA project, aimed, among other things, at developing a national constellation of at least four Earth observation satellites.

The company has been listed on the Warsaw Stock Exchange (GPW) since 2022, becoming the first Polish company in the space sector to debut on the exchange.

Most important achievements

- MIKROGLOB: A Creotech-led military Satellite Earth Observation System composed of four HyperSat microsatellites. The first satellite was launched in July 2026, with the remaining satellites scheduled for launch by the end of 2027
- PIAST: A constellation of three HyperSat nanosatellites for optoelectronic imaging reconnaissance, ordered by the Polish Military, launched in 2025
- CAMILA constellation: Creotech Instruments is building a multi-sensor SAR & Optical Earth Observation constellation of at least 4 satellites for European Space Agency and Poland

Key products and services

- Custom HyperSat modular microsatellite platform for Optical Earth Observation, SAR, Comms, SIGINT, PNT or Technology missions in the 20-200 kg launch mass range
- ISO-9001, ECSS, ISO 7 certification
- Turn-key mission design, systems qualification, launch campaign and mission operations
- Electronics Manufacturing Services
- Transfer of knowledge and training

- HyperSat Eagle 2.0 HR EO: a ~1m GSD high resolution Earth Observation microsatellite ▸ p. 42
- HyperSat Nano 2.0 MR EO: a ~3m GSD high resolution Earth Observation microsatellite ▸ p. 43
- HyperSat satellite family – Versatile, Reliable, and ITAR-Free Solutions ▸ p. 44
- HyperSat Seagull SAR Microsatellite ▸ p. 45

D.N.I.-PL Sp. z o.o.
General Nano Protection

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General Nano Protection (GNP) is a specialised research and production company developing and manufacturing advanced firearms cleaning and maintenance products for defence and security applications. Leveraging years of experience, we ensure our products deliver verified reliability, operational effectiveness, and consistent quality.

Our portfolio includes solutions distinguished by durability, precision, and functional innovation, designed to meet stringent military standards. Complementing our production, we are committed to educating users on the correct and effective cleaning of firearms, ensuring optimal performance and safety.

GNP holds a positive evaluation from WITU and is registered with an NCAGE code, confirming our compliance with international defence industry standards. Our commitment to technical rigour and quality ensures that our products consistently provide operational advantages in demanding environments.

NCAGE: 9BXGH

Most important achievements

- Exceptional positive evaluation from WITU (Polish Military Institute of Armament Technology)
- Trust and satisfaction of uniformed services across the EU and beyond

Key products and services

- Gun Oil 100/200/400ml
- Degreaser Cleaner 200/400ml
- Bore Cleaning Foam 100/200/400ml
- Gun Cleaner 75/150/300ml & Sachets
- Synthetic Grease 40ml
- Optic Cleaner 100ml
- Silicone Oil 200/400ml
- Electronics 150ml
- Electric 150ml

- BORE CLEANING FOAM ▸ p. 395
- DEGREASER CLEANER ▸ p. 396
- ELECTRIC ▸ p. 396
- ELECTRONICS ▸ p. 397
- GUN CLEANER ▸ p. 399
- GUN OIL ▸ p. 400
- OPTIC CLEANER ▸ p. 412
- SYNTHETIC GREASE ▸ p. 420

D.S.GERMAZ Sp. z o.o.

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D.S. Germaz was established in 1993. It is a family company with entirely Polish capital. Since its inception, Germaz has specialised in the production of specialty and armoured vehicles. In addition to its manufacturing operations, it is a multi-brand dealer for Ford, Hyundai, and KGM. D.S. Gemraz's clients include Polish and international government organizations, the military and police, banks, the mining industry, and individual customers. Over its 30-year history, Germaz has delivered over 300 armoured vehicles in classes B4, B6, and B7. Germaz holds a licence for trading in dual-use goods and a Quality Management System – ISO 9001:2015, AQAP 2110:2016, and an Internal Control System.

Major achievements

- Development and production of a prototype of the AMRV G10 Multi-Purpose Armoured Vehicle, based on a UNIMOG chassis.
- Delivery of an armoured bus for the President of the Republic of Poland.
- Delivery of several dozen armoured vehicles to the Ministry of Defence of a Gulf country

Key Products and Services (approved for export)

- AMRV G10 Multi-Purpose Armoured Vehicle
  - Armoured SUVs – TLC 300, Lexus, Mercedes G500
  - Armoured buses – Mercedes Travego, Mercedes Sprinter, VITO
  - Class A, B, and C armoured vehicles – Mercedes ATEGO, Volkswagen Crafter
  - Armoured ambulances based on the Toyota LC 79

- AMRV G10 ▸ p. 88

DEMARKO S.A.

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DEMARKO S.A. the company existing nearly 40 years specialises in production of dedicated products. Owner of the highest level of skills, covering the entire range of production process activities, starting from design and finalizing with sales of highly dedicated to a customer product. Products of own design were sold to customers in 12 countries always following individual and very particular requirements. Medium in size company situated in town Bytom, south of Poland, employs over 200 well educated, engaged and dedicated engineers, technicians and workers. Formally owned and managed by the members of one family. Climbing up during all these years on the stairs of experience, DEMARKO S.A. successfully completed few re-organizations, adapting own structure of organization and production to the new, set intentionally targets and goals. Rewarded in consequence, between others, with ISO 9001:2015 and ISO 3834-2 certificates, implementing AQAP 2110:2016 was certified for production and delivery of military products of own design. Consequently, registered under NATO NCAGE number 99NMH. Currently, DEMARKO is involved in development and delivery of flexible, modular systems for military and supply logistics as well as customised solutions for transportation of specialised equipment. Becoming this way one between very few suppliers of the means dedicated for heavy duty transport, became the partner of the Army of Republic of Poland and supplier to countries – members of NATO.

Main services and products

- Semi-trailers of different sizes and configurations
- Trailers of various configurations and applications
- Multi stretches ambulances
- Trucks of various different superstructure applications
- Subcontracting of production capability
- Production of metal components, parts, elements

- 122MM BARREL ▸ p. 392
- AMBULANCE ▸ p. 181
- GENERAL PURPOSE TRUCK WITH CRANE ▸ p. 192
- SEMI-TRAILER ST555-20W.M and ST775-20W.M ▸ p. 207
- SEMI-TRAILER ST775-20W ▸ p. 208
- SEMI-TRAILER ST775-24W.H-PA ▸ p. 209

Dobrowolski Sp. z o.o.

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Traditions of manufacture of equipment for the use of municipalities, road engineering and airports in the Dobrowolski company reach back to 1957. The beginning of 2000 caused the extension of production considering the needs of Polish Army as well as the demands of airfields. Consequently, two product lines have been created: civil equipment used in winter for the maintenance of roads and airfields and military special purpose tankers. During decades Dobrowolski company implemented innovative solutions of prototype products. Finally in 2019 Dobrowolski company established the Research and Development Centre under the INNOMOTO programme of the National Centre for Research and Development. Currently, the company's R+D centre is conducting research on numerous projects, including autonomous vehicles. The Company has an indispensable manufacturing base supported by the Design Department, which, along with qualified personnel, allows manufacturing standard equipment and implement non-standard projects. The Company functions in accordance with requirements of the Quality Management System

and has ISO certificate 9001:2015 as well as AQAP 2110:2016. Dobrowolski is also classified under NATO NCAGE code 2526H. Our advantage is the ability to respond swiftly to market needs and the flexibility in adaptability of the equipment to individual needs of Clients.

The most important achievements

- 019 y. B+R Centre implementation.
- Defender 2021 Award for innovative autonomous platform BIZON, the common project of Dobrowolski Ltd and Airforce Institute of Technology.
- Obtaining industrial certifications, the AQAP 2110 Certificate, NATO NCAGE CODE 2526H, Concession No. B-030-2023.

Key products and services (approved for export)

- Semi-trailer DOB70
- Fuel tanker CN33
- Fuel distribution tanker ND33
- Fuel tankers CD
- Various types of superstructures

- CD Fuel Tankers ▸ p. 187
- CN33 Fuel Tanker ▸ p. 188
- ND33 Fuel Distribution Tanker ▸ p. 201
- Semi-trailer DOB70W ▸ p. 206

Domar MS Sp. z o.o.

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DOMAR MS is a Warsaw-based company existing on the defence market for over 30 years. Company specialise in comprehensive electrical and fiber-optic interconnection systems for the defence, space and aerospace sectors. DOMAR MS is supplier for the biggest polish and european companies from defence market.

Company supply about 250 employees in two facilities in Warsaw (together 6700 m^2).

DOMAR MS products guarantee high reliability and professional solutions.

Production:

- wire harnesses
- coaxial cables
- power cables
- fiber-optics cables
- boxes and panels

Distribution:

- all types of electrical connectors used in defence, aerospace and space products
- fiber-optics connectors
- accesories for connectors – backshells, caps, etc.
- wires and cables
- braided screen
- shrinking components
- tools and testing equipment
- slip rings
- capacitors, resistors and filters
- EMI/RFI/EMC gaskets

Assembly:

- connectors MIL-DTL-38999

Distributor / Business Partner:

- SOURIAU/Eaton
- Turbo India
- Radiall
- Bernier
- Exxelia
- Nicomatic
- Glenair
- Schlegel EMI

Main Certificates:

- AS9100D
- Concession of the Ministry of Interior and Administration
- IPC-WHMA-A-620
- IPC-A-610
- NATO CAGE Code

- Boxes and panels assembly ▸ p. 96
- Cable harnesses ▸ p. 98

DRI Solutions Sp. z o.o.

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Our activities focus on the development and production of cutting-edge technologies for the military and space sectors. We offer electro-optical systems for manned and unmanned vehicles. We manufacture precise inertial navigation systems based on MEMS, FOG, and Kalman filtering technologies. We develop ground tracking and wireless communication systems. We always deliver robust technologies to our customers.

Most important achievements

- The DRI-EO-12 is a stabilised optoelectronic system designed for detection, recognition and identification. It is equipped with a VIS day camera, MWIR or LWIR infrared surveillance camera, low light SWIR camera, laser designator for missile guidance and laser range finder.
- The DRI-INS is a high performance GNSS-Aided Inertial Navigation System (GNSS/INS) that incorporates three gyroscopes, three accelerometers and barometric sensor. Sensor fusion performed by Kalman Filter provides the user with stable and robust position, velocity and attitude data. The module can be integrated with two GNSS antennas, providing precise heading information.
- The DRI-GNSS-DEV is a multi-band GNSS hardware receiver for software-defined radio (SDR) development and GNSS signal analysis. It enables rapid prototyping, signal search and support for multiple constellations including GPS, Galileo, GLONASS and BeiDou.

Key products and services

- Electro-optical (EO/IR) systems
- Inertial navigation systems
- Multi-band GNSS Hardware Development
- PMSM driver for ESA lunar missions
- Satellite and UAV stabilisers
- Wireless Video and Telemetry Data Links
- Real time embedded computers

- DRI-EO-12 ▸ p. 70
- DRI-GNSS-DEV ▸ p. 31
- DRI-INS ▸ p. 262

Elbo Sp. z o.o.

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ELBO is a proven partner in the military and logistics sectors, with 35 years of experience in developing specialised transport solutions. The company designs and manufactures a wide range of truck body systems, trailers, semi-trailers, and logistics and supply units, all tailored to operate in the most demanding conditions. Its portfolio includes a full spectrum of chassis, from on-road platforms to highly specialised configurations, ensuring reliability in both tactical operations and backend logistical support.

Advanced production facilities, an experienced workforce, and a flexible approach to project execution enable ELBO to deliver highly customised and technically advanced solutions. The company collaborates with leading truck manufacturers, integrating its systems with platforms from globally recognized brands. Production is based on proven technologies and strict quality standards, confirmed by ISO and AQAP certifications, as well as an NCAGE code and a licence for manufacturing military equipment.

ELBO continues to expand its comprehensive production capabilities, covering mechanical and thermal processing, advanced painting technologies, anti-corrosion protection, and the production of specialised bodies and containers. The integration of Dobrowolski's expertise further strengthens the company's capabilities in the field of special-purpose vehicles.

Key products and services

- BDF bodies
- Rear-dump trucks
- Transport sets
- Logistic trailers
- Field kitchens
- Trucks for transport with trailers
- Box bodies with crane
- Curtain-sided cargo bodies

- CURTAIN-SIDED CARGO BODIES ▸ p. 189
- LOGISTICS TRAILER ▸ p. 195
- REAR DUMP TRUCKS ▸ p. 203

Enamor International Sp. z o.o.

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Company is delivering cybersecurity, IT, software and electronics to national and NATO military forces and critical infrastructure companies. We are implementing complex IT systems processing classified information for field, mobile and naval national and allied systems. We implement cybersecurity measures in Security Operation Centre. Company is delivering tailored software products for data analysis, fusion, correlation and crawling of Internet and Darknet.

Most important achievements

- Participation in Alliance Ground Surveillance Battle Lab system for NATO AGS Forces.
- Participation in Naval Strike Missile Coastal Defence System for polish Marine Forces
- Cybersecurity system: data analysis and fusion, Internet and DarkNet monitoring, image/video analysis
- Security Operation Centre implementation

Key products and services (approved for export)

- Network processor PLUMLA NGN (https://plumla.com)
- WRK-01
- Network processor Plumla SSL (https://plumla.com)
- PZŁ-1
- Troposcatter Terminal PZT-1

- Plumla-NGN ▸ p. 141
- PLUMLA SSL ▸ p. 142
- Portable Communication Set PZŁ-1 ▸ p. 144
- Troposcatter Terminal PZT-1 ▸ p. 155
- WRK-01 ▸ 159

Etronika Sp. z o.o.

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Etronika Sp. z o.o. has been designing, manufacturing, and distributing professional optical and optoelectronic systems, primarily for the defence sector, since 2002.

Our portfolio includes thermal cameras with both cooled and uncooled detectors, daytime cameras, laser rangefinders, as well as advanced optoelectronic heads that work with fire control systems and 360-degree observation systems for tactical vehicles. We also offer classical optics such as mortar sights, various types of optical sights, and periscopes.

We have extensive experience supporting a wide range of video output standards, both analogue (PAL/NTSC) and digital (including CSI, SDI, FPD-Link, GMSL, Ethernet, HDMI). We provide proprietary electronic systems that allow integration of multiple video streams with SoM modules (e.g., NVIDIA® Jetson™, Raspberry Pi, or NXP® i.MX families), enabling further image processing and analysis.

We also offer drive control systems designed to operate in harsh environmental conditions typical for military and special applications.

The company holds ISO 9001:2015 and AQAP 2110:2016 quality certifications, as well as the MSWiA licence No. B-067/2004.

Most important achievements

- Thousands of cameras deployed on armoured vehicles
- Hundreds of electro-optical sights integrated into fire control systems
- Tens of thousands of professional miniature thermal imaging cameras, including KTL, KTM, and KTS models, mounted on drones. The KTM model is the smallest, measuring just 28 × 28 × 37 mm including the lens.

Key products and services (approved for export)

- Cooled and uncooled thermal imaging cameras
- Thermal weapon sights
- Laser rangefinders
- Fire control system optoelectronic modules (ranging and imaging units)
- Multisensor surveillance and observation systems
- Optical sights and periscopes
- Modernization and upgrade solutions for armoured vehicle optics and night vision systems

- GOSK – Optoelectronic system ▸ p. 264
- KDT – Fire-control-system ▸ p. 271
- KTD-60.3/90.3 – Argos Daylight-thermal observation head ▸ p. 272
- KTL – Thermal modules ▸ p. 273
- ZIG T 2R – Optoelectronic head ▸ 285

Eumotors Sp. z o.o.

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EUMOTORS is a manufacturer of brushless electric propulsion motors for unmanned and autonomous systems. Engineering and manufacturing operations are based in Kraków, Poland. The motors are produced in-house. Additional production capacity is located in Hallandale Beach, Florida.

The company offers more than 50 motor architectures. Production is supported by a European-based supply chain and scalable manufacturing capacity already exceeding 100,000 motors per month.

A key capability of EUMOTORS is motor customisation. The company adapts motor parameters, mechanical interfaces and electrical characteristics to platform requirements.

All motors undergo electrical, mechanical and operational testing prior to shipment, with full traceability provided.

Most important achievements

- Achieved production capacity of 100,000 motors per month in Kraków, Poland
- Built a European-based supply chain ensuring production continuity and supply security
- Established in-house manufacturing of critical motor components, ensuring full control over quality, traceability and supply continuity
- Established a manufacturing facility in Florida

Key products and services (approved for export)
The products listed below represent selected BLDC motors from the EUMOTORS portfolio.
- EUM-3115 High-Performance Propulsion Motor for Unmanned Systems
- EUM-2207 Compact Propulsion Motor for Unmanned Systems
- EUM-4014 High-Efficiency Propulsion Motor for Unmanned Systems

- EUM-2207 Compact Propulsion Motor for Unmanned Systems ▸ p. 346
- EUM-3115 High-Performance Propulsion Motor for Unmanned Systems ▸ p. 346
- EUM-4014 High-Efficiency Propulsion Motor for Unmanned Systems ▸ p. 347

EUROTECH Sp. z o.o

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EUROTECH is a leading European engineering company specialising in Unmanned Aircraft Systems, aerospace and mobile equipment.

For 25 years, the company has been providing Custom-Engineered Systems, combining engineering expertise with practical applications to deliver solutions that optimise performance, efficiency, reliability, and safety.

Eurotech solutions help its clients and partners maintain their technological leadership and achieve the highest standards.

The company offers complete Multifunction UAS HAASTA as well as Ground Control Stations, Mobile Launchers, Piston Engines and Hybrid Power Unit, dedicated software and on-board systems tailored to customer needs.

Most important achievements
- Participation and leading R&D projects
- Thousands of UAV missions executed
- Defender Awards for Unmanned Aircraft Systems
- Participation in ERA RPAS standardization project for EDA

Key products and services
- UAS HAASTA
- Vermin Aerial Target System
- Pneumatic and Hydraulic Launchers for UAS
- Hybrid Power Drive Unit for UAS
- Combustion Engines for UAS
- Military Hydraulics Systems and Controllers
- R&D projects, Design and Development,
- System Integration and Testing
- Prototyping and flight testing
- Production of subsystem
- Pilot and small-scale production
- Serial production of Military Equipment

- UAS HAASTA ▸ p. 356

Eycore Sp. z o.o.

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Eycore is a Polish space company based in Warsaw, specialising in the design and manufacture of Synthetic Aperture Radar (SAR) payloads for Earth observation. The company consists of a team of scientists and engineers with extensive experience in developing advanced military-grade radar technology solutions for the space, defence and civilian markets.

Leveraging its expertise in radar technology, Eycore has developed SAR payloads (sensors) that are satellite platform agnostic, enabling flexible integration with third-party microsatellite platforms. Their modular design ensures

faster delivery to meet challenging timescales that governments and private clients demand for enabling sovereign Earth observation. In 2025, the European Space Agency awarded the CAMILA (Country Awareness Mission in Land Analysis) programme to a consortium of Polish space companies. Eycore will supply the SAR payload for the mission —the first SAR satellite ever contracted by Poland.

Key products and services (approved for export)

- SAR Payload
  - Equipped with advanced military-grade radars
  - Delivered rapidly within 6-9 months
  - Ready for integration - by the customer or chosen satellite bus integrator
  - Post-delivery support

- SAR Satellite
  - SAR satellite fully integrated with SAR payload
  - Delivered rapidly within 12-18 months
  - Launch services through trusted launch-proven partners
  - Post-launch mission services

■ Synthetic Aperture Radar (SAR) Payload ▸ p. 58

Fabryka Broni "ŁUCZNIK" – Radom Sp. z o.o.

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Fabryka Broni "Łucznik" – Radom sp. z o.o. is one of the most reputable firearms manufacturers in Poland and Europe, with over 100 years of tradition in the design and production of small arms.

Located in Radom, the company combines long-standing manufacturing heritage with modern technologies, precision engineering and continuous innovation. Fabryka Broni is a key supplier of small arms to the Polish Armed Forces and services of the Ministry of Internal Affairs and Administration, while also providing products to international partners and the civilian market.

The company's flagship products include GROT rifles from the Modular Small Arms System family, including the latest GROT A3 version, Beryl carbines, VIS 100 pistols, modular MPS pistols, and 40 mm grenade launchers designed for modern military applications.

Building on a century of experience, the company continues to develop advanced solutions and expand its product portfolio to meet the evolving requirements of military, law enforcement and civilian users worldwide.

Most important achievements

- We have delivered approximately 250,000 MSBS GROT rifles to the Polish Armed Forces and remain the main supplier of firearms for the military and uniformed services.
- The MSBS GROT rifle, supplied by the Polish government to Ukraine, has proven itself in combat.
- The MSBS GROT rifle in 7.62×39 caliber was delivered to the Rwandan Special Forces and is actively used by them on peacekeeping missions.
- We have delivered our Beryl M762 rifles in 7.62×39 caliber to the Nigerian Armed Forces.

Key products and services (approved for export)

- The MSBS GROT family of rifles in 5.56×45 mm and 7.62×39 mm caliber
- The BERYL family of rifles in 5.56×45 mm and 7.62×39 mm caliber
- The VIS100 family of pistols 9x19 mm caliber
- The MPS family of pistols 9x19 mm caliber
- Modular standalone and underbarrel grenade launcher in 40×46 mm caliber
- Repair, maintenance, and modernization of small arms

■ MODULAR SEMI-AUTOMATIC PISTOL (MPS ARMY) ▸ p. 406
■ MSBS 40X46 MM GRENADE LAUNCHER ▸ p. 408
■ MSBS GROT C14 FB-A3 ASSAULT RIFLE ▸ p. 409

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Farada is a group of innovative companies building a comprehensive drone ecosystem from A to Z. We specialise in the design and manufacture of unmanned aerial vehicles (UAVs), the development of advanced software solutions, and the training of professional drone operators. We also have extensive expertise in integrating a wide range of systems into drones, from high-resolution cameras to specialised sensors. In addition, our services include operational support and after-sales service.

We are able to deliver such a broad portfolio of products and services tailored to our customers' needs thanks to our highly qualified team. Our experts include professional pilots who can operate worldwide from our flight control centre, as well as experienced engineers and production specialists who drive the continuous development of our technology and ensure the consistently high quality of every machine we manufacture. We also operate a logistics and sales office in Poland, where our qualified staff provide the highest standard of customer support.

Our factory has the capacity to produce up to 40 drones per month, which translates into 480 machines annually available for delivery to customers. This strong production capability is supported by a team of 50 employees, working in a facility covering more than 2000 square metres.

Our primary focus is on developing customer-oriented solutions, with our drones operating mainly beyond visual line of sight (BVLOS). This enables us to deliver a wide range of fully automated UAV-based solutions tailored to various industries, helping customers improve efficiency and reduce operational costs.

We actively collaborate with universities and research centres, both in Poland and internationally, to drive innovation and remain at the forefront of technological advancement.

Farada Group holds ISO 9001:2015 certification and NCAGE CODE confirming the quality of our processes in the manufacture of aircraft and components, air freight transportation, and the sale of aircraft and aircraft parts. These credentials also confirm that the company has been verified as a qualified supplier capable of providing solutions to the Armed Forces of the Republic of Poland, the militaries of NATO member states, and NATO itself.

Most important achievements

- Winning 2023 Lukasiewicz Institute of Aviation National Contest in the category "Drone companies in Poland"
- Second place in the 2025 ranking of Polish drone companies in terms of technological and business advancement, according to the MicroMakro Institute.
- Obtaining MSWiA Licences, for the trade of explosives, weapons, ammunition, and military or police-designated products and technology.
- Winning the NCBR Nevada Acceleration Programme
- Creating a team of specialists with extensive military and civilian experience from many years of specialisation in drone topics, including, in particular, work for NATO, Civil Aviation Authorities (ULC), the Military Institute of Armament Technology (WITU), the Air Force Institute of Technology (ITWL)
- Being one of the seven members of a coalition of leading technology companies called "Drone Alliance Europe", which represents the commercial drone industry before European political leaders, regulators and other industry stakeholders
- Experience of more than 133,000 km in commercial flights (medical deliveries only)
- Cooperation with the biggest Polish companies in the field of: retail, power network, airport administration, laboratory networks and food delivery

Key products and services (approved for export)

- Farada G1, VTOL drone
- Farada G2, VTOL drone
- Farada G2, FIXED WING drone
- Farada G1-B, VTOL drone
- Farada HELEN, multirotor drone
- Training for UAV plane type specialisation
- Training for UAV technician
- Training for certified instructor (INS)
- Training for UAV certified operator

■ Farada G1-B, VTOL drone ▸ p. 33
■ Farada G2, VTOL drone ▸ p. 34
■ Farada HELEN ▸ p. 35

Flaris Sp. z o.o.

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Established in Poland in 2012 to build cost-effective, highly innovative jet-engine-powered aircraft, FLARIS is now part of the EDGE Group within its Platforms & Systems cluster. FLARIS is recognized for its commitment to innovation, as evidenced by its aerodynamic design and the use of advanced materials and precision-milled metals.

With aircraft development and manufacturing expertise from FLARIS and state-of-the-art UAV avionics from EDGE, FLARIS is building platforms that open new mission possibilities for unmanned aircraft.

FLARIS designs and builds high-performance unmanned fixed-wing aircraft for both military and civilian-used. By combining expertise in ultra-light and durable fuselage construction, powerful jet-engine integration, and sophisticated unmanned aircraft avionics, we provide militaries, special forces, and civilian operators with game-changing platforms.

Most important achievements

- Development & Production of a high-performance jet-powered UAV

Key products and services (approved for export)

- Flaris LAR 1+
- Design & Production of high-performance fixed-wing aircraft
- Aircraft systems design & manufacturing

■ Flaris LAR01 + ▸ p. 36

Flyfocus Sp. z o.o.

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FlyFocus sp. z o.o. specialises in the design, manufacturing, and integration of unmanned aerial vehicles (UAVs), along with their subsystems and components, leveraging advanced technologies in automation, radio communications, aerodynamics, and electronics. Since its inception, the company has focused on developing tethered UAV power systems that enable continuous hovering for applications like terrain surveillance. A key innovation patented by FlyFocus is a system that allows for the automatic release of the power cable at operational altitude, enabling the UAV to switch seamlessly to battery power in response to operator commands or during emergencies.

FlyFocus's portfolio includes a diverse range of UAV systems and subsystems, tailored to meet various operational needs. In addition to its product offerings, FlyFocus provides specialised engineering services, primarily in the field of unmanned aviation. The company caters to a broad spectrum of clients, from private enterprises to state institutions, handling projects with varying complexities.

The FlyFocus team consists of 20 skilled engineers, each bringing extensive expertise in areas such as aerodynamics, mechanical engineering, electronics design, software development, flight testing, and more.

Most important achievements

- US Patent No. US-2020-0369408-A1 DETACHABLE POWER CABLE FOR UNMANNED AERIAL VEHICLE
- Flyfocus technology and devices implemented in UAVs of the Polish Army
- Flyfocus devices implemented in UAVs for the US Army

Main services and products

- Cableguard Tethered UAV System
- Polaris ISR UAV System
- Bad Bullet automatic targeting system for loitering munition UAVs

- Striker long range single-use drone
- UAV accessories: Emergency localizer. Magnetometer, Mission Computer etc.

- Flyfocus Cableguard ▸ p. 349
- Flyfocus Lemur ▸ p. 350
- Flyfocus Polaris ▸ p. 351

Fudo Security Sp. z o.o.

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Fudo Security, Polish cybersecurity vendor, is a global leader in Privileged Access Management, specialising in secure remote access. Its flagship product, Fudo Enterprise, is an Intelligent PAM solution designed to help organizations secure critical infrastructure while ensuring compliance with NIS2, ISO/IEC 27001, GDPR, and DORA. With headquarters and R&D based in Poland, Fudo Security continues to drive innovation in the field of access management.

The technology enables real-time monitoring, access control, and rapid detection of suspicious behavior using AI, including behavioral and biometric analysis – a capability first introduced to the PAM market by Fudo Security in 2020. This ensures that organizations can quickly identify and mitigate credential theft and unauthorized access risks.

Recognized for innovation, Fudo Security holds a NATO certificate, supports nearly 500 clients across 35 countries, and has received multiple awards, including the Global Infosec Award 2024, Cyber Security Excellence Award 2024 and KuppingerCole's 2025 Leadership Compass for Secure Remote Access for OT-ICS.

Currently, the company is focused on a new Share Access solution, designed to redefine third-party access management. This technology will enable organizations to grant to external users immediate, secure access to critical resources – eliminating delays and enhancing operational efficiency. As third-party access remains a significant security challenge, this solution aims to set a new industry standard.

Why Fudo?

1. A fully European solution created and developed in Poland (with CyberMadeInEurope certification).
2. FreeBSD-Based Architecture – Trusted OS core for hardened security.
3. Agentless Deployment – No footprint on target systems.
4. No Data Access. No Backdoors/Vendor-Neutral by Design – We don't see your data/No system-level access to your environment.
5. Fully Isolated On-Premises Environment – Air-gapped readiness.
6. Zero Trust & Just-in-Time Access.
7. AI-Powered Threat Prevention – Our AI is adaptive, 100% on-premises.

Key products and services

- Fudo Enterprise
- Fudo ShareAccess

- Fudo Enterprise & Fudo Share Access ▸ p. 165

Fundacja Bezpieczna Cyberprzestrzeń (Cybersecurity Foundation)

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The Cybersecurity Foundation (CSF) is a non-governmental organization established in June 2010. Our core mission is to raise awareness of threats from the cyber domain. We provide education, conduct cyber exercises, and organize

professional events. Additionally, we engage in R&D related to IT security and critical infrastructure protection. Our vision is to be one of the most influential institutions addressing the challenges of an evolving threat landscape.

CSF has extensive experience in organizing cybersecurity exercises. These include strategic-level exercises to enhance the ability of organizations and government structures to defend against cyberattacks (Cyber-EXE series, launched in 2012) as well as operational and technical exercises testing cybersecurity teams under simulated attacks (CERT Games, CTF competitions).

We also developed CyberBastion (initially Cyber Fortress), a cybersecurity strategy game designed to simulate a holistic approach to security.

Since 2014, we have hosted the SECURITY CASE STUDY conference, focusing on the technical aspects of cybersecurity with an emphasis on case studies.

Most important achievements

- Organized 5 seasons of the CyberBastion League and numerous training sessions based on CyberBastion.
- Conducted cybersecurity training sessions, including the Cyber-EXE Polska exercise series for the banking, energy, and telecom sectors.
- Hosted the KSC-EXE 2020, KSC-EXE 2024 and KSC-EXE 2025 National Cybersecurity System Exercise.
- Organized the SECURITY CASE STUDY conference.
- Collaborated with universities to co-create cybersecurity courses.

Key products and services (approved for export)

- CyberBastion

■ Cyber Bastion ▸ p. 162

GISS Sp. z o.o.

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GISS Sp. z o.o. has been operating in the Polish and international markets for more than 14 years, delivering specialized solutions for the defence, security, and critical infrastructure sectors. The Company's expertise covers the design, manufacture, integration, and delivery of proprietary solutions and systems developed in cooperation with domestic and international partners.

GISS's core areas of activity include satellite communications, live-fire training systems, Air Traffic Control and Air Traffic Management (ATC/ATM) solutions, specialized equipment for the Armed Forces and uniformed services, and additive metal manufacturing. The Company develops and manufactures Manpack and FlyAway satellite terminals, including the SatPack, SMART, and SatPack AutoMate product lines, as well as transportable terminals, HUB/MASTER stations, and dedicated communications systems. The Satellite Technologies R&D Centre also works on innovative multi-orbit satellite communications technologies.

The Company provides containerized shooting ranges, CQB/Shooting House facilities, reactive target systems, and shooting range equipment. Its ATC/ATM portfolio includes radar, MLAT/WAM, ADS-B, ILS, DME, DVOR, precision approach radar, and air traffic management systems. Since 2024, GISS has also provided SLM-based additive metal manufacturing services, with particular expertise in aluminium alloys.

The most important achievements

- Opening of the GISS Research and Development Centre
- Delivery more than 100 tactical level satellite terminals for the Polish Armament Agency
- Achieving the position of the main SatCom supplier to the Polish military
- Delivery and commissioning of 4 MSSR radars for PANSA
- Delivery of a MLAT system at the Warsaw Chopin Airport for PANSA

Key products and services

- Manpack satellite terminals
- FlyAway mobile satellite terminals
- HUB type stations
- VSAT systems integration
- Designing SatCom systems
- Containerized shooting ranges

- Shooting house type shooting ranges
- ATC systems integration
- SATCOM Training
- ATC integrations
- Project Management

- Container Shooting Range ▸ p. 290
- CQB House Shooting Range ▸ p. 291
- FlyAway SMART Terminal ▸ p. 128
- SatPack AutoMate ▸ p. 149
- SatPack Cobalt Terminal ▸ p. 150
- TacNet400 ▸ p. 153
- VSAT MASTER Satellite Terminal ▸ p. 158

HERTZ SYSTEMS Sp. z o.o.

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Hertz Systems has been providing advanced defence solutions for over 35 years, specialising in military GPS receivers and counter-drone systems. As the only Polish manufacturer of GPS receivers integrated with SAASM, the company provides secure and accurate position, velocity and time (PVT) data for military platforms. More than 4,000 receivers have been delivered to the Polish Armed Forces, providing resistance to jamming and spoofing. Hertz Systems is also developing Galileo PRS receivers for public services, including critical infrastructure, police, border guards, and the military.

Hertz Systems provides end-to-end defence solutions, including design, production, integration, training, and service. The company cooperates with key players in the defence industry, both in Poland and abroad, including the Ministry of Defence, NATO, and other European institutions. The company is at the forefront of UAV countermeasures innovation with its HAWK multi-sensor detection and neutralisation system.

Hertz Systems operates to ISO 9001:2015, AQAP 2110:2016 and AQAP 2210:2022 standards, ensuring the highest levels of safety and quality. It holds industrial security certifications up to SECRET, EU SECRET, NATO SECRET, and ESA SECRET. As a trusted partner in advanced defence technology, Hertz Systems continues to enhance the military capabilities of Poland and allied countries.

Most important achievements

- The only Polish and one of the few global manufacturers of military navigation receivers resistant to jamming and interference, including GPS receivers with SAASM, M-CODE and Galileo PRS modules
- More than 4,000 GPS receivers delivered to the Polish Armed Forces
- Extensive cooperation and deliveries to other NATO militaries
- Leader in unmanned aircraft countermeasures technology with the proprietary HAWK system
- More than 35 years of experience in the defence and security sector

Key products and services (approved for export)

- HGPST4 Pollux
- HGPST uG
- HGRST
- HAWK C-UAS

- HAWK C-UAS ▸ p. 357
- Hertz GNSS Regulated Services Terminal (HGRST) ▸ p. 266
- Hertz GPS Terminal 4 Pollux (HGPST4 Pollux) ▸ p. 267
- Hertz GPS Terminal uGram (HGPST uG) ▸ p. 268

Huta Stalowa Wola S.A.

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Huta Stalowa Wola S.A. has a long tradition in the defence industry, having been operating in the market for 88 years. As a leading manufacturer of self-propelled artillery, various armament systems, armoured vehicles as well as the equipment for the engineering forces, HSW S.A. has a recognizable brand and is guided in its activities by high values and best standards.

Most important achievements

- The company has for years remained one of the most important suppliers of military equipment for the Polish Armed Forces.
- Cooperation with renowned foreign partners.
- Development of many weapons systems, including 155mm Self-Propelled Howitzer Krab, 120 mm Rak Automatic Mortar Turret System, Borsuk Amphibious Infantry Fighting Vehicle, Baobab-K Scattered Mine Laying Vehicle, ZSSW-30 Remote Controlled Turret System, and Waran 4x4 Multi-Purpose Tactical Vehicle,.
- Numerous awards, including:
  - Numerous "Defender" Awards at International Defence Industry Exhibition MSPO,
  - the "Laur Bezpieczeństwa" (Safety Laurel) at the International Defence Industry Exhibition under the honorary patronage of the Head of the National Security Bureau and the Director of the National Centre for Research and Development,
  - Numerous "Orły Bezpieczeństwa" [Eagles of Security] awards.
  - the Award of the President of the Republic of Poland.

Key products and services (approved for export)

- RAK 120 mm Automatic Mortar Turret System
- KRAB 155 mm Self-Propelled Howitzer
- BORSUK Amphibious Infantry Fighting Vehicle
- ZSSW-30 Remote Controlled Turret System
- BAOBAB-K Scattered Mine Laying Vehicle
- WARAN 4x4 Multi-purpose Tactical Vehicle
- ZSMU-30 Remote Controlled Arming Module

- BAOBAB-K Scattered Mine Laying Vehicle ▸ p. 184
- BORSUK Amphibious Infantry Fighting Vehicle ▸ p. 95
- KRAB 155 mm – Self-propelled howitzer ▸ p. 102
- RAK 120mm Automatic Mortar Turret System ▸ p. 111
- WARAN 4x4 Multi-Purpose Tactical Vehicle ▸ p. 117
- ZSMU-30 Remote-Controlled Arming Module ▸ p. 430
- ZSSW-30 Remote-Controlled Turret System ▸ p. 431

ICEYE POLSKA Sp. z o.o.

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ICEYE is a global leader in Synthetic Aperture Radar (SAR) satellite technology and Earth observation systems. The company designs, manufactures, and operates the world's largest and most advanced SAR satellite constellation, enabling persistent, all-weather, day-and-night monitoring of the Earth's surface.

ICEYE empowers nations with sovereign space-based intelligence capabilities, enabling states to independently operate their own satellite constellations and strengthen national resilience in space domain awareness and security.

Built on its high revisit-frequency, high-resolution radar imagery, ICEYE delivers actionable intelligence that supports critical decision-making across government and commercial sectors — providing continuous change detection and monitoring anywhere on the planet, with rapid data delivery for time-sensitive operations.

Most important achievements

- Deployment and operation of the world's largest SAR satellite constellation
- Sovereign SAR satellite constellations delivered to national customers — including Poland's MikroSAR programme.
- Provision of high-resolution, near-real-time radar imagery supporting critical operations in defence, security, and disaster response

Key products and services (approved for export)

- Turnkey SAR satellite constellations for independent space-based ISR capability
- ISR Cell — deployable containerized ground station with AI-driven analytics and automatic target recognition
- Data from the world's largest commercial SAR constellation
- Natural catastrophe insights

■ SAR Satellite ▸ p. 53

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IDENTT provides identity verification technology for organizations that need to securely onboard users, authenticate customers, and control access. For over a decade, IDENTT has been delivering state-of-the-art identity verification solutions, serving clients in 19 countries across 150+ successful projects. We verify identity documents, match faces to documents, detect fraud and deepfakes, and support both remote and in-person identity checks. Our solutions are used by banks, telecoms, insurers, public-sector, and critical infrastructure institutions.

IDENTT develops its entire AI engine in-house and holds a global patent for its core technology. Through close partnerships with leading universities, IDENTT stays at the cutting edge of R&D. As a member of the Cybersecurity Cooperation Programme (PWCyber) under the Ministry of Digital Affairs, IDENTT offers custom cloud and on-premise deployments that meet the strictest governmental and defence-grade security requirements. With an expert team specialising in Document OCR, eIDs, and eWallets, IDENTT ensures top-grade security and reliability as required by law enforcement and government deployments.

IDENTT is at the forefront of EUDIW (EU Digital Identity Wallet) development and holds a certificate confirming compliance with eIDAS regulations for remote identity proofing, a testament to its readiness to serve as a high-assurance identity verification entity globally.

Most important achievements

- Decade of Excellence: 10+ years on the market with 150+ completed projects in 19 countries.
- Document Fraud Detection: Proprietary DocAuth technology protected by an international patent
- National Security Partner: Member of the PWCyber programme by the Ministry of Digital Affairs.
- Identity Documents Mastery: Automated verification of nearly 15,000 identity document versions issued worldwide.

Key products and services

- eID & EUDIW
- Biometric engine
- eKYC

■ Biometric Engine ▸ p. 162
■ eKYC ▸ p. 163
■ eID & EUDIW ▸ p. 163

Instytut Techniczny Wojsk Lotniczych
(Air Force Institute of Technology)

CONTACT

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Air Force Institute of Technology (AFIT) is a research organization supervised by the Minister of National Defence. Its mission is to support the operation of aeronautical engineering. The contribution of the Air Force Institute of Technology to the development of aviation is mainly due to reliability and flight safety works. National and international achievements include hundreds of scientific-research, experimental-design manuscripts, which were applied in the Polish Air Force.

Research areas:
- On-ground and in-flight tests
- Diagnostics systems for aeronautical engineering
- Supporting operation control
- Simulation and modelling
- Integration of avionics systems
- Aircraft armament
- Reconnaissance and training systems
- C4ISR systems integration
- Unmanned Aerial Systems
- Composite structures
- Diagnostics of airfield and road pavements
- Testing of petroleum and working fluids
- Products testing and certification

Key products and services
- Aircraft armament
- Unmanned Aerial Systems
- C4ISR systems integration
- Supporting operation control

- AERIAL TARGET "SZERSZEŃ-M1" ▸ p. 24
- DIGITAL FLIGHT DATA RECORDER S2-3a ▸ p. 30
- MUP-RESCUE PACK MARINE PILOT SUIT ▸ p. 322

Jakusz Sp. z o.o.

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JAKUSZ is a company with 40 years of manufacturing experience. It operates in the international defence and security market in the area of design, production and implementation of innovative solutions for equipment and technologies. Our expertise comprises ammunition disposal, special chemical technologies, and handling of hazardous items containing explosives. The company conducts extensive research and development activities including dynamic detonation tests. Company owns design, technology and manufacturing capabilities.

Jakusz SpaceTech Sp. z o.o. is a manufacturer of "green" rocket fuel – HTP (hydrogen peroxide with purity up to 98%). It conducts scientific research in cooperation with the European Space Agency (ESA).

Most important achievements

Jakusz Group is an internationally recognized brand. It operates in more than 40 countries, providing after sales service with local partners. The company has accomplished multi-branch projects including transportable containerized facilities in different countries. Each product or technological line is always designed and adjusted to specific local requirements and conditions.

Key products and services

- isolation, transportation, storage and neutralization of unexploded ordnance, improvised explosive devices,
- design of technological lines for the production of components of rocket fuels and explosives,
- industrial methods of disposal and recycling of munitions – complete technological lines,
- security of data processing in ICT systems – mobile server rooms on chassis with electromagnetic and ballistic protection,
- combat modules for loitering munition and combat drone warheads.

- ALEXA Light Weight Gas-Tight EOD Container ▸ p. 222
- EVA – Gas-Tight Explosion-Proof Container ▸ p. 230
- LIQUID ROCKET FUEL: HTP (hydrogen peroxide) in concentrations ranging from 85% to 98% and DMAZ (2-dimethylaminoethylazide) ▸ p. 50
- LUNAR – ROTARY DETONATION KILN FOR DISPOSAL OF EXPLOSIVES AND AMMUNITION ▸ p. 196
- Safety of Critical Data Electromagnetic and Ballistic Protection in a Transportable (Mobile) Container ▸ p. 173
- TECHNOLOGICAL LINE FOR HTPB (hydroxyl-terminated polybutadiene) PRODUCTION ▸ p. 422

JAS Technologie Sp. z o.o.

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JAS Technologie is a Polish innovation-driven company specialising in advanced R&D in artificial intelligence, im-age analysis, biometrics, and security systems. Since 2012, it has delivered complex technology projects for public administration and industrial partners, funded among others by the National Centre for Research and Development and the EC's Horizon 2020 programme. The company has extensive experience in developing and integrating intelligent decision-support systems, bio-metric solutions, and systems for protecting critical infrastructure and EU borders. It has successfully completed numerous projects worth tens of millions of PLN, consistently delivering on time and within budget. JAS Technologie has played a key role in projects involving advanced video analytics, biometric identification, intelligent border systems, and solutions for public security services.

Its team combines expertise in computer science, electronics, and mechanical engineering, delivering advanced IT systems, applications, and AI-based solutions. The company focuses on innovative security and defence solutions, including systems designed to enhance the safety of officers and military personnel, such as OSA. With proven expertise, strong technological background, and reliable execution, JAS Technologie effectively delivers demanding projects in advanced technologies.

Most important achievements

- Deployment of a proprietary biometric solution within the A2SII Frontex network.
- Three-time recipient of the "Leader of National Security" award, held under the patronage of the National Security Bureau (BBN).
- Technology integrator in the international IBorderCtrl project under the Horizon 2020 programme.
- Establishment of JAS Analytics, a spin-off company founded in cooperation with Warsaw University of Technology, focused on the commercialization of R&D results.

- OSA – PERSONAL ALARM SYSTEM ▸ p. 325

Jastrzębska Spółka Węglowa S.A.

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Jastrzębska Spółka Węglowa S.A., the sole coking coal producer in the European Union, concurrently develops specialized technological activities supporting safety, critical infrastructure protection, and defence. These competencies were established within the JSW Nowe Projekty team and were directly integrated into JSW's corporate structure following the incorporation of JSW Nowe Projekty at the beginning of 2026.

The team executes highly advanced projects in the field of unmanned systems, encompassing the design of UAV platforms, onboard avionics, as well as control and integration software. These activities focus on industrial, specialised, and dual-use applications, complementing the JSW Group's core business with high-value-added innovative technological solutions.

Most important achievements

- The DEFENDER 2023 award in the equipment group for Special Forces, Military Gendarmerie, Territorial Defence Forces, Police, Border Guard, and State Fire Service and main award at POLSECURE 2024 for an observation system prototype initiated by the Border Guard General Headquarters. The project was realized in a consortium with the Military University of Technology (Institute of Optoelectronics), Vortex Sp. z o.o., and SZYBICKI Sprzęt i Zabudowy Pojazdów Specjalistycznych Waldemar Szybicki.
- Implementation of a specialised training programme at JSW SiG, where over 2,000 employees have already been trained using the SENSE VR ecosystem.

Key products and services

- WIELKI V2 Unmanned Aerial Platform: A heavy-lift multirotor designed for industrial and specialised missions, featuring a redundant X8 propulsion system and advanced water-landing capabilities. It serves as a versatile carrier for complex sensor payloads and tactical equipment in demanding environmental conditions
- AeroWinch System: A proprietary, high-precision onboard winch designed for the automated deployment and retrieval of specialised measurement sensors, such as hydrophones and environmental probes
- J-SWARM Management Software: An advanced, proprietary command and control (C2) platform designed for the synchronized management of unmanned aerial vehicles
- UAV Rapid Prototyping and Engineering
- Development of Specialised VR Training Modules

- AeroWinch ▸ p. 260
- J-SWARM – Multi-UAV Fleet Management & Control System ▸ p. 132
- WIELKI v2 ▸ p. 388

JB Tacticals

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JB Tacticals is a Polish company specialising in the design and implementation of solutions in the field of tactical medicine and operational equipment. The company's activities are based on real-world experience, complemented by an engineering approach and cooperation with the scientific community.

The mission of JB Tacticals is to create tools that provide real support to users in critical situations, where time, simplicity, and reliability have a direct impact on survival. The company focuses on developing intuitive and effective solutions that can be applied in dynamic and unpredictable environments.

The company's portfolio includes proprietary medical solutions as well as carefully selected complementary equipment, including dressings and bandages, tactical IFAKs, first aid and rescue equipment, elements of tactical and survival gear, as well as ballistic protection solutions.

Products are developed based on the analysis of real incidents and the observation of recurring challenges in rescue and operational activities. Key factors include predictability of performance and adaptability to changing scenarios.

JB Tacticals develops solutions for uniformed services, emergency medical services, and civilian users, offering equipment designed to perform under pressure.

Most important achievements

- Development of proprietary solutions in tactical medicine
- Cooperation with scientific and professional environments
- Introduction of innovative hemorrhage control systems
- Growing recognition among professional users

Key products and services (approved for export)

- A.C.T. Bandage (Active Compression Treatment)
- Tactical IFAKs and medical kits
- Hemorrhage control solutions
- First aid and rescue equipment
- Tactical and survival equipment
- Ballistic protection solutions

■ A.C.T. Bandage (Active Compression Treatment) ▸ p. 312

JELCZ Sp. z o.o.

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JELCZ Ltd was established on 1 July 2001 as a result of the transformation of JELCZ SA, which is a producer of Polish well-known buses, trucks and specialised fire vehicles of the JELCZ brand.

For years, the new Jelcz trucks and chassis have not only dominated the logistics equipment parks of the Polish Army, but have also been an important element of support for the artillery armament systems. They provide carriers for specialised electronic equipment and even weapon systems. Used in key technical modernization programmes of almost all branches of the Polish Armed Forces. With its 3rd generation chassis, JELCZ delivers even better technological and construction solutions, with independent suspension at the forefront.

Most important achievements

1. about 70 types of vehicles for special vehicle
2. unarmoured and armoured chassis in the drive system from 4x4 to 10x10
3. participation in the key armament programmes including WISŁA, NAREW, PILICA, WWR

Key products and services (approved for export)

- production of truck vehicles with up to 34 tons of total weight
- production of parts and assemblies for wheeled and rail-vehicles and also devices for agriculture in compliance with the provided construction documentation
- production of spare parts for usage vehicles of the JELCZ brand

■ Special Transporter JELCZ brand. Type 663.45 ▸ p. 113

JPBC Sp. z o.o. sp. kom.
(Grupa Pietrucha)

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JPBC is a Polish company with international reach, specialising in advanced solutions for defence, security, and risk management. As part of the Pietrucha Group, with over 65 years of engineering experience, the company combines industrial expertise with modern technologies to deliver integrated systems for monitoring, inspection, and protection of critical infrastructure.

JPBC develops proprietary unmanned systems, including autonomous UAV platforms and counter-UxS solutions, designed for operation in complex and high-risk environments. Its portfolio also includes tactical engineering systems supporting mobility, force protection, and infrastructure resilience. The company offers end-to-end capabilities: from design and manufacturing to deployment and operational support.

Leveraging in-house production, certified quality processes (ISO 9001:2015), and cooperation with leading research military institutions, JPBC ensures high reliability and adaptability of its solutions. The company actively contributes to strengthening European technological independence by prioritizing Polish and European components.

Operating in both B2B and B2G sectors, JPBC delivers mission-ready solutions tailored to the evolving needs of armed forces, public institutions, and critical infrastructure operators.

Concession MSWiA B-045/2017

Key products and services (approved for export)

- UAV Systems
- Docking Systems
- Military Engineering
- Modular Fortifications
- Anti-Drone Nets

- EagleOWL Integrated System ▸ p. 345
- Modular Field Fortification System ▸ p. 199
- OWLFPV-R / OWLFPV-F Tactical FPV Drone ▸ p. 367

KIKGEL sp. z o.o.

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KIKGEL is the only manufacturer of sterile hydrogel dressings for 35 years, produced based on the innovative technology developed at the Technical University of Lodz and based on the technological expertise of its team and quality management system according to ISO standards. For many years our hydrogel dressings have been recognized by specialists in wound treatment and widely used at hospitals and clinics in Poland and abroad.

Hydrogel dressings are manufactured according to the GMP guidelines (Good Manufacturing Practices) and manufacturing conditions are controlled by the recognized notified body Polish Centre for Testing and Certification.

Since 2002, KIKGEL has had the certified quality management system based on the international standards ISO 9002 and since 2007 based on ISO 13485 standards for medical devices. All our products meet the requirements of the European Medical Device and bear the CE conformity marking. In 2013 we also received the approval of the U.S. Food and Drug Administration (FDA).

The innovative method of production of hydrogel dressings has been rewarded at many international exhibitions:

- 42nd World Exhibition of Inventions and Innovations BRUSSELS EUREKA '93 – gold medal Special award of the EUREKA jury and of the Minister of the European Union
- International Exhibition of Inventions IENA '95 – Nürnberg – silver medal
- International Exhibition GENIUS '96 Budapest – bronze medal

Key products

- BurnTec® – First aid dressings for burns and skin injuries
- Neoheal® – Hydrogel dressing for wound management
- HydroAid® – Hydrogel dressings for aesthetic medicine and plastic surgery
- HydroAid®USG – Ultrasound Hydrogel Pad

■ BurnTec – Hydrogel first aid dressing for burns and other skin injuries ▸ p. 226

KLIMAWENT S.A.

CONTACT

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Klimawent was founded in 1992 as a private company. We are a well known producer of filtration and ventilation units. Within our assortment there are following groups of products, i.e. fans, blowers (air-supply fans), filtering units, vehicle exhaust extractors, systems of snow removal from the roofs.

In 2017 the company started the production of container and modular tactical shooting ranges MoST and mobile bullet traps. Shooting ranges MoST are equipped in effective ventilation and filtration system which eliminates the level of the lead to the limit of quantification.

All our appliances are our own solutions worked out by our engineers' team. Manufacturing takes place in our premises under supervision of technological employees.

We continually invest in high-tech infrastructure, advanced technologies as well as development of qualification of our engineers. Especially, important is development of our company. The innovative implementations are based upon our results of Research and Development Lab, that contribute to larger success.

The most important achievements

- patented technical solutions of the shooting range MoST
- innovative idea and design of shooting ranges MoST
- shooting ranges MoST have the certificates which were issued by Military Armament Technical Institute

Key products and services

- modular tactical shooting range MoST-5 and MoST-10
- container shooting range MoST-2
- mobile container shooting range MoST-1
- mobile bullet traps KMB-600 and KMR-600
- mobile shoot house MoST-SH

■ Container shooting range MoST-2 ▸ p. 289
■ Mobile Bullet Traps ▸ p. 293
■ Mobile container shooting range MoST-1 ▸ p. 294
■ Modular tactical shooting ranges MoST-5 and MoST-10 ▸ p. 297
■ MoST-SH Modular Shoot House ▸ p. 298

Lubawa S.A.

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Founded in 1951, Lubawa S.A. is a leading Polish manufacturer of personal and collective protection solutions. With 75 years of experience in the industry, the company has established a strong market position thanks to its innovative approach and high-quality products.

Lubawa specialises in the production, processing and supply of technologically advanced solutions in a wide range of individual protection (protective vests, individual camouflage, CBRN protection solutions), specialist demining and EOD equipment (EOD suits, tool kits, mine-clearance vests), as well as a wide range of tents, tent bases and military vehicle equipment.

Its own Research and Development Centre makes Lubawa S.A. a leader in the implementation of modern solutions. The company is dynamically developing its commercial activities, both on the domestic and international markets. The company's products are present in over 30 countries around the world – the company is constantly expanding its global reach, gaining new customers and markets.

Most important achievements

- RESEARCH AND DEVELOPMENT CENTRE
- IN-HOUSE BALLISTIC AND MATERIAL LABORATORY
- STRATEGIC CONTRACTS DELIVERED FOR THE MINISTRY OF DEFENCE AND MINISTRY OF INTERIOR

Key products and services (approved for export)

- NS-SERIES
- MMT-SERIES
- MKO 3.0
- GSR
- PNEUMATIC DECOYS
- RPG NET
- LIGHTWEIGHT EOD SUIT
- ZMR – COMBAT ENGINEER DEMINING AND RECONNAISSANCE EQUIPMENT

- MODULAR BULLETPROOF VEST MKO 3.0 ▸ p. 321
- NS-SERIES ▸ p. 243
- PNEUMATIC DECOYS ▸ p. 301
- ZMR – COMBAT ENGINEER DEMINING AND RECONNAISSANCE EQUIPMENT ▸ p. 217

MACRO-SYSTEM Sp. z o.o.

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Founded in 1984, privately-owned Polish company MACRO-SYSTEM has established itself as a pioneering force in the fields of IT/OT for public transportation, advanced software design for authorized entities and the design and production of unmanned vehicles. The company specialise in designing, manufacturing, implementing and maintaining dedicated complex systems in respect of both hardware and dedicated software.

With a rich history spanning over four decades, the company has remained at the forefront of technological innovation, driving change and setting industry standards.

Its offer is addressed to a wide range of clients, including the army, government agencies, corporations, telecommunication operators, public transport organizers, domestic carriers, railway vehicle and bus manufacturers.

Most important achievements

- An award for unmanned vehicles in the “Innovation” category on Warsaw Security Expo 2024
- Certificates:
  - ISO 9001
  - AQAP 2110
  - IRIS – ISO/TS 22163
  - ISO/IEC 27001

Key products and services (only approved for export)

UNMANNED SYSTEMS – since 2013, MACRO-SYSTEM has been at the forefront of designing unmanned ground vehicles in Poland. Company designed universal high mobility unmanned vehicle UNL with reconnaissance and combat version named GOBLIN, and a ground loitering munition GNOM.

MONITORING AND INFORMATION PROTECTION – scalable solutions for law enforcement and intelligence, capturing data transmitted via ICT networks, including voice calls, video and the Internet, as well as governmental secure communication.

- GNOM – GROUND LOITERING MUNITION ▸ p. 355
- UNL – UNIVERSAL HIGH MOBILITY UNMANNED VEHICLE WITH RECONNAISSANCE AND COMBAT VERSION GOBLIN ▸ p. 382

MASKPOL S.A.

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Protective Equipment Company MASKPOL S.A. is the Polish leader of this market sector with advanced Research and Development as well as manufacturing technologies. We manufacture a wide range of ballistic protection, such as helmets and bulletproof vests, chemical protection equipment – gasmask, protective clothing and decontamination equipment and also anti-riot equipment; shields, batons and riot suits. The main clients include military and police units and border guard. All our products are made in accordance with highest quality and safety norms, afford highest possible levels of protection and are exceptionally ergonomic. Our products are constantly developed, meeting our clients ever changing expectations.

Main Services and Products

- HELMETS
- VESTS
- GAS MASKS
- PROTECTIVE GARMENTS

- CBRN-E protective suit ▸ p. 314
- HB-04 ballistic helmet ▸ p. 317
- HP-05 ballistic helmet ▸ p. 317
- KKT-01 bullet proof vest ▸ p. 319
- MP-6 Filtering gas mask ▸ p. 322
- ROCK One Vest ▸ p. 327
- ROCK 2.0 Vest ▸ p. 327

MIRANDA Sp. z o.o.

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Miranda Spółka z o.o. is known on the textile market as a modern manufacturer of high quality and technologically advanced polyester, polyamide, as well as mixed fabrics and knits. As one of the few textile manufacturers in Europe, we can offer a full production cycle, located in one place and based on a constantly modernised machinery park.

Miranda Spółka z o.o. has a 70-year tradition in textile production and a 15 year tradition in the production of camouflage systems. We are mainly engaged in the production of static and mobile camouflage. Over the past 5 years, we have significantly developed our research and development facilities, employing qualified personnel and equipping laboratories. We have a professional anechoic chamber, thermal cameras in the 3–5µm, 8–14µm ranges, hyperspectral cameras and a drone equipped with cameras operating in the optical, near-infrared, and thermal ranges. As a result, we are able to perform many tests in a short period of time.

Our mission is to produce products tailored to individual customer requirements. Miranda's R&D facilities over the past 5 years have focused on the development of various camouflage systems, such as multispectral and optical camouflage covers (3D, 2D, single-sided or double-sided), tailor-made mobile camouflage for each vehicle, customised camouflage suits, camouflage and anti-drone screens, and anti-radar and thermal insulation liners for aircraft hangars. Our biggest achievement is the development of a knitted camouflage fabric with excellent strength and durability parameters.

Key products and services (approved for export)

- Static camouflage: optical and multispectral static camouflage 3D
- Static camouflage: optical and multispectral static camouflage 2D single and double-sided versions
- Mobile camouflage
- Individual anti-drone systems: Individual winter camouflage suit and the Antidrone Poncho
- Thermal and anti-radiation inner liners

- Individual Anti-Drone Systems – the Antidrone Poncho ▸ p. 318
- Individual Anti-Drone Systems – Individual Winter Camouflage Suit ▸ p. 319
- Mobile camouflage ▸ p. 240
- Static camouflage – 2D Multispectral Winter Camouflage Net ▸ p. 246
- Static camouflage – Optical and multispectral static camouflage 2D single and double-sided versions ▸ p. 247
- Static camouflage – Optical and multispectral static camouflage 3D ▸ p. 248
- Thermal and anti-radiation inner liners ▸ p. 250

MISTA Sp. z o.o.

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MISTA Sp. z o.o. is a private Polish defence manufacturer specialising in armoured vehicles, unmanned ground systems and remote-controlled weapon stations. Established in 1991, the company combines over 30 years of industrial experience with operational feedback from combat use.

With a 14,000 m² production facility, in-house engineering and full-cycle capabilities, MISTA provides engineering, serial production, modernisation, repair and life-cycle support in compliance with NATO standards. MISTA's systems are designed for mobility, survivability and battlefield effectiveness, based on operational feedback from combat use. Operating under ISO 9001:2015, MISTA offers combat-proven and export-ready solutions for international defence customers.

Most important achievements

- Delivery of over 300 APC 4x4 ONCILLA
- Battle-proven performance in Ukraine
- Development of the modular SERVAL UGV platform
- Development, production and integration of the RCWS range of weapon 12.7 mm – 30 mm

Key products and services (approved for export)

- APC 4x4 ONCILLA
- UGV 6x6 SERVAL (modular configuration, 4x4, 8x8)
- RCWS 30 mm HUNTER
- 12.7 mm RCWS (Browning M2 / NSVT)
- Open Protected Turrets (12.7 mm)
- Military run-flat systems
- MRO and modernisation of armoured vehicles (wheeled/tracked)

- APC 4x4 ONCILLA ▸ p. 89
- HUNTER 30 mm Remote Control Weapon Station ▸ p. 402
- Open Protected Turret System (12.7 mm) ▸ p. 411
- RCWS 12.7 mm (Browning M2) ▸ p. 415
- RCWS 12.7 mm (NSVT) ▸ p. 416
- UGV 6x6 SERVAL Tactical Platform ▸ p. 380
- UNIVERSAL RUN-FLAT TIRE INSERT ▸ p. 251

Mobile Monitoring Sp. z o.o.

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Mobile Monitoring is a technology company specialising in advanced monitoring and situational awareness solutions for maritime environments, critical infrastructure, and environmental protection. The company develops technologies that combine artificial intelligence, autonomous sensing systems, and edge computing to provide reliable monitoring capabilities in demanding operational environments. The solutions are designed to support early detection of potential threats, environmental hazards, and operational anomalies in water areas and surrounding infrastructure. By integrating intelligent image analysis, environmental sensing, and autonomous data collection, Mobile Monitoring technologies enable continuous monitoring and rapid response to changing conditions. The systems are developed with a focus on autonomy, modularity, and long-term field operation, allowing them to operate in locations where traditional monitoring infrastructure is limited or difficult to maintain. Advanced edge processing ensures that critical data can be analyzed locally, reducing latency and enabling reliable operation even in environments with restricted connectivity. Mobile Monitoring technologies support maritime security, environmental monitoring, and protection of strategic infrastructure, providing operators with improved situational awareness and operational insight.

Most important achievements

- System implementation in PGZ Stocznia Wojenna
- System implementation in Port Gdańsk

Key products and services (approved for export)

- Marine Guard Station
- USV Drone
- AI Camera
- Edge AI
- Measurement buoy

■ Marine Guard Station ▸ p. 274
■ MM Edge AI ▸ p. 277
■ Waterscan ▸ p. 387

MODULAR SYSTEM Sp. z o.o.

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Modular System is one of Europe's largest manufacturers of container systems. Over the last few years, Modular System has been providing turnkey critical infrastructure solutions for the needs of refugees, uniformed services and medical care. The company's experience and professionalism ensures the rapid delivery of safe and high-quality modular container systems in emergency situations, including armed conflict, humanitarian emergencies and natural disasters. The mobile container systems offered by Modular System are appreciated by many of users throughout Europe and the United States. MODULAR SYSTEM deliver products to 19 countries worldwide.

We guarantee good lead time while maintaining high quality and aesthetics.

- Experience in container application in civil and military environment in Poland and Europe
- The latest trends in container design and production
- Knowledge and experience of container production process and material technology
- Modern production facilities
- NATO SUPPORT PROCUREMENT AGENCY – standards and requirements for securing military infrastructure for the functioning of NATO units

- A wide range of portable cabins for office, sanitary, WC, military and special design purpose
- Efficient processing of complex orders
- Build-up and flat-pack versions
- Individual approach for each project
- Functional and easy to adjust schemes for various installations

CERTIFICATES AND LICENCE

- ISO 9001:2015 Quality Management System Certificate;
- AQAP 2110:2016 Quality Management System Certificate;
- NATO Code for National Economy Entity,
- NATO storage numbers (NSN) for manufactured containers
- Licence no. B-022/2019 dated 5th April 2019 on conduct economic activity in the manufacture and marketing of products for military or police

■ Professional military containers for uniformed services ▸ p. 202

N7 Space Sp. z o.o.

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N7 Space specialises in critical software development for embedded systems used in space real-time systems. The company has flight proven experience in space missions and applicability of formal ESA ECSS criticality B level software processes in all stages of development lifecycle (based on ISO 12207).

With over 10 years of experience, the company has been successfully involved in more than 30 projects in the space sector, primarily for the European Space Agency (ESA). In addition to embedded software activities, N7 Space is involved in the development of tools for the automatic development and validation of flight code based on modeling in formal languages (Model-Based Software Engineering, MBSE), as well as the usage of modern programming languages (such as C++ or Rust) in qualified critical software development.

Most important achievements

- PROBA-3: development and validation of complete software for the ASPIICS instrument (mission in operational phase)
- HERA: validation of main spacecraft control software (mission in operational phase)
- Providing software components for upcoming ESA missions:
  - Comet Interceptor
  - ARIEL
  - EnVision
  - TRUTHS
- Long-term contract for Extremely Large Telescope (ELT) control software development, European Southern Observatory (ESO)

Key products and services (approved for export)

- ESA ECSS criticality B pre-qualified flight software components:
  - TRL9 boot software (BSW) (https://bootloader.space)
  - TRL9 board support packages (BSP)
  - TRL6 CANopen library (https://canopen.space)
- Custom software development for scientific embedded systems
- Testing and validation of software
- Onboard Computers and Control Units for scientific instruments, CubeSats and ISS experiments (https://obc.n7space.com)
- Independent Software Verification and Validation (ISVV)

■ Board Support Package (BSP) ▸ p. 28
■ Bootloader (BSW) ▸ p. 28
■ CANopen On-Board Protocol Stack ▸ p. 28
■ ICE Cube On-board Control Unit ▸ p. 46

Nowak Innovations Sp. z o.o.

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Nowak Innovations has developed innovative dual-use safety systems: AEDO (Automatic Emergency Door Opening) and ADS (Automatic Decompression System), which are designed to protect the lives of soldiers and civilians, as well as military transport vehicles and buildings and technical facilities used for both military and civilian purposes.

The AEDO and ADS safety systems are protected by patents in Poland, the European Union, the United States and China.

AEDO – opens jammed doors/hatches; it is designed for use in military and civilian transport vehicles, as well as in military facilities and technical structures, including containers and shelters.

ADS – opens safety flaps; it is designed for automatic decompression during the initial phase of an explosion involving ammunition or explosive materials in military vehicles, ammunition depots, and industrial facilities—preventing them from being torn apart and totally destroyed.

The AEDO system has been tested and implemented by the Polish company GERMAZ in the M-ATV 4x4 armoured infantry vehicle, as well as in various military and civilian armoured vehicles, including the Ford Ranger and Toyota LC 300.

The AEDO system has also been tested and deployed in armoured military containers manufactured by ALE HALE.

The ADS system has been tested and implemented for mass production in military vehicles by a defence contractor and is currently being prepared for deployment in mobile and stationary military containers—ammunition depots.

Nowak Innovations offers to sell licences for AEDO and ADS Systems or to sell complete Systems directly.

Most important achievements

- The AEDO system has been tested and implemented by the Polish company GERMAZ in the M-ATV 4x4 vehicles, as well as in various military and civilian armoured vehicles, including the Ford Ranger and Toyota LC 300, and has been tested and implemented in military armoured containers manufactured by Polish company ALE HALE.
- The ADS system has been tested and implemented for mass production by a Polish company in military vehicles and is currently being prepared for deployment in mobile and stationary military containers—ammunition depots.

Key products and services (approved for export)

- AEDO Safety System – For use in military vehicles and facilities
- ADS Safety System – For use in special military equipment

- ADS Safety System (Automatic Decompression System) ▸ p. 86
- AEDO Safety System (Automatic Emergency Door Opening) ▸ p. 87

NOXODA

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NOXODA is a Polish technology company developing next-generation night observation systems and ballistic protection solutions, addressing the challenges of the modern security environment and crisis management. The company focuses on creating technologies that increase operational effectiveness in conditions of extremely limited night visibility and in high-risk situations.

At the same time, NOXODA is developing its ballistic protection segment, including helmets and inserts for bulletproof vests, designed in response to the growing needs of civil defence. These solutions provide a high level of user protection in crisis situations, supporting services and units involved in emergency response.

NOXODA technologies are applied in the monitoring of critical infrastructure, protection of borders, ports, and large areas requiring continuous surveillance, enabling rapid threat detection and real-time decision-making.

The company's activities are complemented by the NOXODA Association, which provides training in combat medicine, shooting, and defence education, supporting the development of competencies in the field of security.

NOXODA combines advanced engineering with a practical operational approach, delivering comprehensive solutions for contemporary security challenges.

Most important achievements

- Development of passive full-colour night vision technology with no IR/LED signature
- Operational capability in extreme low-light environments (starlight conditions)
- Advanced ballistic protection systems tailored for emerging civil defence needs

Key products and services (approved for export)

- AURORA series cameras. Ultra-low light full-colour night observation systems (starlight capability)
- EOS series cameras. Low light imaging systems optimised for urban and residual light environments
- Ballistic helmets for civil defence and security forces
- Ballistic inserts for personal protective equipment
- Training services in tactical medicine, firearms, and operational readiness

■ AURORA & EOS Ultra-low light cameras ▸ p. 261

OBRUM Sp. z o.o.

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OBRUM is a well-established engineering and R&D centre operating in the defence sector, focused on delivering advanced engineering solutions and state-of-the-art training systems. The company develops specialised vehicles and high-fidelity simulators tailored to the needs of the Polish Armed Forces and international partners. Its strong expertise in mechanical and hydraulic systems, as well as tracked vehicle platforms, enables the execution of highly complex and technologically demanding projects.

As part of the Polish Armaments Group (PGZ), OBRUM plays an active role in the modernization of the Polish Armed Forces. The company conducts advanced research and development activities and delivers solutions dedicated to land forces, particularly armoured, mechanized and engineering units. Supported by experienced scientific staff and robust R&D infrastructure, OBRUM provides end-to-end project execution – from concept and modeling to prototyping, testing and final implementation.

The company is recognized as a leader in mobile bridge systems and advanced simulation technologies supporting military training and equipment operation. OBRUM is also involved in the international Future Main Battle Tanks programme, co-funded by the European Defence Fund (EDF), aimed at developing the next generation of European main battle tanks.

Key products and services

- Mobile Bridges
- Span PM-20 with load capacity MLC 85/133
- Driving simulators for Leopard 2 MBT
- Simulators for crews of MS-20 Bridges
- Containerized simulators for driver, gunner and commander
- CBT's and procedural simulators for technical staff
- Service applications
- Design and integration of engineering vehicles
- Training
- R&D Services

■ MS-20 DAGLEZJA A WHEELED VEHICLE-LAUNCHED SUPPORT BRIDGE ▸ p. 200
■ OBRTrain Platform Overview ▸ p. 299
■ SJCL-6P Driving Simulator for Leopard 2A4 Main Battle Tank ▸ p. 303

Ośrodek Badawczo-Rozwojowy Centrum Techniki Morskiej S.A.

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Since 1982, we have been delivering technologies for the Polish Navy and the Armed Forces of the Republic of Poland, specialising in the design and integration of command and control and communication systems, data analysis and processing, as well as R&D activities. Our modern research laboratories address the latest challenges and market needs. The upgraded infrastructure provides an optimal environment for accredited testing of electronic equipment.

OBR CTM international activities include participation in projects under NATO, European Union, European Defence Fund, and European Defence Agency initiatives. The current direction of development of the Centre for Maritime Technology focuses on the protection of critical infrastructure, using modern technologies for the collection and aggregation of data from multiple sources.

Key products and services

- Digital Baltic
- RKP-8100
- MLM-PROMIENICA

- Digital Baltic ▸ p. 126
- MLM-PROMIENICA ▸ p. 256
- RKP-8100 ▸ p. 148

PCO S.A.

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PCO S.A. is a company with over 45 years of experience. It is the biggest Polish producer of optoelectronic devices with use of night vision, thermal imaging and laser technology. All products are a result of research and development activities of the company.

PCO S.A. produces a wide range of optoelectronic observation and aiming devices with laser, night vision and thermal vision technologies for military personnel and uniformed services. These include night vision goggles and monoculars, aviator's goggles, as well as day-night thermal imaging and night vision aiming sights, collimator sights. PCO also produces observation systems for various armoured vehicles, including night vision and thermal imaging systems, as well as optoelectronic heads with various sensors (NV, IR, TV cameras, laser rangefinders) and laser warning systems. It also modernises periscopes and observation systems for armoured vehicles.

Nowadays the company employs over 650 skilled employees. PCO S.A. is a member of the Polska Grupa Zbrojeniowa S.A. (PGZ S.A.) consolidating Polish defence industry.

Most important achievements

- The company successfully provides solutions for the Polish Armed Forces and uniformed services as well as foreign customers
- Numerous awards and distinctions including multiple Defender awards at MSPO exhibition in Kielce, Poland
- Development of a number of new products and systems comprising night vision, thermal vision and laser technologies

Main services and products (approved for export)

- Night vision monocular & goggles MU-3M
- Night vision goggles PNL-2ADM
- Thermal imaging monocular MT-1

- Thermal binoculars NPL-1T
- Night vision aviator's goggles PNL-3X
- Daytime modular sight DCM-1
- Laser warning system SSP-1 OBRA-3
- Optoelectronic head GOS-1
- Stabilised commander's optoelectronic head GOD-1
- Stabilised gunner's optoelectronic head GOC-1
- Omnidirectional observation system SOD-1

- DAYTIME MODULAR SIGHT DCM-1 ▸ p. 315
- LASER WARNING SYSTEM SSP-1 OBRA-3 ▸ p. 320
- NIGHT VISION GOGGLES PNL-2ADM ▸ p. 323
- NIGHT VISION GOGGLES PNL-3X ▸ p. 323
- NIGHT VISION MONOCULAR/GOGGLES MU-3M/MU-3ADM ▸ p. 324
- OMNIDIRECTIONAL OBSERVATION SYSTEM SOD-1 ▸ p. 325
- STABILISED COMMANDER'S OPTOELECTRONIC HEAD GOD-1 ▸ p. 328
- STABILISED GUNNER'S OPTOELECTRONIC HEAD GOC-1 ▸ p. 328
- STABILISED OBSERVATION AND TRACKING OPTOELECTRONIC HEAD FOR ANTIAIRCRAFT SYSTEMS GOS-1 ▸ p. 329
- THERMAL IMAGING BINOCULARS NPL-1T ▸ p. 329
- THERMAL IMAGING MONOCULAR MT-1 ▸ p. 329

PGZ Stocznia Wojenna Sp. z o.o.

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PGZ Stocznia Wojenna (PGZ Naval Shipyard) is a Polish shipbuilding and ship repair company headquartered in Gdynia. Established in 1922, it is a subsidiary of Polska Grupa Zbrojeniowa (PGZ) – one of the largest defence conglomerates in Europe. The company offers comprehensive naval services including design, repairs, reconstructions, upgrades, and new builds of warships, as well as vessels for other uniformed and state services.

PGZ Stocznia Wojenna serves as the main contractor for the Miecznik programme – the construction of three multi-purpose frigates for the Polish Navy – vessels intended to significantly enhance Poland's maritime capabilities and contribute to NATO's Standing Naval Forces. Additionally, the shipyard is responsible for the construction of the Ratownik-class rescue vessel for the Polish Navy, and participates in a consortium for the Kormoran II programme – the delivery of minehunters for the Polish Naval Forces.

To meet the demands of these modern and technologically advanced programmes, PGZ Stocznia Wojenna has undergone a major infrastructure modernization project, resulting in a state-of-the-art facility that includes the largest hull assembly hall in Poland and one of the largest in Europe, a floating dock, a ship lift, and extensive quay infrastructure spanning thousands of metres of berths.

Most important achievements
- Miecznik programme – the construction of three multi-purpose frigates for the Polish Navy
- Ratownik-class rescue vessel for the Polish Navy
- Participation in a consortium for the Kormoran II programme – the delivery of minehunters for the Polish Navy

Key products and services (approved for export)
- Kormoran II minehunters
- Repairs and upgrades of warships and vessels

- MIECZNIK-CLASS FRIGATE ▸ p. 255
- RATOWNIK-CLASS RESCUE VESSEL ▸ p. 257

PIT-RADWAR S.A.

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PIT-RADWAR S.A. is one of the leading suppliers of professional electronic equipment for the Armed Forces of the Republic of Poland.

For decades, the Company has conducted research and development activities in the field of radar technology, electronic support measures, C2 systems and related armament systems, especially air defence systems. The products of PIT-RADWAR S.A. are used by all types of the Armed Forces of the Republic of Poland, as well as abroad.

PIT-RADWAR S.A. handles the full supply cycle – starting from setting requirements, through research and development work and production to logistic support offered to the users.

Permanent development, seeking new, innovative solutions, highly qualified staff, taking advantage of the most recent scientific and technical achievements allow the Company to continuously broaden its offer and deliver modern, unique solutions that fully satisfy the incresingly demanding customers.

Most important achievements

- The company has for years remained one of the most important suppliers of solutions for the Polish Armed Forces, and is also a major exporter.
- Cooperation with renowned foreign partners.
- Development of a number of new radar systems, including the first Polish radar with an AESA antenna – continued development of anti-aircraft and command systems.
- Numerous awards and distinctions including the Award of the President of the Republic of Poland for the Passive Location System and the "Lider Bezpieczeństwa Państwa" (State Security Leader Award) distinction in the Innovative Product category for the OSU-35K Naval Armament System.

Key products and services

- SA-35 – Self-Propelled Gun System
- Anti-Aircraft Missile System POPRAD
- BYSTRA - Mobile 3D Short Range Radar
- P-18PL Mobile Long Range Radar Station
- IFF Mark XIIA Family Products

- BYSTRA MOBILE 3D SHORT RANGE RADAR ▸ p. 65
- IFF Mark XIIA Family Products ▸ p. 74
- P-18PL MOBILE LONG RANGE RADAR STATION FOR EARLY TARGET DETECTION ▸ p. 76
- POPRAD MOBILE ANTI-AIRCRAFT MISSILE SYSTEM ▸ p. 77
- SA-35 SELF-PROPELLED GUN SYSTEM ▸ p. 79

PONAR Wadowice S.A.

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PONAR Wadowice S.A. is a leading Polish manufacturer of advanced oil hydraulics systems, playing a vital role in the defence industry. The company provides reliable solutions used in military vehicles, artillery systems, and air defence platforms.

The core of its business is the design and production of hydraulic components and systems for tracked and wheeled vehicles, as well as special applications requiring high precision and durability. PONAR Wadowice products are engineered to operate in extreme conditions—such as temperature extremes, high dust levels, humidity, or maritime environments—meeting rigorous military standards.

A key advantage of the company is its flexibility in executing projects tailored to specific client needs. PONAR manufactures based on provided documentation and also develops complete solutions through its own engineering expertise.

The company operates four production plants, modern technical facilities, and its own R&D centre, enabling the management of the full production cycle—from concept and testing to implementation.

Among the company's achievements are hydraulic systems for radar stations, components for tracked vehicles, and participation in modernization programmes such as the 155 mm self-propelled howitzer.

Key Products and Services

- Hydropneumatic suspensions for tracked vehicles
- Hydraulic track tensioners
- Balancing systems for artillery guns
- Drive and amphibious propulsion systems
- Power hydraulic systems for tracked and wheeled vehicles
- Hydraulic systems for air defence vehicles
- Hydraulic cylinders (including those with special coatings: anti-corrosive and anti-reflective)
- Directional control valves for operation in extreme environmental conditions
- Service centre for the inspection and overhaul of military equipment

- HYDRAULIC SYSTEM FOR ANTI CRAFT DEFENCE VEHICLES ▸ p. 100
- HYDROPNEUMATIC SUSPENSION FOR TRACKED VEHICLES ▸ p. 101
- OIL HYDRAULICS FOR SPECIAL APPLICATIONS ▸ p. 106
- OIL HYDRAULIC SYSTEMS FOR TRACKED AND WHEEL VEHICLES ▸ p. 107

Przedsiębiorstwo PREXER Sp. z o.o.

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The PREXER company is a manufacturer of products for the national defence and security. We offer:

- Target sights for anti-aircraft artillery: thermal, night vision and daylight, working as an autonomous fire control system.
- Observation devices – periscopes (glass and acrylic) equipped with a heating system and anti-laser filters, to be installed in armoured vehicles, including day-night periscopes with a night vision module and a thermal imaging module.
- Unmanned aerial vehicle jamming systems.
- 9 mm WIST 94 and WIST 94L military pistols.
- Electronic and optoelectronic assemblies: laser rangefinder components, night vision and thermal imaging assemblies.

PREXER Sp. z o.o. specialises in the production of devices and systems tailored to the customer's requirements, used in all types of armed forces, at home and abroad. Our offer is very flexible, the solutions offered can be easily adapted to the individual requirements of the customers.

Key products and services

- DJ-25 unmanned aerial vehicle (UAV) jammer system.
- CKE-1T, CKE-1TM thermal imaging target sights and CKE-1N, CKE-2N night vision target sights for anti-aircraft guns.
- Classic observation devices, e.g. OPO-170F, OPO-130F.
- Day-night periscopes, e.g. M17T and OPO-170T thermal imaging observation devices, and OPO-170N with high quality passive night vision module.
- Modernization and renovation of periscopes.

- CKE-1T thermal target sight for anti-aircraft gun and missile system ▸ p. 67
- DJ-25 Jammer Unmanned Aerial Vehicle (UAV) jammer system ▸ p. 341
- Heated observation devices OPO-120F, OPO-125F, OPO-130F ▸ p. 99
- M17T – thermal imaging periscope ▸ p. 104

Przedsiębiorstwo Produkcyjno-Handlowe MAWA Sp. z o.o.

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Mawa Company operate on the market since 1995. We offer a wide range of protective and military clothing: uniforms, protective vests, bullet – proof vests – providing protection against assaults, anti knife vests protecting against stabbing of knife or needles.

The diversity of our offer allow us to supply both the army, the policy, border guards, prison guards and individual persons whose work requires protection against bullets and splinters. Our vest provide high level protection, aesthetics and quality.

Most important achievements

- Establishment of a Polish-German company with a German company producing ballistics
- Sewing vests for Polish soldiers in Iraq

Key products and services (approved for export)

- Production of bulletproof vest linings for Finnish and German companies
- Production of ballistic shields
- Production of tactical tourniquets

■ BULLETPROOF AND KNIFEPROOF VEST VIP 0.3S VEST + spike protection ▸ p. 314

PZL DEFENCE S.A.
UNIMOT GROUP

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PZL Defence S.A. was established in 2025 within the UNIMOT S.A. Group. As part of its activities, the company is working on the development of world-class dual-use systems, in particular unmanned platforms that, in addition to typical civilian applications, can be adapted to meet special requirements. The main elements of the offering include unmanned aerial systems and ground robots, primarily dedicated to firefighting applications.

In its operations, the company focuses on delivering tools that support end users in carrying out specific missions while maintaining reasonable pricing and short delivery times. Therefore, we strive to utilize and adapt solutions that have already been developed on the market, especially by entities from the scientific sector, as well as domestic start-ups that require support in scaling their solutions. PZL Defence and the Unimot Group are a trusted partner in the field of security, creating domestic technologies at a world-class level.

Most important achievements

- Establishment of cooperation with the Military Institute of Armament Technology (WITU) regarding arming platforms developed by PZL Defence with payloads developed by WITU.
- Development and creation of a complete observation drone based on European components, addressing user needs within 4 months.
- Development of an FPV drone (MTOW 13 kg) in accordance with customer requirements within 2 months.
- Formation of a consortium and development of a firefighting unmanned system addressing the needs of national services within 3 months.

Key products and services (approved for export)

- Observation and reconnaissance drone “BERNI_ONE”
- FPV drone “BERNI_FPV3”
- High-mobility single-track vehicle “ROSA”

- Unmanned firefighting vehicle “HYDRA”
- Development of unmanned systems based on customer requirements

- Berni_FPV3 ▸ p. 337
- Berni_ONE ▸ p. 338
- ROSA ▸ p. 245

RATAJ Sp. z o.o.

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Rataj sp. z o. o. – Polish manufacturer founded in 1993 by Jarosław Ratajczyk, President. Since the outbreak of the war in Ukraine, the concept of designing and building shelters to protect civilians and uniformed services from the effects of ground and air attacks has emerged. We began cooperating with designers who have extensive experience in the construction industry. We employ experienced staff who are continuously trained in modern production and assembly technologies and quality systems. Current legal regulations have enabled us to begin producing shelters made of composite materials based on high-density polyethylene (HDPE). We sell our products primarily in Poland, Ukraine, and several European countries. The idea for this type of solution stems from the experience of the war in Ukraine, where makeshift plastic-based shelter structures have saved many lives. Our solutions have won prestigious awards: The State Security Leader Award at the International Defence Industry Exhibition MSPO in Kielce. Two main awards at BUDMA – the International Construction and Architecture Fair at the Poznań International Fair. The MTP Group Gold Medal – Experts' Choice – an award granted by the competition jury evaluating, among other things, the quality and innovation of the entries. The Consumers' Choice Gold Medal – awarded by public vote.

Most important achievements

- The State Security Leader Award 2025
- BUDMA Expert Choice Gold Medal 2026
- BUDMA Consumers’ Choice Gold Medal 2026

Key products and services

- HDPE Modular Shelters
- HDPE Protective Structures

- Modular Shelters – EMER Security Shelters ▸ p. 241

REKORD Hale Namiotowe Sp. z o.o.

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Rekord Hale Namiotowe sp. z o.o. is a Polish manufacturer of tent halls and supporting infrastructure for military and civil applications. The company has been operating since 1998 in Poland and in other countries across Europe and Africa. It offers comprehensive turnkey solutions, from design to installation.

REKORD provides a full range of equipment and temporary infrastructure and has experience in organizing and providing logistical support at military bases and civil events. Thanks to its NATO Entity Code, it is an authorized supplier of services and equipment for the Polish Armed Forces and allied military forces.

Most important achievements

- products proven in military applications and at large-scale events
- certifications including ISO 9001, ISO 3834-2, PN EN 1090-2, AQAP 2110, AQAP 2131

- an in-house design department and equipment base (including generators, energy storage systems, HVAC)
- experience in the construction and logistical support of military camps
- representative offices and logistics bases in Europe and Africa

Key products and services (approved for export)

- aircraft hangars
- workshops, warehouses, event and sports halls ALU, BOXX, and RFS structures
- specialised tents (NSR, MNT)
- turnkey facilities
- sanitary units
- kitchens and canteens
- social and medical facilities
- mobile laundries and washing units
- heating and air conditioning systems
- logistical support for military bases and large-scale events

- ALU AND TALU HALLS – MOBILE MILITARY INFRASTRUCTURE SOLUTIONS ▸ p. 180
- FIELD HOSPITALS AND MODULAR MEDICAL FACILITIES ▸ p. 190
- INDUSTRIAL DOORS – VERTICAL LIFT SYSTEMS FOR FABRIC STRUCTURES ▸ p. 194
- RFS STRUCTURES – MOBILE AIRCRAFT HANGAR ▸ p. 205

Remontowa Shipbuilding S.A.

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Remontowa Shipbuilding S.A, member of Remontowa Holding S.A. is the recognized partner and the prime supplier of naval vessels for the Polish Navy.

Thanks to many years of shipbuilding experience, the Shipyard offers a wide range of products while the ships built there stand out on the market thanks to cutting-edge technology and high level of automation that respond to the latest trends and meet the Owners' requirements. Cooperation within Remontowa Holding enables the Shipyard to offer comprehensive technical solutions resulting in fully equipped, modern vessels.

For several years, Shipyard has actively participated in the technical modernization programmes of The Polish Armed Forces. During this time, the Shipyard has delivered six navy tugs and three Kormoran II-class minehunters, which are among the most advanced vessels of their kind in the world. Currently Shipyard is building another three minehunters and two Signal Intelligence Ships.

Experience gained from the construction of over 600 modern naval ships and special vessels guarantees reliability and successful execution of new orders.

Most important achievements

- Implementation of the Kormoran II programmes under which first 3 vessels have been already delivered and another 3 are under construction,
- Ongoing construction of two SNSS (Saab Naval SIGINT Systems) type radio-electronic reconnaissance ships for the Polish Navy,
- Implementation the programmes "Technical security and rescue operations at sea under the code name HOLOWNIK" under which 6 vessels prepared to perform a very wide range of tasks have been handed over to the Polish Navy,
- Sail Training Ship for Algerian Navy.

Key products and services (approved for export)

- Naval vessels
- Special vessels
- Offshore vessels
- Car – Passenger Ferries

- Kormoran II-class minehunters ▸ p. 254
- Series of ships SNSS (Saab Naval SIGINT Systems) ▸ p. 257

Revobeam Sp. z o.o.

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Our vision:
We increase capabilities of your communication by high-end antenna solutions tailored to your needs. All this to provide our customers with the best possible defence technology solutions, which allow them to achieve a competitive advantage.

REVOBEAM is a Polish deep-tech company founded in August 2023, focused on advanced communication and sensing solutions for defence and security applications. Built entirely on its own capital, the company combines strong academic foundations with real-world operational experience. REVOBEAM develops electronically reconfigurable smart antenna technologies enabling resilient wireless communications, electronic warfare, and RF sensing in contested and GNSS-denied environments.

We are focused on developing and introducing cutting-edge and high-end antenna solutions based on cost efficiency and superior quality to the market, which effectively solve our customers' needs. With many year of working experience at technical university, we are constantly expanding our substantive knowledge, collaborating with reliable partners and following global trends. All this to provide our customers with the best possible defence technology solutions, which allow them to achieve a competitive advantage.

Most important achievements:

- In 2024, REVOBEAM became the only Polish company selected for the NATO DIANA accelerator and is an alumnus of full programme including elite NATO DIANA GROW phase.
- In 2025 our system, RAVEN – a cost-effective passive RF detection system was selected in the U.S. DIU Low-Cost Sensing Challenge and presented during The Falcon Peak 25.2 as the only European solution.
- REVOBEAM is supplying passive detection and location sensors under a contract for a section of the Estonian border that constitutes part of the Drone Wall, supported by the European Commission.
- Revobeam systems (C-UAS and communications) are used by the Ukrainian Armed Forces during combat operations against the Armed Forces of the Russian Federation.

Main service & products:

- BEAM-STEERING ANTENNAS
- ANTI-JAMMING ANTENNAS
- RELIABLE WIRELESS COMMUNICATIONS SYSTEMS FOR UNMANNED AIRCRAFT/UNMANNED AIRCRAFT SYSTEMS (UAV/UAS)
- PASSIVE RF DETECTION AND RECONNAISSANCE SYSTEMS :
  - RAVEN / KRUK, short for RF Aerial Vehicle Evaluation Node, is a system for detecting and localizing UAVs/UASs by scanning the radio spectrum.
  - REDLOC, short for RF Emission Detection and Localization Payload, is designed as a lightweight, energy-efficient, and passive payload mounted on a UAV to detect and locate sources of RF emissions.

■ Reconfigurable REVOBEAM Antenna Product Series ▸ p. 279
■ UAV detection, identification and localization system by scanning the radio spectrum – RAVEN ▸ p. 379

ROSOMAK S.A.

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ROSOMAK S.A. is specialised in manufacturing and servicing combat vehicles. Our products have been tested in military missions. The quality of designs incorporated by our solutions contribute to the safety of the modern soldier.

We provide solutions based on the latest technology backed by extensive knowledge and research. We also provide comprehensive training, development and support services at each stage of use of our products. Thanks to our commitment our customers can feel at ease at every stage of the product life cycle.

Quality and trust are the values that guide us in our work. Our customers can rely on the commitment, support and expertise of our professionals who will not disappoint them in the course of achieving new objectives. We are aware that the environment in which our customers use our products, often there is no second chance – which is why we provide solutions that work first time – always.

Most important achievements

- AWARD OF THE PRESIDENT OF THE REPUBLIC OF POLAND
- AWARD OF THE MINISTER OF NATIONAL DEFENCE
- DEFENDER AWARDS

Key products and services (approved for export)

- APC Rosomak basic version
- IFV Rosomak intergrated with ZSSW-30 turret
- Medical Evacuation Vehicle – Medevac
- Reconnaissance Vehicle
- Armoured Recovery Vehicle
- Fire Command Vehicle

■ ROSOMAK 8x8 APC ▸ p. 112

SATIM Satellite Monitoring

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SATIM is a Polish deep tech company headquartered in Krakow. Founded in 2012 and rooted in research at AGH University of Science and Technology, SATIM is the world's leading commercial provider of AI-powered Synthetic Aperture Radar (SAR) imagery analysis for defence, intelligence, and security applications.

The company's flagship product, OREC, automatically detects, classifies, and identifies vessels, vehicles, and aircraft from any SAR sensor – space or airborne – delivering standardized, operator-ready outputs directly into existing ISR workflows.

SATIM's proprietary algorithms achieve better than 90% detection and classification accuracy, acquired day and night, in all weather conditions. The platform is deployable on cloud, edge, or air-gapped infrastructure, meeting the most demanding operational security requirements.

SATIM's technology has been validated through strategic partnerships with Rheinmetall, Thales, Airbus, ICEYE, and Synspective, serving MoD customers across NATO Europe, the Indo-Pacific, and North America. The company is a recognized technology supplier to the German SPOCK-1 satellite reconnaissance programmes.

Most important achievements

- Technology supply agreement with Rheinmetall for SPOCK-1, Germany's flagship satellite reconnaissance programmes for the Bundeswehr
- Used operationally in global armies
- Verified in NATO exercises: FEX24, NATO BICES, CWIX
- Cooperation with the European Space Agency (ESA)
- ISO 27001 certificate validating SATIM as an entity with the highest standards in the information security field
- Partnerships with companies such as ICEYE, AIRBUS, Capella Space, Thales, MDA Space, Umbra, SkyFi, BAE Systems and Synspective
- 20+ years of experience in SAR Data Analysis
- Over 90% automated detection and classification accuracy across maritime, land, and air domains from any SAR sensor

Key products and services (approved for export)

- OREC – cutting-edge AI-driven Automatic Target Recognition (ATR) solutions with three highly accurate AI models for detecting vessels, aircraft, and vehicles on SAR imagery.
- OREC-Intelligence – OREC-based automated SAR area analysis software with custom-threshold alerting and reporting capabilities.

We offer a range of flexible options for accessing and utilizing our products:

- STANDALONE: A user-friendly, standalone solution for direct use.
- API: Seamlessly integrate our services into your own systems with our robust API.
- CONTAINER: For clients requiring a self-contained solution, we provide containerized options for easy deployment and operation.

At SATIM, we ensure that our products are adaptable and designed to provide the best possible results for a variety of military and civil use cases.

- OREC – AI-Based software for object detection and classification on SAR imagery ▸ p. 170
- OREC-Intelligence – AI-Based software for automated SAR monitoring with instant alerts ▸ p. 171

Scanway S.A.

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Scanway is a Polish company specialising in electro-optical solutions for imaging in space and manufacturing industries. Its branch, Scanway Space, offers advanced optical payloads for Earth Observation and other remote sensing applications, providing adaptable imagers for different resolutions, fields of view, altitudes, and spectra, compatible with small satellites. Furthermore, the company provides camera systems dedicated to working on applications such as space situational awareness, spacecraft self-inspection or space exploration. With over 9 years in the space industry, Scanway's solutions have achieved TRL 9 and contribute to key Polish space missions like EagleEye, PIAST, and European projects such as LUWEX, Ariane 6 or SEMOViS. Scanway is a public listed company with currently 60+ employees on board, supporting both space and manufacturing industries with vision systems enhanced by machine learning.

Most important achievements

- Proprietary STAR VIBE in-orbit demonstration mission
- Member of the largest Polish satellite projects (EagleEye, PIAST)
- TRL 9 products offered
- Company's camera system as a part od Ariane 6 first flight
- Intuitive Machines, Nara Space Technology among the clients

Key products and services

- Scanway Optical Payload (SOP) – instruments for Earth Observation and other remote sensing applications
- Scanway Camera System (SCS) – camera systems for space applications
- Modular camera systems for quality control in manufacturing industry

- Scanway Camera Systems (SCS) ▸ p. 54
- Scanway Optical Payload (SOP) ▸ p. 55

SecureVisio
Cybersecurity management platform

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SecureVisio is a major EU-based and the largest Polish cybersecurity software vendor established in 2010 offering automated cybersecurity management platform.

Our platform integrates 9 critical cybersecurity solutions within security operations, risk, compliance and data protection.

Our suite of cybersecurity capabilities include asset discovery, risk management, vulnerability management, data protection, threat intelligence, XDR, SIEM, SOAR and UEBA solutions.

Having collaborated with over 100 clients across various sectors including healthcare, telecommunications, manufacturing, energy, and banking we have established a strong presence in both the public and private segments.

We have developed network of over 30 certified implementation partners in Central Europe, Asia and Africa ready to support platform implementations.

Most important achievements

- Deloitte Technology Fast 50 2022 Central Europe Impact Stars

Key products and services

- Asset discovery
- Risk management
- Vulnerability management
- Data protection
- Threat intelligence
- XDR
- SIEM
- SOAR
- UEBA

■ SecureVisio cybersecurity management platform ▸ p. 174

Sentinel Eagle

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SENTINEL EAGLE

Sentinel Eagle provides drone autonomy, both in the form of software-enabled components as well as in the form of full flying platforms. We started with position locking and navigation, later expanded towards ISR radio silence flights. Our solutions are low cost, enabling adoption on a wide range of platforms and have been already delivered to Ukrainian military units.

Most important achievements

- Products deployed to Ukrainian military units.
- Invitation for Estonian Exercise Kevadtorm (Spring Storm).

Key products and services

- Vision based navigation module – GPS replacement.
- ISR plane.

■ Crow ▸ p. 339
■ EagleCompanion ▸ p. 263

Sieć Badawcza Łukasiewicz – Instytut Lotnictwa ILOT
(Łukasiewicz Research Network – Institute of Aviation)

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Łukasiewicz
Institute
of Aviation

The Łukasiewicz Research Network – Institute of Aviation is one of the most modern research facilities in Europe, with traditions dating back to 1926. For 100 years of activity, scientists and designers working at the Institute of Aviation have made outstanding contributions to the development of the economy and defence of Poland. The Institute closely cooperates with global tycoons of the aviation industry, such as: Boeing, GE, Airbus, Pratt & Whitney, and institutions from the space industry, including the European Space Agency. It also maintains strong partnerships with defence sector including i.a. PGZ, WB Group. The Institute employs approximately 1,500 highly specialised scientists, engineers and support staff from the best European universities. There are 23 specialised laboratories, including 7 accredited ones, and the largest wind tunnel in Central and Eastern Europe.

Strategic research areas of the Institute are space technologies, with emphasis on technologies for rocket engines and remote sensing, unmanned aerial system technologies, with emphasis on autonomy and safety, as well as the design and research of aviation structures with particular emphasis on materials and structures. It also provides research and services for domestic and foreign industries in the field of materials, composite, additive, remote sensing technologies.

Łukasiewicz Research Network – Institute of Aviation is a national leader in aviation, space, unmanned systems, and dual-use technologies. The Institute offers scientific, engineering, and industrial capabilities to carry out R&D projects for the security and defence sector- from concept, through testing and certification, to implementation support for selected technology licencees. To enhance coordination of its activities within the EU and NATO frameworks, the Institute established a representative office in Brussels in 2023. In addition the Institute is a member of numerous international organizations (e.g.: ACARE, CEAS, EASN, EREA, IFAR, ICAS) which strengthens its position on the international stage.

Most important achievements

- Award from the President of the Polish Space Agency and the Minister of National Defence – "ILR-33 AMBER 2K suborbital rocket" (MSPO 2024)
- Amber of the Polish Economy 2024 – "ILR-33 AMBER 2K suborbital rocket"
- Polish Product of the Future 2025 – Green Bi-Propellant Rocket Engine

Key products and services (approved for export)

- ILR-33 AMBER 2K Rocket (launched from the Andøya Space Sub-Orbital in Norway, reached an altitude of 101 km).
- Green Bi-Propellant Rocket Engine.
- Vibration damping technology using granular materials.
- Impact energy absorbing technology.
- Hovercraft PRC-650.
- 3D printing of metals and polymers, with extensive expertise in copper.

- Automatic Flight Stabilisation System (AST-1) ▸ p. 26
- Autonomous mobile launcher ▸ p. 27
- CUSTO-PROBE – Multi hole pressure measuring probes ▸ p. 29
- ESIM Engineering Simulator ▸ p. 292
- Fuel quantity measurement and indicating system ▸ p. 37
- GNSS – FREE NAVIGATION SYSTEM (FOR UAS)▸ p. 38
- GRACE – Green bi-propellant apogee rocket engine for future spacecraft ▸ p. 39
- Hovercraft PRC – 650 ▸ p. 239
- Hydrogen peroxide decomposition catalysts ▸ p. 193
- ILR-33 AMBER 2K ▸ p. 47
- Impact energy absorbing technology ▸ p. 48
- Low-noise propeller design ▸ p. 361
- MiniSat Propulsion Control Unit (SAT-ECU) ▸ p. 51
- Propellants ▸ p. 414
- Pyrocartridges ▸ p. 414
- SMILE – Real-time linear infrastructure monitoring system ▸ p. 375
- Thermoplastic enclosures for electromagnetic interference shielding ▸ p. 378
- Vibration damping technology ▸ p. 214

Sieć Badawcza Łukasiewicz – Instytut Metali Nieżelaznych IMN
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Łukasiewicz – IMN is one of Polish R&D institutes with decades of experience in developing solutions that strengthen national security and the capabilities of the domestic defence industry. The Institute specialises in advanced materials and metallurgical technologies, delivering breakthrough innovations for sectors of strategic importance.

Our research and development activities include, among others:

— high performance materials and non-ferrous metal alloys designed for operation under the most demanding conditions, including military applications,

— advanced energy technologies, including thermal batteries used in weapon systems,
— solutions for electronics, power engineering and energy supply systems dedicated to security critical infrastructure,
— nanomaterials and functional materials with unique properties, applied in specialised equipment and precision systems,
— technologies for the recovery and recycling of strategic metals, supporting raw material sovereignty and supply chain resilience,
— 3D printing and powder metallurgy technologies enabling rapid and flexible prototyping of components for military equipment and defence systems.

For many years, the Institute has been a trusted partner to the defence industry, providing materials expertise, accredited testing, certification services and the implementation of production technologies that ensure high levels of durability, reliability and operational safety.

Most important achievements

- Advanced materials for defence: Łukasiewicz–IMN has developed state of the art alloys and high performance materials resistant to extreme temperatures, shocks and corrosion — ideal for aviation, missile systems and military equipment.
- Technologies for high reliability systems: The Institute develops cutting edge methods for testing and designing materials operating under extreme loads, supporting the creation of heavy-duty equipment, effective protection systems, smart weapons and other critical defence components.
- Additive manufacturing innovations: IMN actively contributes to projects in metal additive manufacturing, enabling lighter, stronger and more functional components for military applications.
- Advanced power source capabilities: The pilot production line for lithium and sodium ion pouch batteries supports the development of modern and safer and more effective energy systems used in military equipment and unmanned platforms.
- Over 70 years of strategic technological expertise: For decades, the Institute has strengthened industrial and technological capabilities in national security sectors, including energy, metallurgy and heavy industry

Key products and services (approved for export)

- Advanced non ferrous alloys with enhanced mechanical and thermal properties for aerospace, armament, propulsion and structures exposed to extreme conditions.
- Thermal batteries powering smart weapons for high reliability accuracy.
- Recycling and recovery technologies for strategic metals, supporting zero-waste idea and supply chain resilience.
- Protective and functional coatings for components exposed to corrosion, wear and aggressive environments.
- 3D metal printing materials and technologies enabling production of specialised components for ammunition, missile systems and structural parts.
- Accredited laboratory services, expert evaluations and material analyses supporting military certification.

- Antimicrobial coatings ▸ p. 182
- Lightweight composite armour ▸ p. 103
- Metal wires and powders for 3D printing ▸ p. 197
- Recycling of military equipment ▸ p. 204
- Reserve batteries for precision guided munitions ▸ p. 417
- Soft magnetic cores ▸ p. 211

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Automatyki i Pomiarów PIAP

(Łukasiewicz Research Network – Industrial Research Institute for Automation and Measurements)

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Established in 1965 Łukasiewicz Research Network – Industrial Research Institute for Automation and Measurements PIAP is the leading centre of robotics, automation, and industrial measurements in Poland. Over 250 employees, divided into interdisciplinary teams, conduct research on new technologies. Łukasiewicz – PIAP Institute is the first and largest Polish manufacturer of mobile robots for special applications in army, police, border guards and fire

fighters. Robots and robotic devices are used in C-IED operations, surveillance and remote observation, protection of borders and infrastructure, search and rescue missions, crisis management, monitoring and patrolling, detection and CBRN threats analysis.

The Łukasiewicz research network is the third largest research network in Europe, consisting of 22 Polish research institutes, including Łukasiewicz-PIAP.

The Łukasiewicz Research Network offers businesses attractive, broad and competitive technological solutions. Łukasiewicz provides a unique "challenge system" powered by a group of 4,500 scientists, who take up a business challenge and present the entrepreneur with potential solutions. At the same time, it provides access to cutting-edge capabilities and unique scientific infrastructure in the country. Most importantly – the entrepreneur does not bear the cost of preparing the conception of the research works. Łukasiewicz conveniently meets the expectations of the business. The entrepreneur can contact Łukasiewicz through an online form on our website lukasiewicz.gov.pl/en/business/, but also directly in over 50 locations of Łukasiewicz Institutes and their branches throughout Poland. Each site provides the same, high quality, product or service. Łukasiewicz focused on research areas such as: Health, Smart and Clean Mobility, Digital Transformation and Green and Low-emission Economy.

- PIAP FENIX Lightweight EOD & reconnaissance robot ▸ p. 368
- PIAP GRYF EOD mobile robot ▸ p. 368
- PIAP HUNTeR ▸ p. 369
- PIAP IBIS Heavy robot for pyrotechnic operations ▸ p. 369
- PIAP IBIS TRANSPORT ▸ p. 370
- PIAP PATROL Robot for C-IED and CBRN tasks ▸ p. 371

Sieć Badawcza Łukasiewicz – Przemysłowy Instytut Motoryzacji PIMOT
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Łukasiewicz Automotive Industry Institute

Łukasiewicz Research Network – Automotive Industry Institute (Łukasiewicz – PIMOT) is a research institute in Poland that focuses on the development and testing of automotive technologies for both civilian and defence applications. It is part of the Łukasiewicz Research Network and specialises in e-mobility, vehicle automation, energy storage system, electromagnetic compatibility, defence and safety technologies, active and passive safety systems. The institute conducts testing, certification, and R&D projects for vehicles and components, supporting innovation across above-mentioned areas.

Most important achievements

- NATO NCAGE Code: 0935H
- Concession by the Ministry of Internal Affairs
- Accreditation by the Polish Centre for Accreditation for testing, inspection and certification
- Accreditation by the Ministry of National Defence for testing and certification

Key products and services

- Development of automotive technologies:
  - construction – mechanisms, parts and complete vehicles
  - active and passive safety systems
  - autonomy and automation systems
  - advanced driver assistance systems
  - electromagnetic compatibility
  - technologies dedicated to the national defence and security sector
  - alternative energy sources and drives
  - fuels, biofuels and renewable energy resources
- Testing for approval and certification purposes.
  - passive safety – crash tests
  - active safety – vehicles and their components

— testing of braking and steering systems
— electromagnetic compatibility – full range of EMC tests
— durability and fatigue strength of vehicle structural elements
— REESS testing

- AMRFleet and AMRWeb ▸ p. 336
- AMRSim ▸ p. 336
- AMRSys ▸ p. 336
- Battery Management System ▸ p. 92
- Follow-me ▸ p. 352
- Vehicle Control Unit ▸ p. 116

SILTEC Sp. z o.o.

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SILTEC Sp. z o.o. is a private held Polish company with over 40 years on the market. We provide reliable, trusted products and services for defence, security and civil customers mainly in EU & NATO. Experience, technical proficiency and over 218 highly qualified employees sets us apart of many other market players.

Our headquarters include offices, production lines, laboratories and testing rooms.

We design, manufacture, test and hold full scope of project management.

We are leading TEMPEST manufacturer and tester with EU & NATO certification.

Our expertise in this field enable us to provide full scope of related trainings and support in creation of necessary technical environment in new locations.

Most important achievements

- Deliveries of TEMPEST IT to EU and NATO countries for many years, to the Armed Forces Cyber Resources Centre, NATO Multinational Corps Northeast and other customers in Poland and abroad,
- Ongoing contracts for delivery of aircraft communication systems for JTACs, Reconnaissance Sensor System, Medium Satellite Terminals, Mobile Data Centres,
- Completed deliveries of Container Postal Modules, Mobile Data Centres, mobile container shooting range and ICT Nodes.

Key products and services (approved for export)

- equipment and services for classified and sensitive information protection (NATO SDIP-28, NATO SDIP-27 and EU IASG 7-03 compliant),
- customised container structures (Mobile Data Centres and Armoured Observation Container),
- customised power supply systems,
- systems and solutions for military and governmental entities.

- Armoured Observation Container ▸ p. 224
- MEDIUM SATELLITE TERMINAL – STS ▸ p. 276
- Mobile Access Node – SIL720-MWD ▸ p. 167
- Mobile Data Center ▸ p. 168
- Mobile IT 5U Platform – ShMRC1905H ▸ p. 169
- Portable VTC System – MVTC/WRB ▸ p. 172
- Shielded Cabinet SIL720 – SzE19xx Series ▸ p. 175
- Small Intelligent Light Satellite Terminal SilPack Series ▸ p. 280
- TEMPEST NATO SDIP-27 and EU IASG 7-03 compliant IT equipment ▸ p. 176
- VIDEO CONFERENCE SET – SIL720-VTC ▸ p. 177

SmartDrones Sp. z o.o.

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SmartDrones Sp. z o.o. is a Polish deep-tech company developing integrated autonomous inspection systems for critical infrastructure. The company specialises in mission-ready solutions for demanding industrial environments, combining onboard autonomy, mission computing, flight control, navigation, ground control and inspection workflows into one operational ecosystem.

Unlike companies focused only on airframes or isolated software layers, SmartDrones develops the full AIS ecosystem end-to-end – from onboard electronics, firmware and autonomy architecture to operator control, mission execution and post-mission inspection workflows. This full-stack approach enables tighter system integration, operational reliability and efficient adaptation of mission-specific capabilities.

SmartDrones solutions are designed for critical energy and industrial infrastructure, with a particular focus on high-value inspection missions requiring safe autonomous flight, repeatable data acquisition, traceability and inspection-ready outputs. The company's wind turbine inspection workflow combines autonomous mission execution with data aggregation and reporting as one integrated system.

Most important achievements

- Development of the AIS ecosystem: a full-stack autonomy and inspection platform for critical infrastructure missions.
- Validation of an integrated wind turbine inspection solution in relevant field conditions, supported by extensive autonomous flight testing.
- Early commercial traction with paying customers and deployment-oriented development of autonomous inspection workflows.
- Ongoing preparation of key industrial deployments for wind turbine inspection in cooperation with sector partners.
- International expansion activities focused on pilot project opportunities in the U.S. market.

Key products and services

- aisPilot – Onboard Autonomy and Flight Computer System: A modular onboard autonomy system integrating mission computing, flight control and navigation for autonomous aerial platforms in critical infrastructure missions.
- aisBlade – Autonomous Wind Turbine Inspection System: A specialised end-to-end inspection solution for wind turbine blades, combining the aisDrone i900 inspection platform, aisPilot onboard autonomy, aisController ground control station, aisPlanner mission application, data aggregation and inspection reporting within one integrated workflow.

- aisBlade – Autonomous Wind Turbine Inspection System ▸ p. 334
- aisPilot – Onboard Autonomy and Flight Computer System ▸ p. 335

Solaris Optics S.A.

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Solaris Optics S.A. – Precision Optics for a High-Tech Future

For over 30 years, Solaris Optics S.A. has been a trusted leader in designing and manufacturing high-precision optical components and systems. We collaborate with global partners from Germany, the Netherlands, France, Taiwan, and the United States, delivering world-class solutions tailored to the most demanding applications. We have had an ISO 9001 certificate for twenty years.

Our portfolio includes premium-quality lenses, mirrors, optical windows, prisms, and fully assembled optical systems.

Our in-house production covers everything from concept to completion. We control every stage of production, ensuring exceptional precision and reliability. By blending time-honored craftsmanship—such as manual polishing—with state-of-the-art CNC machining for milling and precision grinding, we meet our clients' expectations.

Equipped with three advanced vacuum coating machines, we apply cutting-edge thin-film coatings and perform full characterization of both individual components and optical systems.

Our expertise extends to the defence sector, where our optics enhance missile guidance systems and Earth observation telescopes. As part of the European projects, we have produced highly precise lenses, mirrors, and filters for defence applications. Additionally, we support upcoming space missions, crafting ultra-precise astronomical mirrors for future exploration.

Most important achievements

- Development of Light-Weight Super-Teleobjective for ESA in the framework of the Polish Industry Incentive Scheme programme (Solaris as the leader),
- Space Qualification of Optical Coatings for ESA as part of the Polish Industry Incentive Scheme programme (Solaris as the leader),
- ESA's PROBA 3: Solaris Optics provided optical filters (contractor),
- ESA's Sentinel 5: Solaris Optics supplied coated optical elements, including gradient filters (contractor).

Key products and services (approved for export)

- Optical Systems
- Prisms
- Lenses
- Beamsplitters
- Mirrors
- Coatings
- Services (design, metrology)

- LENSES ▸ p.
- PRISMS ▸ p.
- Space Optical in-house production ▸ p.

SpaceForest Sp. z o.o.

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SpaceForest

SpaceForest specialises in the development and commercialization of advanced technologies, focusing on synthetic aperture radar (SAR), advanced electronics, microwave filters and rocket technologies. Our comprehensive services include the design, optimization and production of devices and software with a particular focus on the space sector. Additionally, we develop our own space and supersonic rockets, supported by in-house composite production.

We deliver top-quality solutions tailored to various industries, including defence, aviation, telecommunications and space technologies. With expertise, passion, and state-of-the-art laboratories, we provide solutions of the highest standards, enabling us to undertake the most complex projects in the realm of space technology.

Most important achievements

- BiRaKos – As part of the consortium, SpaceForest is responsible for developing and building the advanced radar subsystem. This subsystem is a key component of the national space observation system.
- Development of Own SAR Radar – Advanced synthetic aperture radar (SAR) system for real-time imaging and target detection.
- JUICE – Control and Data Management System for ESA's Jupiter Icy Moon Explorer Project.
- PERUN – Eco-friendly hybrid propulsion suborbital rocket development.
- SALTO – Reusable Strategic Space Launcher Technologies & Operations (2021).
- IMU – Universal Navigation Inertial Measurement Unit for rocket guidance.

Key products and services (approved for export)

- HUSSAR – Lightweight and mobile X-band SAR radar for real-time imaging and tracking of objects.
- RASEL – Autonomous tracking and communication system for flying vehicles.
- FTS – AI-powered Filter Tuning Solutions for RF and microwave applications.
- PERUN – Suborbital rocket system with hybrid propulsion.
- RF and microwave electronics products.
- Advanced electronics R&D and prototyping.

- Filter Tuning Software (FTS) ▸ p. 164
- HUSSAR SAR Radar ▸ p. 41
- Suborbital Rocket Systems ▸ p. 57

SPECIAL PRODUCTION PLANT "GAMRAT" Sp. z o.o.

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Gamrat Special Production Plant is a modern defence industry manufacturer with a long-standing tradition rooted in the development of Poland's Central Industrial Region.

Established on the foundations of a strategic investment initiated in 1937, the company has evolved into a key supplier of advanced military solutions. After rebuilding post-World War II, production began in 1951, focusing on nitroglycerine-based artillery powders that met both domestic and international demand.

Over the decades, Gamrat has continuously expanded its capabilities—from rocket propellant charges and pyrotechnic systems to advanced propulsion technologies. Today, the company specialises in solid rocket propellants, artillery and mortar powders, and innovative pyrotechnic products designed for modern defence applications.

With cutting-edge infrastructure, Gamrat enables the production of both homogeneous and heterogeneous propellant charges in various configurations. Its advanced laboratories ensure precise physicochemical analysis, defect detection, and comprehensive ballistic testing of rocket engines.

Collaborating closely with leading research institutions, Gamrat remains at the forefront of technological innovation in the defence sector. The company operates under internationally recognized quality standards, including ISO 9001:2015 and AQAP 2110:2016, guaranteeing reliability, safety, and performance.

Most important achievements

- Industrial-scale implementation of rocket propulsion charges for key weapon systems, including RPG-76 anti-tank launcher and AKTYN-120 rocket-assisted mortar, successfully introduced into military service
- Development and large-scale production of propulsion systems for anti-tank guided missiles, aerial rockets and rocket artillery, supporting a wide range of combat platforms
- Establishment of a dedicated production line for next-generation heterogeneous (composite) rocket propellants, significantly expanding technological capabilities and performance of propulsion systems
- Development and implementation of infrared camouflage smoke munitions and naval propellant charges (for torpedo launchers) in cooperation with military R&D institutes

Key products and services (approved for export)

- Rocket propulsion charges (homogeneous & heterogeneous) for missiles, RPGs, ATGMs and rocket artillery
- Solid rocket propellants (double-base and composite) with configurable burning characteristics
- Artillery and mortar nitroglycerine–nitrocellulose powders (various grain forms)
- Pyrotechnical products (acoustic simulators, smoke grenades, battlefield simulation systems)
- Custom-designed energetic materials and propulsion systems (special orders)
- Ballistic testing and R&D services (thrust, pressure, combustion analysis)
- Laboratory testing and material analysis (mechanical, chemical, X-ray inspection)
- Advanced production capabilities for high-energy materials and propellant systems

- ARTILLERY & MORTAR NITROGLYCERINE POWDERS ▸ p. 394
- PYROTECHNICAL PRODUCTS ▸ p. 415
- ROCKET PROPELLANT CHARGES ▸ p. 419

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Sybilla Technologies is a leading European company specialising in the design, development of hardware and software for ground-based sensors, precise photometric and astrometric measurements, space traffic management, and the collection and delivery of data necessary for the detection and monitoring of satellites and other space objects in low, medium, and geostationary Earth orbits (LEO, MEO, GEO). Our company designs, delivers, integrates and operates advanced observation systems.

We have extensive experience in comprehensive service and collaboration with observatories across five continents, academic communities, and external partners. Our comprehensive approach encompasses design, assembly of telescopic sets, and professional data management. Additionally, we have a specialised team of scientists focused on precise photometric and astrometric measurements.

We are developing advanced technologies that support the safety of space and the Earth, monitoring objects in orbits and reducing space debris to ensure that future generations have access to orbits around the Earth that are as valuable and limited as water or natural resources.

Most important achievements

- Main contractor for POLSA in the development of the POLON observation network (Chile, South Africa, Australia, Utah).
- Contract to provide observation data for EU SST.
- Participation in the European Defence Industry Development Programme projects (SAURON, INTEGRAL), European Defence Fund projects (SPRING, ODIN'S EYE II, EMISSARY) as well as multiple ESA projects.

Key products and services (approved for export)

- Perseus – Ground-Based Observation System
- Hydra – Multicolour Photometry For Orbital Object Characterization
- ABOT – Autonomous observatory management
- Astrometry24.NET – Advanced Automated Astrometry For Space Surveillance
- Astrodrive.io – Space Safety Data Platform

■ Hydra – Multicolour Photometry For Orbital Object Characterization ▸ p. 269
■ Perseus – High-End Ground-Based Observation System ▸ p. 278

SZCZĘŚNIAK Pojazdy Specjalne Sp. z o.o.

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SZCZĘŚNIAK Pojazdy Specjalne Sp. z o.o. is a private company established in 1992 and is one of the leading manufacturers of vehicles for fire services, the police, the military, and civil services. The company produces over 300 vehicles annually – 70% of which are for fire services, while the remaining 30% are military or other special vehicles. Its products are used in 35 countries worldwide.

Since 2006, the company has been in possession of concession No. B-046/2006 of the Ministry of the Interior and Administration to conduct business activities in the field of manufacturing and trading: explosives, weapons, ammunition, as well as products and technology for military or police purposes.

The company has implemented the management system compliant with AQAP 2110 and the Internal Control System according to the Act of November 29, 2000 on Foreign Trade in Goods, Technologies and Services of Strategic Significance for State Security and for Maintaining International Peace and Security, (Dz.U. 2000 nr 119 pos. 1250, with

later changes) enabling the company to provide deliveries to the armed forces. Moreover, the company received the NATO Code of National Economy Entity (NCAGE) 1798H, issued under the NATO Codification System.

In 2019 the company was included in the group of enterprises of special economic and defence importance by the Ministry of National Defence. By decision of the MoD, the company has been assigned tasks for Polish Armed Forces.

Most important achievements

- An enterprise of special economic and defence importance for Polish MoD
- Restricted information office
- Concession of the Ministry of Interior and Administration No. B-046/2006
- AQAP 2110 implemented
- NCAGE code granted

Key products and services (approved for export)

- evacuation and technical rescue vehicles
- fire-fighting vehicles
- riot control vehicles
- reconnaissance and measurement vehicles (CBRNE)
- command and communication vehicles
- transport vehicles
- explosive ordnance disposal (EOD) ambulances
- excavators
- backhoe loaders
- trailers
- containers

- Heavy-class Airport Rescue and Firefighting Vehicle SCANIA 6×6 ▸ p. 236
- Heavy Wheeled Recovery and Technical Rescue Vehicle ASTRA 8×8 ▸ p. 237
- Heavy Wheeled Recovery and Technical Rescue Vehicle SCANIA R520 8×8 ▸ p. 238
- Multi-purpose High-mobility Excavator SCANIA 8×8 ▸ p. 242

Tech Robotics Sp. z o.o.

Niewiadów Polska Grupa Militarna S.A.

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We are a provider of cutting-edge unmanned ground vehicle (UGV) drone technologies. We utilize the latest advancements to develop best-in-class lightweight mobile platforms. Our expertise lies in battlefield-oriented robotics. Our team consists of experienced engineers and service veterans. We specialise in designing, developing, manufacturing, and delivering ground robots and drones.

The most important achievements

- Development of an innovative training system OSCAR™, which utilizes robotic technology for simulating moving targets
- Implementation of the proof of concept the HALNY™ Tactical System (defencive and offensive) with proprietary software for autonomous navigation, location, and perception

Key products and services

- Mobile shooting Robotic Target™ 2WD
- Mobile shooting Robotic Target™ 4WD
- Shooting target Dummy 3D TechFlex™

- Mobile Shooting Target: Robotic Target™ 2WD, Robotic Target™ 4WD ▸ p. 296
- Recon Patrol™ ▸ p. 373
- ReconSKY ▸ p. 374

TELDAT Sp. z o.o. sp.k.

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TELDAT is the only Polish company specialising in the field of military ICT (including wide-area command and communication battle and crisis management systems) that has been dynamically and effectively operating in the security and defence sector for nearly 30 years. TELDAT core product is the Network Centric Data Communication Platform JASMINE which is an automated system that supports military and communication activities. Our hardware and software solutions have been successfully used and tested in the majority of Polish Armed Forces units and institutions, NATO, European and American research laboratories and the largest military exercises such as Combined Endeavor, NATO CWID / NATO CWIX, Bold Quest and many others.

Most important achievements

- long-term cooperation with the Polish Ministry of National Defence;
- delivery of software/multidomain Combat Management System of Systems JASMINE and ICT Nodes in a container and portable version with system and management software to the Polish Armed Forces;
- delivery of routers with system software for the PATRIOT system to Raytheon Technologies;
- numerous prizes and honours awarded by the Ministry of National Defence and Raytheon Technologies.

Main services and products (approved for export)

- Network Centric Data Communication Platform JASMINE – Multidomain Combat Management System of Systems along with its subsystem:
  - C3IS JASMINE – Multidomain Combat Management System of Systems dedicated to all command echelons and combat operations,
  - HMS JASMINE – Headquarters Management System for Operational and Tactical Level,
  - BMS JASMINE – Battlefield Management System for Battalion, Company, Platoon & Section,
  - VIS JASMINE – Vehicle Intercom System,
  - DSS JASMINE – Dismounted Soldier System,
  - JFSS JASMINE – Joint Fires Support System,
  - CID JASMINE – Combat IDentification Server,
  - CMS JASMINE – Crisis Management System;
- ICT Nodes in shelter and portable versions;
- Tactical Terminal Tablets.

- BMS JASMINE ▸ p. 121
- C3IS JASMINE ▸ p. 122
- HMS JASMINE ▸ p. 131
- Tactical Terminals ▸ p. 152

Terra Robotics (Terra Hexen Sp. z o.o.)

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Terra Robotics is the brand name of a technology company operating in the international market for drone detection and neutralization technologies. The company has many years of experience in international projects related to critical infrastructure security.

The company focuses on the production of multi-purpose unmanned platforms: the HEXA 50 with a payload capacity of 50 kg and the HEXA 300 with a payload capacity of 300 kg. Both models have been tested and are actively used in combat conditions in Ukraine. The platforms are designed for logistics, communications, transport, and

surveillance tasks, as well as serving as mobile transmission or jamming stations in electronic warfare. The smaller models have also been used as unmanned vehicles carrying explosive materials.

The company also manufactures an UGV system for fire departments designed for operations in harsh conditions, including chemical and toxic hazards and situations where collapse is a risk. The system's firefighting operations consistently save lives and effectively help fight the elements of fire.

Most important achievements

- NATO NCAGE number: 99C1H
- ISO 9001:2015, AQAP2110:2016,
- Internal Control System
- Concession MSWiA nr: B-054/2020
- Products proven in combat
- Delivery to the Greek Fire Department

Key products and services (approved for export)

- HEXA 50 (small multifunctional UGV)
- HEXA 300 (havy multifunctional UGV)
- HEXA FIRE (UGV fire extinguishing system)

- Hexa 50 ▸ p. 359
- Hexa 300 ▸ p. 359
- Hexa Fire ▸ p. 359

TRANSBIT Sp. z o.o.

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Transbit is a company with 40 years of experience in designing and manufacturing tactical communication systems for the Polish Armed Forces. The company specialises in military wideband radio systems, digital Line-of-Sight (LoS) radio relay systems, and ICT solutions designed for integration with C2 (Command and Control) systems. The company employs over 190 people, more than half of whom are highly qualified engineers.

Transbit's solutions are developed specifically for demanding military environments and are fully adapted to operational requirements. They are based on SDR (Software Defined Radio) architecture, enabling high flexibility, scalability, and customisation in line with user needs. The company designs and manufactures its own electronic systems, mainboards, and software, and retains full intellectual property rights to its technologies. This ensures a high level of system security, extensive configuration capabilities, and the ability to rapidly implement modifications and updates.

All Transbit equipment is designed to operate reliably in harsh conditions, including field and mobile environments.

Communication and ICT systems, while often built on proven and relatively simple technical solutions, are a critical component of modern military operations. They ensure continuity of command, secure information and data exchange, and effective coordination on the battlefield. Without reliable communication systems, effective military operations are not possible.

The equipment is designed for use at both tactical and operational levels, including installation in armoured vehicles, infantry fighting vehicles (wheeled and tracked), field and mobile command posts, communication nodes.

Transbit devices are resistant to interference, shock, and weather conditions. They support military protocols, ensure connection redundancy, and operate in high-bandwidth networks. They comply with Polish MoD defence standards aligned with US. MIL-STD.

Most important achievements

- Transbit delivers complete, integrated communication systems to the military application, enabling the establishment of fully operational tactical and operational networks. As a Polish communications systems integrator, the company provides solutions that are ready for immediate deployment and effective in any environment. Transbit plays a key role in the technical modernization programmes of the Polish Armed Forces, supplying and integrating communication systems for the Air and Missile Defence Forces, Command and Communications Forces, Anti-drone Systems and Land Forces. The company also provides communication systems for tactical-class unmanned aerial vehicles (UAVs).

- Transbit supplies advanced communication solutions that play a critical role in integrating command and control (C2) systems within modern network-centric architectures, such as BMS (Battle Management System) and IBCS (Integrated Air and Missile Battle Command System).
- The R-460A Radio Relay system meets the requirements of the IBCS Command and Control. It was successfully integrated into the IBCS architecture in 2021 through cooperation between Northrop Grumman and Transbit. The integration was carried out as part of the WISŁA Programme for Polish air and missile defence systems within the Patriot System. The R-460A is the first non-U.S. radio communication device to be integrated with the IBCS System.
- Transbit provides training and maintenance services for its equipment.
- Transbit is a partner to numerous companies within the Polish Armaments Group, as well as private firms and international corporations operating on the Polish market.

Key products and services

- R-460AM-2 Digital Radio Relay – designed for the deployment of High Capacity Line-of-Sight (HCLOS) Point-to-Point, Point-to-Multipoint tactical communication system over long distance. The R-460AM-2 radio relay, manufactured by Transbit, plays a fundamental role in ensuring a modern and reliable communication system for the Air Defence Forces and Land Forces of the Polish Armed Forces. The R-460A radio relay system meets IBCS requirements and was integrated in 2021 by Northrop Grumman and Transbit under the WISŁA Programme for the Polish Patriot air and missile defence system. It is the first non-U.S. radio communication device integrated with IBCS. General parameters: operates in NATO Band IV (4.4–5.0 GHz) with data rates exceeding 600 Mbit/s, and NATO Band III+ (1.35–2.7 GHz) with data rates up to 100 Mbit/s. Provides communication over distances of approximately 40 km.
- R-450C-01 Wideband Tactical MANET Radio – designed to establish wireless local (LAN) and wide area (WAN) tactical IP networks based on IPv4/IPv6 protocols. The system enables reliable transmission of voice, data, and video in demanding operational environments. The radio incorporates advanced anti-jamming and signal resilience mechanisms, including Frequency Hopping, as well as resistance to multipath propagation and fading effects, ensuring stable communication in complex terrain and contested electromagnetic environments. The R-450C supports fully self-organizing Mobile Ad-Hoc Network (MANET) and MESH network capabilities, allowing dynamic network formation without fixed infrastructure. This ensures high flexibility, scalability, and continuity of communications in rapidly changing battlefield conditions. The system is fully interoperable with C4ISR solutions, including Battle Management Systems (BMS), enabling seamless integration into modern network-centric operations. General parameters: operating in NATO Band I (225–400 MHz), with data rates of up to 7 Mbit/s and communication ranges from several up to 50 km, depending on terrain and operational conditions.
- UAV Radio Data Link:
  - SMR-10-S Airborne Radio Module – designed for transmitting high bit rate data (e.g. video streams, SAR radar data) from UAV platforms. It supports bidirectional communication with system components using software-configurable bit rates. The system operates with two omnidirectional antennas and one directional antenna, and can be equipped with a retransmission module to extend UAV operational range. General parameters: operating band 4400–4990 MHz, data rate up to 9.5 Mbit/s, communication range up to 150 km (LOS). General parameters: operating band 4400–4990 MHz, data rate up to 9.5 Mbit/s, communication range up to 150 km (LOS).
  - BMR-10-N1 Ground Radio Module – designed for secure, encrypted wireless communication between the Ground Control Station and the Unmanned Aerial Vehicle (UAV). It enables the reception of high bit rate data (e.g. video streams, SAR radar data) and transmission of UAV control commands. Communication is carried out over channels with dynamically adjustable bit rates. General parameters: operating band 4400–4820 MHz, data rate up to 9.5 Mbit/s, range up to 150 km.
- VoIP transmission equipment – including Digital VoIP Communications Terminals AC-30IP-01 for voice communication over IP networks, and the CV-12r-01 VoIP Gateway.
- IP Network Devices – including tactical onboard routers (RP-510-01, RP-201-01), tactical network switches (SP-110C-01, SP-124C-01), and tactical servers (SUS-24-01), designed for building and managing military IP networks.
- SMIKO Application – designed for ICT network management, including configuration and monitoring of devices within operational groupings. It provides real-time system status information and supports mission planning, such as radio network configuration and field deployment of units.

- R-450C-01 Wideband Tactical MANET Radio ▸ p. 145
- R-460AM-2 Digital Radio Relay ▸ p. 146
- RP-201-01 Router ▸ p.147
- UAV Radio Data Link:
  SMR-10-S Airborne Radio Module ▸ p. 156
  BMR-10-N1 Ground Radio Module ▸ p. 156
- VoIP Communications Terminals AC-30IP-01 and Gateway CV-12r-01 ▸ p. 157

Unmanned Systems Poland Sp. z o.o.

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Unmanned Systems Poland, established in 2019, provides innovative solutions in the field of unmanned aerial vehicles, aviation, as well as industrial automation and robotics. The company's products can be used in both the civilian and defence sectors.

Thanks to its active R&D, Production, and Service departments, the company develops and implements modern technologies, combining the passion, knowledge, and experience of its specialists. As a Polish manufacturer of next-generation UAVs and their management systems, Unmanned Systems Poland prioritizes innovation and interoperability in line with NATO requirements. Unmanned Systems Poland products are entirely Polish-made, designed and manufactured by Polish engineers in collaboration with international partners.

The company implements projects compliant with NATO standards, ensuring the interoperability of UAV control systems. AI of company UAV supports data analysis, decision-making processes, object detection and identification, and operation automation.

Company offers specialised consultancy to meet your exact requirements and needs by providing dedicated feasibility studies, custom made systems and software engineering, cyber security audit and data link communication technology analysis and assessment.

The company provides systems that automate production, warehousing, and logistics processes for various industries.

Most important achievements

- Development of various UAV families
- Development of company own software boards for UAS
- Development of company own electronic boards for UAS

Key products and services

- WASP UAS family
- TACTIC UAS family
- C-UAS system development services
- U-Core UAS software
- UAS R&D services

- HAWKEYE ▸ p. 358
- TACTIC ▸ p. 376
- U-Core Swarm Operating System ▸ p. 378
- Unified Defence Managment System (UDMS) ▸ p. 381
- WASP ▸ p. 386

VEGA

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VEGA is a European company, a leading specialist in manufacturing nitrocellulose products. We continuously supply combustible containers for mortar and artillery ammunition as well as other nitrocellulose products for the domestic and international defence industry for almost 30 years. Our nitrocellulose combustible cartridge cases are among the most valuable and advanced products at the military market.

Most important achievements

- Developing our own unique formula of the material used to produce CCC's
- Almost 30 years of experience in cooperation with domestic and international manufacturers of mortar and artillery ammunition

- Highest level of competence in the design and production of high-energy combustible containers for external propelling charges used in most types of mortar and artillery ammunition
- R&D department consisting of highly specialised engineers associated with the Military University of Technology in Warsaw
- Expert knowledge and experience in products need for NATO and non-NATO armies

Key products and services (approved for export)

- Nitrocellulose combustible cartridge cases for mortar ammunition (NATO calibers)
- Nitrocellulose combustible cartridge cases for mortar ammunition (other calibers)
- Nitrocellulose combustible cartridge cases for 155 mm artillery (NATO caliber)
- Other nitrocellulose products for defence industry

■ Nitrocellulose combustible cartridge cases for mortar and artillery ammunition ▸ p. 410

Vertigo Global Sp. z o.o.

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Vertigo Global sp. z o.o. is a Poland-based technology company specialising in the design, development and integration of advanced electro-optical systems, stabilised camera gimbals and ISR payloads for unmanned aerial vehicles and specialised defence applications. The company focuses on high-performance observation, surveillance and reconnaissance solutions, combining optical, thermal and onboard processing technologies to support professional aerospace, security and industrial users.

Most important achievements

- Development and delivery of the ISR140Z — a triple-sensor (EO/LWIR/LRF), gyroscopically stabilised ISR gimbal with below 120 µrad RMS stabilisation accuracy, for tactical UAV platforms.
- Development of the VERTIGO SENTINEL software platform providing full gimbal control, onboard image processing, geolocation support and MISB ST 0601/KLV-compliant video output for professional C2 integration.
- Successful delivery of stabilised EO/IR/LRF gimbal payloads for integration with tactical UAV platforms in defence and security applications.

Key products and services

- ISR140Z — triple-sensor EO/LWIR/LRF stabilised ISR gimbal for UAV platforms; EO/IR/LRF payload integration services for unmanned platforms; VERTIGO SENTINEL gimbal control and image processing software

■ ISR140Z ▸ p. 270

ViaDrone SWARM Sp. z o.o.

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ViaDrone SWARM Sp. z o.o. is a Polish technology company specialising in the design, development, and manufacturing of advanced Unmanned Aerial Vehicles (UAVs) and highly reliable flight avionics. Our expertise spans across heavy-lift logistics platforms, long-range FPV systems, and proprietary electronic components such as flight controllers and CAN nodes. We pride ourselves on creating resilient, tactical systems with a strong focus on hardware redundancy, secure BVLOS communication, and modularity. All our key electronics and frames are designed and integrated in Poland, ensuring the highest quality control and supply chain sovereignty for the defence and security sectors.

Most important achievements

- Development and production of proprietary, secure UAV avionics, including the VIAF405V3-PL flight controllers for FPVs,
- Successful deployment of heavy-lift tactical logistics drones capable of 20 kg payloads.
- Establishing a secure, sovereign supply chain for critical UAV electronics in Poland.

Key products and services

- VIA-FPV10-PL (Long-Range Dual-Camera FPV System),
- VIA-Q1500HL-PL (Heavy-Lift Logistics UAV),
- Proprietary UAV Avionics (Flight Controllers, CAN Nodes).

- Proprietary UAV Avionics & Subsystems ▸ p. 371
- VIA-FPV10-PL Heavy-Lift Long-Range FPV System ▸ p 383.
- VIA-Q1500HL-PL Heavy-Lift Logistics UAV ▸ p. 383

VIGO Photonics S.A.

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VIGO Photonics S.A. is a European technology leader specialising in the production of detectors and detection modules operating in the mid- and long-wave infrared range. The company also provides advanced epitaxy services, delivering semiconductor wafers tailored to customer specifications. At the same time, it develops cutting-edge technologies, including T2SL-based cooled MWIR focal plane arrays for the Polish military. Another key development area is photonic integrated circuits, enabling the company to expand into broader customer markets.

VIGO Photonics serves customers worldwide, with a strong presence in Europe, North America, and Asia. Founded in 1987, the company is headquartered in Ożarów Mazowiecki, Poland. Since 2021, it has operated a U.S. subsidiary and, following a 2026 acquisition, has expanded its footprint with a second production facility in the United States.

Its components enable advanced systems for defence and security, industry, research and transport sectors. With full control over the production process, VIGO Photonics delivers highly customised, high-performance solutions. The company employs top-tier experts and collaborates with leading research institutions worldwide, ensuring innovation, competitiveness, and outstanding product quality.

Most important achievements

- Contract signed with PCO S.A. for the supply of infrared detector arrays.
- Over three decades of excellence in military-grade technology.
- Acquisition of an infrared detector manufacturer in the United States.
- VIGO detectors on board the Mars Curiosity rover.

Key products and services (approved for export)

- HgCdTe/InAs/InAsSb infrared detectors
- Infrared detection modules
- III-V compound Epitaxial wafers
- T2SL-based cooled MWIR FPA

- 32-channel IR Detection Module ▸ p. 281

VIMANA Sp. z o.o.

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VIMANA Sp. z o.o. is a technology company operating in the field of "dual-use" solutions, combining civilian and military applications. In 2019, EURO-PROJEKT Sp. z o.o. established a special-purpose entity that took over the research

and development department along with its technical facilities, enabling a focused approach to the development of advanced technologies and specialised systems.

The company actively collaborates with universities, research institutes, and both state-owned and private industry, developing its R&D capabilities and implementing innovative solutions in industrial practice. A significant achievement is obtaining licence no. B-024/2020 issued by the Minister of the Interior and Administration, covering the trade in explosives, weapons, ammunition, and technologies intended for military and police use, confirming the company's ability to operate in a highly regulated sector with strict security requirements. Vimana's operations align with quality standards used in the defence industry, including AQAP standards developed by NATO and certified, among others, by the Polish Centre for Testing and Certification. Confirmation of the implemented quality management systems includes certificates no. A-147/1/2026 and PL-J-2830/1/2026 (IQNet), which also ensure international recognition.

Thanks to the integration of research and development activities, scientific cooperation, possession of the required licences, and implemented quality standards, VIMANA Sp. z o.o. represents a modern enterprise developing advanced technologies with broad applications in both the civilian and defence sectors.

- Drone VPL 7 ▸ p. 342
- Drone VPL 10 ▸ p. 343
- Drone VPL 15 ▸ p. 344
- Tethered Drone ▸ p. 377

WB GROUP

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WB GROUP is Poland's largest private defence technology group and one of Europe's leading manufacturers of combat-proven military systems. Founded in 1997, it brings together over 20 specialised high-tech companies employing nearly 2,500 engineers and specialists - the minds behind systems that are reshaping the face of modern armed conflict.

WB GROUP's products have passed the ultimate test – real battlefield verification. The Warmate loitering munition and the Flyeye mini-UAV have been intensively used by Ukraine since 2022 in defence, earning recognition as some of the most effective unmanned systems deployed in the conflict. Flyeye delivers continuous surveillance and artillery guidance, while Warmate precisely engages armoured and personnel targets – both systems performing reliably under conditions of heavy electronic jamming.

Equally impressive results have been achieved by the Group's command and communications systems. FONET – the vehicle battlefield communication system – is produced under licence by American defence giant L3Harris and has been deployed in over 35,000 military vehicles worldwide, including those of the United States Armed Forces. The TOPAZ artillery fire control system has served as the operational backbone of the Polish Land Forces for over two decades and continues to evolve.

WB ROUP technologies are in service with the armed forces of dozens of countries – including demanding markets. Winner of the Best Defence Exporter title at MSPO 2025.

Our systems fight where results matter.

Most important achievements

- Award of the President of the Republic of Poland
- Special Honours of the Minister of National Defence
- Numerous Defender awards for the Group's products
- The award of the Interior Minister and the Police Commander in Chief
- CIO Applications for the Top 10 Drone Tech Solutions Providers
- Leader of the Energy award
- Border Guard's Laurel award
- Award of the Minister Entrepreneurship and Technology
- Award of the National Centre for Research and Development

Key products and services (approved for export)

- AMSTA – Digital border and critical infrastructure protection system
- COMP@N H09 – Narrowband SDR Tactical Radio
- FLYEYE – Unmanned Aerial Reconnaissance System

- FONET – Reliable Vehicle Communication System
- FONET MK2 – Reliable Vehicle Communication System
- FT-5 – Tactical Unmanned Aerial Reconnaissance System
- FUTURE TASK FORCE – Manned-Unmanned Future Task Force
- GLADIUS – Reconnaissance-Strike System
- STORMRIDER – Unmanned Surface Reconnaissance-Strike Unit
- TOPAZ – C4I system
- Warmate TL-C – Tube-Launched Loitering Munition – Combat Variant
- Warmate – Lightweight Loitering Munition System
- Warmate5 – Heavy-Class Loitering Munition System
- X-FRONTER – Personal Reconnaissance-Strike System
- ZMU-05 – Remote-Controlled Weapon Station Land Version
- ZMU-05N – Remote-Controlled Weapon Station Naval Version

- AMSTA – Digital border and critical infrastructure protection system ▸ p.223
- COMP@N H09 – Narrowband SDR Tactical Radio ▸ p. 123
- FLYEYE – Unmanned Aerial Reconnaissance System ▸ p. 348
- FONET – Reliable Vehicle Communication System ▸ p. 129
- FONET MK2 – Reliable Vehicle Communication System ▸ p. 130
- FT-5 – Tactical Unmanned Aerial Reconnaissance System ▸ p. 352
- FUTURE TASK FORCE – Manned-Unmanned Future Task Force ▸ p. 353
- GLADIUS – Reconnaissance-Strike System ▸ p. 354
- STORMRIDER – Unmanned Surface Reconnaissance-Strike Unit ▸ p. 375
- TOPAZ – C4I system ▸ p. 154
- Warmate – Lightweight Loitering Munition System ▸ p. 384
- Warmate 5 – Heavy-Class Loitering Munition System ▸ p. 384
- Warmate TL-C – Tube-Launched Loitering Munition – Combat Variant ▸ p. 385
- X-FRONTER – Personal Reconnaissance-Strike System ▸ p. 389
- ZMU-05 – Remote-Controlled Weapon Station Land Version ▸ p.
- ZMU-05N – Remote-Controlled Weapon Station Naval Version ▸ p.

Webasto Petemar Sp. z o.o.

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Webasto Petemar Sp. z o.o. – climate solutions for the defence sector

Webasto Petemar Sp. z o.o. is a leading manufacturer and supplier of advanced air-conditioning, heating, and filtration-ventilation systems designed for military vehicles and containers. The company specialises in designing and delivering solutions tailored to demanding military applications, where reliability, resistance to environmental conditions, and crew safety are of key importance.

The Webasto Petemar portfolio includes custom-designed climate control systems for tactical, logistics, and specialist vehicles, as well as for mobile and stationary military containers. These solutions are engineered to operate in extreme climatic conditions - both at very low and very high temperatures - ensuring thermal comfort for crews and the proper functioning of sensitive onboard electronics.

The company provides comprehensive technical support at every stage of the project - from concept development and solution selection, through system integration with the vehicle or container platform, to training in operation and maintenance. Thanks to many years of experience and close cooperation with customers in the defence sector, Webasto Petemar is regarded as a trusted partner in climate control technologies for military and special applications.

Key products and services

- Electric and fuel operated heaters
- Integrated and split air conditioners,
- Ventilation and CBRN units
- Fully integrated climate and thermal management systems

- Design
- Prototyping & Testing
- Documentation and Validation
- Trainings

- Air conditioning systems and components for military vehicles, shelters and various platforms ► p. 221
- Fuel operated heaters ► p. 235
- Ventilation and CBRN units ► p. 251

WISS Samochody Specjalne Sp. z o.o.

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WISS Samochody Specjalne, founded in 1988, is a Polish manufacturer of firefighting, rescue, and special-purpose vehicles. The company employs nearly 1,000 staff and operates in the defence and public security sectors, supplying solutions for civil protection services.

The company's products are based on long-term experience in the design and production of specialised vehicles. WISS maintains its own composite manufacturing facility, enabling control over key production processes and ensuring the quality and durability of vehicle superstructures.

WISS is a major Polish exporter of specialisssed rescue vehicles to over 55 countries. Its international activity includes deliveries to DALO (Danish Ministry of Defence Acquisition and Logistics Organisation), demonstrating its capability to meet defence procurement requirements.

The company's solutions are characterized by durability and modular design, allowing adaptation to various operational needs, including rescue operations, crisis management, and military applications.

Most important achievements

- ISO 9001:2015, ISO 14001:2015, AQAP 2110:2016 certification
- Strategic deliveries for DALO
- Export to over 55 countries worldwide
- Award at the MSPO 2025 exhibition

Key products and services (approved for export)

- A mobile fuel tanker

- Ballistic Protection System ► p. 255
- Mobile fuel tanker ► p. 105
- Tajfun Heavy-duty operational vehicle ► p. 114

Wojskowe Centralne Biuro Konstrukcyjno-Technologiczne S.A.
(Central Military Bureau of Design and Technology)

CONTACT

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Central Military Bureau of Design and Technology (WCBKT S.A.) is a Polish company with many years of experience in designing and manufacturing modern equipment for the defence, aviation and industrial sectors. The company provides modern solutions in the field of ground support equipment (GSE), power supply systems, logistics equipment and technical infrastructure.

WCBKT S.A. also develops innovative technologies that enhance safety, including the STOPFIRE® fire and explosion suppression system, designed for tanks and fighting vehicles.

The company combines engineering expertise with strong research and development capabilities, carrying out projects for the Polish Armed Forces as well as domestic and international customers, with a strong focus on quality, reliability and the development of modern technologies.

The company's equipment has proven its reliability during missions abroad, including operations in Iraq and Afghanistan, as well as during the Baltic Air Policing mission.

Most important achievements

- Design and manufacture of ground support equipment (GSE) for all types of aircraft, including both Soviet-origin platforms and modern Western-manufactured aircraft operated by the Polish Armed Forces.
- A leading position and the role of the main supplier of ground support equipment (GSE) on the domestic defence market.
- Numerous awards and distinctions, including Defender awards at the MSPO in Kielce, Poland.

Key products and services

- Ground Power Unit LUZES V/D
- Ground Power Unit LUZES II/M
- Aircraft Hydraulic Power Unit LZH/N
- Airfield Nitrogen Distributor LDA/N
- Airfield Air Distributor LDP/N
- Airfield Oxygen Distributor LDT/N
- Airfield Nitrogen Gasifier LGA/N
- Airfield Oxygen Gasifier LGT/N
- Airfield Air Compressor LSP/N
- Airfield Dehumidifier LOP/N
- Diagnostic device
- STOPFIRE® Fire Extinquishing and Explosion Suppression System

- AIRFIELD HYDRAULIC POWER UNIT LZH/N SERIES II-F ▸ p. 25
- GROUND POWER UNIT LUZES V/D SERIES V ▸ p. 40
- STOPFIRE – FIRE EXTINQUISHING AND EXPLOSION SUPPRESSION SYSTEM ▸ p. 249

Wojskowe Zakłady Lotnicze Nr 2 S.A.
(Military Aviation Works No. 2)

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Wojskowe Zakłady Lotnicze Nr 2 S.A. (WZL-2), a member of the Polish Armaments Group (PGZ), is one of the leading aerospace maintenance, repair and overhaul (MRO) centres in Central and Eastern Europe, with over 80 years of experience in aviation.

The company provides comprehensive services for both military and civil aviation, including repair, maintenance and overhaul of military aircraft such as F-16 and C-130, base and line maintenance of commercial aircraft under PART-145 certification, aircraft painting, component overhaul, and continuing airworthiness management (CAMO).

WZL-2 also develops and integrates modern defence solutions, including unmanned aerial systems (UAV), support equipment, and advanced surface treatment technologies.

Most important achievements

- Long-term maintenance and modernization support for the Polish Air Force, including F-16 and C-130 aircraft
- Development and implementation of advanced UAV systems (including Wizjer and Orlik programmes)
- Expansion of civil MRO services under EASA Part-145 certification for international customers

Key products and services (approved for export)

- Maintenance, repair and overhaul (MRO) of military and civil aircraft
- Aircraft painting and surface treatment (including advanced coatings and PMB technology)
- Continuing Airworthiness Management (CAMO) services
- Unmanned Aerial Systems (UAV)
- Aircraft components diagnostics, repair and overhaul
- Ground support equipment and aviation support systems
- Engineering and technical support for aviation and defence sector

- Unmanned Aerial Vehicle System – Orlik ▸ p. 59
- Unmanned Aerial Vehicle System – Wizjer ▸ p. 60

Wojskowe Zakłady Łączności Nr 1 S.A.

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Wojskowe Zakłady Łączności No. 1 S.A. produce and service communication equipment for the needs of the Armed Forces and other uniformed services. The company also offers other equipment, used in command and control positions at various levels of the Polish Armed Forces. In addition, as a satellite operator, WZŁ-1 S.A. they can provide services to both the military and civilian sectors.

The Company during its activity as a main integrator and supplier, executed MOD programmes related to manufacturing and modernising mobile field communication systems as well as programmes of mobile digital communication systems for the Polish Telecommunications.

The company also cooperates with the armaments industry of NATO countries in the implementation of Air and Missile Defence projects.

Most important achievements

- Company takes part in many contests, latest awards:
  - POLSECURE Award for Mobile Forensic Platform 2022
  - Award of the Commander of the Armed Forces, Lieutenan General Tomasz Piotrowski, for the Digital and Transmission Communication Shelter – 2022
  - Defender 2023 for Mobile Communication Centre 1

Main services and products (approved for export)

- Tactical Radio Router 8 (Taktyczny Router Radiowy 8)

- Dual-band parabolic antenna APD-09 ▸ p. 127
- Logarithmic Reflector Antenna ARL-09/20/M ▸ p. 134
- Mobile Command Post Module ▸ p. 135
- Mobile Command Post's Module MMSD Division / Sub-Unit ▸ p. 136
- Mobile Satellite Terminal - MTS-4,6 ▸ p. 137
- Portable And Transportable Satellite Terminal PPTS-1,8 v.2 ▸ p. 143
- Tactical Radio Router 8 (Taktyczny Router Radiowy 8) ▸ p. 151

WOJSKOWE ZAKŁADY MOTORYZACYJNE S.A.

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Wojskowe Zakłady Motoryzacyjne S.A. offers to the Polish Armed Forces a full range of supplies and services connected with the company's principal activity related to armoured tracked vehicles as part of separate organisation units – the Competence Centres:

- Centre for Tracked Vehicles,
- Centre for Drive Trains / Power-packs for military vehicles,
- Centre for Training.

The Centres provides a wide range of services of the military equipment now used by the Polish Armed Forces and develops competence in research and development in the area of designing new equipment.

The offer of Wojskowe Zakłady Motoryzacyjne includes:

- deliveries, inspections, maintenance, repairs, modifications, modernisation of the military equipment,
- deliveries, maintenance, modifications, modernisation, training in the realm of training simulators and simulators, as a support of other PGZ companies,

- deliveries of technical material resources and spare parts for the military equipment,
- recycling of the military equipment,
- theoretical and practical training of the User's Technical Services, crew and military trainers,
- vehicle's passport,
- mobile service and technical assistance,
- research and development into the new armoured tracked and wheeled vehicles as well as the drive units,
- providing exhaustive technical documentation.

Most important achievements

For several decades, Wojskowe Zakłady Motoryzacyjne S.A. has specialised in modifications and modernisations, as well as overhauls and repairs of tracked and wheeled military vehicles. Currently, the company is focusing exclusively on armoured tracked platforms, while maintaining the potential for wheeled vehicles. In addition to the ongoing overhauls and upgrade of the BWR-1D/1S Reconnaissance Fighting Vehicles, the company has established a capability for the maintenance of the Leopard 2 tanks, and the Competence Centre for Abrams MBT's and other American tracked vehicles purchased by Poland and in service with the Polish Land Forces – like ARV M88A2.

After many years of experience in servicing military vehicle power packs, the company has extended these competences to include the design and manufacture of quick-change Power-Packs.

Cooperation with the world's technological leaders in the armament market has contributed to the company's dynamic product development. A consistent strategy has resulted in the establishment of the first service centre in the country for the Leopard 2 tanks, and Abrams tanks, ARV M88A2 and transmissions of Allison Transmissions, for tracked vehicles, as well as production and MRO of powerpacks for IFV "Borsuk".

The planned merger of Wojskowe Zakłady Motoryzacyjne S.A. and H.CEGIELSKI-POZNAŃ S.A. is expected in the near future and will significantly expand the Company's product and manufacturing capabilities, not just in the area of large-scale steel structures such as hulls, but also bridges and other engineering solutions.

- Authorized maintenance, repair, and overhaul of U.S.-made equipment ▸ p. 90
- Authorized service, repairs, servicing, modification and modernization of the Leopard 2 tanks ▸ p. 91
- BWR-1S/1D vehicles ▸ p. 97
- Power-Pack designer and manufacturer ▸ p. 110

Wojskowe Zakłady Uzbrojenia S.A. (WZU S.A.)

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Wojskowe Zakłady Uzbrojenia S.A. operates in the field of defence missile technology, support safety and maintain technical condition of weapons and military equipment at the level of full technical efficiency by providing modifications, modernizations and maintenance of missile technology and tube and rocket artillery. WZU S.A. offers deliveries of, among others: elements of radar systems for initial target detection and missile guidance, optoelectronic systems, training simulators for anti-aircraft missile systems and vehicles to transport missiles for anti-aircraft missile systems.

WZU S.A. is a stable and developing company with over 60 years of tradition. Our cooperation with largest armaments companies in the world enabled achieving significant position in the international group of companies dealing with modernizations of missile weapons and being recognized as one of the leaders in the field of refurbishment and modernization of anti-aircraft missile systems in the European and American markets.

As a member of Polska Grupa Zbrojeniowa S.A. capital group, we participate in Wisła, Narew and Pilica+ Programmes, considered critical for Polish Armed Forces and we are developing towards establishing cable harness production centre based on previous experience and capabilities achieved during performance of Offset Obligations in "WISŁA" Programme.

Most important last achievements:

- Special Mention of the Minister of National Defence for PGZ Narew consortium (WZU S.A. is responsible for integration, assembly and disassembly of EMADS missile launcher with vehicle chassis)

- Defender Award for the product SPECIAL VEHICLES OF WISŁA SYSTEM – wheeled special platforms with logistic trailer

Main services and products:

- Repairs, modernizations, modification, integration, maintenance at the depot level
- Cable harnesses
- Electro Optical Systems
- Training simulators

- CABLE HARNESSES ▸ p. 66
- ELECTRO OPTICAL SYSTEMS ▸ p. 71
- Repairs, modernizations, modifications, integration, maintenance at the depot level ▸ p. 78
- Training Simulators
  Modified Training Simulator 9F632.M1 ▸ p. 307
  Simulator of Anti-Aircraft Missile Combat Vehicle PRWB OSA (SA-8) based on VBS3 technology ▸ p. 307

Wojskowy Instytut Chemii i Radiometrii
(The Military Institute of Chemistry and Radiometry)

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The Military Institute of Chemistry and Radiometry conducts research and development activities in the field of equipment and measures for protection against weapons of mass destruction, environmental protection, and monitoring of the chemical disarmament process.

The Institute possess accredited research and calibration laboratories and the Product Certification Centre.

Most important achievements

- MICR performs testing of CBRND (Chemical, Biological, Radiological and Nuclear Defence) equipment and provides training in the field of protection against weapons of mass destruction.
- MICR is authorized centre to perform expert opinions as well as issue opinions and certificates regarding products and technologies related to its specialisation.
- MICR provides services to the armed forces, civil service and the national economy in wide range of CBRND related areas.
- MICR possess Concession of Ministry of Internal Affairs No. B-007/2004
- The Institute possess accredited research and calibration laboratories and the Product Certification Centre in accordance with:
  - Certification of Polish Accreditation Centre:
    - in Research No., AB 241, AB 380,
    - in Calibration No. AP 073
  - Certification of national Quality Certification Centre:
    - In Quality Management System, AQAP 2110:2016 and PN-EN ISO 9001:2015
- MICR is a Polish leader in research on detecting chemicals using IMS/DMS techniques.

Key products and services

- Product: SK_KII Directional Radiation Probe for Vessels
- Testing of protective equipment (against CBRN contamination)
- Testing of CBRND detection equipment according to both civil and military standards
- Testing of decontaminant efficiency
- Testing of susceptibility to decontamination for all military equipment
- Conducting training in protection against CBRND threats at national and international level
- Participation in standardization process at national and NATO level

- SK_KII DIRECTIONAL RADIATION PROBE ▸ p. 210

Wojskowy Instytut Łączności – Państwowy Instytut Badawczy
(Military Communications Institute – National Research Institute)

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Military Communication Institute (MCI) – National Research Institute is a modern research and development organization specialising in delivering command, communications and IT systems for the Polish Ministry of Defence. MCI was originally established in 1951.

MCI core research and development activities focus on the following areas:

- design of tactical communications systems (modeling, simulation, analysis, testing)
- design of radio networks and radio communication components
- developing information security in communications networks incorporating cryptographic systems, cryptographic applications and hardware, generation and distribution of encrypted data and TEMPEST/RFI/EMI protection
- design of radio-electronic warfare (REW) systems
- design of information infrastructure for network-centric systems
- implementation of network software applications
- systems integration

One of the most critical areas of our expertise is the development of technologies and systems designed to provide electromagnetic and cryptographic protection of transmitted information. Currently MCI is the only Polish company with the know-how and technological capabilities to deliver complete data encryption solutions – from coding to the finished, ready to use systems.

MCI specialises in manufacturing of secure communications devices (utilizing cryptographic and TEMPEST protection technologies), special-built power distribution systems and mobile communications units.

Most important achievements

- The DEFENDER Awards
- The President of Poland's Award,
- The Special Award of the Minister of National Defence

Key products and services

- WBK-40 keyboard
- Onboard computer KP 104E-2
- Onboard computer KP SBC-35-2
- Onboard monitor BM-12-S
- Hardware Random Number Generator SGCL-1MB-2

- Hardware Random Number Generator SGCL-1MB-2 ▸ p. 166
- Keyboard WBK-40 ▸ p. 133
- Onboard computer KP 104E-2 ▸ p. 138
- Onboard computer KP SBC-35-2 ▸ p. 139
- Onboard monitor BM-12-S ▸ p. 140

Wojskowy Instytut Techniczny Uzbrojenia
(Military Institute of Armament Technology)

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(WITU) is the leading military institute in Poland, carrying out scientific and R&D work in the field of defence and security. The Institute supports Armed Forces of Poland by providing innovative and comprehensive solutions for armaments and military equipment. The Institute experience includes multiple high-tech projects started at TRL1

and later included in the service in the Polish Armed Forces. Such project are often effect of synergic cooperation with partners such as universities, startups and industry. Areas of activity include:

- scientific research, analytical work,
- small arms and individual equipment,
- rocket / missiles and artillery,
- radiolocation and optoelectronics,
- simulators and trainers,
- UAV's and their armament.

Military Institute of Armament Technology uses three proving grounds that can support a multitude of tests. Due to isolation of those grounds it is possible to detonate up to 1000kg of TNT equivalent and test long range munitions for up to 40 km.

Most important achievements

- one of the largest military institutes in Poland
- 100 years of experience in weaponry development and testing
- own proving grounds

Key products and services (approved for export)

- SPARTAN simulators and training facilities
- family of GK warheads dedicated to UAVs
- 120mm ammunition for LEOPARD MBT
- Pangolin – family of explosive reactive armours
- "Moskit" anti-tank guided missile
- Explosive Device for Armament Neutralization "PULS"
- Giez/WarbleFly – Loitering Ammunition System

- Combat Training Support System "ŚNIEŻNIK" ▸ p. 228
- Explosive Device for Armament Neutralization "PULS" ▸ p. 397
- GX WARHEADS FOR UNMANNED VEHICLES ▸ p. 400
- LMS WARBLEFLY ▸ p. 360
- "Moskit" anti-tank guided missile ▸ p. 407
- Pangolin – family of explosive reactive armours ▸ p. 412

Wojskowy Instytut Techniki Pancernej i Samochodowej
(The Military Institute of Armoured and Automotive Technology)

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The Military Institute of Armoured and Automotive Technology (WITPiS) is a Polish defence research institute specialising in research, development, testing, evaluation, and certification of military vehicles and defence technologies. The Institute cooperates with industrial partners in the development, validation, and implementation of advanced military systems in accordance with national and NATO standards.

Institute has extensive experience in the development and evaluation of optionally manned and unmanned ground platforms, engineering equipment, and integrated mission systems intended for military applications. Its competencies include vehicle mobility assessment, structural durability, autonomous systems evaluation, operational testing, and verification of vehicle performance under representative field conditions.

The Institute supports the complete development process of defence technologies, from concept development and prototype evaluation to field validation and preparation for operational deployment. Through cooperation with industrial partners, WITPiS contributes scientific expertise, testing infrastructure, and engineering support for the development of innovative military solutions.

WITPiS has participated in the development and evaluation of advanced unmanned and optionally manned vehicle platforms, including systems designed for operation in demanding environments, such as unstructured terrain and high-threat conditions. These activities support the development of reliable and effective defence solutions with a strong focus on mobility, survivability, autonomy, and mission effectiveness.

Most important achievements

- Active involvement of the BLUSZCZ system in the "Iron Defender 2025" large-scale military exercise, including practical use in engineering and mine-laying tasks
- Participation of TAERO platform in Field Experimentation Exercise FEX-24, supporting validation of unmanned and optionally manned systems in operational scenarios

Key products and services

- BLUSZCZ unmanned scatterable mine-laying system
- Manned-unamnned TAERO vehicle

■ BLUSZCZ – Unmanned Scatterable Mine-Laying System ▸ p. 338

Wytwórnia Broni Popiński

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Wytwórnia Broni Popiński is a Polish manufacturer specialising in AKM-based and AR-15 platform rifles. The company operates with full in-house production capabilities, including barrel manufacturing, ensuring high quality, precision, and repeatability.

Most important achievements

- Full in-house barrel production up to 20 inches
- Complete technical and manufacturing documentation for all products
- Over 100 employees in production and engineering
- B2B network of approximately 250 distributors

Key products and services (approved for export)

- AKM-based rifles (JACK series) – 7.62×39 mm, 5.56×45 mm, 5.45×39 mm, .300 AAC Blackout
- AR-15 platform rifles (PIAST) – 5.56×45 mm
- Barrels for AKM and AR-15 platforms (up to 20")
- OEM manufacturing and custom configurations
- In-house tooling and production equipment

■ Barrels – up to 20" ▸ p. 395
■ JACK – AKM-based Rifle ▸ p. 402
■ PIAST – AR-15 Platform Rifle ▸ p. 413

XY-Sensing Sp. z o.o.

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XY-Sensing designs and develops advanced radar systems and signal processing solutions tailored to defence and security applications. The company specialises in SAR (Synthetic Aperture Radar) imaging systems, Passive Coherent Location (PCL) technologies, and signal acquisition and processing for Electronic Warfare.

With extensive experience in advanced radio signal processing, XY-Sensing delivers solutions supporting situational awareness across air, land, and maritime domains. Its capabilities include detection and acquisition, digital RF signal processing, and development of advanced algorithms, including AI-based solutions.

The company also provides technical and expert support based on combined practical and academic experience. Its technologies deliver reliable data essential for situational awareness in security and defence applications.

XY-Sensing systems, both active and passive, support monitoring and protection of industrial facilities, enterprises, and critical infrastructure, including state-level installations.

Most important achievements

- Supporting the modernization of the Polish Armed Forces through the delivery of surveillance, reconnaissance, and Electronic Warfare systems,
- Active participation in European Defence Fund projects (REACT-II, ARTHURO, TIRESYAS, EISNET, ARRAYS),
- Development and deployment of advanced radar and Electronic Warfare technologies (SAR, PCL, RF signal processing).

Key products and services

- XY-PCL-C – Transportable Passive Radar
- XY-PCL-MU – Mobile Passive Radar
- XY-RF MUR – RF Multichannel Universal Recorder
- XY-SAR-AESA-X – Portable X-band SAR Radar with AESA antenna
- XY-SAR-X – Portable X-band SAR Radar
- XY-ActiveEcho – Active Radar Reflector
- XY-IFTE – Intelligent False Target Emulator
- XY-DemoRad – FMCW Demonstration Radar

- XY-PCL-C PORTABLE PASSIVE RADAR ▸ p. 282
- XY-PCL-MU MOBILE PASSIVE RADAR ▸ p. 283
- XY-RF MUR RF MULTICHANNEL UNIVERSAL RECORDER ▸ p. 284
- XY-SAR-X PORTABLE X-BAND SAR RADAR ▸ p. 61

Zakłady Chemiczne "Nitro-Chem" S.A.
("Nitro-Chem" Chemical Works)

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Chemical Works NITRO-CHEM JSC is one of the world's largest producers of explosives. The company provides its products for the Polish Armed Forces and the world's largest producers of ammunition. It specialises in the production of high-energy materials and their compositions as well as engineer ammunition. It also provides filling services for tank and artillery ammunition, aerial bombs, anti-tank and naval mines. For the civil market it successfully supplies blasting agents for mining industry and plastic films. The Triniflex brand is a trade name of our cast films.

Products:

- explosives: Trinitrotoluene (TNT), Hexogen (RDX), Octogen (HMX)
- explosive compositions based on TNT, RDX and HMX
- ammunition: artillery, tank and mortar ammunition, engineer ammunition,
- aircraft bombs (Mk 82)
- ammunition filling services,
- civil products: blasting explosives for mining and science
- Drillex shaped charges

Plastic films:

- polypropylene cast film cPP Triniflex 12-250 µm (standard, antifog, peel, deep freeze, ultra-thin 12 µm, colouration)
- polyester cast film cPET Triniflex 15-200 µm
- polylactide cast film cPLA Triniflex 40-150 µm

Most important clients: USA, Spain, France, Great Britain, Germany, Czech Republic, Ukraine, Sweden, Finland, Austria, Israel, Canada, Türkiye, Norway, Italy, Taiwan.

Most important achievements

- Over 75 years of industry experience
- Presence in over 30 countries around the world
- One of the export leaders in the PGZ group
- ISO 9001:2015, AQAP 2110:2016 certificates
- Product quality confirmed by MIL and STANAG standards

Key products and services

➝ TNT IN FLAKES

Blasting explosive widely applied for filling of artillery missiles, mines and other military applications as well as for production of industrial explosives e.g. boosters, demolition charges

➝ TNT IN SOLID PIECES

Blasting explosive applied for production of cast charges. Usage of TNT in solid pieces improves the density of the cast charge and eliminates the risk of cavities which degrade the quality of the charge.

Compositions: TNT+HNS: 99,5% TNT, 0,5: HNS

➝ Octogen (HMX)

Octogen is one of the most powerful series-manufactured blasting explosives. It's applied as a military explosive both individually (in form of different charges) and as a component of explosive compositions.

Compositions based on octogen (HMX):

- Compositions of octogen with trinitrotoluene,
- Octogen phlegmatized with compositions waxes,
- Octogen phlegmatized with Viton,
- Octogen phlegmatized with Viton 10%

➝ HEXOGEN (RDX)

Hexogen is one of the most powerful blasting explosives. It's widely applied as a military explosive both individually (in form of different charges) and as a component of many explosive compositions. After adding to RDX plasticizers and other ingredients, plastic explosives are formed. Used, inter alia in HEAT charges and reactive armour.

Compositions:

- Hexogen phlegmatized with compositions waxes of the type A-IX-1
- Composition A3
- Composition A4
- Composition A5
- Hexogen phlegmatized with compositions waxes
- Heksogen phlegmatized with Viton
- Composition B

➝ FILLING SERVICES

"NITRO-CHEM" offers a wide range of filling services.

Owned lines for filling services:

- Line for casting of TNT, RDX, HMX, NTO or their compositions
- Line for screw filling of projectiles with TNT in calibers from 80 mm to 155 mm
- Line for making pressed charges for military and commercial use

■ FILLING SERVICES ▸ p. 398
■ HEXOGEN (RDX) ▸ p. 401
■ OCTOGEN (HMX) ▸ p. 411
■ TNT ▸ p. 423

Zakłady Mechaniczne "BUMAR-ŁABĘDY" S.A.

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Zakłady Mechaniczne "BUMAR-ŁABĘDY" S.A. with the registered seat in Gliwice is one of the companies of Polish Armaments Group (PGZ S.A.). It is an organization of strategic importance for the country's defence system. Company has been specialising in the production, overhauls and retrofitting of armoured vehicles. Modernization packages and overhaul services covering all types of armoured vehicles include MBT Leopard, MBT PT-91, Armoured Recovery Vehicles WZT-2 and WZT-3 as well as various types of T-72 family tanks. Zakłady Mechaniczne "BUMAR-ŁABĘDY" S.A. is the general contractor of Leopard 2A4 tanks modernization to Leopard 2PL/M1 version. The company is dedicated, on behalf of the Polish arms industry, to start the production of K2PL tanks. As the only plant in Poland has its own testing ground.

75-years experience both in terms of production and technology creates the company's potential. Successive generations of armoured equipment supplied to the Polish Army and foreign clients have established the company's position on the domestic as well as global equipment and armament market.

Main services and products

- Overhauls and retrofitting of MBT Leopard 2A4/T-72/PT-91
- Overhauls of Armoured Recovery Vehicles (WZT-2/WZT-3)

- Overhauls and Retrofitting of MBT Leopard 2A4/T-72/PT-91 ▸ p. 108
- Overhauls of Armoured Recovery Vehicle (WZT-2/WZT-3) ▸ p. 109

Zakłady Mechaniczne "Tarnów" S.A.

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Zakłady Mechaniczne Tarnów S.A. operate since 1917 and have over 70 years of experience in production of weaponry and military equipment. Company's competencies currently allow for production of devices in the field of mechanical constructions, electric, electronic, computer systems including software.

Most important achievements:

- Designing technologically advanced anti-aircraft systems: "PILICA"
- Wide product offer: machine guns, sniper rifles, mortars, grenade launchers, remotely controlled weapon modules and artillery sets
- Foreign markets: exporting products and strengthening Poland's multinational position in the military sector
- Research and development: implementing modern technologies, demonstrative models of rocket launchers, and identification and anti-drone systems
- Support of Polish Armed Forces: supplying high-quality equipment and technology

Key products and services:

- Mobile Container Shooting Range (40 FT HC)
- Modular Weapon System ZMT MWS-25
- ALEX-338 Sniper Rifle
- ZMT WKW-50 Large Caliber Sniper Rifle
- UKM 2020S General-purpose Machine Gun
- WLKM-12.7 Multi-barrel Machine Gun
- WKM-Bm/NSW-UTIOS Heavy Machine Gun
- RGP 40 Multi-shot Grenade Launcher (40mm)
- LMC Light Infantry Mortar
- ZSMU A3/A3B/A5 Remotely Controlled Weapon Stations
- Ant-aircraft Rocket-artillery System: PSR-A PILICA
- ZU-23-2CP Anti-aircraft Artillery System

- ALEX-338 Sniper Rifle ▸ p. 393
- Anti-aircraft Rocket-artillery System PSR-A PILICA ▸ p. 64
- LMC Light Infantry Mortar ▸ p. 403
- LMP-2017 60 mm Light Infantry Mortar ▸ p. 403
- Mobile Container Shooting Range (40 FT HC) ▸ p. 295
- Modular Weapon System ZMT MWS-25 ▸ p. 406
- RGP 40 Multi-shot Grenade Launcher ▸ p. 418
- UKM 2020S General Purpose Machine Gun ▸ p. 424
- WKM-Bm/NSW-UTIOS Heavy Machine Gun ▸ p. 425
- WLKM 12.7 Multi-barrel Machine Gun ▸ p. 426
- ZMT WKW-50 Large Caliber Sniper Rifle ▸ p. 426
- ZSMU A3/A3B/A5 Remotely Controlled Weapon Station ▸ p. 429
- ZU-23-2CP Anti-aircraft Artillery System ▸ p. 83

Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o.
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Zakłady Sprzętu Precyzyjnego NIEWIADÓW Sp. z o.o. with a bang (literally) returns to the tradition of military production. This time the hit are smoke grenades, imitators, missiles, thermal cartridges, universal shaped charges, signal mines and others. We hope that after many years of our little share in this industry, we will re-enter the market widely. You can rest assured about the quality of the products, as the Niewiadów company has a long tradition in this matter. In 2020, it celebrated its 100th anniversary and for a long time after the Second World War it was a mainly military plant, while the production for the needs of the Armed Forces has been continued throughout the entire period of the Plant's operation.

The most important achievements

- 100 years of continuous production for the Polish Armed Forces
- The Bronze Leader of economic activity
- Gold Certificate of the WAT Quality Certification Centre for creating quality and building the potential of the defence industry

Key products and services

- Rocket Launchers RPG-75M, RPG-75MP and RTG
- Smoke screen grenades GAK-81
- Signal mine FLAME
- Shaped Cumulative Charges UŁK
- 155 mm artillery ammunition
- 152 mm artillery ammunition
- 122 mm artillery ammunition
- Rockets S-5KO, S-5MO
- Anti-tank weapon RPG-76 „KOMAR"

- 122 mm ammunition with HE-462 projectile and reduced charge for D-30/2S1 ▸ p. 392
- 152 mm ammunition with HE-540 projectile and full or reduced charge for D20/2S3 ▸ p. 392
- 155 mm artillery high-explosive base-bleed round with extended range ▸ p. 393
- FLAME signal mine ▸ p. 399
- GAk-81 ▸ p. 399
- M107 155 mm artillery ammunition ▸ p. 404
- M18A1 Claymore – Safe and reliable directional mine ▸ p. 404
- MND-26 Anti-Personnel Mine ▸ p. 405
- MOD-26 Anti-Personnel Mine ▸ p. 405
- MON-100 – Directional fragmentation anti-personnel mine ▸ p. 407
- MS 60 FLAME ▸ p. 408
- POMBS – Portable Minefield Breaching System (L-POMBS / H-POMBS) ▸ p. 413
- Recoilless anti-tank missle launcher RPG-75-M ▸ p. 416
- Recoilless launcher for thermobaric-cumulative missiles RPG-75-MP ▸ p. 416
- Recoilless thermo-baric missile launcher ▸ p. 417
- Rockets S-5KO, S-5MO ▸ p. 418
- Shaped Bottom Charge (KŁD) ▸ p. 419
- SŁK CHELICER – Directional Engineer Charge ▸ p. 420
- Training ammunition – imitator of a cannon shot ISA-155 ▸ p. 423
- Universal Shaped Charge UŁK ▸ p. 425

ZAMET-GŁOWNO 2 sp. z o.o. sp. k

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ZAMET-GŁOWNO 2 is a dynamically developing company that combines rich technical and personnel experience with modern engineering solutions. It was created on the basis of the traditions of the Military Motor Works, which is the foundation of our knowledge and competence in the field of transport and logistics equipment for the defence and rescue sector.

Strategic Location and Modern Infrastructure
- Facility: 3.5 hectares, including production halls equipped with machinery park
- Location: Only 9 km from the junction of the A1 (E75) and A2 (E30) freeways, which provides excellent business contacts and logistical needs solutions

Expert Team and Higest Quality Standards
- Employment: Over 120 qualified specialists
- Quality certifications: ISO 9001, AQAP, PN-EN ISO 14001:2015
- Individual approach to each project
  – we tailor solutions to the unique requirements of the ordering party

Product and Service Offerings:
- Production and supply of transport equipment
  - Specialised and military containers
  - Trailers and transport platforms
  - Self-loading systems

Testing and Certification Services:
- Strength and watertightness testing of containers for CSC certificates and other transportation approval documents.
- Modernization and repair of transportation and logistics equipment.
- Experience and Global Reach.
- Our products are in operation in the UK, Germany, Denmark, Czech Republic, Lithuania etc.
- ZAMET-GŁOWNO 2 equipment has been proven in missions in Afghanistan and Iraq.

Trusted Partners:
We cooperate with key institutions and organization including:
- Ministry of Defence
- Land Forces Command
- Polish Navy
- State Fire Service

Key products and services
- Flatracks
- Trailers
- Special Containers

- Flatrack Load Platforms ▸ p. 191
- Trailers ▸ p. 211
- UNIVERSAL EXPANDABLE 20′ CONTAINERS ▸ p. 212

ZURAD Sp. z o.o.

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ZURAD Sp. z o.o., a member of the Polish Armaments Group (PGZ), has been conducting advanced research and development in the field of security technologies for several decades. The company delivers innovative solutions dedicated to a wide range of services, including the armed forces, police, fire brigades, and border guard.

As a leading manufacturer of advanced security and communication systems, ZURAD provides reliable technologies supporting critical operations in demanding field and environmental conditions. Its portfolio combines cutting-edge engineering, modular design, and operational flexibility, ensuring high performance in both military and civilian applications.

Most important achievements

- Proven deployment of advanced real-time communication systems (ACO STREAMER 4K) in large-scale crisis response operations, including national-level coordination scenarios with multi-source video integration (drones, aerial platforms, and ground units).
- Delivery of Mobile Container Kitchens (KKP200) to military units via the Government Agency for Strategic Reserves (RARS), supporting operational logistics and food security in field conditions.
- Development and implementation of the FaceCOV biometric security system for critical infrastructure protection, enabling high-throughput identification and enhanced access control.
- Extensive experience in supplying container-based and mobile infrastructure solutions for military, border protection, healthcare, and international operations, including deployments supporting crisis areas.
- Continuous development of certified technologies compliant with international quality and defence standards (e.g. ISO 9001, AQAP), ensuring reliability and operational readiness in demanding environments.

Key products and services (approved for export)

- FaceCOV Biometric Security Gate (VIP / ActiveSCAN / Container TRIPLEX)

Advanced biometric access control system enabling real-time identification of individuals, including those in motion, with high throughput (up to 5,000 persons/hour). Integrates facial recognition, fingerprint scanning, and document verification, ensuring seamless cooperation with security systems and databases.

- ACO STREAMER 4K Secure Communication System

Portable system for secure real-time transmission of high-resolution video and operational data with ultra-low latency. Enables simultaneous monitoring of multiple data streams from drones and other platforms, significantly enhancing coordination and situational awareness.

- UVC Decontamination Systems (Ceiling & Column Mounted)

Advanced ultraviolet-C disinfection systems designed for rapid elimination of biological threats in personnel spaces, vehicles, and medical environments. Suitable for both stationary and mobile applications, including CBRN scenarios.

- Mobile Container Kitchen KKP200 with Integrated Decontamination System

Field-deployable, self-contained food service unit capable of operating in extreme conditions and supporting large-scale feeding operations. Equipped with integrated UVC decontamination and compliant with HACCP and Food Defence standards, ensuring safe and reliable food supply in crisis and military environments.

- ACO STREAMER 4K ▸ p. 120
- FaceCOV Biometric Gate (3 variants) ▸ p. 231
- Mobile Container Kitchen (KKP 200) ▸ p. 198
- UVC Decontamination Systems (Ceiling & Column) ▸ p. 213

FORT Kraków – DIANA Accelerator Poland, a technology hub developing strategic innovations for internal security, defence and state resilience.

FORT – Future-Oriented Research & Technologies – refers to technology as the modern "fortification" of the state. The name reflects the center's profile: a focus on future technologies, applied research, and the adaptation of dual-use solutions to meet the needs of security and modern defence.

The experience of war in Ukraine and the Middle East, hybrid operations, and the growing role of cyberspace and outer space, combined with the rapid development of artificial intelligence, unmanned systems, reconnaissance, communications, and critical infrastructure protection, demonstrate that today's advantage lies in the ability to quickly identify, test, and implement innovations-especially civilian ones emerging outside the traditional defence industry. This requires national, trustworthy institutions with expertise and knowledge of new models for open technology development and their transfer to the security and defence sector.

This role is fulfilled in Poland by FORT Kraków – DIANA Accelerator Poland, run by a consortium of the AGH University of Kraków, University of Science and Technology and the Kraków Technology Park, collaborating with the Ministry of Defence and the General Staff of Polish Arm Forces. FORT Kraków, acting as a dual use NATO accelerator within the DIANA programme, runs innovation acceleration programmes for NATO, the EU and Poland, building lasting institutional capabilities and a strategic innovation ecosystem – a bridge between the worlds of science and entrepreneurship and the real needs of national security.



As part of the NATO DIANA programme, Poland is developing its own multi-node innovation infrastructure, with FORT Kraków serving as a central dual-use accelerator, collaborating with advanced testing centres and the NATO DIANA Living Lab – Gdańsk University of Technology. This allows national science and technology teams to not only accelerate the development of security and defence solutions but also validate them in environments close to operational levels, directly aligned with Alliance standards and needs.

This model significantly strengthens Poland's position in NATO's innovation architecture: it combines the resources of universities, technology parks and specialised laboratories with the requirements of military and civilian end users, creating a sustainable channel for transforming research-and-development potential into real defence and resilience capabilities, positioning Poland as a key, reliable contributor to Allied technological advantage.



The **NATO DIANA Living Lab at the Gdańsk University of Technology** is a neutral environment for demonstrating, testing and validating dual-use technologies developed within and around the NATO DIANA ecosystem. By providing innovators with access to realistic scenarios, structured end-user feedback and data, the Living Lab helps to bridge the gap between promising innovations and operational relevance, supporting further development, validation, funding and adoption decisions.

The Living Lab provides the necessary infrastructure, instrumentation, safety procedures, logistics and scheduling, as well as access to relevant end users. Demonstrations are prepared around clear operational scenarios and carried out in conditions that enable public, defence and critical infrastructure stakeholders to observe how a solution performs outside a standard laboratory setting. The Lab also facilitates cooperation and integration between solutions developed by innovators involved in the NATO DIANA programme, helping to test not only individual technologies, but also their potential to work together in more complex operational contexts.

Within the NATO DIANA ecosystem, the Lab acts as a practical interface between innovators, end users and institutional stakeholders. It creates neutral operational outputs, including evidence packages, after-action reviews, and structured end-user feedback.

In practical terms, the NATO DIANA Living Lab strengthens the transition from innovation to capability. The added value is direct and practical. The Living Lab provides a stronger operational and validation layer, supporting a faster path from innovation to adoption. For innovators, it offers a realistic environment in which to accelerate the next steps and reduce development risk by providing direct end-user feedback. For Allies, it facilitates the quicker adoption of disruptive technologies that can contribute to new capabilities for defence, resilience and citizen protection capabilities.

For years, Poland has been increasing its defence spending, modernising its Armed Forces and preparing itself for growing threats. An accurate diagnosis of the international situation has translated into the development of innovative solutions in the defence industry. The war in Ukraine has accelerated the technological development process of Polish companies, whose products are largely tested in the full-scale armed conflict and constantly modernised according to the changing requirements of the modern battlefield. Now, thanks to the establishment of the NATO Ukraine Analysis, Training and Education Centre in Bydgoszcz, the exchange of experience in the use of various systems will be even more systematic. This makes our national solutions extremely innovative, future-oriented and often ahead of the competition. They have been positively verified in combat conditions, which testifies to the high quality of Polish armaments production. As a result, they meet both the high expectations of the Polish state and those of the most demanding foreign customers.

