



Defence Industry Association of Hungary

HUNGARIAN DEFENCE INDUSTRY

2023





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Dear Friends,

Welcome to our newest directory of the Hungarian defence and security industry, which has been compiled to showcase the key players in the sector, as well as their respective capabilities.

The Hungarian defence and security industry has seen major changes in recent decades - changes which were hard to adapt to. Over time, even our understanding of the terms „defence” and „security” have evolved to meet new challenges. On one hand, changing demands have led to an increasing diversification of product portfolios. On the other, a growing market has seen a broadening customer base to include not only the military, but also a wide variety of state and non profit organisations. As a consequence of the 'hard years', it will be shortly proved which companies are that ones who are able to live on this tough market.

In this directory you will find exclusively those companies that are operating in such market surroundings which have been created throughout Europe only by the aftermath of the 2008 financial crisis, and the COVID-19 consequences. It is a new situation for the World where everybody is trying to find answers, but our companies have been living in this situation for decades and successfully proved their viability.

These companies are flexible in meeting the challenges, have the proper products and service capacity to fulfil special demands, even for small quantities at high, reliable quality. This is our speciality where we are strong.

Please try the benefit of it either as a buyer or partner.

We are ready for real technology transfer with our products too!

Nowadays when the defence industry market budgets are increasing, collaboration has more importance. The Hungarian defence and security industry is continuously seeking real collaboration opportunities not just within both NATO and the European Union, but with the defence industries of countries further afield as well.

This publication has been created to promote further commercial and collaboration opportunities, provides up to date information about the majority of companies and their product portfolios from the defence industry sector in Hungary.

On behalf of the Defence Industry Association of Hungary, we greatly appreciate your interest in the Hungarian defence and security industry and hope this catalogue will be a valuable source for you to find new products and partners.

You can access an online database of members and their products at www.vedelmiipar.hu

Should you require further information on the sector, please contact us via one of the channels listed in the publication.

The board of the

Defence Industry Association of Hungary

Defence Industry Association of Hungary

The Defence Industry Association of Hungary (MVSZ) represents Hungarian companies with a common interest in developing and selling goods and services in the defence and security markets. The MVSZ is a non-profit association to improve the business possibilities of our members in Hungary and internationally. We organize industry specific seminars, regular meetings, conferences and trade shows for our members locally and internationally, and try to explore new business opportunities worldwide through foreign companies, agents, associations, exhibitions. The MVSZ represents the Hungarian defence industry in NIAG, in addition to co-operating with other defence industry associations in several countries. We are looking for partners interested in the Hungarian defence industry products, services, and/or collaboration with the developers, producers.

info@vedelmiipar.hu

www.vedelmiipar.hu

Year of establishment: 1993. December 31.



Members of the



Defence Industry Associaton of Hungary

This publication has been created to promote further commercial and collaboration opportunities, provides an up to date information about the majority of companies and their products from the defence industry sector in Hungary.

Acélpartner Acélfeldolgozó és Kereskedelmi Ltd.

Address: Gyömrői út 76-80. 1103 Budapest Hungary
 Tel.: +36 1 433 3847 Fax: +36 1 433 3846
 E-mail: acelpartner@acelpartner.hu
 Web: www.acelpartner.hu
 Languages of communication: English, German

Main activities:

- CNC controlled flame and plasma cutting
- preparation of welding resin
- shotblasting up to 1600x12500x360 mm
- manufacturing of steel structures
- locksmith works for hot rolled and stainless steel plates
- CNC forging

Quality certificates:
 ISO 9001:2015

We are looking for partners interested in:
 Representing our products, production, co-operation for both military and heavy industrial constructions



AQ Anton Ltd.

Address: Sport utca 16., 8900 Zalaegerszeg, Hungary
 Tel.: +36 30 335 7562 Fax: +36 92 549 231
 E-mail: andras.nemeth@aqgroup.com
 Web: www.anton.hu
 Languages of communication: English
 Year of establishment: 1992

Main activities:

We provide wide variety of technologies to our demanding customers on the civil and military aero-engine and missile markets. Based on our strong R&D activity several niche processes available at AQ Anton. We have decades of experience in the hard to machine nickel-based super alloys, using conventional and non-conventional technologies. Several industry-specific certifications proving our capabilities.

Products:

- Jet engine hot gas path parts
- Jet engine combustion parts
- TBC coated parts
- Missile components
- Tooling (internal)

Processes:

- EDM Fasthole
- EDM Sinking
- Electron Beam Welding
- Laser ablation
- Milling
- Grinding
- Hot Forging
- CMM
- Airflow
- FPI

Quality certificates:

ISO 9001, AS/EN 9100, IATF 16949, ISO 14001, ISO 45001, NADCAP, SAFRAN DMP 66

Main references:

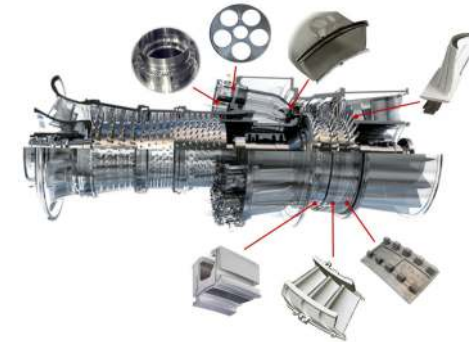
GE Aviation, Safran, Arconic, MBDA, Bosch, Siemens, GE Power

Main export markets:

Germany, France, US, Sweden, Poland, Romania

We are looking for partners interested in:

Air jet engine manufacturers, Missile system manufacturers, Other aerospace/defence specific components



Artifex Simulation Systems Ltd.

Address: Illatos út 11/b, 1097 Budapest, Hungary
 Tel.: +36 1 204 1969 Fax: +36 1 204 7234
 E-mail: info@artifex.hu
 Web: www.artifex.hu
 Languages of communication: English
 Year of establishment: 1987

Main activities:

- Military, homeland security and disaster management simulation system development. We deliver training solutions for individual soldiers and up to corps level units as well. Flagship products: MARCUS constructive simulation, KRONOS virtual simulation
- Development of military decision support system (MTR)
- Support of simulation systems
- Training solutions
- Military related engineering activities

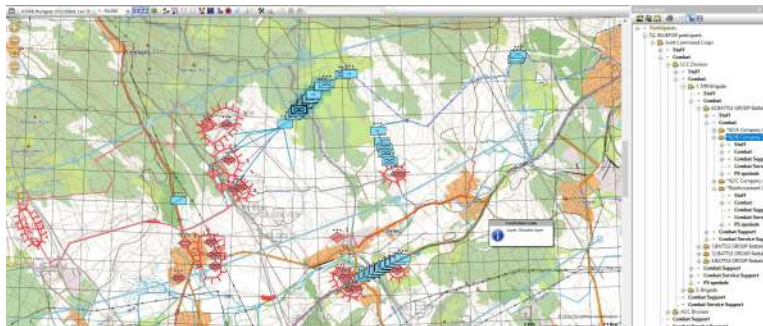
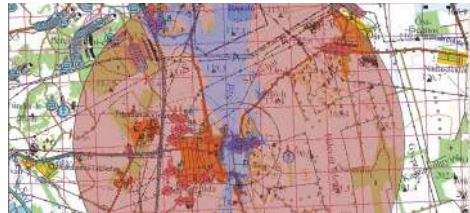
Quality certificates:
 ISO 9001

Main references:

- Hungarian Ministry of Defence
- Hungarian Army
- Hungarian MoD Electronics, Logistics and Property Management Private Company
- Rheinmetall
- GAMMA Technical Corporation

Main export markets:
 Worldwide

We are looking for partners interested in:
 Strong local partners to resell, support and maintenance our systems



BHE Bonn Hungary Ltd.

Address: Ipari park u. 10, 1044 Budapest, Hungary
 Tel.: +36 1 233 2138 Fax: +36 1 233 2506
 E-mail: sales@bhe-mw.eu
 Web: www.bhe-mw.eu
 Languages of communication: English, German, Russian
 Year of establishment: 1991

Main activities:

Design and manufacturing of RF and microwave electronics products for defence, aerospace and critical communications applications. More than 400 different RF and microwave devices and subsystems in own design and own production, beginning from the block diagram up to the final packed product. From picowatts up to kilowatts, from 70 MHz up to 70 GHz. Supply of BHE products under BHE brand or as OEM manufacturer to over 30 countries on four continents.

Quality certificates:
 ISO 9001:2015, NATO AQAP 2110:2009, AS 9100

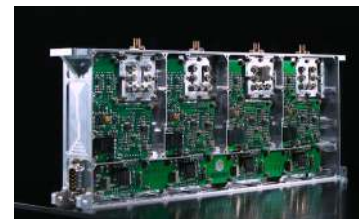
Main references:

- BURS14 Coherent 4-channel radar tester – NATO-NSPA
- BUNL10 Radar target simulator – NATO-NSPA
- BUTL26 4.5kW IFF transmitter for air surveillance radars – Asia-based system integrator
- BUXC25 MIMO radio system – European country's MOD
- BUMT14 Dual UHF modulator, Flight model – Europe-based system integrator
- BSVQ15 Wide-band synthesizer – Europe-based system integrator

Main export markets:
 France, Germany, India, Israel, Netherlands, South Korea

We are looking for partners interested in:

- RF and Microwave devices and subsystems
- OEM products supply
- Participation in tenders



BM HEROS Zrt.

Address: Asztalos Sándor u 2, 1087 Budapest, Hungary
Tel.: +36 1 334 2967 Fax: +36 1 313 7221
E-mail: bmheros@bmheros.hu
Web: www.bmheros.hu
Languages of communication: English, German
Year of establishment: 2001

Main activities:

BM HEROS Co. is a fire truck manufacturer and maintenance company. It produces special firefighter superstructure for general fire trucks, water tanks, technical rescue units, and for industrial use. Special components are also produced like quick attack hose reel, universal holder for breathing apparatuses, touchscreen control system for the firefighting systems, etc. Special vehicles are designed to meet individual user needs, with continuous end-user consultation.

Quality certificates:
ISO 9001

Main references:

Hungarian National Directorate General for Disaster Management, MOL Fuel Refinery, AUDI, TEVA Medical Factory, Nuclear Powerplant Paks, BorsodChem

Main export markets:
Czech Republic

We are looking for partners interested in:

Water Transporters, Municipal Fire Trucks Technical Rescue Units, Containers



B-Omega-T PFMS Ltd.

Address: Fecske utca 39., 1084 Budapest, Hungary
Tel.: +36 1 789 7128 Fax: +36 1 789 7129
E-mail: info@bomegat.hu
Web: www.bomegat.hu
Languages of communication: English
Year of establishment: 2013

Main activities:

- Military and civilian building construction, facility management.
- Antenna and antenna accessories repair, maintenance, installation.
- Tuning of filters and amplifiers.
- Communications systems and equipment repair, maintenance, installation.
- Electronics, subsystems and components repair, maintenance, installation.
- Mobile micro-wave communications system repair, maintenance, installation.

Quality certificates:
ISO 9001:2015, ISO 14001:2015

Main references:

Hungarian Military National Security Service



CAE Engineering Ltd.

Address: H-1118 Budapest, Kelenhegyi út 43, Hungary
Tel.: +36 1 225 0134 Fax: +36 1 225 0135
E-mail: sales@cae-engineering.hu
Web: www.cae.com
Languages of communication: English, German
Year of establishment: 2009

Main activities:

Helping defence forces maintain readiness
CAE's Defence & Security business unit focuses on helping prepare its customers to develop and maintain the highest levels of mission readiness. CAE is a world-class training systems integrator offering a comprehensive portfolio of training centres, training services and simulation products across the air, land, naval and public safety market segments.

In our innovation center on the Gellért Hill, we work with the help of 90 engineers on groundbreaking defensive developments. On the one hand, we are working on the modernization and development of the CAE simulators already installed in Europe. On the other hand, we are working on innovative solutions that can take training and operational support to a new level by using disruptive technologies such as AR/MR/VR, artificial intelligence and cloud-based solutions.

In addition to the development, we strive to contribute to the success of the Hungarian Defence Force, for example training fighter pilots in our NFTC program, preparing the A319 pilots on simulators manufactured by CAE for WizzAir or simulator-based training of the H-145M rotary-wing pilots.



Quality certificates:
ISO 9001:2015

Main references:
Hungarian Defence Force, Bundeswehr, RUAG AG, Hungarian National Directorate General for Hospitals, WizzAir

Main export markets:
Germany, Canada, Australia, Poland, Switzerland

We are looking for partners interested in:
Interested in training on the field of live, virtual, and constructive.
Wanted to integrate their solutions and capabilities with our training solutions or offer training services to their partners.

Carinex Ltd.

Address: Ipari park u. 10, 1044 Budapest, Hungary
Tel.: +36 1 386 8669 Fax: +36 1 386 8666
E-mail: info@carinex.hu
Web: www.carinex.hu
Languages of communication: English, French, Russian
Year of establishment: 1993

Main activities:

Solution Providing & System Integration
HF – SHF Radio Reconnaissance & DF; SatCom Monitoring; Nationwide Communication Monitoring (LI); Audio and Video Surveillance; Equipment and Technology for TSCM; Counter-Drone Solutions; Cyber Defence and Operations Training; Social Media Analysis.

R+D Management
SatCom; Radio Monitoring and DF; Cellular Detection and Disabling; Wireless Communication Interception; UASs for RECON & Surveillance.

Quality certificates:
ISO 9001:2015; AQAP 2110:2016; NATO Suitable Supplier

Main references:
National Security Services, Defence Forces, LEAs

Main export markets:
India, Indonesia, Kazakhstan, Azerbaijan, Turkey, Kenya, Uganda

We are looking for partners interested in:
Cooperation in the above mentioned fields of activity



Detektor Plussz 11 Ltd.

Address: Mihály u. 24, 3400 Mezőkövesd, Hungary
 Tel.: +36 49 416 802 Fax: +36 49 416 802
 E-mail: bombavadasz@bombavadasz.hu
 Web: www.bombavadasz.hu
 Languages of communication: English
 Year of establishment: 2004

Main activities:

Explosive ordnance detection and ordnance disposal with instruments in water, under water and water covered areas. Explosive ordnance detection and ordnance disposal with instruments in the soil in various ground depths depending on the client's technical needs and also taking the military history of the given area into account.

Security investments, overall explosive ordnance and bomb disposal in areas of civil and military airports. Advice service regarding detection or disposal of any ordnance, bomb, mine, military explosive, area clearance and other related topics.

Assistance for planners, constructors, investors and owners for safe preparation of the site in line with existing legislation and the implementation of construction projects.

Technical information and technical documentation for the specific area.

Instrumental soil studies in multiple aspects with various measuring instruments in accordance with client's technical requirements.

Automatic and manual clearing of the ground vegetation, to the extent necessary for ordnance disposal; with environmentally friendly technology on existing green areas and on the grounds of national parks. Automatic and manual removal of ground vegetation on the investment areas. Mechanical Excavation.

Quality certificates:
 ISO 9001:2015

Main references:
 AUDI Hungária Kft, ME Zrt. Budapest Liszt Ferenc Airport, Clearance of a Soviet bombing range and target area in Hortobágy

We are looking for partners interested in:
 Partners, who are predominantly working on or interested in the construction and/or the reconstruction of military shooting ranges and training grounds.

DETEKTOR



ELGOSCAR
 Környezettechnológiai Zrt.



ELGOSCAR Környezettechnológiai Zrt.

Address: Soroksári street 164., 1095 Budapest, Hungary
 Tel.: +36 1 363 7231
 E-mail: iroda@elgocar.eu
 Web: www.elgocar.eu
 Languages of communication: English, German
 Year of establishment: 2000

Main activities:

Our focus based on environmental protection. Our main service areas are:

- design and implementation of environmental remediation (site assessment, remediation and monitoring),
- engineering consultancy (full range of environmental and water permit applications, preparation of environmental site assessment reports),
- analysis of environmental elements (soil, groundwater, soil gas, waste etc.), accredited sampling and laboratory testing in our company's Environmental Analytical Testing Laboratory in Balatonfűzfő, accreditation certificate number NAH-1-1278/2019
- soil mechanical tests and preparation of expert reports, tank related services (tank investigation, cleaning, installation, disassembly),
- providing a groundwater-free working environment for civil engineering works by dewatering.

Quality certificates:

NATO, ISO 9001, ISO 14001, ISO 17025, ISO 45001, EMAS, SCC/VCA

Main references:

- Sármellék-Zalavár, remediation of a former Soviet military airport.
- Taszár, remediation of hydrocarbon contaminated soil and groundwater in the barracks area.
- Pápa LHPA military airport, remediation plan and tank cleaning.
- MNV Plc., remediation monitoring.
- MÁV Zrt. environmental site assessment and remediation monitoring plan.
- DINPI Esztergom, Strázsa-hill environmental remediation of former Soviet training and shooting range.
- MÁV (Hungarian State Railways) Istvántelek railway station remediation works.
- Győrlakk Paint Manufacturing Plc., inspection of 12 tanks.
- PAKS NPP Gcpt and hydrogeological test and water licences.



GAMMA Technical Corporation

Address: Illatos út 11/b., 1097 Budapest, Hungary
 Tel.: +36 1 205 5771 Fax: +36 1 205 5778
 E-mail: gamma@gammatech.hu
 Web: www.gammatech.hu
 Languages of communication: English, German, Russian
 Year of establishment: 1920

Main activities:

GAMMA Technical Corporation is a significant defence equipment manufacturer company, with the widest product portfolio in Hungary.

Our core competences are the development, production and maintenance of

- radiation measuring instruments
- meteorological instruments
- monitoring and early warning systems
- CBRN reconnaissance systems
- scintillation crystals and detectors
- mobile laboratories
- light armoured vehicles
- NBC and industrial filter canisters
- decontamination systems
- personal protective equipment

Quality certificates:

ISO 9001:2015, NATO AQAP 2110

Main references:

Hungarian Defence Forces, Mol – Disaster Management, Hungarian Customs and Finance Guard, Nuclear Power Plant, Industry

Main export markets:

EU, Middle East, Asia

We are looking for partners interested in:

Representing our products and systems, integrating our instruments, technical cooperation



GLOBSERVER Strategy and Defence Research Development Ltd.

Address: Frangepán u. 46, 1139 Budapest, Hungary
 Tel. / Fax: +36 1 880 4731
 E-mail: info@globserver.eu
 Web: www.globserver.eu
 Languages of communication: English, Russian
 Year of establishment: 2006

Main activities:

We are dealing with development of armament materials for law enforcement troops. Together with producer partners we supply ballistic equipment for several purpose to domestic and international market. Military and law enforcement equipment selling. We sell stocked and new product weapons and ammunitions for international market. Military and security services

Quality certificates:

ISO 9001, AQAP 2120:2013

Main references:

Hungarian Police, National Bank of Hungary

Main export markets:

Middle East

We are looking for partners interested in:

Military and law enforcement



Horányi Hajógyár Ltd.

Address: Szentendrei u. 1., 2015 Szigetmonostor, Hungary
 Tel.: +36 20 960 7305, +36 20 974 5952
 E-mail: info@wiking.hu
 Web: www.wikinghajogyar.hu, www.wiking.hu
 Languages of communication: English
 Year of establishment: 2014

Main activities:

Pontoons and ships (multipurpose patrol, ferry, fast passenger catamaran, etc.) design, repair and building.

Products:

Wiking Patrol 18 - multipurpose patrol vessel
 Wiking 450 – small alu workboat
 Wiking CAT 20 – fast catamaran
 Wiking CAT 30 – passenger catamaran
 28 m Double-ended river ferry
 Custom made pontoons, work platforms, ships

Services:

Operational and Maintenance Training
 Commissioning and Trials
 Maintenance Contracts
 Repair and Conversion
 Train and Maintain
 Ship delivery services
 Spare Parts Services

Quality certificates:

MSZ EN ISO 9001
 NATO AQAP 2110:2016

Main references:

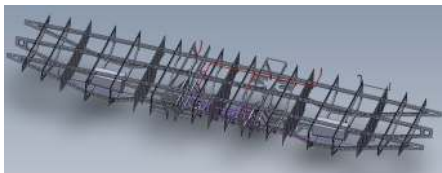
M/S Tűzmadár patrol vessel, M/S Mohács I fast passenger catamaran, Wiking 450 work boat

Main export markets:

Slovakia

We are looking for partners interested in:

Work boats, patrol vessels, double ended river ferries, pontoons, work platforms



visual engineering
LIGHTWARE

Lightware Ltd.

Address: Peterdy u., 1071 Budapest, Hungary
 Tel.: +36 1 255 3800
 E-mail: sales@lightware.com
 Web: www.lightware.com
 Languages of communication: English
 Year of establishment: 1998

Main activities:

Lightware a leading manufacturer of DVI, HDMI and DisplayPort matrix switchers, signal extenders and accessories for Audio-Visual purposes. Our goal is to recognize industry needs and develop performance-rich products of the highest quality.

Quality certificates:

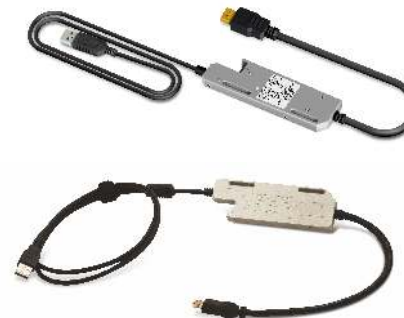
ISO 9001

Main references:

World Conference Center Bonn, United Nations Campus, Bonn, Memorial Sloan Kettering Cancer Center New York, House of Dancing Water, IDEX Opening Ceremony, Boeing Collaboration Center, Oil&Gas Onshore Operations Center Norway, Police HQ Operations Center Czech

Main export markets:

Switzerland, France, Italy, Norway, Sweden, Finland, Denmark, Spain, Portugal, United States of America, Canada, Mexico, India, China, United Arab Emirates, Saudi Arabia



Medirlab Biomedical Development Co., Ltd.

Address: Amerikai út 98., 1145 Budapest, Hungary
 Tel.: +36 1 320 8338 Fax: +36 1 340 8072
 E-mail: info@medirlab.hu
 Web: www.medirlab.hu
 Languages of communication: English
 Year of establishment: 2008

Main activities:

MEDIRLAB Biomedical Development Co., Ltd was founded in 2008 in Budapest as a subsidiary of HEXIUM Technical Development Co., Ltd with the aim of developing, producing and solving biomedical R&D tasks and launching developed products to the market. MEDIRLAB is responsible for biomedical products developed and produced by HEXIUM. Our colleagues are electrical engineers, physicists, microbiologists, mechanical engineers, mathematicians, computer technicians and programmers with many decades of experience in R&D. MEDIRLAB specializes in developing and manufacturing thermal cameras, electro-optical systems and biomedical systems and cooperates with academic research institutions.

As a domestic company, we adapt to our users' needs, and we can deliver even in small batches in extremely short time frame. We offer quick and effective support during the warranty period and beyond. The combined business results of MEDIRLAB Co., Ltd and HEXIUM Co., Ltd - despite the pandemic period - are growing dynamically.

Products:

Jumbo Multispectral Reconnaissance System
 Aerial Reconnaissance System
 Cyclops portable reconnaissance thermal camera
 TrafficCapture Speed measuring device
 SpectroCapture portable water quality monitoring system

Processes:

Research and Development
 Production according to customer requirements

Quality certificates:

MSZ EN ISO 9001, Military Production License, and our company group has the professional cooperation and delivery licenses of American and European manufacturers of the most critical dual-use components.

Main references: Hungarian Police, Hungarian Army

We are looking for partners interested in:
 Product distributors

MEDIRLAB
 BIOMEDICAL DEVELOPMENT CO., LTD

MetTech

MetTech LLC.

Address: Céltábla u. 12, 1165 Budapest, Hungary
 Tel.: +36 28 510 480 Fax: +36 28 510 481
 E-mail: info@mettech.hu
 Web: www.mettech.hu
 Languages of communication: English, German, Russian
 Year of establishment: 2001

Main activities:

MetTech LLC. develops, produces and distributes meteorological measuring systems for professional meteorological, environment protection, military, traffic and industrial applications. Our firm also undertakes the planning, maintenance, calibration and repair of such systems.

Quality certificates:
 ISO 9001

Main references:

- Budapest Liszt Ferenc International Airport meteorological system installation
- Installation of meteorological supporting system of 3 military airports and 1 heliport for the Hungarian Army
- Installation of 7 automatic aviation meteorology stations at the European bases of the US ARMY
- Installation of automatic data collecting and information system of 1 Hungarian small airport
- Installation and maintenance of 95 road meteorology stations and 14 centres along the Hungarian motorways
- Installation of a number of professional automatic meteorological stations for scientific and environment protection purposes



MFS Defense Zrt.

Address: Belső Gyártelep 1002/35. hrsz., 3332 Sirok, Hungary
 Tel.: +36 36 361 122 Fax: +36 36 561 027
 E-mail: csaba.toth@mfsdefence.com
 Languages of communication: English
 Year of establishment: 1952

Main activities:

Production and development of high quality small caliber ammunition for military, law enforcement, home defense, sport and industrial purposes since 1952. The production started with military ammunition and then the portfolio was extended with hunting ammunition. Our company is a proud member of RUAG Ammotec Group since 2009. We mainly produce high quality pistol, revolver and military rifle ammunition to other RUAG brands. Our production is according to CIP, MPMOPI and ISO standards or according to customer specific requirements.

- Military (NATO or user specified):
 - 9x18
 - 9x19 NATO
 - 5.56x45 NATO
 - 7.62x51 NATO
 - 7.62x39 & 7.62x54R
- Law enforcement:
 - see: military and home defense
- Sport shooting and home defense:
 - .357, .38, .40, .44, .45, 9x17 and 9x19
- Industry:
 - ammunition parts
 - Knall: 8 mm, 9 mm PA, 9 mm PA HL, 9 RB)

Quality certificates:

ISO 9001, NATO AQAP 2110:2016

Main references:

Hungarian military, Hungarian police, Estonian military, Lithuanian military

Main export markets:

USA and European countries

We are looking for partners interested in:

Military, law enforcement organization and licensed small caliber ammunition resellers in Asia and in Africa



MLR Tech Ltd.

Address: Torockó u. 32., 1202 Budapest, Hungary
 Tel.: +36 1 469 4420
 E-mail: info@mlrtech.hu
 Web: www.mlrtech.hu
 Languages of communication: English
 Year of establishment: 2009

Main activities:

- Civil protection or dangerous industry applications of gas and meteorology telemetric and public announcement with electronic siren in integrated early warning systems.
- Early warning with decision support functions like gas dispersion modelling and customized action plans for each event type.
- Distribution of TETRA equipment and applications.

Quality certificates:

ISO 9001

Main references:

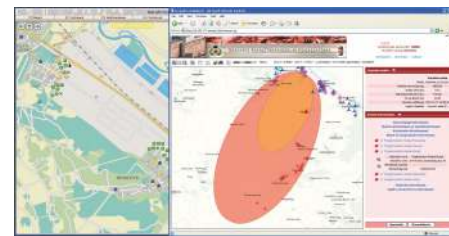
- The all-inclusive operation and maintenance of the monitoring and public alarm system (MoLaRi) for Disaster Management Directorate Hungary, which is an implementation of the SEVESO II. policy.
- Implementation of a public alarm system in Devceser to be used during the handling of the red sludge catastrophe in 2010 with short notice for Disaster Management Directorate Hungary.

Main export markets:

Developing countries

We are looking for partners interested in:

Local distribution



MoD ARMCOM Communication - Tech. Co. Ltd.

Address: Isaszegi út 179., 2100 Gödöllő, Hungary
Tel.: +36 28 420 122 Fax: +36 28 420 389
E-mail: hmarmcom@armcom.hu
Web: www.armcom.hu
Languages of communication: English
Year of establishment: 1992

Civilian activities:

- Design & installation of special purpose vehicles
- Installation of ambulance vehicle
- Development and manufacture of Camp Area Lighting Equipment
- Maintenance of Thermo Camera Surveillance System for border control

Latest products & development:

- Universal Battery Charger equipped with Solar panel
- UVC-90 Disinfection-Sterilizer Lamp against COVID-19
- User Specified Security Solutions for facility monitoring & management

Quality certificates:

ISO 9001, AQAP 2110, NATO Supplier

Main references:

Ministry of Defence, Hungarian Home Defence Forces, National Ambulance Service, Hungarian Telecom Open Inc., Tigáz C.Co.Ltd., General Directorate of Hungarian National Disaster Prevention, Hungarian National Police Headquarters, National Info Communications Authority.

Main export markets:

Germany, Norway, Slovakia, EECA

We are looking for partners interested in:

Military Communication, Command & Control, microwave technology, tactical radios, electronic warfare



Latest products & development:

- PK-2NM Command & Control system
- RR-1/G Mobile Digital Microwave Station
- MIMO-MESH Data Radio integration

Main activities:

- Design, installation, test, repair and maintenance of Field Communication Equipment (tactical radios, C2 complexes, crypto, IT & Intercom systems) for NATO commitment and exercises of HDF.
- Responsible for maintenance of HDF' Government Separated Communications Network stationary info-communication systems (HCLOS microwave network)
- Certified and dedicated service supplier for MRR VHF tactical radios (test laboratory and repair shop)
- Communication technology development for military uses (MIMO-MESH Software Defined Radio, energy management, solar technology)

MoD ARZENÁL Electromechanical Co. Ltd.

Address: Dózsa György u. 121, 4461 Nyírtelek, Hungary
Tel.: +36 42 210 555 Fax: +36 42 210 802
E-mail: info@hmarzenal.hu
Web: www.hmarzenal.hu
Languages of communication: English
Year of establishment: 1964

Main activities:

- Middle-stage, and as-required repair and technical inspection of electronic and mechanical units of different missiles and missile systems, fire control systems, radars and other additional equipment. Development and implementation of technology required for lifecycle extension of missiles and missile systems.
- Development, design and implementation of mechanical, electronic, hardware- and software units of military equipments.
- Modernization of weapons.
- Disposal and demilitarization of military equipments withdrawn from service.
- Designing, manufacturing, installation, maintenance and servicing of sophisticated security and alarm systems.
- Technical inspection, repair and calibration of non obligatory calibrated measuring devices, high pressure air storage tanks and lifting equipments.

Quality certificates:

MSZ EN ISO 9001:2009, MSZ EN ISO 14001:2005, ISO/IEC 27001:2013, AQAP 2110

Main references:

- Hungarian MoD and Defence Forces – repair, modernization of military equipment, assault rifle modernization, installation of security systems.
- NAMFI – modernization of receiver-, signal processing- and control units of AR-51 and WATCHMAN type radars
- HITACO Co. Ltd. – lifecycle extension of air defence equipments, delivery of special production lines and of military equipments.
- NAMSA – radar modernization, development and manufacturing of special equipments.
- Raytheon Missile Systems – Central European Maverick Logistical Depot.
- Agencija Alan d.o.o. – Technical inspection and calibration of air defence equipments.
- CERN – manufacturing of assemblies and metal parts.

Main export markets:

Greece, Croatia, Switzerland, Luxembourg, Vietnam.

We are looking for partners interested in:

Cooperation in the field of modernization, development and trade of military equipments.





MoD CURRUS Combat Vehicle Technique Co. Ltd.

Address: Isaszegi út 179, 2100 Gödöllő, Hungary
Tel.: +36 28 28 420 122 / 300 Fax: +36 28 420 389
E-mail: currus@currus.hu
Web: www.currus.hu
Languages of communication: English, Russian
Year of establishment: 1993

Main activities:

- Maintenance support to Hungarian Defence Force (HDF), Industrial level maintenance (overhaul/refurbishment)
- Support to operations, exercises
- Research, design and development
- Participation in implementation of new equipment
- Training HDF maintenance troops
- Equipment demilitarization
- Industrial level manufacturing capabilities (plasma cutting, turning, milling, grinding, pressing, cold working, surface finishing, etc.) also offered to civilian companies, Military trade
- Defence equipment, materiel, parts, weapon
- AsR 10/40M (As-, As/B) containerized water treatment, waterstorage and waterdispenser equipment design and construction
- Modular internal superstructure bus development serial production
- Bus rebuilding for vaccination purposes



MoD Electronics, Logistics and Property Management Co. Ltd.

Address: Salgótarjáni u. 20, 1101 Budapest, Hungary
Tel.: +36 1 431 2900 Fax: +36 1 431 2901
E-mail: vezerigazgatosag@hmei.hu
Web: www.hmei.hu
Languages of communication: English
Year of establishment: 1993

Main activities:

- Real estate management
- Human and technical guarding
- IT activity
- Computerized military simulation and training systems
- Military technology research and development
- RDL-09 (rapid diagnostic laboratory)
- UAV
- AsR (water purification technologies)
- Military Textiles
- TEMPEST

Quality certificates:

ISO 9001, ISO 14001, ISO 45001, ISO 50001, ISO/IEC 27001, ISO/IEC 2000-1, AQAP 2110, AQAP 2210

Main references:

Ministry of Defence, Hungarian Defence Forces, Hungarian State Treasury, Hungarian Oil & Gas Company Plc., HungaroControl Co. Ltd.





Pinter Works Ltd.

Address: Rákóczi Ferenc u. 175., H-6237 Kecel, Hungary
Tel.: +36 78 420 199
E-mail: pintermuvek@pinterworks.hu
Web: www.pintermuvek.hu
Languages of communication: English, German
Year of establishment: 1978

Main activities:

Manufacturing of interim storing units for spent nuclear fuel; manufacturing of lead-free shipping cask, which has specially been designed to transport neutron sources and fissile material; environmentally friendly process of E-waste; armour plate cutting and machining; manufacturing of military containers; production of spare parts for water and nuclear power plants; waste recycling plants; research and development.

Quality certificates:

- ISO 9001:2015 (TÜV Rheinland InterCert)
- ISO 14001:2015 (TÜV Rheinland InterCert)
- MSZ EN ISO 3834-2 (TÜV Rheinland InterCert)
- AD 2000-Merkblatt HP 0 (TÜV Rheinland Certification Body)
- 2014/68/EU Directive, Appendix I., Par. 3.1.5., EN 764-5, Par. 6.2.2.; AD 2000 HP 0, Par. 4. (TÜV Rheinland InterCert)
- EN 1090-1,-2 (TÜV Rheinland InterCert)

Main references:

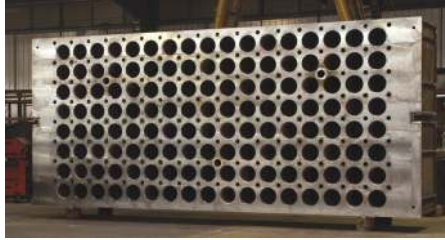
Public Limited Company for Radioactive Waste Management (PURAM); Paks Nuclear Power Plant Ltd.; GE Hungary Ltd.; Siemens Hungary; Andritz Ltd.; MOL – Hungarian Oil and Gas Ltd.; legal predecessors of Yettel and Telekom; Danubian Aircraft Company.

Main export markets:

Germany, Slovakia, Norway

We are looking for partners interested in:

Production of non-standard items; production of oversized items; production of other items requires high precision; finding a reliable partner having the highest and most updated certificates, and decades of experience.



Pro Patria Electronics Ltd.

Address: Könyves Kálmán krt. 12-14, 1097 Budapest, Hungary
Tel.: +36 1 322 7010 Fax: +36 1 344 7020
E-mail: info@propatria-inc.com
Web: www.propatria-inc.com
Languages of communication: English, German, Russian
Year of establishment: 2000

Main activities:

- R&D in Applied Microwave Technology
- R&D in Digital Data Processing
- R&D in Electro-Optical Systems
- Sensor Integration
- Manufacturing and Distribution

Products and Services:

Different models of medium range FMCW Ground Surveillance Radars. Available in man-portable, fixed or vehicle mounted versions. Operating as stand-alone devices, as ruling sensors of electro-optical security systems on mobile platforms or as integrated devices in large and complex security systems.

Quality certificates:

ISO 9001:2009, NATO AQAP 2110:2009

Main export markets:

African, NATO, European and Middle-Asian countries.

We are looking for partners interested in:

Partners-manufacturers of large and complex systems requiring tailor-made FMCW radar solutions (gap fillers and supplementary systems) for facility protection at airports, air bases, military camps, strategic depots, power plants, refineries, pipelines and other sensitive objects.



Qualitative Production Plc.

Address: Rozgonyi utca 46., 9028 Győr, Hungary
 Tel.: +36 96 511 000 / +36 30 372 8238
 E-mail: qp@qprt.hu
 Web: www.qprt.hu
 Languages of communication: English, German, Russian, Italian
 Year of establishment: 1993

Main activities:

We are serving the manufacturing part of the process. We can support the manufacturing with engineering, designing, creation work, assembling the parts and test them in the later manufacturing processes.

Quality certificates:
 ISO 9001; IATF 16949

Main references:

Every large manufacturer of cars, railways, public and goods transport vehicles, construction machines, mining equipments

Main export markets:

European countries

We are looking for partners interested in:

machining any metal machine parts or components, as well as designing, creating fixtures for their own manufacturing



Rába Vehicle Manufacturing and Trading Ltd.

Address: Martin u. 1, 9027 Győr, Hungary
 Tel.: +36 30 444 9500
 E-mail: jarmu@raba.hu
 Web: www.raba.hu/vehicle
 Languages of communication: English, German
 Year of establishment: 1999

Main activities:

- Military business unit: trading and assembling of logistics vehicles (off-road trucks) for the Hungarian Defence Forces and the Hungarian National Directorate General for Disaster Management;
- Research & Development: developing and manufacturing Protected Rear Compartment for safe transportation of persons in conflict zones;
- Civilian business unit: trading and manufacturing chassis for the construction industry (for road rollers and earth moving machines, cranes), other steel structures;
- Bus division: trading of on-road passenger transport vehicles and manufacturing self-propelled bus chassis (midi bus type)

Quality certificates:

MSZ EN ISO 9001:2009; AQAP 2110:2009; MSZ EN ISO 14001:2005; MSZ EN ISO 3834-2:2006; OHSAS 18001:2007

Main references:

- Rába H family of military off-road trucks for the Hungarian Defence Forces;
- Protected Rear Compartment for secure transportation of persons in battle zone;
- Rába R16 firefighting vehicles for the Hungarian National Directorate for Disaster Management;
- Vehicle chassis and steel structures for the construction industry;

Main export markets:

Federal Republic of Germany; Austria

We are looking for partners interested in:

As an automotive company Rába is looking for co-operation with small, medium and large sized companies of good name in their field of operation mainly in the European Union (operating in the automotive industry and construction industry) who look for completely built buses (midi bus type) for public transportation as well as for suppliers of vehicle components such as vehicle chassis and structures; Governmental entities or companies in the defence sector who are interested in the Rába developed Protected Rear Compartment.



SBS Szerelő, Javító és Szolgáltató Ltd.

Address: 0340/1 hrsz., Kalász Tanya, Fő út, 3358 Erdőtelek, Hungary
 Tel.: +36 36 496 114
 E-mail: sbskft@sbskft.hu
 Web: www.sbskft.hu
 Languages of communication: English
 Year of establishment: 1997

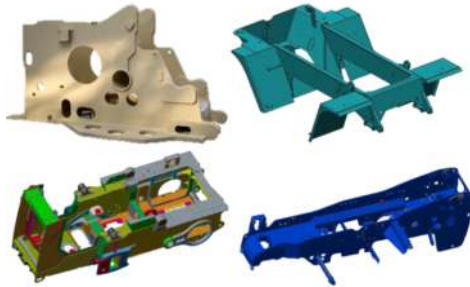
Main activities:
 Manufacturing of steel products according to manufacturing documentation.
 Processing high strength, wear resistant and bulletproof steel (HARDOX, ARMOX).
 Fabrication of special, heavy platforms (Chassis / Frames) of transportation vehicles.
 Different sizes of steel weldments incl. machined weldments.
 Finishing: unpainted or completely painted.

Quality certificates:
 ISO 9001, ISO 14001, ISO 4834-2, DIN EN 15085-2/CL1, EN 1090

Main references:
 CATERPILLAR, LIEBHERR, GOLDHOFER, TEREX, KONECRANES

Main export markets:
 Western Europe

We are looking for partners interested in:
 Fabrication of special, heavy platforms (Chassis / Frames) of transportation vehicles.
 Different sizes of steel weldments incl. machined weldments.
 Finishing: unpainted or completely painted.



Sero International Ltd.

Address: Szurdok u. 12/b., 2112 Veresegyház, Hungary
 E-mail: info@sero.hu
 Web: www.sero.hu
 Languages of communication: English, German, Russian
 Year of establishment: 2006

Main activities:
 Sero International Ltd's main activity is the production and trade of GM6 Lynx 12,7x108 and/or .50 AMR destroyer/heavy sniper rifle and GM3M 14,5x114 sniper rifle, and also research and development of weapons and weapon systems.

Main export markets:
 USA, Canada, EU countries, Middle East, trading worldwide.

We are looking for partners interested in:
 Purchasing 12,7x108 and/or .50 and 14,5x114 rifles; R&D capacity in weapon developments; purchasing ammunition; consultancy



Skilldict Plc

Address: Lajos utca 78., 1036 Budapest, Hungary
Tel.: +36 70 338 6022
E-mail: info@skilldict.com
Web: www.skilldict.com
Languages of communication: English, German
Year of establishment: 2015

Main activities:

The special characteristics of the army, police, border guard and disaster management require special training approach. These areas demand not only knowledge that can be used under office circumstances on a daily basis. The staff has to apply the skills they learn in field work, in action, even in emergency situations. They have to act professionally, effectively and quickly, processing a lot of information in a little time, and at times their decisions carry serious consequences. As a result, a key training point is to convey and imprint knowledge that can be applied regularly and professionally, even in high-stress situations. It is therefore essential to decide which methods should be used for preparation and how the time and money spent on education will pay off.

Our modern digital pedagogical methodology and a practice-oriented electronic training solution (the SkillToolkit) was designed for the special needs of first responder organisations.

Our main services are:

- implementing adaptive eLearning systems
- developing competence based electronic curriculums with rich multimedia content
- providing knowledge management consultancy

Main references: Hungarian National Directorate General for Disaster Management, Ministry of Interior, Paks Nuclear Power Plant, National University of Public Service, Public Limited Company for Radioactive Waste Management.

Main export markets: Central and Eastern Europe, Middle Eastern countries

We are looking for partners interested in:

Training companies; manufacturers and traders of valued equipment or complex systems, which need to provide training services with their products.



STU Ltd.

Address: Asbóth Oszkár u. 4., 5700 Gyula, Hungary
Tel.: +36 30 092 6078
E-mail: office@stu.co.hu
Web: www.stu.co.hu
Languages of communication: English, German
Year of establishment: 2019

Main activities:

Leasing of equipment and machines necessary for surface treatment. We forward their surface treatment needs to our partner who carries out the activity.

We are looking for partners interested in:
 surface treatment, painting.

TELUM Fémipari Ltd.

Address: Jókai utca 14., 6640 Csongrád, Hungary
 Tel.: +36 63 483 790 Fax: +36 63 483 790
 E-mail: telum@telum.hu
 Web: www.fegyvergyartas.hu
 Languages of communication: German, English
 Year of establishment: 1993

Main activities:

Telum Fémipari Kft. undertakes the production of metal parts for weapons on modern CNC machining machines. Our machining technologies include milling, turning and block spark cutting. Our state-of-the-art computer-controlled machines enable high-precision and fast machining of parts. Our profile currently consists of parts manufactured for foreign companies and riflemen, which are made with the maximum precision and exact dimensions required by them. Our profile is characterized by serial production, but we also undertake the production of smaller volumes. Materials we work with are mainly steel, stainless steel, aluminium, plastic.

Quality certificates:

building a quality assurance system

Main references:

Kongsberg Automotive, Vestfrost Solutions

Main export markets:

Denmark, Slovakia

We are looking for partners interested in:

arms production, metalworking



Toolimpex Metrologia Llc.

Address: 6 Panya u. Budapest, 1171 Hungary
 Tel.: +36 1 414 0386
 E-mail: info@metrologia.hu
 Web: www.toolimpex.com
 Languages of communication: English
 Year of establishment: 2009

Main activities:

- We provide calibration services of measuring equipment for production. (ISO 17025) We can sell, design and manufacture measuring equipment for production. (ISO 9001) (AQAP)
- From 2023 we are selling small arms for civilian and armed forces as well.

Quality certificates:

- ISO 9001:2015
- ISO 17025:201
- 8NATO AQAP 2110: 2003

Main reference:

RUAG, Bosch Group, GE, Linamar, Knorr Bremse

Main export markets:

Hungary, Slovakia, Rumania, Slovenia, Serbia, Austria, Czech Republic, Germany

We are looking for partners interested in:

Calibration services,
 Small arms sales



Vektor Work Safety Ltd.

VEKTOR
WORK SAFETY



Varga József e.v.

Address: Nagytétényi út 112, 1222 Budapest, Hungary
Tel.: +36 1 281 1945 Fax: +36 1 281 1947
E-mail: kereskedelem@vektorkft.hu
Web: www.vektorkft.hu
Languages of communication: English, German
Year of establishment: 1987

Service: Every time we try to help our customer if somebody have any problem. At our company there is a well-functioning system for settlement of claims.

Consulting: Before we recommend any product for our customer in every time we exactly assess the needs of our partner.

Quality certificates:
MSZEN ISO 9001:2015, AQAP-2110:2016

Main references:
AUDI Hungária Zrt. DENSO, DRV Zrt., Duna-Dráva Cement Kft., E.ON csoport, Howmet-Köfém Kft., MOL Nyrt., MVM, NKM Áramhálózati Kft., NKM Észak-Dél Földgázhálózati Zrt., Hungarian Defense Forces, Hungarian Police, Hungarian Prison Service Headquarters, National Directorate General for Disaster Management

Main export markets:
Romania, Slovakia, Czech Republik,

We are looking for partners interested in:
Primarily the companies interested in protective garment, personal protective equipment, special protective garment, work protection.

Address: Wesselényi utca 10., 4252 Nyíradony, Hungary
Tel.: +36 30 504 9804 Fax: +36 52 203 098
E-mail: varga.jozsef25@t-online.hu
Languages of communication: English
Year of establishment: 1987

Main activities:
Repair, renovation, transformation and assembly of vehicles (including those used by the military forces, the disaster management authority, the police and also the ambulances) and of the tows and parts of such vehicles, as well. Body repair works, paint works, installation/ and maintenance of vehicle air conditioning, car wash and cosmetics services. Vehicle parts trade. Motor vehicle rescue, transportation, storage and secure parking services. Renovation, frame repair works of buses. Technical inspection and official technical examination of motor vehicles.

Quality certificates:
ISO 9001

Main references:
Currus Zrt., MHLK, ÉMKK, BM Heros Zrt., MÁV Zrt.

Main export markets:
worldwide



Picture taken before repairs



Picture taken after repairs





**Hungarian
Defence Export Agency - VEX**

Address: H-1011 Budapest, Fő utca 14-18. Building „A”
Phone: +36 1 201-3271
Web: www.vexhungary.com
E-mail: vexhungary@vexhungary.com
Languages of communication: English

Partners of the



Defence Industry Associaton of Hungary

This section of the publication has been created to promote further collaboration opportunities, provides an up to date information about the major relevant defence industry sector related governmental or education bodies.



The Hungarian Defence Export Agency - VEX was founded in 2021 as a 100% state owned organization with the goal to support the Hungarian defence industry and to develop and strengthen its international export business with the long-term aim to achieve sustainable business and continuous product development in Hungary.

Through professional commercial support, advocacy and joint project development, VEX helps its contractual partner companies from the Hungarian defence industry to win contracts with governments (B2G and G2G) and global defence companies (B2B) around the world. VEX also aims to provide support for start-ups developing systems with defence applications, acting as a networking hub capable to connect academic, industrial and governmental parties.

Qualified Hungarian defence exporters are positioned to win international contracts by offering a reducing procurement risk, and in case of a G2G transaction, by offering foreign government customers the assurance of the Hungarian Government that the contract will be delivered as per the agreed terms and conditions (contract fulfilment guarantee).

OUR MISSION
 The Hungarian Defence Export Agency (VEX) leads the representation and commercial activity of the Hungarian Defence & Security industry in various world regions to

- nurture international business,
- manage international projects & relationships

in an integrated approach in order to provide medium- and long-term sustainability for the Hungarian Defence & Security sector including the coordination of related industrial, R&D and Joint Project activities.

OUR OFFER

- Representation, promotion and endorsement of Hungarian defence industry companies, their products and services
- Bilateral G2G transactions with customer countries and their governments for defence products made in Hungary.
- Contract execution support and guarantee in case of G2G transaction
- Structuring and organizing international cooperation and development projects (B2B/EU/G2G)

KOK, Disaster Management Training Centre

Address: Laktanya u. 33, 1033 Budapest, Hungary
 Tel.: +36 1 436 1503 Fax: +36 1 436 1505
 E-mail: kok.titkarsag@katved.gov.hu
 Web: www.kok.katasztrofavedelem.hu
 Languages of communication: English
 Year of establishment: 1948

Main activities:
 Protection administrators for facilities working with hazardous materials and technologies and provides trainings for the security liaisons working in the vital operability system of the country.

Quality certificates:
 ISO 9001:2009

Main references:
 HUNOR team, vehicular(ADR),on waterway(ADN), on railway (RID) or by plane(ICA0), fields of fire safety, civil protection and industrial safety.

Main export markets:
 Education

We are looking for partners interested in:
 Firefighting schools (universities), research institutes



NKE, National University of Public Service

Address: Hungária krt. 9-11, 1011 Budapest, Hungary
 Zrínyi Campus
 Phone: +36 1 432 9000
 Web: www.uni-nke.hu

Faculty of Military Sciences and Officer Training
 E-mail: hkk@uni-nke.hu
 Languages of communication: English
 E-mail: hkk@uni-nke.hu

Institute for Disaster Management
 E-mail: NKE_KVI@uni-nke.hu
 Languages of communication: English, Russian
 E-mail: NKE_KVI@uni-nke.hu

Main activities:
Institute for Disaster Management:
 The Institute is functioning under the professional supervision of the National Directorate General for Disaster Management and the Ministry of Interior. It includes three departments (Departments of Disaster Management Operations, Fire Protection and Rescue Management, and Industrial Safety). It has bachelor level degree programme "Disaster Management" with its three specialisations in "Disaster Management Operations", "Fire Protection and Rescue Management", and "Industrial Safety", master level programme named Defence Administration and continues its teaching activity at the Military Technical Doctoral School of the university.

Faculty of Military Sciences and Officer Training:
 Education of professional military officers on Bachelor level, Master level programs and in two doctoral schools(Military Sciences, Military Engineering). Fields of education are as follows: Military Leadership, Military Logistics, Military Engineering.

Main export markets:
 NATO, EU partner countries, education

We are looking for partners interested in:
 Disaster Management Operations, Fire Protection and Rescue Management, and Industrial Safety Schools, Military Leadership, Military Logistics, Military Engineering.



Széchenyi István University

Address: Egyetem square 1., 9026 Győr, Hungary
Tel.: +36 96 503 400
E-mail: sze@szehu
Web: www.uni.sze.hu
Languages of communication: English
Year of establishment: 1968

Main activities:

Széchenyi István University of Győr offers a wide variety of defence-related R+D services, including field-specific education, laboratory measurements and prototype development:

- Education: Vehicle Engineer specialisation for military and armoured vehicles
- Teleoperated and semi-autonomous military vehicles (cooperation with Gamma Zrt.)
- UAV/UAS Defence R+D
 - Solutions based on autonomous aerial vehicles
 - UAV reconnaissance based on electromagnetic interference
- EMI/EMP Defence
 - Laboratory for military electronics and radiocommunication
 - Laboratory for shielding performance (EMI/EMP/TEMPEST)
- Survival rate analysis of military systems
 - 3D digital battlefield
 - 3D solutions for defence systems
 - Survival rate analysis for hybrid-electric power units for military vehicles

Quality certificates:

Accredited laboratories

We are looking for partners interested in:

Self-driving vehicles, UAV/UAS technology, EMI/EMP laboratory technology



Óbuda University

Bánki Donát Faculty of Mechanical and Safety Engineering
Address: Népszínház u. 8., 1081 Budapest, Hungary
Web: www.bgk.uni-obuda.hu
Phone: +36 1 666 5345
Languages of communication: English

The Bánki Faculty offers industry-recognized mechanical, mechatronic and security engineering bachelor and master degrees, as well as PhD in safety and security sciences. In addition special continuing education programs provide opportunities for further education such as information security, blasting technology engineer or even humanitarian response manager.

The Bánki Faculty has developed a diverse network of professional and industrial contacts over the past decades thus creating more possibilities include apprenticeships, dual education, cooperative on-site trainings, as well as factory visits.

Mechanical engineering is one of the most diverse trainings at Bánki. After three semesters students choose from CAD-CAM-CNC, automotive technology or constructor specialization as well as specializations linked to armaments industry. One of the important steps of boosting national armament industry is to plug in to higher education – training mechanical engineers who have tactical-mechanical knowledge. First in Hungary our Faculty provide weapon and ammunition technology, combat vehicle technology and aviation engineering specializations.

The security engineering training is only available at Bánki in Hungary – focusing on the development and operation of safety technology devices in the civil sphere. It has security technology and information security specializations.

Our mechatronic engineer training getting more popular in the recent years – particularly the industrial robot systems specialization which is definitely the most important part of the studies.

We do our best to make our training programs meet our students expectations to provide a promising future for them not only for the industrial claims but extracurricular activities like building pasta-bridges or making race cars in one of our vehicle projects (Pneumobil, Formula Student or Veteran Automobile Restaurer). With our degrees our seniors can work in industries such as aerospace, automobile, armament, robot systems, fluid machinery, manufacturing and they can have career opportunities in many other fields as well.

Budapest University of Technology and Economics

Address: Műegyetem rkp. 3., 1111 Budapest, Hungary

Web: www.bme.hu

E-mail: kjk@kjk.bme.hu

Tel.: +36 1 463 3551

Languages of communication: English

The University's 8 Faculty offers several BSc, MSc, and PhD courses in diverse fields, related to the defence industry. Most of the Faculties also actively research topics, that can connect to the defence industry.

The development of automated vehicles, such as automated cars and drones, the research of control systems of off-road vehicles are priority topics in the Faculty of Transportation Engineering and Vehicle Engineering. The faculty's researchers not just develop self-driving cars and new control systems, but also cooperate with the Ministry of Defence. In addition the field of logistics and transportation-related research areas can also provide effective results that can be useful for the defence industry in various ways.

Development of polymer composite and metal-polymer hybrid systems and structures for customised protective clothing and energy-absorbing protective panels for combat vehicles and weapon components. Development of additive and mass-production technologies for custom components with good thermal conductivity. Creation of 3D printed metal and polymer/composite components based on generative design for reconnaissance devices, defence systems and weapons.

Development of layered composite metal foams and high strength light-weight sheets as promising technologies in the defensive industry for vehicles. The research areas are supported by the Faculty of Mechanical Engineering and by the Composite Metal Foams Research Group.

The Faculty of Natural Sciences offer fundamental and application-oriented research in data science, quantum-cryptography, cognitive development of persons working in special areas, nuclear safety and radiation protection, effect of high-speed impact on concrete structures.



The security level of classical cryptography systems is based on the length of the applied ciphering keys and the complexity of coding/decoding algorithms therefore breaking these codes depends mainly on available computing resources. However, in case of the postulates of quantum mechanics Physics itself guaranties the security of information encoded into photon states. The Faculty of Electrical Engineering and Informatics develop such quantum key distribution systems to improve the defence capabilities of Hungary.

For defence industry professionals, the Faculty of Economic and Social Sciences can offer useful knowledge through full-time (technical manager, management organization) master's programs and part-time manager training. And research in the areas of logistics, quality management, risk and reliability, and information security and digitization to solve problems in the defence industry in several ways.



SZTAKI is the leader of the Autonomous Systems National Lab. It is the leading research entity in the field of control and mathematical systems sciences in Hungary. Scope of research and development involves:

- Advanced methods of systems modeling and control,
- Analysis and synthesis of dynamical systems created by traditional and emerging technologies
- Systems identification, detection and filtering,
- Signal and image processing
- Artificial intelligence
- Cybersecurity
- Simulation and testing
- Sensor fusion including inertial and satellite (GNSS) navigation.

The main clients of the results produced by SCL are from the energy, vehicle and transportation sectors (ZalaZONE, MVM Paks, Bosch Hungary, Airbus). Both national and international projects of SCL aim at providing results in the mentioned application fields. The results take the form of prototypes, industrialized and partially industrialized solutions.



SZTAKI - ELKH Institute for Computer Science and Control

Address: Kende u. 13-17., 1111 Budapest, Hungary

Tel.: +36 1 279 6000

E-mail: contact@sztaki.hu

Web: www.sztaki.hu

Languages of communication: English

Year of establishment: 1964

Main activities:

- Basic research - main domains
- Computer Science
- Systems- and control theory
- Engineering and business intelligence
- Machine perception and human-computer interaction
- R&D Activities
- Vehicles and transportation systems
- Production informatics and logistics
- Energy and sustainable development
- Security and surveillance
- Networks, networking systems and services, distributed computing

Quality certificates:
ISO 9001

Main references:

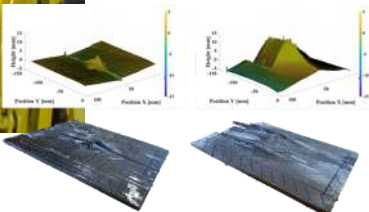
Fraunhofer, Audi, Bosch, Ricoh, Hitachi, Airbus, Dassault, Thyssen, Knorr, Diehl, Rheinmetal, EPIC Innolabs

Main export markets:

Germany, Austria, France, Japan, USA

We are looking for partners interested in:

Cooperating in EU or direct industry funded research projects in: artificial intelligence, intelligent manufacturing, Industry 4.0, autonomous systems, computer science, cloud computing



Typical examples of the Hungarian defence industries' products and services



Law Enforcement
Life cycle extension and modernisation
Logistics, Transportation
Machine Guns, Small Arms and Sights
Manufacturing, Engineering and Test Equipment
Military and Civil Infrastructure and Construction
Military and Special Purpose Vehicles
Military Meteorological and Early Warning
Military Vehicle Parts and Spares
Missiles, Rockets, Launchers and Mountings
Navigation and Identification
Navigation and Satellite Communications
NBC Equipment
Night Vision
Optical Equipment & Opto-Electronics
Optronics, Surveillance and Sighting Systems
Precision Casting, Forging and Machined Components
Project Management, Consultancy, R&D
Pumps and Compressors
Remotely Operated Vehicles (ROV)
Rugged Computers, Workstations and Peripherals
Shelters, Field Hospitals, Kitchens and Flooring
Simulators and Simulation Systems
Small Arms and Sights
Tactical Gear
Training and Simulation
Transport and Support Vehicles
Turrets and Turret Sub-systems
Unmanned Vehicles
Vehicle Ballistic Protection
Vehicles & Accessories

Air Traffic Control
Air-Launched Weapons, Launchers and Mountings
Ammunition and Fuzes
Antennas, Masts and Towers
Armoured Fighting Vehicles and Upgrades
Base / Camp Protection and Security
Body Armor or Apparel
Bridging, Recovery, Breaching and Engineering
Command and Control Systems and Components (C4)
Communications Systems and Equipment
Composites Supplies
Consulting and Other Technical Services
Cyber Security
Data Recording and Storage
Demilitarisation, Demining
Design and Information Management Software
Electrical Equipment, Batteries and Power Supply
Electronic Warfare and Jamming Systems
Engineering Services, Training, R & D
Explosive Ordnance Disposal and Mine Clearance
Explosives, Powders and Propellants
Fire and Explosion Protection
Fire Control and Targeting
Fire Fighting Equipment and Insulation
IT, Computing and Software

R&D

Production

Training

Maintenance

Test laboratories

Consultancy

Services

62 **Small arms, ammunition, pyrotechnical devices**
Modernised assault rifle (AK-63MA)
Heavy sniper rifle (GM6 Lynx 12,7mm AMR)
Long range sniper/AMR (GM3M 14,5x114mm)
ZALAN Gs3
ZALAN 12
AGS 15M
G-SHOOT 4MATIC
HUNOR GS3C - compact
PDW-GS1
PDW-GS2
Ammunition

63 **Clothing**
Multifunctional winter jacket
Vektor 10 / Vektor 17 Firefighters Garment
Protective Garments
Flame resistant bomber coverall and jacket
Individual protective suit sets

68 **CBRN defence**
CBRN monitoring networks (AMAR, RTH, AQM, MoLaRi)
Environmental monitoring stations (TVS3...)
Onboard CBRN detection system for vehicles (IH-99LKN)
Airborne nuclear reconnaissance systems (LABV/RABV)
Portable radiation portal monitors (BNS-94M, FM, ...)
Fixed radiation portal monitors (BNS-94...)
Universal handheld radiation meter (IH 95/295, BNS92/295)
Dose rate transmitters (BNS 97/98)
Radiological field food tester (IH 111)
Intelligent gas detector series (GTI)
Filter canisters for respiratory and CBRN protection (Escape hoods, R18)
Individual CBRN protective suit (93M, 93/17M)
Deployable rapid diagnostic laboratory (RDL 15)
Casualty decontamination equipment (SMR/SMR U)
Personnel decontamination equipment (SZMF/SZMF U)
Personnel decontamination container (SZMK)
Battalion level decontamination trailer(ZMB, ZMU)
Water supply modules for decontamination systems (RBA 35/70 kVI)

Communication and information technology
Telemetric and remote control system
Early warning - indoors
 86 **Control room application**
3 channel S band down converter (BMCD 35)
KU-BAND upconverter (BMCU25)
S-BAND Outdoor single solid state power amplifier (BPBS 32)
400 MHz Tetra repeater (BRTL31)
Band selective Tetra pico repeater (BRTS25)
2-18 GHz microwawe synthesizer (BSVQ16)
S BAND FM Video/Data Transmitter (BUMT20)
Neuron Satcom Interception System
RR-1/G Mobile Radio Relay Station
PK-2NM Command & Control System
MIMO Data Radios (BUXC24, BUXC25)
HUNTACCIS

101 **CYBER security**
INFOVADASZ
Malware Analysis and Forensic Laboratory

103 **Electrotechnical equipment and EW**
8-band jammer (X-Guard)
Adaptive multisensor system (ADAMS)
Radar (PGSR-3I Beagle)
On-board computers, displays, user interface modules
Tower mounted radar (PGSR-3IFT Beagle)
Drone based IMSI/IMEI extractor
Radar modernization (P-18)
Multispectral reconnaissance system
Aerial reconnaissance system
Portable thermal camera
Speed measuring device
Portable water quality monitoring system

115 **Engineering technology**
Containers
Foldable container
ATIS data logger server (PAIR)
Meteorological Instruments

119 **Military and special vehicles**
Firefighter vehicle (HEROS Aquadux x1500)
Firefighter vehicle (HEROS Aquadux x4000)
Firetruck self propelled chassis (R16)
Firefighter vehicle (HEROS Variant P15)
Firefighter vehicle (HEROS AQUAREX S10)
Firefighter C2 vehicle
HEROS-MAN TGE midibus
CBRN-e Decontamination Vehicle
CBRN-e Reconnaissance Vehicle
HazMat mobile laboratory vehicle (KML)
HazMat detection and identification vehicle (KML ADR)
Modular interior superstructure bus
Vehicles for special purposes
RABA H Family of trucks
Protected rear compartment (PRC-H860)
Armoured base vehicle (RDO 3121)
Armoured base vehicle (RDO 3921)
Armoured Base vehicle (RDO 3932)
Light armoured base vehicle (RDO 4332)
CBRN reconnaissance vehicle (RDO-3221 CBRN)
Radiation shielded vehicle (RDO-3221 RSV)
Armoured ambulance vehicle (RDO-3921 AMB)
Armoured recovery vehicle (RDO-3932 REC)
Armoured reconnaissance vehicle (RDO-3121 RECCE)
Armoured Multipurpose firefighter/technical recovery vehicle (RDO 4336MPV)
Radar (MGS3 Scout)
Wiking Patrol 18 Multipurpose Patrol Vessel
Wiking 450 Small Alu Workboat

147 **UAV/UAS/UGV technology**
R01 NEMERE Reconnaissance and surveillance UAS
METEOR-3MA / M8 TUAS

149 **Training and simulation**
Virtual simulation (Kronos)
Constructive simulation (Marcus)

151 **Services**
Repair, overhaul and upgrade of military vehicles
Welded and machined frames, chassis and steel structures
UAS Payload Integration
Repair, renovation, transformation and assembly of vehicles
Explosive ordnance detection and disposal
Complex Cyber Security Services
SkillToolkit - Adaptive, competence based eLearning solution

Up to date product list:



www.vedelmiipar.hu



Defence Industry Association of Hungary

Heavy Sniper Rifle (Gm6 LYNX 12,7mm AMR)

Small arms, ammunition, pyrotechnical devices

SERO
International Ltd.

ARZENÁL

Modernised assault rifle (AK-63MA)

Small arms, ammunition, pyrotechnical devices



This unique, multi-purpose rifle combines the strengths of sniper rifles, combat rifles and anti material weapons. Its task is to destroy key pinpoint targets, armored rifle troops in vehicles, light shelters and buildings, radio- electronic constructions, missile launchers up to 2000+ meters and hovering helicopters within a 600-800 meters. In urban warfare/conflicts it can be used for demolishing the enemy's firing positions in buildings, weapons under cover and armored rifle troops, which are maneuvering on the streets. Its small arm categorization, its weight and portability make it an ideal heavy weapon for paratroopers. Key hostile small targets can be neutralized safely within a 1600 meters range. It can also be utilized as a highly efficient bodyguard-weapon, by way of extending the safe-zone around such person. It is also suitable to stop, "self-propelled (suicide) bombs," which are installed in vehicles, with just one shot to the power of the vehicle well outside the effective range of the bomb.



The design of the modernized assault rifle provides the mounting of modern targeting devices and other accessories, thus it creates the possibility of prompt and accurate firing during day- and nighttime, under extreme climatic conditions. During the development we replaced the original case cover for a new, self-made case cover, which contains the NATO STANAG 4694 compatible rail used by NATO. The wooden back grip was changed to CAA UPG-47 type plastic pistol grip, the wooden stock to a CAA CBS & ACP plastic adjustable stock and the wooden first grip was replaced by a unit with three NATO STANAG 4694 compatible rails and a first rail cover. The modernized AK-63MA assault rifle can be equipped with the followings: underbarrel grenade launcher, laser optical sight and Aimpoint 3x MAG magnifier. The additional, combat capacity increasing devices shall be selected according to the customer's needs.

ZALAN GS3

Small arms, ammunition, pyrotechnical devices



Long range sniper/AMR (GM3M 14,5x114mm)

Small arms, ammunition, pyrotechnical devices



Our new pistols are made of plastic holsters, with a Browning-SIG bolt. Their firing structure is suitable for the release of both a hammer and a striker fire. The safety lever on the holster is two-handed, decocks the gun, but works in the other position as a safety lever. The roller-locking mechanism is two-handed, the magazine release can be transposed to the other side. The panel on the grip can be changed according to the shooter's hand size. The angle of the grip provides a good grip; the beaver-tail grip makes the targeting of the weapon easy. The Picatinny rail at the front of the holster allows the quick mounting of a variety of accessories, such as lamps, lasers. The vizier, thanks to the well-chosen size and shape of the target window, allows quick targeting and provides a good sense of vizier. The magazines of the weapon are of good quality and work stable. The storage capacity is 16 ammunition. The gun is made in two sizes; the magazines are compatible with both types. The weapon is suitable as a service weapon, its normal size is for outerwear, whereas the minor for hidden wear



The GM3M 14,5x114mm semi-automatic long range sniper/AMR. Its development trended as in case of the GM6 Lynx 12,7x108 and/or 12,7x99 calibre rifle, where the required characteristics to be achieved were: the radical decrease of weight, the smallest possible recoil force on the sniper, quick, tool-free disassembly and reassembly even on the battlefield. The GM3M performs according to the expectations. Even a sniper with lesser weight (around 60kg) can bear the 32 000 Joule muzzle energy and the muzzle velocity above 1000 m/s, and is able to hit targets 3km away. The extent of the recoil is similar to the GM6 Lynx's, so firing continuously 30-40 rounds means no significantly greater load on the sniper than rounds fired from a 12 gauge shotgun. Operation: semi-automatic, magazine: 5 rounds, piercing capacity: 35mm, range: 3Km+. In its final form the GM3M weights only 17kg, which makes it one of the lightest among its type and calibre.

ZALAN 12

Small arms, ammunition, pyrotechnical devices



AGS 15M

Small arms, ammunition, pyrotechnical devices



Our new traumatic weapon is the ZALAN 12 and the ZALAN 12 Tactical (shorter version). Main parameters: Patented technology 12 shot. Historical, repetitive system weapon. It works without refill cartridge and grease usage. Kinetic energy: 100-120 Joule.



Small, flat, high performance, rubber-bullet, two-shot (DAO system) pistol. Steel design. Weight: 500 g
Calibres: - 15 mm rubber / 9 mm PAK - 9 mm PAK gas alarm - .380 R Blanc gas alarm - 4 mm flobert - 6 mm flobert - 9 mm flobert - .45 front loading black gun powder - 15 mm rubber/9 mm PAK - 12 mm rubber/6 mm flobert platz - .43 – PepperBall

G-SHOOT 4MATIC

Small arms, ammunition, pyrotechnical devices



HUNOR GS3c - compact

Small arms, ammunition, pyrotechnical devices



The G-Shoot 4matic is a historical weapon with removable magazine loaded with 17 mm rubber bullets from front and 380 R Blanc patron from rare. The purpose of using is a home defence weapon on some markets. Each weapon has two magazines The muzzle energy is 80–120 Joule



Our new pistols are made of plastic holsters, with a Browning-SIG bolt. Their firing structure is suitable for the release of both a hammer and a striker fire. The safety lever on the holster is two-handed, decocks the gun, but works in the other position as a safety lever. The roller-locking mechanism is two-handed, the magazine release can be transposed to the other side. The panel on the grip can be changed according to the shooter's hand size. The angle of the grip provides a good grip; the beaver-tail grip makes the targeting of the weapon easy. The Picatinny rail at the front of the holster allows the quick mounting of a variety of accessories, such as lamps, lasers. The vizier, thanks to the well-chosen size and shape of the target window, allows quick targeting and provides a good sense of vizier. The magazines of the weapon are of good quality and work stable. The storage capacity is 16 ammunition. The gun is made in two sizes; the magazines are compatible with both types. The weapon is suitable as a service weapon, its normal size is for outerwear, whereas the minor for hidden wear.

PDW-GS1

Small arms, ammunition, pyrotechnical devices



PDW-GS2

Small arms, ammunition, pyrotechnical devices



The PDW-GS1 fully automatic adapter: Turning a regular hand gun into a fully automatic defense weapon in a matter of seconds. Developed by our engineers, we are introducing a novel accessory which will dramatically expand the capability of standard hand guns. The PDW-GS1 fully automatic adapter allows you to transform a normal hand gun, immediately and without any alteration, into a gun with high firing speed. Once you attach the adapter to your hand gun, it becomes capable firing single shots, bursts or fully automatic fire. With the PDW-GS1 fully automatic adapter at hand, even regular police officers will be able to respond with a high-speed firing option when facing a critical situation. It is important to note that the adapter on its own is not a weapon and will be of no use alone. The adapter only works when it is used together with a hand gun. Standard semi-automatic gun, NOT capable of automatic fire on its own. Place the gun with a simple movement into the PDW-GS adapter. You are immediately ready to fire.



PDW GS2 (mechanically operated) - Our company's latest military technology innovation - 100% Hungarian development - Not a weapon in itself - Fields of using: Military and Law Enforcement units, other services and agencies. Advantages: - Ergonomic wear - The handgun that you use is itself a semi-automatic weapon - Two in one: holster and sub machine gun adapter - Maintenance-free

Ammunition

Small arms, ammunition, pyrotechnical devices



VEKTOR
MUNKAVÉDELEM

VEKTOR 10 / VEKTOR17 Firefighters Garment

Clothing



Production and development of high quality small caliber ammunition for military, law enforcement, home defense, sport and industrial purposes since 1952. Our production is according to CIP, MPMOPI and ISO standards or according to customer specific requirements. Military ammunition (NATO or user specified): 9x18, 9x19 NATO, 5.56x45 NATO, 7.62x51 NATO, 7.62x39 & 7.62x54R
Law enforcement ammunition: pls. see military and home defense and sport ammunition
Sport shooting and home defense: (CIP): .357, .38, .40, .44, .45, 9x17 and 9x19
Industry: ammunition parts and Knall: 8 mm, 9 mm PA, 9 mm PA HL, 9 RB) Quality certificates: ISO 9001, NATO AQAP 2110:2016



Standard
EN 469:2005+A1:2006
Protection level: Xf2, Xr2, Y2, Z2



Protective capability
Outer layer flame resistant, antistatic woven fabrics -dark blue Nomex Outershell Tough-, inner liner also flame resistant, furthermore, between the 2 layer there is a 50% melamin (Basofil), 25% aramid, 25% para-aramid, 95gr/m2 FB002 (BAPA55) Fireblocker PU FR membrane. The safety garment has excellent protective properties and satisfies the requirements of EN 469:2005+A1:2006, level of Xf2, Xr2, Y2 and Z2. The protective garment is waterproof.

Multifunctional winter jacket

Clothing



Defense capability of the product:

Multifunction winter jackets are made of both waterproof and breathable extremely durable material which protect the wearer against different hazards he is exposed to (such as rain and the risk of accidents with motorized vehicles..) The base fabric is coated with PU and an extra layer is added to make a 3-layer combination. The jacket meets high demands for wear resistance and function. All fabrics are industrially washable.

The multifunctional jacket ensures visibility and offers protection against rain.

VEKTOR
MUNKAVÉDELEM

VEKTOR
MUNKAVÉDELEM

Protective Garments

Clothing



ANTISTATIC PROTECTIVE GARMENT AGAINST HEAT AND FLAME, ELECTRIC ARC, LIQUID CHEMICALS AND WELDING

Parts of protective garment: jacket, bib trousers, waist trousers

Protective capabilities:

The antistatic protective garment is against heat, flame, electric arc and liquid chemicals. Provides suitable protection against the effect of electric arc generated by one phase short-circuit (4000 A) at low-voltage network (max: 500V, alternating voltage 50Hz. Its material is limited flamespread, antistatic (electrostatic dissipative) and for this reason it could be used at explosive locations and in the vicinity of flammable materials. Can be used by workers exposed to heat and flame. The protective garment provides protection against direct flame impacts for 4 sec., 7 sec. against heat impacts of 20 kW/m² intensity and min. 5 sec. against contact heat. Offers limited protection against liquid chemicals, against their flow of small pressure lasting for short time, their light spreading, and their splashing in small volume. Can be used by people performing welding or similar works.

Flame-resistant Bomber Coverall

Clothing

VEKTOR
MURKAYDELEM

yamma

Individual protective suit sets

Clothing



Characteristics: reliable protection against heat and flames, excellent comfort and efficient anti-perspiration properties.

Outer layer: Nomex® Comfort

Fields of application: compatible with NATO cabin systems. This piece of clothes can be equally worn by the personnel of jet aircrafts, choppers, cargo planes, as well as educational and training aircrafts.

Norms: the product has been made from fire-resistant base materials.



The Individual Protective Suit sets are recommended for different applications. The 93M suit is a two-piece combat garment, designed to form an effective barrier against BW and CW agents. The suit is supplied as a full protective clothing kit including following components: jacket with integrated hood; trousers; protective rubber gloves; cotton glove liners; protective sock; and a carry case. The disposable Chemical Splash Cover Poncho is a C-proof plastic plash cover and complement to 93M Suit if drops of chemical warfare agents are being spread from height. The R 13 Fire-Fighter Protective Suit is a multi-layered outerwear clothing, consisting of a jacket and trousers, providing equal protection of the covered body surface up to the specified maximum heat stress during the specified maximum duration. The Personal Protective Suit sets for industrial use provide excellent protection to operations during disaster recovery and emergency tasks in case of accidents on roads, in chemical plants or NPPs.

CBRN monitoring networks (AMAR, RTH, AQM, MoLaRi)

CBRN defence

yamma

yamma

Environmental monitoring stations (TVS-3 ...)

CBRN defence



Monitoring systems provide information about the environmental conditions of an area and send automatic warnings in case of any changes in environmental parameters.

Data center versions: fixed building-based systems, main and sub-centers; vehicle-based and portable versions; mobile phone/tablet application.

Monitoring stations, instruments: stationary or mobile monitoring stations; typically measured parameters: criteria pollutants, particles, toxic industrial gases, NH₃, H₂S, HF, Cl₂ etc., LEL, CWA, meteorological parameters, gamma dose rate, alpha, beta airborne particle concentration.

Information broadcast, warning: Early warning systems – sirens, in-door alarm interfaces; local displays, web publication, information exchange with national or international authorities, radio / television, SMS, e-mail.



The TVS-3 monitoring station was developed to measure the different parameters of the environment and to evaluate, summarize and store all the received and calculated data. The TVS-3 functions as a high quality device for continuous monitoring of the radiation level and the concentration of industrial and other dangerous gases around industrial or nuclear facilities, or at any other permanent monitoring point, helping the prompt evaluation of a current situation and the determination of the spreading of environmental pollutants with the knowledge of meteorological parameters.

Features: Gamma dose rate, toxic gases, meteorological parameters measurement; alarm with early warning functions, stainless steel mast, computerised data display. TVS-MLR version with networking possibilities. TVS-3M, TVS-3ML: mobile versions with carrying cases. Additional features: Networking possibilities, data logger, GPS, GSM/GPRS. TVS-3MLU: mobile version for first responder vehicles.

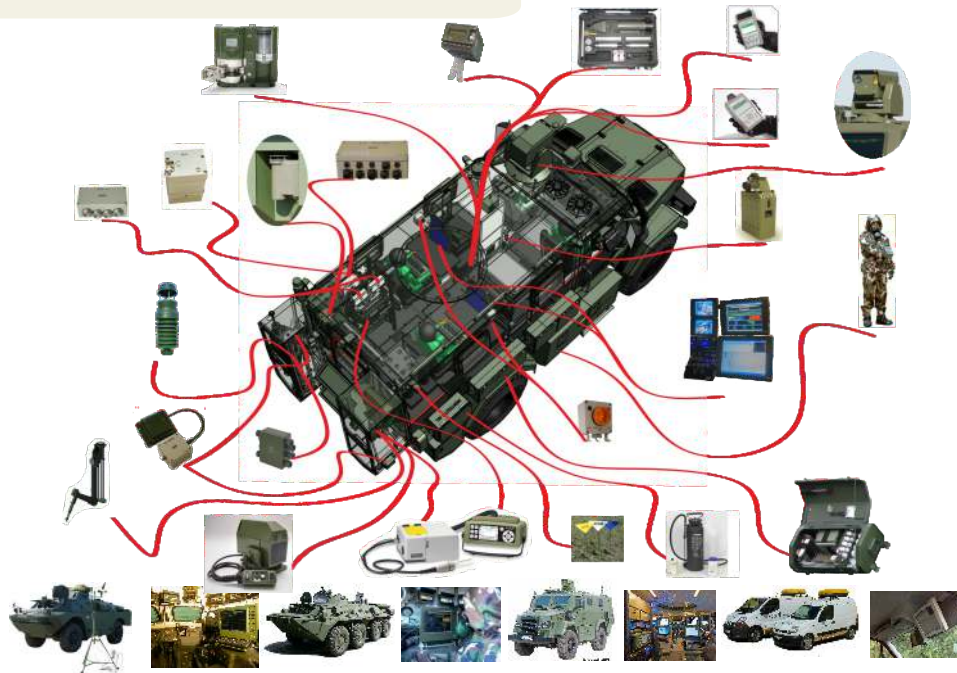
Onboard CBRN detection system for vehicles (IH-99LKN)

CBRN defence



Airborne nuclear reconnaissance systems (LABV/RABV)

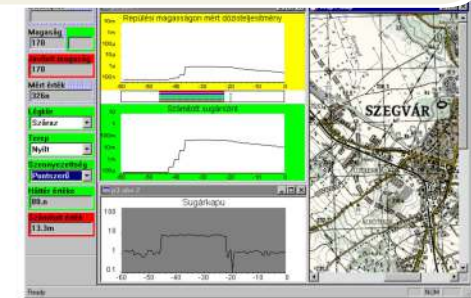
CBRN defence



The IH 99 LKN, CBRN reconnaissance system is able to detect chemical warfare agents like blister and nerve gases, and to measure radiation level and meteorological parameters. The survey data are stored and displayed with GPS coordinates. User can follow the measurements on LCD and can create different NBC reports.

Fields of application: reconnaissance of nuclear contamination and chemical agents, NBC reports.

System components: IH-99D/DM on-board radiation level meter system, UWDS combined on-board meteo sensor, TVS- 3MLU mobile meteorological station, GPS, IH-99LM data logger, IH-99 LCDM display, chemical and biological agent detector, BNS-98 internal dose-rate meter, VSMF sampling set.



The LABV and RABV airborne nuclear reconnaissance systems have been designed for the aerial reconnaissance of widely contaminated areas after nuclear incidents, and for the localization of discrete radiation sources. Units: BNS-98 dose-rate transmitter, NDI-65/SK intelligent scintillation detector built in a lead collimator, GPS, barometric altitude-meter and data logger. The system calculates the radiation level of the contaminated area (referred to 1 m altitude) or the dose rate of a discrete radiation source from the dose rate measured at the flying altitude considering the atmospheric and ground conditions.

LABV: designed for helicopters and UAVs, equipped with GM-tube and scintillation detectors, 4 hours continuous, autonomous operation, ATP-45 report.

RABV: designed for UAVs, automatic time constant, easily replaceable memory, data reader with USB port.

Portable radiation portal monitors (BNS-94M, FM, ...)

CBRN defence

yamma

yamma

Fixed radiation portal monitors (BNS-94...)

CBRN defence



The BNS-94M and BNS-94FM Radiation Reconnaissance Systems were designed as multipurpose detectors that can be used as built-in or standalone devices. They can be mounted on vehicles or can be used with tripods. BNS-94 instruments are capable of constantly monitoring gamma radiation and making audible and visual alarm when an isotope is detected. With these devices both hidden radioisotopes and radioactive contamination can be found.

Places of application: temporary, mobile checkpoints, security systems, first responder teams, naval application.

Objects of inspection: individuals, ships, cargo, road vehicles.



The BNS-94 radiation portal monitors are designed to detect nuclear materials and radioisotopes with scintillation probes highly sensitive to gamma and neutron radiation. . General features: background, shielding and speed compensation, adjustable alarm levels, computer connection, displaying and data logging software. A wide range of accessories are available with the systems: barrier control, camera system, license plate identification, remote surveillance, text messages, e-mail alert, data and event logging, optional gamma/neutron detectors on demand. Wired or wireless connection between system components is also available (Optical Ethernet, RS-485, SW radio, GPRS, etc).

Types: BNS-94, BNS-94H+, BNS-94L, BNS-94P, BNS-94ZG, BNS-94PH.

Universal handheld radiation meters (IH 95/295, BNS 92/295, SFK)

CBRN defence

yamma

yamma

Dose-Rate Transmitters (BNS-97/98, RadGM, RadNDI)

CBRN defence



The IH-95 and the BNS 92 are Geiger-Müller tube-based nuclear radiation measuring devices with two operational modes. When placed in the carrying case, they operate as gamma radiation dose and dose rate meters (IH-95 Air kerma: Gy, BNS-92S ambient dose equivalent: Sv), and when removed from the carrying case as alpha and beta surface contamination meters (Bq/cm² or cps).

The 295 version of the instruments allows simultaneous dose rate and surface contamination measurements with dynamic gamma background compensation.

The SFK is a highly sensitive scintillation radiation meter that can help locate and identify lost or hidden orphan sources. The integrated GPS makes it possible to store accurate time stamps and location information in addition to the measured radiation data in order to display the reconnaissance results on a map.

All instruments will give an audible alarm if radiation levels exceed one of the preset thresholds. The instruments are equipped with a digital two-way communication interface and a display showing current readings. All instruments are robust and reliable devices with outstanding features proven in practice in routine environmental monitoring and accident area monitoring.

These highly sensitive instruments are designed to measure gamma (optionally neutron) radiation and display dose rate values (optionally type of radiation). They are capable of operating as stand-alone or as system components in nuclear facilities, isotope laboratories, waste yards and environment monitoring applications. The instruments alert if the radiation level increases significantly or if the radiation level exceeds any of the preset thresholds. Each instrument measures the ambient dose equivalent rate H^*10 in Sv/h. However, air kerma rate (Gy/h) measuring versions are also available. The BNS-98S, RadGM and RadNDI are remote dose-rate transmitters in a sealed housing, without manual control buttons, designed to operate even under extreme meteorological conditions. BNS-97S has a built-in UPS and audio and visual alarm unit. The RadGM, BNS-98S and 97S are Geiger-Müller tube-based transmitters with a wide measuring range. The RadNDI is a scintillation-type transmitter, with high sensitivity and isotope identification capability. The RadGM and RadNDI are suitable for integration on UAVs they have industry-standard interfaces (MODBUS).

Portable Radiological Measuring Instrument (IH-111L)

CBRN defence



Deployable rapid diagnostic laboratory (RDL-15)

CBRN defence



With the IH-111 instrument user can rapidly obtain several information about the contamination by the selective measuring of the beta- and gamma radiation of any radioisotopes of fission or activation origin. The principle of the process is the fact that isotopes having characteristically simultaneous beta and gamma radiation, both of those with short or long half-period, can be divided into groups as a function of their energy. The instrument compares the activity of the sample with relevant norms and determines if the foodstuff is consumable or not. Functions: rapid food testing in standalone mode; with PC and software package: isotope identification, activity determination in samples. Features: easily transportable, built-in sample tray dispenser, automatic determination of consumability of foods and drinks following nuclear incident, simultaneous measurement of beta and gamma radiation, software package with programmable isotope library, simultaneous data acquisition and evaluation.



The RDL-15 is a new generation high-mobility field-operable biological laboratory. This device is applicable for fast and high-sensitivity identification of pathogen microorganisms and expend to high biosafety laboratory conditions. The RDL-15 provides a solution for completing the existing capability gap in the fields of civilian biodefence, epidemiology, and disaster management. Laboratory processes (technology, methods): BSL container - "BSL-4 glove box" laboratory environment; PCR container - sterile molecular laboratory environment. The RDL-15 is unique capability within the NATO and EU countries due to its extremely wide and flexible applicability to different tasks. The own-developed, wide range laboratory method and reagent stock, the modular structure, and the significant professional knowledge and experience of the laboratory staff give the possibility of such flexibility of the laboratory.

Filter canisters for respiratory and CBRN protection

CBRN defence

yamma

yamma

Individual protective suits (93M, 93/17M)

CBRN defence



The R18 NBC filter were developed for protection against chemical warfare agents /hydrogen cyanide, cyanogen chloride, chloropicrin, sarin, phosgene etc./. The filter canisters are fitted with High Efficiency Particulate Air /HEPA/ particle filter and has a standard connection in accordance with EN 148-1 and STANAG 4155 requirements. It is intended for use with a full face mask. These combined filter canisters consist of a lacquered aluminium casing and plastic cover providing resistance to corrosion and impact. The main elements, the particle filter and activated carbon have been selected to provide low respiratory resistance and weight while meeting the NATO Triptych requirements as well as requirements of EN 141.

Respiratory filters protect against a number of known hazardous contaminants, toxic gases, vapours and particles. Filter canisters are available for industrial/ dual use, with standard connection to full face masks or half masks and escape hoods.

Industrial filters Class 2: Combined filters: ABEK2P3 RD, Reaktor P3 D.

Protection against CBRN and riot control agents (tear gases), solvents, organic and inorganic gases and vapours, toxic and radioactive particles, bacteria and viruses, according to EN 14387:2008, EN 143.

Escape hoods are filtering devices for self-rescue with inner mask and combined filter. General features: Easy-to-adjust and use, made of self-extinguishing, non-irritant, chemical resistant fabric. Large field of vision, low breathing resistance, two exhalation valves. Single use products available in one universal size.



The 93M Individual Protective Suit is a composite clothing system consisting a 100% cotton based, highly activated carbon filter layer and a treated outer fabric. The capacity of the extremely hard spherical absorbers combined with a suitable outer layer provides the wearer with the best protection against the effects of chemical warfare agents and other toxic substances in gas, vapour or liquid form. Its protection capability against CW gases has been proven in many tests carried out by TNO and meets the NATO requirements. The 93M Individual Protective Suit with its high air and water vapour permeability guarantees a very long wearing time. The 93M Individual Protective Suit is washable and can be decontaminated. The high quality outer layer is water and oil repellent. Available in 5 sizes and in different colors.

Intelligent gas detector series (GTI)

CBRN defence

Personnel decontamination equipment (SZMF, SZMF-U)

CBRN defence



The GTI intelligent gas transmitter is built with versatile, low-noise electronics to cover various applications from safety detection to indoor and ambient air quality monitoring. The built-in microprocessor provides data processing, evaluation and automatically corrects the sensitivity and the shifts in base line caused by the changes of the environmental conditions. The digital transmitters communicate via RS485 connection and can be fit to the TVS-3 monitoring station or to third party systems (by optional Modbus protocol). The transmitters can be daisy chained in a common detector case and there is a factory option of a preassembled multisensory unit with up to 4 transmitters for industrial safety and up to 6 transmitters for ambient air quality applications. There are ATEX compliant versions available for certain gases, including multisensory units. Various measurement methods (electrochemical, pellistor, PID, NDIR) are applied to measure a long list of gases, for example CO, CO₂, O₃, NO, NO₂, SO₂, NH₃, H₂S, Cl₂, HF, COCl₂, HCl, HCN, H₂, ASH₃, various volatile organic compounds (VOCs) and combustible gases for safety and CO, NO, NO₂, O₃, VOC, CO₂ for air quality measurement purposes. Measurement ranges and units are programmable as the customer needs them.

Fields of application: industrial safety monitoring, air quality monitoring. Features: versatility, robust design, poison resistance, excellent zero and span stability, quick operation, excellent reliability.



The Personnel Decontamination Equipment (SZMF) can be used for decontamination of people evacuated from a CBRN contaminated territory. Therefore on one hand it serves for their individual protection while on the other hand helps to avoid the contamination spreading to the levels of medical care system. Main units: decontamination tent (air-supported, 9,7 * 5,9 * 3,6 m) with preparation, wet- treatment and post-treatment areas, over-pressure channels, personal decon scaffold with fixed and hand showers, water supply module (RBA-70kVi), or integrated heater on a trailer (SZMF-U version) collapsible water tanks for clean and waste water, tent lighting and mobile area lighting sets, connection interfaces, waste water collecting basin and pump.

Casualty decon equipment (SMR, SMR-U)

CBRN defence

yamma

yamma

Personnel decontamination container (SZMK)

CBRN defence



The Casualty Decontamination Equipment on Trailer (SMR-U) can be used for decontamination of injured people evacuated from a CBRN contaminated territory. Main units: casualty decontamination tent (air-supported, 9,7 * 5,9 * 3,6 m) with preparation, wet-treatment and post-treatment areas, over-pressure providing channels, stretcher holding frame, personal decon scaffold (with fixed and hand shower heads), waste water collecting basin and pump, 1-axle trailer (3,5t) with built-in water supply module and built-in central control panel, collapsible water tanks for clean and waste water, tent and mobile area lighting sets, connection interfaces.

Main characteristics: 1 stretcher decon line, 2 ambulant patient decon lines, 6 fixed showers + 8 hand showers. Water consumption: Stretcher line: 600 L/h, ambulant line (assisted) 600 L/h, ambulant line (unassisted) 900 L/h. The equipment requires outer power supply (400 V).



The function of the Personnel Decontamination Container (SZMK) is the personnel decontamination of troops who have acted on a CBRN contaminated territory.

The capability of the system is based on 2 separated decontamination sections with 2 personnel decon lines in each, having 3 showers in all lines. The 1st shower provides with a mixture of warm water and personal decon agent the 2nd and 3rd ones provide with clean warm water for rinsing. Capacity: 240-300 persons/hour.

Built-in equipment: water tank (1200L, stainless steel), central control panel, water supply module, power generator, 4 shower lines.

Loaded-in equipment: 2 undressing tents, 2 dressing tents, collapsible water tanks for clean and waste water, mobile air conditioner, tent heater.

Water supply modules for decontamination systems (RBA-35/70kVI)

CBRN defence

yamma

yamma

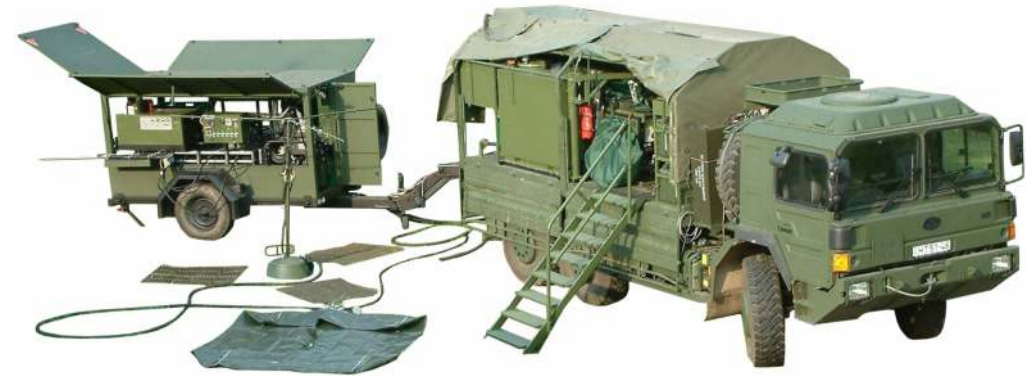
Battalion-level decon trailer (ZMB, ZMU)

CBRN defence



The Water Supply Modules (RBA-35/70kVi) are feeding units designated to provide personnel or casualty decontamination systems with a personal decon mixture (heated water plus personal decon agent) to the 1st wet phase of personnel decontamination and heated (clean) water to the 2nd wet phase of personnel decontamination. The equipment is a flow-through water heating system with dual heating circle, built-in thermostatic mixing valve (for water temperature adjustment) and integrated decon agent dosing unit.

Main units: water pump, heat exchanger (flow through system), decon agent mixing unit (venturi), water input connection (D-Storz), water output connections (quick- connectors), decon agent mixing unit (venturi). The independent mobile module is able to pipe cold water, or heated water, or a mixture of heated water and decon agent, and to keep them at a proper pressure.



The Battalion-level Decon Trailer (ZMB) serves for decontamination of a battalion level subunit which has been acted on a CBRN contaminated territory. Its basic modules allow to fulfill the decontamination of vehicles in a three-phase (pre-, main- and post-treatment) decontamination procedure. Other units of completeness serve for personnel decontamination, for system operation support and also for providing with logistic support (e.g. power generator, water tanks, decon agents and spares).

Early warning - indoors

Communication and information technology

MIR
TechL

MIR
TechL

Telemetric and remote control system

Communication and information technology



While sirens can alarm people staying outdoors, a large number of people can be in the area in buildings like shopping centers, schools etc. Our Indoor Alarm Interface can reach these people. The unit comes in two form factors – a wall mounting form (BRC-001-S) and a rack mounting form (BRC-001-R). The BRC-001 connects to existing building sound systems between the mixer or amplifier and the sound source. Receiving an alarm command from the control room application it takes over the sound and plays the alarm speech and signal.

- Provide the same functionality as the early warning sirens
- Utilizes the existing building sound systems
- Cost effectively solves the alarm of people in buildings
- Integrates to the same application/system



The economic and political stability of the industrially developed countries is highly depending on the continuous growth of the economy. The two main factors of economic growth are technological development and the productivity enhancement of existing technologies. Both factors bring new environmental risks. The essence of the electronic control is round the clock gas emission measurement installed between the dangerous factory and the endangered settlements. Meteorological information is also continuously collected in the surroundings of the factories to be able to forecast the gas dispersion in the case of an incidental emission. Knowing the gas concentration evolved by an emission and the meteorological environment, the professional supervising personnel of the system is able to influence the behavior of the population by alarm signals and speech instructions.

Control room application

Communication and information technology

MLR
TechL

BHE

3 Channel S-Band Down Converter (BMCD35)

Communication and information technology



Integrated control room application the provides a unique workflow optimised single management and administration platform. The application working with the underlying IT infrastructure integrates the following components into a single system simplifying and easing the workflow of the supervisor personnel:

- Monitoring stations (poisonous or explosive gases, radiation, air&water quality, meteorology)
- Early warning stations (sirens, and indoor units)
- Dispersion model

This double conversion down converter is intended for use in professional applications in S band such as satellite earth stations. The 3 inbuilt channel modules allow to serv 3 individual downlink path in one commonr unit. BMCD35 includes high performance down converter modules with low noise local oscillators, microprocessor based monitor and control circuitry, a front panel with control keys and status display and own AC / DC power supply. BMCD35 can be controlled from the front panel (manual control) and via Ethernet (remote control).

KU-BAND Upconverter (BMCU25)

Communication and information technology



BPBS32 S-BAND Outdoor Single Solid State Power Amplifier

Communication and information technology



This high performance upconverter is intended for use in professional applications in Ku band such as satellite earth stations. BMCU25 includes a double conversion upconverter modul with common low phase noise local oscillators, a microprocessor based monitor and control circuitry, a front panel with control keys and status display and own AC / DC power supply. BMCU25 can be controlled from the front panel (manual control) and via RS485 and Ethernet (remote control).



- CLASS "AB" OPERATION
- OUTDOOR OPERATION
- FULL REMOTE M&C
- HIGH RELIABILITY

This solid state power amplifier is intended for use in satellite communications systems as uplink SSPA. It is to be installed directly to the antenna. The outdoor construction protects the amplifier against harsh environmental conditions. The SSPA can be fully remotely monitored and control via the built-in RS-485 port.

400MHz TETRA Digital Large Repeater (BRTL31)

Communication and information technology



Band Selective TETRA Pico-Repeater (BRTS25)

Communication and information technology



This repeater is intended for use in 400 MHz out- and indoor TETRA systems. Based on the latest digital filter technology this model offers freedom for the users to select the best possible filter characteristics for the actual application type. It has perfect EVM parameters of <1% and low power consumption figures.

Supplied in a compact box, the BRTL31 is an ideal choice to be used in areas where the flexible filter selection is essential for smooth operation and/or network design. The unit can be monitored and set by local and remote control software.



- HIGH SENSITIVITY
- HIGH DYNAMIC RANGE
- REMOTE CONTROL
- COMPACT SIZE

This pico-repeater is intended for use in 400 MHz indoor TETRA systems. It is a compact and reliable unit and especially advantageous to use it in buildings, or open fields where the field strength is weak. The solution can be effectively used to cover areas, which cannot be covered economically with base stations. Optional adaptive gain can be supplied. This very economical solution can be installed easily, and can be set locally or remotely by the bundled remote control software, which also provides monitoring capabilities.

2–18GHz Microwave Synthesizer (BSVQ16)

Communication and information technology



S BAND FM Video/Data Transmitter (BUMT20)

Communication and information technology



- VERY WIDE FREQUENCY TUNING RANGE
- PC PROGRAMMABLE
- LOW PHASE NOISE
- BUILT IN HIGH STABILITY FREQUENCY REFERENCE
- SMALL SIZE

This synthesizer is intended for use in professional applications, where the extra wide frequency tuning range, PC programmability and compact size are important factors. This unit can be used in telecommunications, instrumentation and military applications.



- TRUE FM MODULATION
- HIGH RELIABILITY
- SOFTWARE DEFINED RADIO TECHNOLOGY
- LOW POWER CONSUMPTION
- SMALL SIZE

This unit is a competitively priced S-band transmitter intended for use for airborne data & video communications. It is a compact, reliable unit with state of the art electrical specifications.

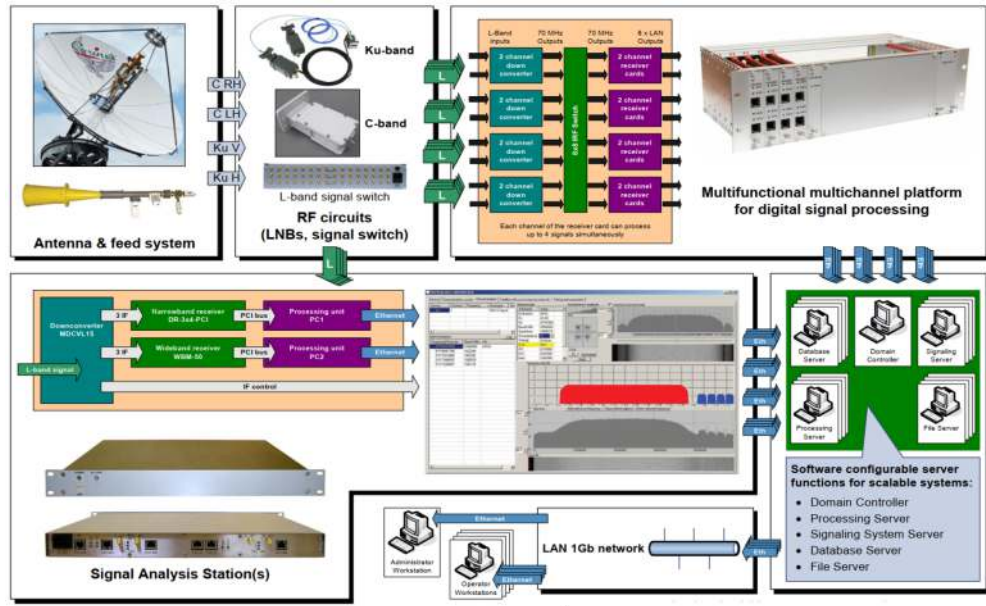
Neuron Satcom Interception System



RR-1/G Mobile Radio Relay Station

Communication and information technology

Communication and information technology



OVERVIEW

NEURON satellite communications interception system is a modular and easily scalable turnkey system to intercept and analyse the following types of data from VSAT systems:

- E-mails including attachments
- Fax
- Voice calls
- Video
- Pictures
- Call Related Data (CRD)
- A series of other data formats

The RR-1/G is a brand-new mobile radio relay station was developed for the Hungarian Defence Forces to grant communication infrastructure for military camps. Based on former experiences with internal vehicle installation, HM ARMCOM's design and manufacturing teams have created a contemporary IT environment in military rated container, which is capable to work on both vehicle and standalone left on field. The main role for this station is to provide high capacity communication services (voice, video, data) for military groups on land by uplink/downlink microwave connection to radio base stations. The system is equipped with versatile energy management system, including high performance UPS and a super-silent diesel generator.

PK-2NM Command & Control system

Communication and information technology

HM ArmCom
KOMMUNIKÁCIÓTECHNIKAI Zrt.

BHE

MIMO Data Radios BUXC24 and BUXC25

Communication and information technology



PK-2NM is the newest Command & Control system of the Hungarian Defence Forces. The equipment is integrated into a tactical armored combat vehicle. The communication system is a derivative version of the earlier BTR based Hungarian military info-communication station. During this development the design team made some simplifications in order to fit necessary radio, IT and intercom kits into the smaller room, but also made some improvement like building in a high capacity MIMO software based radio as a plus. As a result, this system is capable to work as a platoon or company level C2 info-communication center, providing tactical and long-range secure radio voice and data communications in HF, VHF and microwave frequency bands. 5 from the crew (9) able to control all built in radio equipment via the intercom. HM ArmCom supplied 10 pieces of PK-2NM Command & Control system for the new combat vehicle of the HDF in 2020.



- Multiple Input Multiple Output radio equipment (MIMO)
- Data aggregation over multiway propagation
- High data rate
- Decentralized mesh topology
- Node to node routing MANET protocol

BHE's MIMO data radios BUXC24 and BUXC25 offer reliable, tactical grade encrypted IP data communication in an ad-hoc, mesh topology network. The radios build up a peer-to-peer network in which the whole dynamic system can be configured from any of the nodes. Configuration of the radios is performable through the built-in web based graphical user interface. Access to the system can be safeguarded by password. Communication is protected by AES256 encryption that is certified according to FIPS140-2 providing safe and secure connection. Radios have Ethernet IP data interface and a built-in multicast VoIP voice communication feature. The typical link distance is up to 25-30 km in partially LOS (Line of Sight) area. The system offers Ethernet connection and up to 30 MBps speed for TCP/IP or UDP devices, such as sensors, cameras, radars, voice communication and any other devices with Ethernet interface. All the components are housed in rugged, waterproof boxes.

HUNTACCIS

Hungarian Tactical Command and Control Information System

Communication and information technology



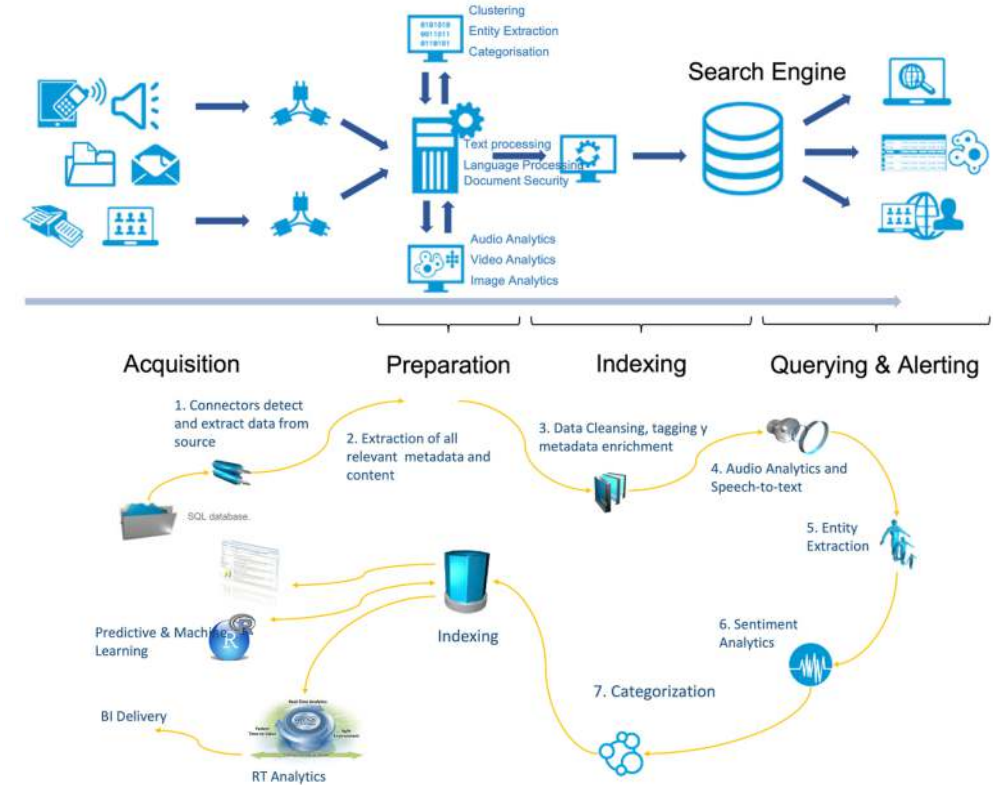
INFOVADASZ

(Information Hunter)

CYBER security



HUNTACCIS is the official Command and Control software of the Hungarian Defense Forces. It is a custom developed solution for the HDF, installed both in the old military hardware like BTR-s, and in the new vehicles like Leopards, 4x4 armored vehicles and Lynx. The development is constantly supervised by the Army and backed up by long-term development plans. It is based on NATO STANAGS, and high emphasis put on interoperability capabilities with other NATO nations solutions.



HM EI developed and supports the InfoVadász (Information Hunter) system. It is integrating Open-Source Intelligence (OSINT) solutions and data feeds to Data Mining solution which is capable on Text and Multimedia analysis, driven by Artificial Intelligence and natural language processing capabilities. It is an on-premise solution without any needs of cloud infrastructure. Perfectly fit for isolated, classified networks, with full integration of user specific strict access controls. The solution is used by most of the Hungarian Law Enforcement Agencies and Intelligence Services.

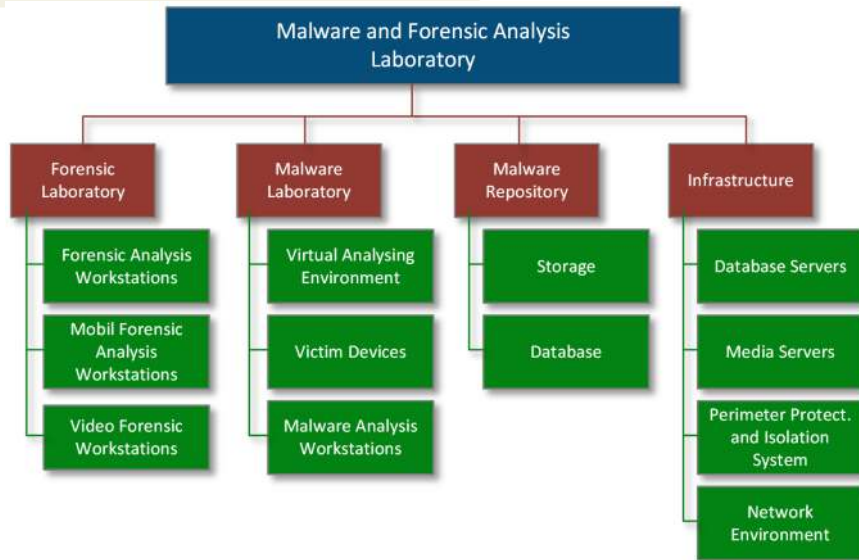
Malware Analysis and Forensic Laboratory

CYBER security



8 Band Jammer (X-Guard)

Electrotechnical equipment and EW



The MFAL project has two major objectives. Installation of an IT forensic laboratory within the structure of a governmental organization generates elementary cyber security capabilities directly and effectively shielding off elements of the critical infrastructure, as well as empowers law enforcement agencies to significantly boost the efficacy of forensic activities. The second but similarly important pillar of the project is the installation of a malware analysis laboratory embedded in the structure of the laboratory.

PRIMARY OBJECTIVES

- Empowering the user to protect critical ICT infrastructure through customized cyber security solutions
- Setting up a cyber forensic laboratory including mobile forensic teams capable of operating autonomously
- Setting up a malware analysis laboratory and malware repository
- Training of staff members of MFAL
- Developing efficient malware analysis capability
- Capacity building is to be achieved through a tailored, multi-panel training program
- Know-how transfer to furnish the user with self-sufficient cyber capabilities



The X-Guard has been developed to fulfil the role of protection of offices and negotiations. The device transmits radio signals, cutting-off communications between end devices (handy, NIC, etc.) and central units (base station, router, etc.) by using a unique transmission method that confuses the receiving circuits of end devices as if no central unit was within the service area.

Following the continues development of the wireless communication the X-Guard is modular and offers up to 8 bands, which could be selected upon ordering. This jammer does not interfere with any communications except the selected ones within the quiet zone and naturally does not interfere with communications outside the regulated area. Currently available bands: GSM 900/1800, 3G, WiFi, Bluetooth, LTE, GPS. Further bands are available upon request.

Radar (PGSR-3I Beagle)

Electrotechnical equipment and EW



PGSR-3i 'Beagle' is a man-portable radar for detection, tracking and classification of targets moving on or close to the ground. It automatically classifies targets based on their size and movement characteristics.

Application: Border guard service, battlefield surveillance, protection of pipelines and sensitive infrastructure, etc. The complete PGSR-3i 'Beagle' radar system can be carried in two backpacks by a two-man team. It is also mountable on vehicles or on field posts as needed. It can be used as a standalone unit or in network of radars.

Detection ranges:

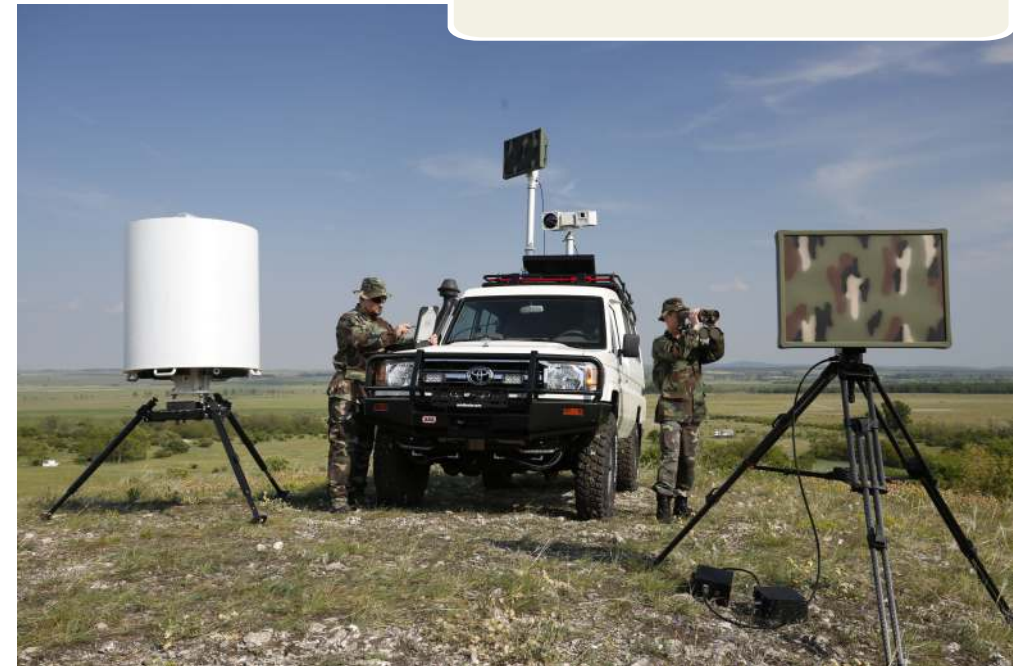
Pedestrians 8km; soldiers 10km; vehicles 15km; large vehicles 24km

Pro Patria Electronics

Pro Patria Electronics

Adaptive multisensor system (ADAMS)

Electrotechnical equipment and EW



The ADaptive Multisensor System ADAMS integrates various surveillance sensors such as radars, thermal imagers, video cameras and other devices into one complex but easy to use system. The software layer of ADAMS is a Windows® operating system based application, fully controllable by one operator. The software uses map-based visualization that represents the geo-located sensors, detected targets and Points of Importance by easy-to-understand, user friendly icons. The control software provides enhanced situational awareness to the operators. The scalable network architecture allows sensors to distribute their data to multiple clients and provides remote control functionality. All radar detections, classified tracks, video frames and operator interactions are automatically recorded and can be replayed by the software for further analysis.

Tower mounted radar (PGSR-3IFT Beagle)

Electrotechnical equipment and EW

Pro Patria Electronics

gamma

On-board computers, displays and user interface modules

Electrotechnical equipment and EW



PGSR-3IFT 'Beagle' is a tower-mounted radar for detection, tracking and classification of targets moving on- or close to the ground.

Designed for desert and harsh environment operation, it is placed inside a hermetically sealed radom to withstand extreme weather and environment challenges.

The radar PGSR-3IFT 'Beagle' is key element of sensor systems for early warning, illegal border crossing prevention and threat recognition along extensive border sections in desert or harsh environment.

The PGSR-3IFT 'Beagle' radars are the highest level ruling intelligent units in the radar-camera-sensor modules hierarchy. The radar controls cameras: activates, directs, "slews to cue" etc.



The on-board computers, displays and user interfaces manufactured by GAMMA Technical Corporation may serve as the central data acquisition, displaying and controlling units of measuring, monitoring, surveillance or C2 systems installed on a vehicle.

The units and the system they make up are highly customizable to meet user requirements, the application's hardware needs and the available space in the vehicle. Rugged displays are available in sizes between 6.5" and 42", with optional touchscreen and pushbuttons.

Drone based IMSI/IMEI extractor and location finding solution

Electrotechnical equipment and EW



Radar modernization (P-18)

Electrotechnical equipment and EW



During development of the equipment, we have used modern SDR solutions and our own custom tailored power amplifier, optimized for Catcher tasks allowing us to drastically reduce dimensions and weight of the equipment. For extension of working range the system could be equipped with an antenna commutator. It allows to switch antennas depending on the task – without operator interaction. We support all types of batteries from lead acid to LiFePo4. Small size of the equipment allows to install it on different types of drones.

SPECIFICATION

Simultaneously operating BS's channels	– 2,3,4,5,6,8 (depends on version of hardware)
GSM supported bands, MHz	– 850/900/1800/1900
UMTS supported bands, MHz	– 700/800/850/900/1700/1900/2100
LTE supported bands, MHz	– 800/850/900/1800/2100/2300/2600
Type of LTE supported	– FDD and TDD
BTS output power in low bands	– up to 2 W per channel (lower 1000 MHz)
BTS output power in high bands	– up to 2 W per channel (upper 1000 MHz).
Tested operation range for IMSI extraction	– for 2G – 11 km, for 3G/4G – 3 km
Power up/down step	– 1 dB
Sensitivity	– -108 dBm
Power supply working range	– 16...60 V DC



Due to its meter wavelength range, the radar is able to detect aircrafts using stealth technology. The radar spare parts base is based on the latest commercial off-the-shelf items. Transmitter is solid state type based on pulse-compression principle. Test and diagnostic equipment are built in. The modernization improves the surveillance probability, the path of air targets is automatically tracked. The station is able to receive data from other radars, the information exchange between radars is based on agreed exchange protocol. MTBF: ~12.000 operating hours.

The radar has newly developed hardware. The frequency range was extended and the operational frequency is increased from 4 to 41. The transmitter and receiver units consist of only solid state elements. Number of vehicles are reduced from 4 to 2: equipment vehicle, antenna vehicle. An aggregator is integrated in the equipment vehicle.

Multispectral Reconnaissance System (Jumbo)

Electrotechnical equipment and EW

R MEDiRLAB
RION™ DICA | D'VFI OPMENT CO., LTD

R MEDiRLAB
RION™ DICA | D'VFI OPMENT CO., LTD

Aerial Reconnaissance System

Electrotechnical equipment and EW



Jumbo Multispectral Reconnaissance System effectively supports the work of defense specialists and decision-makers in professional border protection and territory protection. Its most important element is the long-range electro-optical system (cooled thermal camera, D/N camera, laser rangefinder, P/T rotation unit). Jumbo performs observations in visible, extended "visible" and far-infrared ranges.



A two-camera (full HD and 4k resolution) electro-optical system with independent power supply includes a laser range finder (LRF), a GPS unit, a magnetic sensor (DMC), a gyroscopic stabilizer and a headlight.

Portable reconnaissance thermal camera (Cyclops)

Electrotechnical equipment and EW

R MEDiRLAB
RION™ DIGITAL DEVELOPMENT CO., LTD

R MEDiRLAB
RION™ DIGITAL DEVELOPMENT CO., LTD

Speed measuring device (TraffiCapture)

Electrotechnical equipment and EW



One of the best quality/price ratio portable reconnaissance thermal cameras with 640x480 pixel resolution on the market. The camera operates for 8 hours with one set of batteries however, its weight (incl. batteries) does not reach 1.6 kg. The exceptionally bright lens detects a vehicle from a distance of more than 4,000 m and a person from a distance of more than 2,000 m. The device can be ordered with a 3D magnetic compass, a built-in GPS module, WLAN communication and an LRF unit.



With the help of laser measurement technology, the TraffiCapture TC-108 easily determines the speed of vehicles even from a distance of 600m, and it is also capable of taking pictures with legal consequences from a distance of 200m. TraffiCapture TC-108 can be easily mounted in a vehicle or on a tripod, both in stationary and moving mode. Vehicle classification is supported by built-in artificial intelligence-based algorithms.

Portable water quality monitoring system (SpectroCapture)

Electrotechnical equipment and EW

MEDIRLAB
BIOMEDICAL DEVELOPMENT CO., LTD.

CURRUS[®]

Containers

Engineering technology



HM CURRUS Co. Ltd. has extensive experience in the development and manufacture of various containers including water storage, supply and accommodation containers.

Mini lab in a suitcase! In situ examination and result. Contaminated surface waters, springs, caves and stagnant water can be life-threatening for people and animals. SpectroCapture immediately measures the concentration of protein, humic substances, cyanobacteria, and green algae in the given water on the spot.

The wavelength of the excitations used in the device: 280nm, 450nm, 620nm, the spectral sensitivity of the device:340-840nm.

Foldable container

Engineering technology



ATIS data logger server (PAIR)

Engineering technology



The container's main material is aluminum, which has been taken into account as a primary consideration due to corrosion resistance and lighter handling. Heros Folding Container can be stored in a small space, easy to install, has a solid, more liveable and always adaptable to suit your needs.

Main sizes and weight:

Length: 5,85 m

Width: 2,43 m

Height: 2,28 m

Maximum weight: 1200-1300 kg

Netto place: 13,2 m²

Heating and cooling equipment: AMC-14AN



The PAIR automatic meteorological station forwards the meteorological data of small airports to the crew of airplanes or helicopters being in the zone of the airport. Reporting can be initiated by the crew of the airplane through the airplane's radio. The PAIR ATIS (Automated Terminal Information Service) will answer to the request with voice meteorological data report. The PAIR mobile station can be easily and quickly installed at the desired location. The central unit of PAIR polls the connected meteorological sensor through RS485 serial port. Data are stored in MySQL data base. PAIR makes a voice report from the current data, which is transferred on request by the crew.

Meteorological instruments

Engineering technology



Firefighter vehicle (HEROS Aquadux-X 1500)

Military and special vehicles



Founded in 2001, the company began installing domestic road meteorological systems in 2002 and 2003, with significant success, so much so that the technical / technological expectation of the system developed within the National Infrastructure Development Agency. A total of 96 road meteorological stations meeting this system requirements were installed according to the needs of Hungarian motorways. In addition to road meteorological systems, MetTech LLC. also carried out the delivery and design of Tactical Meteorological systems, primarily for the Defense Forces, but also for the bodies of the Ministry of Interior.

In addition to the domestic maintenance of Airport systems, mainly for military use, MetTech LLC. also entered the international arena in the mid-2000s, when they installed more than 10 airport service systems for U.S. Army units stationed in Europe for the great satisfaction for the professionals both of the user and the producer.

In 2016, during the reconstruction of the meteorological system of Liszt Ferenc Airport, MetTech LLC. independently, with the involvement of a few subcontractors, installed the meteorological system of the airport in high quality and accuracy, both in terms of time and measurement technology accuracy, and has been monitoring and maintaining this system on demand ever since.

Medium sized fire engine. The fire truck designed with 1500 liter water tank and 150 liter additive tank. The pump situated in the rear section and driven by the vehicle's PTO. Performance of the pump is 2400 liter/min on normal pressure, on high pressure is 400 liter/min that provides sufficient water to operate 4 branch pipe (300liter/min) at the same time furthermore that is equipped with rapid intervention hose. In addition the unit contains additive mixing apparatus.

Main sizes and weight:

Length : 6560 mm

Height: 3050 mm

Maximum weight: 12.000 kg

Static tilt angle: 32°

Pump: NH25

Fire technique control: Heros Cerberus touch-screen PLC control and alternative manual controlling

FIRETRUCK SELF PROPELLED CHASSIS (R16)

Military and special vehicles



We engineer, you drive



Firefighter vehicle (HEROS Aquadux-X 4000)

Military and special vehicles



Raba R16.217 type of vehicle is a two axle all-wheel drive self-propelled chassis with significant Hungarian added value optimized primarily for the HEROS AQUADUX-X 4000 type of body compliant with demands of National Directorate General for Disaster Management.

The vehicle chassis is built from components at the Raba factory in Győr by using world-renowned foreign and domestic main component manufacturer's products. The Raba manufactured pair of special axles serve the safe vehicle movement on both public roads and difficult terrain. The RABA MAXS 739 type driven front axle, as well as the RABA 955 driven rear axle ensure reliability, manoeuvrability and load bearing capability up to 16 tons including vehicle body. A very important part in the interior definition of the double cab is the special cab extension enabling the firefighter squad (5 persons) to be deployed safely with the standardised full combat gear (including firefighter's air tank as well) to the scene of accidents and disasters. Besides the currently used personal carrier capabilities the following functions are possible: protected command and control; protected communication center; protected ambulance shelter.



The fire engine is capable of two „B” sized hoses to operate on each side. From every „B” hoses, you can use two „C” hoses with 300 litres/min of water. Certainly the fire engine is capable to use the urban hydrant system or free waters. In addition there is a water canon on the fire engine's roof. Fire engine chassis: RÁBA R16.217 AFW, each side you can use a high pressure firefighter nozzle.

Main sizes and weight:

Lenght: 7650 mm

Height: 2500 mm

Maximum weight: 16.000 kg

Static tilt angle: 27°

Pump: NH25

Fire technique control: Heros Cerberus touch-screen PLC control and alternative controlling

Firefighter vehicle (HEROS Variant P15)

Military and special vehicles



The superstructure can be lifted from the platform. Mounting of the superstructure is ensured by quick locks. Water tank material is a PP-copolymer, which is weather-resistant to conventional metal tanks, with a lot of wear and tear resistance and a much smaller mass. The lanyards and other elements are made of weatherproof materials without exception.

Main sizes and weight:

Length: 5118 mm
 Height: 1942 mm
 Width: 1770 mm
 Maximum weight: 5020-5120 kg
 Superstructure: HEROS CorAl
 Pump: HDL200
 Water Tank: 400 l
 Engine: 2.2 16v m-Hawk, Turbo diesel



Firefighter vehicle (HEROS AQUAREX S10)

Military and special vehicles



Heros Aquarex S10 water tender trucks are fire-fighting vehicles that provide fire-fighting water supply to fire engines operating in areas with lack of water, and if necessary, can also be used for fire-fighting duties.

The vehicles are designed for logistic tasks in difficult terrain conditions, carrying two passengers in their cab. The equipment rack holds all personal protective equipment, as well as any fire-fighting special equipment, which allow for the versatile use of the vehicles.

Main sizes and weight:

Length: 8600 mm Height: 3550 mm Width: 2550 mm
 Chassis: Renault K 460 P 6x6
 Drivetrain: 6x6
 Number of passengers: 2
 Superstructure: HEROS CorAl
 Pump: HEROS CorAl
 Water tank: 10 000 litres
 HEROS developments: rapid intervention hose reel
 folding respirator rack
 Control: CERBERUS PLC and manual
 Extra: Side spray bars, quick-discharge port to fill up mobile storage basins

Firefighter C2 vehicle

Military and special vehicles



HEROS-MAN TGE midibus

Military and special vehicles



The Firefighter C2 vehicle takes position close to the operation site in safe distance from the hot zone fully prepared for the command and control of the fire fighting operation.

Built-in IT system ensures a continuous monitoring and control of operation – provides relevant information about fire fighting teams (their position, task, personnel and equipment). It also keeps records of the deployable forces and equipment, available to the commander in case of deterioration of the situation. Elements of the IT system integrated into an air-conditioned RACK cabinet, and secured against vibration that enables functioning in all climatic and operational conditions. The Onboard Power Supply System provides at least 30 minutes of operation without external power supply (when displacement of the vehicle is necessary).



This type is available in different – C2, employee-carrier, intercity and tourist – makes and with L4H2 bodywork size for the customers. As for the cabin size, 15+1 and 20+1 passenger options are available. We are planning to widen our portfolio with smaller body size and less passenger seat versions. Independently all makes come with driven back axle, twin tyres and a maximum permissible weight of 5 tons.

The options include back air spring system and towing hitches also. The interior of the midibus is highly customizable with countless combinations of mats and side covers. The cabins can be manufactured to match the highest standards of today with heating and air conditioning system, built in wifi, microphone, USB ports, roof monitor and luggage holder shelves. BM Heros group provide a 2 year warranty for the body.

CBRN-E Reconnaissance Vehicle IFR

Military and special vehicles

yamma

yamma

CBRN-E Decontamination Vehicle IFD

Military and special vehicles



The purpose of the CBRN-E Reconnaissance Vehicle is to provide intervening personnel dealing with CBRN-E related tasks with the appropriate equipment and working conditions they require to conduct their mission safely and effectively:

- continuous monitoring of CBRN parameters in the area of operation (the immediate vicinity of the vehicle),
- ascertainment and measurement of ground-level meteorological parameters,
- stand-off detection of chemical warfare agents (CWAs),
- collection, evaluation and analysis of the measured data, and data obtained from other system elements,
- video, audio and data communication with collaborating units and workstations,
- protected workspace for launching and controlling the CBRN-E robot that is stored in a separate compartment of the vehicle.



The purpose of the CBRN-E Decontamination Vehicle is the on-site decontamination of intervening personnel and their equipment after the execution of CBRN-E related tasks.

The functional areas of the vehicle:

- machinery and loading compartment
- pre-decontamination area
- personnel decontamination area
- post-treatment area

The pre-decontamination area is equipped with a mobile decontamination unit, used for the pre-decontamination of persons wearing protective gear. Following pre-decontamination, the protective gear and clothing are removed. The personnel decontamination area permits the execution of decontamination in two phases: first with a mixture of warm water and a personal decontamination agent, followed by rinsing with warm water. There is one fixed and one hand-held decontamination (shower) head for each phase. The post-treatment area serves for drying and for putting on the post-personnel-decontamination clothing kit.

HazMat mobile laboratory vehicle (KML)

Military and special vehicles

yamma

yamma

HazMat detection and identification vehicle (KML ADR)

Military and special vehicles



The HazMat Laboratory Vehicle takes position outside the hot zone fully prepared to start the onsite examination of the samples gathered either by the DIM teams or the crew of the lab vehicle.

Fields of application: evaluation of CBRN/HazMat related incidents, on-site monitoring and personnel decontamination.

Optional equipment, according to customer requirements: PPE, gas detectors, chemical detection kit, portable radiological sample analyser, personal dosimeters, hand-held radiation level and contamination measuring instrument, environment monitoring station, hand-held Raman/FTIR spectrometer, bio agent detection kit, sampler kit, first responder decontamination kit, area lighting set, thermo camera, power generator, communication devices. Flexible choice of base vehicle, or the option of fully equipped superstructure and instrumentation only.



The crew of the Detection, Identification and Monitoring (DIM) Vehicle provides the first accurate information on the site of an incident involving actual or potential chemical, biological, radiological or nuclear hazardous materials.

Fields of application: Detection, Identification and Monitoring of chemical, biological, radiological or nuclear hazardous materials.

Equipment: PPE, gas detectors, Ex-Ox measuring instrument, chemical/ bio agent detection kit, personal dosimeters, hand-held radiation level and contamination measuring instrument, environment monitoring station, hand-held Raman/FTIR spectrometer, sampling kit, portable decontamination kit, marking kit, area lighting set, power generator, thermo camera, communication equipment. Flexible choice of base vehicle, or the option of fully equipped superstructure and instrumentation only.

Modular interior superstructure bus development

Military and special vehicles



Vehicles for special purposes

Military and special vehicles



Superstructure functionally designed and manufactured by HM CURRUS Co. Ltd. EOD vehicles (road and off-road version). Superstructures on multifunctional trailer (firefighting equipment)

MoD CURRUS Ltd., according to the results of modular superstructure development, developed a bus basic vehicle, which has more interior design options, thanks to the special basic vehicle; has interior packages, planned in „kit-system“.

The 4 available interior kits are the following:

- Passenger transport (40-44+1 people)
- Wounded passenger transport
- Medical examination station
- Negotiation room

RABA H FAMILY OF TRUCKS

Military and special vehicles



We engineer, you drive



We engineer, you drive

Protected rear compartment (PRC - H860)

Military and special vehicles



Raba is the exclusive supplier of the Hungarian Defence Forces regarding off-road military logistics vehicles. The Raba H family vehicles consists of two and three axle all-wheel drive trucks having significant Hungarian added value and being optimized primarily for the needs of the Hungarian military. Various vehicle bodies by Hungarian manufacturers are available such as water tanker, fuel tanker, flat bed cargo body with canvas, container side loader body and container hook loader body.

The vehicle chassis is built from components at the Raba factory in Győr by using world-renowned foreign and domestic main component manufacturer's products.

The Raba manufactured special axles serve the safe vehicle movement on both public roads and difficult terrain. The RABA MAXS 783 type driven front axle, as well as the RABA MAXS 784 driven rear axles ensure reliability, manoeuvrability and high load bearing capability.

For the safety of driver and vehicle commander an add-on armouring kit can be mounted onto the cab before commencing a mission.

The Protected Rear Compartment (PRC) is a closed type body developed on the basis of RABA Protective Technology® and is designed to resist ballistic and explosive stress to protect the personal staff and maintain their combat readiness while in hostile territory.

The PRC is designed to be independent from the base vehicle, which enables it to be mountable on various types of off-road military trucks. The special equipment of the body (air conditioning system, NBC filtering system) and the unique energy absorbing seating system provides for both the safety and the riding comfort of the personal staff. It is also secured that personal equipment (weapon and backpack) of the crew stay fastened at the anchoring points in case of a mine blast event or on rough terrain.

Besides the currently used personal carrier capabilities the following functions are possible: protected command and control; protected communication center; protected ambulance shelter.

**Light armoured base vehicle
4x4
(Komondor RDO-3121)**

Military and special vehicles



**Light armoured base vehicle
4x4
(Komondor RDO-3921)**

Military and special vehicles



The RDO-3121 is the 4x4 version of the Komondor vehicle family. It is powered by a 360 HP common rail, turbocharged diesel engine. The drive line consists of a six gear automatic gearbox with retarder, three speed transfer case and independent suspension systems. The welded monocoque body is made from armour plates and with the inner spall liner cover it can provide L3 ballistic protection according to NATO STANDARD 4569. This protection level can be raised with add-on elements up to L4. The mine blast protection in basic is L2a/2b but it can be raised according to needs. Central tyre inflation system and run-flat option can raise the survivability.

The armoured personal carrier version can carry 2+3 person with their combat equipment. It has a rotatable turret mount where any type of weapon station or desired equipment could be installed. The compartment is overpressurized and supplied with NBC filtered air. Crew seats are special mine blast mitigation versions.



The RDO-3921 is the 4x4 version of the Komondor vehicle family. It is powered by a 340 HP common rail, turbocharged diesel engine. The drive line consists of a six gear automatic gearbox with retarder, three speed transfer case and independent suspension systems. The welded monocoque body is made from armour plates and with the inner spall liner cover it can provide L2+ ballistic protection according to NATO STANDARD 4569. This protection level can be raised with add-on elements up to L4. The basic mine blast protection is L2a/2b but it can be raised according to needs up to 3a/3b. Central tyre inflation system and run-flat option can raise the survivability.

The armoured personal carrier version can carry 2+8 person and their equipment. It has a rotatable turret mount where any type of weapon station or desired equipment could be installed. The compartment is overpressurized and supplied with NBC filtered air. Crew seats are special mine blast mitigation versions.

Light armoured base vehicle 6x6 (Komondor RDO-3932)

Military and special vehicles

yamma

yamma

Light armoured base vehicle 6x6 (Komondor RDO-4332)

Military and special vehicles



The RDO-3932 Light Armoured Base Vehicle is the 6x6 version of the Komondor vehicle family. It is powered by 450HP common rail, turbo charged diesel engine. The drive line consists of the six gear automatic gearbox with retarder, three speed transfer case and independent suspension system. The welded monocoque body is made from armour plates and with the inner spall liner cover it can provide L2+ ballistic protection according to NATO STANDARD 4569. This protection level can be raised with add-on elements up to L4. The basic mine blast protection is L2a/2b but it can be raised according to needs up to 3a/3b.

The half body structure provides wide range of possible variants. It could be used, for example, as logistic, weapon carrier, special platform or recovery vehicle. It can carry 9000 kg load.



Main features:

- Armoured double cab and body up to 2+4 crew
- 500 HP Euro5 Cummins diesel engine with 2300 Nm torque
- Allison six gear automatic transmission with retarder
- Three gear ZF T-case
- Half body design with unique quick fixing solution for interchangeable superstructures
- Longest wheel base of the family 4300 + 1500 mm
- Reinforced suspension and independent axles with 10 500 kg load
- 38 tonne towing and 15 tonne load capacity
- Integrated hydraulic drive system for external equipments
- Central tire inflation system

Radiation shielded vehicle (RDO-3221 RSV)

Military and special vehicles

yamma

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CBRN reconnaissance vehicle (RDO-3221 CBRN)

Military and special vehicles



The RDO-3221 RSV Radiation Shielded Vehicle is a special version of the Komondor vehicle family. The 4x4 vehicle is specially designed for operation in radiologically contaminated environments. With the use of special materials the vehicle's body can mitigate gamma radiation by more than 60%. Both the driver's cabin and the separated crew compartment have a special internal lining which ensures easy decontamination.

An integrated radiation measuring instrumentation continuously provide information to the commander's screen about the gamma radiation level around and inside the vehicle. The applied protocol is counting the exposition time in the contaminated area and alerts if the crew is closing to the allowed threshold of absorbed dose.



Complex solutions for CBRN Reconnaissance Vehicles are available, based on the FABV on-board CBRN reconnaissance system, with numerous flexible options. Components: IH-99D/DM on-board radiation level meter system, IH-99LM data logger, IH-99 LCDM display, BNS-98 dose-rate transmitter, radiological sample analyser instrument, chemical agent detection and identification system, biological alarm monitor, sampling and marking systems, hand-held dose rate and contamination meter, TVS-3MLU mobile meteorological station, GPS module, central data logger and display with ATP-45 NBC report creating function, PPE and collective protection system.

All the relevant system components can be incorporated in a Komondor base vehicle, and complex system solutions which are independent of the type of vehicle (BRDM, BTR, Unimog etc.) are also available.

Armoured recovery vehicle (RDO-3932 REC)

Military and special vehicles

yamma

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Armoured ambulance vehicle (RDO-3921 AMB)

Military and special vehicles



The RDO-3932 REC armoured recovery vehicle was developed on the base of RDO 3932 base vehicle. It owns all the protective and mobility features that the base vehicle has.

The armoured recovery version can carry 2+3 person and their combat equipment. It has a 50t capacity 2 speed hydraulic winch, an extendable hydraulic crane with 1,3t capacity on 3 m and a hydraulic lift-tow equipment. These special equipment with stored tools give the possibility to make on site repairs, recovery works and lift-towing any vehicles up to 9t axle load.



The RDO-3921 AMB is an armoured medical evacuation vehicle which was developed on the RDO-3921 Komondor base vehicle. It owns all the protective and mobility features that the base vehicle has.

Besides the driver there is space for two medical crews and for two stretchers, or six seats for patients. The up-to-date stretcher system can be operated easily by one person and can be converted into three seats for light patients with mild injuries. There is a central oxygen supply system, infusion heater and holders, electric power supply for charging medical equipment. Cabinets, drawers and other storage spaces are available for storing all medical equipment.

Armoured Multipurpose Vehicle firefighter / technical recovery (RDO-4336 MPV)

Military and special vehicles

yamma

yamma

Armoured reconnaissance vehicle (RDO-3121 RECCE)

Military and special vehicles

RDO 4336 MPV additional features (based on RDO 4332):

Multipurpose armoured base vehicle:

- Preparation for fire fighter equipment (water pipes, nozzles, remote controlled turrets)
- Built-in Ultra High Pressure Extinguisher System with 90 liter watertank
- Special firefighter SCBA seats
- Integrated firefighter operation control sytem
- Special storage places for equipment (hoses, clamps, adapters)
- Self protecting extinguishing solutions (wheel arcs, cab, front territory)
- Special horns and loud speaker systems
- 14 tonne load capacity

Firefighter:

- 7000 l water tank with fire-fighter pump
- Remote controlled front nozzles
- Field extinguishing ability
- Self extinguishing capacity
- Integrated command elements



Technical recovery:

- 11 t meter hydraulic crane
- Lift-tow fork with 10 t capacity
- 5 kVA electric power generator
- Hydraulic power rescue set
- 38 t towing ability



The RDO-3121 Reconnaissance vehicle has all the features that the vehicle family has, including L3 ballistic protection, monocoque "V" shaped body with 2a/2b mine blast protection, over pressurized, NBC filtered compartment, high manoeuvrability and off-road capability. Thanks to its relatively small silhouette and dimensional parameters this vehicle is perfect not only on terrain but in urban environment as well.

The reconnaissance vehicle is designed to carry 1+4 combatants and can hold different equipment. As basic there are yammers, surveillance and recce cameras and radar, and fully integrated workstations to display, evaluate, process and forward the received information. There is a possibility to install turret or any type of weapon station on the built-in rotatable hatch to enhance the combat capabilities.

Radar (MGS3 Scout)

Military and special vehicles

Pro Patria Electronics



WIKING PATROL 18 Multipurpose Patrol Vessel

Military and special vehicles



The MGS3 'Scout' is an all-terrain vehicle equipped with PGSR-3i 'Beagle' radar, an electro-optical sensor array with thermal- and daylight camera, optional laser range finder and an operator workplace.

The radar PGSR-3i 'Beagle' provides continuous observation of large surveillance areas, while the electro-optical sensor array provides detailed picture of detected targets for ultimate identification at both day and night operation.

The electro-optical head and the radar are mounted on retractable masts. The vehicle is assembled with a leveling system in order to stabilize and level the sensors. The radar, the cameras and the control functions are integrated by control software ADAMS and provide automatic slew-to-cue functions.



- Length overall (w/platform): 18,4 m
- Length of waterline: 16,2 m
- Beam: 5,5 m
- Draught (max.): 1,0 m
- Displacement: 45.000 kg
- Crew: 2, Passengers: 12
- Propulsion: propeller
- Engines: 2 x 232 kW
- Anchor equipment: 2 x HHP PTW 80 kg, 2 x 40m chain
- Air conditioning: 3 x 3,5kW
- Network: 24V DC, 240V / 415V 50Hz AC
- Generator sets: 1 x 17 kVA
- Fuel capacity: 3.000 l
- Accomodation: Bridge, personnel area (2 beds), sanitary space, office / kitchen

WIKING 450 Small Alu Workboat

Military and special vehicles



R01 NEMERE Reconnaissance and surveillance UAS

UAV/UAS/UGV technology



- Length of the hull: 4,50 m
- Length of waterline: 4,00 m
- Beam: 1,70 m
- Draught: 0,17 m
- Height of the side: 0,57 m
- Displacement (max.): 660 kg
- Passangers on board: 3 + 1



The R-01 NEMERE versatile UAS is suitable for conducting military (intelligence, surveillance, target acquisition and reconnaissance), public service (disaster relief, law enforcement, border security, tax and customs administration) and civilian (guarding and protection, agriculture, industry, transport, environmental protection, meteorology, geodesy, cartography) aerial search and observation missions. It comprises the remotely piloted unmanned aerial vehicle (UAV), the ground radio and antenna subsystem as well as the ground control station. This flying wing UAV is generally operating in the altitude of 300–500 meters above the surface in a distance of maximum 20 kilometers. The UAV's propulsion is an electric motor (brushless, out runner). Take-off weight of the aircraft is about 5–7 kg and its wingspan is 2.3 m. Its maximum speed is 100 km/h and the flight time is about 90 minutes. The UAV is equipped with autopilot and different payloads (moveable, stabilised and high resolution day and night vision camera with excellent zoom function).

METEOR-3MA / M8 Target Unmanned Aerial Systems (TUAS)

UAV/UAS/UGV technology



Kronos Virtual Simulation

Training and simulation



Since 2007 HM EI Company has dealt with design, development, production and operation of target unmanned aerial vehicles (TUAV). The application of TUAVs is a realistic and cost-effective solution for the training of the Air Defence Forces armed with surface-to-air missiles and anti-aircraft machine guns. TUAVs pretend real attacks of hostile military aircrafts. One of them is the METEOR-3MA that is equipped with safety camera, Luneberg radar reflector and infra-red and smoke flares as payloads. It can reach 250 km/h with gas turbine propulsion. Take-off weight of the aircraft is about 20 kg and its wingspan is 5 m. METEOR-3MA flies according to a programmed flight route and conducts its target tasks for air defence missiles within 30 minutes in a range of maximum 25 km. The electric M-8 TUAV is suitable for performing simple air activities and pretending realistic aerial targets in order to train the air defence artillery forces armed with anti-aircraft machine guns. Take-off weight of the M-8 is about 4 kg and its wingspan is 2.1 m. It flies 60 minutes within a range of 15 km. The speciality of both systems is that at the same time three TUAVs might perform their tasks according to the pre-programmed flight routes with the help of the ground control station (mobile flight control unit).



KRONOS 3D tactical simulator is a platoon level „serious game”, which is installed on a networked PC environment with a single joystick (without expensive weapon models and vehicle mock-ups). Squad and platoon leaders and its members can be trained how to cooperate in a combat. It also provides detailed functions for individual training. Vehicle crew and unit personnel can communicate with each other using an imitated radio network. Shots and explosions can be seen in the terrain, realistic sound effects can be heard.

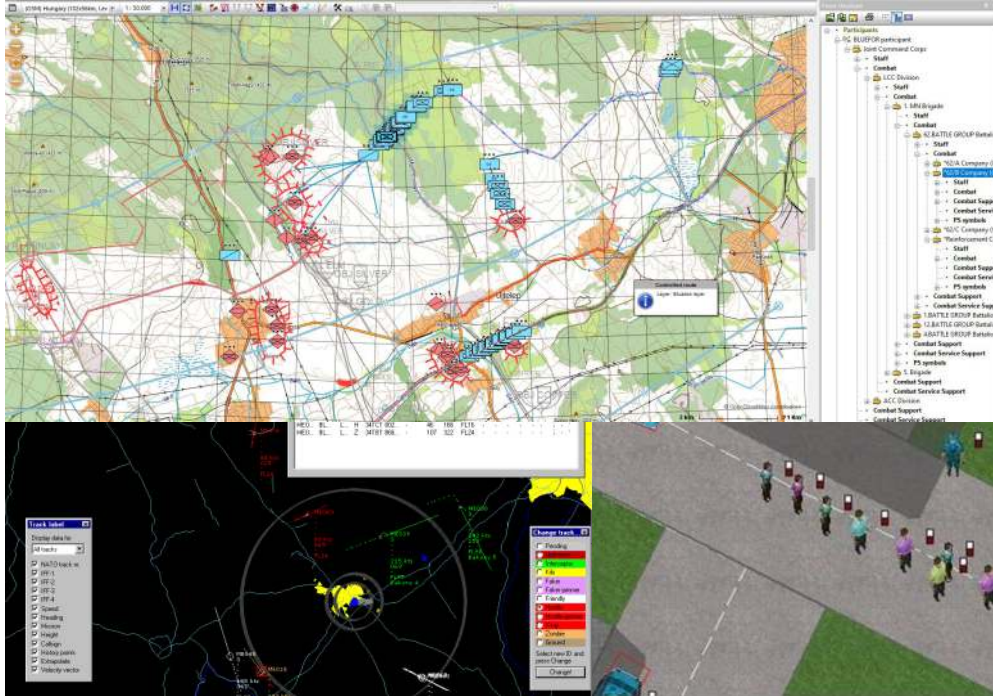
Marcus Constructive Simulation

Training and simulation



Repair & General Overhaul, Upgrade & Development of Military Vehicles

Services



The CAX (Computer Aided eExercise) driver and combat simulation development started in the '90s, since then several hundred years of work of competent experts has been built into the software. Now it is one of the World's most sophisticated entity level commander and staff training simulator system. It models the different aspects of the military activities, such as: conventional warfare, MOUT, combat service support, CBRN and electronic warfare, air warfare and air defence, naval forces, MOOTW/SASO.

Main features: corp level constructive simulation, highly detailed, realistic virtual battlefield, multiple resolution simulation, aggregated level for huge exercises, fast scenario preparation, scenario modification on the fly, built-in AAR support, HLA Evolved compatibility, easy operation.

The MoD CURRUS Co. Ltd. main mission:

- To provide logistic support to the Hungarian land forces (HDF) in the field of maintenance both in the country, during exercises and in foreign missions.
- To support equipment modernization projects, research.
- Design and development related to tracked and wheeled vehicle systems, armament systems, engineering and NBCD systems.

Full scale of maintenance support provided to different arms and services of HDF, both in Hungary and abroad.

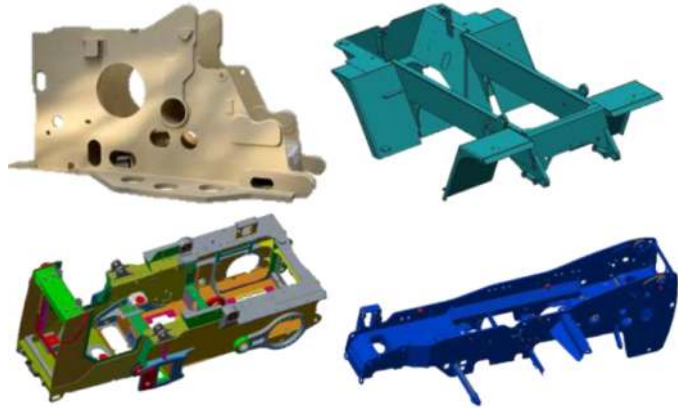
Welded and machined frames, chassis, steel structures

Production services



Repair, renovation, transformation and assembly of Vehicles

Services



Welded and machined Frames (Chassis). Applied steel grades can be fine grade, high strength, high wear-proof (Hardox) or bulletproof (Armox). Different Steel Structures such as workshop hall structures, crane rails, pontoons, ship hulls etc. Applied steel grades can be fine grade, high strength, high wear-proof (Hardox) or bulletproof (Armox). The products are delivered in coated (wet, solvent based painting) condition and are ready for final assemblies at the customers' plants. Fabrication and manufacturing are performed based on customer's specifications. Plate thicknesses are: generally between 3-100 mm.

Max sizes: 3 x 14 m, weights up to 20 tons



Picture taken before repairs



Picture taken after repairs

Details of the vehicle:

Make: PZM 2 with trencher superstructure

Modernisations, improvements:

- Modernising start up
- Modernising the heat-retaining device
- Modernising the inside of the cab
- Providing access to water for the driver/operator of the PZM

Explosive ordnance detection and ordnance disposal

Services

DETEKTOR



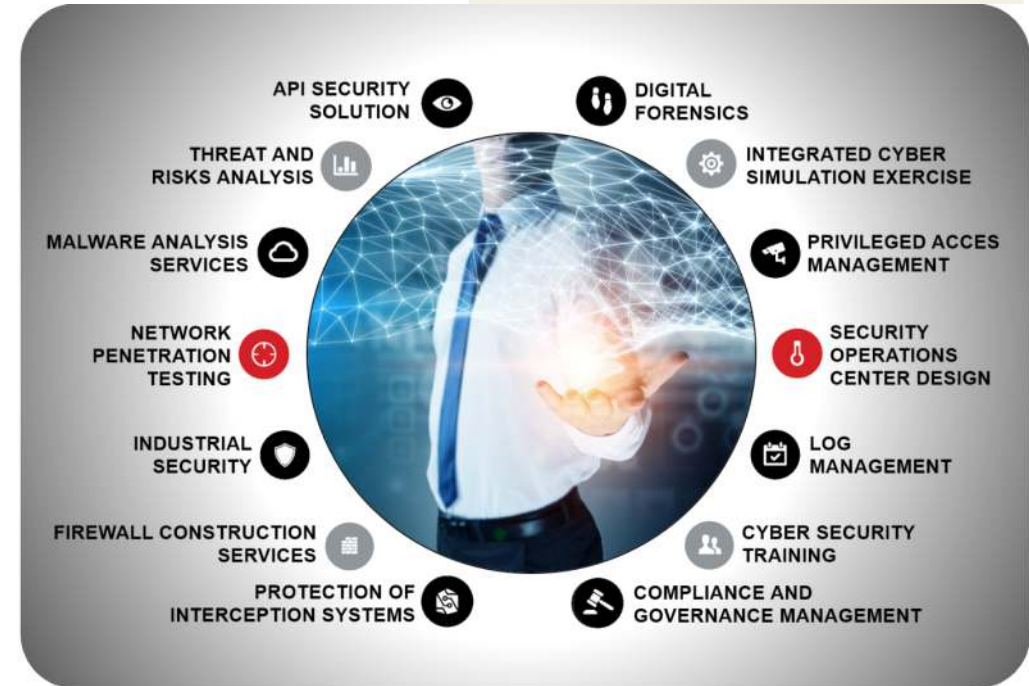
Complex Cyber Security Services

Services



Explosive ordnance detection and ordnance disposal with instruments in the soil in various ground depths depending on the client's technical needs and also taking the military history of the given area into account.

Security investments, overall explosive ordnance and bomb disposal in areas of civil and military airports, shooting and training areas.



With cyber-security becoming a major security challenge globally, Carinex Ltd. offers an advanced, comprehensive and customizable technology and service pack for clients enabling them to efficiently counter the whole range of cyber threats of today. In line with our traditional business line, we keep our focus on the government sector, to which complex consultancy, quality assurance and system integration services from the basics of network security infrastructure to APT detection and malware analysis are offered. To provide high-quality cyber-security services Carinex Ltd. cooperates with specialized partners who have more than fifteen years of experience representing strong competence in the market of national security and public administration, as well as all of them have security clearance at the government level. In addition to the government sector, our partners have global references in the financial, telecommunication, public utilities, healthcare and other sectors.

UAS Payload Integration

UAV/UAS/UGV technology services



Adaptive, competence based eLearning solution (SkillToolkit)

Services



With our 20+ years system integrator experience we developed a modular approach to present challenges. Our UAV payload systems are capable of delivering solutions in the following fields:

- RECON and Surveillance (long and short distance, day and night);
- Face and Licence Plate Recognition;
- Radio Monitoring;
- Precision Agriculture.

The modular approach delivers a tailor-made kit suitable to the customer's environment (both natural, man-made and RF) and goals (short or long-time surveillance, fixed wing or rotary, etc.). Additionally, the sensor and control/communication elements the kit is delivered with both the UAV and a Ground Control Station.



The special characteristics of the army, police, border guard and disaster management require special training approach. The staff has to apply the skills they learn in field work, in action, even in emergency situations. As a result, a key training point is to convey and imprint knowledge that can be applied regularly and professionally, even in high-stress situations. It is therefore essential to decide which methods should be used for preparation and how the time and money spent on education will pay off.

Our modern digital pedagogical methodology and a practice-oriented electronic training solution (the SkillToolkit) was designed for the special needs of first responder organisations.

Our main services are:

- implementing adaptive eLearning systems
- developing competence based electronic curriculums with rich multimedia content
- providing knowledge management consultancy

Contact list (Defence Industry Companies #1)



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