



**msm**

**GROUP**

55 mm  
HE ERFB BB  
1-16-1003M

TNT  
125 mm  
OFDMK DV  
01-16-1003M

1003M  
00-00  
125

BB  
1-16-1003M

DV  
01-16-1003M



VÝVOJ  
Martin

INNOVATION SPECIALISTS

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## COMPANY PROFILE

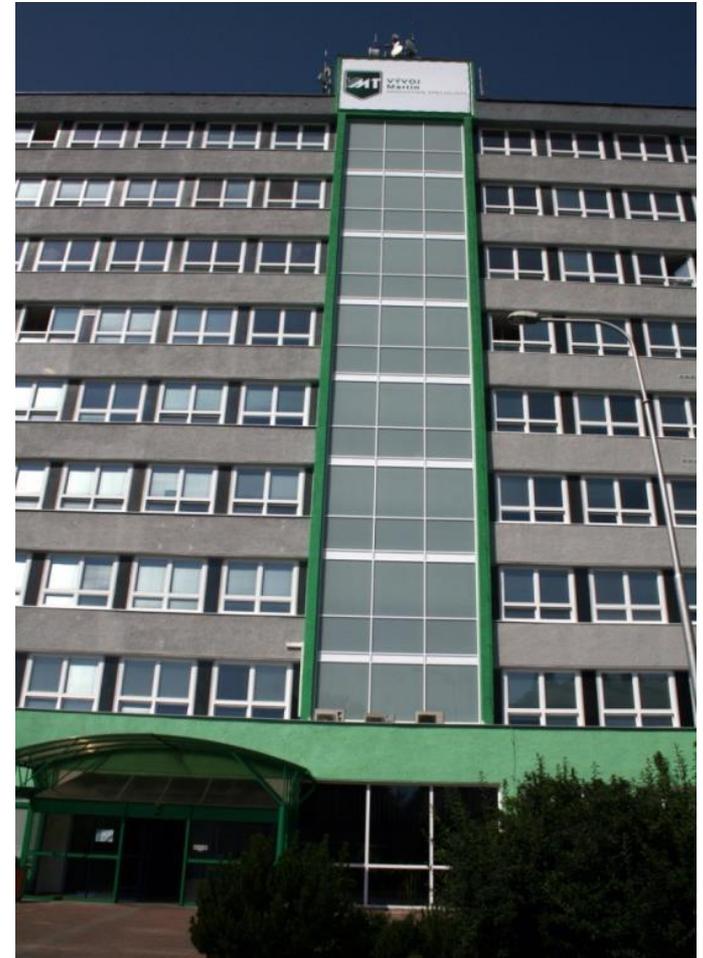
ČLEN SKUPINY | MEMBER OF:



# COMPANY PROFILE

## VÝVOJ Martin, a.s.

- is an engineering and manufacturing organization specialized in design and manufacture of custom mobile solution such as military shelters/containers, vehicles and power sources
- our multi-product platform includes prototypes, single parts and small batch production, amongst others, the development of a variety of unique machines and equipment
- more than 60 years experience of development and manufacture in the civil and defense sectors.
- approx. 120 employees incl. 25 technicians
- annual turnover approx. 12 mil.€



# HISTORY

Forestry technology:  
15 000 pcs.



Agricultural tractors:  
95 000 pcs.



Military vehicles:



# DEFENCE PROGRAM

VMT manufactures and delivers unique military applications which are designed to meet specific customer's requirements.

## Custom Military Containers



## Military Power Sources



## Mobile Security Solutions



## Modernization and overhaul of vehicles, reverse engineering



# ***CUSTOM MILITARY CONTAINERS***

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# CONTAINERS

## Basic applications:

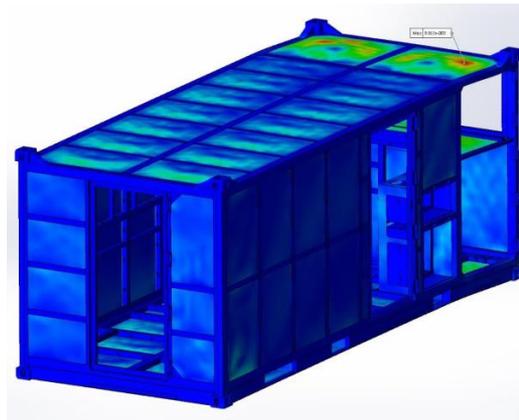
- Communication systems,
- Command and control workstations
- Radar post
- Mobile workshops and ambulance units
- Standby electric power supply,
- Custom design



# CONTAINERS

## Optional equipment & services:

- Ballistic protection,
- EMI/EMC protection,
- Power generator
- UPS and electric installation,
- Air-conditioning,
- NBC protection,
- Communication and IT equipment,
- Security and fire protection systems,
- Testing and verification,
- FEM analysis,
- ILS support,
- Safety analysis,
- Documentation&Training
- And more...



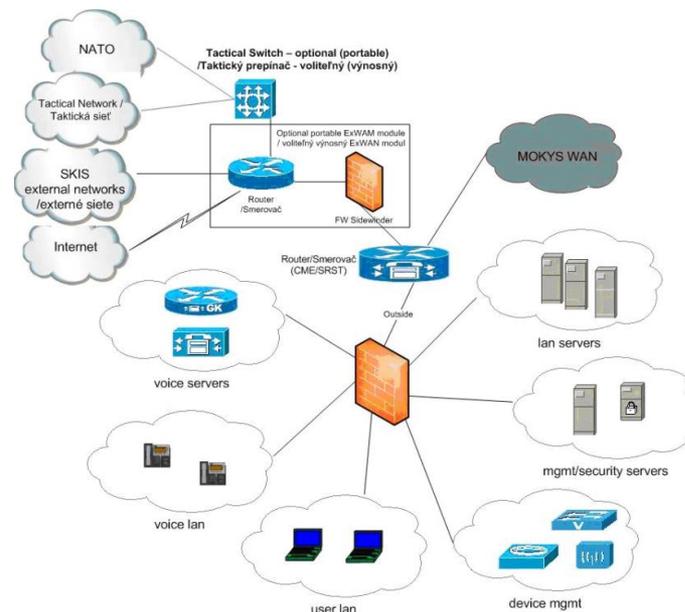
# CONTAINERS

## Communication and IT equipment:

- Complex integration of communication equipment (Military radios and intercom systems)
- Experience in systems integration of radio systems from various manufacturers
- LAN technologies - routing, switching, wireless, Voice over IP (Cisco, HP, Linux based systems)
- Hybrid Wide Area Network (WAN) design and implementation
- Firewalls (Cisco, CheckPoint, Fortinet)
- Network Performance optimization and security
- Virtualization (VMWare)
- Management and monitoring systems
- Knowledge of Microsoft based servers (domain controllers, Exchange servers, DNS and DHCP services)
- Administration of Linux (system parameters, web and database servers etc.)

# HARRIS®

## Authorized Dealer



# ***C2 SHELTERS SYSTEM***

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# GENERAL SPECIFICATION

- **Client:** FMV
- **End user:** Swedish Armed Forces
- **Volume:** more than 140 pcs delivered and 30 more in progress
- **Production:** 2011-2017

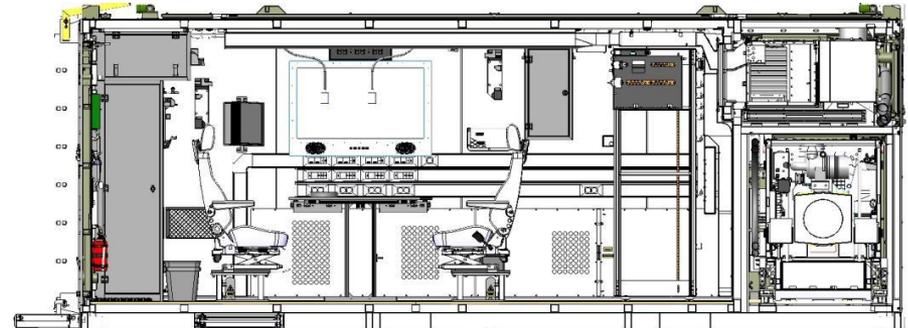
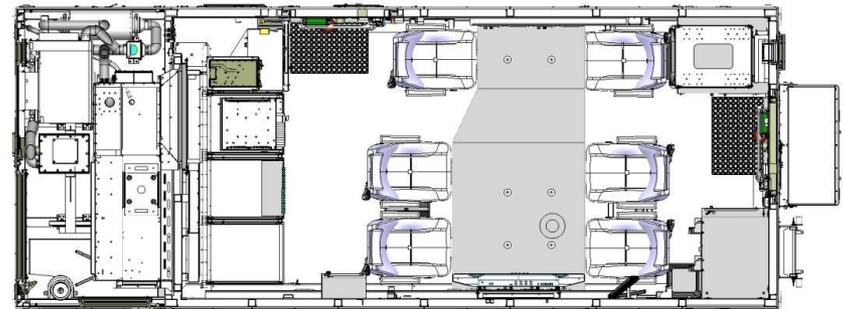
## **Key Features:**

- Integrated in ISO containers in accordance with ISO 668
- EMC/EMI protection according to MIL-STD461F (Army ground)
- Air-conditioning
- NBC unit
- UPS system
- Vibration/shock proof installation
- Corrosion protection measures
- Power & Data Interface
- Integrated alarm system
- Internal noise level under 60dB

# COS – Command Shelter

## Key Features:

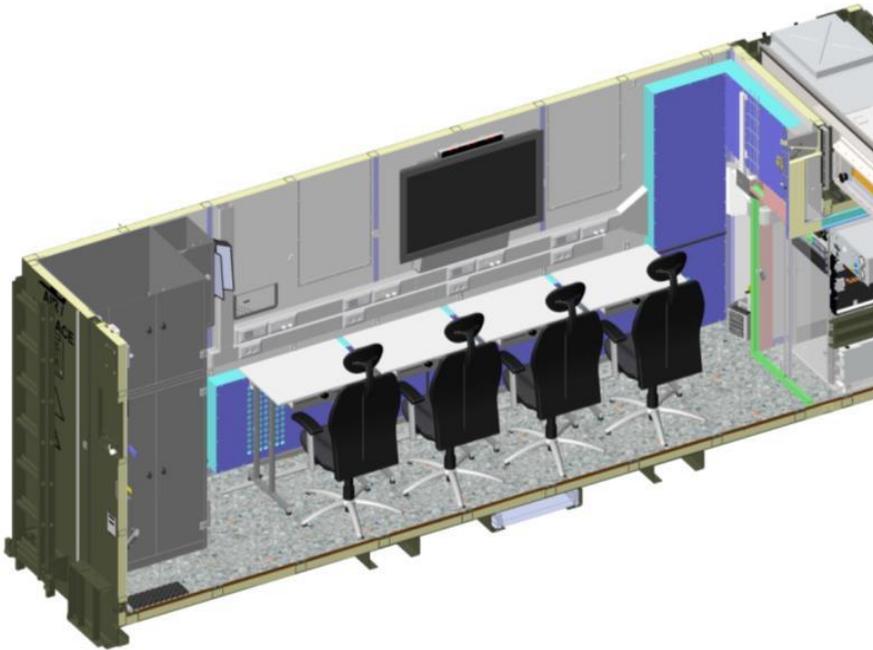
- Command post for 6 operators
- Designed for operation on move
- Weight approx. 9000kg
- Ballistic protection according to STANAG 4569 Level 2
- Independent Diesel Generator
- CCTV system with 360° perimeter
- A/V system for sharing voice and data from each operator
- 4 x 19" IT racks



# SWS – Staff Working Shelter

## Key Features:

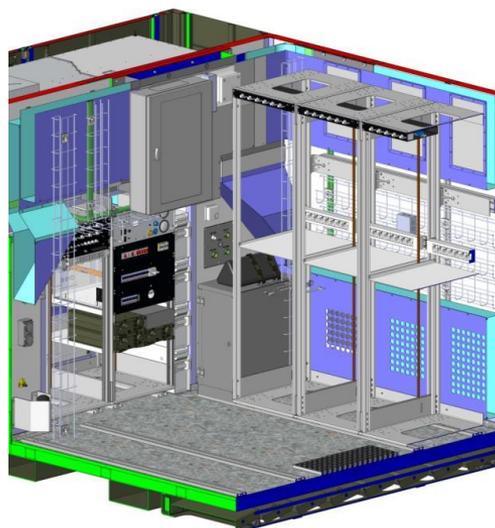
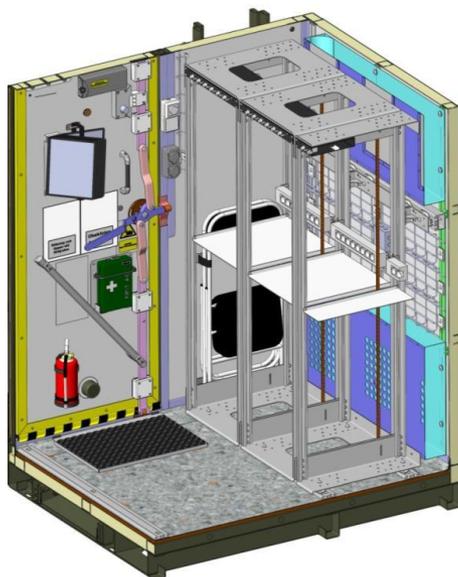
- Office shelter for up to 8 people
- desks that can be flexibly arranged in different groupings
- A/V system for sharing voice and data from each operator
- 2x 19" IT racks



# CNS10 T2 – Communication Network Shelter

## Key Features:

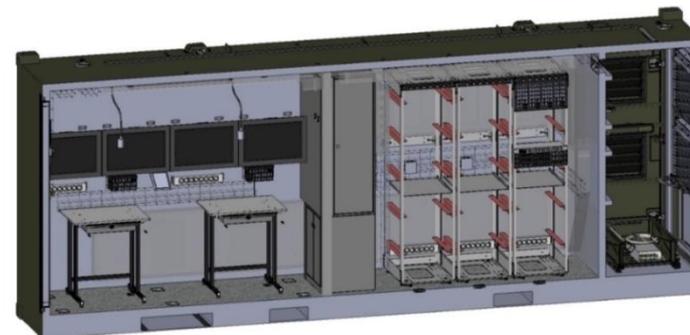
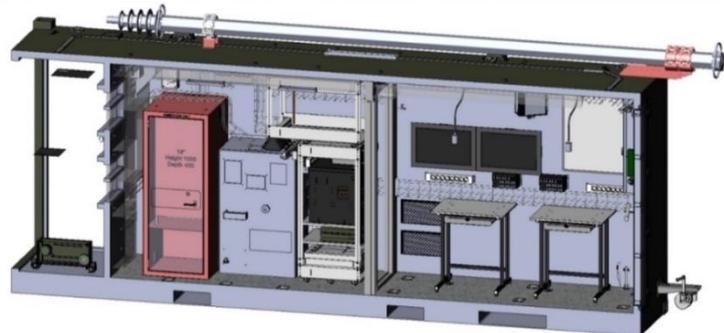
- ISO 1D
- Mobile technical shelter without any fixed workplaces
- Designed for autonomous operation
- 6x 19" IT Racks



# TMS – Technical Mast Shelter

## Key Features:

- Separate space for four operators and section for IT/Radio equipment
- Integrated 25m telescopic mast for antenna systems
- CCTV system with 360° perimeter
- Two LDCs for each operator



# ***MOBILE COMMUNICATION SYSTEM***

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# MOKYS – MOBILE COMMUNICATION SYSTEM

- **Client:** BAE Systems
- **End user:** Slovak Armed Forces
- **Volume:** 35pcs
- **Production:** 2006-2015

The MOKYS provides end-to-end communications between the system command and the individual war fighter and seamless interoperability of voice and data with allied forces.

System is integrated in custom containers and military vehicles which are equipped with

- Ballistic and EMC/EMI protection
- Air-conditioning and NBC systems
- Automatic power generators and UPS
- Communication and IT subsystems

It is a highly mobile and flexible system. Commanders can command subordinated units on the move and maintain communications between each other without the need of a direct connection. However, the system allows the establishment of stationary command centers.

It uses an IP protocol based system architecture and integrates security and automated command and control throughout the system.

The MOKYS presents an integrated communication medium on information transmission in the form of voice, data, fax image and video.

# MOKYS – MOBILE COMMUNICATION SYSTEM

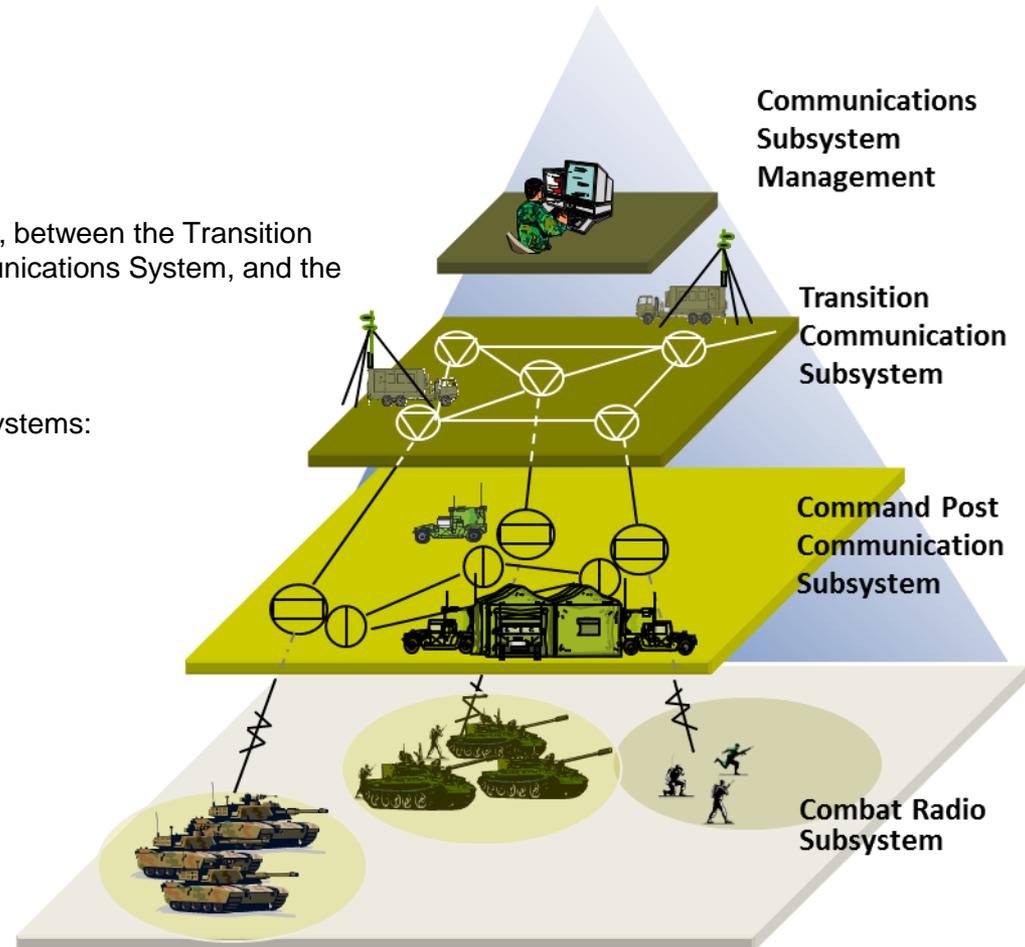
The MOKYS is composed of four main subsystems:

- Combat Radio Subsystem
- Command Post Communication Subsystem
- Transition Communication Subsystem
- Communications Subsystem Management

The System provides bi-directional flow of information, between the Transition Communications System, the Command Post Communications System, and the Combat Radio System.

The MOKYS is based on following communications systems:

- HF radio (LOS and BLOS)
- VHF radio (LOS omni directional)
- UHF network radio
- NATO Band III LOS digital radio relay (8 Mbps)
- SHF LOS radio (34 Mbps)
- WLAN Wire-Less Network
- Optical and metallic lines



# MOKYS – MOBILE COMMUNICATION SYSTEM



# ***MILITARY POWER SOURCES***

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# MILITARY POWER GENERATORS

Designed to be used for powering different kinds of military loads, such as:

- Communication, command and control systems which require EMI protection.
- Field hospitals, field camps, accommodation and sanitary facilities, etc.

Generators can be installed in ISO containers, trailers or custom canopies.

Output power according to customer request.

Developed to provide self-sufficiency power supply when deployed in field conditions, during transport and stationary.

## Optional equipment:

- EMI protection according to MIL-STD461F (army ground)
- Operating temperature -32°C to +49°C
- Designed for all NATO standard fuel types (integrated explosion proof protection)
- Automatic power transfer switch
- Custom sized fuel tank
- Automatic fuel pump
- Remote control
- Coolant preheater and battery charger
- CPU- auto mains failure gen-set controller



# MOBILE CONTAINER POWER STATION

Independent power station integrated into ISO 1C container utilizing solar and wind energy. Ideal for deployment in remote locations without power grid. System is capable for permanent power supply.

## Key features:

- photovoltaic panels with output 7.75 kW
- wind turbines with max. rated power 2 x 2.4 kW
- batteries energy storage up to 1600 Ah
- backup diesel generator set with 5 kW output and additional fuel tank



# ***MOBILE SECURITY SOLUTIONS***

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# MOBILE SCREENING CONTAINER

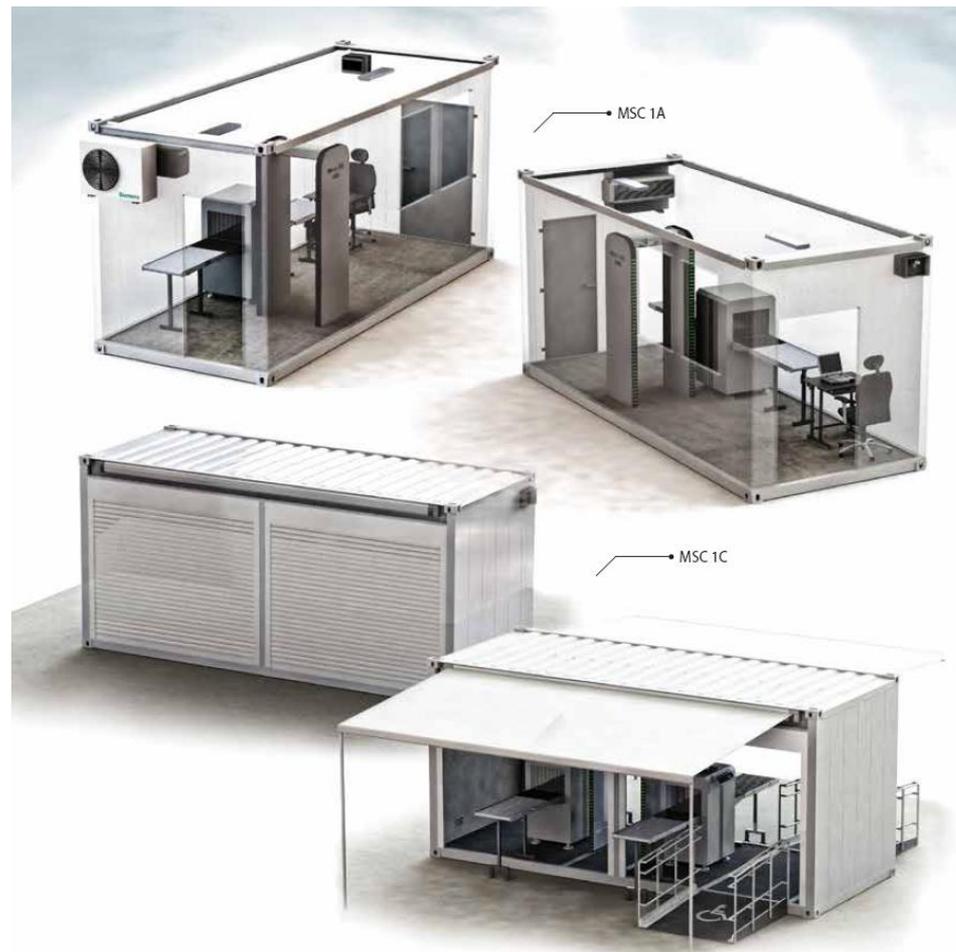
Solution for quick deployment of mobile checkpoint for:

- Customs and Border Protection
- Critical Infrastructure
- Defense
- Law Enforcement
- Event Security

20 ft. Container integrates the Rapiscan X-ray baggage screening system with Metor walk-trough metal detector

## Optional equipment:

- Air conditioning
- Anti-slippery flooring
- CCTV cameras
- External lighting
- Diesel generator
- Other additional equipment according to the customer specification



# FALCON 4G-S – STAND-OFF DETECTOR OF CHEMICAL WARFARE AGENTS

FALCON 4G-S is using laser based technology for stand-off detection of CWAs and BWAs. This technology can be utilized among others for detection of even a small amount of chemical and biological warfare agents with superior sensitivity. It is using active technology to detect agents using their absorption spectra.

## Key features:

- Detection of CWA without physical contact with the agent
- Long detection range (up to 6000m)
- Weight: 28 kg
- Detects all agents with threshold sensitivities required in NATO D/100 Detection Triptych
- 10x higher efficient range than other detectors
- 30x higher sensitivity than other detectors
- Possibility to detect biological agents (CWA)
- Ability to evaluate concentration profiles

## References:

- Slovak Armed Forces
- Proven in the Gulf War



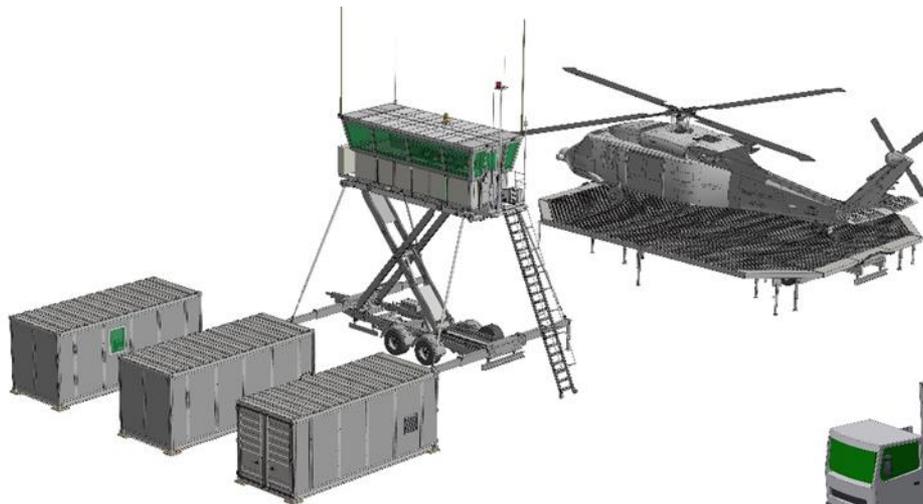
In cooperation with SEC Technologies

# MOBILE AIRPORT – complete solution

Complex system with the features of quick and flexible assembly and disassembly, with the possibility of road or air transport.

Solution consists of the following modules:

- Mobile tower for air traffic control
- Mobile heliport
- Take off and landing runway
- Communication, navigation and information system
- Office, resting, social and accommodation facility
- System of object and physical security



# EXPLOSIVE REACTIVE ARMOUR (ERA) „EXPRO“

Armour protection system able to reduce penetration of shaped charge warheads and kinetic energy projectiles, thereby ensuring the non-perforation of the tank armour and protection of the crew.

**EXPRO** consists of special dynamic blocks, high technology designed explosive and mechanical elements.

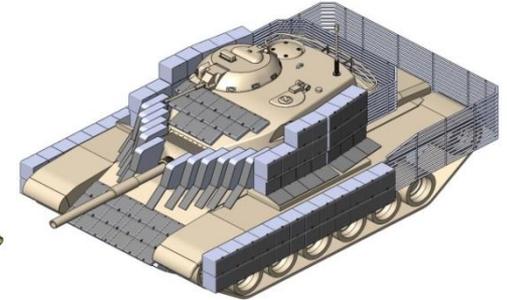
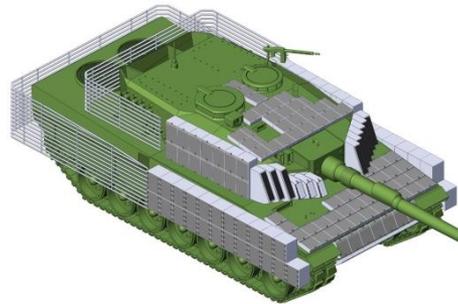
## EXPRO characteristics:

- Safe for handling
- Able to replace blocks in field conditions
- Resistant against fragments and incendiary projectiles (no detonation possibility)
- Individual blocks are proof against effects of small caliber armour piercing incendiary munitions after impact ranging from 12.7 to 30 mm caliber.
- Designed to guarantee no block to block detonation transition
- Applicable in temperature range from +70 °C up to -40 °C

**EXPRO** armour can be designed:

- To fit on any type of the tank
- To protect against various threats
- To provide protection from various angles and elevations

Testing of armour is done in certified institutes under supervision of customer.



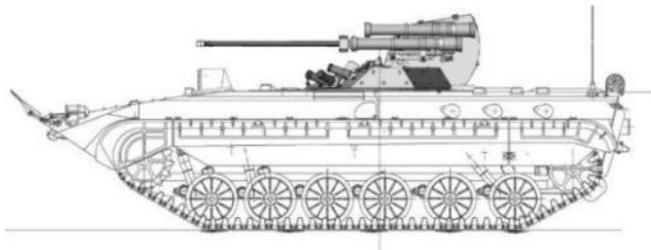
# ***MODERNIZATION AND OVERHAUL OF VEHICLES REVERSE ENGINEERING***

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# MODERNIZATION AND OVERHAUL OF VEHICLES

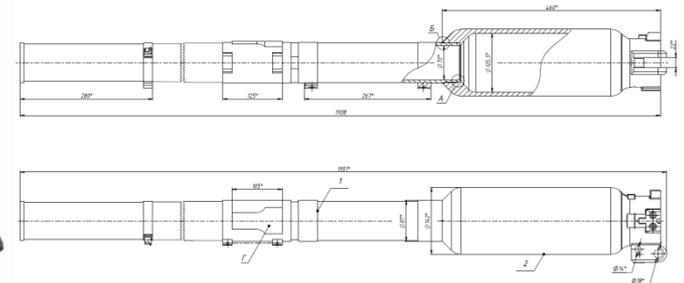
Modernization and upgrade of tracked and wheeled vehicles in following areas:

- Increase of ballistic and mine resistance according to STANAG 4569,
- Integration of NBC protection,
- Integration of auxiliary power generators and air conditioning systems,
- Installation of radio- and IT equipment,
- Application of EMC shielding measures, etc.



## REVERSE ENGINEERING

- Modernization of weapon systems,
- Manufacture of new complets, maintenance, repairs and delivery of spare parts



# ***CIVIL PRODUCTION***

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# CONTAINERS FOR FIREFIGHTERS



## Container for Oil Separation:

Container and its equipment is designed for separation of oil components from water, collecting them and purifying water so that it can be discharged back into the environment without a risk of subsequent contamination.

## Container for Emergency Deployment:

Mobile unit designed to provide facility services for rescue teams and firefighters in remote deployment areas and disaster zones. Designed and equipped to meet the requirement for survival of 50 persons for the period of 50 days.

Container consists of following sections:

- Hygienic section with two showers and a chemical toilet
- Changing room
- Kitchen
- Technical area with water tanks
- Storage section

Including trailer with a 30 kVA power generator and two inflatable tents with area of 56m<sup>2</sup>/each.



# MOBILE MEDICAL EXAMINATION TRAILERS



## Possible applications:

- Mammography examination
- X-ray examination
- Dental clinic
- Operating theatre
- or any custom application

## Trailer consists of following sections:

- Porch
- Waiting room for 6 persons
- Changing cabins
- Examination room
- Staff room with kitchen

## Key features:

- Chassis with pneumatic suspension
- Lead X-ray protection
- Air conditioning
- Floor heating
- Automatic power generator
- UPS
- Audio equipment with speakers in every room
- Anti-theft security alarm
- Wi-fi routers

# CUSTOM MANIPULATORS AND GEAR DRIVES



## Machining industry

- Custom positioners for welding
- Variable load from 2t to 20t
- Operation on multiple axis

## Nuclear industry

- 100 t positioner for welding nuclear pressure vessels
- Pertaining to a hi-tech industrial application
- Strict adherence to EU standards

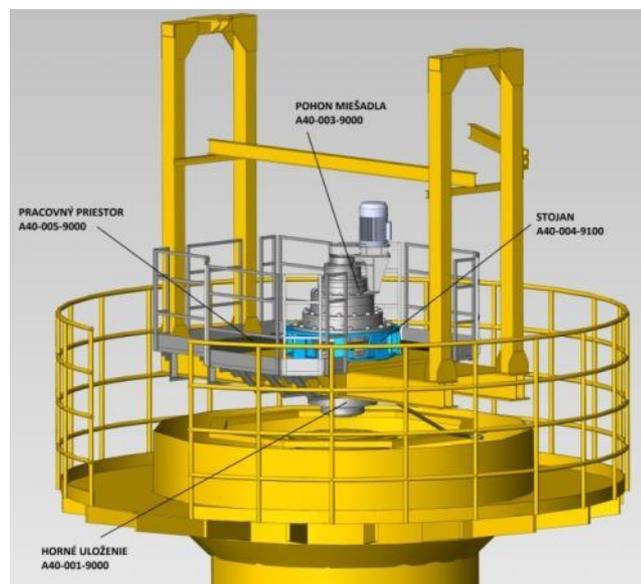


## Pharmaceutical industry

- Extractor gear box to drive a blending machine
- Design, manufacture and installation

## Mining industry

- Gear boxes for crushing machines
- Design, manufacture and installation



# REFERENCES



# THANK YOU FOR ATTENTION

# ĎAKUJEM ZA POZORNOSŤ



ČLEN SKUPINY | MEMBER OF:

