



The Military Technical Institute



About The Military Technical Institute

The Military Technical Institute is a state-owned enterprise established by the Ministry of Defense of the Czech Republic with the aim of providing strategic supplies and services necessary for ensuring the defense and security of the Czech Republic, and fulfilling the obligations arising from the Czech Republic's membership in NATO and the EU.



Unmanned ground vehicle UGV-Pz

Branch factories

The Military Technical Institute was established on September 1, 2012, on the basis of a resolution by the Government of the Czech Republic, in response to a plan by the Ministry of Defense to transform the military repair services enterprise.

The company offers services in the field of research and development, innovation, production of functional models and prototypes, individual and small-scale production, and testing in the field of defense.

It consists of branches specializing in the fields of aviation and air defense, ground forces, and armaments and ammunition:

The Military Technical Institute of Aviation and Air Defense (VTÚLaPVO) Prague 9 – Kbely

The Military Technical Institute of the Ground Forces (VTÚPV) Vyškov

The Military Technical Institute of Armaments and Ammunition (VTÚVM) Slavičín



Milestones

1922
Establishment of the Military Aeronautical Institute, the direct predecessor of **VTÚLaPVO** (renamed the Military Aviation Institute two years later). From then on, the predecessors of VTÚ, s.p., almost continuously assured defense research, development and testing tasks for the benefit of Czechoslovak and Czech armed forces and other entities.

1950s UNTIL 1980s
The institute was subordinate to the Ministry of National Defense from the 1950s and operated as a controlling and coordinating research institute and development facility for military requirements. The individual departments gradually became research facilities for the relevant types of troops or departments of the Ministry of National Defense.

1961
Research and Testing Institute 011 was established in Slavičín. Its area of activity covered artillery and infantry weapons, including ammunition and aiming and guidance systems.

2002
Transformation of VTÚLaPVO into the LOM PRAHA state enterprise is underway.

2003
VTÚPV Vyškov becomes part of VOP-026 Šternberk.

VTÚVM Slavičín becomes part of VOP-026 Šternberk.

2012
VTÚ, s.p., is established on the basis of a resolution by the Government of the Czech Republic.

2018
Development of the state enterprise is taking place. VTÚ, s.p., has operated with a positive balance for the fourth time in a row and has achieved positive operation in all three branches independently for the third consecutive year.

2019
A close partnership with the Israeli IAI/ELTA company, for the assembly of eight MADR systems, is launched at the end of the year on a contractual basis.



1925
The Military Technical Institute, the predecessor of **VTÚPV** and **VTÚVM**, was formed. In **1933** it was merged with the Military Aviation Studies Institute under the name of Military Technical and Aviation Institute (VTLÚ). The Institute provided educational activities in the field of military scientific and technical development according to a special Ministry of National Defense program.

AFTER WORLD WAR II
Resumption of activities under the name of Military Scientific and Technical Institute. Transformed into the Military Technical Institute Prague in **1947**. In addition to research activities, the Military Technical Institute also carried out technical inspections, and provided expert appraisal and consulting services.

1978
Military Institute 010 Vyškov was established. Its main fields of activity became: ground equipment, ground equipment chassis and selected special superstructures.

2013
VTÚ, s.p., takes over the tasks and activities that were assured by LOM PRAHA, s.p., at its branch VTÚLaPVO, and VOP CZ, s.p., takes on tasks and activities previously performed by this company at its branches in Slavičín and Vyškov.

2015
VTÚ, s.p., establishes itself on both the domestic and foreign markets. It provides direct services to foreign armed forces (Latvia). The state enterprise undergoes stabilization. VTÚ, s.p., generates a profit.

2021-2025
VTÚ, s.p., is involved in assembly of the SHORAD system with the Israeli RAFAEL company.

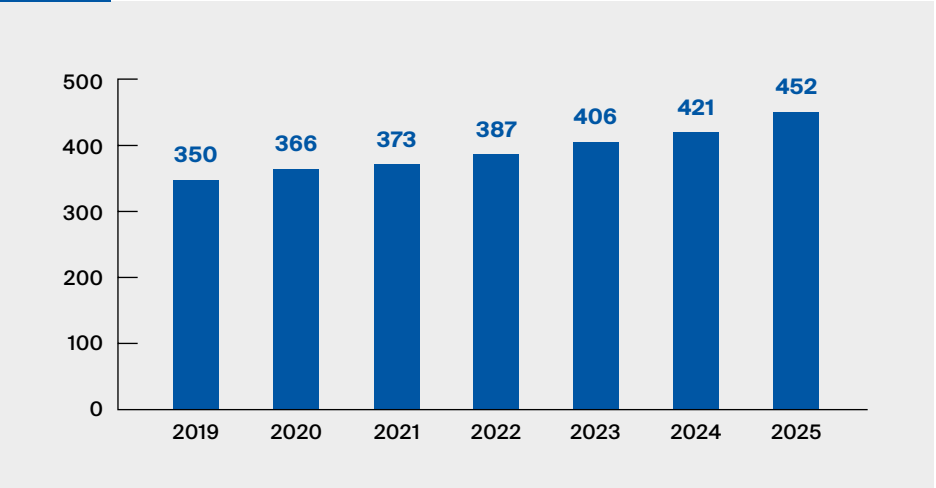
VTÚ, s.p., is deeply involved in research of FMN (Federated Mission Networking) projects during this period.

Briefly in numbers

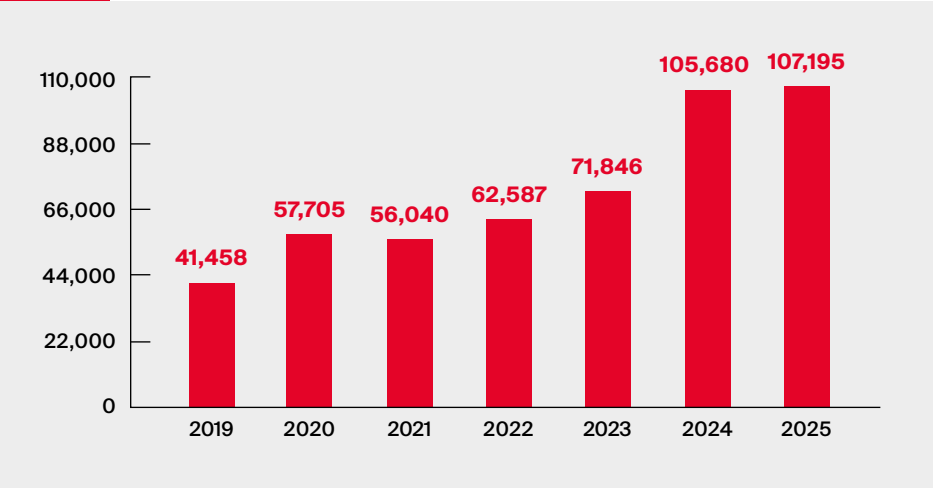
■ 3 branch factories ■ 421 employees ■ 3 accredited test laboratories ■ 43 state research and development projects ■ 1,0392 MM CZK turnover



NUMBER OF EMPLOYEES



TURNOVER IN THOUSANDS OF CZK *



* EBITDA – according to Czech accounting standards (operating result before taxation + depreciation + interest expenses)

AN-25 mobile antenna mast



VTÚLaPVO

The Military Technical Institute of Aviation and Air Defense (VTÚLaPVO)

Mladoboleslavská 944, 197 00 Prague 9 – Kbely

SCOPE OF ACTIVITIES

- Automated command and control systems for aviation and air defense
- Command and control support systems (operational-tactical command and control systems for ground and air forces)
- Development and production of special IT components
- Development of specialized software applications and application systems
- Construction of specialized classrooms and laboratories
- Integration work to ensure the functionality of operational-tactical command and control systems for ground and air forces
- Aviation engineering support
- Airport operations support
- Air radio navigation support
- Avionic, radio, weapons, and special equipment for aircraft
- Air traffic control
- Onboard recording systems and ground evaluation systems
- Testing and certification activities in the area of rescue equipment and parachute technology
- Tasks in the area of paratrooper and rescue training for the requirements of the Czech Armed Forces
- Tribological diagnostics of aircraft engines and transmission units
- Unmanned systems
- Assurance of training of air defense units using unmanned targets
- Special vehicle modifications for the benefit of the military police and the Hydrometeorology Service of the Czech Armed Forces
- Special container installations for the requirements of the Czech Armed Forces, Tactical Radio Communication equipment and IT equipment
- Renovation of historical aircraft and aviation equipment for the Military History Institute



VTÚPV

The Military Technical Institute of the Ground Forces (VTÚPV)

Víta Nejedlého 691, 682 01 Vyškov – Dědice

SCOPE OF ACTIVITIES

- Development, testing, and small-scale production of special equipment for the Czech Armed Forces and the civilian sector
- Testing, certification, and homologation activities for the Ministry of Defense
- Tribological-technical diagnostics of engines, transmission units, and other mechanical systems
- Development, updating, and implementation of professional standards and defense standards
- Development and production of power generators and power units designed for field deployment
- Assurance of mobility and containerization, primarily in relation to the logistical capabilities of ground forces
- Development and production of specialized mobile workstations for the Czech Armed Forces and other security forces
- Implementation of modern technologies and digitization of military systems
- Technical support, innovation, and expert analysis in the field of defense and security technologies



T T815-7-D 8×8 workshop vehicle

VTÚVM

The Military Technical Institute of Armaments and Ammunition (VTÚVM)

Dlouhá 300, 763 21 Slavičín

SCOPE OF ACTIVITIES

- Tasks in the field of weapons, weapon systems, ammunition and explosives, optics, logistical support and testing
- Development of light armored vehicles such as the LOV-Pz, LOV-CBRN, etc.
- Modernization of Sněžka and LOS type reconnaissance and observation artillery systems
- Production and sale of mortars and mortar rounds, ecological disposal of rockets and ammunition



Smoke-generating effect of the SMK-LD mortar round

Testing services

A significant part of the Military Technical Institute's portfolio of services and activities also includes certified testing of its own products, and it also offers this service to the commercial sector.

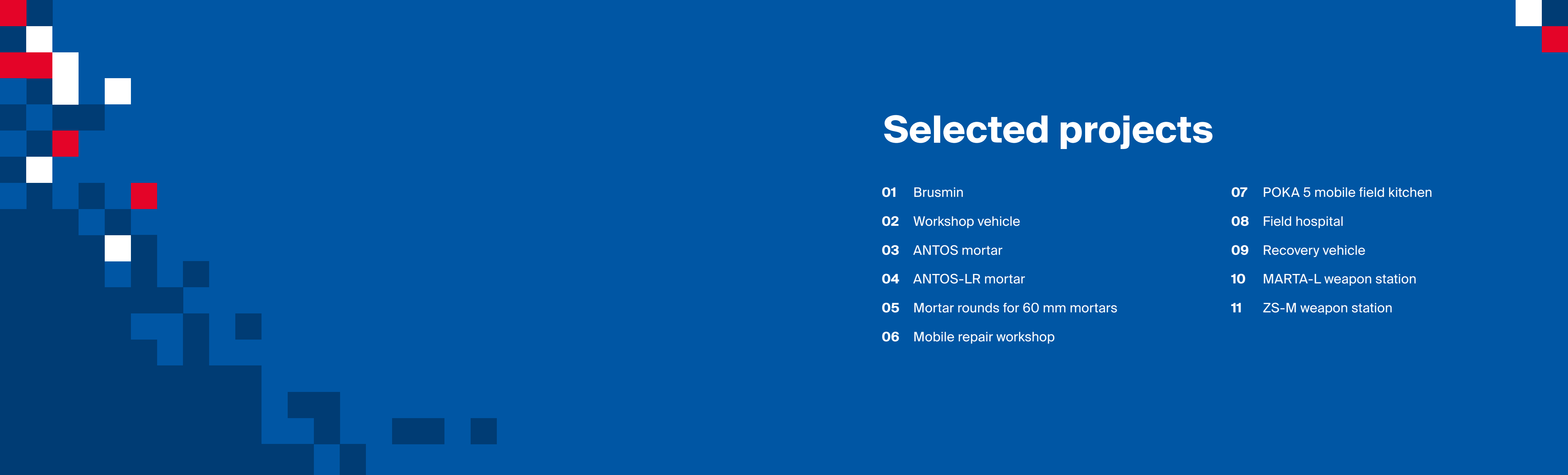
Testing is one of the basic stages related to the introduction of new technology for customer requirements. It immediately follows the stages of research, development, and construction of a functional model or prototype.

The company has three accredited testing laboratories with a total of twelve specialized testing laboratories for this purpose.

SPECIALIZED TESTING LABORATORIES

- Rescue equipment and parachute technology testing laboratory
- Tribodiagnostic laboratory
- Vehicle testing laboratory
- Special measurement testing laboratory
- Electromagnetic compatibility testing laboratory
- Electrical safety testing laboratory
- Diving equipment testing laboratory
- Special systems and fuel and lubricants testing laboratory
- Small arms and protective equipment testing laboratory
- Explosives, ammunition and ammunition packaging testing laboratory
- Ballistic measurement testing laboratory
- Bzenec Test Shooting Range



A decorative graphic consisting of a grid of squares in various shades of blue, red, and white, arranged in a pattern that tapers off towards the right. The squares are of different sizes and are scattered across the top-left and top-right corners of the page.

Selected projects

- | | | | |
|-----------|---------------------------------|-----------|-----------------------------|
| 01 | Brusmin | 07 | POKA 5 mobile field kitchen |
| 02 | Workshop vehicle | 08 | Field hospital |
| 03 | ANTOS mortar | 09 | Recovery vehicle |
| 04 | ANTOS-LR mortar | 10 | MARTA-L weapon station |
| 05 | Mortar rounds for 60 mm mortars | 11 | ZS-M weapon station |
| 06 | Mobile repair workshop | | |

Brusmin

BRIEF DESCRIPTION

The BRUSMIN lightweight bombing platform is a universal platform, which can be installed under a customer's drone with the corresponding load-bearing capacity, in place of its original undercarriage. In this case, the BRUS drone is used as the platform carrier. The platform consists of a rigid structure with four supports that replace the undercarriage, and integrates a device for suspending and releasing four pieces of special bombardment munition based on the 60 mm HEI-LD mortar round.

KEY FEATURES

- Gradual release of mortar rounds – remotely controlled by the platform's servomotors
- Manual loading of mortar rounds before takeoff – inserted into the guide tube and automatically secured by a spring
- Magnetic connectors – easy and safe connection of electric initiators to the drone
- Remote control – the operator controls release of the mortar round and disarms the initiators from the drone's panel
- Securing the ammunition – the option of disarming the initiators for safe landing and further use
- Safe handling and transportation – the electric initiators do not have an active power source
- Automatic timing of initiation – the option of setting the explosion depending on the drop height or setting an automatic destruct time
- Serial communication with the drone – the platform's control unit communicates with the drone via a serial link
- Extremely safe 60 mm ammunition – plastic explosive with electric impact fuse
- Modular capacity – the platform can be structurally adapted to carry 1 to 18 mortar rounds depending on the drone's load capacity

USE IN PRACTICE

The BRUSMIN lightweight bombing platform is used to destroy enemy infantry, both sheltered and unsheltered, and lightly armored vehicles using 60 mm controlled-release ammunition. It is designed for installation under both special and commercial drones.

The platform can be structurally adapted to carry 1 to 18 mortar rounds depending on the drone's load capacity. If the platform is required to carry four mortar rounds (see TTD), a payload capacity of at least 8.2 kg is needed.

Note: The product sheet gives detailed technical information

Workshop vehicle

BRIEF DESCRIPTION

The T 815-7-D 8×8 workshop vehicle is specially designed for technical maintenance of and repairs to wheeled armored vehicles under various climatic and field conditions. The armored cabin allows for safe transportation of the crew and firing from the roof hatch using a mounted gun.

KEY FEATURES

- Efficient storage and transportation – the vehicle is equipped with a shelving and rack system for organizing equipment and tools
- Field deployment – the design and equipment are optimized for quick and effective technical support of armored units under challenging conditions
- The Tatra 815-7 chassis – uses a proven and reliable chassis suitable for operation in extreme terrain
- Ballistic protection – the armored cabin provides increased protection and safety for the crew when deployed in high-risk areas

USE IN PRACTICE

The T 815-7-D 8×8 workshop vehicle is an essential element for supporting armored units in combat or during exercises. It ensures repairs in remote or high-risk areas during both peacetime and wartime operations.



Note: The product sheet gives detailed technical information

ANTOS mortar

BRIEF DESCRIPTION

The ANTOS mortar is a lightweight, hand-held 60 mm mortar designed for paratrooper and special forces units. It is made of high-strength aluminum alloys, titanium, and plastics, ensuring its low weight and high durability. The modular design offers a wide range of variability in terms of features and equipment, while the integrated liquid sight allows for accurate determination of the firing range.

KEY FEATURES

- Lightweight construction – most of the parts are made of aluminum alloys, titanium, and plastics for easy handling and low weight
- Modular design – the option of customizing the mortar variants to requirements for features and equipment
- Integrated sight – liquid sight, which clearly displays the firing range
- High mobility – the compact design allows for easy handling and unhindered movement, even in difficult terrain

USE IN PRACTICE

The ANTOS mortar is ideal for special and paratrooper units, where a quick and precise mortar strike is needed. Due to its compact size and high mobility, it is ideal for operations in difficult terrain, under cover or behind enemy lines, where it is crucial to quickly assume a firing position and maintain a high rate of fire. This mortar is effective when conducting special operations, where the high fragmentation effect of the round on impact is important.



Note: The product sheet gives detailed technical information

ANTOS-LR mortar

BRIEF DESCRIPTION

The ANTOS-LR mortar is an ultra-lightweight 60 mm mortar, made of high-strength aluminum alloys, titanium, and plastics. This design makes the mortar very mobile, easy to use, and effective for paratrooper, reconnaissance, and special units. Its standardized 60.7 mm caliber allows the use of mortar rounds produced in the Czech Republic and selected NATO mortar rounds.

KEY FEATURES

- Ultra-lightweight construction – a combination of aluminum alloys, titanium, and plastics ensures the weapon’s low weight and high durability
- Standardized caliber – the 60.7 mm caliber allows for the use of a wide range of rounds, including those produced by the Czech Republic and NATO
- High mobility – ideal for rapid movement and deployment under difficult conditions
- Flexible use – the ability to eliminate infantry, firing systems, defensive barriers, and various enemy targets

USE IN PRACTICE

The ANTOS-LR mortar is ideal for increasing the firepower of paratrooper, reconnaissance, and special forces units, where rapid and precise strikes are required. Due to its compact size and ultra-lightweight design, the mortar is highly mobile and easy to deploy, even in difficult terrain. It is designed to destroy enemy infantry and firing systems located in shelters or trenches, to eliminate defensive barriers, observation posts, assembly areas, camps and bases, and also to eliminate firing locations and centers of resistance.



Note: The product sheet gives detailed technical information

Mortar rounds for 60 mm mortars

60 mm mortar rounds manufactured according to NATO standards are designed for firing from light, portable ANTOS and ANTOS-LR mortars. The mortar round is delivered to the customer with a preloaded primary charge and additional charges, and is stored in a waterproof plastic container. The mortar rounds in plastic containers are packed in a metal, hermetically sealed container containing 8 pieces.

60 mm HEF, HEF M2A, HEF M2B and HEI, HEI M2A, HEI M2B mortar rounds

The 60 mm HEF and HEI mortar rounds are designed to destroy and silence unprotected and sheltered enemy personnel, or lightly armored enemy equipment. HEF-type ammunition is charged with TNT explosive (fragmentation-explosive) and HEI-type ammunition is charged with HTX explosive (fragmentation-explosive, incendiary). The modernized M2A and M2B mortar rounds contain a polymer sealing ring to reduce barrel wear and increase gas sealing, resulting in significantly lower wear and extended barrel life. The M2B type contains an additional “horseshoe” shaped charge that can be removed and reattached to the mortar round. All of these rounds are equipped with a NATO-standard head impact fuse.



TRAIN (JUMP) 60 mm mortar round

The TRAIN (JUMP) 60 mm mortar round is used for initial mortar operator training, primarily for practicing preparation of the weapon and mortar round for firing, loading, aiming, and firing the weapon. The mortar round contains an inert filling and is equipped with a rubber dummy fuse. The round is reusable and is fired from the barrel using a small propellant 9×28 mm TEMPO 6 cartridge inserted into the stabilizer carrier. After the round is fired, it is cleaned, the stabilizer is unscrewed and the spent cartridge is removed. Firing can be repeated after a new cartridge is loaded.



SMK 60 mm mortar round

The SMK (SMOKE) 60 mm mortar round is designed to generate smoke over an area in the terrain to cover one’s own units or as a smoke signal to mark areas of interest for the operation of other weapon systems and aircraft. A smoke screen is generated at the impact point as a result of burning of a pyrotechnic compound based on red phosphorus. This round is equipped with a NATO-standard head impact fuse. Greater smoke density compared to mortar rounds containing white phosphorus.



ILL and ILL-IR 60 mm mortar rounds

The ILL and ILL-IR 60 mm mortar rounds are designed to illuminate the area of interest when supporting combat at night or under conditions of reduced visibility. The round contains a flare that is ejected into the air and slowly descends on a parachute, spiraling to provide maximum illuminating effect. The ILL round’s flare primarily emits light in the visible spectrum by burning a pyrotechnic compound, while the ILL-IR round’s flare emits light in the near infrared spectrum, with maximum emission in the 800 to 900 nm wavelength range.



Note: The product sheet gives detailed technical information

Mobile repair workshop

BRIEF DESCRIPTION

The Mobile repair workshop (MRW) is designed to ensure both scheduled and unscheduled maintenance of and repairs to damaged aviation equipment in the field. It is chiefly used in relation to transport and combat helicopters.

KEY FEATURES

- Scheduled and unscheduled repairs – allows for repairs without the need to transport equipment to stationary servicing centers
- Deployment under challenging conditions – the ability to operate in areas with limited infrastructure, during military operations, humanitarian and crisis interventions
- Rapid restoration of operational capability – efficient repairs of aviation equipment, even in hard-to-reach or extreme environments
- Field maintenance – the equipment’s design allows for repairs in the field, thereby increasing operational efficiency and reducing logistic requirements for transporting damaged equipment
- Durability under extreme conditions – the equipment is designed for operation under demanding climatic conditions, which ensures its reliability and efficiency even in extreme environments

USE IN PRACTICE

The MRW is ideal for situations where the function of aviation technology needs to be rapidly restored, which is especially crucial in areas with limited access to traditional servicing resources or during crisis operations.



Note: The product sheet gives detailed technical information

POKA 5 mobile field kitchen

BRIEF DESCRIPTION

The POKA 5 mobile field kitchen is designed for preparing, heating and dispensing high-quality hot food for military units under field conditions, both in the Czech Republic and on foreign missions. It is also used to transport staff, food supplies, drinking water and fuel.

KEY FEATURES

- Preparation of meals – it allows for the preparation of ingredients, cooking of meals (boiling, frying, baking) and the heating of pre-cooked meals
- Flexibility and mobility – the unit includes a vehicle and trailer adapted for easy transport even in difficult terrain, including the option of rail transport
- Autonomous operation – full operational autonomy is assured by an independent power source and a supply of drinking water
- Hygienic and safety measures – the equipment includes a water heating system for staff hygiene and washing equipment, ensuring safe and clean operation

USE IN PRACTICE

The POKA 5 mobile field kitchen is designed to be used under extreme climatic conditions (from -32°C to +44°C) and can also operate in environments affected by weapons of mass destruction.



Note: The product sheet gives detailed technical information

Field hospital

BRIEF DESCRIPTION

The field hospital is a comprehensively equipped mobile medical and logistical unit, designed to be deployed in crisis situations such as natural disasters, mass traffic accidents, epidemics, humanitarian missions or mass migration. It offers all the necessary facilities for providing quality healthcare in remote and hard-to-reach areas, including support for personnel and patients (electricity, water, food, waste). Thanks to its modular design and fully equipped infrastructure, this hospital is flexible and adaptable to specific needs in various crisis areas.

KEY FEATURES

- **Medical section**
 - admission and triage department, X-ray department, operating theaters and intensive care units
 - isolation section and laboratories (including dental and mobile medical unit)
 - preparation and post-surgery areas, sterilization, evacuation unit and mortuary
- **Logistics section**
 - power supply, kitchen unit, accommodation units, toilets, showers and laundry
 - vehicle fleet and food and fuel storage

USE IN PRACTICE

The field hospital has been deployed on several UN peacekeeping missions, including areas such as Kosovo, Bosnia, Kuwait, Afghanistan, Iraq and Eritrea, where it has proven its reliability and effectiveness even under challenging conditions. It is ideal for deployment in crisis situations, such as natural disasters, humanitarian and military missions, or epidemics and pandemics.



Note: The product sheet gives detailed technical information



Recovery vehicle

BRIEF DESCRIPTION

The T 815-7-D 8x8 recovery vehicle is designed to recover, tow and evacuate damaged wheeled armored equipment, especially KBV and KOT armored personnel carriers. It can also tow TATRA T815, T810 vehicles and light armored vehicles such as the IVECO and DINGO, using a tow bar or rear lift fork. The vehicle is fully functional under various climatic conditions and in various terrains.

KEY FEATURES

- Rapid transportation of a crew – allows for quick movement to the scene of the incident with ballistic protection and the option of firing from the roof hatch
- Removal of damaged equipment – the vehicle is equipped with devices for towing and handling damaged vehicles
- Secure transportation and evacuation – capable of evacuating up to two crew members in a safe environment
- Technical assistance in the field – provides a wide range of repairs thanks to a logistical tool kit and specialized repair equipment

USE IN PRACTICE

The T 815-7-D 8x8 recovery vehicle is used to recover and evacuate damaged wheeled armored vehicles, such as the KBV and KOT armored personnel carriers, TATRA vehicles (T815 and T810 series), and light armored vehicles such as the IVECO and DINGO, while coping with various climatic conditions and terrain.



Note: The product sheet gives detailed technical information

MARTA-L weapon station

BRIEF DESCRIPTION

The MARTA-L remotely controlled robotic weapon station is a reconnaissance and firing system with advanced computer support for the operator, which allows the application of AI algorithms and augmented reality.

KEY FEATURES

- Destruction capability – the station is equipped with a 7.62 mm FN MAG machine gun, enabling combat against personnel, unarmored vehicles, and LSS category drones
- Battlefield reconnaissance and target acquisition during the day and at night – the station is equipped with a compact multispectral sensor container, which includes:
 - its own control unit
 - LWIR camera with uncooled detector
 - two daylight color targeting cameras
 - laser rangefinder and marker
 - optional installation of a laser target designator on the elevation part of the station
- Observation and monitoring capabilities – advanced software features including:
 - automatic area surveillance
 - automatic target recognition and tracking
 - optional installation of a separate observation camera system (IPoS3) with hardware support for augmented reality

USE IN PRACTICE

The MARTA-L weapon station is suitable for installation on unmanned vehicles, primarily on the IVECO LMV vehicle, where it enables battlefield reconnaissance and fire for the vehicle’s own protection, both from a stationary position and while moving thanks to two-axis stabilization of the ZS external mount, in the daytime and at night.

Note: The product sheet gives detailed technical information



ZS-M weapon station

BRIEF DESCRIPTION

The ZS-M weapon station is a remotely controlled weapon platform with a mounted 12.7 mm M2HB-QCB machine gun positioned on an MS3M manipulator. It offers precise weapon guidance, not only in the context of ground operations, but also against drones. The system consists of an external mount and an operator's workstation with an integrated control unit and a control panel with two joysticks. The ZS-M is equipped with an advanced high-resolution sensor unit and a high-capacity ammunition magazine. Power is provided by an integrated power system with a high-capacity battery, which allows for extended operation under demanding conditions.

KEY FEATURES

- Remote control – weapon station with 12.7 mm M2HB-QCB machine gun on an MS3M manipulator platform
- Modular design – external mount and operator's workstation with control unit and two joysticks
- Multi-purpose manipulator – optimized for ground operations and counter-drone operations
- Weapon automation – cradle with machine gun with recoil suppression, electromagnetic trigger, automatic weapon cocking, and a shot counter
- Ammunition capacity – 600 rounds in a high-capacity magazine with the option to use smaller magazines for 200 rounds
- Advanced sensors – sensor unit with 8K daytime TV camera, overview FHD camera with zoom, and IR camera (1280×1024)
- Power supply – integrated power system with a high-capacity rechargeable battery for extended operation

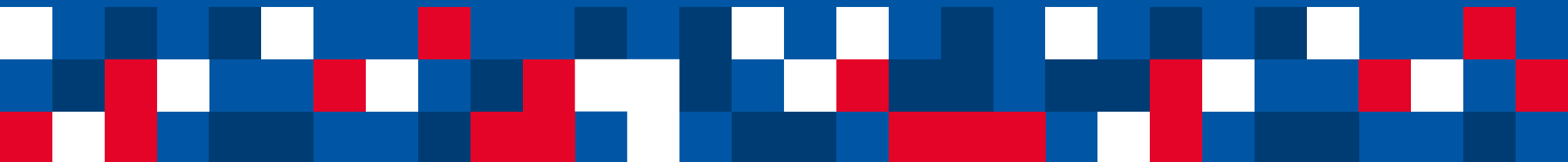
USE IN PRACTICE

The ZS-M weapon station is suitable for installing on light armored vehicles, armored personnel carriers and other support vehicles, as well as on various commercial platforms, such as pickups, flatbed trucks, etc. A framework structure was developed for attaching the external gun mount to the vehicle's body in order to install the weapon station on the Toyota Hilux pickup platform.

Note: The product sheet gives detailed technical information



Bzenec Test Shooting Range



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