



Honorary Patronage
of the President of the Republic of Poland
Andrzej Duda



30 LAT-YEARS mspo

review



International Defence
Industry Exhibition



Türkiye Lead Nation



HONORARY PATRONAGE
OF THE PRESIDENT OF THE REPUBLIC OF POLAND
ANDRZEJ DUDA

STRATEGIC PARTNER



SUPPORTING INSTITUTIONS

- Ministry of National Defence
- Ministry of Development
- Minister of Foreign Affairs
- Ministry of Interior and Administration
- Minister of Science and Higher Education
- National Security Bureau
- Internal Security Agency
- General Staff of the Polish Armed Forces
- General Command of Branches of Armed Forces
- Operational Command of Branches of Armed Forces
- Military Police Commander in Chief
- Inspectorate for Armed Forces Support
- Border Guard Headquarters
- Polish Police Headquarters
- National Fire Services Headquarters
- Polish Chamber of National Defence Manufacturers
- Parliamentary Committee of National Defence
– the Lower and Upper Chamber
- Parliamentary Committee of Internal Affairs

MEDIA PARTNERS



Ladies and Gentlemen

The jubilee, the 30th International Defence Industry Exhibition, brought together 613 exhibitors from 33 countries, including 312 Polish companies. Twenty five thousand guests from around the world attended MSPO 2022, and another 10,500 visited its Open Day. MSPO was visited by the guest of honour, President Andrzej Duda. In addition to the President, the event was also graced with the presence of Prime Minister Mateusz Morawiecki and Mariusz Błaszczak, Minister of National Defence and Paweł Soloch, the head of the National Security Bureau. The Turkish delegation which prepared the Lead Nation Exhibition was chaired by the Minister of National Defence, Hulusi Akar. The commanding staff of the Polish Army also took part in the event.

I sincerely hope that MSPO was a valuable time and the expo talk shop will bear fruit in the future.

The satisfaction of the Exhibitors, including the expo Strategic Partner, i.e Polish Armaments Group, is of particular importance to us. I do believe the Group's companies also find MSPO a meaningful discussion platform. The business talks time benefits long-term business liaisons.

I would like to thank all MSPO Exhibitors and guests for your trust in us during this challenging time. We find this a tremendous honour and privilege. Our utmost care for safety and security is MSPO's greatest priority. We are always ready to go the extra mile in the future in order to fulfil your expectations.

I wish to express my thanks for your presence. Let me use this opportunity and invite you to join the upcoming MSPO held in 2023.

Andrzej Mochoń PhD.
President of Board, CEO
Targi Kielce



I HONORARY COMMITTEE



HONORARY PATRONAGE
OF THE PRESIDENT OF THE REPUBLIC OF POLAND
ANDRZEJ DUDA

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- Mariusz KAMIŃSKI Minister of Interior and Administration
- Andrzej ŚLIWKA Undersecretary of State, Ministry of State Assets
- Waldemar BUDA Minister of Economic Development and Technology
- Paweł SOLOCH Secretary of State, Head of the National Security Bureau
- Michał DWORCZYK Secretary of State, the Prime Minister's Chancellery
- płk Krzysztof WACŁAWEK Internal Security Agency Head
- Jarosław RUSIECKI Chairpersons of the Senate Committee of National Defence
- Michał JACH Chairpersons of the Parliamentary Committee of National Defence
- Wiesław SZCZEPAŃSKI Chairperson of the Parliamentary Committee of Administration Internal Affairs
- gen. Rajmund T. ANDRZEJCZAK Chief of the General Staff of the Polish Armed Forces
- gen. Jarosław MIKA General Commander of Branches of Armed Forces
- gen. bryg. Artur KĘPCZYŃSKI Chief of Inspectorate for Armed Forces Support
- gen. broni Tomasz PIOTROWSKI Head of Polish Operations Command of the General Command of Branches of Armed Forces
- gen. broni Wiesław KUKUŁA Command of Territorial Defence Forces
- gen. dyw. Tomasz POŁUCH Military Police Commander in Chief
- gen. dyw. SG Tomasz PRAGA Commander in Chief of the Border Guards
- nadbryg. Andrzej BARTKOWIAK Chief Commander of the State Fire Services
- Director of the National Centre for Research and Development

Programme Board



PROGRAMME BOARD PRAESIDIUM

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the Head of the Board of Logistics Planning Department - J4 of the General Command of Branches of Armed Forces

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Deputy Chief of Inspectorate for Armed Forces Support of the Republic of Poland, Chief of Logistics

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Świętokrzyskie Voivodeship Commander of the State Fire Services

Brigadier General Maciej KLISZ
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Paweł SOBCZYK
Deputy Director of the Department Strategic Projects of the Ministry of State Assets

Brigadier General Robert JĘDRYCHOWSKI PhD.
Deputy Commander in Chief, the Military Police Headquarters

A magnificent MSPO jubilee goes down in history!



On the eve of the opening ceremony of the 30th International Defence Industry Exhibition MSPO, President of the Republic of Poland Andrzej Duda visited Targi Kielce and bestowed orders and distinctions to several Kielce Expo Centre's employees. For merits in the development of the exhibition sector in Poland, the President of Targi Kielce, Andrzej Mochoń PhD., was awarded the Officer's Cross of the Order of Polonia Restituta. Vice-President Bożena Staniak was bestowed with the Knight's Cross of the Order of Polonia Restituta.

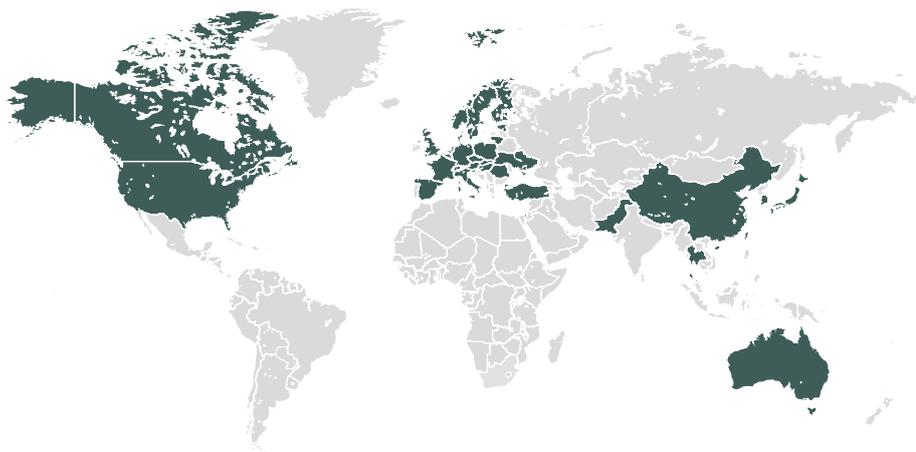
The 30th anniversary of the Targi Kielce's International Defence Industry Exhibition featured a unique gala evening; the function was attended by the expo centre's employees, exhibitors and guests of honour. The unique nature of the event was emphasized by the performance of dancers from the Kielce Dance Theatre, who presented the „Unobvious History of Cinderella” performance.

A film prepared to mark the 30th MSPO jubilee for the participants of the MSPO jubilee gala focussed on the history of the defence show. Less obvious beginnings of the idea, which dates back to the January Uprising, through the Old Polish District and then the Central Industrial District, created many years later, to the controversy surrounding the first edition of the Exhibition. The film also presented the latest MSPO history, which was also full of challenges. The Centre's survival during the COVID-19 pandemic was one of the greatest.

Special guests also shared their memories with the meeting participants. People taking the floor at the gala ceremony witnessed the International Defence Industry Exhibition development for several decades. The speakers' list included former Minister of National Defence Janusz Onyszkiewicz, former Secretary of State in the Ministry of National Defense Romuald Szeremietiew and former Chief of the General Staff of the Polish Army Mieczysław Cieniuch.



The Record-breaking Jubilee

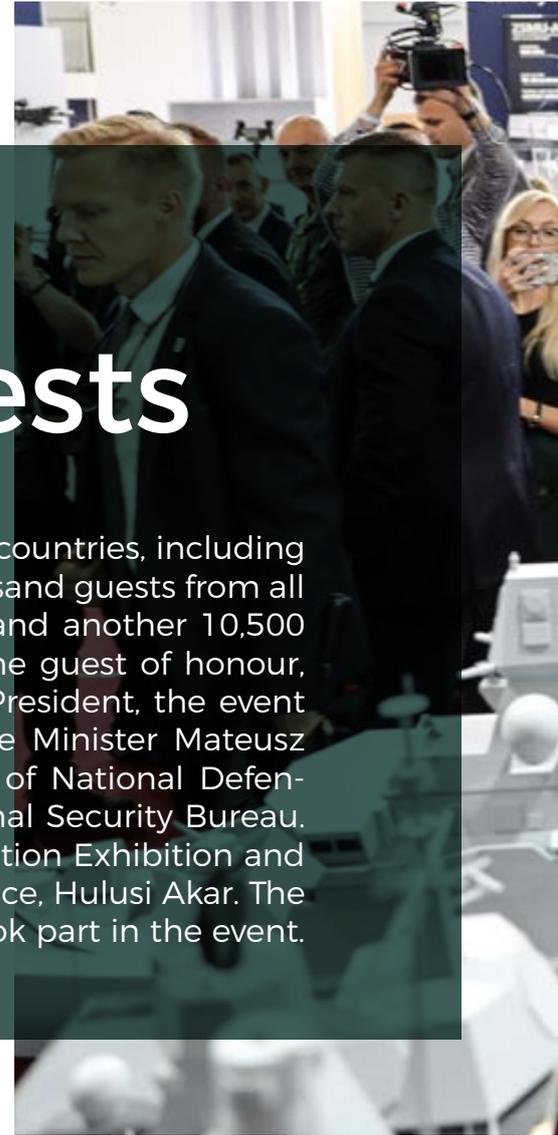


Exhibitors from 33 countries: Australia, Austria, Belgium, China, Czechy, The Czech Republic, Estonia, Finland, France, Spain, The Netherlands, Israel, Japan, Canada, Qatar, South Korea, Lithuania, Germany, Norway, Pakistan, Poland, Romania, Slovakia, United States, Switzerland, Sweden, Thailand, Taiwan, Türkiye, Ukraine, Hungary, Great Britain, Italy

- 
614 exhibitors from **33** countries
- 
29 657 m² of the exhibition space
- 
60 foreign delegations from **39** countries
- 
25 000 guests from all over the world and 10 500 visitors on the day opened to the public

MSPO hosts important guests

The trade fair hosted 60 delegations from 39 countries, including eight at the ministerial level. Twenty five thousand guests from all corners of the world attended MSPO 2022, and another 10,500 visited its Open Day. MSPO was visited by the guest of honour, President Andrzej Duda. In addition to the President, the event was also graced with the presence of Prime Minister Mateusz Morawiecki and Mariusz Błaszczak, Minister of National Defence and Paweł Soloch, the head of the National Security Bureau. The Turkish delegation prepared the Lead Nation Exhibition and was chaired by the Minister of National Defence, Hulusi Akar. The commanding staff of the Polish Army also took part in the event.



The head of the Armed Forces has paid a visit to Targi Kielce for the fifth time; however, due to other obligations, the President was unable to participate in MSPO as he had done in previous years. In order to mark the 30th anniversary of the Expo, Mr Andrzej Duda resolved to visit the Kielce exhibition and congress centre a day before the International Defence Industry Exhibition's commencement.



- The war made us all realize that the time of peace is over. This fact became an impulse for developing our domestic defence industry and exceptional care for security. Therefore, we need to modernize our armed forces rapidly. From this point of view, it was genuinely visionary to develop this event, i.e. the International Defence Industry Exhibition - said the President of the Republic of Poland.

The appreciation for the 30-year history of MSPO was also expressed by Prime Minister Mateusz Morawiecki and Deputy Prime Minister and Minister of National Defence Mariusz Błaszczak.





Türkiye Lead Nation

Turkey has joined the International Defence Industry Exhibition in the capacity of the Lead Nation for the second time. Thus: Targi Kielce has become the presentation platform for the latest equipment and technologies produced by Turkish companies and used by Turkish troops. The President of the Republic of Poland, Andrzej Duda, visited the Turkish National Exhibition a day before the expo's official commencement.

30 Turkish companies, institutions and organisations marked their presence at MSPO. Baykar had the largest expo stand. The company brings one of the most efficient drones in the world - its Bayraktar TB2, the unmanned aerial vehicle gas generated an avid interest because of its extensive use for Ukraine's defence in the war. The guided missiles were presented by Roketsan, and the tactical wheeled armoured carriers were showcased by the NuroL Makina.

The Minister of National Defence of the Republic of Turkey, HULUSI AKAR, devoted attention to the issue of Polish-Turkish cooperation when addressing the public at the official expo commencement ceremony. On the occasion of the 30th anniversary of MSPO, the Mehteran band, the oldest military music ensemble in the world, presented a unique, emotional performance, winning the hearts of the audience.

The first MSPO Lead Nation Exhibition organised by Turkey was staged in 2013.



MSPO 2022's Star

Nobody could turn a blind eye to it. On the contrary, everyone wanted to see it and have a selfie with it. The famous Turkish Bayraktar drone was exhibited for the first time in Poland at the Targi Kielce's International Defence Industry Exhibition.

The Turkish Bayraktar drone has recently gained extensive publicity all over the world. Bayraktar is on everybody's

lips owing to its incredible effectiveness in the war in Ukraine. The Ukrainian army, equipped with crewless aerial vehicles, inflicts heavy blows on Russian troops.

Bayraktars have already proven their efficiency in Ukraine; thus, the Turkish producer cannot complain about shortages of orders. Poland has also joined the list of countries that have resolved to provide their army with these cutting-edge combat devices. Our government ordered 24 drones, the first of which was displayed at this year's MSPO.



Bayraktar
MSPO

Agreements and contracts signed during MSPO

The thirtieth International Defence Industry Exhibition was exceptionally successful for the Polish Armaments Group. The four days expo saw a plethora of agreement-signing ceremonies. These have significantly increased the importance of the Polish company in the national and international arena.

The contract for over 3.8 billion PLN between the Armaments Agency and PGZ's Huta Stalowa Wola was approved as the first. Mariusz Błaszczak - the Minister of National Defence, signed the contract. According to the agreement, Stalowa Wola Steel Works is to provide the Polish army with two division-fire modules, Regina, with 48 Krab self-propelled howitzers and 36 accompanying vehicles, including command, command-staff and ammunition vehicles, as well as a logistics and training package. The contract will be implemented in the 2025-2027 period.



On 7 September, the president of Polish Armaments Group, Sebastian Chwałek, and the president of Hyundai Rotem, Lee Yong-bae, signed an agreement on cooperation between the two companies on unmanned land platforms and the commencement of work on the development of next-generation tank technology.

On the same day, the South Korean Hanwha Defense and Polish Armaments Group signed a memorandum setting out the partnership principles for production, servicing, life cycle costs and future development of K9 self-propelled howitzers, infantry fighting vehicles and multiple rocket launchers. In addition, the memorandum defines the distribution of roles and responsibilities in the Polish-Korean industrial partnership as part of the project to purchase 672 self-propelled howitzers of the K9 family.



The two agreements with the American REB Technologies and Defense Solutions GT from the United Arab Emirates were also signed.

Agreement with REB Technologies Inc. relates to cooperation in the joint offering of the PNL-3M Air Night Vision Goggles manufactured by PCO SA targeted at foreign markets and the modernization of helicopters and airframes for the use of night vision devices as well as training in night vision goggles pilotage offered by REB Technologies Inc. The Defense Solutions GT agreement concerns optoelectronic training provided by PCO SA for representatives of the United Arab Emirates Armed Forces (UAE Armed Forces).

The Polish Armaments Group also strengthened its cooperation with Targi Kielce. On 9 September, the agreement on collaboration between the Polish Armaments Group and the Metrology Cluster was signed. The Targi Kielce President of Board, Andrzej Mochoń PhD, and the president of PGZ, Sebastian Chwałek were the document signatories.





Accompanying events

From the first day of the jubilee MSPO, the exhibition of military equipment and modern technology is accompanied by numerous dynamic shows that attract a prominent group of people and generates an avid interest. The latest anti-drone systems, modern tools used by the military, unmanned aerial vehicles and thermal imaging cameras; these are only some examples of the assortment proudly presented at show demonstrations.

The MSPO exhibition was traditionally complemented and enhanced by the Republic of Poland's Armed Forces Exhibition held under the banner of „The Homeland Defence - Duty and Honour for Every Soldier.”

The uniformed-class students of secondary schools gathered at the International Defence Industry Exhibition for the official roll-call headed by the Minister of National Defence Mariusz Błaszczak. - You are the next, young generation of Polish Army soldiers. Most of you, when asked what they intend to do after graduating from high school, revealed their plans. They want to continue their military education. I am very happy about this. The ceremony of the school year commencement for uniformed classes traditionally takes place during the International Defence Industry Exhibition - said Minister Mariusz Błaszczak.

Despite unfavourable weather conditions, crowds visited the MSPO Open Day. The exhibition prepared by the Polish Army welcomed guests on Saturday, 10 September.

Heavy-duty equipment located outdoor exhibition grounds has always proven to be the most popular of the visitors. Krab cannons, Leopard tanks, infantry fighting vehicles, Rosomak armoured personnel carriers and much more. The show was a bit less crowded due to the rain, but many people watched the presentations anyway. In the A expo hall, the American MRAP Cougar expo stand attracted crowds of visitors. Military universities featured equally exciting booths. Virtual reality simulators, used for training soldiers without the use of actual combat equipment, increasing the exercise realism were a natural magnet for the expo guests.



30 LAT-YEARS mspo



Awards and prizes

Proud to serve Polish and European Security



DEFENDER Gala Awarding Ceremony

The jubilee, the 30th International Defence Industry Exhibition, culminated in the DEFENDER awarding ceremony. The accolade in the MSPO competition has been presented since 1995; thus, products of distinctive quality, originality and innovation of technical solutions, operational values, as well as favourable economic indicators are recognised. In addition to the Defender Awards, the gala ceremony at this year's International Defence Industry Exhibition was the occasion to bestow the award of the President of the Republic of Poland. There was also a special prize of the Vice-President of the Council of Ministers, the Minister of National Defence and a special mention of the Programme Board, complemented with the Award of the President of Targi Kielce and the prizes for the expo stands arrangement.



REPUBLIC OF POLAND PRESIDENT'S AWARD

for the best product which serves the purpose of the RP Armed Forces soldiers' safety enhancement

PIT-RADWAR S.A. (leader) from Warsaw; AM TECHNOLOGIES LLC from Warsaw; Warsaw University of Technology in Warsaw for the passive location system

THE DEPUTY PRIME MINISTER, THE MINISTER'S OF NATIONAL DEFENCE'S DISTINCTION

Remontowa Shipbuilding S.A. from Gdańsk - the consortium leader, Research and Development Centre for Maritime Technology in Gdynia; Naval Shipyard S.A. from Gdynia for the modern minehunter, 258-ORP Albatros project

THE SPECIAL DISTINCTION OF THE PROGRAMME BOARD

Jarosław Dąbrowski Military University of Technology from Warsaw for BotTROP - a bot detection system in a computer network

DEFENDER AWARD

AMZ-KUTNO SA (leader) from Kutno; MILITARY COMMUNICATION INSTITUTE of Professor, PhD. Hab J. Groszkowski- NATIONAL RESEARCH INSTITUTE from Zegrze Poludniowe; Military Institute of Armament Technology from Zielonka; MILITARY INSTITUTE OF CHEMISTRY AND RADIOMETRY from Warsaw for LOTR-Light armoured reconnaissance carrier

TARNÓW SA Mechanical Works (leader) from Tarnów; Military University of Technology of Jarosław Dąbrowski from Warsaw; STEKOP SA from Warsaw for the PERUN – Autonomous wheeled platform with armament module for reconnaissance and combat tasks

PCO SA from Warsaw for the GOS-1 optoelectronic head

Jelcz LLC, Jelcz-Laskowice for the wheeled set for the transport of tanks and heavy tracked equipment with a capacity of over 63 tons, codenamed JAK

LUBAWA SA (leader) from Ostrów Wielkopolski; MORATEX Institute of Security Technologies from Łódź; MindMade LLC from Warsaw for the new generation EOD ONE explosion-proof and shrapnel-proof protective suit

Cleamix Oy, Finland for Cleamix VCS-SERIES

The Air Force Institute of Technology (leader) from Warsaw; Military Institute of Armament Technology from Zielonka; Łukasiewicz Research Network - Institute of Aviation from Warsaw; MSP INNTECH LLC from Warsaw for the JET-2 LM manoeuvring jet aircraft with a tactical warhead

Enterprise of Protective Equipment MASKPOL SA, Konieczki for the ROCK ONE bulletproof vest

MINDMADE LLC | WB GROUP for PIK-MC - the safe, integrated system of dispatch communication and crisis management

UMO LLC from Zielonka for the AXON NETWORK TASER 7 system + AXON BODY 3 camera



I GENERAL COMMANDED OF BRANCHES OF ARMED FORCES DISTINCTION FOR THE WINNER OF "THE BEST PRESENTATION – THE BEST EXPO STAND" COMPETITION

Inspector for Branches of Armed Forces

I THE DISTINCTION OPERATIONAL COMMAND OF BRANCHES OF ARMED FORCES

In the Category of: Intelligence

ICEYE Polska LLC from Warsaw for system of satellites reconnaissance in SAR technology

In the Category of: Operation Support

Bydgoszcz Electromechanical Plants „BELMA” S.A. for SPPŁW Tulipan – the Guided Anti-Tank & Anti-Cargo Explosives

In the Category of: Operation Provisioning

Jelcz LLC, Jelcz-Laskowice for the wheeled set for the transport of tanks and heavy tracked equipment with a capacity of over 63 tons, codenamed JAK

In the Category of: Forces Survival and Protection

Advanced Protection Systems from Gdynia for SKY CTRL containerized anti-unmanned aerial vehicle system

In the Category of: Command Support

No. 1 Military Communication Works SA from Zegrze Południowe for AŁC-T digital communication and transmission shelter

I THE AWARD OF THE TERRITORIAL DEFENCE FORCES IN THE CATEGORY OF LIGHT INFANTRY EQUIPMENT AND SUPPLIES

Tarnów Mechanical Works SA from Tarnów for LMC mortar with a digital sight



I THE DISTINCTION OF THE TERRITORIAL DEFENCE FORCES IN THE CATEGORY OF LIGHT INFANTRY EQUIPMENT AND SUPPLIES

LUBAWA SA from Ostrów Wielkopolski and the Military Institute of Engineering Technology in Wrocław for ZMR set of mining and reconnaissance-and-barrier equipment



I THE INSPECTORATE FOR ARMED FORCES SUPPORT AWARDS

DISTINCTION

for exemplary implementation of tasks related to the adaptation of COUGAR 4x4 MRAP special vehicles for use in the Polish Armed Forces presented to Commander of the 10th Opole Logistic Brigade Brigadier General. Maciej SIUDAK and Commander of the 1st Pomeranian Logistics Brigade Col. Witold BARTOSZEK

AWARD

for achievements in rationalisation and innovation presented to the Logistics Training Centre in Grupa for the project development: 2.0 CRD VW Crafter engine training station

The first distinction

for achievements in rationalisation and innovation presented to 1st Regional Logistics Base in Wałcz for the project development: A technological guide for the periodic maintenance of the POPRAD self-propelled anti-aircraft system

The second distinction

for achievements in rationalisation and innovation presented to 2nd Regional Logistics Base in Warsaw for project development: Procedure for the preventive maintenance of the HGPST device

The third distinction

for presenting the position in a thematic format presented to the Logistics Training Centre in Grupa

SPECIAL AWARD OF THE MINISTER OF DEVELOPMENT, LABOUR AND TECHNOLOGY FOR "BEST POLISH ARMS EXPORTER"

WB Electronics S.A.

Jakusz Sp. z o.o.

PRESIDENT OF TARGI KIELCE AWARD

Professor Janusz Military Institute of Communications Groszkowski - National Research Institute from Zegrze Południowe for IP-Krypto 2 device (system for cryptographic protection of information in IP networks) codename SZAŁWIA

JAKUSZ LLC (leader) from Kościerzyna; Jelcz LLC, Jelcz-Laskowice for KRISTA - modular construction vehicle on the Jelcz chassis for specialised engineering and sapper purposes, equipped with an explosion-proof container with a detonation resistance of 10 kg of explosive in the TNT equivalent and a 152 mm artillery shell

Creotech Instruments SA from Piaseczno for an observation satellite EagleEye



AWARDS FOR EXPO STAND ARRANGEMENT

Distinctions

- ALLIES INCORPORATED LLC
- ARPOL Narzędzia Profesjonalne LLC
- Griffin Group S.A. Defence Sp. k.
- SIEĆ BADAWCZA ŁUKASIEWICZ-INSTYTUT LOTNICTWA
- MEGMAR LOGISTICS & CONSULTING LLC
- Northrop Grumman Defense Systems, USA

Medals

- ASELSAN, Turcja
- ASFAT, Turcja
- BAYKAR MAKINA SANAYI VE TICARET A.Ş., Turcja
- MAKINE VE KIMYA ENDUSTRISI INC., Turcja
- Hanwha Defense, Korea Płd.
- ROKETSAN, Turcja
- SAAB Technologies Poland Sp. z o.o.
- SARSILMAZ SİLAH SANAYI A.Ş., Turcja
- STM Savunma Teknolojileri Mühendislik ve Tic. A.Ş., Turcja
- WB GROUP, Polska
- WOJSKOWY INSTYTUT TECHNICZNY UZBROJENIA





THE MEDAL FOR THE ARMED FORCES EXHIBITION ORGANISATION AND MANAGEMENT

Inspectorate for Armed Forces Support

THE MEDAL FOR THE COLLECTIVE, GRAND-SCALE EXHIBITION

Polish Armaments Group SA

THE MEDAL FOR THE PROFESSIONAL ORGANISATION OF THE TURKISH NATIONAL EXHIBITION

Presidency of The Republic of Türkiye Defence Industry Agency (SSB), Türkiye



MSPO 2022 awards and prizes

I REPUBLIC OF POLAND PRESIDENT'S AWARD

- PIT-RADWAR S.A. (leader) from Warsaw
- AM TECHNOLOGIES LLC from Warsaw
- Warsaw University of Technology in Warsaw

PASSIVE LOCATION SYSTEM

Passive Location System (PLS) is a state-of-the-art innovative solution to radar air surveillance. This system provides continuous airspace surveillance and recognition regardless of active radars while being completely quiet and hidden from enemy ESM systems.

PLS combines two passive subsystems: PCL subsystem (Passive Coherent Location) and PET subsystem (Passive Emitter Tracking) for a multistatic, multi-band and multimode operation. The key to great performance lies in fusion module which performs fusion of these two subsystems on the bistatic plot level and provides continuous tracking of targets.

While characteristics of all stations in the system are alike, choice of the master station is made to provide the highest quality of detection and tracking as well as maintaining the best communication link with Command and Control Systems.

The PCL subsystem utilizes signals from transmitters of opportunity such as FM radio, DVB-T and GSM. The second one - PET based on on-board transmitters' signals utilization like radar signals, communication signals, IFF and navigation signals. Combination of PCL and PET results in enhanced detection, more accurate 3D localization, stable tracking, and means for analysis of the received signals and classification of airborne objects (ABT, UAV, stealth targets, etc.).

The combination of these two subsystems in fusion module provides enhanced performance of the aforementioned functions compared to each of the subsystems separately.



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THE DEPUTY PRIME MINISTER, THE MINISTER'S OF NATIONAL DEFENCE'S DISTINCTION



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- Remontowa Shipbuilding S.A. from Gdańsk - the consortium leader,
- Research and Development Centre for Maritime Technology in Gdynia
- Naval Shipyard S.A. from Gdynia

THE MODERN MINEHUNTER, 258-ORP ALBATROS PROJECT

ORP ALBATROS mine hunter was built by consortium consisting of: the leader – Stocznia REMONTOWA Shipbuilding S.A. belonging to the REMONTOWA HOLDING S.A. capital group and members –OBR CTM S.A. and PGZ Stocznia Wojenna (formerly Stocznia Marynarki Wojennej).

ORP ALBATROS is already second in the series of KORMOARAN II type mine hunters, which is among one of the largest units of this class, characterized by a multi-sensor concept.

The use of hybrid solutions allows on operating directly in the minefield, as well as outside it.



The main tasks of the ship include:

- detecting, identifying and disposal of sea mines and other objects and explosives in sea areas,
- securing sea lines of communication,
- conducting operations in mine threat areas,
- environmental assessment in underwater areas.

This applies both to operations in the Polish economic zone and missions in tactical groups in the Baltic and North Sea (teams of NATO, EU or multinational coalition forces).

The ship attains a speed of 16 knots and is manned by a 45 person crew. If necessary, she can additionally take on board a team of 6 divers, whose work is secured by a decompression chamber located on board the ship.

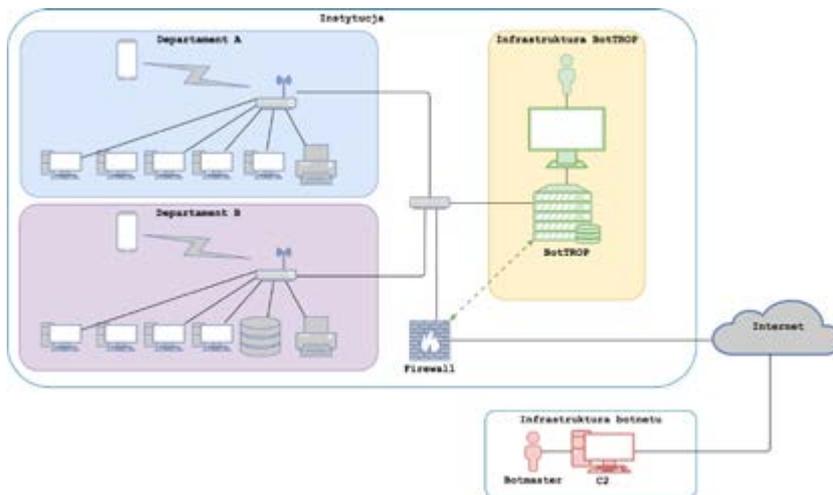
THE SPECIAL DISTINCTION OF THE PROGRAMME BOARD

Jarosław Dąbrowski Military University of Technology from Warsaw



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wojsko-polskie.pl/wat

BotTROP - A BOT DETECTION SYSTEM IN A COMPUTER NETWORK



BotTROP is a corporate network malware detection system that identifies infected devices by analyzing network traffic. The program is an innovative tool that uses machine learning to identify one of the biggest threats in cyberspace – botnets.

The proprietary algorithm searches for signs of synchronous activity in network traffic at the interface between the local network and the Internet. The ability to graphically present the results enables threat detection on line, especially for the needs of the Security Operations Center (SOC).

The centralized architecture of the BotTROP facilitates the process of its integration into the corporate network without the need to install additional software on client devices. With no need to analyze the content of network traffic, only its characteristics, BotTROP is also effective against encrypted traffic. The tool has been fully implemented and tested on both simulated and real network traffic.

I DEFENDER AWARD



AMZ-KUTNO S.A.
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- AMZ-KUTNO SA (leader) from Kutno
- MILITARY COMMUNICATION INSTITUTE of Professor, PhD. Hab J. Groszkowski- NATIONAL RESEARCH INSTITUTE from Zegrze Południowe
- Military Institute of Armament Technology from Zielonka
- MILITARY INSTITUTE OF CHEMISTRY AND RADIOMETRY from Warsaw



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LOTR - LIGHT ARMoured RECONNAISSANCE CARRIER

The LOTR (Light Armored Reconnaissance Transporter) project was carried out under contract No. DOBR-BIO4 / 019/13463/2013 (as amended) with the National Center for Research and Development.

LOTR is a Polish construction. Its body was designed and constructed by the AMZ-KUTNO company. The vehicle uses a diesel engine, which is built in the form of a „Power-Pack”. This enables its quick disassembly in the event of a possible need for service during operational activities. In addition, the vehicle has amphibious properties that were highly rated during the tests.

The LOTR prototype is based on the BÓBR-3 vehicle in a 4x4 system developed at AMZ-KUTNO. The vehicle has an independent suspension and its body is a self-supporting monocoque structure.

The vehicle is equipped with modular armor in sets adapted to operational needs.

LOTR has a reconnaissance and communication system designed and manufactured by the Military Institute of Telecommunications, created through the full integration of devices such as a battlefield reconnaissance radar, an optoelectronic head on a mast, an acoustic shot location system, a laser radiation warning system or a remotely controlled weapon module.



- TARNÓW SA Mechanical Works (leader) from Tarnów
- Military University of Technology of Jarosław Dąbrowski from Warsaw
- STEKOP SA from Warsaw

PERUN - AUTONOMOUS RECONNAISSANCE AND COMBAT VEHICLE



Autonomous, four-wheeled vehicle with a total weight of 900 kg, driven by petrol engine and characterized by good terrain mobility. It is armed with a remote control module (ZSMU A3), opto-electronic system and laser range finder, 3D, scanner, GPS receiver, shot direction motion detector. It can be equipped for certain tasks (contamination and radiation detector), non-lethal means of interaction (smoke grenades, sound sirens). The vehicle must be capable to autonomous movement, while the use of the weapons will be left to the discretion of the operator. The vehicle is designed to conduct reconnaissance in direct contact with troops, patrol and supervise routes / zones, logistic (transport) and evacuation tasks (wounded and injured) or a group of more offensive missions, which include fire support for own troops. Vehicle operation and on-board armament usage is controlled by two soldiers, who operate from the vehicle (robot control range is up to 5 km), or in the field using portable desktops. (up to 3 km range). Movement velocity of the Perun reaches over 50 km per hour, with operational time up to 10 hours.



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- PCO SA from Warsaw

THE GOS-1 OPTOELECTRONIC HEAD



PCO S.A. is the leading Polish producer of modern optoelectronic devices based on noctovision, thermovision and laser technologies. These technologies are a result of current scientific activities. Products of PCO S.A. gain recognition from both domestic military users and cooperating domestic and foreign companies. Apart from production activities, the company provides servicing, repair and maintenance services. PCO S.A. PCO also conducts research and development and implementation works. High quality of offered products and services was confirmed by certificates and awards gained for years.

The GOS-1 optoelectronic head is a technologically advanced product with a number of functional features enabling easy integration with anti-aircraft weapon modules. The head is part of the 23 mm PILICA anti-aircraft missile and artillery system. The head can also be used in fire control systems for on-board weapons and observation and aiming systems. Enables precise target tracking in cooperation with a video tracker and the possibility of omnidirectional observation. The head consists of: KMW-3 cooled thermal imaging camera (3-5 μm range), KTVD-1M TV camera and a laser rangefinder with high repetition frequency.

Features that distinguish the product:

- Precise target tracking in cooperation with a video tracker
- A wide range of guidance and tracking speeds (from minimum speed - less than 100 rad / sec. To over 2 rad / sec.)
- Compact design - control systems are contained in one device
- Small size and weight allowing for easy integration with combat platforms (vehicles, weapons modules, anti-aircraft sets)
- Possible configuration and integration of sensors, for example: thermal imaging cameras, TV cameras, laser rangefinder, according to the individual requirements of the user.



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- Jelcz LLC, Jelcz-Laskowice

THE WHEELED SET FOR THE TRANSPORT OF TANKS AND HEAVY TRACKED EQUIPMENT WITH A CAPACITY OF OVER 63 TONS, CODENAMED JAK

The JELCZ tractor, type C882.62, is the first vehicle prepared for the needs of the Polish Armed Forces. The set comes with a low-loading semi-trailer for the transport of tanks and heavy-tracked equipment with a total weight of up to 70 tons. Abrams main battle tanks and the Leopard 2 family machines used by the Polish Armed Forces can also be carried by the set. Jelcz is also the first tractor with such high mobility, designed to overcome off-road obstacles; it comes in a four-axle version and an eight

x eight drive system. Vehicles are equipped with an armoured four-seater cabin, providing the crew with ballistic and anti-mine protection in accordance with the STANAG 4569 standard. The vehicle is ready to operate in the temperature range from -30° C to + 50° C and has been adapted to drive both on a hard surface and in off-road conditions.

Jelcz is designed as the key element of the Polish Armed Forces' logistic base, designed to transport heavy-duty equipment on Polish road network. Jelcz is also intended to transfer military equipment outside the country. Tractors with multi-axle trailers with increased mobility provide access to makeshift ramps and reloading yards. Trailers loading/unloading can be done with the use of winches and kit-included tools - (winches) and semi-trailers (ramps) for loading and unloading of transported equipment in field conditions without the need to use previously prepared loading ramps. The sets are suitable for rail, sea and air transport.

- Our vehicles' main advantage - increased mobility for all-terrain conditions. The analyses by renowned research institutions confirm ability in water obstacles up to 1 meter deep, at a longitudinal slope of up to 35% and a transverse slope of up to 15%. The vehicles are also equipped with specialized devices designed to increase work efficiency. The tractor is equipped with independent water heating to facilitate engine start-up at low temperatures, as low as -30° C. There is also independent air heating. The vehicles' functionality is increased with 2 hydraulic winches with a pulling force of 25 tons.

- The tractor for the JAK program offers high off-road mobility and the load-bearing capacity of the suspension and chassis components. Thus Jelcz may in the future become an ideal base for a heavy wheeled technical support vehicle used to evacuate damaged and immobilized vehicles.

Our staff have devoted many hours of work to create a vehicle design for a wide-range application in the Polish Armed Forces in the near future.

The tractors have also been equipped with three key technological solutions for high operational efficiency, i.e. : SASOT (automatic control system for airworthiness control, damage forecasting and the crew information system related to Technical Services), CPK (central wheel pumping system) and Automatic Drive-Train Management (automatic drive lock control system).

The contract worth PLN 126.5 million was concluded with the Armaments Inspectorate on 29 May 2019 in Warsaw. The agreement provides for the delivery of a total of 23 sets for tanks, and heavy tracked equipment transport - code-named JAK, consisting of the JELCZ C882.62 tractor and a semi-trailer manufactured by Demar-ko SA and three tractors (without semi-trailers).



- LUBAWA SA (leader) from Ostrów Wielkopolski
- MORATEX Institute of Security Technologies from Łódź
- MindMade LLC from Warsaw

EOD ONE – NEW GENERATION EXPLOSION-PROOF AND FRAGMENT-PROOF PROTECTIVE SUIT

The Suit provides maximum, synergistic protection against the factors acting during an explosion, i.e.: from fragments, heat wave, shock wave and overpressure wave, which is a product innovation on a global scale.

The Suit is the first fully Polish product solution, which at the same time exceeds the current solutions on the international market – no other competitive EOD Suit offers such a high level of protection.

But the ultimate protection level is not all – EOD ONE is an element of a sophisticated functional system, with the command outpost as the critical component. This unit ensures constant backup for the EOD operator in the form of a partner operator supporting all activities in the field. The system features three connectivity options:

- Wireless – a standard option used in open field, with no obstacles and without the risk of initiating the IED or UXO with the emitted frequencies
- Hybrid – this option is useful for inaccessible places, such as cellars, buildings or other infrastructural obstacles
- Wired – this option is useful in scenarios, where there is a risk the emitted frequencies from the communication system may initiate the fuse of the IED

The command outpost allows for remote management of all the EOD ONE Suit features (lights, cooling, view from two cameras – helmet and handheld camera with a telescopic grip), as well as ongoing voice communication and two-way file transfer.



- Cleamix Oy, Finland

CLEAMIX VCS-SERIES

Developed in Finland, proved in critical military applications and built for CBRN professionals, Cleamix is the most advanced decontamination device for preventing, combating harmful chemical and biological contaminations. Cleamix is an ideal solution for interior spaces of all sizes, including logistics facilities, transport vehicles and containers, aircraft and more – anywhere public health matters. Unlike other technologies, Cleamix H₂O₂ vapor technology is easy to deploy and leaves behind no residues.

VCS-series products uses up to 50% aqueous H₂O₂ solution for generating hydrogen peroxide vapour capable of destroying even the most resistant microorganisms. Vaporized H₂O₂ has good material compatibility and it is residue free decomposing into water and oxygen only.

Cleamix VCS-products can also be used against warfare agents - GD, HD, VX, Novichoks and mustard gases. Cleamix VCS-products is used against anthrax (*Bacillus anthracis*), botulism (*Clostridium botulinum* toxin), plague (*Yersinia pestis*), and other hazard group 3 biological threats (*Brucella abortus*, *Burkholderia pseudomallei*, *Escherichia coli*, *Mycobacterium tuberculosis*), and viruses such as Ebola and SARS-CoV-2.



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- The Air Force Institute of Technology (leader) from Warsaw
- Military Institute of Armament Technology from Zielonka
- Łukasiewicz Research Network - Institute of Aviation from Warsaw
- MSP INNTECH LLC from Warsaw

MANEUVERING JET AIRCRAFT WITH A TACTICAL WARHEAD JET-2 LM

JET-2 LM is based on a JET-2 aerial unmanned target used in the Polish Armed Forces. Unique parameters of the Unmanned Aerial Vehicle, the electrooptical homing warhead equipped with a thermal and day light module and one of the three tactical warheads make the JET-2 LM a uniquely precise platform that serves the function of a loitering munition. Identification, indication and guidance are possible using a specially developed algorithm.



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The task of JET-2 LM is the precise removal of targets within 70km depending on the applied GX-3 warhead. All warheads are furnished with SA (Save-Arm) protection system with the possibility of multiple armament and disarmament and the possibility to change the armament of the warhead from the operator's control panel.

Thanks to jet engines and rocket boosters, the start of JET-2 LM takes place from a dedicated platform which can be placed on any means of transport. Moreover, JET-2 LM can perform a flight at a high altitude and a contour flight below 50m.

The airframe's structure from glass fibre, the low efficient surface of radio wave reflection, the maximum speed of 150 m/s make JET-2 LM hard to detect by radio stations and difficult to attack by the opponent's anti-aircraft warfare.

The concept of deploying JET-2 LM assumes performing one kamikaze mission and flights with unarmed platforms (to demonstrate attack and destroy the opponent's anti-aircraft warfare system).

Project implemented in consortium: Instytut Techniczny Wojsk Lotniczych (lider), Wojskowy Instytut Techniczny Uzbrojenia, Sieć Badawcza Łukasiewicz – Instytut Lotnictwa, MSP InnTech sp. z o.o.

- Enterprise of Protective Equipment MASKPOL SA, Konieczki

THE ROCK ONE BULLETPROOF VEST

ROCK ONE vest is designed to carry soft and hard ballistic plates. Made in laser cut technology using Cordura® laminate. The weight of the vest varies from 2 to 6 kg, depending on the ballistic package used.

The vest can be used in several configurations:

- As a classic plate carrier with two or four (two on the sides) SA plates.
- As an integrated vest with increased protective surface - by adding additional accessories, such as shoulders, abdomen and lower spine protector or a ballistic collar.
- As a low-profile vest - by using only soft ballistic plates.



The specially designed foam used on the inside of the vest increases air circulation ensuring high comfort of use. The conducted laboratory tests showed an increase in thermal comfort in relation to the traditional spacer meshes. The additional advantage of such a solution, as shown by tests in the ballistics laboratory, is the reduction in deflection after being hit by the rifle bullets.

Removable cummerbund, depending on the requirements of the user, can be mounted in skeletal or full design, or made entirely of rubber. Due to the installed „lift”, ballistic plates of various sizes stay stable and do not fall out accidentally.

PIK-MC - THE SAFE, INTEGRATED SYSTEM OF DISPATCH COMMUNICATION AND CRISIS MANAGEMENT



PIK-MC – a safe, integrated dispatcher communication and crisis management system is a comprehensive system supporting integration of various Communication technologies used in rescue and crisis management operations. It can also be used to perform other tasks requiring a dispatcher-based communication.

The system was designed in accordance with the international 3GPP Mission Critical Services standards.

APPLICATIONS:

- State public safety services: Police, Border Guard, National Revenue Administration
- Emergency services: Ambulance service, Fire Departments, Rescue Services
- Critical infrastructure security services:
 - refineries, power plants, ports, airports, warehouses
 - Services responsible for security and safety during mass events e.g. concerts, football matches, etc.
- Personal protection and property security companies

The PIK-MC system consists of the following hardware solutions and dedicated software:

- PIK-DC-MC Dispatcher's Console
- An integrator connecting external communication systems with the ICT environment of the PIK-GATE-MC system
- PIK-MCX-MC application servers
- Mobile terminals with installed PIM-MC application
- LTE, 4G/5G NIB-MC – a private, mobile ITC network



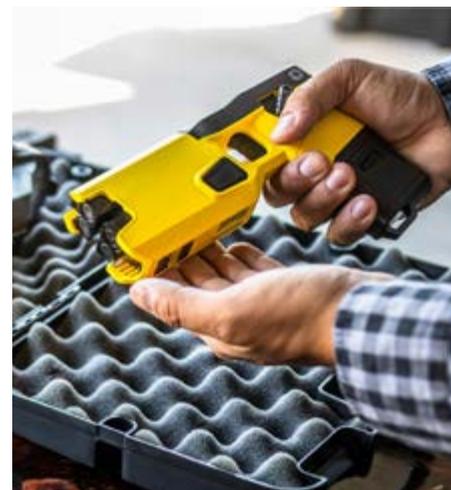
- UMO LLC from Zielonka

THE AXON NETWORK TASER 7 SYSTEM + AXON BODY 3 CAMERA

"Axon Network" is a technology platform that integrates all Axon products and solutions dedicated to uniformed services.



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In the first case, the typical first thing is to turn on the hardware that can initiate turning on the nearby Axon Body cameras or the registration in Axon Fleet vehicles. Turning on the Axon Body 3 cameras may initiate the transmission in real time to the operation control room. The idea is to relieve the officer from the need to control the recording devices during the incident itself.

The most important issue is the integration of devices with Axon Evidence and Axon Commander used for digital evidence management.

Logs from Tasers with the detailed parameters of the device in every millisecond, with recordings from cameras mounted on Taser devices, body worn cameras, Axon Fleet cameras, Axon Interview and Axon Air - all this is stored safely and guarantees the continuity of the evidence material.

GENERAL COMMANDED OF BRANCHES OF ARMED FORCES DISTINCTION FOR THE WINNER OF “THE BEST PRESENTATION – THE BEST EXPO STAND” COMPETITION

- Inspector for Branches of Armed Forces



THE DISTINCTION OPERATIONAL COMMAND OF BRANCHES OF ARMED FORCES

IN THE CATEGORY OF: **INTELLIGENCE**

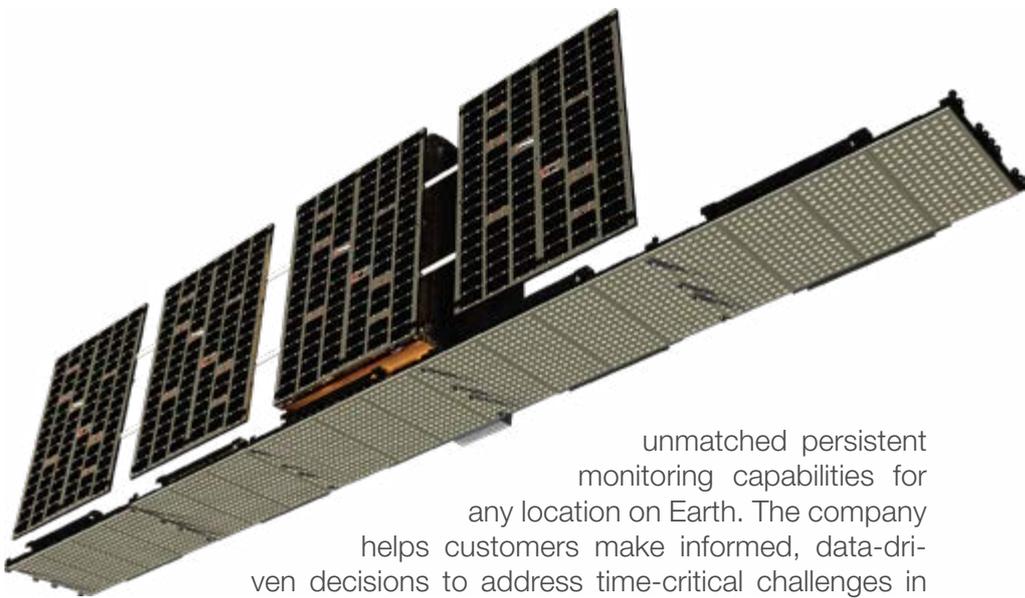
ICEYE

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- ICEYE Polska LLC from Warsaw

SYSTEM OF SATELLITES RECONNAISSANCE IN **SAR** TECHNOLOGY

ICEYE is the global New Space leader in satellite synthetic aperture radar (SAR) imaging technology with a track record of 21 SAR satellite missions launched. ICEYE empowers commercial and government partners with



unmatched persistent monitoring capabilities for any location on Earth. The company helps customers make informed, data-driven decisions to address time-critical challenges in various industries, to ensure infrastructure safety, and to protect the environment.

IN THE CATEGORY OF: **OPERATION SUPPORT**

- Bydgoszcz Electromechanical Plants „BELMA” S.A.

SPPŁW TULIPAN – THE GUIDED ANTI-TANK & ANTI-CARGO EXPLOSIVES

Controlled Anti-Tank Anti-Vehicle Mines (SPPŁW) codename Tulipan are modern mine-damming agents that significantly enhance territorial defense capabilities against armored enemy units. Tulipan, is an advanced, portable charge effective against lightly armored vehicles, infantry fighting vehicles and armored personnel carriers. It can also effectively immobilize a basic tank, when upper half-sphere is attacked. The mine can be successfully used to cover country's borders, facilities such as command posts in the area of diversionary operations, and can also effectively delay enemy operations, as well as enable own troops to withdraw from the area of danger. Penetration effect



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is provided by explosively formed projectile produced as a result of the initiation of the explosive charge triggered by the activation of the acoustic and thermal sensor. The mine can operate in two modes, automatic and supervised. The range of effectiveness, confirmed by tests, is from 2 to 50 meters with a penetrability of 60 mm RHA. The mine is also selectively programmable which makes it possible to select a specific target in the column. The warhead's weight is less than 7 kg, which, with its small dimensions of 30/18/15 cm, makes it a lot easier for transportation on the battlefield. The mine agent has non-removable function and programmable self-destruction.

IN THE CATEGORY OF: **OPERATION PROVISSIONING**



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THE WHEELED SET FOR THE TRANSPORT OF TANKS AND HEAVY TRACKED EQUIPMENT WITH A CAPACITY OF OVER **63** TONS, CODENAMED **JAK**

The product was DEFENDER awarded.

A detailed description can be found on page 28.

IN THE CATEGORY OF: **FORCES SURVIVAL AND PROTECTION**



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- Advanced Protection Systems from Gdynia

SKY CTRL CONTAINERIZED ANTI-UNMANNED AERIAL VEHICLE SYSTEM (READ: **SKY CTRL**)

The SKYctrl container-based system from Advanced Protection Systems SA was designed to detect and counter unmanned aerial vehicles (UAVs).

With it, the company from Tricity takes drone detection, tracking, identification and neutralisation to a new, previously unknown level of combat effectiveness.

SKYctrl's priority task is to protect the military and, in particular, to take care of broadly defined military infrastructure:

- military bases,
- material bases,
- depots,
- command posts.



SKYctrl's comprehensive counter-drone system is integrated with a mobile container and designed to be easy to operate using a plug and play approach.

The radar, optoelectronic and jamming systems are automatically moved out depending on operational needs. For the duration of transport, they retract into a dedicated space inside the container.

SKYctrl is fully adapted for transport by vehicles with high passability. The full functionality of the system is possible both from the vehicle and when positioned in the chosen location.

The SKYctrl container system from APS is a true revolution in terms of effective, fast and easy-to-use countermeasures against one of the greatest threats of the modern battlefield – drones.

IN THE CATEGORY OF: **COMMAND SUPPORT**

- No. 1 Military Communication Works SA from Zegrze Południowe

AŁC-T DIGITAL COMMUNICATION AND TRANSMISSION SHELTER

Mobile Digital Communication & Transmission Center (AŁC-T) is a shelter that allows to build a wide telecommunication network in the field, applying modern ICT for transmission and data exchange. It provides reliable transmission across the backbone network between communication nodes of command posts on tactical level up to operational and strategic levels. AŁC-T makes use of wirelines, including fiber optics, radio links, including bands III and IV, and radio.

AŁC-T is compatible with both fixed and mobile communication nodes used by the Armed Forces of the Republic of Poland, such as ZWT JASMIN and ICT nodes WTi, as well as with mobile data centers NATO NODES within PMN 2.0.

ICT infrastructure offered by AŁC-T will increase reliability and scalability of military communication systems.

Modern equipment used for band IV radio link together with a high innovative mast (34m.), the first such mast in the Armed Forces of the Republic of Poland, and a convergent router allow for secure data transmission within national and allied ICT systems, such as PMN 2.0., SAMOC, Rosiczka and IBCS.



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THE AWARD OF THE TERRITORIAL DEFENCE FORCES IN THE CATEGORY OF LIGHT INFANTRY EQUIPMENT AND SUPPLIES



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- Tarnów Mechanical Works SA from Tarnów

LMC MORTAR WITH A DIGITAL SIGHT

60mm light infantry mortar LMC – 2021 is designed for destructive kinetic effects on enemy combat systems and to destroy manpower, light field fortifications as well as firearms and military technology with semi-indirect fire. Due to the high range and high fragmentation of the projectile, the mortar fire provides effective support to the fighting units under optical visibility in all weather conditions, both during the day and at night. The steep trajectory of the missile and the small dimensions of the mortar in the combat position allow the targets to be struck by semi-indirect fire, i.e. observed from the firing position.



LMC-2021 manufactured by ZM Tarnów S.A. is the only mortar on the market that allows to fire projectiles up to 2.2 kg while ensuring the guaranteed durability of the barrel at the level of 2000 shots.

THE DISTINCTION OF THE TERRITORIAL DEFENCE FORCES IN THE CATEGORY OF LIGHT INFANTRY EQUIPMENT AND SUPPLIES

- LUBAWA SA from Ostrów Wielkopolski
- the Military Institute of Engineering Technology in Wrocław

ZMR SET OF MINING AND RECONNAISSANCE-AND-BARRIER EQUIPMENT

Combat Engineer Demining and Reconnaissance Equipment is a complete solution intended for field engineering activities. It is adapted for use by units and subunits of engineering troops throughout the year, at an ambient temperature from -30°C to $+50^{\circ}\text{C}$, in all weather conditions, with a relative air humidity increased to 100%. The end user actively participated in the process of developing the equipment, and the product itself received a positive opinion from the Military Institute of Engineering Technology.

 LUBAWA SA

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The equipment includes a total of over 130 elements, including:

- Mine detector module with a set of mine-detection prodders with spikes
- Anchor module with a cord, reel, pulley, a carabiner and a shredder
- Commander's module with handheld GPS, waterproof notebook, rangefinder, compass and dermatograph
- 100 m and 20 m measuring tape modules with reels, pins, carabiners and cases
- Marking module with flag stands and hangers
- Additional equipment: 45 l engineer backpack, flashlight, megaphone, mine tape warnings, tripod with head, inspection mirror and many more.

THE INSPECTORATE FOR ARMED FORCES SUPPORT AWARDS

DISTINCTION



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- Commander of the 10th Opole Logistic Brigade Brigadier General. Maciej SIUDAK
- Commander of the 1st Pomeranian Logistics Brigade Col. Witold BARTOSZEK

EXEMPLARY IMPLEMENTATION OF TASKS RELATED TO THE ADAPTATION OF COUGAR 4x4 MRAP SPECIAL VEHICLES FOR USE IN THE POLISH ARMED FORCES



COUGAR 4x4 vehicles are part of the lightest category of MRAP vehicles, including MRUV (Mine Resistant Utility Vehicle) structures. They are intended for the implementation of patrol tasks, escorting and transporting team weapons. The vehicles have a 330 HP engine and an automatic transmission. They are characterized by a 4x4 drive and anti-mine resistance of 7 kg of TNT under the hull and 14 kg of TNT under the wheel. The maximum speed of the vehicle is 88-105 km / h, and its range is 670 km. The height of the vehicle is 2.6 m / with a turret 3.6 m /, the width is 2.7 m and its length is 5.9 m. The permissible total weight is 17.2 t, and its load capacity is 2 , 7 t. The vehicles are designed to transport 2 crew members and 4 landing troops.

AWARD

FOR ACHIEVEMENTS IN RATIONALISATION AND INNOVATION

- the Logistics Training Centre in Grupa

VW CRAFTER WORKING VEHICLE TRAINING SYSTEM

Working vehicle training station - VW Crafter diagnostic simulator is intended for training students as part of the courses „Mechanic of wheeled vehicles”, „Mechanic of internal combustion engines”, „Electromechanic of motor vehicles,” Service, diagnosis and repair of vehicle air conditioning and ventilation systems „,” Vehicle diagnostics „,” In the future” VW Crafter vehicle electromechanic „and additionally as a supplementary element in other technical courses. The VW Crafter training system also allows you to perform manual activities as part of practical classes. Thanks to the computer and the TV set, you can quickly refer to the repair and operating instructions or to presentations supporting diagnostics. It is mounted in the place of the window in the passenger compartment of the vehicle in order to make it easier for the audience to observe the activities performed.



CENTRUM SZKOLENIA LOGISTYKI
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THE FIRST DISTINCTION

FOR ACHIEVEMENTS IN RATIONALISATION AND INNOVATION

- 1st Regional Logistics Base in Wałcz

A TECHNOLOGICAL GUIDE FOR THE PERIODIC MAINTENANCE OF THE POPRAD SELF-PROPELLED ANTI-AIRCRAFT SYSTEM

The Technological Guide essence pertains to the periodic maintenance performance of the No.2 (OO-2) SPZR POPRAD devices and the



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preparation of Technical Workshops for the above-mentioned services. The Armed Forces did not have the ability to conduct OO-2 of the devices overhauls; thus, PT has been developed to ensure the proper periodic service process and to ensure proper operation in accordance with the doctrinal documents of the Polish Armed Forces. This application is the first and only study in the Polish Armed Forces, thus the basis for comprehensive periodic maintenance of OO-2 devices of SPZR POPRAD. The study enables the implementation of the OO-2 periodic maintenance technology in other service and repair bodies of the Armed Forces. RWT Grudziądz has also been adapted to perform OO-2 of SPZR POPRAD devices-related procedures.

The necessary adjustments included a purchase of workshop equipment and training in routine maintenance procedures. This documentation offers an organized set of rules and defines the sequence and manner of specific maintenance activities. In addition, it includes standardized time for technical operations and indicates specialists responsible for the operations performance. Considering how detailed the study is, the document is a valuable source of specialist knowledge for OO-2 periodic maintenance process. The study determines the order and the manner of specific repair activities, determines and standardizes the implementation time for particular maintenance activities, determines the appropriate contractors for maintenance activities, facilitates the process of technical facilities preparation in order to secure periodic maintenance, facilitates the planning process at the level, section, department and workshop in terms of the time required of maintenance, more efficient use of human resources, instrumentation and tools, facilitates the material supply planning for the OO-2 periodic maintenance process. SPZR is technologically advanced, and thus requires specialist knowledge. The PT developed facilitates the preparation and training of specialists for regular maintenance of OO-2 and defines the scope of necessary works.



**REJONOWE WARSZTATY TECHNICZNE
GRUDZIĄDZ**



**KOMENDANT
1. Regionalnej Bazy Logistycznej**

**PRZEWODNIK TECHNOLOGICZNY OBSŁUGI OKRESOWEJ NR 2
SAMOBIEŻNEGO PRZECIWLOTNICZEGO ZESTAWU RAKIETOWEGO
POPRAĐ**

**KIEROWNIK
Rejonowych Warsztatów Technicznych**

GRUDZIĄDZ 2020 R

THE SECOND DISTINCTION

FOR ACHIEVEMENTS IN RATIONALISATION AND INNOVATION

- 2nd Regional Logistics Base in Warsaw

PROCEDURE FOR THE PREVENTIVE MAINTENANCE OF THE HGPST DEVICE



2. Regionalna Baza Logistyczna
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The procedure for HGPST T preventive maintenance has been created in response to the demand of technical maintenance consisting of periodic replacement of the power source of the memory backup system of the SAASM module of GPS receivers mounted on the 122mm Langusta WR-40 Rocket Launcher, the area of responsibility 2 RBLog (11th Węgorzewo Artillery Regiment).

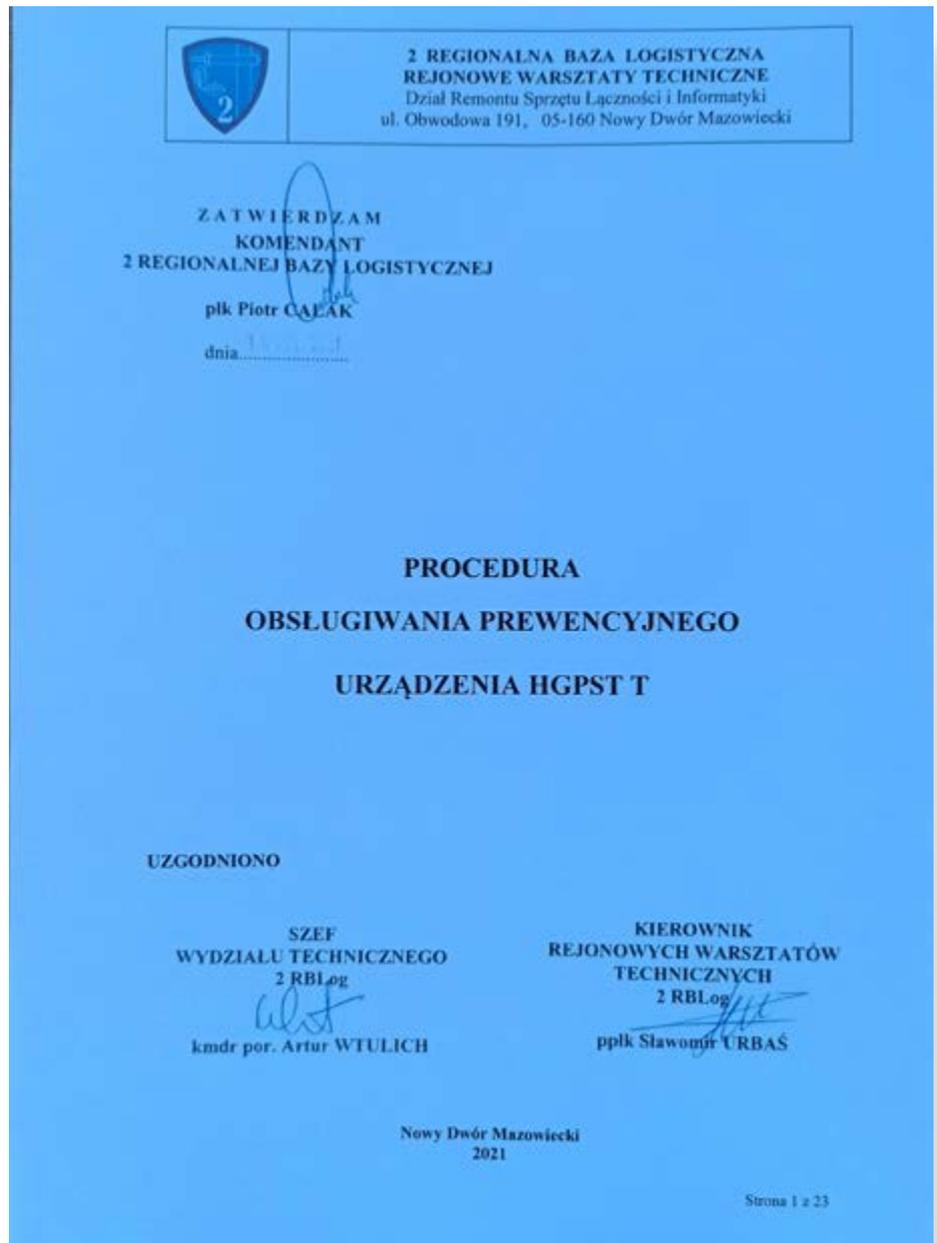
For proper operation, HGPST T GPS receivers require periodic (approximately every 5 years) replacement of the power source for the SAASM module voltage support system, as the module stores the military code P (Y) cryptographic keys necessary for the receiver's communication with satellites.

Until the procedure was developed, such operations could only be performed by the device manufacturer, i.e. Herz Systems, against the contractor set the service- prices.

The main assumption for the project was to determine the technical possibilities and necessary material. Therefore, the acquisition of the required technical materials, technical facilities, and the proper technical condition assessment conduct and description and the actual replacement of the SAASM memory backup battery are a part of the scheme.

A diagnostic stand was prepared and made operational as a result of the work; this is based on the equipment owned by RWT Nowy Dwór Mazowiecki. In addition, the technical materials availability and price research were also carried out.

A pilot maintenance process for 3 HGPST T devices from 11 Pa Węgorzewo was carried out and resulted in detailed implementation as well as feedback for consecutive activities. This project is presented for military service and repair bodies in an accessible form. When implementing the procedure, a specialized set dedicated only to this purpose was not created in order to reduce costs and increase the technical possibilities of the project implementation. Instead, the works focused on the use of tools and other elements already available in the stations in most communication workshops. The cables and software are part of the devices HGPST T.



THE THIRD DISTINCTION

FOR PRESENTING THE POSITION IN A THEMATIC FORMAT



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- the Logistics Training Centre in Grupa

The product was also awarded for rationalisation and innovation granted by the Inspectorate for Armed Forces Support.

A detailed description can be found on page 43.

SPECIAL AWARD OF THE MINISTER OF DEVELOPMENT, LABOUR AND TECHNOLOGY FOR „BEST POLISH ARMS EXPORTER”

- WB Electronics S.A.

WB GROUP is the Polish largest private concern of the advanced technologies in the field of the system solutions for law enforcement and defence. Technologies offered by WB GROUP are being used not only by the defence sector, but are also successfully adopted into infrastructure, transport, railway and energy sectors. They are based on years of expertise gained during operation of Group's solutions implemented in Polish armed forces as well as on long-term cooperation with the most demanding customers all over the world. The key advantage of the systems offered by the GROUP is their modularity and scalability. This allows to build various configurations that connect all products of WB GROUP's companies, creating one, homogenous ecosystem, operating in the military and civil sectors. The business philosophy assumed by the group is expressed in its product offering, which includes globally unique solutions deployed in the most demanding markets.



GRUPA WB
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- Jakusz Sp. z o.o.

JAKUSZ Ltd. has been active in the international defense and security market for 37 years in the design, manufacture and implementation of:

1. land clearance systems for unexploded ordnance covering detection, on-site neutralization, collection and transportation to destruction or temporary storage, including but not limited to:
 - explosion-proof containers for isolation and transport of hazardous materials resistant to detonation of explosives expressed as TNT equivalent from 20g to 10kg,
 - specialized containers for temporary or permanent storage of weapons and ammunition, explosives, unexploded ordnance, other warfare agents,
2. complete modern technologies for safe destruction and recycling of various types of munitions,
3. mobile containerized data centers with ballistic and electronic eavesdropping protection.

In the field of chemical and process engineering, Jakusz Group is engaged in the development and implementation of special chemical technologies for the production of high-energy explosives and components of explosive compositions, propellants and rocket fuels (propellants). In the field of process lines, the Company offers comprehensive services including design / fabrication / completion / assembly / testing and commissioning, together with training and technical support.



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The main customers of Jakusz Sp. z o.o. are: Ministries of Defense, State Administration Offices, Border Guards, Fire Departments, Police, State Protection Services, Emergency Management Institutions, Financial Institutions, Administrators of Public Utilities.

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I PRESIDENT OF TARGI KIELCE AWARD



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- Professor Janusz Military Institute of Communications Groszkowski - National Research Institute from Żegrze Południowe

IP-KRYPTO 2 DEVICE (SYSTEM FOR CRYPTOGRAPHIC PROTECTION OF INFORMATION IN IP NETWORKS) CODENAME SZAŁWIA



IP-KRYPTO-2 is an encryption device designed for cryptographic protection of classified information in IP networks. It has 100Base-FX or 1000Base-LX optical interfaces configurable on the RED and BLACK side. It enables the create up to 1000 cryptographic tunnels. It can provide load balancing and hot reserve.

To support the IP-KRYPTO-2 device, dedicated cryptographic data management subsystems have been designed, as well as device management and monitoring subsystem.

Certificate No. 58/2021 issued by the Military Counterintelligence Service confirms ability of the IP-KRYPTO-2 to protect classified information up to Polish SECRET and NATO/EU CONFIDENTIAL.

IP-KRYPTO-2 contains innovative solutions in the field of cryptography, electronics, software, as well as mechanical and electromagnetic security. The device meets the requirements of the Defence Standards and can be installed in stationary networks or in field conditions.

IP-KRYPTO-2 is currently mass-produced at the MCI and deployed for use in the Polish Armed Forces.

- JAKUSZ LLC (leader) from Kościerzyna
- Jelcz LLC, Jelcz-Laskowice

KRISTA - MODULAR CONSTRUCTION VEHICLE ON THE JELCZ CHASSIS FOR SPECIALISED ENGINEERING AND SAPPER PURPOSES, EQUIPPED WITH AN EXPLOSION-PROOF CONTAINER WITH A DETONATION RESISTANCE OF 10 KG OF EXPLOSIVE IN THE TNT EQUIVALENT AND A 152 MM ARTILLERY SHELL

SPECIALIZED ENGINEERING EOD VEHICLE

- Explosion-proof container with detonation resistance 10kg in TNT equivalent and 152mm artillery projectile
- Modular superstructure adapted to carry specialized equipment
- Base chassis Jelcz type 442.32 with 4x4 drive

INTENDED USE

- Undertaking UXO and hazardous objects in urbanized areas as well as in all terrain conditions
- Emergency area clearing off UXO and hazardous objects and providing operational security for EOD patrols and demining teams of divers – bomb technicians, and other specialized EOD squads
- Ensuring freedom of action in any operational area of designated EOD (Explosive Ordnance Disposal) divisions
- Safe transportation of UXO and hazardous objects in accordance with national regulations

JAKUSZ 
challenge turns into success

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fax. +48 71 3188884
sekretariat@jelcz.com.pl



MODULAR CONSTRUCTION

- Module with explosion-proof container with detonation resistance of 10kg in TNT equivalent and 152mm artillery projectile
- Module for storing and transportation of the EOD robot
- Module for transportation of specialized EOD equipment
- Module for foldable loading ramp
- Modul for communications system
- Module for external lighting

BASE CHASSIS

- Type: Jelcz 442.32 Drive system - 4x4
- Armoring: possibility to install an armored cab for level 1 or 2 according to STANG 4569
- Suspension: parabolic spring suspension
- Engine: Type, Model - MTU 6R106TD21, EURO III
- Cab: 2-passenger (can also be in 4-passenger version)
- Vehicle dimensions: length 7595 mm / width 2550 mm / weight 9,000 kg
- Angle of attack (for kerb weight): 350
- Descent angle with raised bumper (for unladen weight): 350
- Wading: 1,2 m

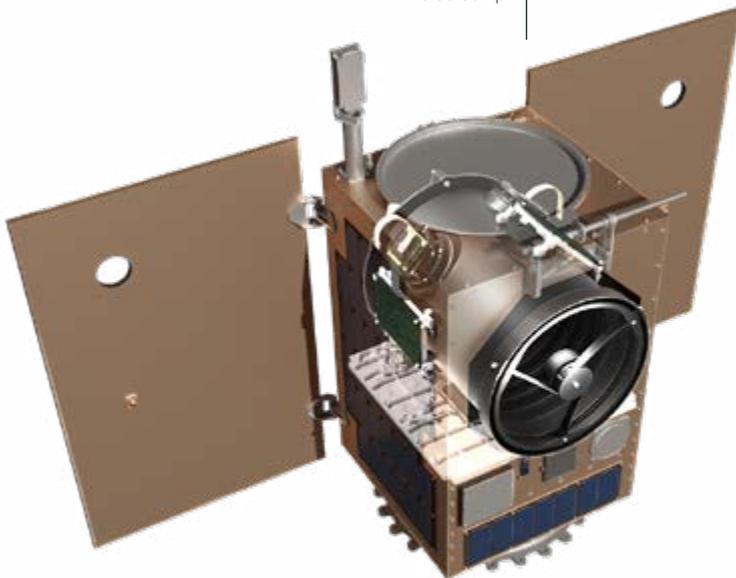


creotech

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- CreotechInstrumentsS.A.fromPiaseczno

AN OBSERVATION SATELLITE **EAGLE EYE**



EagleEye is the first Polish micro-class (over 10 kg) satellite designed to provide 1m resolution imagery. The satellite is based on the HyperSat proprietary satellite platform developed by Poland's Creotech Instruments S.A. and is equipped with an optical telescope provided by Scanway Sp. z o. o. (using PCO S.A.'s optical components), another Polish company. The Space Research Center of the Polish Academy of Sciences (CBK PAN) also provided material elements of the system.

EagleEye, as a key component of the national satellite system, will provide high-resolution data for the purposes of battlefield reconnaissance and will thus enable the provision of up-to-date operational and strategic information to various branches of the Polish Armed Forces. Satellite imagery obtained thanks to EagleEye is an indispensable tool in building battlefield situational awareness and thereby significantly enhances support for the decision-making process in terms of command and control (C2).

The EagleEye satellite is currently undergoing integration and will be placed in very low orbit (350 km) in 2023 aboard a SpaceX launch vehicle.

Exhibitors' feedback



Esref Evliyaoğlu
Head of Business Development, BAYKAR

I am glad to be in Poland. It is very important to attend the MSPO. It's our first time, it's our first attendance, but we are very, very satisfied from the organisation. We are impressed with the people working here on making this show a success. I believe they did a great job.



Remigiusz Wilk
Director of Communication
WB Group

MSPO is in great demand; this expo is a kind of global shop window to display our achievements. We are a Polish company which employs Polish engineers who make the best of Polish technical knowledge. Therefore, participation in a Polish expo emphasises our position. On the other hand, the trade show offers the opportunity to attract more people to work with us.





Krzyszto Cedrowski
Project Manager
Stalowa Wola Steelworks

“The Stalowa Wola Steelworks is one of the many representatives of the Polish defence industry. The company has participated in MSPO since the first edition. We can see the expo change and advance. Now MSPO is a vital communication platform which brings together the industry and prospective customers. This year’s exhibition is impressive, with all the expo facilities filled to the brim. The trade fair offers a significant opportunity to present equipment to the military. The expo also provides a chance to make presentations in front of foreign delegations. I have participated in MSPO for 12 years, and I have observed how the trade fair has gained tremendous popularity among foreign visitors. Visitors from outside Poland are a chance to gain potential customers in the future.



Marcin Kubica
President of the Management Board
of Lubawa

Lubawa has been a part of the Kielce trade fair every year. I must be honest; MSPO is a „place to be” in our industry. I believe that the event’s format has become even more effective every consecutive year. This place offers us - the industry, the opportunity not only to present our products but also to keep up a constant dialogue with users. The expo format and the logistics have gained my personal admiration. MSPO offers comfortable working conditions for exhibitors. I have observed the expo appreciation. This is the must-attend show.





Jeff Sung - Director,
Communications Team Strategy Office,
Hanwha Defence

We are here to display and show showcase our advanced technologies and products. We are to work together with the Polish Government and the Polish industry. We really hope to develop relationships and partnerships with Poland on the occasion of MFO 2022. We also participated in this event in the past. We plan to participate in next year's and in the coming years' MSPO.



Marcin Sobieraj
Director of the OBRUM
Trade and Marketing Office

The OBRUM has attended MSPO every year. What we find particularly important is the fact that we can contact prospective users, the military sector representatives. Our primary task is to meet the needs of the military. We also find extensive collaboration and integration with foreign companies very important. The expo has proven to be very popular. Today we met with foreign suppliers who believe that MSPO is an excellent brand.



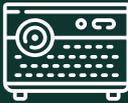
MEDIA
DATA FROM POLISH
MEDIA MONITORING



6 798
publications
in info portals



108
publications
in all-Poland press



212
radio
features



145
TV features
(1-16.09.)



346
journalists
from 13 countries



Waffenschau: Ein US-amerikanischer Abrams-Panzer auf dem Messengelände 19.09.2022

Waffen für Polen

In Kielce findet die jährliche polnische Rüstungsmesse statt. Grund zur Freude haben die USA und Südkorea. Von Gerhard Gnauck, Kielce

Verteidigungsminister Mariusz Blaszczak in seiner Eröffnungsrede am Dienstag. Der Krieg in der Ukraine habe bewiesen, dass seine Regierung mit ihrer schon 2021 getätigten Bestellung der Drohnen recht gehabt habe. Blaszczak tadelte die bis 2015 amtierende Vorgängerregierung, die Polen abgerüstet habe. Wenn er von der umfangreichen Beschaffung von Rüstungsgütern spricht, klingt es so, als habe seine Regierung die neue Aggressivität Russlands kommen sehen: „Wir haben uns vorbereitet.“ Wie man-

Polens, sind in Rüstungsfragen auch weiterhin gut im Rennen. Gleich am Eingang des Messengeländes steht ein Abrams-Panzer: Das amerikanische Modell wurde von Polen schon 2021 bestellt; während des Kriegs in der Ukraine wurden zusätzlich gebrauchte Abrams geordert, die zum Teil in diesem Jahr eintreffen sollen. Auch F-35-Kampfflugzeuge bekommt Polen. Beim Kampfhubschrauber Apache muss der Hersteller Boeing noch bangen: In Polen läuft gerade

FRANKFURTER ALLGEMEINE ZEITUNG



RZECZPOSPOLITA



GAZETA POLSKA
CODZIENNE



TV 1+1, UKRAINA



DEFENCE 24



SHOWCASE MSPO, LINKEDIN



UKRAINIAN MILITARY PORTAL MIL.IN.UA



The American company Bell displays its AH-1Z Viper attack helicopter and UH-1Y utility helicopter at MSPO 2022, International Defense Industry Fair in Kielce, Poland.

The American company Bell presents its AH-1Z Viper attack helicopter and UH-1Y utility helicopter in the framework of a Polish helicopter modernization program called 'Ewa, Ferbas and Łódźka'.

The goal of the Ewa program is to replace the old Soviet-made Mi-8 attack helicopters with the Ferbas program was launched to replace the Mi-8T transport helicopters. The Łódźka is a Polish program to acquire a new multiple helicopter.

The Bell AH-1Z Viper is a twin-engine attack helicopter, based on the AH-64 Apache, designed and produced by the American aerospace manufacturer Bell Helicopter. It incorporates various improvements and advances, including new rotor technology, upgraded engine, avionics, updated weapons systems, an electro-optical sensor as an integrated weapons platform.

The United States Marine Corps (USMC) replaced the two-rotor AH-64 Apache with the AH-1Z Viper, which features a new, four-blade composite rotor system, performance-enhanced transmission, four-rotor tail rotor, upgraded landing gear and a fully integrated glass cockpit. The AH-1Z is equipped with an integrated advanced fire control system and the capacity to support multiple weapon configurations.

ARMY RECOGNITION

MARKETING AND PROMOTION



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media partners



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publications in specialised media



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publications in Social Media



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31 International Defence
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