



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



**Targi Kielce**  
exhibition & congress centre

 **Ufi**  
Approved  
Event



# REVIEW

# MSPO 2021

29 International Defence Industry Exhibition

STRATEGIC PARTNER



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THE HONORARY PATRONAGE  
OF THE PRESIDENT  
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## 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 29th MSPO, which has recently finished, brought together 400 exhibitors from 27 countries. The exhibition was graced with the presence of the President of the Republic of Poland, Mr Andrzej Duda, the Minister of National Defence Mariusz Błaszczak and the Head of the National Security Bureau Paweł Soloch. The 2021's Targi Kielce Defence Show hosted 34 attaché, including the US Deputy Military Attaché - Major Elizabeth L. EVANS; MSPO hosted official foreign delegations from 14 countries of the world, USA, Great Britain, Czech Republic, Hungary, France, Korea, Norway, Ukraine, Estonia, Georgia, Italy, Lithuania, Spain, United Arab Emirates and diplomatic corps from 17 countries of the globe: Australia, Belarus, Bulgaria, Germany, Indonesia, Libya, Nigeria, Palestine, Qatar, Turkey, Austria, Morocco, South Korea, Pakistan, Italy, UK and the US.

I sincerely hope that MSPO was a valuable time and the expo talk-shop will bear fruit in the future. We find it particularly optimistic that the exhibition industry has slowly started to recover and return to its earlier, favourable track after a hard and demanding time of the pandemic. The expo statistics perfectly illustrates this; the recent expo edition hosted almost 11,000 visitors. It is worth recollecting that MSPO 2020 welcomed just a few thousand guests.

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

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

I wish to reverberate my thanks for your presence. Let me use this opportunity and invite you to join the next jubilee MSPO held in 2022, hoping that the next year will be more beneficial to all of us.

Andrzej Mochoń PhD  
President of Board, CEO  
Targi Kielce

# HONORARY COMMITTEE

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

- Mariusz Błaszczak - Minister of National Defence
- Zbigniew Rau - Minister of Foreign Affairs
- Mariusz Kamiński - Minister of Interior and Administration
- Zbigniew Gryglas - Undersecretary of State, Ministry of State Assets, 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
- Colonel Krzysztof Waclawek - 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
- Lieutenant General Rajmund T. Andrzejczak - Chief of the General Staff of the Polish Armed Forces
- Lieutenant General Jarosław Mika - General Commander of Branches of Armed Forces
- Brigadier General Artur Kępczyński - Deputy Chief of Inspectorate for Armed Forces Support
- Major General Tomasz Piotrowski - Head of Polish Operations Command of the General Command of Branches of Armed Forces
- Major General Wiesław Kukuła - Command of Territorial Defence Forces
- Major General Tomasz Połuch - Military Police Commander in Chief
- Major General Border Guards Tomasz Prag - Commander in Chief of the Border Guards
- Major Brigadier Andrzej Bartkowiak - Chief Commander of the State Fire Services
- Superintendent Jarosław Szymczyk PhD - Polish Police Chief Superintendent
- Wojciech Kamieniecki PhD Eng. - Director of the National Centre for Research and Development

30  
mspo

6-9.09.2022



# PROGRAMME BOARD

## PROGRAMME BOARD PRESIDIUM:

Sławomir CICHOCKI  
Director of Armament Policy Department the  
Ministry of National Defence

Brigadier General  
Artur KĘPCZYŃSKI  
Head of the Inspectorate for Support of the  
Polish Armed Forces, Head of Logistics

Col. Marek NIENARTOWICZ  
Head of the Unit of Economic Mobilisation  
Programme and Resources at the Logistics  
Department - P4 of the General Staff of the  
Polish Armed Forces

## PROGRAMME BOARD MEMBERS:

Brigadier Krzysztof CIOSEK  
Świętokrzyskie Voivodeship Commander in  
Chief of the State Fire Services

Brigadier General Maciej KLISZ  
Deputy Commander of the Territorial Defence  
Forces Command

Colonel Miroslaw POLAKOW  
Deputy Chief of Staff of Support Division at the  
Operational Command of Branches of Armed  
Forces

Piotr CZAJKOWSKI  
Head Officer of the Development Instruments  
Department at the Chancellery of the Prime  
Minister

Colonel Engineer retired.  
Witold LEWANDOWSKI PhD.  
Armed Forces Supervision Department – the  
National Security Bureau

Paweł SOBCZYK  
Director of the Department of Supervision III of  
the Ministry of State Assets

Brigadier General  
Bogdan DZIEWULSKI  
Titular Member

Colonel Grzegorz LISOWSKI  
Deputy Head of the Technical Services Unit of  
the Inspectorate for Armed Forces Support

Rafał SOBOLEWSKI  
Director of the Projects and Programmes  
Management Unit for the State Security and  
Defence at the National Centre for Research  
and Development

Col. Janusz FILIPEK Ph.D  
Head of the Board of Logistics Planning Depart-  
ment G-4 of the General Command of Branches  
of Armed Forces

Colonel Adam MAJCHRZAK  
Head of Logistics Dept. at the Internal Security  
Agency

Colonel Dariusz TETERUK  
Deputy Director of the Commander in Chief  
of the Technology and Supply Bureau at the  
Border Guard

Krzysztof FRELICH  
Deputy Director of the Department of Science at  
the Ministry of Education and Science

Andrzej MOCHOŃ PhD.  
President of the Board, Targi Kielce SA

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

Jan PAWELEC  
Director of the Department of Commerce and  
International Cooperation at the Ministry of  
Development

Chief Inspector Mariusz WÓJCIK  
BOA Central Counterterrorist Sub-unit of the  
Police

Marcin WRÓBLEWSKI  
Deputy Director of the Security Policy Depart-  
ment of the Ministry of Foreign Affairs



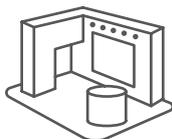
# MSPO '21 MISSION

# ACCOMPLISHED!

The International Defence Industry Exhibition and the simultaneously-held LOGISTYKA have been strategically important for the Polish and global defence industry. For many years, MSPO has been a meeting place for the global defence industry's leading companies. This is the arena to present the military sector's most outstanding achievements: cutting-edge army equipment and the gear put on show by exhibitors from all corners of the world. The military trade shows also offer the opportunity to hold business meetings and conclude strategic agreements between defence sector producers representing dif-

ferent continents. The Polish Armaments Group has been the MSPO's new strategic partner; PGE is one of Europe's largest defence-sector companies. The Polish Armaments Group's expo stand abounded with a wide range of innovative solutions and systems designed for the Polish Armed Forces and uniformed services. MSPO was also the occasion for PGZ to hold a formal contract-signing ceremony; the agreements stipulate the supply of new weapons and military equipment for the Polish Armed Forces. There were also agreements and partnership MOUs with enterprises from other countries. The Polish Armaments Group was also the organiser of numerous meetings and knowledge-packed conferences held as a part of the Defence Industry Exhibition. For years, the Show has been the holder of the President of the Republic of Poland, Andrzej Duda's honorary patronage.

## FACTS AND FIGURES



**20 629**

m<sup>2</sup> of exhibition space



**10 701**

visitors and guests from 41 countries



**400**

exhibitors from 28 countries

# 400 EXHIBITORS FROM 28 COUNTRIES



Australia, Belgium, Bulgaria, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Israel, Italy, Japan, Latvia, The Netherlands, Norway, Poland, Slovenia, Slovakia, South Korea, Spain, Switzerland, Sweden, Turkey, Ukraine, United Arab Emirates, USA

## THE COUNTRIES WHICH HAVE ENJOYED THE MOST NUMEROUS REPRESENTATION



215



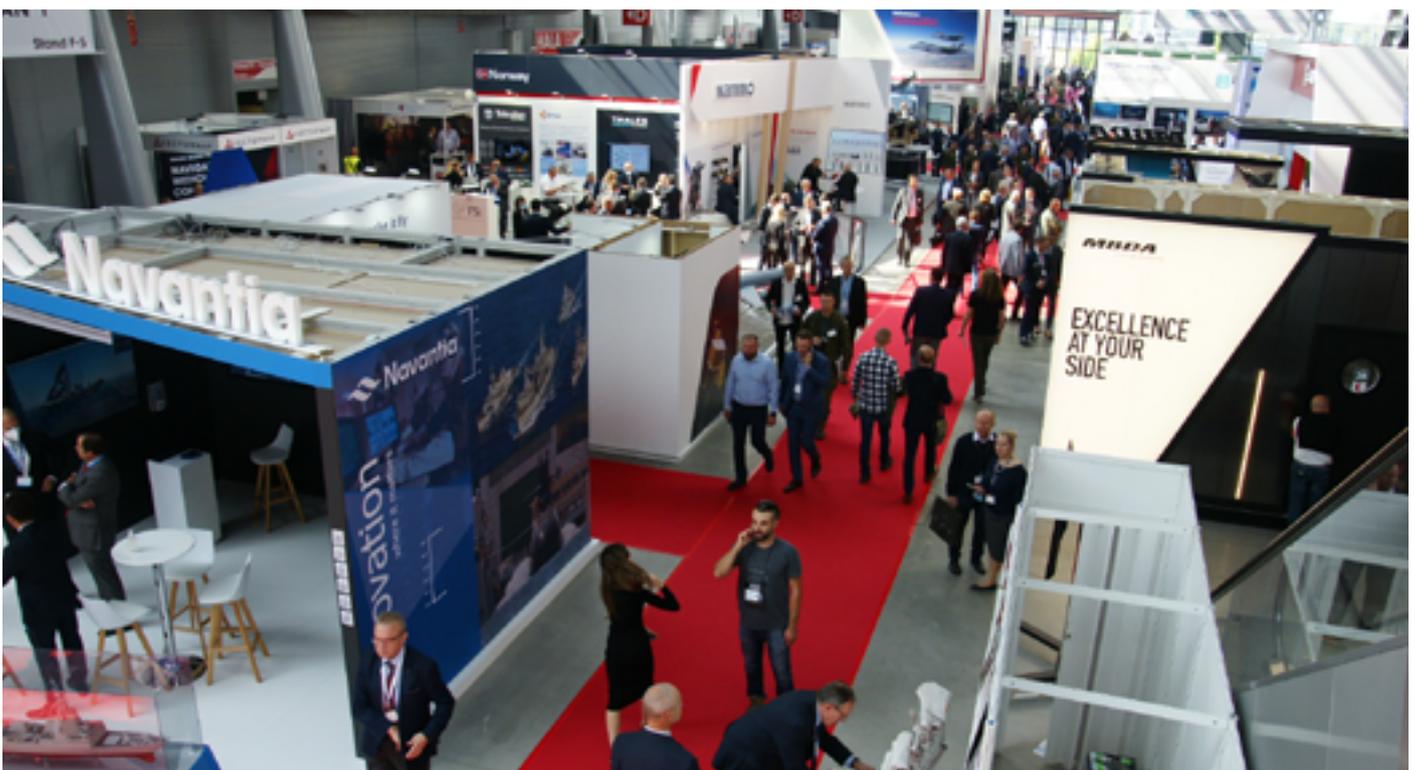
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19



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# MSPO HOSTS IMPORTANT GUESTS

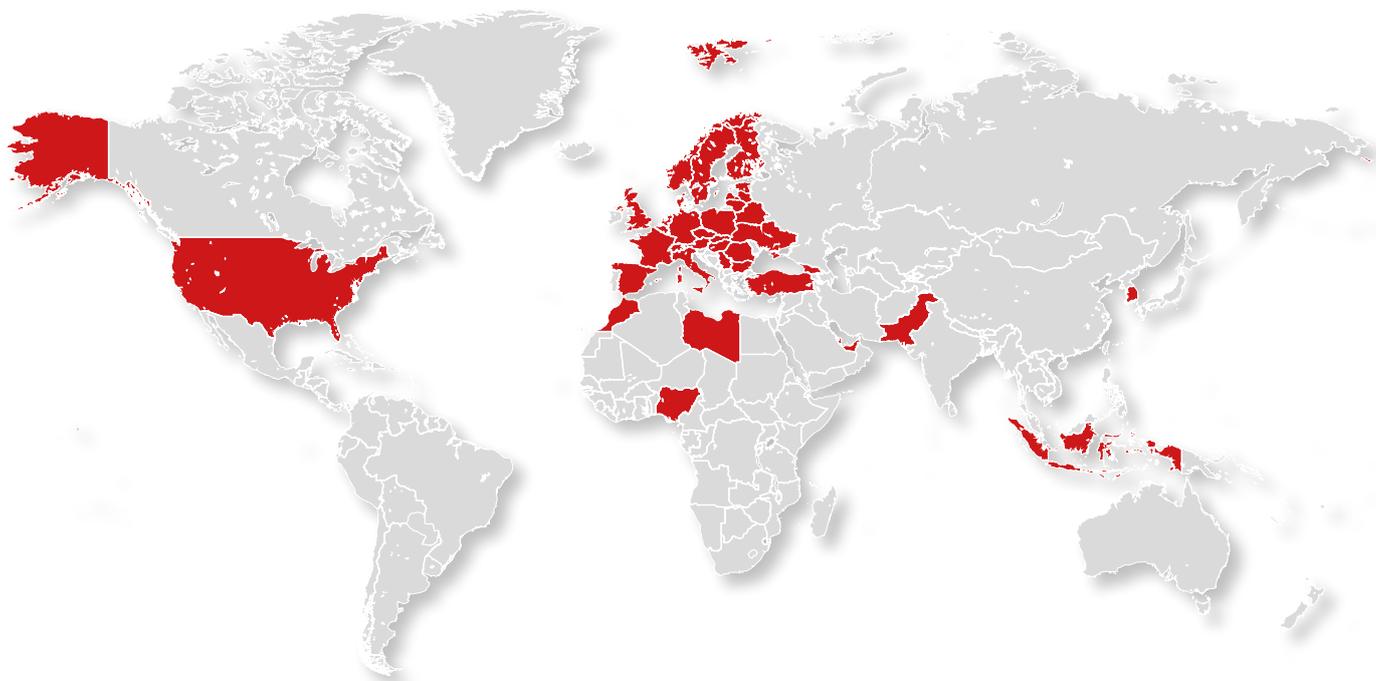
The most important Polish defence institutions' representatives were among the XXIX International Defence Industry Exhibition and the XXVII International Logistics Fair LOGISTYKA'S guests. President of the Republic of Poland, Andrzej Duda, who traditionally granted the honorary patronage to the exhibition, also partook in the expo. Mariusz Błaszczak, the Minister of National Defence and Paweł Sioch, the head of the National Security Bureau as well as the Bureau Deputy, Major General Andrzej Reudowicz, marked their presence at the opening ceremony. All guests of honour emphasised the exhibition's significance for the Polish defence industry and its impact on the Polish defence industry's promotion in the international arena.



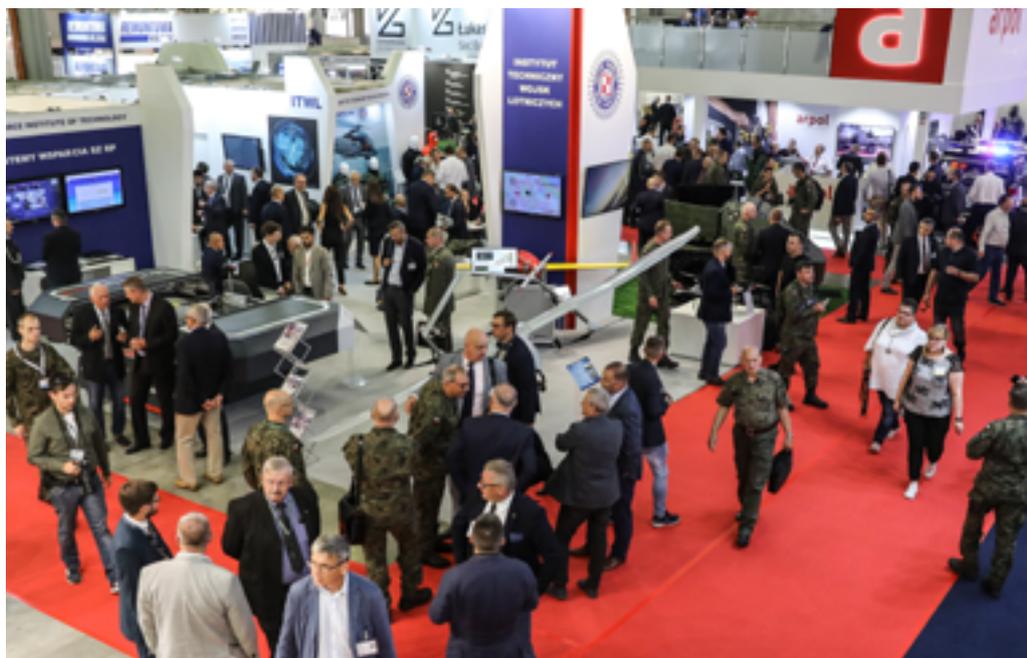
There were also representatives of uniformed services: Major General Dariusz Łukowski, Director of the Armed Forces Supervision Department at the National Security Bureau, Przemysław Funiok, Marek Pasionek and Andrzej Pozorski, Deputy Prosecutors General, General Rajmund Andrzejczak, Chief of the General Staff of the Polish Armed Forces and many others. MSPO hosted 31 official foreign delegations from 27 countries of the world.



# 10 701 VISITORS & GUESTS FROM 41 COUNTRIES



Andorra, Austria, Belgium, Belarus, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Spain, the Netherlands, Indonesia, Qatar, South Korea, Libya, Lithuania, Latvia, Morocco, Germany, Nigeria, Norway, Pakistan, Palestine, Poland, Romania, Serbia, Slovakia, Switzerland, Sweden, Turkey, Ukraine, USA, Hungary, Great Britain, Italy, United Arab Emirates

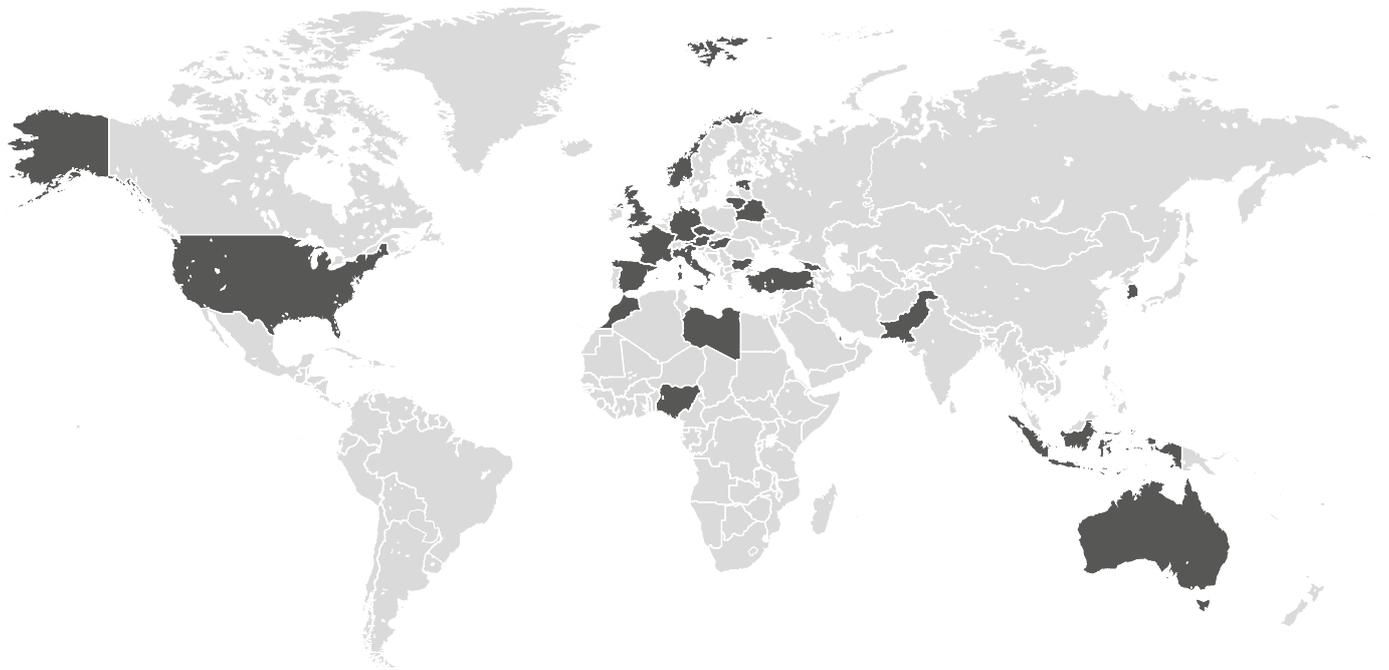


OFFICIAL



# FOREIGN DELEGATION

31 OFFICIAL FOREIGN DELEGATION FROM 27 COUNTRIES



Australia, Belarus, Bulgaria, Czech Republic, Estonia, France, Georgia, Germany, Great Britain, Hungary, Indonesia, Italy, Libya, Lithuania, Norway, Nigeria, Palestine, Turkey, Austria, Maroko, Qatar, South Korea, Spain, Ukraine, United Arab Emirates, USA

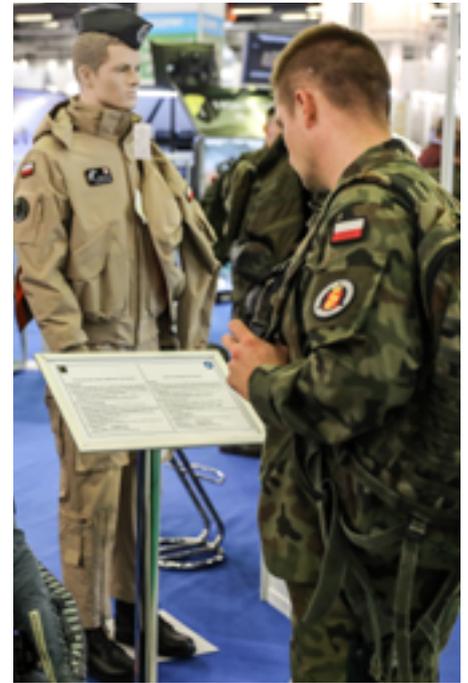


# THE POLISH MILITARY AT MSPO

The MSPO's presentation includes a traditional display of the Polish military: the Armed Forces Exhibition was held this year under the banner of "Endure-Control-Defeat".

Over 400 soldiers from all armed forces branches came to Kielce to co-create the exhibition of over 5,000 sqm of space of the indoor space. Inside the A expo hall, there was the display for the Units of the Armed Forces Branches General Command, Territorial Defence Forces, Military Police, units of the Inspectorate of Support for the Armed Forces, Bureau for the Become a Soldier Programme, the National Cyberspace Security Centre

and military universities. In addition, over 2,000 sqm of the outdoor expo space was the showcase for heavy-duty equipment such as POPRAD self-propelled anti-aircraft missile system, Leopard 2A5 tanks, Leopard PL tank, KTO ROSOMAK HITFIST-30, KRAB cannon-howitzer, PSR-A PILICA fire unit, artillery Armament Repair Vehicle, two SCOBAMAT sets. This Armed Forces Exhibition differs from previous years' editions.



„Bearing in mind the safety considerations and limitations that we have to deal with at the pandemic times, we have opted for multimedia. The expo stands are equipped with screens and TV sets, which will display information materials,”- explained Colonel Grzegorz Lisowski; the Armed Forces Exhibition's coordinator.





# ACCOMPANYING EVENTS

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The International Defence Industry Exhibition always abounds with seminars and conferences.

Over 30 meetings were held at this year's trade fair. The importance of selected programmes, such as „Miecznik”, „OCEAN 2020” and „Wilk” for the defence industry, were discussed. The extensive list of seminars that took place at this year's fair included the one organised by Huta Stalowa Wola - selected strategic projects for the development of the armed forces were analysed. The expo-accompanying meetings also discussed the benefits and opportunities resulting from the Polish-American agreement on enhanced defence cooperation EDCA, as well as the strengths and challenges related to the Foreign Military Sales (FMS) system.



This year's MSPO was the presentation platform for the cutting-edge OBRUM training and service tools for the armed forces, the innovative methods based on terahertz diagnostics in selected military and security applications. The importance of the Polish aviation industry in creating the defence potential of the Republic of Poland was also emphasised. A plethora of knowledge-packed conferences featured the operation of a specific model of precision military equipment and the advantages of cooperation between the defence industry, startups and the scientific community.



# AGREEMENTS AND MOU'S

The trade fair witnessed numerous MOU's, contracts and cooperation agreements signed with leading representatives of Poland's and the global defence industry.

At this year's MSPO, the Polish Armaments Group's Consortium - PGZ-NAREW signed a framework agreement with the Armament Inspectorate to acquire Short Range Air Defence Missile Sets (ZROP-KZ) codenamed NAREW; this is the most extensive modernisation project in the Polish Armed Forces' history. The President of the Republic of Poland, Andrzej Duda and Mariusz Błaszczak, the Minister of National Defence, graced the agreement signing with their presence. The Polish Armaments Group also signed the deal with Nammo; one of the world's leading ammunition producers. There was also the agreement for the supply of wheeled armoured personnel carriers ROSOMAK RSK in contamination detection version as well as the agreement for medium and long-range interrogators of the „friend-or-foe” system.

PCO SA celebrates its 45th anniversary; the company concluded two important agreements regarding expansion into foreign markets: one with the Ukrainian UKRAINIAN HELICOPTERS company and the other with the Norwegian Kongsberg Defense&Aerospace for developing turret systems.

The Military Aviation Works nr 2 SA signed the framework agreement with Pratt&Whitney, a branch of Raytheon Technologies Corporation, defining the principles of cooperation and engineering support for the further development of technical competencies and increasing the scope of repair works of the F100-PW-229 engines used in the F-16 aircraft by the Polish Air Force.

Saab signed a contract for the supply of a laser simulation system and a support package for the Polish Armed Forces.



# AWARDS AND PRIZES

MSPO 2021

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**REPUBLIC OF POLAND PRESIDENT'S AWARD**  
for the best product which serves the purpose of the RP Armed Forces soldiers' safety enhancement:

**Huta Stalowa Wola Steelworks SA** from Stalowa Wola;  
**WB Electronics SA** from Ożarów Mazowiecki, **Rosomak SA** from Siemianowice Śląskie for the artillery reconnaissance vehicle built on the APC Rosomak

**MINISTER'S OF NATIONAL DEFENCE'S  
DISTINCTION**

**Fabryka Broni Łucznik-Radom Sp. z o.o.**- from Radom  
for the 9mm VIS 100 semi-automatic pistol

**THE SPECIAL DISTINCTION  
OF THE PROGRAMME BOARD**

**The Air Force Institute of Technology** - the project leader, the **Sieć Badawcza Łukasiewicz - Institute of Industrial Organic Chemistry and Boryszew SA - NYLONBO** from Sochaczew for flares and automatic flare-firing system

## THE DEFENDER AWARD

**Military University of Technology** (leader) from Warsaw; **Transbit LLC** (consortium member) from Warsaw; **Asseco Poland SA** (consortium member) from Rzeszów for a secured multimedia communication system (BSKM)

**ARPOL Professional Tools LLC** from Osielsk; **GLOMEX MS Polska LLC**, Suchy Las for general-purpose goods and passenger carrying vehicle - a service car with a technical reconnaissance function

**Military Institute of Armament Technology** from Zielonka; **Bydgoszcz Electromechanical Works BELMA SA**, Białe Błota for PTASZNIK - universal charge with a shaped-charge effect, mountable on EFP and DFC adapters

**REMONTOWA SHIPBUILDING**, member of the **Remontowa Holding** capital group from Gdańsk for a series of six multi-purpose tugs built for the Navy

**Jarosław Dąbrowski Military University of Technology** - Institute of Optoelectronics (leader) from Warsaw; **Air Force Institute of Technology** in Warsaw; **Kenbit Koenig and Partners JP** from Warsaw; **Nordcom LLC** from Dąbrowa Górnicza for the SkanDRON - a laser detection and tracking system for low-flying objects

**PCO SA** from Warsaw for the MZN-1T Modular Night Vision and Thermal System

**Professor Janusz Groszkowski Military Institute of Communications** - National Research Institute, Zegrze Południowe for the information protection system in LAWENDA radio networks

**GRUPA WB | WB Electronics SA** from Ożarów Mazowiecki for the W2MPIR Multi-layered, Multi-purpose, Modular, Aerial Smart Swarm

**Air Force Institute of Technology in Warsaw; Dobrowolski LLC** (leader), Wschowa for BIZON - an unmanned measurement platform

**Polish Armaments Group SA** from Radom; Jelcz LLC, Jelcz-Laskowice; **Military Armament Works SA** from Grudziądz; **Autosan LLC** - Sanok for the WISŁA system's special purpose vehicles - wheeled special platforms with a logistic trailer



## THE GENERAL COMMANDER OF BRANCHES OF ARMED FORCES

### - MAIN AWARD AND DISTINCTION

for the winner of "The Best Presentation – the Best Expo Stand" Competition

the Land Forces Inspector at the General Staff of the Armed Forces

## THE INSPECTORATE FOR ARMED FORCES SUPPORT COMMANDER'S AWARDS

### AWARD FOR ACHIEVEMENTS IN RATIONALISATION AND INNOVATION

**presented to:** 1st Regional Logistics Base in Walcz

**for:** the project development: The HIT FIST 30mm turret drive locking attachment; 8x8 KTO ROSOMAK

**The team of authors:** Marcin Spakowski, Janusz Czarnota, Jarosław Antochowski, Jacek Mikołajczak, Senior Warrant Officer Dariusz Skibowski

### FISRT DISTINCTION

FOR ACHIEVEMENTS IN RATIONALISATION AND INNOVATION

**presented to:** 3rd Regional Logistics Base in Krakow

**for:** the project development: The repair-method for a SPIKE ATGM launcher's tripod

**The team of authors:** Ireneusz Kosecki, Marek Mielniczek



## SECOND DISTINCTION

FOR ACHIEVEMENTS IN RATIONALISATION AND INNOVATION

**presented to:** Logistics Training Centre in the Grupa  
**For:** development of the project: STEND POWER PACK FOR KTO ROSOMAK

**The team of authors:** Junior Warrant Officer Bogdan Kłowski, Junior Warrant Officer Cezary Milewski, senior sergeant Tomasz Bielecki



## SPECIAL AWARD OF THE MINISTER OF DEVELOPMENT, LABOUR AND TECHNOLOGY for the „Best Polish Arms Exporter”

**WB ELECTRONICS S.A. | GRUPA WB**, Ożarów Mazowiecki

## TARGI KIELCE PRESIDENT OF BOARD’S AWARD

**Military Institute of Armament Technology** from Zielonka; **AUTOCOMP MANAGEMENT LLC** from Szczecin for the POJEDYNEK (SCI-C) training and simulations system



## AWARDS FOR STAND ARRANGEMENT:

### DISTINCTIONS:

- **CZECHOSLOVAK GROUP** a.s., Czechy
- **Instytut Techniczny Wojsk Lotniczych**, Warszawa
- **LEONARDO**, Italy
- **NORTHROP GRUMMAN**, USA
- **RADIOTECHNIKA MARKETING** Sp.z o.o., Kąty Wrocławskie, Poland
- **RAYTHEON Technologies**, USA
- **SAAB AB / Saab Technologies Poland** sp. z o.o., Warszawa, Poland
- **SE SFTF „PROGRESS” / State Enterprise** “Specialized Foreign Trade Firm “PROGRESS”, Ukraine
- **Wojskowy Instytut Techniczny Uzbrojenia**, Zielonka, Poland

## AWARDS FOR STAND ARRANGEMENT:

### MEDALS

- **GRIFFIN GROUP S.A. DEFENCE** Sp.k., Warszawa, Poland
- **GRUPA WB | WB GROUP**, Ożarów Mazowiecki, Poland
- **HYUNDAI Rotem Company**, South Korea
- **Megmar Logistics & Consulting** Sp. z o.o., Kutno, Poland

### MEDAL FOR THE ORGANIZATION OF A COLLECTIVE STAND

- **POLSKA GRUPA ZBROJENIOWA** S.A., Radom, Poland

### ADDITIONAL MEDALS

for organizing the Exhibition of the Armed Forces

- **General Staff of the Polish Army**
- **General Command of the Kinds of Armed Forces**
- **Armed Forces Support Inspectorate**



## REPUBLIC OF POLAND PRESIDENT'S AWARD

**Huta Stalowa Wola Steelworks SA from Stalowa Wola**  
**WB Electronics SA from Ożarów Mazowiecki**  
**Rosomak SA from Siemianowice Śląskie**

### Artillery Reconnaissance Vehicle AWR

The Artillery Reconnaissance Vehicle (AWR) is based on the Rosomak 8x8 APC. The vehicle is designed to carry out tasks in the field of ground opto-electronic reconnaissance and fire support for the Artillery Company Unit of 120 mm Self-Propelled Mortars RAK and other artillery subdivisions. Moreover, it can be used for reconnaissance of the field, regrouping routes, areas of fire stations and providing security.



The project was implemented by HSW SA, together with subcontractors, i.e. WB Electronics SA and Rosomak SA.

The AWR has three work stations in the vehicle: the commander, the operator of the head scout and the operator of the radar scout. The software of the fire control system allows for the integration of reconnaissance subsystems and handling the execution of a fire task by artillery sub-unit.



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tel.: +48 15 813 42 15  
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AWR is equipped with of two sensor sets: onboard one (with battlefield radar and optoelectronic sensor on a mast), and portable one (with APDR artillery reconnaissance/rangefinding instrument, featuring a TV camera, thermal imager, laser rangefinder). The aim is to obtain information that allows to identify and determine the location of targets and to work out data enabling the execution of a fire task by a support company, battery or artillery squadron.

AWR can support and provide reconnaissance data to other elements using the Topaz system. All of the Rak fire module vehicles have also been fitted with Topaz automated fire control system. The Topaz system, together with the on-board set of Fonet internal communication devices allows to exchange the data and audio in an automated manner, almost in real-time at the tactical level, both with the artillery command post and other elements.

The Artillery Reconnaissance Vehicle is to become a part of the company-level Rak mortar fire modules - the Rak self-propelled mortar, command vehicles (all on 8x8 wheeled chassis), and support vehicles (ammunition carriers, and repair vehicles). Their deliveries are carried out on an ongoing basis by HSW SA for the Polish Armed Forces.

## MINISTER'S OF NATIONAL DEFENCE'S DISTINCTION



Fabryka Broni „Łucznik”  
– Radom sp. z o.o.  
ul. Grobickiego 23  
26-617 Radom  
Sekretariat:  
tel./fax 48 38 99 100/ 38 99 334  
sekretariat@fabrykabroni.pl  
www.fabrykabroni.pl

### Fabryka Broni Łucznik-Radom Sp. z o.o. from Radom

#### THE SEMI-AUTOMATIC VIS 100 PISTOL

The new 9mm semi-automatic pistol is designed in Poland for military and law enforcement personnel. Owing to a modern design, enables it to it can be carried with a chambered round in complete safety, accelerating the firearm response to the scenario. The pistol in an ergonomically shaped, reliable and fast-pointing pistol. It features high-contrast day-and-night sights and high-capacity magazine; and it is also fully ambidextrous. The tenifer metal coating assures maximum protection of the metal parts against abrasion and corrosion – as well as attractive looks. The frame features a mil-std-1913 (Picatinny) compatible rail at the dust-cover, enabling attaching of tactical lights or laser sighting equipment. 9 mm.



## THE SPECIAL DISTINCTION OF THE PROGRAMME BOARD

The Air Force Institute of Technology - the project leader from Warsaw

The Sieć Badawcza Łukasiewicz - Institute of Industrial Organic Chemistry from Warsaw

Boryszew SA - NYLONBO from Sochaczew

### Flares and launcher COMPLYING WITH STANAG-4687 FOR PASSIVE PROTECTION OF MANNED AIRCRAFT

The project was carried out by a consortium: the Air Force Institute of Technology – project leader, Institute of Industrial Organic Chemistry and BORYSZEW S.A. NYLONBOR branch.

**As a result of the project, the following items have been constructed:**

- prototype batch of K-811H launchers, TNZ-811H flare, TNZ-26 flare;
- technical documentation of launchers and flares;
- technology demonstrator of the test stand used for estimating the effectiveness of flares;



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e-mail: poczta@itwl.pl  
www.itwl.pl

- technology demonstrator of a programmable flares' launching system integrated with the UV sensor.

### **K-811H launcher**

K-811H launcher is used to NATO standard 1x1x8 flares from a helicopter using the ASO-2W passive protection system.

### **TNZ-811H flare**

It is an element of the aircraft passive protection system, and its main aim is to jam homing missiles.

### **The programmable launching system of flares**

The programmable launching system of flares enables to:

- program and launch any sequence of flares;
- detect rocket missile;
- inform the staff about the direction of risk.



Development project implemented under an agreement with the National Center for Research and Development.

## THE DEFENDER AWARD

**Military University of Technology** (leader) from Warsaw  
**Transbit LLC** (consortium member) from Warsaw  
**Asseco Poland SA** (consortium member) from Rzeszów

### Secure Multimedia Communication System (BSKM)

BSKM is the result of the evolution of the project entitled „Development of a prototype of a secure data transmission system between various classified networks using public networks (BSWD)”, co-financed by the National Center for Research and Development under the INNOTECH program and implemented by the consortium WEL WAT, TRANSBIT Sp. Zoo. and ASSECO POLAND S.A. in the years 2012-2015. The aim of the project was to ensure a secure flow of information in a heterogeneous network environment using the SCIP (Secure Communications Interoperability Protocol) protocol, compliant with STANAG 5068. Basic communication components were developed and tested: VT 10SCIP terminal, VG-30SCIP gateway and ACP - PKI100 security component has been implemented in various ICT network architectures to provide voice, data and video services at various security levels through standard interfaces, compatible with the NATO SVoIP (Secure Voice over IP) strategy.



The SCIP protocol implemented in BSKM (BSWD) components enables the use of cryptographic mechanisms for encrypting voice transmissions (MELPe and G.729D codecs) and data transmission based on the SCIP-210.x signaling protocol. In addition, it is characterized by interoperability and the possibility of using it in two secure modes of operation, using the X.509v3 certificate compliant with the SCIP-233.X standard and Pre-Placed Keys through the DS.-100-1 tag and the Crypto Ignition Key (CIK). The effectiveness, functional reliability, flexibility, scalability and interoperability of BSKM (BSWD) were presented at various conferences and exercises, incl. CWIX (Coalition Warrior Interoperability eExercise - ACT NATO in 2015-2018), IICWG (International Interoperability Control Working Group) conferences and military equipment exhibition (MSPO in Kielce in 2017-2019).



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## ARPOL Professional Tools LLC from Osielsk GLOMEX MS Polska LLC from Suchy Las

A passenger car and a general-purpose truck with a technical reconnaissance function is a combination of 2 solutions for the Polish Army.

The base product Ford Ranger XLT van was delivered to the Polish Army as part of the delivery of the general-purpose truck and passenger car. Within the current delivery, in 2020-2022, Polish Army will receive 648 units of this vehicle.

The cargo space was prepared as a continuation of technological and quality changes in the field of modernization of technical services equipment in the Polish Armed in areas such as:

- Mobile workshops on SARNA II and AUM-117 on vehicles STAR 266 M2 workshops Ł2, RWEM, RWSPCH-72M, WOP, WORinż, WSB, ZPP;
- WRUE;
- AWRU;
- UKWON;
- Set of tools for mechanization of works in construction of viaducts and bridges KOSODRZEWINA;



The proposed equipment ensures full compatibility between the above mentioned workshops in terms of relocation of both body elements and equipment (e.g. in case of chassis damage).

The completion of the tools and workshop equipment is 100% compatible with the needs specified by the user. All tools are completed in accordance with the experience gained during the cooperation with the Polish Armed Forces based on all standards and requirements such as DIN, ISO, ECE-R, PN, STANAG, DEFENCE STANDARDS etc.

## Military Institute of Armament Technology from Zielonka Bydgoszcz Electromechanical Works BELMA SA from Białe Błota

### "PTASZNIK" UNIVERSAL SPECIAL SHAPED CHARGE

A distinctive feature of the charge is an adjustable distance between the cumulative insert and the object. Three-stage adjustment of the distance is realised by extending the external body of the charge, which allows for: decreasing the height of the charge and obtaining a wide range of effects of the cumulative jet on objects made of different materials (wood, concrete, steel) as well as obtaining a destructive effect behind the struck object. Additionally, the charge is equipped with additional explosive modules: EFP (Explosively Formed Projectile) and DFC (Defence Fragmentation Charge), which can be quickly attached to the housing. The charge can be used both in regular operations (engineering works, neutralization of dangerous ammunition), as well as in unconventional operations (sabotage, IED, destruction/damage of military equipment). The use of simple construction solutions in the charge allows for its modification according to the user's needs.



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www.belma.pl



#### Charge performance characteristics:

- total mass: about 900 g;
- mass of explosive: about 430 g;
- height of charge (according to 3-degree distance):
  - > „1”: 130mm, „2”: 167mm - „3”: 230mm;
- diameter of the charge: 107,4mm;
- penetration for distance „3”:
  - > RHA plate: about 250mm;
  - > reinforced concrete wall: more than 700mm;
  - > wooden beam (lengthwise) of 1.5 m.
- housing material: plastic.



Remontowa Shipbuilding S.A.  
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80-958 Gdańsk  
www.remontowa-rsb.pl

## REMONTOWA SHIPBUILDING

### Six multipurpose vessels prepared to perform a very wide range of tasks

Remontowa Shipbuilding member of Remontowa Holding, built and handed over to the Polish Navy six multipurpose vessels prepared to perform a very wide range of tasks. Three of them – H-1 Gniewko (B 860/2), H-2 Mieszko (B 860/3), H-3 Leszko (B 860/5) – were incorporated into the Support Ship Squadron of the 3rd Flotilla in Gdynia, the others: H-11 Bolko (B 860/1), H-12 Semko (B860/4) and H-13 Przemko (B 860/6) were incorporated into the 12th Wolin minesweeper Squadron which is a tactical division of the 8th Coastal Defence Flotilla in Świnoujście.

Tugboats are intended, among other things:

- for combat security and logistic support at sea and in ports,
- technical evacuation operations,
- rescue support,
- transport of people and supplies,
- firefighting,
- pollution neutralisation,
- taking torpedoes out of water.

The ice class of the tugs allows them to operate in difficult hydrological conditions and, assisted by icebreakers, even in severe ice conditions. The fuel reserve is sufficient for 7 days, while the autonomy of the tugs is 5 days. They are manned by a 10-person crew with seven cabins (four single and three double).



Jarosław Dąbrowski Military University of Technology  
- Institute of Optoelectronics (leader) from Warsaw  
Air Force Institute of Technology in Warsaw  
Kenbit Koenig and Partners JP from Warsaw  
Nordcom LLC from Dąbrowa Górnicza



Laser system for detecting and tracking low flying objects – SkanDRON

The laser detecting and tracking system for low flying objects is the perfect complement to stationary (optoelectronic systems installed on towers) and mobile (handheld cameras and observation vehicles) border protection measures. The laser detecting and tracking system for low flying objects consists of a set of laser sensors – scanners that scan the airspace in order to detect flying objects, with particular emphasis on small unmanned objects.

The system has high spatial differentiation. The system provides the transfer of coordinates of detected objects to external systems and system control. The system is equipped with a control and measurement application (SkanCtrl) and GUI.

System's functionality can be used to: protection of critical infrastructure, securing mass events, protection of objects and property, counteracting illegal use of drones. The system can be applied to the limitation of unauthorised crossing of the state border, as well as uncontrolled flights near the borders.

The SkanDRON system has been created by a consortium of the Military University of Technology (WAT) – Institute of Optoelectronics (as a leader) and the Air Force Institute of Technology, Companies: Kenbit, sp. j and Nordcom sp. z o.o.



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Project co-financed by the National Center for Research and Development as part of the research program for security and defense, contract number DOB BIO9/21/01/2018.



PCO S.A. from Warsaw

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## Modular Thermal-Night Vision System MZN-1T

The MZN-1T Modular Thermal and Night Vision System is the latest device developed by PCO S.A. Thanks to the unique concept that allows for free configuration of the equipment, the goggles cannot compete with the products available in the world.

The solutions used in the system allow you to freely configure the equipment in a way that best suits the user. In addition to the new night vision goggles, the MT-1 thermal imaging monocular, which was previously unavailable in the offer, was developed, which can be successfully used in the MZN-1 as one of the optical channels, creating a specific image fusion system.



The modular design of the MZN-1 enables the following functions:

- the ability to quickly change the goggles with 18-mm image intensifiers to 16-mm (or vice versa), depending on the current needs, or use the MT-1 thermal imaging monocular as one of the video channels in the system;
- quick change of configuration from monocular to binocular (goggles);
- use as a night vision attachment mounted in front of the DCM-1 type sight on the weapon rail;
- use as an attachment mounted in front of the devices as an observation telescope, camera, etc .;
- possibility of integration with the bridge of a two-stage IR illuminator, laser or SWIR technology;
- the ability to record the image (also with a GoPro camera).

Modular Thermal-Night Vision Set, in the basic version, consists of two monoculars, a bridge being the central unit of the system, a flip-up for helmet mounting and a holder

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with power supply. The holder, after mounting any monocular, allows you to obtain a handheld night vision device with the possibility of mounting it on a weapon as a night vision attachment behind a collimator sight.

The equipment was designed to work in the toughest conditions, therefore, light and durable materials made of high-impact plastics, aluminum alloys and titanium were used in its construction.

This device was created in close cooperation with former operators of special units.

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



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Państwowy Instytut Badawczy

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### LAWENDA (LAVENDER)

– information protection system for radio networks

The information protection system for radio networks called LAWENDA is designed to provide cryptographic protection of classified information which is transferred using HV or VHF transceivers. The essential element of the system is RMK – Radio Cryptographic Module. For the purpose of key management for RMK, Stations for Planning, Generation and Distribution of Cryptographic Data (PSPGDDK) and Cryptographic Data Distributors (DDK) have been developed.

All the devices in the LAWENDA system are certified (Certificate type no 21/2020) for cryptographic protection of classified information categorised as RESTRICTED and NATO/EU RESTRICTED in national, NATO and EU systems of protection of cryptographic information.

The RMK devices have undergone a number of tests and can be used to protect classified speech signals and data transmission transferred in



HV and VHF radio networks which are organised with the use of the radio stations in operation in the Polish Armed Forces. In this respect, it is a universal system which can cooperate with thousands of HV and VHF transceivers used currently in the Polish Armed Forces.

The intended purpose of the system is implementation into radio communication systems which are already in operation, into integrated special vehicles for command, logistics and missile systems under the

WISŁA programme as well as into combat vehicles such as BORSUK, ROSOMAK BMS, etc.

The first batch of the RMK devices is being put into operation in selected units.



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## GRUPA WB | WB Electronics SA from Ożarów Mazowiecki

W2MPIR reconnaissance & strike system (Multimission Aerial Smart Swarm) is a unique Polish solution for the A2/AD penetration.

W2MPIR comprises of the swarm of unmanned aerial systems, synchronized in terms of communication and data transmission, to accomplish the most challenging combat missions. This allows the armed force to complete the mission without necessarily risking the lives of its soldiers.



The system is designed to temporarily suppress the enemy's Anti-Access/Area Denial Air/Missile defense systems. The surveillance unmanned aerial vehicles combined with the swarm of loitering munition is capable of saturation attacks of important targets. In addition, the system is fully operational in a GPS-disrupted or GPS-spoofed environment.

The solution is integrated with the national TOPAZ Integrated Combat Management System. W2MPIRE is a combination of the proven solutions, already inducted to the Polish Armed Forces, such as the FLYEYE recon-

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naissance UAV and WARMATE loitering munitions system, complemented by a multirole unmanned FT-5 aerial vehicles and a larger WARMATE 2 loitering munition system. The solution allows to produce aerial strike assets' depots, available for troops at various tactical levels.

## Air Force Institute of Technology in Warsaw Dobrowolski LLC (leader), Wschowa

**BIZON** - Unmanned autonomous measuring platform for the natural airfield pavements load capacity assessment in continuous manner, as well as monitoring and investigating condition of the airfield functional element pavements.

### Measuring platform

Power system:

- 3 x electric motor 10 kW, 120NM
- battery pack 96V 400Ah
- - about 8 hours of device operation on one charge

### Radio communication system:

- author's system based on Polish product
- control data, telemetry and video stream transferring in a real time
- 30 km range

### Software:

- author's autopilot module
- remote management and control of the entire platform on-board equipment
- autonomous operation mode
- GPS RTK navigation (10 cm accuracy)

### Bzyg

Unmanned micro-class aircraft with two-sensor optoelectronic head. Allows monitoring of the airfield pavement condition and the airfield area patrolling



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**DOBROWOLSKI**

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www.dobrowolski.com.pl



## Vehicle main features:

- own weight about 3 tons,
- electric drive,
- wheel chassis with applied caterpillars.

## Obstacle detection module:

- Author's system which consists of
- radar sensors
  - ultrasonic sensors
  - LIDAR and cameras.

Project developed by consortium: Instytut Techniczny Wojsk Lotniczych and Dobrowolski Sp. z o.o. (Leader)

The product is financed by the National Center for Research and Development under the Intelligent Development Operational Program 2014-2020.



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**Polish Armaments Group SA from Radom**  
**Jelcz LLC, Jelcz-Laskowice**  
**Military Armament Works SA from Grudziądz**  
**Autosan LLC - Sanok**



**WISŁA system's special purpose vehicles - wheeled special platforms with a logistic trailer.**



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The WISŁA medium-range anti-aircraft and anti-missile air defense system is designed to provide defense against various means of air attack of a potential enemy, including in particular short-range ballistic missiles, as well as manned and unmanned aircrafts. It is intended to provide cover for important critical infrastructure facilities and troop groupings in national, allied and coalition defense operations. Most components of the WISŁA system will be integrated with JELCZ special vehicles.



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## JELCZ SPECIAL VEHICLES IN THE WISŁA PROGRAM:

On May 17, 2019, the Armament Inspectorate – WISŁA Program Team – signed a contract with JELCZ Sp. z o. o. for the delivery of special component chassis in the amount of 73 JELCZ special vehicles for the first phase of the WISŁA program. Deliveries will involve unified JELCZ special vehicles with enhanced mobility, designed for integration with PATRIOT/IBCS system components.



As part of the contract, JELCZ Sp. z o.o. will provide the Polish Armed Forces with:

- 33 JELCZ tractor units type 882.57 CSS with 8x8 drive,
- 28 JELCZ base chassis type P882.57 TS with 8x8 drive in universal configuration, based on which special transport vehicles (TS) will be made following adaptation and remodelling.
- 12 JELCZ high-mobility medium-capacity vehicles type 442.32 with 4x4 drive, produced on the basis of JELCZ open trucks type 442.32.

## THE GENERAL COMMANDER OF BRANCHES OF ARMED FORCES

MAIN AWARD AND DISTINCTION FOR THE WINNER OF "THE BEST  
PRESENTATION – THE BEST EXPO STAND" COMPETITION



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### the Land Forces Inspector at the General Staff of the Armed Forces



LAND FORCES INSPECTORATE is the internal part of the Polish Armed Forces General Command. Its tasks are related to training and equipment of the Land Forces units. Inspectorate is responsible for Land Forces' troops preparation and measures for battlefield activity as well as for coordination, organization and overseeing tasks related to achieving operational capability by supervised units.

Inspectorate carries out tasks connected with performing equipment manager function for armoured, mechanized, motorized, aeromobile, rocket and artillery troops as well.

## THE INSPECTORATE FOR ARMED FORCES SUPPORT COMMANDER'S AWARDS

### AWARD

for achievements in rationalisation and innovation

#### 1st Regional Logistics Base in Walcz

#### HITFIST 30mm turret drive locking attachment from 8x8 KTO ROSOMAK

The essence of the solution proposed by the creators is the possibility of disconnecting the turret drives (in azimuth and elevation) for the duration of maintenance

- repairing tower system HITFIST 30mm, which means that the attachment significantly improves the safety and ergonomics of the work of technicians performing the above-mentioned activities.

The attachment also enables continuous control of the supply voltages (+ 15V, -15V DC) actuators of the turret guiding mechanisms (in azimuth and elevation).

The rotation and lifting mechanisms are disengaged respectively by means of a toggle switch located on the attachment.

The adapter is made in the form of a rectangular box with the main electronic circuits. Two eight-pole toggle switches are installed on the front panel of the pickup, which are used to block the elevation drive and azimuth respectively. The adapter enables simultaneous disconnection of the elevation drives and



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azimuth and their separate disconnection.

There are three „banana” connectors on the front panel, which are used to connect a digital multimeter measuring the supply voltage of the tower control system (+ 15V, -15V). The presence of voltage is signaled by means of LED diodes. The attachment is equipped with an adapted 3W015 cable from the used gunner's console and the VG95328D14 19R connector to which the gunner's console cable is connected.

## FISRT DISTINCTION

for achievements in rationalisation and innovation



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### 3rd Regional Logistics Base in Krakow

#### The repair method for a SPIKE ATGM launcher tripod

The idea behind devising the repair method of a SPIKE ATGM launcher tripod (a replacement of the tripod foot) was the construction documentation development using the 3D Inventor software. The objective is to manufacture the tripod foot from commercially available materials.

So far, the foot of the tripod leg has been repaired by replacing it with a new, original part supplied by the set manufacturer, i.e. Rafael from Israel.



The original part consists of several elements, including the foot tip made of aluminium alloy, a wire spring, and other components, such as the foot-plate, which prevents the tripod from sinking into the ground. Unfortunately, the latter is made of plastic, the material highly susceptible to damage.

Such material use has entailed several problems. Thus, simulators and combat launchers were out of service for the repair period.

In the absence of a spare part in the Polish Armed Forces' store, the process significantly extended owing to the need to purchase the parts from a foreign manufacturer. In addition, the high unit price of the original piece has also been significant.

The solution which has been developed offers the possibility of making the foot in RON repair workshops, which eliminates the need to purchase new parts from the manufacturer. The new method significantly reduces the time necessary to carry out the repair procedures and reduces operating

## SECOND DISTINCTION

for achievements in rationalisation and innovation presented to:

### Logistics Training Centre in the Grupa

#### „Stend Power Pack KTO Rosomak”

Stend Power Pack KTO Rosomak is intended for practical learning of the courses „KTO ROSOMAK operational supervision”, „Implementation of higher technical KTO ROSOMAK maintenance”, „KTO ROSOMAK mechanic - chassis” (planned from 2023), as well as use during classes with students from AWL, Military University of Technology. Stend provides training related to maintenance operations performed on the Power Pack. It also provides for the disassembly and assembly of Power Pack components using the manufacturer’s instructions. We also have the option of mounting the Power Pack in the KTO Rosomak stand. All elements of the systems were painted in colors that reflect the fluids, operation in the systems, which allows for their easy identification. Visualization of the layouts additionally supports the perception of the audience. Stends were made from items damaged during the mission.



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## SPECIAL AWARD OF THE MINISTER OF DEVELOPMENT, LABOUR AND TECHNOLOGY

FOR THE „BEST POLISH ARMS EXPORTER”



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### GRUPA WB | WB Electronics S.A. from Ożarów Mazowiecki

WB ELECTRONICS is the leader of technological transformation in the Polish army and the defence sector. Operating in the field of specialised electronics and military IT, it has led the Armed Forces of the Republic of Poland into the 21st century, setting binding standards in key areas for national security.

It is the leader of the WB GROUP – the largest private defence industry group in Poland. It is guided in its business by innovativeness and the creation of major technological breakthroughs. The business philosophy adopted by us is expressed in a product offer that has incorporated unique solutions on a global scale, implemented in the toughest and most demanding markets.



## TARGI KIELCE PRESIDENT OF BOARD'S AWARD



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### Military Institute of Armament Technology from Zielonka AUTOCOMP MANAGEMENT LLC from Szczecin

#### POJEDYNEK training system (SI-C)

It is a multimedia, portable, shooting training system developed for the civilian market, which is not subject to concession trading and is intended for people over 15 years of age. Offered technology allows high freedom and security of use of the system by schools, pro-defence organizations, institutions and civilian companies.

# AWARDS AND PRIZES - MSPO 2021

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The system is designed to teach and improve skills in: safe use of weapons including manual handling, aiming with the use of different types of mechanical sights and collimators with „small” magnification, practicing observation - detection, recognition and identification of targets, conducting accurate fire from different positions, at different distances, joint shooting tasks.

The system is characterized by: compact construction, easy to carry and transport, easy to set up, simple and intuitive operation, and high realism of operation.

The system features highly professional functionalities unique in such small, portable devices, including shooting based on ballistics corresponding to the type and caliber of the weapon and simultaneous use of pistols and rifles, with full distinguishability of shooters and each shot, individual adjustment of each weapon, full image scalability while maintaining the angular view of objects for proper distance assessment; editor for the creation of shooting, type of target, distance, displacement, curtains, the way of showing, movement, the number of hits to destroy the target.



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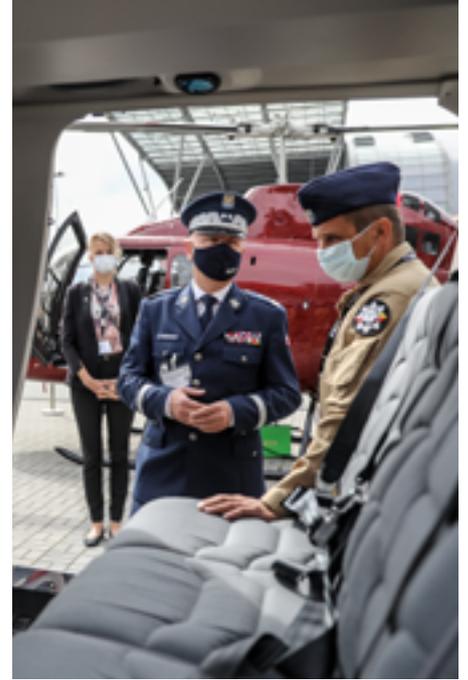


# MSPO 2021 EXHIBITORS FEEDBACK

# AIRBUS

Sebastian Magadzio  
- the AIRBUS Group's Polish representative

*We are glad that we have been managed to return to MSPO after this pandemic-break period; we have been a part of the show for over 20 years. We find MSPO an excellent opportunity to enhance business contacts, to present the products and solutions we offer for the Polish armed forces and law-enforcement services. The market's response has been outstanding. One can see that everyone has craved to return to normality; contacts with our customers demonstrate that. Therefore, we find it truly important to be able to mark our presence here again.*



Przemysław Kowalczyk - Member of  
the Management Board for Develop-  
ment, MESKO

*Frankly speaking, MSPO comes high in our rankings; the expo has finally returned to its tracks. The expo is back to what we used to know at previous shows. We have not been defeated by Covid. Everyone has been waiting for this year's Kielce expo, and I am not the only one to say that. (...) Trade fairs are in great demand for several reasons. The most important thing is that expos integrate our defence milieus, they are the stage to demonstrate our achievements, to establish business relations, too. They create relationships that translate into specific products, specific contracts. Expos also forge concrete visions that help us set the development direction.*





Marco Lupo  
- President of Leonardo Poland

“ First of all, we are very happy to be here. This fair is very familiar for Leonardo. Additionally, we have participated in the trade fair for many years, because Poland is one of the main countries for us, due to the investment that we have done in the past. (...) And we are particularly glad, especially this year, that we are returning to normality, with a lot of people that are visiting our stand. We can see that this is the right place to develop our relations, our partnership with the local industry as well as with the with all the Polish stakeholders.



Nick de Larrinaga  
- UK Head of Media Relations

We're very happy to be here as MBDA. Poland is a very important market for us, a strategic market for MBDA. And MSPO is of course, very important to us in terms of our representation in Poland. And this year's exhibition - it was a fear that it's going to be smaller because of the current time. But it looks like it's going just fine. Well, we're certainly here again. We were here last year as well, and the size of our stand is the same as all previous years.



**NORTHROP  
GRUMMAN**

Maciej Kowalski  
Principal Strategic Planner

*We are genuinely impressed with this year's MSPO; Kielce is one of Poland's best places to meet our clients and other defence milieus and business insiders. We come here every year; our calendar is full of appointments. We can proudly say that the management of our company has been content.*



 **Raytheon  
Technologies**

Shawn Rantas  
– Poland Patriot Offset Director

*MSPO this year is really exciting. It's great to see all of our colleagues back together after last year and after getting through the pandemic. And it's really amazing to see so many companies represented here and all the great technologies that are being displayed. I think an event like this is really important and critical to continuing to expand the defence industry and opportunities here in Poland. And giving a place for companies from all over the world to come and connect and learn about the different technologies and opportunities that exist in the defence industry.*



# MEDIA ABOUT MSPO 2021



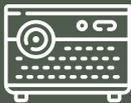
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## Land

### MSPO 2021: PGZ Reveals Latest LEOPARD 2PL Variant

**M1 Variant Displays Minor Additional Enhancements**

At MSPO 2021 in Kielce this week, PGZ's Bumar-Labedy presented the latest variant of the LEOPARD 2PL tank, known as the M1. Ultimately, all Polish 2PLs are scheduled to be modernised to this standard. Poland operates 247 LEOPARD 2Ls, acquired from Germany (128 A6s between 2002-2003; 14 A4 + 105 A6s between 2014-2015). The A6s are now being upgraded to the 2PL standard by Polish industry, led by Bumar-Labedy, in cooperation with Rheinmetall Landysteme, which was responsible for developing the modernisation concept.

In comparison to the 2A4, the PL variant has a changed turret shape, resulting from additional armour.

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## MSPO 2021: HSW displays tracked ve Rak 120mm self-propelled mortar

**MSPO 2021 News Official Show Daily**  
POSTED ON THURSDAY, 09 SEPTEMBER 2021 12:46

f t p in <

The basic task of a self-propelled 120mm mortar is to perform indirect, semi-direct or special ammunition, the mortar can fulfill fire support tasks in the range of lighting and



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**MSPO 2021: "Największy w historii" kontrakt na Narew podpisany**  
7 września 2021, 16:23

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**Domowy 2021**  
Imperyj brandowa, Przemyśl zbrojeniowy, 10 września 2021

Tradycyjnie już wstępnego dnia **MSPO** wpisano nagrody Defender dla najlepszych wyrobów prezentowanych podczas tegorocznych targów, a także nagrody specjalne Prezydenta RP i UCR.

Laureaci nagród Defender wpisanych na załączniku DOZADPO / Złote Tęgi Kielce

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