

INTERNATIONAL AVIATION & MILITARY GUIDE

Special analytical export project of the United Industrial Publishing

№ 02 (70), Special edition

FSMTC OF RUSSIA

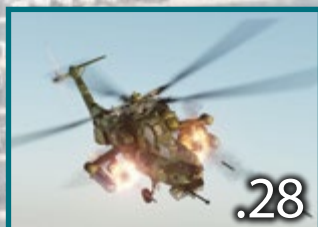
*Special interview
by Dmitry Shugaev*



.16

NEW POSSIBILITIES

*For the Army
and for the Navy*



.28

ROSOBORONEXPORT

*Special Innovations
and the best products*



.38

MADE IN RUSSIA

*High-tech defense
solutions for the Gulf*



.46

Defense innovations for the Gulf countries and the global market



UNPARALLELED WEAPON EMPOWERED WITH DEEP SURGICAL STRIKE



SPEED : PRECISION : POWER

THE KEY ELEMENTS OF NETWORK CENTRIC WARFARE



BrahMos
An India - Russia Joint Venture
BrahMos Aerospace

16, Cariappa Marg, Kirby Place, Delhi Cantt., New Delhi - 110010 INDIA
Tel.: +91-11-3312 3000 Fax: +91-11-2568 4827 Website: www.brahmos.com Mail: mail@brahmos.com



'International Aviation & Military Guide'
№ 02 (70), Special edition

Special analytical export project
of the United Industrial Publishing

Registered in the Federal Service for
Supervision of Communications, Information
Technology and Mass Media (Roscomnadzor)
09.12.2015 PI № FS77-63977



The magazine 'Russian Aviation & Military
Guide', made by the United Industrial
Publishing, is a winner of National prize
'Golden Idea 2016' FSMTC of Russia

General director
Editor-in-chief
Valeriy STOLNIKOV

Chief editor's deputy
Elena SOKOLOVA

Commercial director
Oleg DEINEKO

Head of international projects
Alexander STOLNIKOV (s.xander@bk.ru)

Managers
Tatiana SOKOLOVA
Natalia SHVETSOVA
Andrey PARAMONOV

Designed by
Svetlana SELIVERSTOVA


*There are materials from the information
agencies and from the press services
of the federal authorities of the Russian
Federation used in the project.*

Edition is 3 thousand copies

Editorial office:
Malaya Gruzinskaya St., 39
Moscow, 123557
Tel.: +7-495-505-76-92, 778-14-47, 729-39-77

Media postal address:
Moscow, Russia, 123104, mailbox 29

doc@promweekly.ru
promweekly@promweekly.ru
www.promweekly.ru

The materials marked with  published on a commercial basis

© 'United Industrial Publishing', 2023

C O N T E N T S

NEWS SHORTLY

- 2 Special steel production
- 2 Production and Sale of AK-203
- 4 The Imports of Oil and Gas Drill Pipes are phased out
- 4 Drilling and Blasting Unit
- 6 Rostec's Equipment at the Largest Gas Field
- 6 Rostec presented CyberPAS
- 8 LIMA 2023 is coming
- 10 Shvabe presents new optical devices for the first time in the Middle East

MAIN TOPIC

- 14 Vladimir Putin and Mohammed bin Zayed Al Nahyan

EXPORT REGULATION

- 18 FSMTC OF RUSSIA

THE BEST TECHNOLOGIES

- 22 Almaz - Antey Corp. at IDEX 2023
- 24 Best Choice among Short-Range SAMs

SPECIAL SOLUTIONS

- 28 SPLAV: New Possibilities of MRLSS
- 30 The best in the world in their type of armaments
- 32 Missile of Amazing Accuracy
- 33 The newest 'Planshet - M-IR'

GLOBAL MARKET

- 34 BRAHMOS - An Indispensable Asset for Modern Battlefields
- 36 STC 'LEMT' - Belarussian point of view on optical technologies

ROSOBORONEXPORT PRESENTS

- 38 Project 20382 Tiger
- 39 Amur-1650
- 40 Bastion
- 41 Rubez-ME
- 42 P-18-2 (1RL131-2)
- 43 Kornet-EM
- 44 Repellent-Patrul

MEDIA REVIEW

- 46 Made in Russia: High-Tech Defense Solutions for the Gulf

- 48 GUIDES IN 2023

OFFICIAL GREETINGS



The best offers for sky, space and land

It has already become obvious and undeniable that security is becoming increasingly important among various values of civilization. Today, for any state, the ability to reliably and securely protect the territory, residents and values is a priority.

Political situation in the world (conflicts, sanctions, threats of war and other issues) makes nations once again reconsider their defense possibilities. Threat of local conflicts to be evolved into global ones, failure of worldwide system of safety and nonending crisis – all of this leads to an unstable and dangerous situation.

In times like these the market of defense is undoubtedly growing. However, the dependence on the sellers of weapons and defense systems increases along with the defense technologies growth. It becomes extremely important to get products that would not fail you in a complicated situation.

IDEX 2023 and NAVDEX 2023 presents in Abu Dhabi the best Russian military innovations for Arabian states and global market. Most of all that there are the undisputed world leaders on price and quality in their segments.

These two exhibitions show that quality and capabilities are what really matter and the amount of weapons and military technics are not as significant, because quality and capabilities of every single one of them are exactly what leads to victory.

Other significant factor is technological independence from seller. Modern technologies make it possible to shut down any device from any place of the globe if you have appropriate access. With hi-tech products, solid aftersales service and proven reliability, Russia is honest and friendly partner for all countries, which ready for mutual work.

Taking part in IDEX 2023 and NAVDEX 2023 Russia continues the policy of open partnership with the Gulf countries and other states. Russia has a wide military and security product line that meets all the needs of this region and ready to propose the best technology and the best price offers.

Valeriy Stolnikov



DIGITAL SYSTEM
FOR CARGO DELIVERY

Azimuth Company, as part of Rostec State Corporation, has demonstrated to the Moscow government the capabilities of a new urban drone control system. Jupiter system enables the operator to coordinate flights, track drone movement on a real-time basis, map the best routes and avoid collision with various objects. Jupiter is an urban air mobility automation system. It enables efficient air traffic control in big-city conditions. During the system demonstration test at Skolkovo, the guests from the Moscow Government could see how the software was able to increase promptness of cargo delivery, monitoring and aerial photography performance. The range of unmanned aerial vehicle applications is steadily expanding and the use of UAV for express delivery or surveillance purposes does not seem unusual today. However, until this phenomenon becomes finally widely spread, safe drone traffic in air, in particular in big cities, shall be addressed. The system developed by Azimuth personnel solves this problem in a comprehensive and efficient manner. Jupiter allows to integrate drones into the single Russian air space, dispatch them on strictly defined routes, synchronize and monitor the aircraft in a common system. In a nutshell, the system makes the use of commercial drones more efficient and safe,' said Oleg Evtushenko, Executive Director of Rostec State Corporation.

SECURE MESSENGER 'KOLIBRI'

The Roselectronics holding together with Open Mobile Platform company has completed the development of a secure corporate messenger 'Kolibri'. The solution, designed for devices running the Aurora 4.0 operating system, allows to securely exchange information and minimizes the possibility of information leaks. The messenger is part of a comprehensive solution that also includes a VPN client 'Kolibri' and a subscriber specialized module for cryptographic information processing in microSD card format. The module is built on a domestic element base, supports Russian crypto algorithms and has built-in information security hardware. This eliminates the risk of information leaks when connecting to corporate cloud web services. As part of the state corporation, the project is being implemented by the Penza Research Electrotechnical Institute (PNIEI) of the Roselectronics holding. 'The messenger uses only Russian trusted solutions, which guarantees the information security of corporate communications. In the future, we plan to adapt the authentication technology developed by PNIEI based on biometrics, neural networks and cryptography for the Aurora OS, as well as supplement Hummingbird products with this option,' said Vyacheslav Funtikov, CEO of PNIEI.

Special steel production

Motovilikha – Civil Mechanical Engineering (MGM) has set up heat-resistant high-alloy steel production. The material will be used in the manufacture of BREST-OD-300 new generation liquid-metal-cooled power unit components.

Heat-resistant high-alloy steel is intended for the manufacture of nuclear power equipment parts and components. Such power unit components are operated at temperatures up to 550 °C in contact with steam-water environment and heavy liquid-metal lead coolant. Moreover, high requirements in terms of macrostructure and non-metallic impurities content are imposed on such steel forgings.

'The company has already delivered the first steel forging batch in the amount of 150 tons for the manufacture of the world's first new generation power unit components. Nuclear reactor steel making is set up within a new concept – creation of a plant-based competence center for production of rare innovative steel types for oil & gas, nuclear power, shipbuilding sectors,' said



Sergey Dyadkin, General Director of Motovilikha – Civil Mechanical Engineering. Construction of the world's first new generation power unit was started in the Tomsk Region in summer 2021. The new BREST-OD-300 is a liquid lead cooled fast nuclear reactor unit.

Production and Sale of AK-203

A delegation from Rosoboronexport, a subsidiary of the Rostec State Corporation, took part in Defexpo India 2022, the Land, Naval and State Security Systems Exhibition, which has been held from October 18 to 22 in Gandhinagar, Gujarat.



The company participated in the exhibition as a co-founder of Indo-Russian Rifles Private Limited, a Russian-Indian joint venture established to produce Kalashnikov assault rifles in India.

'Rosoboronexport has the world's largest portfolio of completed, on-going and future defense production projects in India. The joint venture Indo-Russian Rifles Private Limited, in which Rosoboronexport and the Kalashnikov Concern participate from the Russian side, is fully in line with the Government's Make in India initiative and Defense Acquisition Procedure (DAP) 2020 rules,' said Rosoboronexport Director General Alexander Mikheev. 'The Korwa Ordnance Factory is ready to start manufacturing Kalashnikov AK-203 assault rifles by the end of 2022. Our plans include 100% localization of the production of legendary Russian assault rifles in India. In addition, in the future, the joint venture may increase production and modernize production facilities to manufacture advanced rifles based on the Kalashnikov assault rifle platform'.

Kalashnikov AK-200 series assault rifles have successfully passed the test program, are supplied to government cus-

tomers in Russia, and are also exported to partners who impose higher requirements on small arms.

These assault rifles have retained all the advantages of the traditional AK pattern: reliability, durability and ease of maintenance.

Kalashnikov A-200-series assault rifles are in line with all current trends in small arms technology. They are fitted with integral Picatinny rails for convenient and easy mounting of sights and tactical accessories, enabling the effective use of weapons in various conditions.

The rifles have a folding stock. In addition, a number of other ergonomic solutions have been incorporated into them to optimize operation. In particular, they feature a redesigned fire selector and a modified receiver cover. This gives the users the opportunity to fully realize their shooting skills, regardless of their anthropometric data and the availability of a variety of personal gear, outfit and uniforms.

During the exhibition, Rosoboronexport discussed with the Indian side the production and supply of AK-203 for the armed forces and other law enforcement agencies of the country. In addition, the company presented a wide range of additional modern equipment designed both for customizing the assault rifle itself and for equipping personnel.

'We also look forward to fruitful meetings and negotiations with partners on the entire range of issues related to military-technical cooperation between Russia and India. Rosoboronexport is ready to discuss mutually beneficial projects and talk about its exclusive proposals on joint work complying with the terms of ToT (transfer of technology) imposed by the Indian side,' Alexander Mikheev added.



إيدكس IDEX

نافدكس NAVDEX

20 - 24 FEBRUARY 2023

INTERNATIONAL DEFENCE EXHIBITION & CONFERENCE

30 Years of Connecting the Defence Industry



98%

Exhibitors recommend IDEX and NAVDEX as the "must attend" event in the defence industry



1300+

Exhibitors from

60+

Countries



Scan the QR code to download Sales Brochure



idexuae.ae

Book your stand today



SUCCESSFUL TEST OF A MOBILE MANUFACTURING UNIT

Krasnoarmeisk Research and Development Institute of Mechanical Engineering has completed the acceptance test of SZM-16 mobile manufacturing unit that is capable of replacing several units for industrial explosive components delivery and mixing. Six charges were manufactured and successfully blasted during the test. Mining companies have been already interested in the solution and the start of mass production is planned for 2024. For safety reasons, explosive components for mining, industrial and hydraulic engineering construction are transported separately and mixed immediately before hole loading. SZM-16 is capable of 'taking aboard' up to five explosive components with a total weight up to 16 tons. A single vehicle used instead of several units can considerably speed up work and save money. 'Fabrication of mobile manufacturing units will allow to saturate Russian market with domestic machinery and phase out foreign manufacturers who have left our country. The successfully tested SZM-16 was completely designed in Russia and equals similar foreign vehicles in its specifications. Major mining companies have already placed their orders and the start of mass production is planned in 2024. According to preliminary data, the demand of Russian companies for mobile manufacturing units is 25 to 30 units per year,' said Oleg Evtushenko, Rostec's Executive Director.

GIANT SYSTEM FOR WELDING LARGE PARTS

Research and Development Institute of Technology 'Progress' under the control of RT-Capital has developed the world's first orbital electron-beam welding (EBW) equipment for welding large parts. The unique system made it possible to use this technique in rocket and space equipment manufacturing process which had been impossible before. Electron-beam welding is used in those industries where high-temperature treatment of products is not permitted, but high strength and aesthetic appeal are required. Orbital welding allows to join products around the perimeter without rotating them. By combining the advantages of both methods, it is possible to weld structures of any shapes and sizes, e.g. large-size rocket and space structural components. The system includes two units outfitted with an anthropomorphic arm that moves the electron beam gun to any point. The unique module folds and spreads the cooling system cabling and piping when the gun rotates. The process is fully computer-controlled with minimum human intervention.

The Imports of Oil and Gas Drill Pipes are phased out

The civil division of Motovilikha Plants was the first in Russia to set up the manufacture of long-length nonmagnetic drill pipes for oil and gas sector made from in-house steel. They have been designed under the import phaseout program and meet all international quality standards. Operation of a pilot batch is to be started at oil and gas fields, and with the start of mass production, the company will be able to cover up to 30% of demands of Russian customers for such products.



Nonmagnetic pipes are used in telemetry systems and are absolutely indispensable for geological exploration, horizontal and directional drilling. Previously, such pipes were

purchased abroad or made from imported feedstock produced in EC and PRC, however, supply from EC has been terminated after toughening of sanctions in 2022. As a conse-

quence, demand for such products on the domestic market has become five times higher.

Within the shortest possible time, Motovilikha – Civil Mechanical Engineering personnel were able to make 176-178mm long-length non-magnetic pipes, 9.5m in length, from the in-house steel which are as good as similar foreign products in terms of performance.

Besides drill pipes, nonmagnetic steels are used for navigation equipment, heat exchangers, shipbuilding and many other applications. Currently, the industrial demand for this material in Russia exceeds 40,000 tons per year and will be growing from year to year.

Drilling and Blasting Unit

Krasnoarmeisk Research Institute of Mechanization, Rostec State Corporation, has made a mobile mixing unit for drilling and blasting operations which is capable of replacing the equipment provided by foreign companies that have curtailed operations in Russia. SZM-16 on KAMAZ wheelbase is designed for explosive component transportation, mixing on site and delivering into wells and, thus, allows to save time and money.

Mining explosives are composed of several components which are transported in separate containers for safety. SZM-16 is capable of transporting five components with a total weight up to 16 tons simultaneously, replaces several machines at once and can be used in open-cast mines as well as in industrial and hydraulic construction.

'Launch of commercial production of drilling and blasting machines is essential for import independence of basic national industry sectors. After exit of foreign companies from Russia, customer interest in Russian-made mobile mixing units has been growing. In terms of specifications, SZM-15 is highly competitive with foreign equivalents, testing is to be started in October 2022, orders on these



units have been already received from major Russian mining companies', said Vladimir Artyakov, First Deputy General Director of Rostec.

SZM-16 unit is operated by the automated control system developed by

KNIM, including level, pressure and temperature sensors, interlocking and feedback system. The company has also developed customized space-saving feed pumps and other equipment for this unit.

LAAD
DEFENCE & SECURITY
2023

11 -14
April | 2023

RIOCENTRO
Rio de Janeiro

THE MOST IMPORTANT DEFENSE
AND SECURITY SHOW IN LATIN AMERICA

WWW.LAADEXPO.COM.BR

[in /in/laadexhibition](https://www.linkedin.com/company/laadexhibition)

Organización
creative
Events Brazil

UNIQUE ON-CHIP MICROMODULES

Ruselectronics holding has completed testing of the first Russian micromodules based on silicon chips. They are used to protect aerospace onboard electronics against overvoltage and static discharge. The solution is not inferior in its performance to foreign equivalents and is designed to phase out them on the Russian market. One module is as small as 3x3x1mm and includes 10 chips. Such number of components makes the micromodules suitable for aerospace vehicles to ensure overvoltage and static discharge protection of onboard computers, high-speed and dashboard interfaces, switching systems and intelligent systems. 'Lower dimensions and weight of electronic components without compromising their reliability and performance make it possible to reduce power consumption, simplify the design and enhance the functionality of devices. Ruselectronics competence allowed us to create micromodules that are competitive with foreign equivalents and can phase out the import of foreign products,' said Oleg Evtushenko, Rostec's Executive Director. Thanks to their special properties, chips grown from high-purity silicon are used in microelectronics. Atoms are arranged in them in a predictable manner which makes it possible to accurately forecast the material behavior under any electrical effect. The number of chips in a device defines the number of transistors and current-carrying components on their surface.

UEC ENGINES SENT ANOTHER CREW TO THE ISS

The RD-107A/RD-108A serial rocket engines manufactured by UEC-Kuznetsov, the Samara-based enterprise of the United Engine Corporation (Rostec), ensured the successful launch of the Soyuz MS-22 manned spacecraft of the 68th long-term expedition to the International Space Station. On September 22 Moscow time Soyuz-2.1a carrier rocket was launched from site No.31 Vostok of the Baikonur cosmodrome. The rocket delivered manned spacecraft Soyuz MS-22. The RD-107A/RD-108A engines installed on the first and second stages, manufactured by UEC-Kuznetsov, operated faultlessly. The spacecraft is named after Konstantin Tsiolkovsky, the Russian scientist, inventor and founder of the theory of space exploration. Honoring the great inventor, the rocket portrays Tsiolkovsky and a commemorative inscription. The crew of Tsiolkovsky included members of the 68th long-term expedition to the International Space Station – Roscosmos cosmonauts Sergei Prokopyev and Dmitry Petelin as well as NASA astronaut Francisco Rubio.

Rostec's Equipment at the Largest Gas Field

Rostec's United Engine Corporation has shipped four GTU-16P gas turbine units to Zapolyarnoye oil and gas condensate field in the Yamalo-Nenets Autonomous Okrug. This is the largest gas field in the country with initial gas in place of 3.5 trillion cubic meters.

GTU-16P was designed by Perm-based UEC-Aviadvigatel, United Engine Corporation. The unit is used as part of gas compressor units and for modernization of the existing equipment.

'Rostec's gas compressor units are widely used at the major fields in Russia to ensure steady operation of gas transmission system. In particular, 24 units with a total capacity of 384 MW has been already delivered to Zapolyarnoye oil and gas condensate field alone. Now, another four GTU-16P units have been sent to Yamal. A total of 45 gas turbine engines and 27 gas compressor units at the amount of about 30 bln Rubles will be delivered to the market players this year,' said Andrey Vorobyev, General Director of UEC-Engineering – comprehensive supplier of power-



generating equipment and gas compressor equipment and services.

Zapolyarnoye oil and gas condensate field is one of the largest fields in Russia in terms of reserves and gas production. The field was discovered in 1965 220km from Novy Urengoy.

The estimated capacity is 130 bcm/year. Within the period from 2016 to 2021, United Engine Corporation delivered 24 gas compressor units with a total capacity of 384MW to Zapolyarnoye oil and gas condensate field.

Rostec presented CyberPAS

Ruselectronics holding was the first to present a cyberphysiological platform for manufacturing process control - CyberPAS. The computer vision-based solution allows to minimize the influence of human factors on a manufacturing process. The system ensures increase in output per man by at least 5% per year and product cost reduction.



CyberPAS – a personal digital assistant – helps to control manual work in a manufacturing process. The system aggregates the process variables, analyses and makes predictions on the big data basis.

The platform hardware component includes a video camera that identifies whether the personnel is provided with personal protection equipment and records the sequence of actions. The system also includes sensors for heart rate,

indoor temperature and humidity measurement. In addition, the package includes a tablet to display the process technology and check lists.

'Machine not always can replace humans, but almost always is able to help them in their work. In any manufacturing process, manual work shall be performed according to instructions in order to avoid defects. The cyberphysiological platform helps to monitor personnel activities in accordance with the technical documentation. It keeps track of workplace operations and gives instructions to personnel. When a person makes something wrong, the system just prevents from proceeding to further actions. Thus, with minimized human factor influence, the number of errors and, therefore, expenditures are reduced.' Said Oleg Evtushenko, Rostec's Executive Director.

INTERNATIONAL
EXHIBITION OF ARM
& MILITARY MACHINERY

MILEX
2 0 2 3

11th
EXHIBITION
2001

17-20
MAY
2023



MINSK ARENA

Minsk, Pobediteley ave., 111



MILEX.BELEXPO.BY

LIMA 2023 IS COMING

The Government of Malaysia officially appointed Alpine Integrated Solution Sdn Bhd as the Organiser for LIMA 2023 via a soft launch ceremony held at MINDEF in June.

The Ceremony was attended by both Ministers: Datuk Seri Hishammuddin bin Hussein, Minister of Defence Malaysia and Datuk Seri Ir. Dr. Wee Ka Siong, Minister of Transport as well as the respective Secretary Generals and the Chief of Defence Force.

Defence Minister Datuk Seri Hishammuddin Hussein said that the return of Lima was something that was anticipated as the previous iteration was cancelled due to the Covid-19 pandemic.

'With the success of this year's Defence Services Asia (DSA) there's no reason not to hold Lima next year. The time is right,' he said at the pre-launch event at Wisma Pertahanan.

Transport Minister Datuk Seri Dr Wee Ka Siong, who was also at the ceremony, said that the exhibition would help to spur the economy, especially the maritime and aerospace industries. 'As a maritime country, we have to take advantage of the shipping industry of creating and maintaining ships, which is valued at more than RM15.3 bil,' he said.

The premier event of its kind in the world, LIMA brings together exhibitors, embassy, senior government officials, top military officials, & industry leaders from the commercial and defence sectors around the world. LIMA 2023 is expected to surpass all previous records and will become by far the biggest and most attended LIMA's in its series of 30 years. LIMA is exhibiting 600 of 30 nations compa-



nies from Defence/Security and Commercial sectors. Up to 20 international pavilions from the US, China, UK, France, UAE, Indonesia, Thailand, Italy, Türkiye, Brazil, Germany, Singapore, South Korea, Japan, Pakistan, India, Bangladesh, Saudi Arabia, Belgium, Czech Republic and others. The 20,000 sqm MIEC space venue will be utilised indoor and outdoor with 110 of aircraft and 110 of ships/ves-sels, expecting 45,000 trade visitors, more than 250,000 public visitors and more than 400 VVIPs comprising Ministers of Defence and Ministers of Transport, Senior Officer and Service Chiefs from 59 countries.

'This LIMA is the largest air and maritime show in the region. We need to continue this LIMA not only for us to see assets from manufacturers, but also to meet industry players,' said the Minister of Defence.

The following participation options will be available to all interested companies who are within the Maritime and Aerospace industry sectors (both for Defence and Commercial):

- Indoor exhibition space or booths
- Outdoor static display
- Chalets
- Aero or Maritime displays/ demonstrations
- Branding and sponsorship opportunities

The LIMA 2023 Official Launch happened on the 16th of January 2023 at the Malaysia International Trade and Exhibition Centre (MITEC), Kuala Lumpur.

/IA&MG/

The Langkawi International Maritime and Aerospace Exhibition (Lima) 2023 will be held from May 23 to 27. The gates were announced by the Ministers during the press conference on 8th of June 2023.



IX INTERNATIONAL EXHIBITION OF TECHNOLOGY FOR THE DEFENSE AND PREVENTION OF DISASTERS

SITDEF
PERU 2023
MAY 18 TO 21

EXHIBITIONS **CONFERENCES** **BUSINESS MEETINGS**
CYBER WORKSHOPS **DISASTERS PREVENTION**

EXPO CYBER SECURITY & DEFENSE 2023

www.sitdef.com info@sitdef.com phones: (+511) 248-3737 / (+51) 989 857 652



SHVABE PRESENTS NEW OPTICAL DEVICES FOR THE FIRST TIME IN THE MIDDLE EAST

Shvabe Holding of Rostec State Corporation demonstrates samples of sighting equipment, as well as night vision devices at the International Defence Exhibition IDEX-2023. The event takes place in Abu Dhabi and brings together developers from more than 60 countries.

For the first time abroad, Shvabe is presenting prismatic models of PP1 and PP3 low-multiplicity sights. The modular design allows the user to change the mounting position and thus mount the sights on different types of weapons. Additional benefits include a two-color illuminated reticle with day/dusk/night mode.

The stand also displays the PO315U high transmissive pancratic sight and the PO104 and PO156BS variable-multiplicity telescopic sights, which have a wide field of view and allow shooting at short and medium distances.

The performance of the sights corresponds to the best foreign

analogues and some models surpass them. For example, the PP series sights are better than their competitors in terms of such characteristics as field of view width, exit pupil distance, light transmission and dimensions.

The exhibition also features night vision equipment – the PN21K monocular and PN14K goggles. They are equipped with third-generation electro-optical transducers (EOT) with protection against short-term exposure to an intense light source.

'For many years the Holding Company has been maintaining military and technical cooperation with the countries of the Middle East and North Africa. During this time, the opto-electronic and sighting

devices for various types of weapons supplied there have proven their effectiveness and continue to be in steady demand. In this regard, the IDEX exhibition is of particular interest to us. Here, this year, we are exhibiting modern optical devices. At the same time, we are open to dialogue and plan to hold a number of meetings and negotiations with customers,' said Shvabe CEO **Vadim Kaliugin**.

JSC 'Novosibirsk Instrument-Making Plant' (NPZ) of the Holding Company is the developer of the presented products. It is available for viewing at Rosoboronexport's joint exposition in the Russian Federation pavilion from 20 to 24 February.

/IA&MG/



www.rusarmyexpo.com

VLADIMIR PUTIN and MOHAMMED BIN ZAYED AL NAHYAN

The most important condition for the development of relations between the Russian Federation and the United Arab Emirates is the friendly relations between the leaders of the two countries, President of the Russia Vladimir Putin and President of the United Arab Emirates Mohammed bin Al Nahyan. Every meeting of the leaders became milestones in the development of the partnership between the countries and crucial factors in the strengthening of global stability.

So, for example, in December of last year there was a telephone conversation between Vladimir Putin and UAE President Mohammed bin Zayed Al Nahyan. The conversation covered topical issues of further development of Russian-Emirati cooperation, taking into account the agreements reached during the summit in St Petersburg on October 11. Special attention was given to the promotion of trade and economic cooperation, including in the transport, logistics and energy sectors.

The effectiveness of joint work within OPEC Plus to ensure the stability of the world oil market was highlighted. It was also noted with satisfaction that all Member States are consistently implementing the decisions they approved. In this context the sides touched upon the situation concerning the attempts by some Western countries to impose anti-market restrictions on the price of Russian crude oil, which is contrary to the principles of world trade.

In addition to his earlier message, the Russian President as once again congratulated President of the UAE Mohammed Al Nahyan

and the Emirati people on the UAE's Foundation Day. Russian-Emirati contacts at various levels will continue.

It is also possible and appropriate to recall an important meeting between politicians in October 11, 2022. Vladimir Putin met with President of the United Arab Emirates Sheikh Mohammed bin Zayed Al Nahyan in the Constantine Palace (Russia, St.Petersburg). At that meeting President of Russia Vladimir Putin said: 'Ever since we established diplomatic relations 50 years ago, our contacts have been developing steadily and only going upwards. Although current international relations are

complicated, relations between Russia and the United Arab Emirates are an important factor of regional and overall global stability.

Speaking of bilateral relations, as I have already said at the beginning, they are developing very successfully. Last year, prior to the crisis in Ukraine, trade volumes soared by 65 percent, and they continue to increase this year despite all the difficulties. In fact, they have expanded by 17 percent. Although this growth is not as impressive as in 2021, it is quite substantial.

We are working actively within OPEC Plus. I know your position, our actions and our decisions are not directed against anyone; we have no intention of creating problems for anyone, and we are not doing that. Our actions aim to stabilise global energy markets, so that consumers of energy resources and those supplying them to global markets would feel calm, stable and confident, and so that supply and demand would be balanced. We therefore respond to market requirements all the time, and we try to do this in line with current developments.

I find it very important to discuss the regional situation with you; a lot of problems remain there. The role of the United Arab Emirates and their influence on the regional situation are, of course, quite impressive, and



I find it very important to discuss issues related to the situation in and around Syria with you.'

President of the United Arab Emirates Sheikh Mohammed bin Zayed Al Nahyan said: 'I would like to mention a range of issues that are important for bilateral relations. I would like to note that we have not seen each other for three years. It was a difficult time due to the coronavirus.'

However, despite the challenging coronavirus conditions, we have achieved a lot: our trade grew from US\$2.5 billion to US\$5 billion. And the Emirates welcomed about half a million tourists from Russia: this

is what we have achieved thanks to Russia's assistance.

This year we will also mark the opening of the first Russian school in the Emirates. There are 4,000 Russian companies working in our country. All this strengthens the bridge that connects us, the bridge of cooperation. I hope that in the coming years we will be able to significantly increase all these indicators.'

At this meeting, Vladimir Putin recalled his visit to the UAE in 2019: 'Thank you for your visit. I remember my visit to the Emirates in 2019 and will never forget it.'

A reminder of that visit. In October, 2019 in the Qasr Al Watan





Palace Vladimir Putin held talks with Crown Prince of Abu Dhabi and Deputy Supreme Commander of the United Arab Emirates Armed Forces Mohammed bin Zayed Al Nahyan.

Crown Prince of the Emirate of Abu Dhabi and Deputy Supreme Commander of the United Arab Emirates Armed Forces Mohammed bin Zayed Al Nahyan said: 'First, I would like to welcome His Excellency Mr President of the Russian Federation. It is a heartfelt welcome to the second country you are visiting – the United Arab Emirates. I would like to extend warm brotherly greetings from President of the

United Arab Emirates His Highness Sheikh Al Nahyan.

We very much appreciate the high- and top-level visits that our countries have exchanged in recent years. I would like to emphasise the importance and the scope of strategic relations between the United Arab Emirates and the Russian Federation and also to reaffirm that our country prioritises the efforts to promote a dialogue and relations with Russia. Our countries maintain friendly relations, as well as diverse cooperation in all areas, which has yielded tangible fruit and includes positive economic indicators.



Dear brother and friend, I am happy to meet with you after more than a year since our last meeting in Moscow. I consider Russia to be my second home and I would like to once again thank you for the warm reception.

I would also like to express my gratitude to you for your commitment to strengthen the bonds of friendship and cooperation that we are tied together by – a friendship that exists between the peoples of the two countries and the governments of the two countries, as well as the personal friendship between the leaders of the two countries.

The United Arab Emirates is honoured that you are visiting this country and it is a historical visit. We would also like to reaffirm that our two countries are tied together by deep strategic relations. The United Arab Emirates sees brotherly, friendly and strategic relations with Russia as a priority.

Mr President, we welcome and appreciate our mutual desire to bring bilateral relations to the strategic partnership level. This agrees with our common vision and our common concept and, in keeping with this vision, we are poised to further strengthen this strategic partnership in the interests of our countries and peoples.

Mr President, I would like to praise the outcome of the 9th Russian-UAE Intergovernmental Commission Meeting, which was held ahead of your visit. I would also like to thank the Russian Government for its successful efforts to hold the third edition of Aqdar World Summit in September 2019.

Also, Mr President, I would like to express my gratitude and appreciation for your support for the project that the United Arab Emirates sees as a historical one – the space expedition, in which the first cosmonaut from the United Arab Emirates, Hazza Al Mansouri, took part. Sending the first ever cosmonaut from the United Arab Emirates to the International Space Station is a historical achievement that had long been a dream of the founder of our country Sheikh Zayed and it has come true.

Mr President, dear friend and brother, I would like to yet again welcome you and the high-level delegation that is accompanying you. Hopefully, this visit will leave a deep impression and will be a qualitative breakthrough in developing our strategic partnership and taking it to a new level. I am also looking forward to meeting you again before too long.'

President of Russia Vladimir Putin: 'Your Highness, friends, first of all, I would like to thank you for this invitation. I am really delighted to be once again in the hospitable land of the United Arab Emirates. I could see from the window of the car I was being driven in for the short journey from the airport how quickly your country is developing and how it is looking better and better.

Relations between Russia and the United Arab Emirates continue to develop successfully in a friendly and constructive manner in accordance with the Declaration on Strategic Partnership signed in Moscow back in 2018. We are expanding ties in the trade, economic, cultural and humanitarian fields and we are maintaining close coordination on major global and regional affairs, primarily regarding Syria, Libya, Yemen and the situation in the Gulf.

Our political dialogue is regular and substantial. Our foreign ministers are in close contact. We have developed cooperation between our security councils, special services and defence ministries. I would like to ask you to convey my best regards and to wish good health to the President of your country, Khalifa bin Zayed Al Nahyan.

We continue developing trade, economic and investment cooperation. Last year our trade amounted to \$1.7 billion, having increased by 3.6 percent.

We are grateful for your personal support of the partnership between the Russian Direct Investment Fund and the Mubadala Investment Company that are jointly investing in the Russian economy. These investments have already reached \$2.3 billion. Your Russian partners are not letting you down: profits from these



investments are much higher than on the markets of other countries.

We continue investing and cooperating in start-ups, in the energy sector and in the peaceful nuclear development. We continue coordinating our efforts and policy on the global hydrocarbon market, in part, owing to the OPEC plus agreement.

We are now working together in the car industry. Our cooperation in space exploration has reached a new level. I would like to congratulate you once again on the successful flight of the first astronaut from the UAE to the International Space Station. This event became possible owing

to our friendship and your efforts to promote this idea. We are ready to continue rendering the necessary assistance to the United Arab Emirates in space exploration, including in such fields as satellite navigation and launching space vehicles into space.

We are developing humanitarian ties. The UAE is a popular destination for Russian tourists. Last year the tourist flow increased by 23 percent. According to the Central Bank of Russia, our tourists spent over \$1.3 billion in the Emirates, which is comparable with the scale of our trade. Mutual exemption of visa





requirements is designed to expand contacts between our citizens. This intergovernmental agreement was signed at your initiative and entered into force last February.'

The leaders of both states have met many times before, which strengthened ties between the countries. For example, in June, 2018 meeting in the Kremlin Vladimir Putin with Crown Prince of Abu Dhabi Mohammed bin Zayed Al Nahyan, who was in Russia on a

working visit, was called also historic. They discussed the further development of trade between Russia and the UAE, economic and investment cooperation, the current energy situation, and pressing international and regional issues.

In addition, Vladimir Putin and Mohammed Al Nahyan signed the Declaration on Strategic Partnership between the Russian Federation and the United Arab Emirates. Following the meeting, Vladimir Putin showed

the Crown Prince the new Cortege limousine produced in Russia.

At that meeting President of Russia Vladimir Putin said: 'Your Highness, colleagues, friends, I wholeheartedly welcome you in Moscow. We had a meeting one year ago. The situation in the region, as well as across the world in general, is rapidly changing. I am glad to be able to have this meeting with you so that we can discuss bilateral cooperation and regional developments.'

The United Arab Emirates is Russia's reliable and long-standing partner in the Middle East. Today, we will be signing a memorandum on strategic cooperation and partnership. I think this would be a good step towards even stronger bilateral ties.

There is positive momentum in the relations between our countries in all areas, including political contacts, economic cooperation and security. Last year, trade increased 31 percent, and added another 70 percent in the first quarter of this year.

With your support, the UAE investment fund is working closely with the Russian Direct Investment Fund in Russia, with already over \$2 billion in total investment. We are grateful for your trust. At the same time, I do not think you have any reason to be disappointed, since



the return on this investment is way above the market average, reaching 15–17 percent.

We will carry this momentum forward, while also continuing to work in the energy sector, where our combined efforts, including by our friends from Saudi Arabia and all OPEC members in general, are yielding positive results in terms of rebalancing the oil and gas market.

We are especially grateful for your initiatives to promote cooperation in high technology, including your initiatives for the industrial sector in the context of the Innoprom Industrial Trade Fair in Yekaterinburg.

In other words, we have quite a few joint projects, and our interests converge in many areas. strongly hope, I am convinced that today's visit will help strengthen bilateral relations.'

Crown Prince Mohammed Al Nahyan of Abu Dhabi said: Thank you, Mr President. I am glad to be in Moscow today. This is a good opportunity for us to meet with you and discuss the strengthening of bilateral relations. We consider them to be extremely important, and I hope that we will continue to strengthen them with you.

As you correctly pointed out, trade between us is stronger since our previous meeting. I expect that it will continue to grow stronger. I think that our cooperation will expand, thanks in part to the signing of the declaration on strategic partnership. Our relationship is very important, and we always strive to strengthen it with you.

Indeed, as you said, since our last meeting, there have been many developments in the Middle East. The United Arab Emirates seek to cooperate with the entire world community, with all our friends, and are working to ensure a prosperous future for our region. And we also look forward to a detailed discussion of this topic with you, Mr President.'

/IA&MG/





FSMTC OF RUSSIA

***Dmitry Shugaev:** 'Russian system of military-technical cooperation has systematically strengthened its global credibility both as a reliable partner and a supplier of military products'*

In accordance with the law of the Russian Federation, activities in the field of Military-Technical Cooperation (MTC) with foreign countries shall be controlled and supervised by the Federal Service for Military-Technical Cooperation (FSMTC of Russia) that, among other things, shall ensure implementation of basic principles of the Russian government policy in the field of MTC. Before IDEX / NAVDEX 2023 Dmitry Evgenyevich Shugaev, FSMTC of Russia Director discusses main directions and tendencies in development of military-technical cooperation between the Russian Federation and foreign countries, the peculiarities of Russian military purpose product exporters' activities at the present stage in his interview to our magazine.

- Mister Shugaev, what are the main principles of Russia's military-technical cooperation with foreign countries today?

- As you know, military-technical cooperation is one of the components of the foreign policy pursued by our state. The main principles of

our foreign policy remain the same for military-technical cooperation. They are: mutual respect and cooperation on the basis of equal rights, non-interference in the internal affairs of other states, compliance with international laws and commitments. Naturally, at the same time we

are against the use of threats, blackmail, coercion, use of force and any kind of restrictions in international relations.

All of the above allows us to build cooperation not only with states that share the views and foreign policy of the Russian Federation, but also

with countries that are under serious Western influence.

- In your opinion, why does Russia confidently maintain its leading positions in the world market of weapons, security equipment and systems?

- Indeed, over the past several years the Russian Federation has been confidently holding the leading positions in the world arms market. This is due to the fact, that all parts of a well-functioning system professionally work together within the military-technical cooperation between the Russian Federation and foreign countries.

Specifically, when our foreign partners make contracts with Russian suppliers for the purchase of military products, they understand that they will get high end equipment that meets their needs and has the characteristics of the world's best models, tested in real-world combat conditions. Besides, Russian suppliers are always ready to discuss any issues within the framework of contract performance.

Of course, foreign customers of Russian military products planning to develop military-technical cooperation with Russian Federation, along with other factors, also take into account our historical background, and see us as a reliable supplier capable of providing its partners with top level products.

- Russia has always been and is an extremely reliable partner and supplier, including in such a complex area as the military-technical field. What makes Russia's commitment consistent and reliable? What are Russia's unconditional advantages as a military-technical partner?

- I reiterate that our relations with our foreign partners are built on the basis of mutual respect and equality, not recognizing any use of political or economic pressure or blackmail.

We make no political nor legal demands, except as set forth in recognized international instruments.

Certainly, Russia is willing to honor the wishes of foreign customers to the maximum extent possible, as long as this does not pose a threat to national security.

Furthermore, our commitments to protect the interests of our partners remain strong, especially in the context of the US illegal anti-Russian sanctions policy and Washington's cross-border approach to the Countering America's Adversaries through Sanctions Act.

For the sake of the common interest, we use alternative payment solutions for the products delivered and increasingly use national currencies for payments. It is imperative that we take into account the requirements of the national legislation of foreign customers.

Traditionally, we offer high-end weapons products on the international market with characteristics comparable to, and in some cases surpassing, those of their foreign peers, including in terms of price-performance ratio.

Needless to say, we are committed to preventing delays in the delivery of purchased equipment. We are actively developing an after-sales service system for previously supplied equipment, arranging licensed production and cooperating in high-tech areas.

Overall, throughout a long period of time, the Soviet and, after that, the Russian system of military-technical cooperation has systematically strengthened its global credibility both as a reliable partner and supplier of military products. And now, in



the face of unprecedented sanctions pressure, we continue to honestly and efficiently carry out the work entrusted to us – to develop military and technical co-operation with foreign countries.

- How have historically military-technical cooperation between the USSR/Russia and the Gulf countries been developing?

- Military-technical cooperation with the countries of the Cooperation Council for the Arab States of the Gulf (hereinafter GCC) in the Soviet period cannot be fully discussed.

As you know diplomatic relations with Saudi Arabia were interrupted in 1938 and resumed only in 1991. The Intergovernmental Agreement on military-technical cooperation was signed only in 2008.





Cooperation with the United Arab Emirates has been ongoing for more than 50 years, and the first contacts in the military-technical sphere were established in the second half of the 1980s.

Considering the State of Kuwait, it can be noted that cooperation in the military-technical sphere had been developing from 1977 to 1990 and was resumed in 1991. During this time product were delivered both as part of the debt servicing of the USSR and from the stocks of the Russian Ministry of Defense, as well as under foreign trade contracts.

As for Bahrain, Qatar and Oman, military-technical cooperation with these countries was established in the late 1980s and early 1990s. Deliveries of military products were made under foreign trade contracts.

At present, an active dialogue is maintained between our countries. Negotiations and consultations are held on a regular basis within the framework of meetings of intergov-

ernmental commissions. Contracts for the supply of various types of military products have been implemented and are being executed. In general, we have quite good prospects for building up cooperation in this area.

- What is the special nature of Russia's military-technical cooperation with the UAE?

- Currently, military-technical cooperation with the United Arab Emirates has a diverse nature. Bilateral consultations are underway in all areas of cooperation, the results of which are premature to announce at this stage.

- What types of Russian weapons are traditionally of high interest for Arab countries and especially for the Gulf region?

- The Arab states and especially the GCC countries traditionally show interest in almost the entire range of Russian military products. These include, among other things, various air defense systems, army materiel, anti-tank missile systems, as well as small arms.

- What in your opinion primarily characterizes the current stage of development of relations in the field of military-technical cooperation between Russia and the UAE?

- The current stage of relations in the field of military-technical cooperation is characterized by the development of cooperation between Russia and the UAE with an emphasis on its cooperative component. Both the implementation of existing contracts and promising areas of cooperation are discussed with partners.

- What types of Russian weapons and military equipment offered today, in your opinion, are the

most relevant for the countries of the region?

- The most relevant types of Russian weapons include ground forces weapons and materiel, radar systems, various detection and electronic warfare systems against drones, air defense systems, as well as close-combat weapons.

- How ready is Russia to talk about the creation of production of weapons and military equipment on the territory of the UAE and other Arab countries?

- The Russian Federation accepts the fact that in order to build an independent national defense industry with trained personnel, Arab countries are interested in technology transfer and organization of licensed production of Russian military equipment on their territories.

The Russian Party always listens to the opinions and wishes of its partners and in order to develop cooperation is ready to discuss a variety of forms of interaction, as well as to talk about the possibility of meeting their needs.

- What allows Russia to overcome unparalleled pressure by Western countries, as well as sophisticated technologies of unfair competition?

- Now we live in a world that faces a transition from unipolarity to multipolarity. Washington with the desire to maintain its global hegemony is increasingly using illegal methods of coercion in international relations in the form of direct blackmail and various kinds of sanctions, including threats of the use of military force. All this does not make the US any more popular in the international field. The

introduction of sanctions against any state always has a more or less negative impact on the global economy. When powerful global players such as China and Russia are involved in the sanctions war, the consequences of the confrontation can be very unforeseeable.

Most of the world community understands this. This is evidenced by the failure of U.S. plans to isolate Russia internationally, as most of the world does not support the policy of sanctions pressure by the United States and its allies directed against the Russian Federation.

Convinced of the ineffectiveness of economic and political sanctions, Washington and its supporters began to use blatantly terrorist methods.

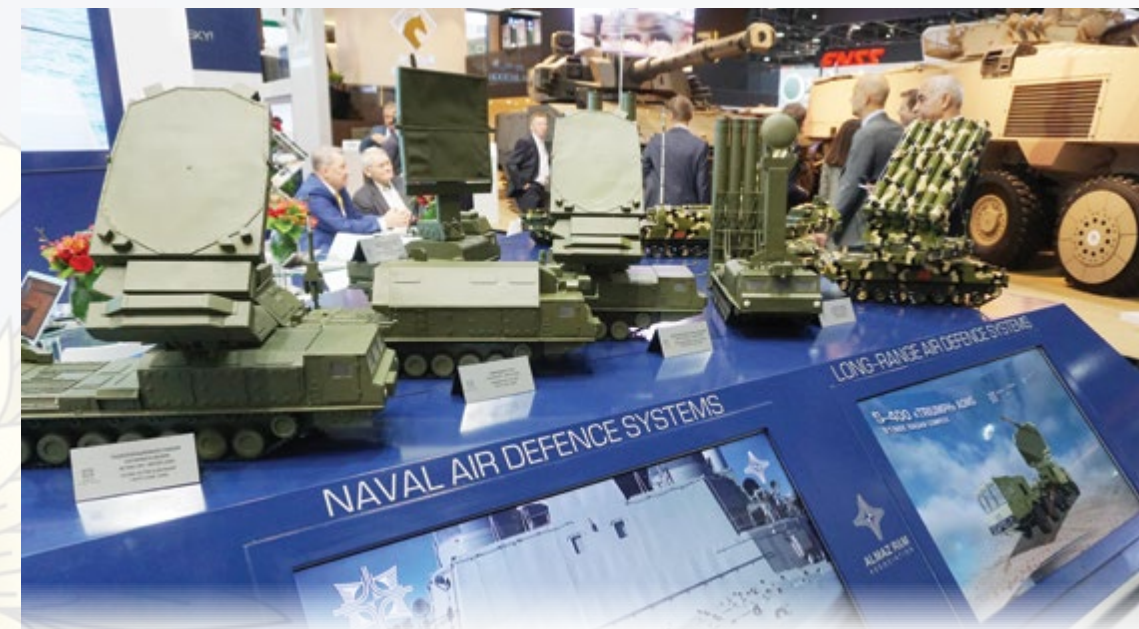
As propagandistic anti-Russian outbursts, there is a bloat on the issue of 'Russia's readiness to use tactical nuclear weapons' in a special military operation, among other things. Unfortunately, we cannot expect the situation to change any time soon, so our system of military-technical cooperation, which has been under Western sanctions pressure for many years, is systematically improving working methods to successfully counter the restrictions imposed on it.

We have achieved good results in this direction: alternative schemes of mutual settlements are introduced, the system of insurance of international freight transportation is improved, and the interests of our partners are protected.

International economic organizations are being created at the state level, the financial policy of which provides for the rejection of the U.S. dollar. And more and more countries are striving to join them.

Our world is being reshaped; a new world order is being established. In order to strengthen Russia's international standing, its political position and national security, we, the employees of the Russian Federation's system of military and technical cooperation with foreign states, are also rearranging ourselves.

- How does the leadership of the Russian Federal Service for Military-Technical Cooperation



(FSVTS) assess the IDEX/NAVDEX 2023 exhibition site? What are its key advantages and importance for strengthening cooperation with the UAE and the countries of the region and for further promotion of Russian defense products on the world market?

- Undoubtedly, the International Defense Exhibition IDEX is one of the largest exhibitions not only in the region but also in the world where cutting-edge developments in the field of weapons and military equipment are demonstrated. The Russian Federation has been participating in this exhibition since 1993.

The key advantages of this event are that exhibitors are given a unique opportunity to show full-scale samples of military equipment not only in a static parking lot, but also in action at a demonstration site on the territory of the exhibition complex.

Participation in the International Defense Exhibition IDEX provides an opportunity to solve many tasks – strengthen and expand partnerships, promote Russian defense products to the world market, as well as get acquainted with new products in the field of defense.

- Speaking about the further prospects for the development of military-technical cooperation between Russia and the Gulf countries in what directions and according to what principles does the Russian FSVTS intend to conduct this work and what is the basis

for confidence in the constructive prospects of these relations?

- The GCC countries are important partners of Russia in the global arms market. They account for a significant part of exports of military products.

The development of military-technical cooperation currently includes work in the following areas: maintenance of previously delivered military products including the creation of repair and service centers, transfer of production technologies, training of specialists and supply of new types of Russian-made weapons. At the same time it is worth noting that cooperation is built exclusively on the principles of mutual respect and friendship.

/IA&MG/



ALMAZ – ANTEY CORP. AT IDEX 2023

The Almaz – Antey Air and Space Defence Corporation, JSC will present its line of major military products at the IDEX-2023 international defense exhibition, which will be held from February 20 to 24 in Abu Dhabi (United Arab Emirates). At the Corporation's stand, visitors will be able to obtain information about modern long-, medium- and short-range air defence systems, modernization options for previously produced equipment and other developments, as well as the holding's capabilities to train foreign specialists.

Almaz – Antey will present products from eight of its subsidiaries as part of a single exposition. In particular, the Corporation will present models of S-400 Triumf long-range surface-to-air missile systems (SAMs), S-350E Vityaz medium-range SAMs, Viking SAMs, Buk-M2E SAMs, as well as short-range Tor SAMs (Tor-M2E, Tor-M2K, Tor-M2KM) and Taifun-PVO (E) anti-aircraft artillery combat vehicle.

Visitors of the exhibition will be able to get acquainted with Antey-4000 SAM system, Tunguska-M1 SAMG system, ZSU-23-4 Shilka-M4 SAMG system, simulators and target training complexes for air defense specialists training, as well as the Corporation's capabilities in modernization and repair of previously supplied equipment. In addition,

information will be provided on the shipborne anti-aircraft equipment: Rif-M, Resurs, and Shtil-1 air defense systems.

The Corporation's exposition will feature radar, reconnaissance, and surveillance equipment. Visitors to IDEX-2023 will be able to see models of air target acquisition radars Gamma-DE, Kasta-2E2, Barrier-E, and others. In addition, Corporation specialists will present the Podsolnuh-E OTH radar.

A special place at the exposition will be taken by the model of the Sula space object surveillance radar, which allows tracking the movement of satellites, space debris and other objects in orbit at a range of up to 6,000 km. The radar provides acquisition of coordinate and non-coordinate information on space objects, which is recorded on non-transitory

media and is transmitted in real time to the user.

The radar antenna is built on the basis of a modular digital active phased antenna array, which provides the radar with high information characteristics, bandwidth and noise immunity. The peculiarity of 'Sula' is the compact size of the antenna array and the sectional-modular principle of architecture that allows in a short time to deploy the radar on the ground and move it by rail. The station is controlled from a command-and-control center made in a fast-mounted module.

IDEX visitors will be able to see a model of the Podlet-E automated three-coordinate low-altitude radar, which has high noise immunity and is capable of operating in various modes of space surveillance. 'Podlet-E' is intended for use



in automated and non-automated air defence and air force units for automatic (semi-automated) detection, position measurement, tracking, identification and flight information acquisition of air objects and prospective low-altitude air defence weapons, including those made by stealth technology in conditions of forested moderate terrain and under intensive active, passive and combined jamming as well as fire suppression conditions.

Traditionally, portable radars for surveillance of ground targets are of great interest to the visitors. Corporation's specialists will demonstrate ground surveillance radar stations 'Fara-VR', 'Credo-1E', 1L277, 'Aistenok' and facility protection radar 'Sova'.

The Corporation will also present models of the E-801E helicopter-based radar system for detecting air and surface objects and the 1K130E helicopter-based ground target surveillance radar system.

In addition, at the exposition of Almaz – Antey Corp. it will be possible to see the model of ROSC-1 radar designed to counter unmanned aerial vehicles.

Separate monitors will show information about the samples and models on display, including the Adjutant universal target training system and the 9F678M autonomous simulator.

'Our products traditionally arouse great interest of the guests of IDEX, one of the most visited defense exhibitions. For 30 years the Corporation's enterprises have been successfully demonstrating their scientific,

technical and production potential at this forum, which undoubtedly contributes to development of new sales markets. We have established ourselves as a reliable supplier of exclusive defence products,' said Vyacheslav Dzirkaln, Deputy CEO of Almaz – Antey Corp. for Foreign Economic Activity.

According to him, an important role in the growth of export potential of the holding's products is played by the Corporation's provision of a full cycle of support for its products, from development to disposition. 'The Almaz – Antey Corporation's products today successfully protect the sovereignty and security of many buyer countries,' the company's deputy head stated.

Vyacheslav Dzirkaln warmly thanked the organizers of the exhibition for the fruitful thirty-year cooperation with the Corporation and



wished the IDEX platform further comprehensive development for the benefit of international security.

Almaz – Antey Corporation is one of the largest integrated associations of the Russian defence-industrial complex, which includes over 60 high-tech enterprises. The total number of employees of the holding is about 140 thousand people. The products of the Corporation are supplied to more than 50 countries of the world. 'Almaz – Antey has the right to conduct independent foreign trade activities in relation to military products, including the supply of spare parts, repairs and upgrades of previously supplied equipment.

The Corporation pays special attention to customer training, operation and maintenance of supplied equipment, offers after-sales service, repair, modernization and disposition.

/IA&MG/



MAIN PHOTO

BEST CHOICE AMONG

SHORT-RANGE SAMS



*Izhevsk Electromechanical Plant Kupol
is presenting Tor SAM systems at IDEX 2023*



Alexander Stolnikov

Izhevsk Electromechanical Plant Kupol (part of the Almaz – Antey Air and Space Defence Corporation, JSC), the leading developer and manufacturer of Tor SAM systems, is presenting its anti-aircraft missile systems at IDEX 2023 in the UAE. The joint exposition of the Almaz – Antey Corp. includes full-scale models of Tor-E2, Tor-M2K, and Tor-M2KM (the latter in three versions: stationary, on a vehicle chassis, and on a semi-trailer) and the Taifun-PVO SAM launcher vehicle.

Tor family SAMs are designed to protect troops and strategic facilities in any weather conditions at any time of the day, under conditions of intensive fire and electronic countermeasures.

Recently, due to changes in air attack tactics, the role of short-range SAMs has increased significantly. Modern combat aviation is equipped with munitions that make it possible to strike without entering the air defense zone. The munitions

themselves are increasingly used at low and ultra-low altitudes, where their detection over the horizon becomes problematic. In these conditions such characteristics of SAMs as deployment and reaction time, fire performance, ability to detect and intercept small and low-flying targets come to the fore. By the combination of these and other tactical and technical characteristics the Tor family of SAMs is unrivaled in its class.

Tor family of SAMs has the record-shortest transition time from marching to fighting position being 3 minutes, which ensures the combat vehicles rapid engaging in combat and repulsing sudden enemy air strike.

The airspace survey speed is 1 antenna revolution per second, which is the world's best indicator in the class of low-range SAM systems and enables quick response to air situation changes. In one revolution

of the antenna the system is able to detect up to 48 targets in 32 km range (in fact – to the limit of the radio horizon), rank them according to threat level, take the 10 most dangerous on the automatic tracking, and simultaneously engage 4 of them. The reaction time from the moment of target detection to the launch of SAMs is 5-10 seconds, depending on the course of the target relative to the guidance antenna at the moment of detection. The short reaction time noticeably increases the ability to intercept high-speed, low-flying targets (which are always detected later than high-flying ones). The interval between launches is 3 seconds.

The Tor family of SAMs is capable of intercepting small (RCS 0.1 m² or less) targets flying at ultra-low altitudes (10 m or less). The radio-command method of guidance makes it possible to build different target trajectories, including dive trajectories, as

well as to aim the SAM at the selected, most vulnerable part of the target. The high-powered radars have high targeting accuracy, which eliminated the practice of firing two SAMs at a single target. The highest level of protection against jamming is secured – during the tests conducted in Greece, the work of Tor family SAMs was not suppressed by NATO EW means, the same results were shown by the tests conducted with the participation of Russian EW means.

Unlike many similar systems, the Tor family of SAMs is capable of air reconnaissance on the move. Moreover, they are the only SAMs in the world capable of firing at targets on the move as well. This enables the combat vehicles to provide air cover for troops on the march and in maneuvering types of combat without hindering their movements.

The engagement zone of the Tor family of air defense systems corresponds to the objectives of short-range air defense systems. Tor-E2 SAM system's engagement range for aerial targets is up to 16 km, maximum altitude – up to 12 km, course parameter – ± 9.5 km. Maximum speed of target – up to 700 m/s. When assessing the combat capabilities of the Tor family of SAMs it should be taken into account that the lead developer and manufacturer of these machines – Kupol Enterprise – pursues a responsible marketing policy and indicates in the technical data sheet of the products the guaranteed values of the performance characteristics. In the course of tests, exercises and real fights the Tor family of SAMs repeatedly demonstrated a noticeable excess of the characteristics specified in the technical data sheet.

One of the distinguishing features of the Tor family of SAMs is a wide diversification in terms of carrier base. Tor-E2 complex is placed on the all-terrain tracked chassis providing the combat vehicle speed up to 65 km/hour on a highway, 45 km/h on a dirt road and 15-25 km/hour on a rough terrain. This version is optimal for escorting armored divisions with its coordinated speed and cross-country capability.

The Tor-M2K is placed on a wheeled chassis. This allowed to

reduce weight (up to 32 tons instead of 37 in the tracked version), reducing the cost of the product and the cost of exploitation. In addition, the wheeled Tor does not damage the road surface. Speed on the highway is increased to 80 km/h, while driving on unpaved roads is 40 km/h. This version of the complex is optimal for countries with a developed network of paved roads.

Autonomous combat module (ACM) of Tor-M2KM SAM has no regular chassis at all and weighs only 15 tons. Tor-M2KM ACM is the best in its class air defense equipment for the protection of stationary facilities, because when defending them, the requirements to maneuverability of air defenses are significantly lower, and it is possible to buy a larger number of SAMs due to the savings on the chassis. At the same time maneuverability of Tor-M2KM ACM remains quite high. The complex can be transported on any platform of suitable carrying capacity (automobile chassis, semi-trailers, trailers, etc.), its repositioning requires a crane with carrying capacity ≥ 25 ton, repositioning takes 10 min. It can also be transported by helicopter, which means it can be positioned in locations that are not easily accessible. The ACM can also be integrated with any suitable chassis as desired by the customer.

The absence of the regular chassis seriously expands the scope of the Tor-M2KM ACM. In addition to facility and troop air defense, the complex can be involved in providing air defense for ships and vessels – the ability to conduct combat operations from the deck in the open sea has been confirmed in the course of the tests. For countries with access to the sea, the Tor-M2KM is preferable in terms of ensuring the maneuvering of available air defense forces between land and sea areas.

Kupol Enterprise is also presenting its promising development, the Taifun-PVO air defence section combat vehicle at IDEX 2023. Taifun-PVO allows for increased mobility and protection of the air defence section and significantly extends the combat capabilities of MANPADS. /IA&MG/



SPLAV: NEW POSSIBILITIES of MRLSs

JOINT-STOCK COMPANY 'SPLAV SCIENTIFIC PRODUCTION ASSOCIATION' named after A. Ganichev' is the leading enterprise for development of multiple rocket launch systems (MRLS) for the Army and for the Navy (our company is included in the management network of the holding company 'Technodinamika' of Rostec State Corporation – the managing organization of JSC 'Techmash SPC'.

Through the years of its existence, such outstanding systems as GRAD, URAGAN, SMERCH for the Army, GRAD-M, UDAV-1M, OGON', DAMBA, RPK-8 for the Navy have been developed, dozens of unique manufacturing techniques for the rocket projectiles, the artillery shell cases of calibers from 23 to 152 mm made of various materials have been elaborated. Nowadays, our engineering developments and production techniques in the field of the rocket artillery and shell cases production are world-renowned.

Specialists of the enterprise have developed modernization programs for the GRAD and SMERCH systems, which ensured execution of the fire missions on destruction of the enemy over a distance of, correspondingly, 40 and 90 km, enhancement of capabilities of fire engagement against the typical targets, computerization of the fire preparation and delivery, upgrade of the launch vehicles.

Nowadays JSC 'SPLAV SPA' named after A. Ganichev' offers at the international defense market upgraded GRAD and SMERCH MRLSs, including different-purpose warheads rocket projectiles with the range of fire of,

correspondingly, 40 and 90 km, upgrade of the earlier delivered launch vehicles for these complexes, state-of-the-art TORNADO-G MRLS, rocket projectiles for TOS-1A MRLS, as well as the new generation of the 80mm unguided aircraft rocket armament: HE-Fragmentation penetrating warhead unguided aircraft C-80FP rocket projectile equipped with a small-type high-energy solid rocket propellant motor, and also state-of-the-art Russian MRLS 9K515.

9K515 MRLS is designed on the basis of SMERCH MRLS thanks to the:

- development of brand new guided missiles with the range of fire up to 120 km., fitted with control system that is built on the platformless inertial navigation system with enabled onboard equipment of satellite navigation system and with the possibility to bring individual flight mission data to each missile;
- upgrading of launch vehicles for SMERCH MRLS ensures launch preparation and firing of both types of RPs (for SMERCH MRLS and newly developed guided missiles) without crew leaving the cabin;
- equipping a launch vehicle with an autonomous topographic survey system and navigation system.

Presently the following systems are being offered for the export deliveries:

GRAD MRLS:

1. 122mm Rocket Projectiles (RPs):
 - High-effect warhead 9M521 RP;
 - HE-fragmentation separable warhead 9M522 RP;
 - Shaped-charge fragmentation submunitions 9M218 RP.
2. 2B17-1 Launch Vehicle (LV) equipped with automated laying fire and control system (ALFCS).

TORNADO-G MRLS:

1. 122mm Rocket Projectiles:
 - High-effect HE-Fragmentation warhead 9M538 RP;
 - High-effect separable HE-Fragmentation warhead 9M539 RP;
 - Shaped-charge fragmentation submunitions warhead 9M541 RP.
2. 2B17M launch vehicle equipped with ALFCS and ground launch preparation and firing equipment.

TOS-1A Heavy Flame Throwing System:

- 220mm extended range MO.1.01.04M unguided RP.

SMERCH MRLS:

1. 300mm RPs:
 - Fragmentations submunitions warhead 9M525 RP;
 - HE-Fragmentation separable warhead 9M528 RP;
 - Fuel-air explosive warhead 9M529 RP;
 - Shaped-charge fragmentation submunitions warhead 9M531 RP;
 - Sensor-fuzed submunitions warhead 9M533 RP.
2. 9A52-2 LV (on MAZ chassis), 9A52-2T LV (on Tatra chassis) 9A52-4 LV (lightweight six-round launcher mounted on elongated KAMAZ chassis) equipped with ALFCS.
3. 9T234-2, 9T234-2T, 9T234-4 Transporter-Loaders.
4. 9F819 Arsenal Equipment.
5. 9F827 Training Aids.
6. 9F840 Training Set.
7. MP32M1 Unified Command and Staff Vehicle.
8. 1B44 Radio Direction-Finding and Meteorological Complex.

PC30 9K515:

1. 300 mm Guided Missiles:
 - Shaped-Charge Fragmentation Submunitions 9M544 Guided Missile;
 - Fragmentation Submunitions 9M549 Guided Missile.
2. 9A54 Launch Vehicle is equipped with automatic automated laying fire and control system (ALFCS) and ground launch preparation and firing equipment (GLPE).

The specialists of the enterprise have developed upgrade algorithm for the organic rocket projectiles for GRAD, GRAD-1 and PRIMA MRLSs ensuring increase in the maximum range of fire of up to 40 km, as well as the repair documentation for overhaul of the expired specified service life URAGAN MRLS 9M27F and 9M27K rocket projectiles with determining of their guaranteed shelf life of 10 years after repair.

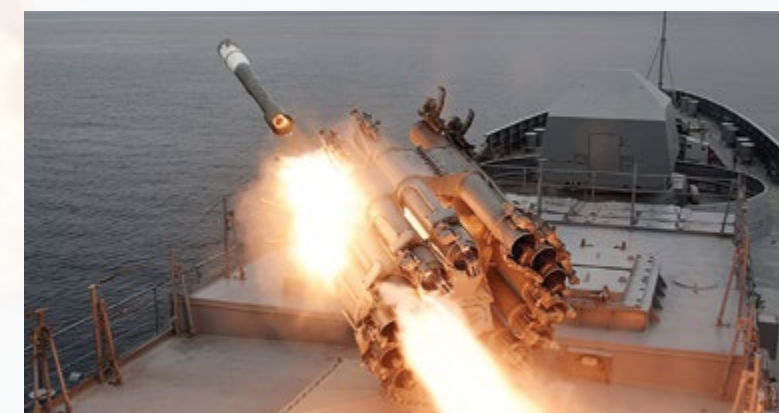
JOINT-STOCK COMPANY

'SPLAV SCIENTIFIC PRODUCTION ASSOCIATION' named after A. Ganichev'

33, Shcheglovskaya zaseka, Tula, 300004, Russia

Tel: +7 (4872) 46-46-14, Fax: +7 (4872) 55-25-78

E-mail: mail@splavtula.ru



THE BEST IN THE WORLD IN THEIR TYPE OF ARMAMENTS

The 125-mm 2S25 upgraded self-propelled antitank gun (2S25M SPATG) is the world's only example of a true-amphibious self-propelled antitank gun which was designed and produced in Russia. Many military experts have seen the 2S25M SPATG at international exhibitions. It was presented by Kurganmashzavod PJSC (part of the High-Precision Weapons holding of Rostec State Corporation).

An improved export modification of the 125-mm 2S25M self-propelled antitank gun was shown at the International Military-Technical Forum 'Army-2022'. In the new configuration, an appliqué armor kit (AAK) was fastened on the SPATG which increases its protection against 30-mm shells in the front projection and against 12.7-mm bullets in the side projection. At the same time, the vehicle has extra amphibious capability and stability in water. Another advantage of the 2S25M SPATG is its optoelectronic suppression system. It protects the vehicle against approaching missiles or laser irradiation. To reduce the driver's fatigue, the vehicle is equipped with video cameras to give the all-round view during movement, also while driving in reverse gear. The especially obvious advantages of the 125-mm 2S25 upgraded self-propelled antitank gun in the new configuration are when operating in high-altitude areas and coastal shoreline regions.

Air, land and sea compatible vehicle

The vehicle ensures the solution of complex tactical missions such as reconnaissance, battle outposts, protection on the move, protection at the halt; actions as part of raid, bypass and forward detachments; fighting in the forward defense area and maneuvering defense; hasty forcing water obstacles; amphibious operations; actions in wooded swamps and forested wetlands, mountainous terrain, and northern regions; control of the territory in

operations on maintaining peace and internal armed conflicts.

This unique combat vehicle has modern tactical and technical characteristics in terms of firepower, increased tactical mobility and operational maneuverability, including hasty forcing of water obstacles, better operational and strategic air, sea, rail, and road transportability. The vehicle can perform missions in three elements – on land, in water, and in the air.

It is absolutely clear to the experts that, finally, a multipurpose fighting vehicle has appeared for a number of arms of the service. The recon-

naissance units and antitank or commandant units, special mountain formations and units of the land forces are being equipped with such vehicles. Both the marines and coastal troops get protection and firepower enhancement. The territorial defense forces get a special rapid response unit for security against sudden threats and attacks. At the same time, the cruising range of up to 500 km without refueling gives an extra resource for performing a combat mission for a long time.

The 500 hp UTD-29 multi-fuel diesel engine develops the power required to move an 18 tonne combat vehicle with a crew of three at speeds of up to 70 km/h on land and up to 10 km/h in water.

The firepower corresponds to that of the main battle tank.

There are no similar amphibious vehicles in the world that have such powerful weapons per unit mass. The 125-mm 2A75 cannon provides for the use of modern sub-caliber armor-piercing shell, hollow-charge projectiles, high-explosive shells, as well as ammunition with remote detonation on the trajectory. Such military means of defeat are especially

effective to defeat enemy manpower, crews of man-portable antitank systems, unarmored and soft-skinned vehicles.

The 2S25M SPATG corresponds to the T-90MS main battle tank in terms of firepower. It should also be mentioned that the 125-mm 2S25 upgraded self-propelled antitank gun can fire guided missiles with hollow-charge and high-explosive warheads, so that the most protected enemy armored vehicles can be defeated at a range of up to 5 km. The total number of guided missiles to the cannon is 40, including 22 pieces in the mechanized stowage rack.

The vehicle mounts a 7.62-mm remote-controlled machine gun therefore the vehicle commander can independently defeat the identified targets when the gunner-operator already fires the main weapons. The total number of cartridges to machine guns is 3000.

In addition to the tank cannon, the SPATG mounts the latest fire control system. All types of ammunition, including guided missiles, can be fired using the commander's panoramic sight (CPS). Both sights are equipped with an automatic target tracker. In case of damage to the main sights, there is a backup sight; it is an optoelectronic device with the field of view stabilized in the vertical plane and a self-contained power supply.

The chassis of the combat vehicle is equipped with a highly efficient independent hydropneumatic suspension with a variable ground clearance system. Given the specifics of the vehicle use, the ability to 'lie down' with its hull bottom on the ground is difficult to overestimate. The unique feature of the suspension is also in extra vehicle camouflage security, and in better transportability. The vehicle can also be transported by air.

The requirement of individual foreign customers to equip their armed forces with light amphibious tanks increases the attractiveness of the 2S25M vehicle in the international arms market. The SPATG can be offered as an export modification of such a light amphibious tank.

The mounted troops protected by armor

The BT-3F multipurpose armored personnel carrier is one of the latest infantry fighting vehicles designed and produced by Kurganmashzavod PJSC (part of the High-Precision Weapons holding of Rostec State Corporation). The BT-3F is based on the BMP-3 infantry fighting vehicle and adapted for the use in conditions at sea.

First of all, the designers of Kurganmashzavod PJSC sought to enhance the level of protection of the new vehicle. Great attention was paid to quality improvement of the characteristics of life support system and ergonomics. The basic parameters of mobility and commonality with the base IVF have been retained.

The BT-3F APC inherited from the BMP-3 IFV high protection against conventional weapons and against effects from a nuclear explosion. These vehicles can be used in joint operations.

The BT-3F mounts the 5ETs16U remote controlled weapon station (RCWS) armed with a 12.7 mm Kord heavy machine gun. The RCWS is equipped with TV and thermal imaging sights combined with a laser rangefinder. It is indispensable for defeating soft-skinned targets and fire means, for destroying enemy manpower. By the way, the system for video surveillance gives an all-round view of the terrain, while the image is displayed on the video monitors of the driver and mounted troops.

The options of the seating arrangement of mounted troops in the BT-3F:



the APC seats the crew of two + 10 dismounts. Another 5 soldiers can be seated. It is important that the BT-3F can be used for transportation of high-volume cargo, ammunition, for installation of devices and equipment. In fact, the new generation armored personnel carrier is offered as a base chassis to develop the vehicles for wide use.

The BT-3F with its 500 hp engine corresponds to the BMP-3 infantry fighting vehicle in terms of mobility: speed of movement on highway is of up to 70 km/h. The vehicle is capable of swimming at sea state 3.

Another undoubted benefit of the BT-3F is its transportability. It can be transported by motor, by air, by sea and by rail. The BT-3F can also be transported on the external suspension of the MI-26 helicopter.

The crews having experience of the BMP-3s and BMP-3Fs operation will easily learn the skills of the BT-3Fs operation, because this is same family of Russian vehicles. /IA&MG/



MISSILE OF AMAZING ACCURACY

Yury Laskin

According to experts' opinion, newly developed 305E airborne missile can become one of the most striking novelties of the exposition of the High Precision Weapons Holding at IDEX-2023. The missile is developed by Kolomna-based KBM, a subsidiary of the High Precision Weapons Holding.

The 305E multipurpose airborne guided missile is primarily planned to equip the Mil and Kamov combat helicopters. The 305E missile is intended for: round-the-clock engagement of single/group; moving/stationary ground/naval heat-contrast objects; sheltered/openly deployed manpower. According to the designing company, missile features guaranteed flight range of 14.5 km. It is twice longer of the fire range of modern helicopters' missiles. Missile weight is 105 kg (with 25 kg of the warhead). The missile features modular design and can be armed with different warheads.

The light multipurpose guided missile 305E is built according to the canard configuration, the control surfaces are in the head of the missile, and the folding wings, which also serve as a stabiliser, are located in the tail part of the missile body.

The main advantage of the 305E missile is capacity to be fired from defilade positions. The helicopter can be operated from behind a rock ledge or any other shelter. At the final sector of the trajectory the helicopter can choose the most wanted out of several targets. Besides, the

helicopter can direct the missile to the most vulnerable part of the target by setting the aiming mark to selected point. The missile is equipped with strapdown inertial navigation system integrated with satellite navigation system, a communication channel with a helicopter.

According to the experts, the 305E multipurpose airborne guided missile can effectively engage the air defense command posts, after which helicopters can fly closer and fire at the front line of the opposing defense with other weapons. The missile can be also used against buildings and structures, armored vehicles, SAM missile systems and other targets. The missile features specific capacity to be operated in several modes. The missile can lock on the target visible by the operator and detected by helicopter's optical means or get target designation data from the outside source, i.e. from reconnaissance equipment of the army unit.

The Russian media has reported that not only helicopters, but also fixed wing aircraft can be equipped with the new guided missiles. It is also considered as a promising weapon for UAVs. /IA&MG/

THE NEWEST 'PLANSHET – M-IR'

Tablet-powered situation awareness pushes the boundaries

Today's reality dictates new conditions for preserving peace. Any state can feel secure only if it has effective modern weapons and military equipment. In many countries, missile forces and artillery are considered the primary means of engaging the enemy in combat. Speed and accuracy play an important role. Obviously, the future of these arms is contingent of a comprehensive automation of command and control processes at all levels. The compact hand-held Planshet-A automated fire control system (AFCS), developed by the Joint Stock Company 'All-Russian Scientific-Research Institute 'Signal' (VNII Signal), patented by Rostec's High-Precision Weapons Holding, at its own expense, paved the way for further development in this domain.

The Planshet-A is a compact portable system for automating the control of artillery, mortar and multiple launch rocket systems (MLRS) ops. It automates the performance of battalion (battery) commanders from the moment they receive targeting data to calculations and to target engagement.

In order to expand the capabilities of the Plan-shet system, the company's specialists integrated it with the advanced armored vehicle Atlet of MIC. This made it possible to increase its mobility and perform combat missions more effectively. The new development was called 'Planshet - M-IR'.

The upgraded version provides the ability to control firing means that have in their composition regular automated guidance and fire control systems, as well as advanced firing means, which are currently under development. They can be operated from both inside and outside the vehicle. All one has to do is take the tablet computer out of the vehicle and continue using it on the move, remaining part of the overall system regardless of location. This will go a long way in reducing preparation time of firing missions. In addition, the Planshet-M-IR has significantly expanded the range of interfacing means.

Its communication capabilities are based on a secure satellite system, which has a high data transfer rate and boasts reliable protection, which significantly affects the efficiency of unit C2.

The Planshet-M-IR deployed along with UAVs in automated mode enables the commander to see what is happening on the battlefield in real time and to correct fire. It is very important that the new design can interact with absolutely all UAVs in service with the Russian military today.



The Planshet-A is already delivered to the Russian Armed Forces in quantity. The development PlanshetM-IR has already been manufactured, with its tests already apace. VNII Signal is confident that the M-IR derivative has adopted a number of effective technical solutions, which are so necessary on the battlefield today.

It is worth noting that specialists at VNII Signal heed attention not only to the development of artillery automation systems, but also cover a number of important areas essential for the equipment and development of the Armed Forces. Fundamentally new samples are being created and future technologies are taking shape. VNII Signal is one of the leading domestic developers of electrohydraulic guidance and stabilization actuators for weapons mounted on armored vehicles, artillery, attack helicopters and naval ships. Another area of interest in the VNII Signal profile is navigation and survey systems for mobile land-based assets of the Armed Forces and automatic guidance and fire control solutions.

In 65-plus years of its history VNII Signal has proven to be a reliable and successful enterprise boasting a serious research background. It owes its success to the team of professionals, among them are young, talented and energetic people!

/IA&MG/



HIGH-PRECISION WEAPONS

VNII SIGNAL

'VNII 'Signal' JSC

Kovrov, Vladimir Region, 601903 57, Krupskaya Street

Tel.: + 7 (49232) 9-03-34, 3-12-34, Fax: + 7 (49232) 3-27-19

E-mail: mail@vniisignal.ru, www.vniisignal.ru

BRAHMOS – AN INDISPENSABLE ASSET FOR MODERN BATTLEFIELDS

Modern battlegrounds have become multi-dimensional, highly complex and increasingly intense in constantly shifting security environments. To effectively command and control such battlespaces from across air, sea and ground can decisively influence the outcome of modern warfare.

BRAHMOS – world's most powerful tactical weapon reckoned for its deadly speed, precision and fire-power – has aced 'across-the-spectrum' warfare strategy of 21st century. The formidable missile has established its versatility to be launched from ground, ship and air platforms to annihilate high-value enemy targets on land and sea from stand-off ranges in day-and-night, all-weather conditions.

The state-of-the-art weapon featuring cutting-edge technologies has become an indispens-

able combat asset for a powerful military of modern times. The 'fire & forget', 'quick reaction' stealth weapon is capable of evading air defence systems deployed by an adversary.

Jointly designed and developed by DRDO of India and NPOM of Russia, BRAHMOS is operational in all three Services of Indian Armed Forces. BrahMos Aerospace, the Joint Venture (JV) enterprise between India and Russia, has successfully produced and delivered the land-to-land, land-to-sea, sea-to-shore, shore-to-sea, air-to-land and air-to-

sea configurations of the formidable Weapon System to the Indian Army, Navy and Air Force.

Indian Navy became the first maritime force to deploy the deadly weapon in 2005. Several Indian surface combat platforms, including large guided missile destroyers and stealth frigates, have since then been armed with the 'prime strike' BRAHMOS Weapon System.

In its advanced naval configuration, BRAHMOS has evolved over the years by incorporating newer attributes to its combat capability. During a number of successful test

firings conducted from maritime warfare platforms, the weapon has precisely engaged and neutralised both sea and land based targets from beyond radar horizons which has enormously galvanised Indian Navy's strike prowess in both the littoral and high sea zones.

In addition, BRAHMOS has also proved its flexibility to be fired from both vertical and inclined launchers from either a static or moving naval platform in single or salvo mode against a single target or multiple targets located in different directions, thus enormously widening its combat outreach.

An underwater variant of the powerful weapon was successfully tested in March 2013 which validated its deployability onboard conventional attack submarines in future.

BRAHMOS land-attack cruise missile (LACM) system has also been deployed with the Indian Army in advanced Block I, II and III configurations which has immensely bolstered India's land warfare operations.

In January 2020, the Indian Air Force (IAF) commissioned the 'Tigersharks' squadron consisting the Sukhoi-30MKI fighter aircraft armed with the highly advanced BRAHMOS air-borne weapon system. It has become the deadliest weapon-platform combination in the world to undertake high priority air combat operations from large, stand-off ranges. BRAHMOS air-launched cruise missile (ALCM) has become the most powerful conventional air-borne weapon in terms of range, lethality and effectiveness.

With its successful operationalisation in all three Services of Indian

Defence Forces, precision-guided BRAHMOS has completed India's 'supersonic cruise missile triad' – an unparalleled feat worldwide.

In 2022, BrahMos Aerospace achieved its first export breakthrough when it signed a historic contract with the Republic of Philippines to deliver shore-based BRAHMOS anti-ship weapon system to the Armed Forces of Philippines. With this landmark deal, BRAHMOS carved its global footprint.

'With our first historic export order, we have fulfilled the 'Mind-to-Market' strategy. We now intend to expand our export footprint farther as we are offering all three variants of BRAHMOS to our potential customer

nations across Continents. We are very hopeful to realise more export breakthroughs in near future,' says Mr. Atul D Rane, Director General (BrahMos), DRDO and CEO & MD, BrahMos Aerospace.

As a powerful deterrent weapon, 'universal' BRAHMOS with its multi-platform deployability and multi-role capability, has emerged as the choicest weapon of 21st century.

The BrahMos JV has also advanced its work on the new BRAHMOS-NG (next-generation) weapon system. Combining superior design and high-end technologies in compact dimensions, the new missile promises to revolutionise the battlefields of tomorrow.

/IA&MG/





STC 'LEMT' – BELARUSSIAN POINT OF VIEW ON OPTICAL TECHNOLOGIES

STC 'LEMT' – one of the Belarussian companies exposed at IDEX-2023, which are specializing in almost each direction of full cycle Research & Development projects in optical production and advanced optoelectronic engineering.

Scientific and Technical Center 'LEMT' (originally stated as Lasers in Ecology, Medicine, Technology) was founded in 1992 with the purpose to bring most perspective laser-based technical solutions in different spheres of precision engineering: stand & measurement equipment, medical tools and devices, defense & security systems. Since that period, company has expanded intellectual, technical and manufacturing potential and uncovered full range of development directions including:

- Optical sights and aiming devices for small arms, observation devices:
 - telescopic (Z=4, Z=5, Z=8) and prism sights;
 - red-dot (including holographic) sights;
 - laser aiming devices and illuminators;
 - night & thermal vision systems including their combinations;
 - combined multichannel sighting complexes for precision firearms;
- Laser rangefinders and integrated rangefinding modules (maximum measurement range – 40 km);
- Intellectual optoelectronic sights, devices and complexes (for grenade launchers and precision weaponry);

- Optoelectronic Fire Control Systems (Ballistic Calculation, Laser Designation, Laser Guidance etc.)
- Multispectral Surveillance Systems for Border Security (Optoelectronic and Short-range X-band Radar Complexes);
- Optoelectronic solutions for air-defense;
- Control, calibration and stand equipment for optical manufacturing and service maintenance.

Top current trends in optoelectronic equipment for military purpose are represented in a product line of STC 'LEMT' – product policy is based on a union of more than 30-years' experience of design and manufacturing of MIL-SPEC products and wide circle of international partnership and scientific cooperation.

STC 'LEMT' has designed a completed line of optical sights for sniper rifles. GS-series includes models with different range of variable magnification that can be applicable for different kind of tasks and for multiple types of weapons (assault and semi-automatic rifles – **GS 1-8x24 FFP Optical Sight**, medium range sniper rifle (7,62x54R, 7,62x51) – **GS 3-12x50 and GS 3-16x50 Optical Sights**, long-range precision sniper complexes (0.300 WinMag, 0.338 LM and 0.408 Chey-Tac) and anti-material rifles



(12,7x99, 12,7x108) – **GS 5-25x56M1 and GS 5-40x56 Optical Sights**.

One of promising directions in optoelectronic development is combined multichannel observation systems, or **Fusion systems** – hybrid of Image Intensifier and Thermal Core technologies in one completed system or a system of accessories. STC 'LEMT' providing few technical solutions:

- **Night & Thermal Vision Monocular TN-KS/2A** – compact observation device for helmet mounting or handheld use. System was modified and latest generations are equipped with built-in battery compartment, set includes few types of portable battery packs. Complete set is a multitask night vision system fully compatible with other optoelectronic equipment for nighttime operations (red-dot sights, IR-lasers, indication devices etc.)

- **Thermal Vision Clip-On Attachment for Night Vision Devices TV/A-NV** – compact accessory which allows to expand detection capabilities of night vision

devices (monoculars or goggles with 1x magnification) particularly in use. Device transfers image from a thermal module to the lens objective of NVD to get complexed image of both channels simultaneously.

In range of perspective projects of STC 'LEMT' upgrade of ATGM complexes holds a special place: ATGM systems like 'Konkurs' are still effective tools against modern tanks and armored vehicles but require update and modernization for increased range, accuracy and guidance stability. Upgrade project by 'LEMT' includes modifications of the standard missile (replacement of wire-guidance with laser-guidance by installation of laser receiving device in tail part of rocket), changing component base of the launcher (electronics and mounting system for the sights), and replacement of fire control device for a completely new multichannel system (optical channel with periscope, thermal vision channel, laser guidance channel). As a result upgraded **ATGM 'Konkurs-MB'** becoming closer to modern systems like 'Kornet' by cost-effectiveness factor. /IA&MG/





Project 20382 Tiger

Multipurpose corvette

Primus inter pares

Proved effectiveness against surface ships, submarines and aerial targets

- ◆ Multipurpose, compact. Control over the ship is highly automated;
- ◆ Powerful and well-balanced armament;
- ◆ Build using composite materials and stealth technologies;
- ◆ Modular design.

Karakurt ensures effective defence of large surface ships, vessels and convoys from aerial, submarine and surface ship attacks.

The ship is capable of destroying critical land facilities, combat surface ships including those with a strong air defence.

Project 20382 as well can provide effective fire support for the Army and landing troops on the coast.

Armament

Club – N integrated missile system:

Range of fire, km – 300;

Missile load, missiles – 8.

RIF-M multichannel ADMS:

Range of fire, km – 40;

Ammunition load, missiles – 16.

A-190E artillery gun mount 1x1 100 mm:

Range of fire, km – 22.

Two AK-630M 1x6 30 mm artillery gun mounts:

Range of fire, km – 5.

Two Paket E/NK anti-submarine systems with 327 mm torpedoes:

Range of fire, km – 20.

Zaslon-MFR multipurpose radar:

Detection range, km:

active channel – 200;

passive channel – 300.

Zaria ME – 03 sonar.

A hangar and a helipad for a 12 t helicopter.

Due to brand new technologies the combat potential of Project 20382 is not inferior to frigate class.

Main characteristics

- ◆ Full displacement, t 2430
- ◆ Main dimensions (length, beam, draft), m..... 104,5x13,0x3,7
- ◆ Maximum speed/economical, kts 26/14
- ◆ Range, miles 4000
- ◆ Seaworthiness, points 8



Amur-1650

Silent threat

Embodiment of the best Russian submarine building technological advancements



- ◆ Well-balanced and powerful armament;
- ◆ Low noisiness, small sonar and radar trace;
- ◆ Control over the submarine and armament is highly automated;
- ◆ Hi-tech are used.

Amur-1650 is the brand-new class of submarines, where the latest technologies and materials are used.

The submarine is effective against groups of ships and can efficiently search for submarines and destroy them. Amur-1650 as well can deliver strikes against critical land facilities and set minefields.

Low noisiness and perfect sonar system ensure pre-emptive detection of an enemy.

Armament

Club – S integrated missile system:

Range of fire, km – 300.

UGST torpedoes:

Range of fire, km – 50;

Ammunition load 533 mm, un. – 18.

Lira sonar system with a towed low-frequency antenna.

KRM-66E radar.

Acquisition of hi-tech Amur-1650 submarine extends the State's sea power.

Main characteristics:

- ◆ Normal displacement, t 1765
- ◆ Main dimensions (length, beam, height), m..... 66,8/7,1/6,7
- ◆ Operational depth, m 300
- ◆ Speed submerged/surface, kts..... 19/10
- ◆ Range using diesels/batteries, miles 6000/650
- ◆ Number of torpedoes 533 mm, un..... 6





Bastion

Coastal missile system

Instant strike
Mobile coastal frontier

- ◆ Supersonic speed of missiles;
- ◆ High mobility;
- ◆ Large impact area;
- ◆ The system can deliver strikes from the depth of the territory. It is also possible to disperse system's combat units on a large area;
- ◆ Capable of engaging land targets.

A salvo of Yakhont missiles can overcome the air defence system of nearly every ship.

Thanks to the long range of fire and high velocity of Yakhont missiles Bastion is capable of delivering sudden strikes against distant sea-surface targets.

Usage of flexible program-controlled flight path allows missiles to overcome the air defence system and to approach targets from the unexpected directions.

Mobility of the system provides for its high maneuverability and covertness of the combat use.

Bastion coastal missile system ensures reliable defence of large water areas from sea-surface ships.

Main characteristics	
◆ Maximum range of fire, km.....	300
◆ Missile's velocity, m/s.....	680-750
◆ Angle of after-launch turn, degrees.....	360
◆ Number of missiles in a salvo (for 6 launching units), un.....	12
◆ Time of deployment, min.....	5



Rubez-ME

Coastal tactical missile system

One – vehicle army
Missile ship on wheels

- ◆ Substantial fire power;
- ◆ Compact;
- ◆ Possibility to have various configuration and composition;
- ◆ Mobile;
- ◆ Substantial maneuverability;
- ◆ Grate survivability, covertness and resistance to countermeasures.

Target designation and combat systems are installed on one platform so that Rubez-ME can be used either as a single combat unit or as a group of up to 8 vehicles.

Thanks to the composition of the system, current tactical situation and assigned combat task, various configurations of armament and technical equipment with flexible fire control can be formed.

Rubez-ME coastal defence system can effectively combat against surface ships in littoral areas using minimized composition of armament and technical means.

Main characteristics	
◆ Mass of the launcher unit, t.....	26
◆ Maximum speed, km/h.....	75
◆ Crew, men	2
◆ Range of fire, km.....	260
◆ Ammunition load, missiles	4
◆ Missile's speed, M	0,85
◆ Target detection range:	
by an active radar, km	up to 100
by a passive radar, km	up to 450





P-18-2 (1RL131-2)

Surveillance and targeting radar

Accuracy. Maneuverability. Interference protection

P-18-2 radar has enhanced capabilities for detecting targets, which use the Stealth technology. It can be used by radio engineering units.



P-18-2 radar is highly mobile and able to receive additional (flight) information from airborne transponders using the integrated secondary radars.

Mobile 2D surveillance and targeting radar P-18-2 is designed for:

- detection, tracking, coordinates measurement (distance and azimuth), and state attribution of various flying objects in demanding active and passive jamming environment, active noise jammer direction finding;
- data support of end users' automatic and manual control systems as well as autonomous performance in signal intelligence units.

Main characteristics

- Working frequency bandwidth VHF
- Acquisition range of a flying object with radar cross-section area of 2,6 sq.m. and no interference, at least, for altitudes:
 - 3,000 m 130 km
 - 10,000 m 230 km
 - 20,000 m 320 km
- Azimuth coverage 0-360 deg
- Upper limit of elevation angle of radar envelope at least 30 deg

Kornet-EM Anti-tank missile system

The Kornet-EM anti-tank guided missile (ATGM) system is a day/night, precision-guided long-range missile system with a jam-resistant laser-beam riding guidance system intended to counter ground and air targets in electronic and optical countermeasures environments.

The Kornet-EM ATGM system is available in two versions:

1. A vehicle-mounted version based on an automated launcher with a sighting/launch module fitted with a TV/thermal sight and an automatic target tracking system, which:
 - implements the fire-and-forget missile concept through the use of the automatic target tracker with the guaranteed long-range hit probability of at least 0.97-0.99;
 - effectively engages air targets, including reconnaissance and reconnaissance/attack UAVs, which is a new mission for ATGM systems;
 - provides a significant increase in the rate of fire and firing performance through simultaneous salvo firing at two targets and higher missile speed;
 - almost doubles the effective range compared to the Kornet-E, while improving the guidance accuracy up to 5 times;
 - reduces psychophysical loads on operators, relaxes the requirements for their skills, shortens their training time through automatic target engagement.
2. A portable/vehicle-mounted version based on an upgraded Kornet-E's launcher, which:
 - increases the maximum firing range up to 10 km during daylight and up to 8 km at night;

- improves the target accuracy through higher magnification of the sight channel and addition of two 12x and 20x fields of view to it.
- The ATGM system can fire all of the Kornet-E missiles. Automated launchers can be mounted on different platforms.

Main characteristics

- Guidance system automatic, laser beam riding
- Range of fire, m:
 - missile with HE warhead 150 to 10,000
 - missile with tandem HEAT warhead 150 to 8,000
- Armor penetration behind ERA, mm 1100-1300
- Number of targets engaged simultaneously
 - by salvo, pcs 2
- Capability of firing two missiles against one target provides
- Missiles, pcs 16
- Including ready-to-fire missiles 8
- Time to change over from travelling to combat position, not more than, s 7
- Operating temperature range, °C -20 to +60





Repellent-Patrol

Complex for counteracting small-sized UAVs

Highly-effective covering infrastructure objects and columns from small-sized UAVs

Possibility of multichannel suppression of UAV communication channels and effective counteraction to a UAV swarm

Designed to detect small-sized UAVs and suppress their communication channels (control and navigation channels) in sector and circular modes.

The system provides for:

- ♦ detection, bearing and identification of UAV signals;
- ♦ generation and emission of signals for jamming of UAV command and satellite navigation channels.

Can be supplied in both mobile and stationary versions. Has advanced capabilities for identifying and counteracting commercial UAVs.

Main characteristics	
♦ Range of electronic reconnaissance of UAV communication channels, km	25
♦ Range of suppression of UAV communication channels in sector mode, km	20
♦ Range of suppression of UAV communication channels in circular mode, km	4



Uran-6

Multifunctional Robotic Demining System

A Robot to Save Lives

The URAN-6 Multifunctional Robotic Demining System is designed for engineer reconnaissance and area clearing of antipersonnel landmines and explosive objects in the remote control mode.

The Uran-6 is of modular design, features welded armoured hull that provides protection against fragments and blast effect of anti-personnel mines and IEDs. The system comprises the vehicle itself, remote control set consisting of an ergonomic backpack and a control console, maintenance and support kit and a range of detachable equipment.

The robotic system sweeps main types of anti-personnel and anti-tank mines, explosive devices and unexploded ordnance in areas, overgrown with dense vegetation, clogged with industrial waste and hubris, including metal and stone with a probability as high as 98%.

It also performs the following functions:

- ♦ breaching of mined blockages, debris clusters, barbed-wire obstacles cutting wires of 8 mm diameter;
- ♦ moving solid objects weighing up to 1,000 kg and having dimensions not exceeding 1.0 m with a bulldozer blade outfitted with a rotating gripper;
- ♦ filling up trenches, creating mounds and bulwarks, leveling sites;
- ♦ digging out neutralized roadside bombs;
- ♦ towing of wheeled and tracked vehicles: cars and even tanks – to a short distance.



Detachable equipment can be assembled and dismantled in the field within 20 minutes with a crane-manipulator.

Types of detachable equipment:

- ♦ mine flail;
- ♦ rotary tiller;
- ♦ roller plough;
- ♦ bulldozer blade;
- ♦ bulldozer blade with a rotating gripper.

Main characteristics

Curb weight, kg	6,000
Wheel track, mm	1,230
Engine power, kW (hp)	176 (240)
Number of video cameras, pcs	4 (+1 on a detachable dozer blade with a gripper)
Type of main video cameras	analog, blast-proof
Cameras' azimuth angle of view, deg	70
Control and video transmission range, m:	
in the open	up to 800
in urban area	up to 300
Weight of the remote control set, not more, kg	15



MADE IN RUSSIA: HIGH-TECH DEFENSE SOLUTIONS FOR THE GULF

For Russia the largest international defence exhibition IDEX is important as a platform for the exchange of experience and technologies, and as an international forum, offering unique opportunities in establishing new partnership links. The leading Russian producers traditionally have been demonstrating in Abu Dhabi their latest high-end defense technologies and innovations. Let us take a closer look at the Russian technologies, through the eyes of the Arab world media.

IDEX 2021

At IDEX 2021 Rosoboronexport (part of Rostec State Corporation) demonstrated major newly-designed products of Russia's defence industry and pieces of Russian military equipment, mostly demanded in the world arms market. Traditionally, Rosoboronexport acts as the organizer of Russia's joint display at IDEX. Rosoboronexport demonstrated over 400 items of its military equipment nomenclature. For the first time abroad, the company showed a number of defence products on a multimedia globe, i.e. a new product in the area of advertising and exhibition activities, developed in Russia.

'Arms with the Made in Russia trademark are well known and sought-after here. They have made a very good showing in adverse climatic conditions – on the sea, on the ground and in the air. Taking into account all the above mentioned, the region is very important for us,' said Director General of Rostec State Corporation Sergey Chemezov.

'The pavilion was overflowing with enthusiasts snapping selfies with the poster boy of Russia: the AK-47, popularly known as Kalashnikov. A spokesman for the Russian company was explaining to curious visitors how to use the weapon of choice for many militaries (and militias) around the world. Another man politely handed out a branded flag to passers-by, as part of his marketing effort. The company is among hundreds of other defence firms from all over the globe who descend on Abu Dhabi every other year for the International Defence Exhibition (Idex),' wrote the **National** on the Russian participation in IDEX.



In the days of IDEX 2021 Rosoboronexport held a public presentation of the integrated counter UAV System.

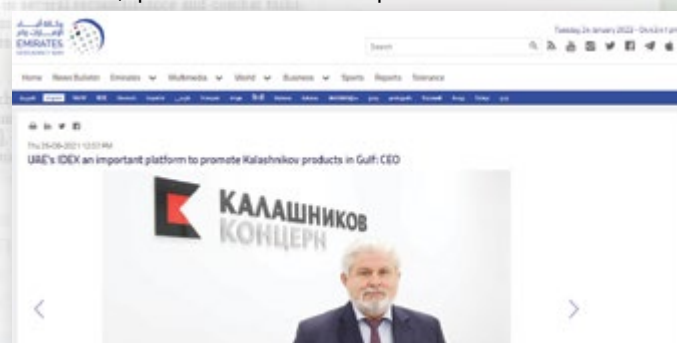
'The system is claimed being capable of effectively countering attacks by unmanned aerial vehicles, combining electronic warfare and air defense systems of various classes. The system being proposed by Russia includes radars to track a various UAVs as well as jamming devices and SHORADs vehicles,' reported **Al Defaiya**.

The integrated use of the proposed electronic warfare and air defense assets is to enable effective countermeasures against UAVs

of any class provided air enemy reconnaissance and automated control systems are in place.

Vladimir Lepin, CEO of the Kalashnikov group, in the interview to the WAM news agency said, that IDEX 2021 had helped to promote Kalashnikov products in the Arabian Gulf region.

'The army and Special Forces in Russia want not only the new high-quality arms but a comprehensive approach in which all systems interface and thus build up a soldier capability. Kalashnikov offers comprehensive solutions to the army that include rifles, pistols, guided missiles, as well as UAVs plus modular carry system for the soldier,' quoted WAM Vladimir Lepin.



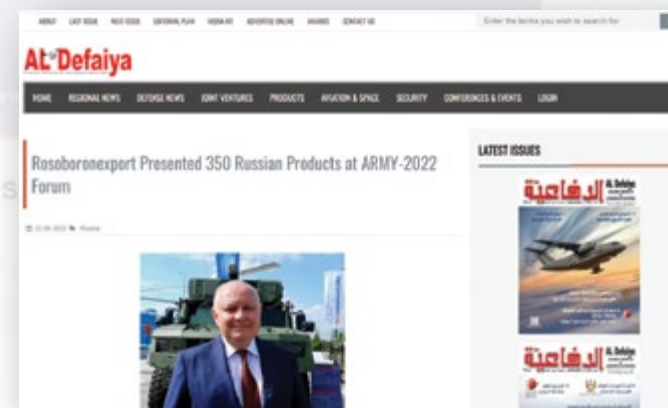
Al Defaiya: 'The Russian pavilion has been among the leading national pavilions at IDEX 2021 in Abu Dhabi to arrange substantial attention from potential customers in Middle East North Africa (MENA) region and beyond.'

ARMY-2022

The ARMY-2022 International Military and Technical Forum was actively covered by the media of the Gulf region.

'In 2022, Rosoboronexport has organized a rich business program on the sidelines of the Army Forum. We held more than 70 negotiations, during which we discussed various military-technical issues with representatives of 30 partner countries. The company made presentations of about 350 Russian products to the delegations of partners who came to the forum. They showed particular interest in the Su-57E fifth-generation fighter, T-14 Armata tank, Ka-52E attack helicopter, Tor-E2 SAM system, Kornet-E ATGM system, and the K-17 Boomerang wheeled infantry fighting vehicle,' quoted **Al Defaiya** Alexander Mikheev, Rosoboronexport CEO.

Rosoboronexport conducted a live demonstration of Russian armored vehicles and air defense systems at the Alabino Training Ground according to a scenario developed by the company jointly with the Ministry of Defense of the Russian Federation. Nineteen pieces of equipment, including the BMD-4M airborne assault vehicle, K-17 Boomerang IFV and the BTR-82AT APC, demonstrated their running and firing capabilities in 9 tactical episodes.



Inside the Rosoboronexport pavilion an exhibit of small arms and close combat weapons was organized. It showed almost all new developments of leading Russian arms manufacturers – in particular, AK-12, AK-15, AK-19, AK-308 assault rifles, ADS dual-medium special assault rifle, upgraded VSSM Vintorez-M special sniper rifle, MTs-561 high-precision rifle and other weapons.

During the expo Rosoboronexport and the Uralvagonzavod corporation signed a joint action program to promote products and services abroad. The program is aimed at coordinating the marketing efforts by both companies in external markets to promote modern Russian armored vehicles, missile, rocket and artillery weapons and interact with foreign customers on modernization and maintenance of the earlier supplied weaponry and military equipment.

Milestone for Sukhoi Combat Aircraft

The 2022 year marked the 45th anniversary of the maiden flight of the Su-27 fighter prototype which has been developed by the Sukhoi Experimental Design Bureau. The milestone was actively covered by global media, including the Arab media.

'The designation Su originates from the family name of the aircraft designer Pavel Osipovich Sukhoi whose team remains in charge of the current family development. According to Rosoboronexport, Russia's national defense trader, about 700 Su-27/Su-30 combat aircraft have been sold internationally since 2000. The aircraft open architecture of avionics and weapons systems allows to implement various non-Russian equipment on customer's demand. The Russian Aerospace Forces remains the largest operator of Sukhoi combat aircraft,' reported **Al Defaiya**.



The aircraft open architecture of avionics and weapons systems allows to install various non-Russian equipment on customer's demand. Other key features of the Su family include: super-maneuverability; powerful smart missiles package teamed by a 30 mm cannon; in-flight refueling capability. The Russian Aerospace Forces remains the biggest operator of Sukhoi combat aircraft.

Rotary-wing Hunter-Killer

The Nation Shield in 2022 published a large analytical article on the Ka-52E combat-reconnaissance helicopter. 'Ka-52 is battle-proven, and these rotorcraft have been involved in several reconnaissance and combat tasks. Moreover, the combat capabilities of the rotary-wing platform have exceeded the original requirements of its designers,' wrote the Nation Shield.

It is a highly-maneuverable helicopter, which is armed with powerful armament suit and is capable to execute any combat task with high efficiency. It is designed for destruction of tanks, armored and non-armored vehicles, enemy's manpower and adversary helicopters in the front line or in tactical depth. Ka-52 has a high combat survivability and combat power, it can be operated round-the-clock, it has a wide range of aerial weapons and high. It is the only helicopter in the world that is equipped with the ejection & shock absorbing system.



Kalashnikov Goes Global

The **Nation Shield** also covered the project of licensed production of Kalashnikov AK203 assault rifles in India. In January 2023 Rosoboronexport announced, that production of rifles had started in this country. The Russian-Indian joint venture plans to ensure 100% localization of

the production of AK-203 rifles in India. In future, the JV may also increase output and upgrade its production facilities to manufacture advanced rifles based on the Kalashnikov assault rifle platform.

Nation Shield: 'Kalashnikov AK-200 series assault rifles have successfully passed the test programme and are supplied to government customers in Russia. They are exported to partners who impose higher requirements on small arms.'

Rosoboronexport Director General Alexander Mikheev stated: 'Rosoboronexport has the world's largest portfolio of completed, ongoing and future defence production projects in India. The joint venture Indo-Russian Rifles Private Limited, in which Rosoboronexport and the Kalashnikov Concern participate from the Russian side, is fully in line with the Government's Make in India initiative and Defence Acquisition Procedure (DAP) 2020 rules.'

These assault rifles have retained the advantages of the traditional AK pattern: reliability, durability and ease of maintenance. Kalashnikov A-200-series assault rifles are in line with current trends in small arms technology. They are fitted with integral Picatinny rails for easy mounting of sights and tactical accessories, enabling effective use of weapons in various conditions.

The rifles have a folding stock. A number of other ergonomic solutions have been incorporated into them to optimise operation. In particular, they feature a redesigned fire selector and a modified receiver cover. This gives the users the opportunity to fully realise their shooting skills, regardless of their anthropometric data and the availability of a variety of personal gear, outfit and uniforms.' **/IA&MG/**

INTERNATIONAL AVIATION, MILITARY, NAVY AND TECHNOLOGY GUIDES

In 2023

ISSUE	RELEASE DATES	ADDITIONAL DISTRIBUTION
'GUIDE' №01 (73)	January 20th	AERO INDIA 2023 (February 2023, India, Bangalore)
'GUIDE' №02 (74)	February 05th	IDEX 2023 / NAVDEX 2023 (20-24.02.2023, UAE, Abu Dhabi)
'GUIDE' №03 (75)	March 25th	LAAD 2023 (11-14.04.2023, Brazil, Rio de Janeiro)
'GUIDE' №04 (76)	April 10th	IDEF 2023 (09-12.05.2023, Turkey, Istanbul)
'GUIDE' №05 (77)	May 05th	LIMA 2023 (23-27.05.2023, Malaysia, Langkawi)
'GUIDE' №06 (78)	May 12th	IMDS-2023 (21-25.06.2023, Russia, Saint Petersburg)
'GUIDE' №07 (79)	June 10th	PARTNER 2023 (27-30.06.2023, Serbia, Belgrade)
'GUIDE' №08 (80)	July 10th	MAKS-2023 (18-23.07.2023, Russia, Moscow)
'GUIDE' №09 (81)	August 08th	ARMY 2023 (14-20.08.2023, Russia, Moscow)
'GUIDE' №10 (82)	August 20th	Securex Uzbekistan 2023 (06-08.09.2023, Uzbekistan, Tashkent)
'GUIDE' №11 (83)	October 20th	Defense & Security 2023 (06-09.11.2023, Thailand, Bangkok)
'GUIDE' №12 (84)	October 25th	Dubai Airshow 2023 (12-16.11.2023, UAE, Dubai)
'GUIDE' №13 (85)	November 20th	EDEX 2023 (04-07.12.2023, Egypt, New Cairo)

The 'Russian Aviation & Military Guide' is English-language international magazine distributed all over the world.

The 'Russian Aviation & Military Guide' magazine subscription can be ordered after any issue of the magazine with the delivery anywhere in the world. The price of any one issue of the magazine is \$8,88 plus the cost of postal delivery. Send your requests for invoicing for the subscription at the address ramg@ramg.info or rus.avia.military@gmail.com. The number of copies, period of the subscription, the address for invoicing and for delivery and your contacts, including information about the person who pays for the subscription, should be in the request.

The editing office send only paid subscription.

doc@promweekly.ru

promweekly@promweekly.ru

www.promweekly.ru

www.ramg.info

Media postal address:

Moscow, Russia, 123104, mailbox 29, Industrial Publishing

© 'United Industrial Publishing', 2023

Defense innovations
for the Gulf countries
and the global market

HIGH-PRECISION WEAPONS

- Russian holding High-Precision Weapons is one of the world's largest developer and a producer of high-precision types of arms for the land forces, the navy and the aviation.
- The holding unites leading Russian enterprises that create new generation of high-precision arms.
- Being one of the largest suppliers of the latest arms, High-Precision Weapons provides Russian Army and the armies of a several other countries with high-precision arms according to their requirements.
- High-Precision Weapons is a founder and a producer of the most effective samples of precision weapons in the world, such as Pantsir-S1M, Pantsir-ME, Kornet-E/EM, Hrysanthe-ma-S, Iskander-E, Gibka-S, Igla-S, Kapustnik-B, Planshet-A and others.



High-Precision Weapons

Moscow, Russia
<http://www.npovk.ru>



30 YEARS
SPECIAL EDITION



Almaz - Antey
Corp.

Destined for guarding blue sky



"Almaz - Antey" Air and Space Defence Corporation", Joint Stock Company

Legal/Trading address:

41 Vereyskaya street, Moscow, 121471 Russian Federation

Inquiries:

Tel. (495) 276 29 75

Office:

Tel. (495) 276 29 80

Fax (495) 276 29 81

E-mail:

antey@almaz-antey.ru

General Director's Office:

Tel. (495) 276 29 01

E-mail: antey@almaz-antey.ru

Press-service:

Tel. +7 (495) 276 29 75, ext. 2055, 2935

E-mail: press-service@almaz-antey.ru

www.almaz-antey.ru