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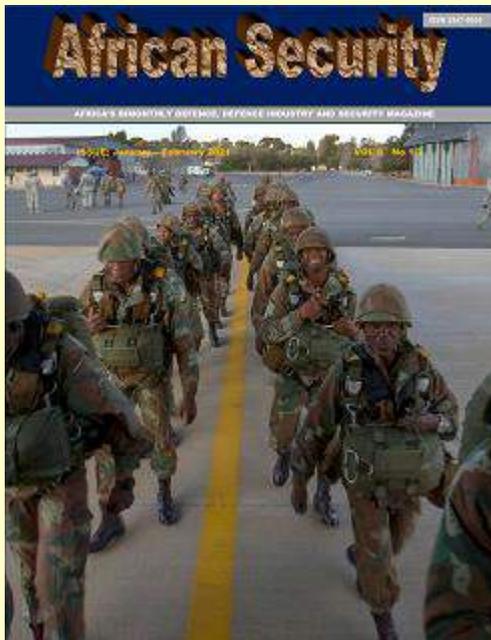
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## Offshore Patrol Vessels in African Navies

Acquisition of Offshore Patrol Vessels (OPVs) by African coastal states has attracted significant attention.

The Offshore Patrol Vessel is a highly versatile ship, designed to perform Economic Exclusion Zone management roles, including the provision of maritime security to coastal areas and effective disaster relief.

The offshore patrol vessel is intended to carry out a range of economic exclusion zone management tasks such as maritime security, border control, routine patrols, and anti-smuggling. OPV also facilitates counter-terrorism and piracy, fishery protection, and effective disaster relief. It can also be used for the protection of natural resources.

In recent years, all coastal African nations have widely acknowledged a growing trend in the threat to national security as sea-based. Included is the explosion of maritime piracy, the increased focus on countering smuggling, drug-running and border control, and the rising value of the fishing industry, oil industry and naval trade routes.

The Offshore Patrol Vessel has become one of the most significant emerging tools for coastal protection worldwide. Acquisition programs continue to dominate the immediate priority lists of navy and coastguard commanders, a development that is likely to continue over the next ten years and beyond.

The Multipurpose Offshore Patrol Vessel is a highly flexible ship that can accomplish multiple functions, from patrol with sea rescue capability to Civil Protection operations, and - in its most highly equipped version - act as a first line combatant. The ship can have different combat system configurations: starting from a "light" version for the patrol task, integrated for self-defense, to a "full" version, equipped for a complete defence ability. The vessel is also capable of operating high-speed vessels such as RHIBs up to 11 meters long, through its lateral cranes or its hauling ramp located astern.

OPVs can be broadly classified into two types:

- High-end war-fighting vessels with expensive weapon systems and C4I suites.
- More basic patrol vessels, designed for sustained low intensity missions and equipped with basic gun armaments,

standard navigation sensors and built to commercial standards.

The types which a country chooses depends on its particular naval requirements, resulting from its geographic location, political aspirations and intended role of its naval force. However, the majority of OPV programmes are of the cost effective, multi-role variety. These are being used in an increasing number of roles, including fishery protection, pollution control, fire-fighting, salvage or search and rescue (SAR), counter-narcotics, humanitarian operations and exclusive economic zone (EEZ) patrol.

Since the operational profiles of these various applications can be quite different, OPV propulsion systems need to be capable of adjusting to varying load requirements. While OPVs are typically between 500 t and 3300 t displacement with a speed of up to 25 knots, the design features can vary considerably from one vessel to another, in line with the intended operational function.

The OPVs should also be able to assist with helicopter operations due to the on-board helicopter landing deck capable of accommodating various types of maritime helicopters.

The OPVs market is not concentrated; there are many companies such as Lürssen, Israel Shipyards, Piriou, TAIS, BAE Systems, Damen, Fincantieri, ROSOBORONEXPORT, Navantia, Babcock, acting in the market. But each player can deliver few numbers of OPV.

With over 140 years of experience in shipbuilding, Lürssen builds and offers in the African market versatile and flexible offshore patrol vessels to complete a wide range of missions. Lürssen OPVs are multi-role platforms built to provide permanent maritime security in operational areas due to their long endurance and excellent seakeeping capabilities.

Lürssen understands the growing importance of the geostrategic aspects of the African continent in respect of natural resources and protecting the sovereignty, integrity, economy and wealth of the various African nations. The company has a strong reputation and expertise in tailor-made concepts and solutions for coastal defence and maritime security. Lürssen has developed three types of OPVs including OPV 80, 85, 90. The OPV 90 can be armed with one 76mm naval gun, 4 x MM40 EXOCET or 4 x RBS 15 Mk3 or 4 x NSM anti-ship missiles, 1 VLS Mk56 or RIM-116 RAM air defense missile system, two Decoy (e.g. MASS or SWKS), two Remote Controlled 20mm automatic cannon and two .50 M2HB Machine Guns. The design of the Arafura class OPVs is based on the Lürssen OPV80



## THE MULTIPURPOSE SOLUTION FOR MULTIPLE THREATS

Lürssen offshore patrol vessels are tailor-made, multirole platforms used for **military security, marine safety and for humanitarian tasks**. Besides surveillance and deterrence capabilities, they effectively counter illegal fishing, smuggling and piracy or other seaborne, coastal or air threats. Multi-mission modules can be tailored to your specific focus. With over 145 years of experience in shipbuilding, Lürssen builds versatile and flexible offshore patrol vessels to complete a wide range of missions.

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platform. The compact design of the OPV offers enhanced seakeeping characteristics and superior performance. Construction work began on the third of 12 Arafura-class offshore patrol vessels (OPVs) on order for the Royal Australian Navy (RAN), the Australian Department of Defence (DoD) has announced on 27 March, 2020.

In the 1990s, Israel Shipyards used the naval architecture of the Nirit Class SAAR 4.5 as a base design to produce a special OPV, loaded with the firepower of larger Naval vessels - for less cost.

This sleek OPV is equipped with highly advanced weapons systems, produced by world-recognized Israeli designers. Becoming one of the best-known ISL vessels, the SAAR 4.5-based OPV was chosen to secure the extensive waterways around Greece during the 2004 World Olympics. One of its many advantages is a weapon-carrying capacity equal to larger, more costly vessels. The seagoing power of the Israel Shipyards OPV was further enhanced with optional helicopter carrying capability. This innovation has proven itself in the deployment of rapid-response units to security incidents occurring at sea, in all weather conditions. The development of the multi-mission OPV 45m was a result of comprehensive market research conducted over the past several years. Easy to operate and with low-cost maintenance, it is the most cost-effective OPV available today. The OPV 58m was selected by the Hellenic Coast Guard as a significant addition to naval security for the Athens 2004 Olympic Games. The OPV 62m is even more versatile and mission-ready, with extensive payload capacity including stabilized weapons, medium-range missiles, ESM, and search radars.

Fincantieri offers the “Musherib” OPV vessel design is consistent with the RINAMIL for Fast Patrol Vessel (FPV) rules. She is a flexible type of ship capable of performing several services, from surveillance to combat functions.

The propulsion system has four variable pitch propellers, two to starboard and two to the left, each in line with a diesel propulsion engine. Furthermore, the vessel is capable of operating a RHIB (Rigid Hull Inflatable Boat) through a crane located at the stern.

Damen Shipyards has delivered its first Multi Service Offshore Patrol Vessel 1400 (MSOPV 1400), a ‘second generation’ offshore patrol vessel, to the Tunisian Navy. The vessel, which has a Sea Axe hullform designed to enhance seakeeping, was Jugurtha (P610) and arrived in Tunisia in early March 2018. The Sea Axe hullform was developed to provide superior seakeeping including low heave accelerations. This makes the vessel very comfortable, even in adverse weather conditions. Since the hull is designed to have reduced resistance, the new OPVs are also very fuel efficient.

The Meteoro-class offshore patrol vessel, also known as Buque de Acción Marítima (BAM), are new modular offshore patrol vessels of the Spanish Navy adapted to different purposes from a common base, manufactured by Navantia. The BAMs combine high performance with mission versatility, a high commonality with other ships operated by the Spanish Navy. Acquisition and lifecycle costs are reduced.

BAE family of offshore patrol vessels comprises 80 metre and 90 metre versatile and affordable ships. Their adaptable design is well suited to the export market and can be altered according to individual customer needs, ensuring they can meet the operational requirements of navies around the world.

PIRIOU shipyard has held a steel cutting ceremony for the first of three Offshore Patrol Vessels (OPV) for the Senegalese Navy. The contract for three OPV 58 S was signed in November 2019 by the Ministry of Armed Forces of Senegal and the PIRIOU group, in the presence of the President of the Republic of Senegal and the French ministerial delegation. The building programme of these three patrol vessels is carried out with the support and expertise of PIRIOU’s subsidiary KERSHIP and will spread over a period of 44 months up to summer 2024. It also provides for a support period of several years in Senegal.



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## Rockets and missile systems

Rocket and missile system, any of a variety of weapons systems that deliver explosive warheads to their targets by means of rocket propulsion. Rocket is a general term used broadly to describe a variety of jet-propelled missiles in which forward motion results from reaction to the rearward ejection of matter (usually hot gases) at high velocity.

A missile, also known as a guided missile or guided rocket, is a guided airborne ranged weapon capable of self-propelled flight usually by a jet engine or rocket motor. Missiles have four system components: targeting/guidance system, flight system, engine and warhead.

The most common method of guidance is to use some form of radiation, such as infrared, lasers or radio waves, to guide the missile onto its target. This radiation may emanate from the target (such as the heat of an engine or the radio waves from an enemy radar), it may be provided by the missile itself (such as a radar), or it may be provided by a friendly third party (such as the radar of the launch vehicle/platform, or a laser designator operated by friendly infantry). The first two are often known as fire-and-forget as they need no further support or control from the launch vehicle/platform in order to function.

Missiles are usually divided into four large categories: the surface to-air missile; the surface-to-surface missile; the air-to-air missile; and the air-to-surface missile.

- A surface-to-air missile is traditionally one fired from the earth's surface to shoot down airplanes. The Stinger, Patriot, S-400, ASTER, MISTRAL VL, RIM-7 Sea Sparrow, FIM-92 Stinger and Hawk are just a few examples of surface to-air missiles. Raytheon Joint Strike Missile – or JSM – is a long-distance weapon that takes on heavily defended targets on land and at sea.
- A surface-to-surface missile is one fired at ground targets. Some surface-to-surface are EXOCET MM40 BLOCK 3, MGM-140 ATACMS and the Javelin missile's lightweight command launch unit will double visual range, allowing troops to find and destroy enemy tanks at night.
- An air-to-air missile is fired by one aircraft against another. Some air-to-air missiles are MICA, METEOR, AIM-7 Sparrow, AIM-120 AMRAAM

- Like the air-to-air missiles, the air-to-ground missiles are typically developed and tested by the Air Force and Navy. Some air-to-ground missiles are AGM-65 Maverick, AGM-88 HARM, AGM-84 Harpoon. MBDA Storm Shadow / SCALP is the air-launched long range, conventionally armed, deep strike weapon, designed to meet the demanding requirements of pre-planned attacks against high value fixed or stationary targets.

The vast majority of modern missiles are guided missiles. This term refers to the fact that the missile's pathway can be monitored and changed either by instruments within the missile itself or by a guidance station. Missiles can also be classified as aerodynamic or ballistic missiles. An aerodynamic missile is one equipped with wings, fins, or other structures that allow it to maneuver as it travels to its target. Aerodynamic missiles are also known as cruise missiles. Ballistic missiles are missiles that follow a free-fall path once they have reached a given altitude.

Some other types of missiles of importance to the military are anti-ship and anti-submarine missiles, both of which can be launched from ground stations, from aircraft, or from other ships. Military leaders were at one time also very enthusiastic about another type of missile, the anti-ballistic missile (ABM). The ABM program was conceived of as a large number of solid rockets that could be aimed at incoming missiles. U.S. engineers developed two forms of the ABM: the Spartan, designed for long-distance defensive uses, and the Spring, designed for short-range interception. The former Soviet Union, in the meanwhile, placed its reliance on an ABM given the code name of Galosh. The ABM program came to a halt in the mid-1970s when the cost of implementing a truly effective defensive system became apparent.

Key players in the missile global market are MBDA, Joint-Stock Company Rosoboronexport, Raytheon, Lockheed Martin, Boeing, Diehl BGT Defence, Rafael, China Aerospace Science & Industry Corporation Limited (CASIC) and BrahMos Aerospace.

Raytheon Missiles & Defense technologies deliver unprecedented combat power to the world's most sophisticated 4th and 5th generation aircraft, and across every mission phase. Tomahawk is a highly accurate, GPS-enabled missile that can fly into heavily defended airspace and conduct precise strikes on high-value targets with minimal collateral damage. The advanced Tomahawk Block V includes improved navigation and communications.

The MBDA product range includes man portable and air-launched anti-armour weapon systems to support the modern soldier whether he is called to

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operate in an open terrain or, more often nowadays, in an urban terrain. To aid the movement of both soldiers and civilians in a conflict zone, MBDA also provides highly advanced mine detection and clearance systems. Raytheon Javelin missile gives Army greater firepower

MBDA is the only European integrated defence group capable of designing and producing missiles and missile systems to meet the whole range of current and future needs of the three-armed forces. MBDA is a joint venture of the 3 European leaders in aerospace and defence: Airbus (37.5%), BAE Systems (37.5%) and Leonardo (25%).

The IRIS-T (Infrared Imaging System – Tail/Thrust Vector Controlled) is a new generation short-range AAM produced by Diehl BGT Defence. The missile can engage aerial targets within a range of 25km. The missile was developed by Germany-based Diehl in partnership with companies from Greece, Italy, Canada, Norway and Spain to replace the AIM-9L Sidewinder AAM. The first series production version of the IRIS-T was delivered to the German Air Force in December 2005.

I-Derby ER is an advanced active radar air-to-air extended range variant of the Derby family of BVR missiles. Developed by Israeli defence firm Rafael Advanced Defense Systems, it was unveiled in June 2015. The missile is equipped with the innovative solid-state RF seeker, advanced electronic counter-countermeasures (ECCM), and high-explosive fragmentation warhead. Guided by an active radar guidance system, the missile can engage targets at ranges up to 100km.

BrahMos-II is a hypersonic cruise missile currently under joint development by Russia's NPO Mashinostroyeniya and India's Defence Research and Development Organisation, which have together formed BrahMos Aerospace Private Limited. It is the second of the BrahMos series of cruise missiles. The BrahMos-II is expected to have a range of 1,000 kilometres (620 mi; 540 nmi) and a speed of Mach 8.

The Russian S-400 air defense system is universal for destroying all types of aerodynamic targets and ballistic missiles with a launch range of up to 3,000 - 3,500 km.

"Buk-M2E" ADMS is designed to defeat strategic and tactical airplanes, helicopters including while hovering, cruise missiles and other aerodynamic aircraft across the entire scope of their employment, tactical ballistic and air-launched missiles, and guided bombs in contested electronic and fire-intensive environment as well as to apply fire onto radiocontrast ground and sea targets.

"Pantsir-S1" anti-aircraft missile and gun system is designed for air defense of small military and administrative-industrial facilities and areas, including mobile ones, against fixed- and rotary-

winged aircraft, cruise missiles, and precision munitions as well as for strengthening air defense units against massive air strikes.

China Aerospace Science & Industry Corporation Limited (CASIC) is a Chinese state-owned enterprise that designs, develops and manufactures a range of spacecraft, launch vehicles, strategic and tactical missile systems, and ground equipment. China is in the process of building and deploying a sophisticated and modern missile arsenal, though one shrouded in secrecy due to intentional ambiguity and unwillingness to enter arms control or other transparency agreements. Beijing features its missiles most prominently in its developing anti-access/area denial doctrines, which use a combination of ballistic and cruise missiles launched from air, land and sea to target U.S. and U.S. allied military assets in the Asia-Pacific theater. China is also developing a number of advanced capabilities such as maneuverable anti-ship ballistic missiles, MIRVs, and hypersonic glide vehicles.

Lockheed Martin's PrSM missile contains an insensitive munition (IM) propulsion system and IM energetic payload capable of defeating the PrSM target set. It also features an open systems architecture design for maximum affordability and flexibility, is modular for future growth and HIMARS and M270 compatible. The Precision Strike Missile (PrSM) is our next-generation, long-range precision-strike missile designed for the U.S. Army's PrSM program. This new surface-to-surface weapon system will deliver enhanced capabilities to attack, neutralize, suppress and destroy targets using missile-delivered indirect fires out to 499+ kilometers. PrSM provides the Joint Force Commander with increased range, lethality, survivability and missile load out. LRASM is a long range, precision-guided anti-ship missile leveraging off of the successful JASSM-ER heritage, and is designed to meet the needs of U.S. Navy and Air Force warfighters. Armed with a penetrator and blast fragmentation warhead, LRASM employs precision routing and guidance, day or night in all weather conditions.

Boeing's missile defense capabilities provide defensive and strategic systems that protect the homeland and deployed forces. Key programs include Ground-Based Midcourse Defense for homeland defense, and a family of Laser & Electro-Optical Systems. Boeing's systems within the Integrated Air & Missile Defense portfolio include Arrow 3, which offers regional missile defense capabilities to provide an effective response to short and medium-range ballistic missiles and Avenger, the United States Army's line of sight, mobile, shoot-on-the-move, short range air defense system. Boeing also produces the Missile Seeker for PAC-3 that uses hit-to-kill technology to defeat the entire spectrum of tactical ballistic missile cruise missiles and hostile aircraft.

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### UNITED NATIONS HAILS LIBERIAN PEACEKEEPERS IN MALI

The Director of the United Nations Office of Peacekeeping Strategic Partnerships (OPSP), Major General Jai Menon, has described Liberian peacekeepers serving with the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) as trained, disciplined, and ideally fit for service.

Major General Menon said he was greatly impressed and exceedingly proud of their skills and alertness, particularly as he carried out a tactical military drill with the Liberian troops intended to test their proficiency and vigilance in line with their scope of duty.

The Major General made the assertions during a recent meeting with the Chargé d'affaires of the Permanent Mission of Liberia to the United Nations, Mr. Israel Choko Davies.

Major General Menon requested Mr. Davies to convey his special gratitude to the Government of Liberia, and in particular, the Liberian Troops serving in MINUSMA for their splendid act of duty. He expressed the hope that the troops will continue to maintain such great character wherever deployed.

Major General Menon then encouraged the Liberian Government to fast-track the deployment of the additional one hundred five (105) military personnel that were pending deployment prior to the outbreak of the Corona Virus (COVID-19).

In response, Chargé d'affaires Israel Choko Davies said he was pleased with the commendations from Major General Menon but was not surprised, as Liberia has had a good record of a disciplined and trained military, especially prior to the civil war. Mr. Davies expressed great joy that Liberia was rebuilding its shattered fabric, evidenced by a military that is performing to international standards.

Mr. Davies said he was further proud that Liberia, once a nation that played host to United Nations Peacekeeping Missions, is now a proud benefactor of peacekeeping and troop-contributing country.

Mr. Davies then assured Major General Menon that the compliments shared by him about the Liberian Troops serving in Mali will not only be cherished, but disseminated as requested, with the authorities in Liberia, beginning with His Excellency, Dr. George Manneh Weah, the President of the Republic of Liberia, the Ministry of National Defense, the Chief of Staff of the Liberian Army and the men and women in arms.

Mr. Davies concluded by thanking Major General Menon for his great observation and compliments of

the Liberian troops serving in the Gambia. Liberia will do all in its power to increase its presence in MINUSMA.





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Utilizing our advanced production capabilities and large-scale project management know-how, IDE is a key player in the high technology sector of the Hellenic defense industry.

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### **USS Hershel “Woody” Williams and Tunisian Navy Exercise Maritime Security Capabilities**

USS Hershel "Woody" Williams (ESB 4) and Tunisian Navy partners conducted joint maritime operations to enhance maritime security, critical lifesaving capabilities, force readiness, and Tunisia's ability to protect its maritime borders, November 23-24.

The Hershel "Woody" Williams participated in a simulation of suspicious merchant activity that enabled partners at the Tunisian Regional Operation Centers to exercise their radar capabilities. The navy ship also participated in a naval exercise with the Tunisian Navy focused on developing both nations ability to conduct maritime security operations in the Mediterranean, as well as conduct joint search and rescue operations.

"We greatly value this opportunity to exercise these critical capabilities with our Tunisian partners," said Donald Blome, U.S. Ambassador to Tunisia. "Working together with the Tunisian Navy offers both of our countries the opportunity to learn from one another, advancing our shared security goals in the southern Mediterranean."

U.S. forces worked with Tunisian partners on a search-and-rescue exercise, while U.S. Special Forces conducted simulations to bolster counterterrorism capabilities, perform critical lifesaving tasks, and improve cooperation between U.S. and Tunisian forces.

"Hershel 'Woody' Williams serves as a resource for AFRICOM and signals the U.S. Navy's commitment to security and stability throughout the region," said Vice Adm. Gene Black, commander, U.S. Sixth Fleet. "Operations alongside countries like Tunisia strengthen our collective ability to counter illicit activity in the region."

Demonstrating a shared commitment to enhance critical lifesaving capabilities in a COVID-19 degraded environment, all missions were conducted with respect for protocols protecting both U.S. and Tunisian forces against the spread of the virus.

Hershel "Woody" Williams is homeported in Souda Bay, Greece, and conducts U.S. Africa Command (AFRICOM) missions in the Mediterranean and the waters around East, South, and West Africa to include the southern Mediterranean, operating with regional partners. The ship supports security cooperation missions and operations in and around the African continent.

U.S. Naval Forces Europe-Africa Fleet, headquartered in Naples, Italy, conducts joint and naval operations in order to support regional allies and partners and U.S. national security interests in Europe and Africa.





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## The Senegalese Navy has taken delivery of the last two of four Shaldag fast patrol boats

Serving Naval and commercial marine industry for more than 60 years, Israel Shipyards Ltd is one of the largest privately owned shipbuilding facilities in the Eastern Mediterranean. Combat-proven vessels and extensive experience are some of the reasons Naval, Coast Guard and Border Police units choose to secure their sea borders with Israel Shipyards Naval vessels. In an exclusive interview with AFRICAN SECURITY, Israel Shipyards provide our readers with Shaldag fast patrol boats delivery details and its operational characteristics that enable the vessel able to response in various maritime missions and enhancing maritime security in the Africa region.

**AFRICAN SECURITY** Israel Shipyards has recently delivered the last two of four **SHALDAG** fast patrol boats ordered by the Senegalese Navy. Could you please tell us about this project?

**Israel Shipyards** Project "requin 1" includes total of four SHALDAG class fast patrol craft (FPC). Three of them were SHALDAG MK II and One SHALDAG MK V. All vessels are capable of very high speed, of more than 40 Knots, as well as outstanding maneuvering capabilities. The vessels are equipped with mission ready navigation, communication and combat suite, that includes amongst other Combat Management System (CMS), state-of-the-art day and night vision systems as well as 23mm remotely controlled fore gun. The vessels will serve the Senegalese Navy in various missions, starting by monitoring Senegal's EEZ, following by IUU control and fight against illegal activities such as piracy, Narco traffic etc.

**AFRICAN SECURITY** Does the **SHALDAG** patrol boats is designed in response to real-life security challenges in the Gulf of Guinea?

**Israel Shipyards** The SHALDAG Class is a combat-proven vessel that gained thousands of operation hours at the Israeli Navy and throughout the world and rich combat experience. Along the years we have implemented the accumulated experience to maximize the vessel's capabilities up until nowadays where the SHALADAG Class is the most mission-ready Class to face security and Naval missions in the Gulf of Guinea and worldwide. The SHALDAG vessels were already successfully engaged in interdicting illegal activities such as piracy in the Nigerian region.





**AFRICAN SECURITY** How many types of SHALDAG patrol boat have been introduced and which are their main operational characteristics?

**Israel Shipyards** At this stage the SHALDAG Class has four family members. The most popular are the SHALDAG MK II and the SHALDAG MK V, which are raising the flag in Africa, Latin America and Asia, as well as the SHALDAG MK III which is a customized vessel designed for the Israeli Navy's special needs and requirements. Lastly the SHALDAG MK IV which is an adaptation of the SHALDAG MK III to the needs of our customers in the Romanian border police. All vessels are aluminum made, equipped with powerful engines and waterjets as well as customized combat suite solutions provided in a Turnkey project to enable our customers familiarize with the new capabilities more rapidly.

**AFRICAN SECURITY** Are the relevant Integrated Support Packages and the offered Training Services to your customers?

**Israel Shipyards** Our ILS (Integrated Logistic Support) includes a standard intense training for the operational and technical crew, so they will be deeply knowledgeable with the vessel's characteristics, systems, and capabilities. In addition, we provide detailed documentation and

operational manuals and guides so the knowledge will be preserved even long after the project is done. Also, part of the package is a Carry-On-Board kit (COB) and spare parts package for a long period based on our experience as well as the recommendations of the various manufacturers.

**AFRICAN SECURITY** African Navies has received the attention of the international shipbuilding industry in recent years. Does Israel Shipyards aim to enhance its presence in the African continent and explore new opportunities in this growing market?

**Israel Shipyards** Africa is a strategic market for Israel Shipyards Ltd. (ISL) as we see a rise in all segments of new vessels throughout the continent. On top of that, unfortunately, the continuous piracy attacks, armed robbery, and other illegal activities which are continuously occurring in the region, enhance the need to enforce and govern the maritime borders of the Gulf of Guinea. Comprehending the difficulties being faced around the globe, ISL has extended its solutions for its customers both in terms of the vessels and in terms of the commercial packages to support Navies, Coast Guards and other maritime law enforcement authorities. These solutions include special "tailor made" financial packages suitable for the African countries in order to enable them to overcome the budgetary challenges of their Naval forces (i.e. – Trade-in scheme, leasing options, long-term financial support, etc').

### **AHEAD OF A-29 SUPER TUCANO DELIVERY: NAF COMMISSIONS INFRASTRUCTURE PROJECTS IN KAINJI**



In preparation for the expected arrival of A-29 Super Tucano aircraft from the United States of America by the end of the Second Quarter of 2021, the Nigerian Air Force (NAF) is leaving no stone unturned in its drive to emplace necessary infrastructure at the NAF Base Kainji, for the seamless induction of the aircraft and subsequent efficient support of its operations. A key milestone in the preparations was attained today, 23 December 2020, with the commissioning of 3 blocks of renovated and remodeled 10 x single-bedroom apartments for Non-Commissioned Officers, 2 blocks of newly-constructed and furnished 110 x single-bedroom Single Officers' Quarters and 6 newly-constructed three-bedroom Married Officers' Quarters at the 407 Air Combat Training Group (407 ACTG), Kainji. Also commissioned was a 1.3Km road, to further consolidate the development of critical infrastructure within the Base. The additional projects are also in fulfillment of the Chief of the Air Staff (CAS), Air Marshal Sadique Abubakar's, earlier promise to personnel, to transform the infrastructural outlook on the Kainji Base in order to enhance their professional performance.

### **Algeria buys 14 stealth fighters from Russia**

According to [middleeastmonitor.com](http://middleeastmonitor.com), Algeria has signed a contract to buy 14 Russian Sukhoi Su-57 fighters as the arms race with its neighbour Morocco intensifies, a Moroccan news site reported. Media outlets quoted Russia's Sputnik as saying that the government of Algerian President Abdelmadjid Tebboune had bought the fighter aircrafts from Russia for nearly \$2 billion. According to reports, Algeria and Russia signed the agreement more than a year after they announced their intention to make the transaction.

### **Ghana to acquire new armored vehicles**

According to various media sources, Ghana's parliament approved \$86 million in government loans to fund acquisition of 19 armored vehicles from Israel's Elbit Land Systems. The company will supply nine 8x8 Infantry Fighting Vehicles (IFVs) equipped with Elbit Systems UT30 30 mm remotely operated turrets. The order includes ten 6x6 IFVs fitted for reconnaissance operations.

### **The Republic of Mali orders an additional Airbus C295**



The Ministry of Defence of the Republic of Mali has placed a firm order for an additional Airbus C295 airlifter in the transport configuration. This second aircraft, to be delivered in 2021, will supplement the first C295 already in operation since December 2016 which has already accumulated 1,770 flight hours and transported more than 38,000 passengers and 900 tonnes of cargo in less than four years of operations.

This new order also includes an integrated logistics support package with spare parts for the two aircraft and training for flight crews and mechanics.

This acquisition is in response to the urgent need of the authorities of the Republic of Mali to have permanent air transport capacity within a very short timeframe, providing a vital link supporting operations and actions for the development of isolated areas in the northern regions of the country. Bernhard Brenner, Head of Marketing and Sales at Airbus Defence and Space, said: "This repeat order demonstrates the excellent capabilities and performance of our aircraft."

The C295 is becoming the 21st century standard tactical airlifter in Africa with 37 aircraft ordered in the region, from Algeria, Egypt and Ghana to Ivory Coast, Burkina Faso and Mali."

### **Ghana's President Akufo-Addo Wins Second Term**

The Ghanaian President Nana Addo Dankwa Akufo-Addo has won the presidential election and secured his second term, the country's Electoral Commission said. The 76-year-old incumbent leader received 51.2 percent of the vote held in December, while his main rival, former president John Mahama, got less than 48 percent.



### INDUCTION OF MI-171E HELICOPTER INTO NAF INVENTORY



The induction ceremony of newly acquired Mi-171E Helicopter took place on Thursday, 24 December 2020, at the Nigerian Air Force Base, Kaduna at 11am. The Special Guest of Honour, the President, Commander-in-Chief of the Armed Forces of Nigeria, President Muhammadu Buhari, Grand Commander of the Federal Republic officially performed the induction of the aircraft into the inventory of the NAF virtually. The event also featured the handover of an L-39ZA aircraft, which was recently reactivated through in-Country maintenance.

Before Buhari came, the Air Force had few fighter jets, and morale was at its lowest ebb. But in five years, see what has been accomplished. 10 x Super Mushshak aircraft acquired, along with 5 x Mi-35M Helicopter Gunships, 2x Bell 412 Helicopters, 4 x Agusta 109 Power Attack Helicopters, 1 x Mi-171 E Helicopter. Expected to arrive the country soon are 19 manned Aircraft along 8 Unmanned, Combat Aerial Vehicles, 12 x A-29 Super Tucano, 3x JF-17 Thunder Fighter Aircraft, 1 x Mi-171E Helicopter, 3 x Special Missions Aircraft, 8 x UCAVs-including 2 Wingloong 11, 2CH-3 and 2 CH-4.

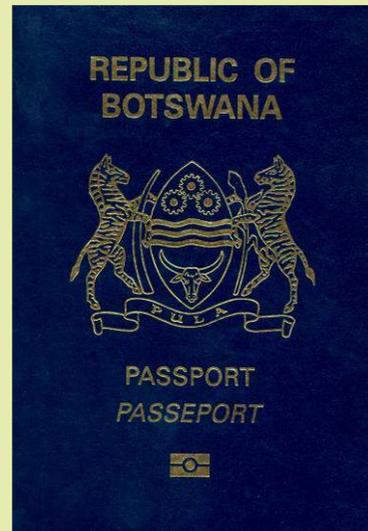


### Border Management Program for the Maghreb Region

Supply of Video Surveillance Equipment in the scope of the Border Management Program for the Maghreb Region (BMP-Maghreb) – Moroccan component. The subject of the contract is the supply, delivery and training of the video-surveillance and maintenance equipment for the General Directorate for National Security (DGSN), Ministry of the Interior, Kingdom of Morocco. Delivery and training: 180 days after contract has been signed. Estimated contract value is EUR 1,994,521.00 excluding VAT



### Botswana reinforces a decade-old partnership with Veridos



The cover of the current Botswana passport (source: Veridos, December 2020)

The Ministry of Nationality, Immigration and Gender Affairs of the Republic of Botswana acting through the Department of Immigration and Citizenship has placed an additional order for state-of-the-art ePassports with Veridos, a world-leading provider of integrated identity solutions. This reinforces a trust-based partnership that is more than a decade old. Botswana, the first country in Southern Africa to introduce ePassports in 2009, has once again placed an order with Veridos for electronic travel documents. These highly secure and ICAO-compliant ePassports have gone through multiple enhancements since they were first delivered over a decade ago. Virtually no attempts have been made to forge Botswana's ePassports: a sign of excellence for Veridos in terms of security design.



### First Italian-Built FREMM Delivered to Egypt Reaches Alexandria

The first of two FREMM frigates to be delivered by Fincantieri to Egypt under a sale contract which obtained the Italian Government green light for export last August was handed over to the Middle East country's Navy last 22 December with a private and undisclosed ceremony at the Italian shipbuilding's Muggiano shipyard near La Spezia. The contract for the transfer of the two FREMM frigates to Egypt, reportedly quoted at circa €1.2 billion.

The multipurpose frigate is armed with 16-cell MBDA SYLVER A50 VLS for 16 MBDA Aster 15 and 30 anti-aircraft/anti-missile missile. one Leonardo Otobreda 127/64 Vulcano naval gun, one Leonardo OTO Melara 76/62 mm Davide/Strales close-in weapon system (CIWS) gun, two Leonardo Oto Melara/Oerlikon KBA 25/80 mm remote weapon systems, eight MBDA Teseo\Otomat Mk-2/A anti-ship and land attack missiles, two triple Leonardo (WASS) B-515/3 launcher for MU 90 torpedoes

### Morocco has ordered a Virtual Parachute Training System (VPTS)



Morocco has ordered a Virtual Parachute Training System (VPTS) produced by the UK company Pennant International. VPTS is an immersive training system capable of supporting initial canopy control training and malfunction recognition through to mission planning and rehearsal. The VPTS product is available in two frame options.

VPTS uses Unity virtual reality technology in conjunction with a motion suit, head-mounted display and an off-floor suspension rig to provide the student with an unrivalled totally immersive and interactive training experience. In the development of the VPTS we collaborated with several military parachute training schools from around the world; we know that the VPTS provides the best immersive and completely adaptable virtual parachute training in the world.

#### Key features include:

- Mission planning and rehearsal
- Pre-set scenarios
- Pre-Jump parachutists brief from exiting the aircraft to landing on DZ
- Selectable Parachute Types, Weather Conditions & Time of Day
- NVG mode to allow mission rehearsals at night
- Selectable Wind Speed, Virtual Environment & customisable Geospecific Terrain databases
- Integrated communications between students and instructor
- Intuitive, easy to use modern User Interface (UI)
- Assessment module to check student competency and After-Action replay
- Scalable system – up to 24 jump stations
- Character customization allowing end user to setup jumpers
- Commercial Off the Shelf (COTS) gaming engine allowing rapid integration of new VR hardware

### President El-Sisi Inspects Multi-Purpose Vehicle Models



On 2 December 2020, Egyptian President El-Sisi, inspected a number of multi-purpose vehicle models that were made in the civilian sector in cooperation with the Armed Forces. This is part of the State's efforts to develop the public transportation system to provide services for the civilian sector and citizens.

As stated by the Spokesman for the Egyptian Presidency, the President was briefed, through a presentation by the Director of the Vehicle Department of the Armed Forces, on the developments of the operation system of armed vehicles design and production in the armed forces. This is being done in cooperation with the Ministry of Military Production and the Arab Organization for Industrialization. His Excellency inspected also the latest of these armed vehicles that were produced in the Armed Forces, in accordance with the latest international systems in order to support the forces in combating terrorism and to strengthen the security pillars of the police forces.

### "Somood-16"

Lieutenant General Mohamed Farid, Chief of Staff of the Armed Forces, witnessed the implementation of the main phase of the tactical exercise "Somood-16", which was implemented by one of the units of the Third Field Army, as part of the Armed Forces General Command annual plan of combat training. The main phase comprised the rehearsal of the tactical plan of the exercise and the procedures implemented during the battle preparation and organization phase, in addition to fulfilling all assigned tasks timely. The exercise was executed using MILES simulators to apply reality in training and assess the level of training of the troops. During that phase, the troops showed professionalism of conducting all planned and emergency missions



# SHIELD AFRICA

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### **EGYPT – LARGE AIRCRAFT INFRARED COUNTERMEASURES (LAIRCM) SYSTEM FOR HEAD-OF-STATE AIRCRAFT**

The State Department has made a determination approving a possible Foreign Military Sale to the Government of Egypt of a Large Aircraft Infrared Countermeasures (LAIRCM) System for Head-of-State Aircraft and related equipment for an estimated cost of \$104 million. The Defense Security Cooperation Agency delivered the required certification notifying Congress of this possible sale today.

The Government of Egypt has requested to buy one (1) AN/AAQ-24(V)N Large Aircraft Infrared Countermeasures (LAIRCM) system to protect one (1) Airbus 340-200 Head-of-State aircraft. Each LAIRCM system consists of three (3) Guardian Laser Turret Assemblies (GLTA), one (1) LAIRCM System Processor Replacement (LSPR), five (5) Missile Warning Sensors (MWS), one (1) Control Indicator Unit Replacement (CIUR), one (1) Smart Card Assembly (SCA), and one (1) High Capacity Card (HCC/User Data Memory (UDM) card. This proposed sale will include: six (6) Guardian Laser Turret Assemblies (GLTA) (3 installed, 3 spares); four (4) LAIRCM System Processor Replacements (LSPR) (1 installed, 3 spares); ten (10) Missile Warning Sensors (MWS) (5 installed, 5 spares). Also included are LAIRCM CIURs; SCAs; HCCs; UDM cards; simple key loaders; initial spares, consumables, and repair/return support; support and test equipment; integration and test support; personnel training, publications and technical documentation; U.S. Government and contractor engineering, technical and logistics support services; and other related elements of logistical and program support. The estimated total cost is \$104 million.

This proposed sale will support the foreign policy and national security of the United States by helping to improve

the security of a Major Non-NATO Ally country that continues to be an important strategic partner in the Middle East.

The self-protection suite will improve the survivability of the Airbus from missile attack. Egypt will have no difficulty absorbing this equipment and capability into its armed forces.

The proposed sale of this equipment and support will not alter the basic military balance in the region.

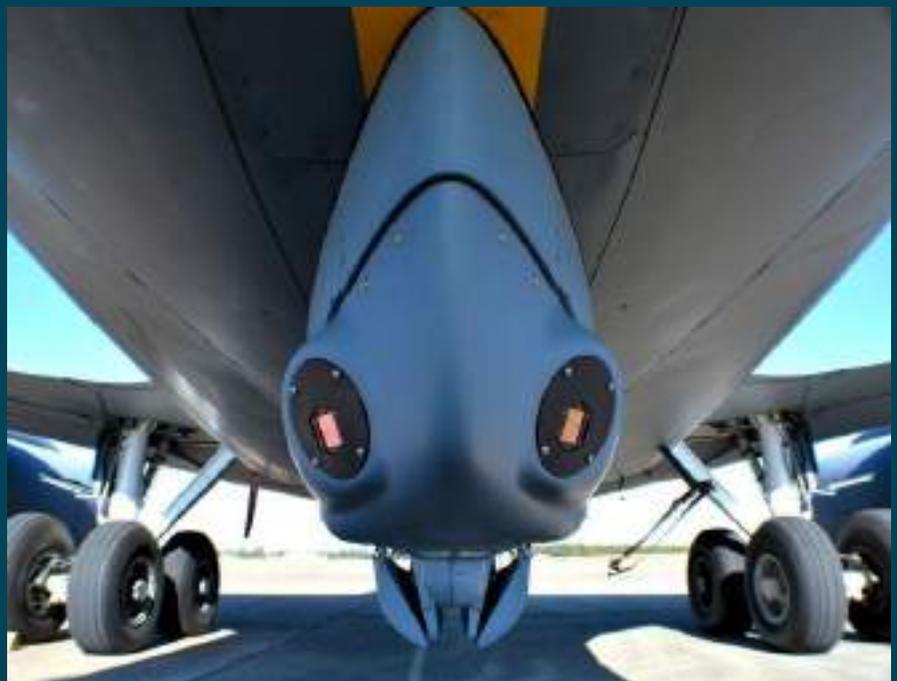
The principal contractor will be Northrop Grumman, Rolling Meadows, IL. There are no known offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will require the assignment of one U.S. contractor representative in an advisory role to Egypt for one base year with two option years to support operator/maintenance system orientation and original equipment manufacturer factory support.

There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.

This notice of a potential sale is required by law. The description and dollar value is for the highest estimated quantity and dollar value based on initial requirements. Actual dollar value will be lower depending on final requirements, budget authority, and signed sales agreement(s), if and when concluded.

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### SNIPER ADVANCED TARGETING PODS (ATPS)

The State Department has made a determination approving a possible Foreign Military Sale to the Government of Egypt of Sniper Advanced Targeting Pods (ATPs) and related equipment for an estimated cost of \$65.6 million. The Defense Security Cooperation Agency delivered the required certification notifying Congress of this possible sale today.

The Government of Egypt has requested to buy twenty (20) AN/AAQ-33 Sniper ATPs. Also included are pylons; shipping containers; spare and repair/return parts; ground handling equipment; publications and technical documentation; software and software support; personnel training; U.S. Government and contractor engineering, technical, and logistical support services; and other related elements of program and logistical support. The estimated total program cost is \$65.6 million.

This proposed sale will support the foreign policy and national security of the United States by helping to improve the security of a Major Non-NATO Ally country that continues to be an important strategic partner in the Middle East.

The proposed sale will improve Egypt's capability and effectiveness to meet current and future threats by providing additional precision targeting capability to conduct border security and counterterrorism operations. The added precision strike capability will better enable Egypt to conduct operations while minimizing collateral damage. Egypt will have no difficulty absorbing the additional equipment into its armed forces.

The proposed sale of this equipment and support will not alter the basic military balance in the region.

The principal contractor will be Lockheed Martin Aeronautics Company in Fort Worth, TX. There are no known offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will not require the assignment of any additional U.S. Government or contractor representatives to Egypt.

There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.

This notice of a potential sale is required by law. The description and dollar value is for the highest estimated quantity and dollar value based on initial requirements. Actual dollar value will be lower depending on final requirements, budget authority, and signed sales agreement(s), if and when concluded.



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## Nigerian Armed Forces Modernization

The Nigerian Defence Forces are currently in a process to transform itself more capable of handling current security threats. Furthermore, the Nigerian Army, Navy, Air Force has acquired new modern weapon systems including drones, Main Battle Tanks, Helicopters and various types of aircrafts. The budgetary allocation for defence in Nigeria annually is usually around US\$1.9 billion

The ambitious goal of the defence ministry, and a vital one for continued democratic rule in Nigeria, is to reposition the military to fulfil its constitutional role as the defender of the elected regime and guarantor of sovereignty.

In addition to the formation and execution of defence policy, and the management of military emergencies, the ministry of Defence has a twofold mission. Nationally, it must ensure combat readiness of forces to guarantee internal and national security; provide for the welfare of personnel; and enhance and develop the defence industries to reduce dependence on imports and create the potential for export production. Globally, the ministry is active in pan-African security through collective defence agreements, and provides peacekeeping forces to areas under the mandate of the United Nations.

### Recent weapons systems acquisition projects

- The Nigerian air force is set to receive three Chengdu/Pakistan Aeronautical Complex JF-17 fighters, as well as eight unmanned aerial vehicles (UAVs) from China. The Wing Loong II attack drones from China is among China's most sophisticated unmanned combat aerial vehicles, and can remain airborne between 26 and 31 hours. Each Wing Loong II costs about \$1-\$2 million, a fraction of the \$30 million that a U.S.-made MQ-9 Reaper sells for. The NAF says the new drones will be used in the fight against Islamic militants and bandits that currently operate in the northwest. Nigeria joins the United Arab Emirates as the only country outside of China that operates Wing Loong II drones.
- A batch of 17 combat vehicles, consisting of VT-4 main battle tanks, an ST-1 wheeled tank and two types of self-propelled howitzers, was purchased by the Nigeria army. The cargo was delivered last April. The Nigerian army made an emergency purchase of heavy weapons to strike at the terrorists Boko Haram followed a signed package deal in 2019. VT4 main battle tank design details Based on tracked chassis, the hull of the VT4 MBT is of all-welded steel armour construction. The gross vehicle weight of the tank is approximately 52,000kg. The tank is manned by three crew members including commander, driver and gunner. The driver's seat is located in the centre of the forward hull with a single hatch. The commander is seated to the right of the turret, while the gunner is seated in the left side. A hull escape hatch is provided on each side.



- The reception at the Naval Dockyard, Victoria Island, was organized by the Nigerian Navy and the Nigerian Maritime Administration and Safety Agency (NIMASA), under the Deep Blue Project.
- The vessel, DB Lagos and DB Abuja, which arrived the country recently are equipped with sophisticated intelligence gathering capability for timely detection and response to illegal activities in the maritime domain.

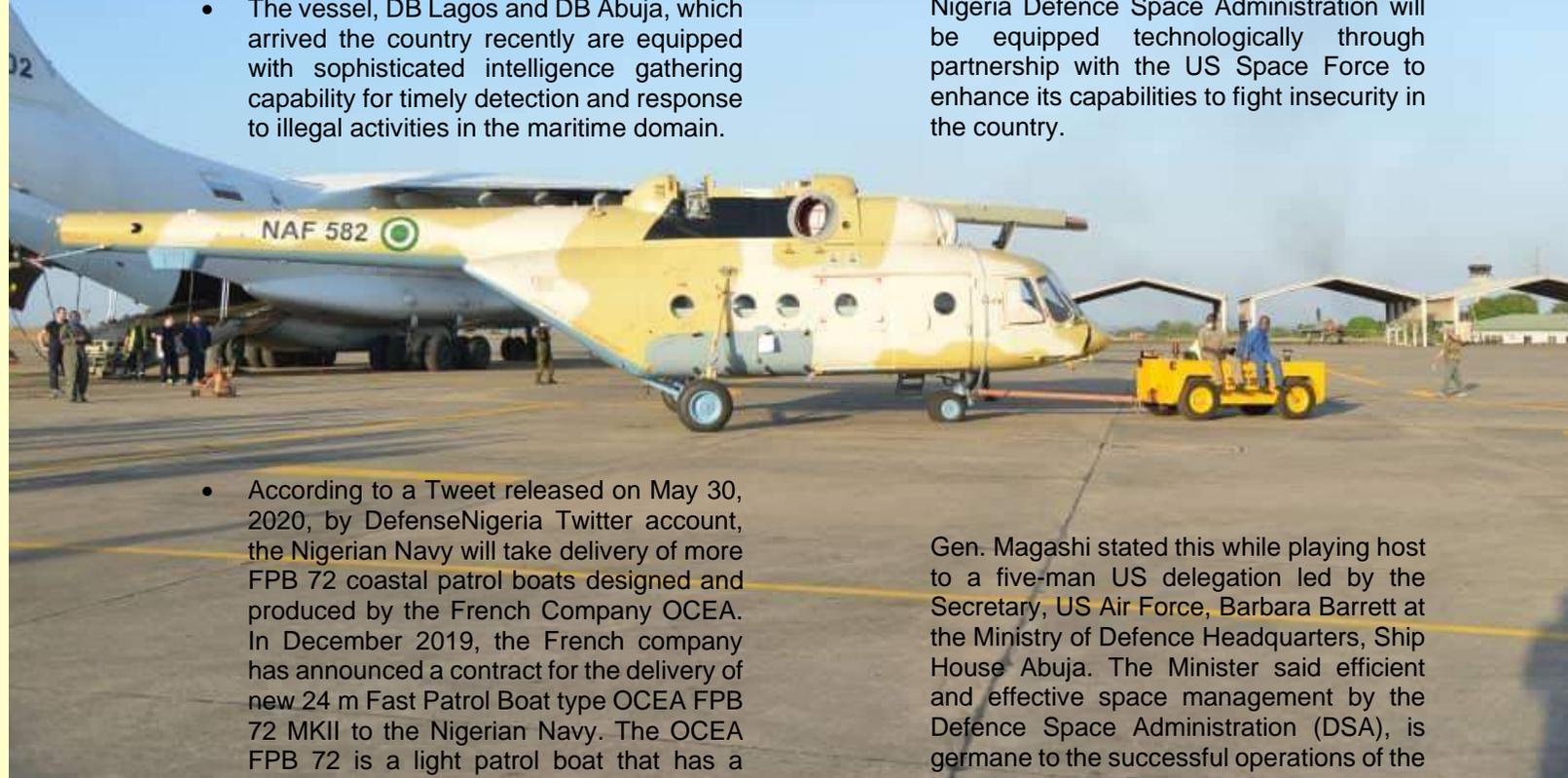
patrol boats, a 24-meter FPB 72 fast patrol boat and four 17-meter C-Falcon interceptors for the Nigerian Navy, which has already received two FPB 110s, seven FPB 72s and a 35-meter FPB 98.

- The Minister of Defence, Maj Gen Bashir Salihi Magashi (rtd), has recently said that Nigeria Defence Space Administration will be equipped technologically through partnership with the US Space Force to enhance its capabilities to fight insecurity in the country.

- According to a Tweet released on May 30, 2020, by DefenseNigeria Twitter account, the Nigerian Navy will take delivery of more FPB 72 coastal patrol boats designed and produced by the French Company OCEA. In December 2019, the French company has announced a contract for the delivery of new 24 m Fast Patrol Boat type OCEA FPB 72 MKII to the Nigerian Navy. The OCEA FPB 72 is a light patrol boat that has a length of 24 meters and has a top speed of 30 knots (56 km/h; 35 mph). It can be armed with machine guns or an automatic cannon. The FPB 72 has a mono-hull design offering high-durability and superior performance, is propelled by two 2000 M72 MTU diesel engines and equipped with an unmanned turret weapon system armed with one 20mm automatic cannon.

Gen. Magashi stated this while playing host to a five-man US delegation led by the Secretary, US Air Force, Barbara Barrett at the Ministry of Defence Headquarters, Ship House Abuja. The Minister said efficient and effective space management by the Defence Space Administration (DSA), is germane to the successful operations of the Nigerian Armed Forces and other security agencies in the effort to defeat insurgency, banditry and kidnapping. He appealed to the US secretary to speed up the release of the Super Tucano Aircraft undergoing procurement by the Federal Government which will boost the campaigns by the Nigerian Air Force to demystify the criminal elements in their various hideouts in the forests.

- In mid-December 2019, Rear Admiral Beegroy Ibe-Enwo, head of policy and plans for the the Nigerian Navy, said it would receive new vessels from France, Malaysia, Vietnam and local manufacturers, adding to the 42 patrol boats and other vessels acquired in 2019. Ibe-Enwo said the new acquisitions include 60-meter OSV 160 hydrographic survey vessels from France's Ocea, two 40-meter fast patrol boats from Damen Shipyard in Vietnam, four Manta class boats from Malaysia's Suncraft, one helicopter from Italy (most likely an AW109) and 15 riverine patrol boats from Nigeria's Epenal Group. The Nigerian Navy already has 20 18-meter Manta Mk III boats in service. Ocea is also constructing two 35-meter FPB 110 fast



- The Nigerian Airforce took earlier received three new aircraft into service, AW109 helicopters produced by the Italian company Leonardo and one Mi-171 from Russia.
- The Nigerian Army has ordered 52 additional locally produced Ezugwu mine-resistant, ambush protected (MRAP) vehicles from the Defence Industries Corporation of Nigeria (DICON). The armored car belongs to the class of MRAP, that is, equipment resistant to the destructive effects of mines. According to the declared characteristics, it is able to withstand the explosion of 12 kg of explosive under the wheels and 6,75 kg under the bottom of the armored housing. Has an independent suspension. It is assumed that the armored car is created on the Tatra 4 x 4 chassis. Director-General of DICON, Major General Victor Ezugwu, said this was to improve the operational efficiency of the troops fighting terrorism, banditry and other emerging security threats in the country. The DG, who disclosed this in Kaduna shortly after he declared closed the maiden three-day retreat for top management staff of the Corporation said feedback from the field has proven the efficacy of the vehicles, hence the demand for more.

The Defence Industries Corporation of Nigeria (DICON) was established by an Act of Parliament in 1964. Consequently, a West German manufacturing firm Fritz Werner was assigned the task of providing technical expertise and set up the Ordnance Factory in Kaduna. The first Technical Partner of the Defence Industries Corporation of Nigeria (DICON) was Fritz Werner of Western Germany. FW designed and built the Kaduna Ordnance Factories in 1964 with the following production capacities:

- 5000 units of BM 59 Rifles per annum,
- 18,000 units of SMG 12 per annum,
- 12,000,000 rounds of 7.62mm x 51 per annum and
- 4,000,000 rounds of 9mm x 19 per annum.

The Nigerian Civil War which occurred between 1967 -1970 necessitated the tripling of the above production rates and the factory was thus able to make a significant contribution to the war effort. After the war in 1970, the lucrative arms market for DICON ended.

Therefore, in order to remain in business DICON decided to use its equipment to produce civilian items like rural water supply equipment, industrial spare parts and furniture for sale to the public.



## Russian Armata MBT to debut at IDEX-2021

The Armata MBT mock-up is to be a core of the Russian national exposition at IDEX-2021 in Abu Dhabi this February. The tank is considered to be the first real sample of the third generation MBT being issued after the Second World War. The Russian exposition is to be organized by Rosoboronexport, state mediator for the arms trade, which is going to run regular presentations of Armata for potential customers during the show. IDEX is a key international event for the MENA region, and so the place for Armata first show-up outside Russia here seems to be absolutely logical.

According to Aleksander Mikheev, Rosoboronexport CEO, the company is going to obtain the so called «export image certificate» which is a mandatory document for any defense product to be sold from Russia.

The T-14 MBT on the Armata universal platform is to enter mass delivery to the Russian Army this year, according to the Rostec State Corporation CEO Sergey Chemezov. By the end of 2021 132 Armata-based machines: the tanks are to be teamed by their sister T-15 heavy armored vehicles are to come into service.

The exported variants are different in certain key elements from the systems being delivered domestically. This prevents hostile nations from obtaining crucial technology when the equipment comes into their hands similar to the case with the Pantsir SHORADS being handled to the US in Libya.

The tank is armed with a 125mm smooth bore gun within an uninhabited turret while the crew of three occupies the armored capsule inside the tank body. The machine is intended for the modern «network-centric warfare» when combat vehicles share information and tasks over the battlefield.

According to the data being released at the Army-2020 International forum, the tank has the following specifications:

|                           |   |
|---------------------------|---|
| <b>Mass</b>               | 55 tonnes   |
| <b>Length</b>             | 10.8. m   |
| <b>Width</b>              | 3.5 m   |
| <b>Height</b>             | 3.3 m   |
| <b>Crew</b>               | 3   |
| <b>Armor</b>              | 44S-sv-Sh Glacis: 900 mm vs APFSDS and 1400 mm vs HEAT. Internal armored capsule with more than 900 mm RHA equivalent                                 |
| <b>Main armament</b>      | 2A82-1M 125 mm (4.92 in) smoothbore cannon with 45 rounds (32 of them in the autoloader). Future version may use the smoothbore 2A83 152 mm tank gun. |
| <b>Secondary armament</b> | 12.7 mm (0.50 in) Kord machine gun (6P49), 7.62 mm (0.30 in) PKTM machine gun (6P7K)  |
| <b>Engine</b>             | Diesel 1,500 hp–2,000 hp  |
| <b>Power/weight</b>       | 31 hp/t   |
| <b>Transmission</b>       | 12-speed automatic gearbox  |
| <b>Operational range</b>  | min 500 kilometres (310 mi)   |
| <b>Maximum speed</b>      | 80 km/h (50 mph)–90 km/h (56 mph) (estimated)   |

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## Re-Equipping the Ghana Military

The Ministry of Defence (MOD) is one of the key service delivery organs of the Government of the Republic of Ghana under the Office of the Head of Civil Service (OHCS).

The MOD mandate is to formulate and implement policies for the national defense through the agency of the Ghana Armed Forces (GAF). In charting national defence policies, MOD works in close collaboration with the National Security Secretariat and the Armed Forces Council to proactively promote National and Regional Defence interests through the effective formulation, implementation, co-ordination, monitoring and evaluation of policies and programs and thereby contributing to the national development agenda.

The Ghana Armed Forces are heavily committed to international peacekeeping operations. Ghana prefers to send its troops to operations in Africa. However, the United Nations has used Ghanaian forces in countries as diverse as Afghanistan, Iraq, Kosovo, Georgia, Nepal, Cambodia and Lebanon. Currently, Ghanaian armed forces are posted to United Nations peacekeeping missions in:

- MONUC (Democratic Republic of Congo)
- UNMIL (Liberia)
- UNAMSIL (Sierra Leone)
- UNIFIL (Lebanon)

### 2020 BUDGET ESTIMATES

- The construction of a hangar at Air Force Base Tamale is completed.
- The Ministry of Defence, under the auspices of H.E. the President and Commander-In-Chief of the Ghana Armed Forces in the First Quarter of this year commissioned Fifty (50) high occupancy buses and One Hundred and Thirty- Eight (138) operational vehicles procured for use by the Ghana Armed Forces.





- Messrs Williefel Company Limited in June, 2019 to procure Thirty- (30) Otokar Armoured Personnel Carriers for the Army at the cost of US\$37,200,000.00 dollars. The vehicles have been delivered and are in service.

- Subsequently, the MoD has engaged the Ministry of Energy and the International Oil Companies to procure Six (6) Offshore Patrol Vessels (OPVs) from Messrs Gulf Frontiers Logistics Limited to protect our oil assets and other marine resources.

- The Ministry has also awarded contracts for the establishment of a Forward Operating Base (FOB) in the Western Region as part of our national strategic programme to protect the country's oil and gas reserves and other natural resources. The Project includes the construction of some 250 Housing Units of accommodation and the purchase of equipment (ships, boats, guns and vehicles) for the Ghana Navy.

- The Ministry has as at June, 30th 2019 overhauled Three (3) Casa Aircraft for the Ghana Air Force and Two (2) Helicopters which were grounded since 2012. Also, processes are on-going with prospective aircraft companies for the acquisition of Seven (7) aircrafts by the end of this year.

- The Ministry has secured Cabinet and Parliamentary approval to award a contract for the purchase of high technology communication equipment that is, Night Vision Binoculars and Monocular at the cost of US\$22,080,850.00 dollars for the GAF.

- Sources in Ghana reported that Ghana's parliament approved \$86.1 million in government loans to fund acquisition of 19 armored vehicles from Israel's Elbit Land Systems. The company will supply nine 8x8 Infantry Fighting Vehicles (IFVs) equipped with Elbit Systems UT30 30 mm remotely operated turrets. The order includes ten 6x6 IFVs fitted for reconnaissance operations.

- According to the **Chief of Ghana Naval Staff**, Rear Admiral Seth Amoama, the new proposed OPVs for the Ghana Navy would mainly be deployed on protection of offshore oil and gas installations, maritime law enforcement and maritime safety and security. Additionally, they should be able to position the Navy to effectively deploy for Peace Support Operations including sea lifting of land forces and conduct of re-supply duties for peacekeeping missions. Other missions envisaged for the OPVs include EEZ patrols, joint operations and naval gunfire support to land forces as well as various humanitarian operations. In line with this, the main operational and technical requirements of the proposed OPVs are high endurance to enable the Navy increase its presence at sea through prolonged deployment. It is also to offer the Navy varied capabilities and flexibility through the use of the Mission Modular System to be configured into the general arrangement of the ships. The ships are expected to be designed for integrated maritime air patrols and other close air support operations as well as Special Forces operations. It is also desirable that the ships should have minimum maintenance and long time between overhauls in order to have high operational availability.



## The Armed Forces of Senegal

The Armed Forces of Senegal consists of about 17,000 personnel in the army, air force, navy, and gendarmerie. The Senegal military force receives most of its training, equipment, and support from France and the United States. Germany also provides support but on a smaller scale.

Military noninterference in political affairs has contributed to Senegal's stability since independence. Senegal has participated in many international and regional peacekeeping missions. Most recently, in 2000, Senegal sent a battalion to the Democratic Republic of Congo to participate in MONUC, the United Nations peacekeeping mission.

Senegal also agreed to deploy a United States-trained battalion to Sierra Leone to participate in UNAMSIL, another UN peacekeeping mission. The training operation was designated Operation Focus Relief and involved U.S. Army Special Forces from 3rd Special Forces Group training a number of West African battalions, including Nigerian ones.

The Army currently consists of two divisions, the Operations Division and the Logistic Division.

The Gendarmerie is a military force which provides policing and security. It includes a Territorial Gendarmerie with general policing duties, and a Mobile Gendarmerie for special tasks and serious public disorder.

The navy is responsible for securing Senegal's Atlantic coastline which is strategically located on the extreme west of the African continent. The navy was created in 1961.

The Navy is divided into three branches known as "groupings":

1. The Operational Naval Grouping which is divided TO:
  - The High Seas Patrol Boats
  - The Coastal Surveillance
  - The Fast Coastal Boats
  - The Transport Group
2. The Naval Support Grouping responsible for ports, repairs, training, and logistics.
3. The Fluvial-Maritime Surveillance Grouping.

The air forces orientated towards providing support for ground forces and resembles an army aviation corp. It has no air-to-air combat aircraft, but possesses Mil Mi-24 gunship helicopters, transport helicopters and reconnaissance helicopters.

### Defence Procurements

- In 2019, The Ministry of Armed Forces of Senegal and the PIRIOU group have just signed a contract to purchase three offshore patrol vessels dedicated to the Senegalese navy.

The OPV 58 S (Offshore Patrol Vessel) is a 62m versatile, with high endurance and rededicated to missions such as surveillance and law enforcement at sea.



### Main characteristics

Length overall: 62.2m

Breadth: 9.5m

Max. draft: 2.9m

Speed: 21 knots

Autonomy: 25 days, 4,500 NM @ 12 knots

Hull: superstructure steel / aluminum

Accommodation: 48

Including crew: 24

Including special personnel: 24

The weapons suite of the OPV 58 S appears to consist of:

- A 76mm main gun by Leonardo
- 4x anti-ship missiles placed forward
- 2x 12.7mm manned machine guns on the bridge wings
- 2x 20mm remote weapon stations at the back of the bridge
- Surface to air system

NEXEYA supplied its LYNCEA PATROL product to OCEA, the company building the LE FOULADOU patrol boat (OPV) for the Senegalese navy. The system on board this 58m patrol vessel, makes it possible to group together the different on-board sensors (RADAR, AIS, ADS-B, GPS and EO) with a 30mm cannon and also to share tactical data with the commando units deployed on the 2 fast, semirigid RHIBs thanks to the LYNCEA MOBILE tablet.

- In 2018 Senegal acquired Thales helicopter training systems to be used for the training of the Senegalese Armed Forces Mi-35 attack helicopter and Mi-17 transport helicopter aircrews for collective and tactical operations leveraging Thales's expertise in training and simulation.



- In 2018, The Senegalese gendarmerie has awarded a contract to Turkey's private defence company Nurol Makina to supply Ejder Yalcin 4x4 armoured vehicles and Ejder Toma riot control vehicles.
- In addition, Arquus Bastion armoured personnel carriers (APCs) have been seen during the military parade marking Senegal's 59th anniversary of independence on 4 April 2019, considered as being new acquisitions.
- The U.S. military recently has dominated 23 American High Mobility Multipurpose Wheeled Vehicle (HMMWV), commonly known as the Humvee to the Senegalese Armed Forces. (Photo U.S. Embassy)

U.S. Africa Command delivered a three-week long vehicle maintenance and recovery course in Dakar, in which U.S. Army advisors from Fort Benning in March 2020 provided training on recovering the M36 Puma armored personnel carrier -- was designed to prepare the Senegalese Armed Forces as they support United Nations Peacekeeping Operations.



## Royal Moroccan Armed Forces

The Royal Moroccan Armed Forces are the summation of the armed forces of the kingdom of Morocco. It was founded in 1956, except the Royal Navy founded in 1960, after Morocco's independence from France and Spain.

It is today taking part in several peace keeping missions: MONUC, ONUCI, EUFOR, KFOR and MINUSTAH. Previous peace-keeping missions included the Somalia operation, in which Moroccan personnel served as part of UNOSOM I, the Unified Task Force, and the follow-on UNOSOM II mission.

Morocco is seeking to modernize its armed forces and further develop its domestic military industry considering regional and international turbulence. King Mohammed VI said last year in a speech marking the 63rd anniversary of the armed forces that "The Royal Armed Forces will focus on scientific, technical and engineering research programs and work to strengthen and develop them in all military and security fields, at the African and international levels, in order to exchange

experiences and keep up with the rapid development in the fields of security and defence."

Morocco's steps to develop its domestic military industry has drawn the attention of experts and foreign observers

Morocco's practices a policy of diversifying its sources of defence material supply and carries out a large part of its transactions through government-to-government agreements with France, China and Russia, to a lesser extent with South Africa, Austria and the United Kingdom and marginally with the Spanish defence industry. But its main supplier is the United States, whose companies supply Rabat with significant quantities of top-quality armaments.

On 2 October 2020, the United States and Morocco on Friday signed an accord that aims to strengthen military cooperation and the North African kingdom's military readiness over the next decade. U.S. Defense Secretary Mark Esper signed the 10-year agreement during a two-day visit to Morocco, his last stop on a tour of three North African nations, which began this week in Tunisia, where a military accord also was signed.



### • Recent defense procurement plans

One of the most recent and largest purchase packages made by Morocco involves the expansion and renewal of the Royal Air Force's fleet of fighter planes. Rabat was given the go-ahead in March 2019 for the acquisition of 25 new F-16 C/D Block 72 fighters - the most advanced production version - which includes extensive new capacities and structural improvements.

The second recent major contract is the acquisition of 24 AH-64 Apache attack helicopters, an aircraft that has been extensively tested in the wars of Iraq, Afghanistan, Libya and Yemen and it is considered the best in the world in its class. Configured in version E - the most modern version authorized by the Pentagon for export -, they are fully equipped with radar gunfire control systems, communications, navigation and target control systems, sensors and state-of-the-art night vision equipment.

On 14 April 2020, the State Department has made a determination approving a possible Foreign Military Sale to the Government of Morocco of ten (10) AGM-84L Harpoon Block II Air Launched missiles and related equipment for an estimated cost of \$62 million. The Defense Security Cooperation Agency delivered the required certification notifying Congress of this possible sale today. The Government of Morocco has requested to buy ten (10) AGM-84L Harpoon Block II Air Launched missiles. Also included are containers, spare and repair parts, support and test equipment, publications and technical documentation, personnel training and training equipment, U.S. Government and contractor representatives' technical assistance, engineering and logistics support services, and other related elements of logistics support. The total estimated cost is \$62 million.

On 3 March 2020, the State Department has made a determination approving a possible Foreign Military Sale to Morocco of twenty-five (25) M88A2 Heavy Equipment Recovery Combat Utility Lift and Evacuation System (HERCULES) vehicles and/or M88A1 long supply HERCULES refurbished vehicles and related equipment for an estimated cost of \$239.35 million. The Defense Security Cooperation Agency delivered the required certification notifying Congress of this possible sale today. The Government of Morocco has requested to buy twenty five (25) M88A2 Heavy Equipment Recovery Combat Utility Lift and Evacuation System (HERCULES) vehicles and/or M88A1 long supply HERCULES refurbished vehicles; and twenty-five (25) M2 .50 caliber machine guns. Also included are twenty five (25) export Single Channel Ground and Airborne Radio System (SINCGARS); twenty five (25) AN/PSN-13A Defense Advanced Global Positioning System (GPS) Receiver (DAGR) with Selective-Availability/Anti-Spoofing Module

(SAASM); thirty (30) AN/VAS-5B Driver Vision Enhancer (DVE) kits; twenty five (25) M239 or M250 smoke grenade launchers; one thousand eight hundred (1,800) M76 (G826) or L8A1/L8A3 (G815) smoke grenade rounds; spare parts; support equipment; depot level support; Government-Furnished Equipment (GFE).

On January 2021, the Spanish Minister of Finance, María Jesús Montero, has announced at the San Fernando shipyards (Cádiz) that Navantia has reached a contract with the Royal Moroccan Navy to design and build a high-altitude patrol boat that will involve one million hours of work for the shipyards in the Bay of Cádiz and about 250 jobs over the next three and a half years. In addition, she recalled that the Underwater Intervention Maritime Action Vessel (BAM-IS) for the Spanish Navy will also be built in these same shipyards. Montero has visited the San Fernando shipyard accompanied by the president of Navantia, Belén Gualda.

Thus, she has indicated that the project has had the institutional support of the Government and its success opens the door to the hiring of other similar units, which would imply more hours of work and more employment for the naval industry. Morocco communicated in April the specifications of the contract for the construction of the patrol boat, in which shipyards from several countries were interested. For its part, Navantia presented its offer in August and a team from the company traveled to Morocco to negotiate the technical and commercial aspects. As Navantia has pointed out, since last September, the contacts between Navantia and the Moroccan National Defense Administration have been permanent to adapt all the technical specifications of the ship to the requirements of its Navy and comply with the roadmap agreed in the negotiation.

The contract announced by the Minister of Finance includes the design of the ship. Thus, once the engineering work is completed, its construction will begin. Navantia already supplied patrol boats and a corvette to the Royal Moroccan Navy in the eighties and this contract takes up that path. The high-altitude patrol boat is part of Navantia's Strategic Plan. She is a highly demanded ship in the international arena, with consequent export opportunities to other countries.

Thales Group has been a long-standing partner of the Royal Armed Forces in Morocco for nearly 30 years. Systems and equipment are widely used in the Royal Air Force, the Army, the Royal Gendarmerie and the Royal Navy. The main areas addressed are highly secure communications, optronics (night vision), radars, combat systems and security.

## Russian Export Details Announced

*By Yuri Laskin*

On the eve of 2021 Rosoboronexport (national defense trade state mediator and Rostec subsidiary) disclosed details of substantial achievements within the last 20 years.

Since November, 4th, 2000 when Rosoboronexport received the exclusive right to export the entire range of military equipment it has signed 26,000+ contracts to deliver hardware worth over USD180 billion to 122 countries. As several Russian enterprises remain independence in after sales deals on existing contracts with the foreign customers, the sum above should be increased on approximately 15%. As a result, Russia has been consistently ranked as a runner up among the world's arms traders.

According to Alexander Mikheev, Rosoboronexport CEO the above-mentioned figure includes USD 85 billion for the aviation equipment, while air defense and army staff exceeds USD 30 billion for each of these services teamed by USD 28 billion for the Navy.

The remaining USD 7 billion should be counted for the special forces, space, dual purpose technology as well as civil arms and commercial goods. Those figures also include infrastructure facilities creation and military personnel training. India, PR China, Algeria, Vietnam, Venezuela and Egypt, have been Russia's top valued customers through this period. Apart of that, the Russian defense trader has established a large portfolio for licensed production and joint ventures in India, Vietnam, Jordan, Malaysia and several other countries.

Rosoboronexport has announced its intention to introduce 50+ new modern weapons and pieces on the global arms market in the next five to seven years. Potential "bestsellers" include Armata-based armored vehicles family, Su-57E fifth-generation fighter jet, Ka-52 shipborne and Mi-28E night-capable helicopters and the Antey-4000 air defense missile system.

The company claims intention to extend technology transfer and joint production with different nations as well as civil products promotion.

In connection with the company 20<sup>th</sup> anniversary, the Russian President Vladimir Putin as the RF Supreme Commander marked Rosoboronexport achievements in national security and international defence sales with the Certificate of Honor.

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Mi-28NE has round-the-clock and all-weather capabilities

### **Russia Indian Portfolio to reach USD 14 billion**

Russian Federation remains Republic of India key supplier in the field of defense technology. The total portfolio of the contract being concluded has reached USD 14 billion, according to Vladimir Drozhzhov, Deputy Head of the Russia's Federal Service on Military Technical Cooperation with the Foreign States (FSVTS). Mr. Drozhzhov disclosed several details of defense cooperation with India during and after the Aeroindia-2021 exhibition in Bangalore.

According to him, Russia and India are ready to revive the joint program for the Fifth Generation Future Aircraft (FGFA) based on the Su-57E fighter «with all the documents being prepared for signature».

He also claimed the Hindustan Aeronautics Limited (HAL) is ready for licensed production of the Ilyushin Il-112V prospective transport turboprop to replace an aging fleet of the Antonov An-24/26 within Indian Air Force (IAF).

Another preliminary agreement was reached on the MiG-35 fighter joint production if the Russian vehicle wins the 114 IAF future tender. The HAL has been well experienced with joint production with Russia, including the Sukhoi Su-30MKI twin jet multirole air superiority fighter which forms up the core of IAF power nowadays.

Meanwhile, Mr. Drozhzhov confirmed the deal on 21 MiG-29 and 12 Su-30MKI urgent purchase. He announced the first regiment of the S-400 Triumph long range air defense system to be delivered to India by the end of 2021. The Indian personnel have already arrived to Russia to be trained with the system operation. The contract of October, 2018 is USD 5.43 billion worth. It includes 5 regiments in total to be delivered by the end of 2024.

India's main defense trade partner is Rosoboronexport state mediator which concludes contracts on behalf of the Russian defense industry. «We are implementing joint projects for all armed services with such a degree of cooperation between enterprises of the two countries, that is unique for the world market», said Rosoboronexport's CEO Alexander Mikheev.

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### The MSVS trucks complete their first year in the Canadian Army



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On December 4, 2019, the 1,587th and last Medium Support Vehicle System (MSVS) truck was completed on the production lines in Marolles-en-Hurepoix. It was then shipped to Canada for final integration. On February 13th, 2020, Mack Defense handed it to the Canadian Army's officials in Saint Nicolas, Quebec, thus concluding a three-year industrial adventure which had started in France. The MSVS trucks' first year of service has been extremely busy already, with deployments both in Canada and in foreign operations.

The Medium Support Vehicle System (MSVS) program was designed to provide Canada with a fleet of mid-sized, multi-purpose logistics vehicles to replace their aging Medium Logistics Vehicle Wheeled (MLVW) fleets, which had been in service since the 1980s. It also included the acquisition of Armored Protection Systems and trailers. These new trucks and their equipment had to be able to provide a complete transport capacity (particularly in terms of loading/unloading of loads or on-board equipment) in theaters of operation, both on national territory and abroad.

Under Phase 4 of the MSVS program, which included the provision of Standard Military Pattern (SMP) trucks, including their trailers and crane systems, armored cabins and protective equipment, and vehicle support, Arquus Engineering and Manufacturing teams led parts of the militarization for all five variants of the 1,587-trucks program. This complete militarization aimed at ensuring the vehicle met the true capabilities of a truck designed for military use.

Arquus has a solid and long experience in the design and production of logistic and tactical military carriers, both specifically designed for the military and commercially designed but transformed for military use. In France alone, this partnership with the Army continues today with the GBC8KT, GBC180, TRM10000, TRM 2000, VLRA, or Sherpa Medium trucks. In total, more than 10,000 trucks that are now used daily in the French Army alone are Arquus-made.

This expertise has recently led to the launch of a brand-new logistics and tactical range, the Armis family, consisting of three 4x4, 6x6 and 8x8 vehicles perfectly adapted to the needs of modern armed forces, designed by Arquus and built by the company and its French partners.

This experience enabled Arquus to take charge of the studies and design of militarized enhancements and transformations for the vehicles designed for the Canadian Army. These activities ensured the definition of a coherent global architecture adapted to the specific requirements of the Canadian Army in support of their mission profile and anticipated global deployments.

The militarization activities were carried out at two Arquus sites, in close cooperation with other Volvo Group businesses, Renault Trucks, Mack Defense and Prevost, and under the supervision of the French defense procurement agency, the Délégation Générale de l'Armement (DGA), the program's agent.

As part of the MSVS Program, the rolling chassis arrived from two Renault Trucks plants, Bourg-en-Bresse (bare chassis) and Blainville (cab) and were delivered to Marolles-en-Hurepoix, where a production line was purposely set up to advance assembly by adding specific enhancements such as cold weather start kits, Crane and supporting Hydraulic System installations among key activities.

A total of five variants were supported:

- The LHS (Load Handling System): an MSVS truck version designed to embark, transport and deliver containers with a payload of up to 9.5t. It represents 47% of the whole fleet.
- The TCV (Troop Carrying Cargo): the "standard" cargo version of the MSVS, which makes about 38% of the fleet. It is equipped with a rear platform, side rails, a tailgate, folding seats and a tarpaulin. Versatile, it can embark 24 soldiers or equipment.
- The MHC (Material Handling Crane), 3% of the fleet, is a specialized version, similar to the "basic" version. On its open rear deck, it is equipped with hydraulic systems and a crane to handle loads.

- The Mobile Repair Team vehicle (MRT), which represents 10% of the fleet, is an MHC truck specially modified to embark a workshop-configured shelter.
- The Gun Tractor (GT), an MHC truck also modified to handle towed artillery pieces. It makes about 2% of the total fleet.

In parallel, the Arquus site in Limoges, which specializes in the manufacturing of Arquus new vehicles, assembled and prepared for shipment to Canada the trimming kits for the 161 Armoured Protection Systems (APS), which were being final assembled in Canada.

Limoges, also due to its extensive expertise in final assemblies of vehicles, also contributed in supporting Marolles in final assemblies of the MSVS fleet in order to meet program timelines and milestones.

311 MSVS were delivered by Arquus in 2018, and 1276 in 2019 (i.e. an average of about 4 trucks per day, and more than 6 vehicles per day during peak production activities), illustrating the company's ability to produce efficiently a large number of vehicles in a constrained timeframe and to adapt to different rates on different configurations. Arquus has also been able to design and very quickly develop a complex production line, capable of managing different configurations.

In total, for Arquus, several dozen operators have been involved in the MSVS program, in the Design Office, project management, production, integration and finishing, both in Marolles and in Limoges.

Arquus' handling of this part of the program illustrates the company's capabilities in the design and production of military tactical and logistic carriers, as well as program processing in partnership with a large number of players.

The program also demonstrated Arquus' good management of a complex industrial scheme involving a large number of players (Renault Trucks, Prevost, the DGA, the Canadian customer) as well as constant communication between Arquus' Marolles and Limoges sites. More generally, the MSVS program demonstrated the Volvo Group's ability to pool the many complementary skills of the companies that meet customer requirements and expectations.

The Canadian Army is very satisfied with the capabilities and quality of the MSVS trucks. All trucks have been deployed throughout Canada and have already been used in support of both domestic (Flood and humanitarian) and International (NATO) operations.

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### Leonardo: Qatar's NH90 helicopter program marks major milestone with first flights

- Last week the first of 12 NH90 NFH naval helicopters and the first of 16 NH90 TTH over-land variant took to the air from Leonardo's Venice Tesserà facility and Airbus Helicopters' Marignane site respectively.
- As well as acting as prime contractor for the overall programme, Leonardo is responsible for the final assembly and delivery of the 12 NH90 NFH helicopters from its Venice Tesserà facility. The company is also providing a support and training services package for crews and maintenance technicians.
- Acceptance of the first batch of NH90s by the Qatar Emiri Air Force is scheduled to start before the end of 2021, with the last helicopter planned to be delivered in 2025.
- Managed through the NHIndustries joint venture, the NH90 is the largest military helicopter programme in Europe. Around 430 units are in service worldwide and the platform has logged over 270,000 flight hours in a wide range of weather and environmental conditions, over land and sea.

The Qatar Emiri Air Force's NH90 helicopter programme marked a major milestone last week with first flights performed in Italy and France. The first NH90 NATO frigate helicopter (NFH), assembled at Leonardo's Venice Tesserà facility, and the first tactical troop transport (TTH) over-land aircraft, assembled at Airbus Helicopters' Marignane site, took to the air on 15th and 18th of December respectively. The flights allowed crews to evaluate general handling and basic systems and the helicopters performed as expected. Qatar's NH90 programme includes 16 NH90 TTHs for land operations, 12 NH90 NFHs for naval missions, a comprehensive support, maintenance & training services package and associated infrastructure. The programme has the potential to be extended in the future with the addition of 6 + 6 units in a mixture of TTH and NFH variants. Leonardo is prime contractor for the overall programme and is also responsible for the final assembly and delivery of the 12 NH90 NFH helicopters from its Venice Tesserà facility. The company is also supplying simulators, training aids and an extensive maintenance support and training services package for aircrews and maintenance technicians. Leonardo is providing, contributing to or supporting the integration of various avionics and sensor payloads, including the Leonardo LEOSS-T HD electro-optical system, HD Mission Video Recorder, Automatic Identification System, Tactical video link and Full HD display for cabin consoles. Airbus Helicopters is responsible for carrying out the final assembly of the 16 NH90 TTH aircraft. Acceptance of the first batch of NH90s by the Qatar Emiri Air Force is scheduled to start before the end of 2021, with the last helicopter planned to be delivered in 2025.

Gian Piero Cutillo, Leonardo Helicopters MD, said "We're extremely pleased to celebrate this important achievement as we continue to work to deliver this programme. The NH90 is set to provide the Qatar Ministry of Defence, an important and longstanding customer, with outstanding operational capabilities suitable for a range of missions. Together with our industrial partners, we're committed to completing and introducing this essential defence and security enabler for our customer."



### Leonardo: first two M-345 jet trainer aircraft delivered to the Italian Air Force

- Profumo: “the first delivery of this new aircraft is a significant milestone and a success for the Country”
- The Italian Air Force has a total requirement for up to 45 M-345s. They will gradually replace the 137 MB-339s which have been in service since 1982
- As well as being the future aircraft of the Italian Air Force Frecce Tricolori acrobatic team, the M-345 is a highly-effective military pilot training platform, delivering jet trainer aircraft-like performance and efficiency at the cost of a turboprop

On 22 December 2020, rd December, delivered the first two M-345 jet trainer aircraft to the Italian Air Force, which to-date has ordered 18 units from a total requirement for up to 45 aircraft. The new type, designated T-345A by the Italian Air Force, will gradually replace the 137 MB-339s which have been in service since 1982.

Marco Zoff, Leonardo Aircraft Managing Director, said: “Building on our heritage and expertise in jet trainers, the M-345 will allow our customers to achieve a significant improvement in training effectiveness while at the same time reducing operating costs. This first delivery to the Italian Air Force is a key milestone, the result of a longstanding and productive team working closely together with the operator.”

The new M-345, designed to meet basic and basic-advanced training requirements, will complement the in-service M-346, which is used for advanced pilot training. Leonardo’s integrated training system developed around the M-345 platform, is representative of the company’s technological leadership in training pilots to fly current and future generation aircraft. The system benefits from experience with, and technology developed for, the M-346, which includes a “Live Virtual Constructive” capability. This allows aircraft which are flying live training missions to incorporate simulated “friend” or “foe” elements into scenarios, allowing the pilot to be exposed to the full range of possible operational situations.

The M-345 is a high-performance aircraft which supports a pilot’s transition from basic trainers to latest-generation fighters. The Italian Air Force’s acquisition of the new aircraft is an important step forward in the modernization of its fleet, with the M-345 replacing the MB-339A in Air Force’s second and third military pilot training phases. The M-345 has also been chosen as the new aircraft of the Italian Air Force’s acrobatic team, the “Frecce Tricolori”.



### **Nexter, Thales et Arquus succeed in presenting the 128 GRIFFONs planned for 2020**

On December 18, 2020, Nexter, Thales and Arquus, as part of the temporary grouping of companies (GME) EBMR (Engins Blindés Multi-Rôles), presented the 128th GRIFFON planned for 2020 to the French Delegation for Armaments (DGA). Under the terms of the SCORPION program, and despite an unprecedented health crisis that profoundly affected production, the three manufacturers were able to take the challenge and meet their contractual objectives.

After this step, the last GRIFFONs will have to be submitted to the verification operations carried out by the DGA's quality department. The vehicles will then be transported to the Canjuers site where the Army will proceed to take them into account; it is then that the DGA will formally receive them. To date, 90 GRIFFON have completed this route, adding to the 92 GRIFFON delivered in 2019. From January 2021, the last vehicles that left the production line in December will join them in the regiments, catching up very early in 2021 with the delay due to the health crisis.

From March 2020, Covid-19 has indeed strongly disrupted the industrial organization of the program. The site of Roanne, where the GRIFFON and JAGUAR are assembled, was forced to suspend its activity from March 20 to 30 in order to allow the installation of a structure adapted to the resumption of the activity under maximum safety conditions. Since then, two teams have been working on the lines in shifts of eight consecutive hours (2x8) to ensure that the lines are operational during these 16-hour days. Closely linked to their government contacts and after consulting their suppliers, the members of the GME quickly reviewed the initial schedule: the 2020 objectives were maintained for GRIFFON; the first deliveries of JAGUAR were postponed to April 2021; and this, while preserving the amount of deliveries at the end of 2021.

The year 2020 was marked by the passage of several major milestones for the GME. In September, the DGA notified the third conditional tranche of the EBMR contract, enabling the second batch of vehicles (271 GRIFFON and 42 JAGUAR by 2023) to go into production. In November, the GRIFFON command post vehicle (EPC) was qualified. Thus, among the 128 GRIFFONs of 2020, 35 examples of this new variant were presented to the administration, an additional difficulty that the EPC teams overcame. Finally, the new-generation T1 remotely operated turret that will arm the GRIFFONs was also qualified by the DGA.

Nexter, Arquus and Thales would like to pay tribute to the exceptional commitment of their teams. Their sense of duty and creativity have enabled them to meet the expectations of the French Army and its combatants as best they could, while greatly limiting the impact of the health crisis.



### **First firing of a Medium-Range Missile (MMP) from a Sabre special forces vehicle**

MBDA has carried out the first firing of an MMP missile from an ARQUUS Sabre special forces vehicle, as part of a firing campaign implemented with the support of the French Army and of the Direction Générale de l'Armement (DGA - French Procurement Agency).

The firing was carried out at the Canjuers military camp in the south of France, using 'lock-on-before-launch' mode against a tank 3,500 metres away, with a rapid switchover to 'fire-and-forget' mode, making the vehicle fully mobile after firing.

Once again, the MMP system demonstrated the accuracy of its target acquisition and the quality of its guidance system by achieving a direct hit, without operator intervention.

In addition to this firing, multiple engagements were simulated on the post, against fixed or mobile targets, with the vehicle moving around the test range, thus crossing a further milestone in the validation of the ergonomic, tactical and safety studies.

During the debriefing, the French Army's gunner was very enthusiastic: "The firing installation is safe, its ergonomics make for easy aiming, and the missile was launched without any discomfort to the gunner, and as stealthily as ever."

The MMP – the first fifth-generation missile to be deployed in combat – has been in service with the French Army for two years. Flexible and versatile, it has been battle-tested and deployed in various theatres around the world (desert, tropical, mountainous and Arctic areas). A valuable asset for Special Forces operating over long distances, the MMP allows for the resupply of munitions by airdrop.



## Paramount Maritime Launches Second Survey Motor Boat (SMB) for South African Navy

Paramount Maritime, a Paramount Group company, has successfully launched the second of three next-generation Survey Motor Boats (SMBs) for the South African Navy in a move that will enhance the capabilities and infrastructure of the South African Navy Hydrographic Office (SANHO). This follows the successful launch of the first Survey Motor Boat to the South African Navy during August this year.

Veecraft Marine, a subsidiary of Paramount Maritime, had been tasked with the design and manufacture of the three Survey Motor Boats, all of which having taken place in their shipyard in Cape Town, South Africa.

In addition to the three Survey Motor Boats to be delivered to the South African Navy Hydrographic Office (SANHO), this programme also provides for the delivery of a Hydrographic Survey Vessel and a Sea Boat as well as a third, fully operational inshore Survey Motor Boat, to remain ashore and in reserve.

The 11m Length Overall (LOA) Survey Motor Boat features twin Volvo Penta duo-prop propellers, providing for greater fuel efficiency and effective and predictable handling alongside a Volvo Penta joystick helm control system.

The vessel's advanced survey equipment includes Multi-Beam and Single-Beam echo-sounders and Side-Scan Sonar and a Seabed Sampler to recover sample material from the sea-floor and underlying sub-strata for detailed analytical and testing purposes. The vessel capabilities allow for nearshore shallow water surveys in depths of up to 300m.

Training has additionally been provided for the Survey Motor Boat's multifaceted survey systems.

A spokesperson of Veecraft Marine, stated: "It is with great pride that we are celebrating another key milestone with the launch of the second Survey Motor Boat for the South African Navy. This is in quick succession of the first Survey Motor Boat that was launched during August. Our teams have consistently demonstrated their agility, craftsmanship and manufacturing excellence in the production of these vessels which are the most advanced survey vessels currently in production globally. We are looking forward to continuing our support for the South African Navy."

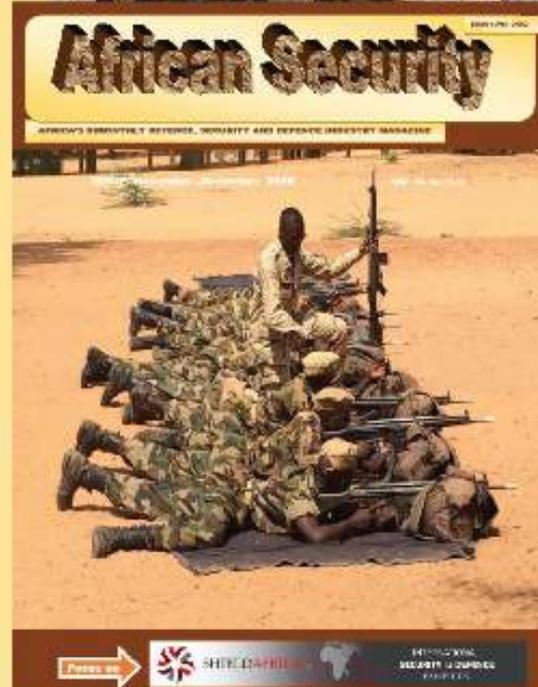
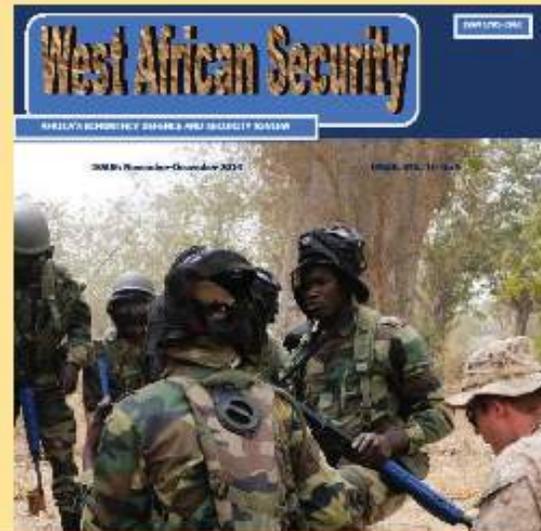
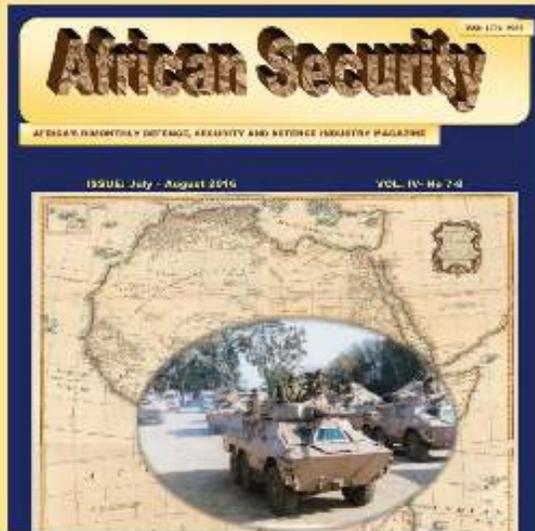
The Survey Motor Boat will now continue standard Harbour trials and Sea Acceptance testing before being delivered to the South African Navy for utilisation.



# African Security

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