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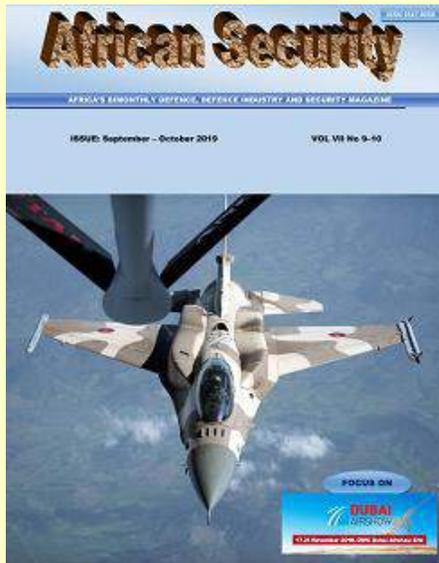
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Africa: A growing armored vehicle market

The 'Armored Fighting Vehicle' (AFV) is represented by Armored Personnel Carriers (APCs), Infantry Fighting Vehicles (IFVs), and - more recently, Mine-Resistant, Ambush-Protected (MRAP) types. Examples include the American 'Bradley' Infantry Fighting Vehicle and the Russian MT-LB series. While typically tracked, AFVs can also showcase road wheels along multiple axles as in the American 'Stryker' family line. Systems on order (heading into the next year) are not taken into account. Light utility vehicles (such as the ubiquitous HUMVEE, even if armed/up-armored) and military trucks/engineering/logistical vehicles are not taken into account.

The African market for armored vehicles is expected to increase during the forecast period (2019-2025) due to their growing civilian use for self-defense and safety, rising number of wars and cross-border disputes and increasing rate of terrorism worldwide. Based on technology, active mine system is expected to be the largest segment in the African armored vehicles market during the forecast period. Defense sector emanated the largest demand in the African armored vehicles market while commercial sector is expected to witness fastest growth during the forecast period. Wheeled type is expected to be the largest segment in the African defense armored vehicles market, by type, during the forecast period. Infantry fighting vehicles is the largest segment in the global defense armored vehicles market, by product. The segment is expected to follow the same trend during the forecast period.

Growing concerns to protect military personnel during civil wars and the increasing need to protect the nation from a plethora of situations and scenarios, ranging from natural disasters to acts of terrorism, is expected to drive homeland security applications across the African continent. This would in turn, increase the demand for armored vehicles during the forecast period.

Backed by growing incidences of armed violence and the technological advancements in the US, Russia, European nations, Turkey and China, is expected to drive the African market during the forecast period. Additionally, the growing need for modernized military sector is expected to emanate the largest demand during the forecast period.

The North, South and West Africa nations were the biggest consumers of armored vehicles for a considerable period of time despite some governments decided to cut down their defense

budgets. This significantly affected the demand for armored vehicles; however, the growing security concerns in the African region and the peace initiative missions undertaken by the African continent have helped in reducing the impact to a considerable level. Additionally, the multilateral collaboration between North Atlantic Treaty Organization (NATO) and the African Union to counter terrorism is expected to further propel the growth of global armored vehicles market during the forecast period.

South Africa is one of the nations in terms of its production and supply of armoured vehicles to therest of the world. Armored vehicles continue to be a key element of South Africa's arms exports, a government report indicates. The National Conventional Arms Control Committee (NCACC), a government agency overseeing South Africa's arms trade, said in its first quarter 2019 report that between January 1 and March 31, 38 locally made armored combat vehicles were delivered abroad to four customers. Mali purchased 19 vehicles at a cost of ZAR55 million, while Saudi Arabia acquired 15 vehicles, the U.S. procured three, and the UAE acquired one.

Armored vehicles remain a key source of income for the South African arms industry, which has struggled in recent years amid low domestic procurement. Last year, 26 countries purchased 137 armored vehicles from the South African arms industry. The U.N. acquired another 120 for Somalia's government. Many of the importing countries are utilizing the vehicles to support counterinsurgency campaigns.

Paramount Group, the South African-based global defence and aerospace company, has unveiled its next-generation armoured personnel carrier and announced it has received a contract from the United Arab Emirates (UAE) at IDEX 2019, a defence and security Expo in the Middle East.

Manufactured in South Africa, the Mbombe 4, representing the pinnacle of land systems technologies, is drawing on Paramount Group's and South Africa's exceptional heritage as leaders in the field of armoured vehicle design.

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Shipbuilding in Africa

South Africa Shipbuilding in South Africa has



been ongoing for some 35 years albeit in a start-stop operation (Southern African Shipyards, 2015). There are currently six companies involved in construction and/ or repairing of vessels, and they include: Damen Shipyards Cape Town (DSCT), Dormac Marine and Engineering, DCD Marine Ship and Rig Repair Services, SNN Ship Co. (Pty) Ltd, and Southern African Shipyards (Pty) Ltd. Over the years the demand from the South African market for the new buildings has been infrequent, and that has not been enough to enable any stability in the South African shipbuilding industry.

Armscor, the acquisition agency for the South African Department of Defence, ordered the three IPVs – known as the Damen Stan Patrol (SPa) 6211 – as part of the government's efforts to boost maritime security. These state-of-the-art vessels will enable the country to tackle threats such as illegal trafficking and fishing swiftly and more cost effectively. This, first, IPV is expected to be finished in early 2021 and enter service in the middle of that year. The second should be delivered in 2022 and the third in 2023.

ARMSCOR manages and operates the Naval Dockyard as the SA Navy's (SAN) third-line maintenance and refitting authority. The Dockyard focuses on maintaining the required capabilities to support the nation's submarines, ships and shore-based support facilities. It executes activities such as planned preventative maintenance, corrective maintenance, reconstruction and repairs, as well as upgrades to and modernization of the SA Navy's vessels (ships and submarines).

Nigeria

The Naval Shipyard Limited was established by Messrs Witt and Busch in 1963 as a small boat repair and building yard. It was acquired by the Nigerian Navy in April 1990 with a view to developing local capacity in ship/boat building and maintenance.

Also, as a strategic asset to function as a force multiplier and maintenance facility for Nigerian Navy vessels in support of naval operations. Subsequently, the Navy Shipyard was mandated to operate commercially for her to sustain naval operations and maintain the staff inherited from the former owners.

Notwithstanding its challenges, Naval Shipyard Limited has contributed significantly to the operations of the Nigerian Navy as well as developing Nigeria's maritime sector.

The Naval Shipyard has also developed human capacity through employment and training of Nigerian Navy personnel and civilians. Consequently, the Naval Shipyard is in good stead to support Nigerian Navy operations, develop indigenous capacity for ship building and maintenance as well as support the growth of Nigeria's maritime sector.

Naval Shipyard Limited entered into a Joint Venture Agreement with Messrs China Shipbuilding and Offshore International Limited (CSOIL) in June 2014 to partner with the Yard and raise her technology base to current standards.

In its bid to adequately patrol the waterways and curb rising illegalities in Nigeria's perilous maritime domain, the Nigerian Navy has entered into agreements with two indigenous companies to manufacture about 100 gun boats and patrol vessels in Nigeria.

The beneficiaries for the boat building contracts include Almarine, a division of John Holt Plc and Epenal Boat Yard in Port Harcourt, Rivers State. The firms which were selected after a careful screening process possess key competencies in the areas of boat building, fire and safety equipment, as well as marine services.

The deal requires the indigenous manufacturers to produce various classes of vessels among which include gun boats, patrol vessels, ambulance



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boats, mass transit boats and boat houses with special adaptations for efficient operation in the peculiar environs of the Niger Delta.

This recent development driven by the desire of the current administration to patronize indigenous industries and improve local content contributions to maritime security may not be unconnected with the current economic situation in the country, as well as the unavailability of foreign exchange to conduct international trade.

On the other hand, Epena Boat Yard have so far delivered 60 locally built gunboats and one 38 meter long patrol vessel to the Nigerian Navy fleet and are on course to deliver 20 more gunboats before the end of the year.

Commissioning the latest 30 Epena-built vessels at a ceremony in Lagos recently, the Chief of Naval Staff noted that the boats were an improvement on 30 others unveiled in Port Harcourt in February and featured modifications that improved maritime surveillance amongst others.

These new boats are 8.2 meters long and are fitted with automatic grenade launchers (AGL), which are extremely versatile, high velocity ammunition. The AGL requires little maintenance, significantly reducing the need for spares.

WEST ATLANTIC SHIPYARD is located in Port Harcourt in Nigeria, at the heart of the offshore oil operation. The shipyard builds and repairs all types of ship up to 100 m in length.

Egypt

The Chief-of-Staff of Egypt's Armed Forces Lt. Gen. Mohamed Farid inaugurated the country's newest Gowind-class Corvette in Alexandria on May 12, 2019. The new warship, named Al-Moez, was built locally by Egypt's Alexandria Shipyard Company in cooperation with France. The project was part of a 1 billion euro deal signed with France in 2014 to provide four frigates to the Egyptian navy. Under the agreement, three corvettes would be built in Egypt under a transfer of technology agreement.

In 2014, Egypt has contracted with the French company DCNS to buy four Corvettes, three of which were to be constructed in Alexandria Shipyard. The contract between the Egyptian Navy

and DCNS includes an option for two more ships. On April 16, 2015, DCNS announced it has started to construct the first Gowind 2500 Corvette for Egypt in the naval shipyard of Lorient. The ship, named Al-Fateh, started its sea trials on March 13, 2017. In September 2017, the head of DCNS said that his company manufactured the Corvette in record time to meet the deadlines set by Egyptian President Abdel-Fattah El-Sisi. According to the head of the Naval Group, El-Sisi wanted the Egyptian navy to have the latest technologies as quickly as possible. DCNS's head added that they worked speedily on the Corvette as "their duty towards an ally." Egypt received the first Corvette in September 2017. The second was manufactured in Egypt and inaugurated in September 2018.

The Gowind 2500 Corvette is 102 meters in length and 16 meters in width. Its speed is 25 knots with a range of 3,700 nautical miles at 15 knots. The vessel incorporates the SETIS multi-mission combat management system already in use by the FREMM frigates. The ship can carry air-defense and anti-ship missiles and torpedoes. It can execute all naval combat duties, such as destroying submarines, launching rockets, and guarding and protecting ground forces on coastlines.

Senegal

French shipbuilder Piriou announced it has opened a new naval yard in Senegal, continuing its expansion in Africa. The French company said it partnered with Senegalese maritime company Ngom et Freres in establishing the new entity called 'Piriou Ngom Senegal'. Piriou said the new company will offer services for naval repair and building, especially in the fields of fishing, service vessels and defense. Piriou's Senegal yard follows the establishment of a naval shipyard in Nigeria in 2004, then in Vietnam in 2006 and in Algeria in 2013.

Ghana

The Naval Dockyard Complex is located in Sekondi (Western Region), and is headed by a Commodore Superintendent. Some of the core functions of the Commodore Superintendent include planning, execution and timely completion of refit of ships, periodic maintenance and repair of ships. Thus Ghana Navy through this dockyard undertakes most of its own refits. The speedy and timely repairs by the Dockyard ensures that all ships are available and suitable for operations throughout the year.





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SECURITY OF THE NIGERIAN MARITIME DOMAIN – ISSUES AND OPTIONS



Chief of the Naval Staff, Nigerian Navy, Vice Admiral Ibok-Ete Ibas

The global maritime commons have remained a veritable medium for driving growth, development and prosperity amongst both littoral and land-linked nations in the Twenty-First Century. African seaborne trade has equally benefited from this growth albeit with attendant maritime security challenges, particularly within the Gulf of Guinea. Suffice to state that emerging security occurrences within the Nigerian Maritime domain stem largely from non-military causes such as socio-economic agitations and unemployed youths within the coastal communities. Their manifestations include attacks on shipping, sabotage of hydrocarbon infrastructure and maritime resource theft. There are also various forms of illicit trafficking, illegal unreported and unregulated fishing and marine pollution. As the lead agency responsible for security in the vast maritime environment, the Nigerian (NN) has initiated various programmes and operations geared towards creating a safe and secure maritime space for commerce to thrive.

Permit me at this juncture to state that Nigeria, with a coastline of about 420nm, lays claim to 200nm Exclusive Economic Zone (EEZ) in line with United Nations Convention on Law of the Sea (UNCLOS). We have also initiated the process of claiming a

350nm extended continental shelf, within the GoG. This maritime space has tremendous economic potentials due to its rich hydrocarbon deposits, fishery resources, and several port facilities which if well harnessed are capable of improving the livelihood of our population. However, despite the aforementioned prospects, the frequent abuse by diverse interests across the vast maritime domain has continued to buoy our concerns. More disturbing is the fact that many of the illicit acts at sea are directed at the economic life line of the nation, with negative impact on development and the well being of our citizens. Considering the wide expanse of the nation's maritime domain with over 3,000 creeks and the frequent mutation and transnational nature of maritime crimes, the NN has had to initiate various independent operations and collaborative efforts with relevant stakeholders to curb the menace. I am therefore pleased to join this important discussion on: Security of the Nigerian Maritime Domain- Issues and Options.

As mentioned earlier, most of the issues involved in the security of Nigeria's maritime domain stem from non-military causes which usually manifest in the form of sea robbery or piracy, economic crimes and theft of hydrocarbon resources as well as other transnational organized crimes. In the last 2 decades, piracy and sea robbery within the GoG have become a major point of discussion with the region ranked as one of the most troubled waterways. It is estimated that the annual cost of piracy to the GoG region is over USD 2 billion.

Another major issue affecting the security of the maritime domain is the poor socio-economic conditions of the people of the Niger Delta region. The region like most other parts of Africa is plagued with some level of poverty, inadequate social infrastructure especially as it relates to health, education and transport, as well as youth unemployment, among others. This makes the youth vulnerable to crimes, as they are readily available to be used as tools, by powerful maritime crime syndicates to perpetrate all forms of criminalities including oil and gas pipeline vandalism, piracy/sea robbery on merchant shipping as well as operation of illegal crude oil refineries. The economic conditions of the people of the Niger Delta region therefore portends a critical issue in the discourse of the security of Nigeria's maritime domain and, needs to be addressed expeditiously. Having apprised you some of the basic issues contending the peaceful use of Nigeria's maritime environment, let me share with this respected audience, the efforts of the NN at emplacing a viable domain for maritime business to thrive. I would begin by first highlighting some NN independent operational



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engagements established to check criminality at sea. Two of these operations include Operation TSARE TEKU an anti-piracy operation and Operation RIVER SWEEP which is an anti-Crude Oil Theft (COT) and anti-Illegal refining operation. I am glad to inform that since the activation of the anti-piracy operation 3 years ago, there has been a successive decline in reported cases of piracy/sea robbery attacks within Nigeria's maritime domain. The operation has also contributed to significant improvement in shipping into Nigeria's maritime environment as attested to by the Nigerian Shippers Council. The anti-COT and illegal refining operations also incorporates the Choke Point Management and Control Regime involving the deployment of armed personnel in houseboats designated at strategic chokepoints within the creeks to prevent any stolen crude from being taken away in ships or barges to mother vessels at sea. The Nigerian National Petroleum Corporation (NNPC) has attested to the successes of Operation RIVER SWEEP, confirming huge savings for the nation due to massive reductions in pipeline product losses between 2015 and 2018.

Apart from these 2 specifically designed operations, which are accentuated by the Choke Point Regime, the NN continues to conduct policing patrols across the nation's EEZ and territorial waters employing the advantage of its maritime situational awareness infrastructure to coordinate and direct the pattern of patrols. The Service is thus able to conduct round the clock surveillance of our maritime space using Maritime Domain Awareness (MDA) facilities in addition to surface vessels and helicopters to ensure effective electronic tracking of vessels within our maritime environment whether fitted with Automatic Identification System (AIS) or not. The systems

also serve as force multipliers, as NN patrols are more mission oriented with attendant reduction in operational logistics cost. Following the historic tracking and arrest of the hijackers of a tanker MT MAXIMUS by the NN at the fringes of Sao Tome and Principe in 2016, the Service has continued to achieve several successes using the MDA systems. For instance, in 2019 alone the MDA Systems were used to vector NN platforms to arrest over 25 vessels for suspicion of committing various infractions within Nigerian waters.

To further enhance NN surveillance and MDA network, the Service recently signed an MoU on white shipping with the Indian Navy and has recently been endorsed to join the Indian Ocean Naval Symposium (IONS) in addition to the Italian based Trans-Regional Maritime Network, which she joined in 2015. These strategic partnerships have the potential to further enhance the NN's capacity to engage with other major maritime nations particularly in areas of information sharing and relevant advisories to check criminality across the Mediterranean sea as well as the Atlantic and Indian Oceans, with positive impact on NN maritime policing duties.

To enhance maritime operations, the NN also engages regularly with various stakeholders. In particular, the Nigerian Maritime Administration and Safety Agency (NIMASA), Nigeria Police Force (NPF), Nigeria Security and Civil Defence Corps (NSCDC), Customs, Immigration and the National Drug Law Enforcement Agency have been most supportive in this regard. These engagements foster a shared vision on the accomplishment of maritime security to bolster common efforts to emplace a more conducive environment for shipping and other maritime activities. One positive outcome of such consultation is the launch of the Harmonised Standard Operating Procedures (HSOP) on Arrest, Detention and Prosecution of Vessels and Persons (HSOP AD&P) in Nigeria's Maritime Environment in January 2017. Further to the launch of the HSOP, the NN constantly engages directly with each agency on modalities for implementation, thus creating the desired synergy, resulting in arrest of over 130 vessels within the past 2 years.

The HSOP was further boosted as a legal instrument for the prosecution of maritime crimes in Nigeria by Mr President's recent assent to the Suppression of Piracy and other Maritime Offences Bill of 2019. Pertinently, the Act would serve as strategic deterrent to the commission of various criminalities within the nation's maritime environment and curtail the excesses of syndicates



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that continue to profit from sponsoring acts of piracy within the GoG. The Act also demonstrates the government's resolve to enforce maritime law within the region towards changing global negative perception of the GoG as a haven for insecurity. However, considering the transnational and migratory nature of these maritime crimes there is the need for even greater international collaboration to boost maritime law enforcement.

At this juncture, I must recognise the centrality of collaboration with other maritime nations and international maritime agencies in order to achieve successful maritime security operations. To this end, I am glad to mention that the NN has equally shown commitment to strengthening international collaboration towards improving maritime security in the GoG. In line with the intention to collectively address maritime security challenges in the global commons, the NN has supported regional efforts towards collective maritime security. Following the 2013 Yaoundé Declaration which adopted an inter-regional Code of Conduct for inter-navy cooperation between Economic Community of West African States (ECOWAS) and Economic Community of Central African States (ECCAS) States, the NN in concert with other regional navies has instituted measures to check migratory crimes. Accordingly, the navies of ECOWAS Zone E made up of Nigeria, Benin, Togo and the Gendarmerie of Niger Republic recently endorsed an MoU for combined patrol of their common maritime domain. There has also been increased collaboration between the NN and navies from other partner nations to boost synergy in addressing illegalities within the GoG.

May I also point out that despite a harsh fiscal environment at home, the Nigerian Government has remained committed to enhancing the response capability of the NN through the acquisition of more patrol vessels and aircraft. Noteworthy is the on-going fleet expansion programme which has led to addition of several OPVs, Seaward Defence Boats, induction of over 250 Inshore Patrol Boats including the strengthening of the NN air bases. The fleet recapitalization effort has enabled the NN to extend reach in support of regional effort to secure the common seas while enabling the Service better

attend to her domestic policing roles. The modest attainment by these acquisitions clearly suggests that more ships with prolonged endurance such as OPVs are needed for sustained presence at sea and the protection of critical assets in the deep offshore areas. Going forward, the NN intends to leverage such audience as today's, to strengthen discussions with international partners regarding a sustainable collaboration to collectively meet these needs.

Though the NN has in recent years renewed her fleet with new acquisitions, the fact still remains that the ships are not enough to maintain continuous presence as required to dominate the maritime space of interest. This inadequacy has resulted in information gaps making it difficult to acquire a holistic picture of the environment needed to share with relevant users. As part of effort to overcome this challenge, the NN has resorted to local ship building efforts to increase the size of her fleet. Some of the indigenous built vessels are shown on the screen. Other countries within the sub region could key into the NN's ship building effort to expand their fleet in order to move at a common and consistent pace within the sub-region. Plans are also at advanced stages to introduce Unmanned Aerial Vehicles (UAVs)/Drones thereby further enhancing operational capability.

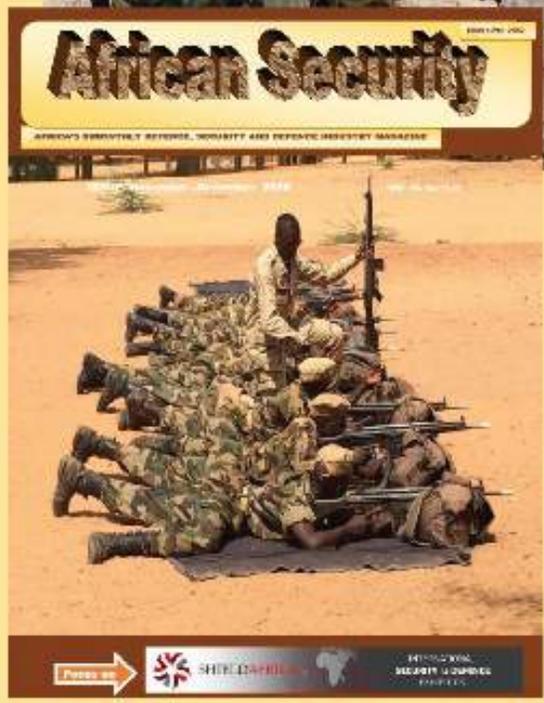
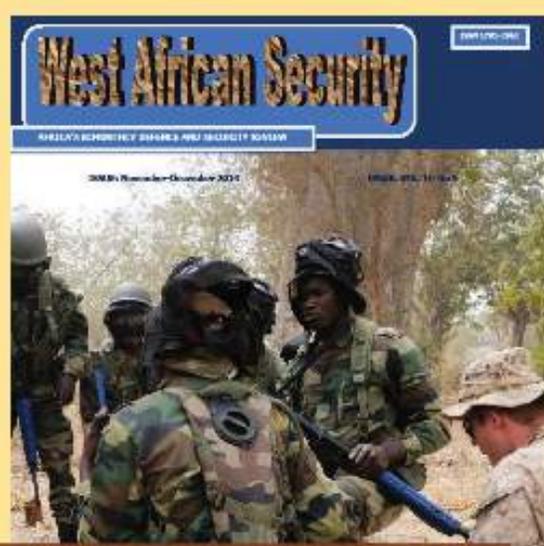
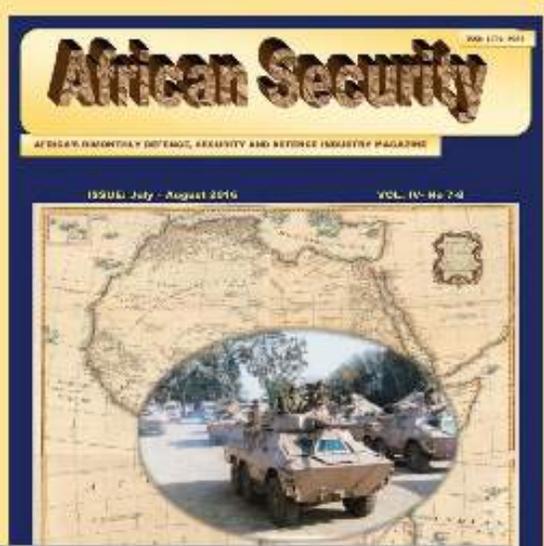
As earlier mentioned, I am glad to reiterate that recent International Maritime Bureau report reveals a progressive decline in the number of piracy attacks. Even at that, most of these attacks were not successful. The decline in successful attacks is as a result of NN intensified efforts at securing Nigeria's maritime environment. Notwithstanding, the fact that successful piracy attacks occasionally occur in Nigerian waters and indeed the GoG calls for more proactive actions by the NN and stakeholders in order to rid Nigeria's maritime environment of all forms of criminalities so that its full potentials could be realized. Let me also seize this opportunity to advice seafarers and ship owners to adopt pragmatic measures to improve their individual safety and security at sea through evasive manoeuvres, increase of speed, use of citadels as well as use of Safe Anchorage Areas (SAA) and convoy protection, where available. On a final note, once again, may I express my profound gratitude to the organisers of this Summit and this respectable audience, for granting me an opportunity to share thoughts on behalf of my boss Vice Admiral Ibok-Ete Ekwe Ibas the CNS Nigerian Navy regarding efforts at addressing insecurity within Nigeria's maritime domain. While once again reiterating the commitment of the NN to emplacing a secure maritime environment for the prosperity of Nigeria and indeed the GoG and global commons in general, we continue to count on your collective support to attain our desired objectives. I wish you all a fruitful, exciting and rewarding deliberation. Thank you most sincerely. As we say back home in the Nigerian Navy "Onward Together" and God Bless.

Abridged remarks of the Chief of the Naval Staff, Nigerian Navy, Vice Admiral Ibok-Ete Ibas at the West African Shipping Summit Held during the London International Shipping Week on 10 Sep 19. The remarks were delivered on behalf of the CNS by the Chief of Policy and Plans Naval Headquarters, Rear Admiral Begroy Ibe-Enwo.

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GHANA: GOVERNMENT SIGNS US\$200 MILLION CONTRACT FOR CONSTRUCTION OF MILITARY BASE IN WESTERN REGION



Mr. Dominic Nitiwul (3rd left), Minister for Defence with some delegates

Government has signed a contract worth US\$200 million for the construction of a Forward Operating Base (FOB) at Edzinlibo in the Western Region for the protection of the country's oil and gas infrastructure. The contract would enable the Ghana Navy to receive associated offshore patrol boats for effective maritime patrols while another contract has been signed with Gulf Frontiers for procurement of six additional patrol boats to beef up Ghana Navy's fleet.

The move follows Ghana's historic victory over neighbouring Cote d'Ivoire in 2017 at the Special Chamber of the International Tribunal of the Law of the Sea (ITLOS) in Germany, during a three-year maritime boundary dispute.

The Chamber, on Saturday, September 23, 2017, ruled that Ghana has not violated any maritime

boundary of Cote d'Ivoire and the two countries consequently signed an agreement towards the implementation of the Tribunal's ruling. The Forward Operating Base is any secured forward operational level military position commonly used for an extended period and improves the Military's reaction time during operations.

Mr. Dominic Nitiwul, the Minister of Defence, announced this when he addressed delegates at the opening of the maiden International Maritime Defence Exhibition and Conference in Accra on Wednesday.

The two-day conference, which is also marking the 60th Anniversary of the Ghana Navy, was attended by over 50 chief naval staffs in Africa and across the world, coastal guards, service chiefs, researchers, regulators and players in the maritime industry.

They will discuss maritime challenges, exchange ideas, share information and explore technological solutions to help in maintaining maritime security and safeguard the maritime domain for sustainable exploitation of the Blue Economy for national development. The delegates will share various maritime strategies to ensure a safe and secured maritime environment in the Gulf of Guinea and across the world. It is being held under the theme: "Empowering Regional Collaboration to Enhance Maritime Security and Regional Development in the Gulf of Guinea", while the Ghana Navy's 60th anniversary is being marked on the theme: "Celebrating 60 years of Naval Excellence, Securing the Maritime Domain for National Development."

There were more than 80 defence solution providers across the world exhibiting various technological solutions to maritime security threats. Mr. Nitiwul reiterated the need for all maritime stakeholders to foster collaboration to deal decisively with maritime safety and security threats. He said security threats to the maritime domain transcended borders and has the propensity to affect international trade and coastal nations, because, maritime trade constituted about 80 per cent of the global trade.

Mr Nitiwul said the African Continental Free Trade Area (AfCFTA) would not be successful, unless there was secured maritime domain, adding that, 39 out of the 55 African Union countries are coastal states.



Rear Admiral Seth Amoama, Chief of Naval Staff, Ghana Navy

past 60 years, saying that, efforts are underway to achieve maritime domain awareness through satellite imagery and other maritime solutions while the Ghana Air force was complementing the Navy with aircrafts to protect the country's maritime domain.

He said the collaboration between the Ghana Navy and other security agencies continued to yield positive results and cited the recent crackdown on the activities of fuel smuggling syndicates, as a result of that collaboration. Mr Nitiwul entreated the Ghana Navy not to rest on its oars, but should work collaboratively with other stakeholders such as the Ghana Marine Police, Ghana Maritime Authority, Ghana Ports and Harbours Authority, Ghana Petroleum Commission and the National Petroleum Corporation, as well as other stakeholders and international partners, to safeguard the country's maritime domain and make the Gulf of Guinea a more safer place.

The Defence Minister observed that the maritime sector was the backbone of the Ghanaian economy because the ports and harbours served as the gateway for more than 80 per cent of the international trade and vital for the country's revenue mobilisation. Mr. Nitiwul called for the strengthening of the African Integrated Maritime Strategy and Inter-Agency Cooperation, as well as joint and combined cooperation among maritime security agencies and stakeholders.

He believed that technological solution was critical in dealing with maritime threats, which would aid in information sharing and intelligence, and thus, expressed excitement over the presence of the technological solution providers at the conference.

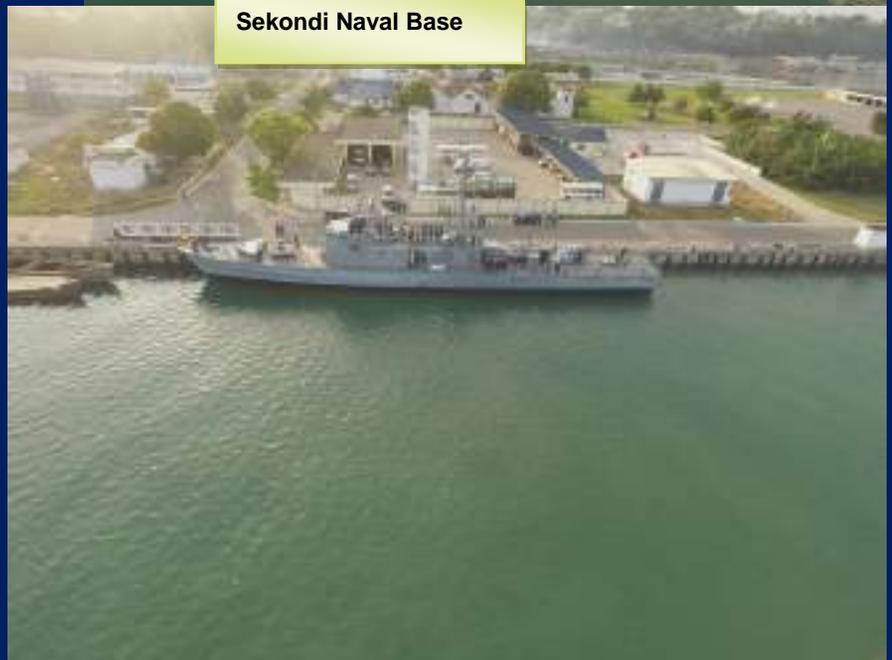
Mr. Nitiwul said the offshore oil and gas resources and its associated industries contributed immensely to the country's Gross Domestic Product (GDP) and would witness a significant increase following the discovery of more oil and gas wells. Therefore, protecting the Ghanaian maritime domain is crucial for achieving the "Ghana Beyond Aid" agenda, as espoused by the Government, he added.

Mr. Nitiwul called for swifter action to deal decisively with illegal and unregulated fishing, maritime pollution, sea robbery, illegal bunkering and litany of maritime crimes, to ensure sustainable use of the nation's maritime assets.

The Minister commended the Ghana Navy for executing its mandate of protecting the country's territorial waters with excellence over the



Sekondi Naval Base



LÜRSEN — SUPPORTING AFRICAN SECURITY

Lürssen is a German privately-owned family enterprise with over 140 years of experience in building high-quality surface naval and coastguard vessels. No other shipyard in the international market has developed, built and delivered so many naval vessels to so many countries. The Lürssen portfolio comprises customised solutions in response to individual needs for navies, police, coast guards and customs services.

EFFECTIVELY PROTECTING AFRICAN VALUES

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.

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Lürssen provides state-of-the-art solutions for every kind of challenge and threat.



Fast Patrol Boat 41

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Offering high speeds of over 40 knots, the Lürssen fast patrol boats can quickly respond to challenges. High-performing and with excellent seakeeping characteristics, these boats are ideally suited for interception and patrolling territorial waters.

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No matter how long a coastline is, coastal waters are best patrolled by the Lürssen patrol boats, which are characterised by their speed, performance and versatility. The proven design guarantees maximum reliability and endurance.



The maritime zones (from left to right):
territorial sea, coastal waters, EEZ

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Offshore Patrol Vessel 80



Exclusive Economic Zone (200 nm)

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STRONG SUPPORT FOR COST-EFFICIENT NAVAL VESSEL OPERATIONS

Lürssen offers numerous services to ensure continued operation of naval

vessels at their peak throughout their lifetime. We provide detailed documentation, reliable spare parts supply, effective training as well as maintenance, repair and refit services to maximise the potential of naval vessels. Our highly efficient services are available not only for Lürssen vessels, but also for those built by other manufacturers. We also assist in establishing maritime infrastructure and integrating ships with other platforms, systems and facilities.

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Offshore Patrol Vessel 80

Israel Shipyards Ltd.



A Pioneering Innovator in Customized Shipbuilding and Repairs for the Global Military, Law Enforcement, HLS, and Commercial Marine Markets

For over 60 years, Israel Shipyards has been a global leader in the design and construction of cutting-edge, mission-ready, and operationally-proven naval and commercial vessels – created at its ultra-modern facilities on the Eastern Mediterranean. Among the company's portfolio of solutions for seaborne interdiction and prevention of terrorist and criminal activities are its widely acclaimed Offshore Patrol Vessels (OPVs) and its speedy and highly maneuverable Law Enforcement Vessels – all in active service around the world, protecting territorial waters, coastlines, rivers and EEZs. Israel Shipyards also delivers end-to-end ship repair and maintenance services as well as integrated logistic support for all types of vessels.

Committed to Responsive, Flexible, Customer-Centric Service

According to Mr. Eitan Zucker, CEO of Israel Shipyards, "Dedicated to complete, ongoing customer satisfaction, the company rapidly supplies comprehensive, integrated solutions of the highest quality that fully meet each customer's specific needs – including the installation of all required systems.

Reflecting this commitment, the OPV 45m was recently added to the OPV Family – in order to expand the availability of vessels suited for a wide range of defense and security missions."

The Israel Connection: A Unique Advantage

The company's close ties to Israel's Navy and Defense industries provide customers with significant advantages. First, Israel's Navy is recognized as one of the most advanced in the world, known for its exceptional fire power and unequalled survivability, as well as its years of proven counter-terror experience. Equally important, the 'Startup Nation's' Defense industry develops a steady stream of global technological firsts, including ultra-smart electronics used in next-generation weapon systems.

In addition, Israel Shipyards is managed by a multi-disciplinary team of former high-ranking naval officers who leverage their shared combat experience and access to the latest defense technologies in the customized design and planning of each new vessel and repair project. The company's dedication to uncompromising quality, technological superiority, lifetime support, and competitive pricing ensures customers of the competitive edge. Customers can also benefit from Israel Shipyards' Technology Transfer programs and a range of financial support options.

The Offshore Patrol Vessel (OPV) Family

The company's advanced and cost-effective OPVs – made of steel hulls and aluminum superstructures – are designed for coastal protection, as well as drilling rigs, and offshore facilities protection. They provide a weapon-carrying capacity equal to larger, more costly vessels. Weapon control and navigation systems are installed on the command bridge, enabling centralized control by the ship's commander.

The Multi-Purpose OPV 45m – the Newest Member of the OPV Family

Recently added to the OPV line, the state-of-the-art, multi-purpose OPV 45m meets the needs of a variety of military, para-military and HLS missions, while being easy to operate and the most cost-effective solution of its kind. As an important addition to Israel Shipyards' portfolio, it is designed to carry a wide array of payloads according to mission requirements, and is equipped with advanced weapon stations, electro-optics, radar and communications systems. It provides open sea patrol and surveillance capabilities for a multitude of off-shore missions – including protecting



of environments. The SHALDAG is an all-aluminum vessels driven by water jet, with a speed of above 45 knots, even in rough seas. These vessels have acceleration from zero to 40 knots in less than one minute, a turning diameter of 150m, and minimal draft enabling operation in shallow waters. Equipped with advanced, lightweight weapons systems, they are ideal for security tasks where high intercept speeds and easy maneuverability are required without sacrificing vessel control.

The SHALDAG MK II

facilities and EEZs, anti-terror/smuggling/illegal activities' interdiction, intervention forces' boarding/landing, and close-range naval combat operations such as anti-piracy missions and Search & Rescue operations. Available in various configurations, the OPV-45 can also be equipped for minimizing illegal immigration transits, fishing protection and control, and anti-pollution activities.

The OPV 45m has an overall length of 45.7m, a sustained speed of above 24 knots, and a command bridge enabling 360° observation. For missions requiring high speed-interception, the OPV 45m can carry a Rigid-Hull Inflatable Boat (RHIB) of 7.20m. The RHIB can be launched or retrieved from the water quickly, easily, and without a crane, while the vessel is on the move. The OPV 45m's work deck is large enough to carry up to two mission-equipped 20ft containers, enabling diversified and flexible operational options. The vessel accommodates a crew of 16-21, plus an additional space for up to 24 people for missions involving Special Forces, Search & Rescue survivors, castaways, etc.

The OPV 62m

Based on the combat-proven SA'AR 4.5 design used by the Israeli Navy, the OPV 62m is versatile and mission-ready, with extensive payload capacity including stabilized weapons, medium-range missiles, ESM, and search radars. It has an overall length (LOA) of 62m, a maximum speed of 32 knots, a range at 13 knots of more than 5000M.

The helipad options have proven themselves crucial when rapid response was required during security missions at sea

The SHALDAG Fast Patrol Craft Family (FPC) for Law Enforcement

Israel Shipyards' combat-proven SHALDAG Family of Fast Patrol Craft (FPC) integrates innovations created by Israeli defense experts in response to real-life security challenges and drawing on extensive operational experience in a broad range

This is a multi-mission, combat-proven vessel designed for coastal protection as well as for rivers. It is one of the fastest FPCs in the naval arena, assisting navies, coast guards and law enforcement authorities in missions where high intercept speeds are required.

The SHALDAG MK V

This is the largest member of the SHALDAG Class. It is a combat-proven, all-aluminum, light and fast vessel with high payload capacity, providing exceptional maneuverability and seakeeping. Delivering a high firepower-to-displacement ratio, it is designed to operate in distant arenas on naval security missions and is a recognized leader in the protection of littoral and Exclusive Economic Zone (EEZ) waters.

Customized Shipbuilding

Israel Shipyards delivers complete, integrated, tailor-made solutions of the highest quality – from the vessel itself to all installed systems – according to the customer's precise requirements. Among the solutions installed on these vessels are cutting-edge weapon systems as well as command and control, electro-optics, and night vision systems. Protecting shorelines around the world, the company specializes in defense systems that prevent illegal activity and maritime terrorism and defend territorial waters and EEZs.



Russian armored vehicles: agility, effectiveness, safety

High mobility is an essential feature of modern army and special forces units. To get to a zone of heightened tension on time and eliminate its hotbed, they need powerful, low-maintenance, reliable and well-protected off-road vehicles. Today, Rosoboronexport offers customers the best armored vehicles that meet the most stringent requirements and are ready for use in extremely difficult conditions.

The Federal, Goretz and Patrol special mine-resistant armored vehicles – the Russian counterpart of the MRAP (Mine-resistant Ambush Protected) vehicles – were developed on order from the Russian security agencies. They are designed to be used during counter-terrorism operations, perform area defense tasks, assist border troops, including the transport of personnel

during the march, and protect the crew from firearms and the effects of explosive devices.

The Federal armored vehicles are based on the Ural 6x6 chassis and therefore can operate in the most extreme conditions.

Currently, Ural vehicles are in service with more than 40 countries worldwide. They have proved themselves in the African army, police and special forces units. These vehicles are adapted for use in difficult combat conditions to the extent possible. Owing to compliance with today's operational requirements and considerable component commonality, the Ural family of tactical vehicles can be effectively used for the transportation of cargo and personnel.

All vehicles of the Ural family offer a high level of off-road performance. They run trouble-free at temperatures between -50 and +50 °C.

The Federal armored vehicles provide a high level of crew protection against mines, road side bombs and improvised explosive devices in a combat environment. They feature heavy concealed armor plating contributing to preserving the life and health of personnel.

The Goretz 4x4 and Patrol 4x4 and 6x6 armored vehicles are based on the KAMAZ chassis. They also feature high reliability, maneuverability and cross-country performance, which is inherent in all KAMAZ vehicles (the KAMAZ-Master team won the Dakar rally marathon in the trucks class 16 times) and innovative approaches to protection, ergonomics and equipment.



Federal-42590



Goretz-M

All the armored vehicles (Federal, Goretz and Patrol) have a conventional layout with a load-bearing frame. The engine compartment is placed in the front of the vehicle behind an armored hood. The driver's compartment with driver and commander seats, fighting and troop compartments are behind the engine compartment. The troop compartment can accommodate 10 to 16 fully equipped troops, not counting the driver and commander. Firing ports are mounted in armored capsules for firing troops' individual weapons from inside the vehicle. Side doors and wide rear swing doors provide convenient boarding and quick dismounting of the personnel under cover of armor. Emergency/ventilation hatches are mounted in the vehicles' roofs.

The armored hull with bulletproof windows provides STANAG 4569 Level 2 protection for the crew and troops. The level of armor protection can vary depending on the vehicle's mission and tasks at hand. The hull has a V-shaped bottom, which ensures its stability when a landmine of up to 6 kg of TNT explodes. Spall liners made from aramid are mounted to the inside hull to increase crew survivability, while anti-trauma crew and troop seats are fitted with safety belts. Special equipment protects the combat crew from the effects of remote-controlled explosive devices, warfare agents and special substances.



Patrol 4x4

The vehicles are equipped with a centralized tire inflation system, communication systems and a spare wheel. Concrete beams, pits, impassable mud, steep climbs and slopes – it just seems that these obstacles are un-negotiable for the armored Urals and KAMAZs. Cruising range of the armored vehicles is at least 1000 km.



Federal-M

To ensure the habitability and survivability of the crew and troops, it is planned to install an air conditioner, heater, and potable water container.

The Russian armored vehicles can successfully perform a wide range of special tasks in various conditions, owing to their high levels of troop protection, excellent cross-country performance and sufficiently long range. They can be successfully used both in army, police, special forces and peacekeeping units in various geographical and climatic conditions, on different terrain, both on urban paved roads and in cross-country.



Patrol 6x6

TOW-2A missiles and MK82-1 Bombs for Morocco

The State Department has made a determination approving a possible Foreign Military Sale to Morocco of various TOW-2A missiles for an estimated cost of \$776 million. The Defense Security Cooperation Agency delivered the required certification notifying Congress of this possible sale on September 11, 2019.

The Government of Morocco has requested a possible sale of two thousand four hundred and one (2,401) TOW 2A, Radio Frequency (RF) Missiles (BGM-71-4B-RF); and twenty eight (28) TOW 2A, Radio Frequency (RF) Missiles (BGM-71-4B-RF), Fly-to-Buy missiles for lot acceptance testing; and Four hundred (400) M220A2 TOW Launchers and/or four hundred (400) M41 Improved Target Acquisition System (ITAS) Launchers. Also included are missile support equipment; Government furnished equipment; technical manuals/publications; spare parts; tool and test equipment; training; U.S. Government technical and logistical support, contractor technical support, and other associated equipment and services. The estimated cost is \$776 million.

The principal contractors involved in this program are Raytheon Missile Systems, Tucson, Arizona and McKinney, Texas. There are no known offset agreements proposed in connection with this potential sale.

In addition the State Department has made a determination approving a possible Foreign Military Sale to Morocco of additional F-16 ammunition for an estimated cost of \$209 million. The Defense Security Cooperation Agency delivered the required certification notifying Congress of this possible sale on September 11, 2019.

The Government of Morocco has requested a possible sale of five thousand eight hundred and ten (5,810) MK82-1 Bombs (Tritonal); three hundred (300) MK84-4 Bombs (Tritonal); one hundred and five (105) Joint Direct Attack Munitions (JDAM) KMU-572F/B Tail Kits; one hundred eighty (180) MXU-651B/B Air Foil Groups (AFG), GBU-10; four thousand one hundred twenty five (4,125) MXU-650C/B AFGs, GBU-12; four thousand three hundred and five (4,305) MAU-169L/B Computer Control Groups (CCG), GBU-10,-12,-16; and five

thousand one hundred seventy-eight (5,178) FMU-152 Fuzes. Also included are flares M-206, Flares MJU-7A/B, Impulse Cartridges BBU-36, Impulse Cartridges BBU-35/B, Bomb Sensor DSU-33C/B, chaff, bomb components, spares, repair parts, support equipment, publications and technical documentation, engineering technical and support services, and other related elements of logistics, transportation, and program support. The estimated cost is \$209 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 that continues to be an important force for political stability and economic progress in Africa.

The proposed sale will improve Morocco's capability to meet current and future threats of terror from violent extremist organizations prevalent throughout the region. Additionally, the additional munitions provided by this sale will improve interoperability with the United States and other regional allies and enhance Morocco's ability to undertake coalition operations, as it has done in the past in flying sorties against ISIS in Syria and Iraq. Morocco will have no difficulty absorbing these additional munitions and services into its armed forces.

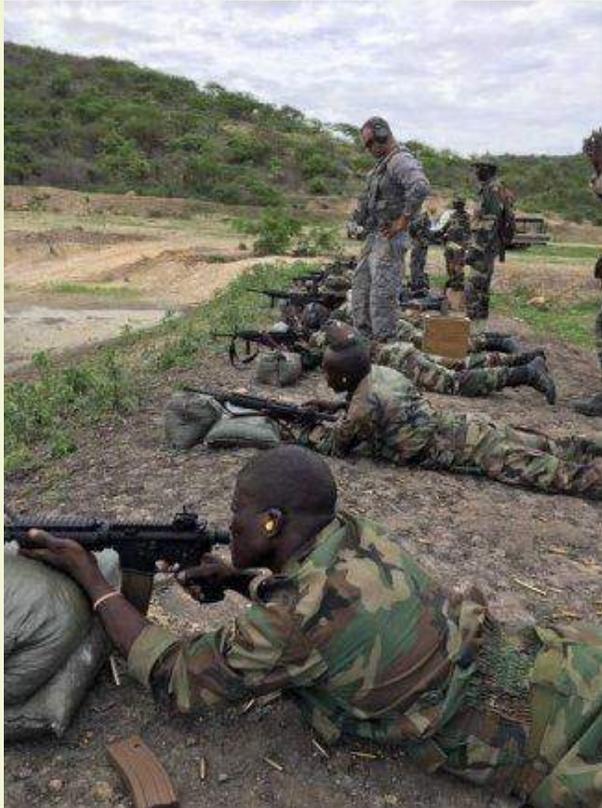
The proposed sale of this equipment will not alter the basic military balance in the region.

The principal contractors will be Raytheon USA, Orbital ATK (USA), General Dynamics, Kilgore Cheming Groupe (USA), Cheming Groupe (USA), and Kaman Precision Products (USA). The purchaser typically requests offsets, however there are no known offset agreements at this time in connection with this potential sale.



The first Moroccan F-16C block 52 #08-8001, seen on September 21st, 2010. Image: Lockheed Martin

Expedited weapon delivery to Senegal proves process



Soldiers from the Vermont National Guard train members of the Senegalese army on the M4 carbine as part of an expedited foreign military sales case.

A foreign military sales case that provided M4 carbines to partner country Senegal shows the FMS process is flexible and can be tailored to fit the need. The flexibility of the FMS process allows Army priorities and urgent requirements that involve building partner capacity to be met expeditiously. Slow is a misperception.

When a U.S. ally or partner identifies a need to purchase military items through the FMS process, it usually starts with a letter of request. In the case of providing M4A1 carbine weapon systems to the Senegalese army, the Security Assistance Command used an existing contract to meet a need to expedite delivery of the weapons. Senegal is a partner of the U.S. in promoting peace and security in Africa. Its army requested the weapons and associated training before deploying to Mali to support the Multidimensional Integrated Stabilization Mission in Mali, an ongoing United Nations peacekeeping mission in Mali.

Africa Command, the geographic combatant command, and the Defense Security Cooperation Agency identified the case as a priority and critical to supporting Senegalese units being deployed to Mali for the peacekeeping mission. The weapons

will be used to ensure security, stabilization, and protection of civilians and protection of human rights, as well as other tasks.

In June, the Defense Security Cooperation Agency approved the diversion of 2,200 M4A1 carbines. Senegal received the weapons in August. Standard lead times for procurement of weapons could be anywhere from 24 to 30 months.

USASAC coordinated delivery with U.S. government representatives in Senegal to ensure the in-country delivery address was accurate and to provide vital updates as to when weapons would arrive in the country. The Tank-automotive and Armaments Command worked the immediate release of 2,200 weapons from Colt's West Hartford, Connecticut, facility and began planning delivery in conjunction with the Transportation Command.

Under USASAC's Total Package Approach, 50 Senegalese soldiers received familiarization training on the M4 in September at the Mount Rolland Training Site, Theis, Senegal. Members of the Vermont National Guard conducted the four days of training. Vermont is a partner with Senegal under the State Partnership Program, which is a joint Department of Defense program managed by the National Guard Bureau.

The joint Air/Army team provided familiarization training on the new weapons system, which replaces the M16A1. The focus was to train the trainer so the 50 Senegalese soldiers would be able to conduct similar training in their units. Training consisted of classroom support training that enhanced safe range procedures, weapon functionality, and different firing positions and techniques and live fire ranges, where the Senegalese soldiers zeroed and qualified the weapons.

"The Vermont National Guard received this mission on short notice," Philip Sauger Jr., the central case manager for Senegal, said. "The concept of the operation was to drive toward SAF conducting safe and focused range operations that high-lighted familiarization of the M4 and enhanced pre-mobilization tasks." "The training was executed very well, and the joint team received a dedicated and focused group from the Senegalese army," Sgt. Maj. Nathan Chipman, Vermont National Guard, said. "Thirty of the Senegalese soldiers who received this training are also in the process of mobilizing for Mali operations and will be using this training to conduct further familiarization classes for their parent units."

"Various types of weapons have been provided to Senegal in the past, but this was Senegal's first FMS buy utilizing national funds since 2007," Sauger said. Senegal paid roughly \$1.6 million in national funds for the 2,200 M4s received.

(Source: U.S. Army Security Assistance Command)

Armed Forces of Liberia



Maj Gen. Daniel D. Ziankahn, Jr., (Rtd) is currently the Minister of Defense.

The mission of the Ministry of National Defense is to ensure the protection of Liberia's national interest and territorial integrity, and to protect the citizens and residents within the borders of Liberia from internal and external aggression and in extremist, to respond to natural disaster.

The Minister of National Defense is the principal administrator of the Ministry. He is assisted by two deputy ministers, administration and operations, respectively. The Chief of Staff is the one who is responsible for all units of the Armed Forces of Liberia. There are three assistant ministers within the Ministry of National Defense. They are Assistant Ministers for Public Affairs, Coast Guard Affairs and Civil Works.

Tracing its origins to a militia that was formed by the first black colonists in what is now Liberia, it was founded as the Liberian Frontier Force in 1908, and retitled in 1956. For almost all of its history, the AFL has received considerable materiel and training assistance from the United States. For most of the 1941–89 period, training was largely provided by U.S. advisers, though this assistance has not prevented the same generally low levels of effectiveness common to most of the armed forces in the developing world.

For most of the Cold War, the AFL saw little action, apart from a reinforced company group which was sent to ONUC in the Democratic Republic of the Congo in the 1960s. This changed with the advent of the First Liberian Civil War in 1989. The AFL became entangled in the conflict, which lasted

from 1989 to 1996–97, and then the Second Liberian Civil War, which lasted from 1999 to 2003.

As of 2014, the AFL consists of two infantry battalions, a Service Support Company, a Military Police Company, a Logistics Command, and the Liberian National Coast Guard.

The Liberian ground forces currently consist of two infantry battalions and supporting units. The 1st Battalion, 23rd Infantry Brigade, was formed on August 29, 2008, at the Barclay Training Center in Monrovia, and the 2nd Battalion, 23rd Infantry Brigade in December that year. Both battalions are currently based at the former Camp Schiefflin, which has now been renamed the Edward Binyah Kesselly Barracks, often known simply as 'EBK Barracks.'

As a result of the concentration of troops at EBK, the camp is overcrowded, and disturbances among the soldiers have occurred. As of mid-2009, the Ministry of Defense is attempting to alleviate the problem by relocating some personnel to Camp Tubman in Gbarnga.

The two battalions and supporting units went through training and preparation for an assessment exercise, a modified US Army Readiness Training Evaluation Program (ARTEP), which was held in late 2009. When declared operational, the 23rd Infantry Brigade was planned to be commanded by a colonel with a headquarters of 113 personnel. Supporting units were to include a band platoon (40 members), engineer company (220 strong), Brigade Training Unit (162 strong, now retitled the Armed Forces Training Command, located at Camp Ware under Major Wleh), and a military police company (105 strong). The force operates according to slightly modified United States Army practices, and uses U.S. doctrine.



Peace keeping unit returns home



Chief of Staff, Armed Forces of Liberia (AFL) is Major General Prince Charles Johnson, III

The Coast Guard was reactivated on the 53rd Armed Forces Day on February 11, 2010, with an initial strength of 40 personnel who had been trained in the United States. A United States Coast Guard officer is now serving at the U.S. Embassy in Monrovia supporting efforts to reestablish the Liberian Coast Guard.

A detachment from SeaBee Naval Mobile Construction Battalion 7, based at Naval Station Rota, Spain, constructed a United States Africa Command-funded boat ramp and concrete perimeter wall for the Coast Guard, which was handed over in December 2010.] In February 2011, the United States turned over two donated USCG Defender class boats to the Coast Guard.

The Liberian Air Force was formally dissolved in 2005 as part of the armed forces demobilization programme, though it had effectively ceased to exist during the civil war. For many years only the United Nations Mission in Liberia (UNMIL) operated military aircraft in Liberia - Mi-8 transport and Mi-24 attack helicopters from Roberts International Airport with several subsidiary locations. Ahead of its anticipated closure of UNMIL operations in March 2018, these aircraft are leaving the country. There was also a Paramilitary Justice Air Wing operating some Mil Mi-2s. This was the Liberian Air Force inventory for its entire existence.



training exercise
A U.S. Marine Corps officer speaks to AFL troops during a 2009

U.S Africa Command and the Ghana Armed Forces host 2019 North and West Africa Directors of Military Intelligence Conference



Photo:U.S. Africa Command, Director of Intelligence, U.S. Navy Rear Adm. Heidi Berg speaks during the opening ceremony of the North and West Africa Directors of Military Intelligence Conference held on September 18, 2019 at the Kofi Annan International Peacekeeping Training Center. (Courtesy photo by Courage Ahiati)

U.S. Ambassador to Ghana, Stephanie S. Sullivan speaks during the opening ceremony of the North and West Africa Directors of Military Intelligence Conference held on September 18, 2019 at the Kofi Annan International Peacekeeping Training Center. (Courtesy photo by Courage Ahiati)U.S. Africa Command, Director of Intelligence, U.S. Navy Rear Adm. Heidi Berg speaks during the opening ceremony of the North and West Africa Directors of Military Intelligence Conference held on September 18, 2019 at the Kofi Annan International Peacekeeping Training Center. (Courtesy photo by Courage Ahiati)Opening Ceremony of the North and West Africa Directors of Military Intelligence Conference held on September 18, 2019 at the Kofi Annan International Peacekeeping Training Center. (Courtesy photo by Courage Ahiati)Opening Ceremony of the North and West Africa Directors of Military Intelligence Conference held on September 18, 2019 at the Kofi Annan International Peacekeeping Training Center. (Courtesy photo by Courage Ahiati)

United States Africa Command (USAFRICOM) and the Ghana Armed Forces co-hosted the 2019 North and West Africa Directors of Military Intelligence Conference at the Kofi Annan

International Peace Keeping Training Center in Accra, from Sept. 18-19, 2019.

Directors of military intelligence attended the maiden conference, under the theme “Intelligent Support Operations,” from 17 African countries and delegations from four North Atlantic Treaty Organization (NATO) partners and AFRICOM. It focused on the dynamic Violent Extremist Organization (VEO) threat, advancement of intelligence sharing and the regional partnership to combat regional threats to peace and security.

In his opening remarks, the Ghanaian Minister for Defence, Hon Dominic Nitiwul, drew the attention of participants to the current challenges with violent extremists as the continent is scourged by transnational and organized crimes, such as terrorism, political strife, civil wars, violent extremisms, cyber-crimes and farmer-herder conflicts. The minister expressed worry at the rate of poverty, limited economic opportunities, and the rise of environmental degradation and health pandemics because of the current challenges. He charged the leaders to make up for the shortfalls in intelligence gathering and sharing by reminding them that, stabilizing North and West Africa may halt the speed of violent extremism, and safeguard the territorial integrity of the Sub-region rests with them.

On her part, the U.S. Ambassador to Ghana, Stephanie S. Sullivan commended AFRICOM and the Ghana Armed Forces for convening the conference to discuss their shared interest of regional peace and security. She raised concerns about the increase of threats and attacks from growing networks of international VEOs that has plagued the North and West African Sub-region.

She encouraged participants to take keen interest in coming out with discourse that will help protect the entire region rather than their own countries. The ambassador advised that they must strengthen their law enforcement, border security, development, health, education, administration of justice, public outreach, and good governance and private sector growth to generate jobs.

On behalf of AFRICOM, the Director of intelligence, U.S. Navy Rear Adm. Heidi Berg reinforced the importance of improving intelligence support to a collective response to violent extremism. “The foundation of intelligence sharing is trust, and the trust we build here is the trust we need in the field,” she said.

She highlighted this close collaboration between intelligence services ensures violent extremist groups cannot exploit seams between nations.

By SQN. LDR. OMANE AGYEI, GAF PR Ghana Oct 04, 2019

Tunisia to acquire twelve (12) T-6C Texan trainer aircraft

The State Department has made a determination approving a possible Foreign Military Sale to Tunisia for twelve (12) T-6C Texan trainer aircraft and related equipment and support for an estimated cost of \$234 million. The Defense Security Cooperation Agency delivered the required certification notifying Congress of this possible sale today.

The Government of Tunisia has requested a possible sale of twelve (12) T-6C Texan trainer aircraft, spare engines, cartridge actuated devices/propellant actuated devices operational

flight trainer, spare parts, ground handling equipment, support equipment, software delivery and support, publications and technical documentation, clothing, textiles and individual equipment, aircraft ferry support, technical and logistical support services, site surveys, minor modifications/class IV support, personnel training and training equipment, U.S. Government and contractor engineering, technical and logistics support services, and other related elements of logistical and program support. The estimated value is \$234 million.

This proposed sale will support the foreign policy and national security of the United States by helping to improve the defense capabilities and capacity of a major non-NATO ally, which is an important force for political stability and economic progress in North Africa. This potential sale will provide additional opportunities for bilateral engagements and further strengthen the bilateral relationship between the United States and Tunisia.

The proposed sale will replace Tunisia's aging trainer fleet and allow Tunisia to continue training pilots to support Tunisia's counter-terrorism and border security missions. Tunisia will have no difficulty absorbing this aircraft into its armed forces.

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

The prime contractor will be Textron Aviation Defense LLC of Wichita, Kansas. There is no known offset agreement proposed with this potential sale. However, the purchaser typically requests offsets. Any offset agreement will be defined in negotiations between the purchaser and the contractor.

Implementation of this proposed sale will require the assignment of nine U.S. Government and one contractor representative to Tunisia.

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 and does not mean the sale has been concluded.



The T-6A Texan II is a single-engine, two-seat primary trainer designed to train Joint Primary Pilot Training, or JPPT, students in basic flying skills common to U.S. Air Force and Navy pilots as well as to allies air forces pilots. The trainer is phasing out the aging T-37 fleet throughout Air Education and Training Command. (U.S. Air Force photo by Master Sgt. David Richards)

AFRICOM Commander Visits West Africa

U.S. Army Gen. Stephen Townsend, commander, U.S. Africa Command visited Mali, Burkina Faso and Niger Sept. 16-19, 2019 marking his first trip to West Africa since taking command in July. During the trip, he met with partner nation government and military officials to discuss defense and security issues related to the complex and evolving threat in the Sahel.

Mali



Photo: U.S. Army Gen. Stephen Townsend, commander, U.S. Africa Command, speaks to local media during a visit to Niger Sept. 18,

In Mali, Townsend met with President Ibrahim Boubacar Keïta, senior Malian military leaders and leaders of the G5 Sahel Joint Task Force. This African-led organization is comprised of five neighboring countries that respond to transnational security, humanitarian and development challenges in the Sahel. In its first year, the nascent G5 Sahel Joint Force continues to grow and make operational strides. “The G5 Sahel Force has a tough mission,” Townsend said. “Our continued assistance and partnership will help them, the Malian security forces and our other partners as they work to achieve it.” U.S. military funding to the G5 Sahel Joint Force provides equipment, training, and advisory support to allow G5 members to operate, protect, and maintain mobile infantry forces in their fight against violent extremist groups in the region. In addition to the Joint Force support.

U.S. military funding to the G5 Sahel Joint Force provides equipment, training, and advisory support to allow G5 members to operate, protect, and maintain mobile infantry forces in their fight against violent extremist groups in the region. In addition to the Joint Force support, AFRICOM provides bilateral assistance to strengthen the military, justice, and law enforcement capabilities of our G5 partners.

The primary U.S. military focus in Mali is defense institution building with the goal of positioning African partner self-sufficiency, enabling them to address and resolve issues on their own.

“Working together, our governments are better able to combat the root causes of terrorism, contain threats, and improve the prosperity and long-term stability of this beautiful country and region,” said Amb. Dennis B. Hankins, U.S. Ambassador to Mali.

Burkina Faso

In Burkina Faso, Townsend met with President Roch Marc Christian Kaboré and several other Burkinabe and allied military leaders.

Within the last twelve months, there has been an increase in violent extremist attacks in the northern part of the country near the tri-border with Mali and Niger. It was important for the commander to gain an increased understanding and assessment of the situation.



Photo: Army Gen. Stephen Townsend, commander, U.S. Africa Command, reviews Burkinabe troops during a visit to Burkina Faso Sept. 17, 2019.

“We know the security challenges in Burkina Faso are significant and wide-ranging, but we are committed to helping them improve their capacity and security capabilities,” Townsend said. “It is important for the U.S. to continue to support the international effort taking place in Burkina Faso while containing the spread of terrorism.”

While there, Townsend stressed that Burkina Faso’s security challenges requires broad political, economic, as well as military initiatives to bring about positive change. He emphasized the importance of exercises such as Flintlock and how AFRICOM provides military support to diplomatic and developmental efforts during meetings with the U.S. embassy team in Ouagadougou.

“The United States is a trusted partner standing with the government and people of Burkina Faso as they strive to create a bright future made by their own hands in the face of complex political, economic, and security challenges,” U.S. Ambassador to Burkina Faso Andrew Young said, “Our approach focuses on strengthening the capability and capacity of all elements of Burkinabè society, government, security forces, and the people themselves as they respond to these threats.”

Niger



Photo:: Army Gen. Stephen Townsend, commander, U.S. Africa Command shakes hands with Nigerien President Mahamadou Issoufou Sept. 18, 2019 in Niamey, Niger.

In Niger, Townsend met with President Mahamadou Issoufou, senior Nigerien military officers and deployed U.S. troops.

Niger’s participation in multinational operations geared at countering threats on multiple borders. Niger is one of two countries that contribute to both the G5 Sahel Joint Task Force and the Multinational Joint Task Force. Chad also contributes to both. “Niger has been a willing and engaged partner in the fight against violent extremist organizations,” said Townesend. “Niger is committed to building its defense capacity and containing and degrading terrorist networks in

Africa.” He added that one way the U.S. military supports its partners is through intelligence, surveillance and reconnaissance (ISR) collection and sharing that information with our partners.

Currently, ISR operations are conducted out of Nigerien Air Base 101 in Niamey. Upon completion of civil aviation assessments of the recently completed runway, Nigerien Air Base 201 in Agadez will offer enhanced capability to regional partners. Nigerien Air Base 201 will ultimately possess an ability to support an array of aircraft and missions to include added ISR options.

“Nigerien Air Base 201 will offer tremendous capability, agility, versatility and provides a range of security options to Niger,” said Townsend. “This capability will benefit the entire region.”

While awaiting the official assessment required by the Nigerien Civil Aviation Authority, the Nigerien Air Force and the U.S. Air Force agreed to begin flying limited operations at Air Base 201 on Aug. 1.

Ambassador Eric P. Whitaker noted that the commander’s visit underscores the United States’ commitment to training and equipping Niger’s defense and security forces to counter regional threats and deter criminal activity as a part of our strong bilateral partnership.

“Our U.S. military and defense colleagues work with Nigerien military and police throughout the country,” said Ambassador Whitaker. “Our goal is to enable Niger’s defense and security forces to develop and sustain a professional force and contribute to peacekeeping efforts.”

“Niger is a regional security leader,” said Townsend. “We believe strongly in this shared partnership and look forward to continuing our cooperation in order to bring increased security and stability to Niger and the region.”

Sahel region, Africa





Liberia and Jordan Enhance Military to Military Cooperation



Armed Forces of Liberia Chief of Staff, Maj/Gen. Prince C. Johnson III, as head of a Liberian Security delegation, has arrived in the Jordanian capital Amman, to hold discussions with his Jordanian counterpart and Chairman of the Joint Chiefs-of-Staff of the Jordanian Military, Lt. Gen. Mahmoud Freihath as he seeks to strengthen cooperation between the two countries military. The discussions centered on Jordan possible assistance to the Liberian troops serving in the United Nations Peacekeeping Mission in Mali.

The AFL Chief of Staff said his visit to Jordan is also geared towards exploring the Jordanian Defense Industry (Logistics-equipment) to support the Liberian Military in building its capacity while on UN Peacekeeping mission in Mali. During the meeting, Maj/Gen Johnson, and Lt. Gen. Freihath discussed the latest regional and international developments, as well as prospects of military cooperation and coordination on issues of mutual concern to both countries' armed forces.

The Liberian Army Chief of Staff described his meeting with his Jordanian counterpart as fruitful, stressing that his visit will further strengthen relations between the two military institutions.

Maj./Gen Johnson also hailed the roles played by the Jordanian Army and Police as part of the United Nations Mission in Liberia (UNMIL) from 2003 to 2018, which led to the nearly sixteen years of peace that Liberians are now enjoying, stating "Jordan has always been there for us even during our darkest days of war". As part of the peacekeeping mission in Liberia, the Jordanian Military Observers formed Police and Level II Hospital that was run under the auspices of UNMIL.

The Armed Forces of Liberia, which began its restructuring process in 2006 following the end of the Liberian civil crisis, deployed the first platoon size of military personnel on June 23, 2013, to Mali as part of the United Nations Peacekeeping Mission aimed at restoring peace to that West African Country following the outbreak of civil war.



NIGERIAN ARMY SUPPORTS ZAMFARA PEACE PROCESS TO SUCCEED, AS CHIEF OF ARMY STAFF VISITS THE GOVERNOR

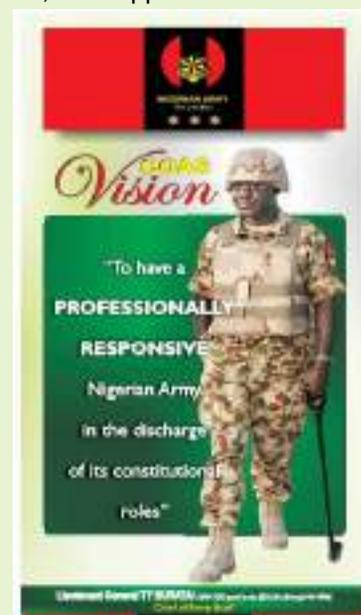


The Chief of Army Staff (COAS) Lieutenant General Tukur Yusufu Buratai has reiterated the Nigerian Army's resolve to fully support the ongoing peace process between the Government of Zamfara State and the bandits to succeed.

Lt Gen TY Buratai made the remarks when he paid a courtesy visit to the Governor in Gusau, Zamfara state. He expressed confidence in the peace process as an opportunity for the unrepentant bandits to lay down their arms and key into the peace process. He used the opportunity to call on the bandits to hand over their weapons, otherwise they will be faced with aggressive and offensive operations.

General Buratai implored the general public to continue to support the Nigerian Army by providing credible information that can assist or enhance their operations.

Recall that the Army chief was just on Sunday and Monday 6th - 7th of October 2019 in the state on operational visit to the troops in 1 Brigade Area of Responsibility where he interacted with the troops fighting bandits, cattle rustlers, kidnappers and armed robbers as well as other forms of banditry in Zamfara and adjoining communities, and charged them to decisively deal with unrepentant criminals, adhere to extant Rules of Engagement and Code of Conduct as well as respect human rights of all law abiding citizens.



Leonardo: ATR 42/72 MP successfully completes paratrooper jump demonstration

- **The demonstration confirmed the suitability of the ATR 42/72 MP aircraft to carry out paratrooper jump missions**
- **The ATR 42/72 MP multi-mission aircraft, characterized by low operating costs and high reliability of the market leader civil turboprop, adds a new capability to its current range of missions including patrol, search and rescue, passenger and cargo transport, medevac and troop transport**

Leonardo has recently carried out an experimental air activity demonstrating the ATR MP aircraft suitability to deploy paratrooper jump missions, using a door installed at the rear of the cabin.

The trials, carried out successfully at the end of July, included launching paratroopers and dummies plus demonstrating the effectiveness of recovery procedures during an emergency.

With this trial, the ATR MP confirms its versatility. The aircraft has already been chosen by many customers as it can be quickly reconfigured to carry out significantly different missions, while keeping the low operating costs and high reliability, which originate from the civil market-leading turboprop platform model ATR 42/72-600.

The ATR MP is equipped with the most modern mission, communication and sensor systems, which allows it to acquire, process and transmit or receive information in real time from command and control centers on the ground, in the air or at sea, in order to ensure the coordination and effectiveness of the operations.

The heart of the mission suite is Leonardo's ATOS system (Airborne Tactical Observation and Surveillance) that manages the vast range of sensors that the aircraft is equipped with, combines the information gathered and presents an overall tactical situation (data fusion) providing excellent situational awareness to the operators (the ATR 72 MP can board up to 4 latest generation stations).

The aircraft, which carry out missions up to 10 hours, can also be equipped with a self-protection system, fully integrated with the mission system and basic avionics.

The ATR MP is operated, in its many configurations, by the Guardia di Finanza, the Italian Coast Guard and the Italian Air Force, for maritime patrol, search and identification of surface ships, SAR (search and rescue), monitoring and intervention of ecological disasters, protection of territorial waters, as well as the prevention of drug trafficking, piracy, and smuggling. The ATR MP is also operated by several foreign customers.



Leonardo announces sales of over 600 man-portable laser designators to NATO and NATO-partner countries

- **Leonardo's Type 163 Laser Target Designator (LTD) has been a huge success due to its class-leading combination of portability and high energy output**
- **The system has been battle-proven on operations, with over 550 units having now been delivered to 16 international customers**
- **Leonardo is the world leader in the high-energy military laser market, accounting for over 70% of all airborne laser sales globally**

At the DSEI 2019 exhibition in London (10-13 September), Leonardo has announced that it has sold over 600 units of its Type 163 Laser Target Designator (LTD) to 16 customers including Italy, the U.S., Australia, Canada, New Zealand, Belgium, Denmark, Finland, France, Latvia and the Netherlands. The success of the product reinforces

Leonardo's position as the international leader in the high-energy military laser market, with the Company's Edinburgh, Scotland-based laser business accounting for over 70% of global sales for applications on airborne platforms and around 60% of all sales in total, including for ground-based applications.

The Type 163 LTD is used by Joint Terminal Attack Controllers (JTACs), the troops responsible for directing close air support. Around 550 units have been delivered to date and users of the system include U.S. Special Operations Forces. The Type 163 LTD has been battle-tested during multiple operations in the Middle East where users have benefitted from immediate and accurate target identification capabilities.

To create the system, Leonardo has drawn on its experience in building lasers for airborne applications, where size, weight and power requirements are restrictive. The result is a man-portable device which provides laser designation and range-finding in a package weighing less than 2.3kg, with a combination of portability and energy output that is still unmatched in the market, even five years since the Type 163 originally went into service.

Leonardo has now produced more than 5000 high-energy military lasers, with a significant milestone in 2018 seeing the Company delivering its 3000th laser to Lockheed Martin for programmes including the F-35, Apache helicopter and Sniper pod. Leonardo also provides the lasers for Northrop Grumman Corporation's LITENING pod and is a part of the UK Dragonfire consortium which is working to develop a Laser Directed Energy Weapon (LDEW) Capability Demonstrator Programme (CDP) on behalf of the UK Ministry of Defence.



Unmanned Aerial System (UAS)

Among the products of the South African provider of defence and security technology Tellumat is the ASTUS Unmanned Aerial System (UAS). Launched at the Africa Aerospace and Defence exhibition in September 2018, ASTUS is a medium-size, medium-range tactical surveillance UAS, suitable for lengthy day / night missions requiring real-time surveillance data collection and delivery, such as border and coastal security, environmental protection and peacekeeping missions. It can also be used in the cost-effective training of UAS crews for beyond-line-of-sight operations of larger UASs.

The aircraft has a wingspan of 5.2 metres and a maximum take-off weight of 92 kg. It is powered by a 210-cc fuel-injected 2-stroke motor providing 8 hours of optimal flight time at 5,000 feet above sea level, although noting this cruising altitude can be significantly varied if required.

Low latency payload control and monitoring is available via the ground control station (GCS). The modular and portable GCS can be networked to allow control of ASTUS by more than one pilot and more than one payload operator geographically who could be separated across very large mission areas.

Recently Tellumat successfully completed flight trials with its ASTUS unmanned aerial system (UAS).

Astus combines high-end performance, long range and persistent surveillance capabilities with ease of transportation and deployment typical of smaller systems.

Why Astus?

- Cost Effective Performance
- Low cost of ownership
- High-end capability
- Easy to Use
- Small crew
- ATOL (Automatic Take-Off and Landing)
- Rapid Deployment
- Modular system
- Transportable by two LDV and trailers
- Highly Capable
- Day/night operations, long endurance
- High definition, networked, real-time data delivery

Operator Control Unit Pilot and Payload

The OCUs are robust units housed within a waterproof container that can be deployed anywhere. The units are fitted with sunlight readable, fully HD, touch screen monitors. They provide an adaptable solution for controlling either the UAV or payload.

Ground Data Terminal

The AP-1100 is a robust two-axis automatic GPS monitoring system which provides a high precision monitoring capability within a very small form factor and allows real time control. The AP-1100 is weatherproof and can be deployed almost anywhere. The AP-1100 is integrated with the DL-5000 GDT providing a perfect solution for UAVs.

Auxiliary Equipment

The ASTUS system is provided with all the necessary support equipment and spares to allow for extended operations without external support.

Wide Applications

- Reconnaissance & Surveillance
- Border & Coastal Security
- Environmental Protection
- Peacekeeping
- Training



Switzerland selects Thales for national airspace surveillance and protection



To enable the Swiss Air Force to protect national airspace, territory and populations, Thales's SkyView system has been selected.

The selection follows an international tender process comprising a thorough evaluation of competing products, and extensive testing carried out in Switzerland.

Switzerland joins France and other NATO countries in introducing new digital architectures for its air command and control system capabilities.

SkyView has been selected by the Swiss Federal Office for Defence Procurement (armasuisse) to upgrade the country's FLORAKO air surveillance system, which provides 24/7 surveillance and protection of national airspace, territory and populations.

SkyView correlates civil and military data in real time, providing a better overall picture of national airspace and allowing faster decisions to be made.

It also enables operators to conduct air policing operations and detect and respond to all types of airborne threats.

SkyView is the culmination of 50 years of experience in air operations and has been deployed at over 80 command and control centres in more than 30 countries. It processes data from over 600 radars and interconnects with external systems via more than 60 types of interfaces. The product is co-developed with users according to a roadmap that reflects their exact requirements.

"I would like to thank armasuisse for its continued trust in us for a project that is vital to Switzerland's national sovereignty. SkyView 4.0 is an all-digital system incorporating the latest Big Data and artificial intelligence technologies, and will provide the Swiss Air Force with a highly capable solution for airspace surveillance and air command and control." Thomas Got, Thales Vice President in charge of Air Operations and Weapon Systems

Thales (Euronext Paris: HO) is a global technology leader shaping the world of tomorrow today. The Group provides solutions, services and products to customers in the aeronautics, space, transport, digital identity and security, and defence markets. With 80,000 employees in 68 countries, Thales generated sales of €19 billion in 2018 (on a pro forma basis including Gemalto).

Thales is investing in particular in digital innovations — connectivity, Big Data, artificial intelligence and cybersecurity — technologies that support businesses, organisations and governments in their decisive moments. Thales is a world leader in Air C4I systems. We develop, implement and support systems which are flexible to any operation and scalable in deployments. Our typical solution encompasses Thales Ground Master radar stations, communication means, SkyView Air Command & Control with the possible integration of legacy assets (radars, effectors) and external systems.

SkyView allows nations to maintain efficient air sovereignty with a highly reliable, single, integrated Air picture. It also enables operators to ensure 24/7 air policing, protection of a particular zone, territory or country against all airborne threats.

SkyView is an agile, evolutionary and open solution providing users with a system adapted to their current and future operational missions. The system is fully interoperable for national, joint and coalition missions. Cognitive load is optimized to support users, relieve their stress during intense operations and ease the training process.

Support and evolutions are mutualized among a large community of users.

NUROL MAKINA TO EXHIBIT ITS LAND SYSTEMS CAPABILITIES AT DSEI 2019



Nurool Makina, operating under Nurool Holding, Turkey's privately owned defense group company showcased its expertise in land platforms, at DSEI, September 10-13, 2019, which is one of the largest and most important Defence & Security exhibition in Europe.

Nurool Makina, which designs, and manufactures indigenous 4x4 armored vehicles in Turkey and all around the world, was exhibiting in DSEI for the second time and hosts their customers at, Booth No: N10-262. During the four-day long event at the Excel/London, visitors and prospective clients were provided with information about Nurool Makina's range of 4x4 Tactical Armored vehicles with superior mobility and superior mine/IED protection.

Ejder Yalcin, which was chosen by 6 countries, is showcased with a Venom RCWS from EOS and 30 mm Gun from AEI Systems. Although many configurations have been applied earlier on Ejder Yalcin, this will be the first time to be exhibited.

NMS 4x4, which has an indigenous design in terms of ballistic protection will be another vehicle to be exhibited on Nurool Makina's booth. At DSEI 2017 NMS 4x4 was exhibited as a prototype, however it

will be the first time NMS 4x4 being exhibited as a ready vehicle with Aselsan's Sarp Zafer RCWS.

Nurool Makina ve Sanayi A.Ş., established in 1976, is a defence company and an affiliate of Nurool Holding. With over 40 years of industrial and technological experience, Nurool Makina designs and produces 4x4 tactical wheeled armoured combat vehicles, armoured personnel carriers and special-purpose platforms incorporating systems that are indigenously designed and produced. Members of Nurool Makina's family of products include EJDER TOMA, EJDER YALÇIN, EJDER KUNTER, ILGAZ and NMS, each of which is a leader in its own class.

Taking life-cycle cost-effectiveness into account, and going beyond the base vehicle, Nurool Makina also offers turn-key system solutions to respond to the operational needs of the user.

Nurool Makina serves the global market with world-leading products, services and solutions within military defence and civil security. Through innovative, collaborative and pragmatic thinking, Nurool Makina develops and improves new technology to meet customers' changing needs.



Leonardo: Civil helicopter market presence grows in South Africa with new Distributorship Agreement

- **Leonardo signs new Distributor Agreement with Absolute Aviation Group. The group also signed a contract for an AW119Kx and an AW109 Trekker**
- **The first South African order for the AW109 Trekker builds on the established success of the AW109 series for a range of roles in the country**
- **The AW119Kx successfully performed a demo tour in South Africa to show its unique capabilities**
- **An additional order by a private operator for a VIP AW139 expands Leonardo's helicopter fleet in South Africa with more than 60 units of various models in service today**

Leonardo announced today the signing of a Distributorship Agreement with Absolute Aviation Group in South Africa for the civil and commercial market. The Agreement, which has the potential to be extended to other Southern African nations in the future, includes the AW119Kx single engine,

the AW109 GrandNew and AW109 Trekker light twins, the AW169 light intermediate and the AW139 intermediate twin types.

Absolute Aviation Group has also signed a contract for an AW119Kx and an AW109 Trekker, with a commitment to purchase further units from the various models in the next couple of years. Deliveries of the two aircraft are expected in 2020. The order marks the entrance of the AW109 Trekker, the newest light twin model in the Leonardo product range, into the South African market and builds on the significant, well established success of other AW109 variants in the country for a variety of roles. This latest AW119Kx order also grows the presence of the unique single engine helicopter in the country.

A ten-day demo tour of an AW119Kx was recently completed at airports in four different regions in South Africa to showcase its extraordinary capabilities in terms of performance, advanced avionics, reliability, and versatility. The demonstrations have been deemed a significant success by those attending, accounting for nearly 50 operators who have been given the opportunity to experience its best-in-class performance and power margins, the capability to fly and carry out its mission in demanding windy conditions, in addition to its outstanding safety standards.

Leonardo helicopters' success in South Africa is further strengthened by the recent contract for an AW139 helicopter in VIP configuration by a private operator. Over 60 helicopters of various models fly in the country today for both civil and government roles including

VIP/corporate transport, emergency medical service, oil and gas, harbour pilot shuttle transportation, utility and naval tasks.



Latest Damen FCS 3307 Patrol vessels for Homeland Integrated Offshore Services Limited arrive in Nigeria



The latest additions to the modern and diverse fleet operated by Homeland Integrated Offshore Services (Homeland IOS Ltd) have arrived safely in Nigeria and are now being prepared for their first assignments. The addition of these vessels brings improved capability to Homeland's squadron of Damen FCS 3307 Patrol vessels. These are deployed in the Gulf of Guinea to protect and support the offshore assets of Homeland's clients which include many of the leading international oil companies.

The two new arrivals have been built to the same proven specifications as their sisterships. Key features of the 33-metre vessels include Damen's trademark AxeBow hull form that delivers excellent fuel economy and a top speed of 29 knots together with superb manoeuvrability and first-class seakeeping. The power comes from three Caterpillar main engines totalling 3,579 kW with each driving a fixed pitch propeller via a Reintjes WVS series gearbox. Capable of accommodating up to six crew and twelve security personnel they can remain at sea for up to four weeks and travel 1,200 nm in and around Nigeria's coastal and offshore oil fields.

The security packages installed by Damen on both vessels are purely defensive. The bridges are

bullet proof and armoured 'citadels' within the hulls protect non-combatants.

In addition to their security role, each Damen FCS 3307 Patrol has a 75m² cargo deck aft rated at 2.5 tonnes/m² that adds an additional level of versatility and cost effectiveness to the benefit of Homeland's clients. The decks allow them to deliver equipment and spares to offshore installations without any impairment to their primary security role. Additional equipment specified by HIOSL includes thermal imaging sets, diesel powered SOLAS fast rescue craft and Fuel Trax fuel monitoring systems as well as redundant fuel oil separators to protect the engines and generators from contaminated fuel.

"We continue to invest in state-of-the-art vessels for our fleet so as to maintain our leadership position in servicing Nigeria's offshore oil and gas sector," said Dr Louis Ekere, Chief Executive Officer & Managing Director of Homeland Integrated Offshore Services. He went on to say; "We work with many of the international oil companies (IOCs) operating actively in the Gulf of Guinea and these new additions will support them in achieving their strategic global objectives."

Homeland was founded in 2006 to support the international oil companies operating in Nigeria's offshore oil and gas fields by providing a wide range of services both onshore and offshore.

Damen Shipyards Group operates 36 shipbuilding and repair yards, employing 12,000 people worldwide. Damen has delivered more than 6,500 vessels in more than 100 countries and delivers around 175 vessels annually to customers worldwide. Based on its unique, standardised ship-design concept Damen is able to guarantee consistent quality.



Euramec to supply Dornier 228 Flight Training Device for Cockpit and Ground crew training for KASAS Ltd in Kenya



The motion platform will be supplied by Belgium-based Motion for Simulators. With this project EURAMEC is adding full-motion simulation to its existing catalogue of Flight Training.

The full-motion will become an option in devices that are also used in Upset Recognition and Recovery Training, further improving pilot skills and maintain proficiency at the highest level of the profession. The commercial partnership with Motion for Simulators will further enhance the value of selected Euramec simulators.

Euramec designs and manufactures professional pilot training devices and simulator parts. The Euramec line of aerospace solutions include basic training aids for cockpit familiarization for Diamond DA 40 and 42, Cessna and other GA and BA aircraft types, all the way to EASA- and CAAC-certified fully functional glass cockpit solutions for the A320 Family, as well as customized real-time flight motion simulation.

Euramec builds flight simulators and delivers integrated services to commercial flight training centers, military and government agencies as well as private flying schools - providing a turnkey high-fidelity flight simulation solution to customers worldwide.

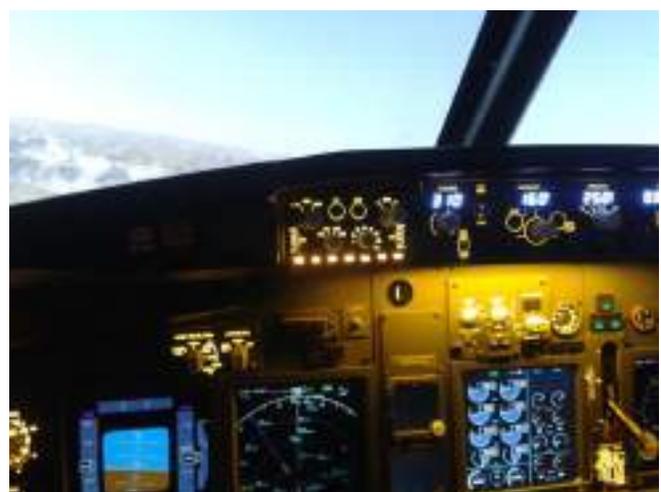
Euramec is based in Belgium with sales offices in Europe, Canada, Hangzhou, Harbin, Hong Kong and Singapore.

Euramec, the European flight simulation solution providers, is proud to announce its first Flight Training contract in Africa to provide air charter company KASAS with a Dornier 228 flight training device to conduct cockpit and ground crew training.

KASAS, formed in 2016 in Nairobi, operates 13 Dornier Do228 aircraft and also provides four Dornier 228 for third-party operators.

KASAS is considered a critical flying partner for NGOs such as the International Red Cross, Medecins sans Frontieres, Save the Children – UK, GOAL Ireland and the UN World Food Program, operating in many Central and East African hotspots.

EURAMEC is contracted to provide a certifiable Flight Training Device for training new and existing KASAS cockpit and ground crews. The Do-228 FTD will be mounted on a compact full-motion platform for full reality integration. Training is to commence early 2020.



Paramount Group Mbombe 4 Certified as One of The World's Best Protected Armoured Vehicles



- Paramount Group's Unique Flat-Floor Design Meets Stringent NATO Standards for the Protection of Personnel in Armoured Vehicles

Paramount Group, the global technology and aerospace business, has announced that the Mbombe 4x4, the newest addition to its advanced Armoured Personnel Carrier (APC) family of vehicles, has received final certification for the independently verified blast tests which exceeded the criteria for NATO STANAG 4569 – one of the highest levels of protection that can be achieved by an armoured vehicle in its class.

This announcement follows the exceptional performance of the Mbombe 4x4, which features unique flat-floor mine protection technologies pioneered by Paramount Group, during a series of explosives tests designed and executed by Landward Sciences, a programme of the Council for Scientific and Industrial Research (CSIR), South Africa's leading and independent scientific research body.

The blast tests are performed in accordance with the highest international specifications, namely, STANAG 4569, a NATO standardisation agreement that institutes benchmarks for occupant protections in vehicles such as the Mbombe 4x4, in this case including three 10 kg TNT explosions under the wheels and the hull, and one 50kg side

blast test, carried out at a 5 meter distance to imitate an Improvised Explosive Device (IED).

The Mbombe 4 was designed and developed specifically for local manufacturing in customer countries, in response to the increasing requirement from Governments for the development of their own defence industrial capabilities.

The vehicle has successfully completed a series of summer trials with several armed forces around the world. Featuring next-generation design, advanced technologies and highest levels of protection, the result of decades of real-world battlefield and asymmetrical warfare experience, the Mbombe 4x4 is ready to serve customers.

Though the Mbombe 4 is equipped for full mission capability and maximum versatility, it has a singular mission – soldier survivability. Protecting the lives of combat personnel is our utmost priority; our commitment to this cause is reflected throughout our entire portfolio. In doing so, we today serve proudly as world leaders in the research, development and manufacturing of protection technologies.

As part of the blast testing programme, the integrity of the Mbombe 4 was subjected to both intense experimentations and post-test evaluations that took several months to complete, with final inspections of the Mbombe 4 yielding outstanding results. Each of these tests is intended to validate explosives resistance and occupant protection capacities for logistics and light-armoured vehicles by pushing unmodified units to their functional limits, using expertly controlled trials and post-test evaluations.

Key features of Mbombe 4 also include an unique, rear-door ramp design, which has been proven in combat on 6x6 and 8x8 IFVs. The ease of access provided by the rear-door ensures the rapid deployment of the crew while the vehicle is static or on the move.

The Mbombe 4 performs with a burst speed of 140km/hr, an 800km operating range and an independent suspension system designed to optimally meet the increasing demand for outstanding protection yet adaptability in conventional and asymmetrical warfare alike. The mine resistant carrier is functionally versatile over challenging terrains and fully operational across a myriad of contemporary and diverse counter-terrorism, border patrol, counter-insurgency, internal security and peacekeeping missions.

Both the launch of Paramount Group's Mbombe 4 and its first customer, the United Arab Emirates were announced at the 2019 International Defence Exhibition and Conference (IDEX) in Abu Dhabi.

Denel Reaches Century in Malaysian Contract

Denel is delivering the 100th modular turret for armoured vehicles used by the Malaysian armed forces in terms of a multi-million rand export contract.

“This is an historic and significant achievement which again demonstrates our leadership role in landward defence and Denel’s capacity to produce advanced technology systems for both the local and international markets,” says Mxolisi Makhatini, the CEO of Denel Landward.

The Euro 342-million contract is the largest export contract in Denel’s history. South Africa’s small and medium defence manufacturers have been amongst the largest beneficiaries of the contract, as Denel has had to procure millions of rands worth of equipment and services from domestic suppliers in order to meet its contractual obligations. At a time when the local economy has been contracting, the direct benefit to the local defence industry underlies Denel’s importance to the South African manufacturing industry and its position as a productive national asset, which contributes to generating export revenue and jobs in the manufacturing sector.

“We are extremely proud of what we have achieved in Malaysia. Despite Denel’s constrained liquidity position and significant changes that the organization is undergoing, we have managed to stay focused and deliver the 100th turret out 122 to our client as per specification and schedule and to execute almost 98% of our Offset obligation to date. Not only this, but we have built an excellent working relationship with our Malaysian partners and we intend to build on this as we explore further export opportunities in emerging markets,” he says.

In terms of the contract, Denel Land Systems supplies 177 modular turrets in four variants that are fitted onto the Malaysian AV8 vehicles as well as 216 laser-guided Ingwe anti-tank missiles.

The contract deliverables consist of:

- -69 armoured fighting vehicle turrets fitted with G130 30mm cannons
- -54 missile turrets with combined G130 cannons and Ingwe missiles
- -54 remotely-operated weapon systems

Makhatini says the Malaysian contract has been a breakthrough for Denel as it established turret manufacturing outside of the country based on South African design and intellectual property. The variants were developed to meet the specific requirements of the client, which needs the product to be utilised in tropical and jungle conditions.

The contract requires the integration of products from some 13 different original equipment manufacturers to ensure seamless functionality. This is achieved through solid project management and sound governance in line with international best practice.



“Denel has contributed to technology transfer, capability and vendor development as well as skills transfer to ensure that it is able to meet its contractual obligations.

“Throughout the delivery process we have been able to uphold the high standards, product quality and professionalism that Denel is renowned for,” he says.

Makhatini says he is confident that successes achieved on the AV8-project will raise Denel’s profile in international defence markets, especially in the Asia-Pacific region, and will strengthen its ability to win new contracts for landward defence products.

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