The UAE’s Development and Reconstruction Efforts in Yemen

**Issue File**

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REDEFINED
The Surge of Drifting Terrorists in Yemen

By:
Staff Lieutenant Colonel / Yousef Juma Al Haddad
Editor in Chief
yas.adc@gmail.com

German philosopher Karl Marx had once said, “History repeats itself: first as a tragedy, then as a farce”, and translates to the fact that nations often pay a heavy prize for skipping valuable lessons. When the Soviets withdrew from Afghanistan and civil war erupted in the Asian nation early in the 1990s, a considerable number of foreign fighters moved elsewhere where some established terrorist hot spots, while others opted to launch armed attacks against civic and government targets, thus throwing international peace and security in great danger.

When the Soviets withdrew from Afghanistan and civil war erupted in the Asian nation early in the 1990s, a considerable number of foreign fighters moved elsewhere where some established terrorist hot spots, while others opted to launch armed attacks against civic and government targets, thus throwing international peace and security in great danger.

Foreign fighters in the Afghan war reportedly later turned into gangsters and lords of terrorist groups and organisations in Iraq, Jordan, Saudi Arabia, Egypt and elsewhere, and were basically involved, by plotting full-scale terrorist operations and wars for many years. Foreign fighters, reports and reliable academic studies maintain, who waged their war under the banner of the “Islamic State Organization” in Iraq and Syria moved out for different reasons. They never returned to their original nations, opting, instead, for fresh chaotic hot spots as playing ground for their criminal activities.

On 29 April 2014, Yemeni President Abd Rabbo Mansour Hadi, who was talking at a graduation ceremony of a new batch of police officers at the Police Academy in Sanaa, said, “70 per cent of Al Qaeda fighters in Yemen are foreigners”. He cited “morgues” at Yemeni hospitals where corpses of fighters from Brazil, Holland, Australia, France and other nations are kept.

The term “going home terrorists” was soon replaced with another now largely in circulation by strategic studies and think-tanks: “drifters”, i.e. rolling stone terrorists who keep moving to avoid any confrontation with local and international anti-terrorist forces. They never return home where the environment has become inhospitable for their activities.

A study published by the Soufan Group for Strategic Research argues that some 30,000 foreign fighters are involved in fighting in Syria and Iraq, and that 30 per cent of them left for other countries.

More and more evidence on “drifting terrorists” is accumulated, and so are the dangers of their concentration in chaotic hot spots and failing regimes.

Citing geography and traditional cultural leanings, Yemen has been a fertile ground for violence. Nevertheless, the terror wave went too far only after state control collapsed, legitimacy usurped and Iran-fuelled mutiny spread.

Some largely, and rightly, believe that the Arab coalition, led by Saudi Arabia and joined by the UAE, is designed to restore legitimacy in Yemen, smash Houthi insurgency and bring Iranian intervention under control, but many, still, fail to appreciate the dangers of Yemen being turned into a hub for “returning” and “drifting” terrorists, and offering a fertile ground for their regional and international attacks.

A main reason for the UAE involvement in Yemen under the Arab coalition is to deny “drifting terrorists” and those who lost their war against international coalition a safe and hospitable haven in southern Arabia.

So, the international community should heed that role and offer support and assistance in every form possible so that the mission currently pursued by the UAE, Saudi Arabia and the international coalition is accomplished.
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When Armor Isn’t Enough, The Crew Comes First

$2.2 Billion Boeing Deal funds Modernisation of Major Military Forces

The UAE’s Development and Reconstruction Efforts in Yemen

Reading the Signals Wrong - Electronic Warfare Wins Wars

Spotlight on NGC’s MQ-8C
The Middle East’s aviation sector is enjoying enormous interest from global manufacturers and suppliers, while regional airport owners and operators are investing massive amounts in expansion programmes. While these measures are helping to drive global aviation growth, they are also creating tremendous business opportunities. Airport expansion projects valued in excess of US$100 billion, intended to address capacity gap, are underway and planned across the Middle East, according to a recent report from business intelligence service MEED. The number of passengers at regional airports were 11 per cent higher than capacity last year. New projects would create additional capacity for 400 million passengers annually over the next 10 to 20 years, the report said. In 2016, Middle East airports posted the world’s most robust growth, recording a 9.4 per cent increase in the number of passengers passing through the airports, according to the Airports Council International (ACI).

A COMMON PLATFORM FOR AIRPORT BUSINESS

The Airport Show at Dubai International Convention and Exhibition Centre, from May 15-17, 2017, is expected to attract more than 300 global exhibiting companies and 7,500 visitors. Held under the patronage of His Highness Sheikh Ahmed bin Saeed Al Maktoum, President of the Dubai Civil Aviation Authority (DCAA), Chairman of Dubai Airports, Chairman and
Chief Executive of Emirates Airline and Group, the show is a leading B2B event for airport procurement, supplies, solutions and technology. In 2016, the event hosted 3,000 pre-scheduled meetings between buyers and exhibitors. Organisers are expecting to up these numbers by 15 per cent this year.

As investments in airport projects create new business opportunities in the region, the Airport Show 2017 will bring buyers and suppliers and manufacturers together, to tap into the opportunities, and facilitate business deals through its exclusive ‘Business Connect’ platform.

More than 200 buyers from 60 regional aviation authorities are expected to join ‘Business Connect’, a matchmaking platform that provides pre-scheduled meetings during the three-day event.

Nawaz Ahmed Toor, Admin Manager from Sialkot International Airport, Pakistan, said: Business Connect is a useful tool where service providers are brought into direct contact with Original Equipment Manufacturers (OEMs) from around the world. We look forward to exploring the latest developments in the field of airport infrastructure, ground handling equipment and IT related systems. Business Connect ensures exhibitors make strong business contacts through pre-scheduled meetings.

Airport Business Connect will feature Africa Business Connect, dedicated to African aviation officials; Airport Security Business Connect and Air Traffic Control Business Connect, which together will host more than 150 officials from regional airports, ANSPs and airport engineering departments. Also at the Airport Show, the Centre for Aviation (CAPA) is organising the fifth edition of the Global Airport Leaders’ Forum (GALF).

This year’s show will see buyers from Algeria, Armenia, Burkina Faso, Egypt, Jordan, Lebanon, Morocco, Pakistan, Qatar, Sudan, Tanzania, Kuwait, Seychelles and the UAE.

THE GLOBAL TRAVEL HUB

A surge in air connectivity by the world’s fastest growing carriers in this region, and rapidly expanding airports have turned the Arabian Gulf states into the world’s newest travel hub.

According to a study published for The Airport Show, GCC airports are expected to handle as much as 250 million passengers by 2020. Dubai is the world’s busiest airport.

The study shows that by 2025, seven billion people will be within reach of the region by a single flight. Total aircraft movements in the Middle East will reach 2.3 million in 2025.

The International Civil Aviation Organization (ICAO) expects air traffic in the region to grow 5.2 per cent annually until 2030. In addition, they are investing heavily in new aircraft, holding one-third of the global orders for Boeing 777 and Airbus A380.

The regional air transport industry contributed US$129 billion to the region’s GDP, with the UAE alone ac-
C-17A Globemaster III, the largest heavy lift aircraft can carry three times the payload of its smaller cousin, the Hercules, counting for AED145 billion. Middle East-based airlines currently account for eight per cent of the global air transport industry. The region is home to the youngest fleet in the world, with a total of more than 600 aircraft, and has the greatest number of aircraft on order anywhere in the world. Indeed, between now and 2020, the Middle East is forecast to lead world passenger traffic growth, with current travel demand up 18 per cent.

Gulf carriers, including Emirates, Etihad and Qatar Airways, hold one-third of the global orders for Boeing 777 and Airbus A380. With a current fleet of 31 A380s and a further 59 on order, Emirates is the largest global operator of this aircraft. From 2002 to 2012, Emirates ordered 151 Boeing aircraft worth approximately US$47 billion at current list prices.

The Middle East remains one of the world’s most-robust aviation regions, confirmed by a 200 per cent increase in inter-regional passenger traffic since 2007. By 2020, Emirates, Qatar, and Etihad airlines will have the capacity to carry nearly 200 million passengers: four times their current capacity.

Exhibitors at the show

Rockwell Collins
At the show, Rockwell Collins will be showcasing its growing portfolio of end-to-end solutions for airports worldwide.

Highlights include cloud-based solutions and ARINC cMUSE, the next generation cloud-native Common Use Passenger Processing System (CUPPS), designed to provide affordable, flexible airport check-in systems. With its recent acquisition of Pulse, Aero, Rockwell Collins will offer a complete line of self-service bag drop solutions, being implemented at several regional airports.

ALS Logistic Solutions
Now one of the top material handling contractors/service providers in the Gulf, ALS Logistic Solutions has installations in nearly all regional airports. Clients include government bodies, airlines, logistics groups and distribution centres. It lists Emirates Airline, Dubai Duty Free, DNATA, Abu Dhabi International Airport, Qatar Airways, Sharjah International Airport, Kuwait Airways and Saudi Arabian Airlines among its clients.

LISTA AG
Lista AG will be showcasing its new “Code Lock” and “RFID Lock” locking solutions. Both can be fitted without tools and can easily be retrofitted to existing cabinets.

In addition to the new locking systems, Lista continues to offer manual locking systems with keys. A fully automatic locking system (Auto Lock) is planned. Lista Access Control already provides a flexible and individually customisable system for electronic access control of cabinets, drawers or individual drawer compartments.

MULAG
The new MULAG anti-collision assistant helps avoid faulty operation of airport ground support vehicles. Ev-
Every year, high costs are incurred for delays and repairs caused by damage to aircraft bodies during baggage handling. Sensors at the front end of the conveyor belt recognize obstacles (such as the aircraft body). The system automatically reduces travelling speed during the approach to the aircraft and stops the traction drive immediately before the point of collision. This helps prevent damage when positioning the conveyor belt at the aircraft.

**L3**

L3’s ClearScan cabin baggage screener uses CT technology and advanced algorithms to deliver the highest level of explosives threat detection at an unprecedented false alarm rate. The aviation security system is designed to detect solid and liquid explosives, as well as HMEs, to the latest regulatory requirements, without the need for any divestment. This offers the highest level of passenger convenience, allowing for liquids and electronics to be screened while remaining in cabin baggage.

**BEUMER Group**

A leading global supplier of automated baggage handling systems, Beumer Group has extended the capabilities of its autover independent carrier system (ICS), with the launch of new autoca carriers that support a wider range of baggage sizes, from standard to out-of-gauge (OOG). The new autoca also support CrisBag totes, enabling baggage to be easily transferred between autover and CrisBag systems at the same airport.

**Ainuo Instrument Company**

This company focuses on the aircraft ground power supply system and electrical equipment testing system industries. The company has two divisions, both located in China. Ainuo’s main products series include: GPU and aircraft power supply solutions, aircraft ground power test load and aircraft battery charge-discharge equipment. It also produces electrical safety testers, motor integrated test systems, power supply automatic test systems and power analyser, to name a few.

**ERSEL**

ERSEL has been manufacturing airport ground support equipment since the late 1990s in İstanbul, Turkey. The company started with baggage carts and dollies, and today manufactures conveyor belts and cabin service trucks to major ground support providers globally.

**S4GA**

S4GA, a European manufacturer of hybrid and portable lighting systems for airfields, will introduce a revolutionary solar-powered high-intensity runway lighting for CAT I airports at the show. S4GA hybrid AGL is a complete off-grid lighting system powered by solar energy. It is used primarily on airfields.
located in remote areas with unreliable or unavailable electricity sources like deserts, jungles and islands. Hybrid airfield lighting is more reliable solution rather than conventional AGL and costs 5-7x less. Because it is elevated and does not have cables, CCRs and connectors, the risk of system failure is significantly less. Moreover, deployment time falls from a few months to one to two days.

A.ST.I.M.
This Italian hi-tech solutions provider designs and develops hardware and software, and integrates advanced technology systems with high operational performance that include radars, lasers, cameras, thermal cameras, radio data links, and many other technologies.

Frequentis
This company is an international, high-tech corporate group, which has a leading position in the global market thanks to its technological strength and ability to innovate. Around the world, control centres with safety-critical tasks rely on the company’s solutions.

Hall Technical
The company will showcase its latest innovation to help prevent aircraft tipping at the show. With dual adjustable handles and doughnut style protective bumper, the aid has a host of advantages including work load rating of 10,000 lbs, spring loaded colour operating indicators and replaceable aircraft tip.

PrehKeyTec
As a German specialist in data entry systems, PrehKeyTec develops and produces quality products for the aviation industry. PrehKeyTec is ISO 9001 and ISO 14001 certified and has more than 35 years of experience in development and manufacturing of data input solutions, such as keyboards and scanners.

AST-2 P/X
The fourth generation AST-2 is based on a completely new, compact and modular vehicle design, with a hydraulically powered steering drive for maximum traction even under low loads. The extended range of compatible aircraft, from the Embraer 170-195 to the B777-300Er, is another reason for choosing the latest generation AST-2.

ElectroAir
In 2016, ElectroAir launched its Underground Hatch PIT System. The PIT system is designed to supply power to on-board electrical equipment of aircraft and helicopters during pre-flight preparation at the airport, shop floors of aircraft industry enterprises, or a hangar. On the upper part of the hatch there are plugs situated to supply the aircraft with special currents - either 400Hz AC or 28.5VDC. On the lower part, there is a distribution box with set of sockets.

VOTI
VOTI's family of screening devices provide extremely detailed images. These features are crucial to operators since they will be able to make quick and confident decisions while effectively scanning mail, bags, parcels and cargo for threats and illicit materials. In addition to 3D perspective technology, the products offer multiple new feature sets, delivering enhanced threat detection, superior operations management, high reliability and low cost of ownership.

ALTYS Technologies
ALTYS Technologies’ SAGA is a turnkey solution for collaborative airport surface management. It provides ATC and airport operators with real-time visibility over airport surface and terminal area movements, as well as advanced statistics, reports, and alarms.

SAGA helps ensure safer airport operations through enhanced situational awareness – as well as heightened efficiency through better information-sharing among airport stakeholders. ALTYS developed SAGA in response to airports’ growing need to accommodate increased traffic flows despite infrastructure constraints.
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Patria and Schiebel have been working together to integrate Patria’s Compact Airborne Networking Data Link (CANDL) communication network onto the CAMCOPTER S-100 Unmanned Air System (UAS). The two European companies’ joint effort is the first step of an ongoing programme of work, examining how the CAMCOPTER S-100 can be deployed to directly support manned helicopter operations. Patria’s CANDL provides a solid backbone to explore the benefits of Manned-UnManned Teaming (MUM-T) operations, where the combined strengths of each air asset can be optimised to increase overall situational awareness and enhance decision-making.

“The need for networking between several assets was one of the main design drivers for CANDL. MUM-T operations are the latest trends benefitting from CANDL’s unparalleled network characteristics”, says Simo Mäkipaja, Senior Vice President, Business Development at Patria, Systems Business Unit.

“Using the unmanned element of a MUM-T operation to provide both the forward and higher altitude view will help to keep pilots and the manned assets safe as well as improve overall mission effectiveness”, adds Schiebel’s Chief Technical Officer Chris Day.

Textron Receives US Navy Contract for Two CUSVs

Textron Systems Unmanned Systems, a business of Textron Inc., recently announced that it has received a US$14.8 million contract to provide two additional fourth-generation Common Unmanned Surface Vehicle (CUSV) for the U.S. Navy’s Unmanned Influence Sweep System (UISS) programme. The U.S. Navy intends to use these two CUSV systems as part of their comprehensive Mine Counter Measure Unmanned Surface Vehicle (MCM USV) mission, which includes mine hunting and potentially mine-neutralization, as well as minesweeping.

These two additional CUSVs will join the U.S. Navy’s first CUSV, which is designed for the influence sweeping mission. This UISS CUSV recently completed initial testing and is currently undergoing additional testing off of the east coast of the U.S.

The CUSV is a multi-mission unmanned surface vehicle, capable of carrying multiple payloads, including side-scan sonar, mine neutralization, non-lethal weapons, and intelligence, surveillance, and reconnaissance (ISR) sensors. Since its first demonstration in 2009, the CUSV has successfully completed several prominent exercises with the U.S. Navy. Today, the variations of the CUSV have amassed more than 2,000 on-water operational hours. The Textron Systems CUSV team includes its Marine & Land Systems business to leverage its 48 years of naval experience and proven shipbuilding capability, alongside the company’s unmanned systems expertise. Delivery of the two CUSV systems is expected in 2018.
Boeing and US Government sign $3.4Bn Contract

Boeing and the US government recently signed a five-year, US$3.4 billion contract through which the Army, and a customer outside the US, will acquire the latest Apache attack helicopter at a significant savings to taxpayers.

This is the first multi-year agreement for the Apache "E" variant. The Army will receive 244 remanufactured Apaches while 24 new ones will go to the international customer.

“This agreement is great news for our Army, our soldiers, the American taxpayers and our industry partners, and numerous international partners,” said US Army Col. Joseph Hoecherl, the Apache Project Manager. “It is a direct result of the professional dedication and diligent efforts by government and industry teammates to provide the much needed capabilities of the world’s best attack helicopter, the AH-64E Apache, at a fair and affordable price that results in year over year savings to the taxpayer. In the hands of our trained US soldiers, the Apache’s technologies and resulting capabilities are essential to Army operations around the globe.”

Boeing builds the Apache in Mesa, Arizona. Deliveries of the “E” model began in October 2011. Seven customers outside the US have ordered this variant. Including this latest version, the US and 15 other countries have relied on the Apache during the past three decades.

SES and Thales Highlight Next-Gen Connectivity Plan

SES and Thales Alenia Space (TAS) have announced the addition of a SpaceFlex digital transparent processor (DTP) onboard the SES-17 satellite, which is claimed to enable SES to offer its mobility customers’ greater efficiency and flexibility in bandwidth management capabilities. SES and Thales Alenia Space have jointly optimised SES-17’s next-generation fully digital payload over the past year. SES-17, which was procured in September 2016, will cover North America, South America, Central America, the Caribbean and the Atlantic Ocean, and is expected to be delivered in 2020.

Equipped with close to 200 spot beams of mixed sizes, the fully digital SES-17 spacecraft will enable mobility customers to efficiently and flexibly modify their networks in real time in response to changing bandwidth demands, either on a daily schedule or in response to unanticipated changes such as weather. According to SES, this harmonisation of management of services and optimisation of service quality will enable customers to deliver high-speed broadband in a more efficient and cost effective manner.

Additional claimed capabilities made possible by the addition of the SpaceFlex DTP include an improved ability for SES and its customers to implement mesh, broadcast and multicast network configurations; improved efficiency in throughput and bandwidth use, resulting in greater price competitiveness; and new redundancy features that will deliver reliable and robust networks.

Through the DTP-enhanced satellite, SES-17’s anchor customer, Thales InFlyt Experience, is expected to enjoy enhanced flexibility and efficiency to deliver industry-leading speed and capacity.
A319neo Takes Flight

The first Airbus A319neo performed its maiden flight recently. The smallest member of the A320neo family, powered by CFM International LEAP-1A engines, took off from Hamburg and landed in Toulouse after a five-hour flight. This flight was the occasion for the crew to assess the general handling of the aircraft and to check the main systems. The A319neo, registered as D-AVWA, will be based in Toulouse in order to complete its flight test programme. The A320neo family is one of the world’s best-selling single aisle product lines with over 5,000 orders received from over 90 customers, capturing almost 60 per cent share of the market. The A320neo family incorporates latest technologies including new generation engines and Sharklet wing tip devices, which together deliver more than 15 per cent in fuel savings from day one and 20 per cent by 2020.

ADSB launches second landing craft to Kuwait MoD

Abu Dhabi Ship Building PJSC (ADSB) recently launched a 64m landing craft to the Kuwaiti Ministry of Defense. The landing craft, named “Assafar”, was handed over at a delivery ceremony held at ADSB’s headquarters in the Mussafah Industrial Area in Abu Dhabi. The vessel is designed to transport cargo, equipment, and people and deliver these loads in coastal and shallow waters.

Dr. Khaled Al Mazrouei, CEO, ADSB, said, “We are proud to deliver ‘Assafar’ to our Kuwaiti brothers. It is the latest part of a mutual agreement that was signed with the Kuwaiti Ministry of Defense in 2015 that is a testament to the strength of the relationship between the UAE and Kuwait.”

As part of the agreement, ADSB is building state-of-the-art guard vessels of varying sizes and capabilities aimed at handling the task of protecting Kuwait’s territorial waters and maritime facilities. ADSB had previously delivered five 16m five landing ships to the Kuwaiti Naval Force ahead of schedule, and it delivered a 42m landing vessel earlier this year. As part of the agreement with the Kuwait Ministry of Defense, ADSB will build and supply eight landing crafts and high-speed protection vessels. The contract is worth over Dhhs260 million (US$70.77 million), a statement said.

The vessels will be of varying sizes and capabilities, will be designed and to carry out required tasks efficiently and accurately. ADSB provides construction, maintenance and repair, refit and upgrade of a wide range of ships and offshore units including commercial vessels, rigs and offshore support vessels, dredgers and other workboats, as well as its military products range.
General Dynamics Awarded £330 million to Develop Next-Gen Battlefield Network

General Dynamics United Kingdom Limited has been awarded a £330 million contract from the UK Ministry of Defence to design and develop the next-generation tactical communication and information system as the initial phase of the MORPHEUS programme. The system will be used to plan, deploy, manage and monitor communications and information for the Army. It will allow users to integrate new radios, applications and other system components faster and with greater ease. General Dynamics will implement a new architectural approach, known as Evolve to Open (EvO), which will evolve the Bowman tactical communication (BCIP 5.6) capability into an open, modular system. The system will connect deployed tactical forces to their commanders, give improved access to powerful operational IT and simplify the user experience. The open system approach allows new technologies to be rapidly integrated to tackle emerging threats and enhance interoperability with allies. The EvO contract is the first to be awarded for the MORPHEUS programme, which will give UK Armed Forces across all three services modernised command and control networks using the latest technology.

General Dynamics UK opened its first facility in South Wales in 2001, after winning the contract to deliver the Bowman tactical communications system programme. Since then, the business has continued to expand and invest in the area, and now has three facilities in Oakdale and Merthyr Tydfil, which is home to the newly-opened Armoured Fighting Vehicle Assembly, Integration and Testing facility.

Diehl and Saab Focus on Anti-Ship Missile Cooperation

Saab recently signed a contract with the Swedish Defence Material Administration (FMV) for the development and production of the next generation anti-ship missile system. The total order value amounts to SEK3.2 billion and deliveries will take place during 2017 to 2026. The contract signed is a development programme of an anti-ship missile system in both air-launched and ship-launched configurations. The next generation anti-ship missile system will be integrated on the new Gripen E fighters and in the Visby class corvettes.

“These next generation missiles will provide the Swedish Air Force and the Royal Swedish Navy with greatly improved capabilities, compared to other missiles on the market. They will have the capability to engage any target, in all conditions”, says Håkan Buskhe, President and CEO of Saab. The missile system has an improved combat range, an upgraded target seeker, and a lower mass compared to the earlier system. It also has an ability to combat a wide spectrum of naval and land-based targets, an all-weather capability and a new design enabling future growth potential.

The new system combines proven capabilities from Saab’s anti-ship RBS15 missile family with new and enhanced capabilities. Diehl BGT Defence and Saab Dynamics jointly produce the RBS15 missile family.

The RBS15 is a missile system that has been used by navies, coastal batteries and air forces for almost 30 years. The missile system can defeat advanced threats and has a long range.
Information is the key to any nation’s defence. To protect its people and civil society, the armed forces need accurate, timely, consistent information about what is going on in the skies, at sea and along the borders that surround them.

“This complex and demanding task is made more difficult by the ever-changing landscape of threats and challenges. Defending against armed attack is one primary mission, but there are many others,” says Hans Rosén, Vice President and Head of Saab in Middle East.

Terrorism, smuggling, piracy, illegal fishing and other damages to natural resources all pose real threats to society, in peacetime as well as during times of conflict. These problems come in all shapes and sizes and can be difficult to spot. Hostile forces and terrorist groups can lurk in remote areas. They can move by air and sea using civilian traffic, rough terrain, camouflage techniques or sheer distance to conceal themselves.

For a nation, ensuring its economic interests by protecting resources such as shipping lanes and oil fields may be higher priority than fear of armed conflict.

“Whatever the national priorities, every decision and action must be driven by information; only then is command and control possible. Only airborne surveillance has the speed, flexibility and reach to provide that information from air, land and sea and only Saab has the technological expertise to deliver that information in an airborne system that is truly advanced, effective and affordable,” adds Hans Rosén.

With GlobalEye, Saab has redefined the airborne surveillance market to a new level of multi-mission capability. GlobalEye provides for the first time a Swing Role Surveillance System with the surveillance capability incorporated normally in dedicated AEW&C, MPA and SIGINT systems. It gives a unique operational and cost effective airborne surveillance and identification capacity second to none. Air-to-air, air-to-surface and air-to-ground surveillance can be done dedicated or simultaneously. Not only will this reduce the need for dedicated surveillance resources but gives the commander outstanding flexibility.

“GlobalEye’s sophisticated, high-performance AEW&C provides simultaneous long-range detection, tracking and surveillance in the air, land and maritime domains, all from a single platform. It can track very low-observable air and sea targets, including ‘stealthy’ aircraft, cruise missiles or submarine periscopes, even in heavy clutter and jamming environments,” explains Hans Rosén.

GlobalEye can work alone or easily be integrated with other national assets. It cooperates with air, land and sea forces to extend their horizons to guarantee their safety and enhance their effectiveness. The system is a true force multiplier providing information dominance and complete security across all domains. It enables Saab’s customers to stay ahead of whatever the future may bring. It is available in a several configurations, with the family member Swing Role Surveillance System for the UAE representing the very top-of-the-range.

Protecting nations with information dominance

The GlobalEye solution from Saab on contract for the UAE as its Swing Role Surveillance System, represents the high end of the spectrum of airborne surveillance and AEW&C solutions. Saab’s Erieye AEW&C solutions are in operation in eight countries, making it one of the world’s most widely used systems of its kind.
Caracal International honours martyr

Caracal International, part of Emirates Defence Industries Company (EDIC), recently announced the “Sultan Rifle” in honour of the martyr Sultan Mohamed Bin Huwaidan Al Ketbi. The martyr bravely passed away in the line of duty while taking part in the Arab Coalition’s Operation “Restoring Hope in Yemen”.

The Sultan Rifle was manufactured by one of the best designing teams of professionals and international experts in the field of assault rifles. The Armed Forces was contracted to supply more than 80,000 rifles under the name of CAR816. This rifle was displayed with the same specifications by the new title with the addition of an engraved logo of the name “Sultan”. The Martyr Colonel Sultan Mohamed Bin Huwaidan Al Ketbi, was the highest military rank to participate in the military operations in Yemen and Caracal’s decision to name one of its rifles after him is an honour.

The CAR 816 is a centre-fire, gas operated, and rotating bolt system assault rifle, chambered in NATO 5.56 x 45. It is an assault rifle designed for the high-end use of law enforcement and military applications. The weapon is available in semi-automatic and select fire configurations.

EDIC is the region’s premier integrated national defence services and manufacturing platform, providing world-class facilities, technology and support services. The company brings together the combined capabilities of the UAE’s defence industries into a single integrated platform to enhance value for clients, shareholders, partners and other stakeholders.

Once fully integrated, EDIC will comprise companies across the manufacturing, autonomous systems, mapping, maintenance, repair and overhaul, communications, logistics and technology development sectors. EDIC was established in 2014 from the integration of assets owned by Mubadala Development Company, Tawazun Holding and Emirates Advanced Investments Group.

Caracal International is a small arms manufacturer, which develops and produces a wide range of modern firearms – from pistols up to sniper rifles. The company’s products feature innovative technical solutions that are protected by internationally registered patents, and have all passed comprehensive and independent testing.

The current Caracal product portfolio includes full compact and sub-compact size pistols: 9mm carbines, sub-machine guns, assault rifles and sniper rifles. They also offer customer logistic support system (CLS) as well as technical and tactical training.
AAR, a leading global aftermarket solutions company that supports commercial aviation and government customers through two operating segments: Aviation Services and Expeditionary Services, has opened a parts warehouse at Dubai World Central (DWC) Airport. The supply chain hub closes the gap between essential aircraft components and the growing list of commercial and regional carriers operating in the Middle East.

AAR leverages its partnerships with industry-leading OEMs such as Eaton, Unison, UTAS, Meggitt and Lord to stock the warehouse with a wide array of factory-new aircraft components that are powering aircraft in the Middle East today. So when an operator has an aircraft on the ground, they can now get the needed part quickly.

“We recognized a need in the region to improve support and reduce lead times for customers and to help our OEM partners better serve local operators while reducing their overhead burden,” said Paul Richardson, AAR Vice President of Sales, Europe, Middle East and Africa.

The warehouse is a natural extension of AAR’s growing presence in the Middle East. AAR has a dedicated sales team based in the World Trade Center in Abu Dhabi and has expanded its supply chain and Airlift offerings in the region where both military and commercial aviation activity is growing. AAR recently signed a multimillion-dollar contract to provide power-by-the-hour (PBH) component inventory management and repair services to the expanding airline flydubai. On the government side, AAR provides tip-to-tail Contractor Logistics Support (CLS) for the Afghan C-130 fleet.

AAR to provide IndiGo up to 49 full ship sets for A320s

AAR also signed an agreement with India’s largest airline, Interglobe Aviation Limited (IndiGo), to provide support for landing gear overhaul services. The contract includes up to 49 full ship sets of A320 landing gear, as well as assemblies and subassemblies, for the next five years.

The agreement expands AAR Landing Gear Services’ footprint in the Asia-Pacific region and spearheads a relationship with the growing low-fare carrier, which AAR currently supports through exclusive components upon request. IndiGo currently operates 129 aircraft, which fly to 42 domestic and five international destinations.

AAR Landing Gear Services delivers comprehensive and cost-effective landing gear, wheels and brakes solutions to more than 40 commercial and military aircraft types, narrow-body and wide-body. Services include ev-
everything from complete overhauls to minor repairs, component machining, plating and painting. AAR maintains a complete inventory of OEM parts, wheels, brakes and accessories. AAR also offers on-wing service and deploys Tiger Teams to handle on-site situations around the world.

“Our quick turnaround times are one of the reasons we’ve landed several maintenance and repair contracts with low-fare and regional carriers in the past few months,” said Rahul Shah, AAR Senior Vice President, Strategic Growth and Business Development, Asia Pacific, Middle East and Africa.

Scott Ingold, Vice President and General Manager, AAR Landing Gear Services said: “We are eager to extend our value proposition to a key player in one of the most important aviation markets in the world today.”

IndiGo’s Chief Aircraft Acquisition & Financing Officer, Mr. Riyaz Peermohamed, said: “IndiGo prides itself on its on-time performance and technical dispatch reliability. AAR’s global presence and quick turn-around times will help IndiGo to continue to maintain its global standards and customer expectations.”

**AAR lands USAF contract**

AAR also won a $909,394,297 fixed-price contract from the U.S. Air Force for the Landing Gear Performance-Based Logistics One program. Work expected to be completed by 2032.

“This award is affirmation of AAR’s expertise and leadership position forged over 30 years in managing the repair, maintenance, and logistics of landing gear,” said John Holmes, Chief Operating Officer, Aviation Services. AAR will provide total supply chain management including purchasing, remanufacturing, distribution and inventory control to support all Air Force depot and field-level, foreign military sales, other services, and contractor requisitions received for all C-130, KC-135 and E-3 landing gear parts.

“AAR is a strong fit to serve as prime on this contract because we can utilize our broad range of services and facilities across the country to overhaul landing gear for these three fleets,” said Nicholas Gross, Senior Vice President, Government Supply Chain Solutions. Repair work will be done at AAR’s Landing Gear Services facility in Miami. Inventory supply and management will be handled via AAR offices and warehouses in Wood Dale, Illinois, and Ogden, Utah.

“This contract is another great example of how AAR can apply commercial MRO and supply chain best practices to help the government increase efficiencies and decrease costs,” said David P. Storch, Chairman, President and CEO.

AAR’s Aviation Services, the fastest growing segment, provides integrated supply chain solutions for military customers and commercial airlines. The company provides comprehensive fleet support solutions around the world including managing complex supply chain solutions for multiple aircraft types including C-130’s, C-40s, F-16’s, F-18’s, AV-8s, and AWACS among others. AAR’s support in this area covers a comprehensive and globally deployable capability including tip-to-tail Contractor Logistics Support (CLS) in remote locations such as Afghanistan under both Direct Commercial Sales (DCS) and Foreign Military Sales (FMS) contracts. Based in Wood Dale, Illinois, AAR employs more than 4,500 people in over 20 countries.
As part of the drive, ADNEC participated in the Langkawi International Maritime and Aerospace Exhibition (LIMA 2017), which was held in Malaysia from 21 to 25 March 2017. ADNEC showcased its exhibitions at the event to attract leading global defence industry stakeholders and unmanned systems companies.

Humaid Matar Al Dhaheri, Group CEO of Abu Dhabi National Exhibitions Company, said, “The success of both IDEX and NAVDEX 2017 as well as the previous editions of UMEX and SimTEX that took place in 2016 have encouraged us to double our efforts to constantly improve the events we proudly organise and host to deliver the best results and enhance Abu Dhabi’s reputation as a prestigious global events venue. As part of our overall strategy to promote these critical exhibitions, we have conducted studies that indicate the most successful international events at which we need to be present.”

ADNEC’s promotional campaign also introduces international exhibitors to the benefits of participating in large-scale events by providing a unique opportunity to meet decision makers, industry leaders, customers and buyers in the Middle East.

Al Dhaheri added, “In addition to IDEX and NAVDEX 2019, we are currently focusing on the third edition of UMEX and the second edition of SimTEX, especially following the great success we have witnessed during the previous editions that saw the participation of more than 90 exhibitors and 5,000 visitors from all over the world.”

Saeed Al Mansouri, Director of IDEX and NAVDEX revealed that the next edition of both exhibitions is witnessing a great demand by decision makers and specialists as well as major international companies. The total area of the exhibitions is expected to significantly increase compared to the area allocated to the same events during previous editions, which amounted to 13,000 square metres.

Al Mansouri added that in conjunction with and on the sidelines of UMEX, another exhibition entitled “Simulation & Training Exhibition and Conference” will drive complementary support for the unmanned systems sector. Furthermore, engaging in simulations and training for unmanned systems is crucial to better equipping members of the Armed Forces and various defence establishments in their efforts to maintain security, protect borders and develop their readiness to face future challenges and dangers.

The two exhibitions will be accompanied by a specialised international conference, attended by high-profile decision makers, military and civilian defence experts, who will discuss several issues in the unmanned systems, simulation and training space.

The number of exhibitors has also increased from 34 in the inaugural edition of UMEX in 2015 to 90 international and local companies in the last edition, representing an increase of 160 per cent. Additionally, the event drew participation from 22 countries in comparison to 14 countries in the debut edition, registering a 60 per cent growth.

On the other hand, the number of companies participating in the live shows accompanying the exhibition, which was held at Al Ain International Airport, increased to eight companies compared to four companies in the previous session. The UAE Armed Forces announced Dh2.45 billion worth of deals during the two exhibitions.
When Armor Isn’t Enough, The Crew Comes First

The concept of a modern battlefield’s frontline has disappeared as ground forces face an increasingly complex and lethal threat environment. IEDs large enough to disable main battle tanks endanger isolated supply routes and dense urban terrain can be turned into traps for the most heavily armored units. Yet ground forces must carry out combat and logistics missions anywhere, irrespective of risk. Therefore, tactical wheeled vehicles need to be ready for ever-changing threats, and to meet a commander’s tactics to accomplish his mission.

Balancing payload and protection is no small feat. As George Mansfield, Vice President of International Programs from Oshkosh Defense states, “Given the nature of irregular or asymmetric threats, there is no safe area on the modern battlefield. Vehicle design must evolve to ensure survivability does not compromise mission accomplishment.”

Yet not all tactical wheeled vehicles are created equal. Survivability depends on much more than heavy armor. There is no better example than Oshkosh’s Core1080 concept on its M-ATV and JLTV vehicles. This game-changing departure from the industry’s conventional “truck” engineering design philosophy is already a proven concept in motorsports.

Formula One engineers employ a comprehensive approach toward driver safety, where speed and safety must coexist amid no-holds barred competition which can produce crashes subjecting drivers to over 28 G-forces, or gravity forces. When a driver crashes into a track wall, the car’s carbon fiber nose and suspension immediately deform as they dissipate the impact’s energy through the chassis and survival cell. The seat and harness keep the driver in the survival cell and reduce impact force. No fuel lines pass through the cockpit area but as a precaution nearby safety workers remotely activate an onboard fire-suppression system. Once the car stops, the steering wheel easily disengages for driver egress. As the driver safely looks on, the crumpled chassis is testament to the myriad of lifesaving safety technologies at work.

Like with Formula One, speed is crucial for ground forces. Off-road and on-road maneuverability enabled by modern, independent suspension systems are essential to evading irregular warfare threats. Low-emission integrated onboard connectivity allows rapid decision-making and improved situational awareness during high-stress situations. But the vehicle must be survivable when the worst happens. At the instant of an IED detonation, the explosion’s force slams the underside of the M-ATV hull, destroying the wheels and other chassis components. The 16,000 to 19,000kg combat-loaded vehicle lifts slightly skyward as blast gasses are vented and fragments divert away from the crew. Inside the vehicle’s protected compartment, harnesses, flooring, and seats prevent the explosion’s effects from harming the crew. Automatic fire extinguishers suppress the potential of an electrical fire and fuel tanks are rendered inert to prevent a secondary explosion. Ammunition, radios, and stowed gear remain secured to racks instead of bouncing around the vehicle. The shaken but uninjured crew exits through multiple egress points. The vehicle is no longer drivable, but the core protective capsule is intact—and the most important battlefield resource, the soldiers, are safe.

Wheeled vehicle combat-worthiness based upon up-armoring and up-fitting modifications risks unnecessary losses. Today’s threat environments necessitate much more than heavier armor – they require putting the crew first.
In a deal worth US$2.2 billion, the forces have revealed plans to modernise their global maritime patrol capabilities through the contract, awarded March 30.

As well as the initial 17 aircraft, due to be delivered from 2017 onwards, the agreement includes options for 32 additional aircraft, as well as money for long-lead parts for future orders. After exercising all options, the total contract value will be $6.8 billion.

This comprehensive award reflects a commitment by Boeing and the US Navy to achieve pricing and production stability, two keys for successful programme performance.

The Navy will receive 11 aircraft, while Australia will expand its P-8A fleet with four more. The UK’s first two P-8A jets are part of the agreement, with first delivery set for 2019.

**A Superior Surveillance Aircraft**

The P-8A Poseidon is a long-range anti-submarine warfare, anti-surface warfare aircraft. It can perform intelligence, surveillance and reconnaissance missions, and is capable of broad-area, maritime and littoral operations.

A derivative of the next-generation 737-800, the P-8A combines superior performance and reliability with advanced mission systems. It is militarised with maritime weapons, a modern open mission system architecture, and commercial-like support for affordability.

In June 2004, the US Navy announced the selection of the Boeing multi-mission maritime aircraft, 737 MMA, and awarded a contract to Boeing for the system development and demonstration phase of the programme for the US Navy’s next-generation maritime surveillance aircraft. The aircraft was given the designation “P-8A” in March 2005.

In June 2005, Boeing announced the design of the P-8A’s wingtips was changed from a blended winglet to a backswept wingtip, manufactured by Stork Aerospace of the Netherlands. The internal weapons bay is installed beneath the forward section of the fuselage. The 737-900-style wings are built with hardpoints for carrying air-to-surface missiles.

Up to 117 P-8A MMA aircraft may be
purchased by the US Navy to replace the fleet of 196 P-3C Orion maritime patrol aircraft, which are approaching the end of their operational lives. Initial operational capability of the P-8A was achieved in November 2013.

RAAF and Poseidon

Australia’s government announced the acquisition of eight P-8A Poseidon maritime surveillance aircraft for the Royal Australian Air Force (RAAF) in February 2014. The $4bn contract includes an option for four additional aircraft. The new RAAF aircraft performed a four-hour flight in the vicinity of the naval air station in April 2015. Delivery of the first P-8A will take place in 2017 and all eight aircraft will achieve full operational capability in 2021.

Cockpit and flight management systems

The flight management system and the stores management system were developed by Smiths Aerospace. The flight management system is based on an integrated open architecture, and will be compatible with future upgrade systems. The cabin is fitted with up to seven operator consoles.

In March 2008, Boeing selected L-3 Wescam to supply the MX-20HD digital electro-optical and infrared multispectral sensor turrets for the P-8A Poseidon. MX-20HD is gyro-stabilised and can have up to seven sensors, including infrared, CCDTV, image intensifier, laser rangefinder and laser illuminator. The aircraft is equipped with an upgraded APS-137D (V) 5 maritime surveillance radar, and signal intelligence SIGINT system developed by Raytheon. It provides a synthetic aperture radar (SAR) mode for imaging, detection, classification and identification of stationary ships and small vessels and for coastal and overland surveillance. There’s also a high-resolution imaging synthetic aperture radar (ISAR) mode for imaging, detection, classification and tracking of surfaced submarines and small, fast-moving vessels that operate in coastal waters. Periscope detection uses high-scan speeds, high-pulse repetition frequency and features a high-resolution mode with advanced sea clutter rejection.

Raytheon is offering the new global positioning system with anti-jam, integrated friend or foe and towed decoy self-protection suites, along with a broadcast information system (BIS) and secure UHF satellite communications. The P-8A is also fitted with a CAE advanced integrated magnetic anomaly detection (MAD) system. The aircraft carries a rotary sonobuoy launcher with pneumatic ejection, developed by EDO Corporation. Data links are being developed by Northrop Grumman Information Technology division.

Weapons on the multi-mission maritime aircraft

The P-8A can carry lightweight Raytheon Mk.54 anti-submarine torpedoes. It can also carry other torpedoes, missiles, free-fall bombs, depth charges, mines, or sonobuoys in its rotary integral weapon bay, beneath the forward section of the fuselage.

Air-to-surface and air-to-air missiles, such as harpoon anti-ship missiles, SLAM or AGM-65 Maverick land attack missiles, and AIM-9 Sidewinders or AIM-120 AMRAAMs can be carried on the underwing hard points.

Countermeasures

Northrop Grumman is supplying an electronic warfare self-protection (EWSP) suite, including a Terma AN/ALQ-213(V) electronic warfare management system (EWMS), a directional infrared countermeasures (DIRCM) set, a radar warning system and a BAE Systems countermeasures dispenser system.

Aircraft Performance And Engines

The aircraft can cruise at high altitude at nearly 926km/h (500kt) and loiter at a speed of 333km/h (180kt) over the sea at 60m. The aircraft has two CFM International CFM56-7B27A high-bypass turbofan engines, each rated at 120kN. The same model CFM56-7 engines power the Boeing 737 airborne early warning and control aircraft, in production for Australia and Turkey, and the US Navy’s C-40 Clipper transport. The engine has logged more than 30 million flight hours and maintains a proven high-reliability figure of merit.
**P-8 Quick Facts**

- For the P-8, Boeing uses a first-in-industry in-line production system, leveraging the best of Boeing Commercial and Boeing Defense for development and production.
- The P-8 can fly up to 41,000 feet and travel at speeds of up to 490 knots.
- The P-8 offers higher reliability—the 737 has a 99.8 percent dispatch rate, with more than 4,000 aircraft flying, and 6,600+ orders.
- The P-8 is engineered for 25 years/25,000 hours in the harshest maritime flight regimes, including extended operations in icing environments.
- The P-8 can fly in all flight regimes, and can self-deploy up to 4,500 miles from base without refueling.
- Dual CFM-56B commercial engines each provide 27,000 pounds of thrust, greatly enhancing climb and flight characteristics over turboprop-equipped aircraft.
- Each engine is equipped with a 180KVA engine driven generator. Combined with the 90KVA commercial APU, this provides 450KVA of power. The P-8 possesses significant growth capacity for equipment, with excess onboard power and cooling capacity.
- The P-8 has twice the sonobuoy processing capability and can carry 30 per cent more sonobuoys than any maritime patrol and reconnaissance aircraft currently flying.
- It has the ability to control unmanned air vehicles (Level 2 control-receive) to extend sensor reach.
- The P-8 offers commonality with the 737 fleet and other military platforms that use the 737 airframe.

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Reports

Of 0.003% in-flight shut down rate for every 1,000 hours of flight. Additional fuel tanks are installed in the aft baggage hold, providing a total maximum fuel capacity of 34,096kg.

**Orders And Deliveries**

In July 2007, the Australian Government was approved to participate in the cooperative development of the P-8A Poseidon. The P-8A would replace the Royal Australian Navy’s fleet of P-3C Orion aircraft. A memorandum of understanding was signed for production and development of the aircraft in March 2012.

In January 2009, India placed an order for eight P-8I long-range maritime reconnaissance and anti-submarine warfare aircraft. The Boeing P-8I Neptune is a version for the Indian Navy. Boeing opened a new production facility at Seattle in November 2010 to support the manufacturing of the P-8A and P-8I. Production of the P-8I began in December 2010. Deliveries to the Indian Navy began in December 2012, concluding in October 2015. There is also a Boeing P-8 Airborne Ground Surveillance (AGS) version. In July 2016, India signed a contract for four additional P-8Is.

In January 2011, the US Navy placed a $1.6bn low-rate initial production (LRIP) contract for six P-8A aircraft. The contract also includes provision of spare parts, logistics and training devices. Boeing was awarded a $1.7bn LRIP contract for seven aircraft in November 2011. A further $1.9bn contract for 11 P-8As was placed by the US Navy in September 2012.

In February 2014, Boeing received a $2.4bn contract from the US Navy for the delivery of 16 P-8A Poseidon aircraft.

Eight P-8A Poseidon maritime surveillance aircraft were delivered to the Royal Australian Air Force (RAAF) in February 2014. The $4 billion contract also includes an option for four additional aircraft. All eight aircraft are expected to achieve full operational capability by 2021.

Boeing has delivered 53 Poseidons to the US Navy and two to the Royal Australian Air Force.

Reference Text/Photo:
www.boeing.com

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Crew members aboard a P-8 Poseidon assist in a search operation