

# SHOW BUSINESS



FOUNDED BY

الهيئة العامة  
للصناعات العسكرية  
General Authority  
for Military Industries



## PARTNERSHIP IS GROWTH KEY

Strategic partnerships in the defence field will contribute to Saudi Arabia's drive to increase the localisation of industries and employment, the IISS Riyadh Defense Forum heard yesterday.

Around 60 initiatives, involving governments, the private sector and academic institutions, are scheduled to be launched by Saudi Arabia in the next few years as it builds up its defence sector, said H.E. Ahmad Al-Ohali, Governor of Saudi Arabia's General Authority for Military Industries (GAMI).

Al-Ohali said that there would be a huge increase in R&D spending by Saudi Arabia over this decade, from less than 1% to around 4% by 2030.

Fenella McGerty, senior fellow for defence economics at the International Institute for Strategic Studies, the event's organisers, said that, at present, Saudi Arabia was estimated to currently spend just 0.2% of its defence budget on R&D. Expanding that to 4% would take it to the level currently achieved by nations such as France and the UK.

Al-Ohali added that the drive to increase the importance of

▶ CONTINUED ON P9

H.E. Ahmad Al-Ohali  
– Saudi defence industry  
is making good progress



أكد معالي المهندس أحمد بن عبدالعزيز العوهلي محافظ الهيئة العامة للصناعات العسكرية على أهمية الشراكات الاستراتيجية وتعزيزها لتطوير قطاع الدفاع في المملكة العربية السعودية. جاء ذلك قبل افتتاح معرض الدفاع العالمي الذي تنظمه الهيئة في الرياض حيث من المتوقع ارتفاع الإنفاق على عمليات البحث والتطوير لتمثل 4% من ميزانيات الدفاع مع حلول عام 2030 وهي نسبة شبيهة بأسواق الدفاع الكبرى مثل فرنسا والمملكة المتحدة مقارنة بأقل من 1% حالياً علماً أنه يوجد أكثر من 60 مبادرة بحثية سيطلقها القطاعين العام والخاص في المملكة. وللعنصر النسائي مستقبلاً واعدت حيث من المتوقع ارتفاع مشاركتهم بالتزامن مع ارتفاع ميزانيات الدفاع والأمن بما فيها البحث والتطوير، الأمر الذي سيساهم في تقدم اقتصاد المملكة العربية السعودية ككل.





When you integrate data  
from every domain...

You win from every angle.

The future battlespace calls for future-forward solutions. That's why Lockheed Martin aims to connect every system across every domain. With integrated advanced sensors, network connectivity and data analysis, you can gain insights to make critical decisions in a split second. So while the enemy is outpaced and outmaneuvered, you win in every domain.

[Learn more at lockheedmartin.com](http://lockheedmartin.com)





# SECURE, MULTI-DOMAIN TRAINING IS HERE



## Low-risk, qualified and available today

The Collins Joint Secure Air Combat Training System (JSAS) brings encrypted, high-fidelity Live, Virtual and Constructive (LVC)-enabled air combat training to the front line now. JSAS provides the first certified, four-level multiple independent levels of security (MILS) training equipment in both airborne and ground applications for tethered and autonomous operations.

[collinsaerospace.com/JSAS](http://collinsaerospace.com/JSAS)

### JSAS CAPABILITIES

- In use with USAF/USN on CRIIS and TCTS II programs
- Interoperable with P-5, F-15, F-16, F-18 and F-35
- High-capacity, encrypted networking enabling LVC when desired
- Exportable to FVEY and other countries upon approval

 **Collins Aerospace**

Collins Aerospace is a Raytheon Technologies Business  
© 2022 Collins Aerospace

Daily news updates on [timesaerospace.aero](http://timesaerospace.aero)

## Saudi Arabia's flag carrier today

One giant helicopter is flying the flag for Saudi Arabia at the World Defense Show this week.

The Sikorsky S-92 serves Saudi Arabia's President of State Security (PSS) – it is the biggest helicopter operated in the Kingdom. There are 17 in service providing search and rescue divided between at least four bases, that have been in service for around 13 years now. They are used to fulfil special forces support as well as VIP/VVIP transportation with the ability to carry up to 19 passengers. The example flying the Saudi flag was fitted with a Spectrolab Nitesun searchlight on the port side and L3Harris MX-15 electro-optical/infrared turrel on the right.

Saudi Arabia is among 12 nations to

have selected the S-92 helicopter for the head of state mission. While it isn't a common sight with the military or para-military forces over 300 production S-92 have now been delivered, many serving in the oil sector. With a relatively new advanced Health and Usage Maintenance System (HUMS), Lockheed Martin, which now owns Sikorsky, reckons it has brought a new level of reliability.

The PSS also operates 23 Airbus Helicopters H145s, with at least three on show at WDS. There are also three Sikorsky S-70is, used for utility transport and border protection tasks, that were delivered via airfreight from PZL Mielec where they are built in Poland, on July 27, 2011. ▲

الهليكوبتر العملاقة  
سيكورسكي S-92  
تطوف أجواء معرض  
الدفاع العالمي في الرياض

17 طائرة مروحية من هذا الطراز في الخدمة بالملكة العربية السعودية منذ أكثر من 13 عاما بقيادة رئاسة جهاز أمن الدولة وفي 4 قواعد مختلفة حيث تتميز بنظام صيانة وصحي مرن ضمن عمليات البحث والانقاذ بالإضافة الى استعمال كبار الشخصيات نظرا الى امكانية نقل 19 شخصا.

لدى رئاسة أمن الدولة 23 هليكوبتر أخرى من طراز إيرباص H145s واثنين من طراز سيكورسكي S-70is علما أن شركة لوكهيد مارتن العملاقة تملك شركة سيكورسكي.

▲ A PSS Sikorsky S-92 will be the flag carrier at the opening ceremony on today.

### ▲ NEWS IN BRIEF

#### CZ extends firearms range

Czech firearms company, Česká Zbrojovka, known worldwide as CZ, is showcasing a range of its military firearms (Stand L14 – Hall 1). Among the pistol carbines on display is the formidable CZ Scorpion Evo range. It includes the lightweight Evo 3 A1 automatic with a patented blowback design, noted for accuracy in all modes of fire. The company is also highlighting several of its robust CZ Bren 2 series of automatic rifles in 5,56x45 calibre of different lengths, 7,62x39 calibre and the 7,62x51 NATO calibre.

#### Milkor drives growth to India

The Milkor Group continues its global expansion, making its first steps into the Asian market by establishing manufacturing facilities in India. The turnkey defence solutions company also announced future plans for Milkor Defence Private Limited to set up capability in Aligarh Node, Uttar Pradesh Defence Industrial Corridor. The South African company has taken possession of 10 acres of land with support from UPEIDA and is in the process of submitting building plans for their state-of-the-art facility.

The move into Asia follows the company's opening last month of their new office in Saudi Arabia in support of the Vision 2030 policy, which aims to localize 50% of military expenditure within the Kingdom. Milkor Group now has offices in New Delhi, Abu Dhabi, Riyadh, and in both Johannesburg and Cape Town in South Africa.

 **SHOW BUSINESS**

Visit our editorial office at stand 1020 or email us at [news@arabianaerospace.aero](mailto:news@arabianaerospace.aero)

Arabian Aerospace Show Business is published by Times Aerospace Publishing Ltd

Director of content Alan Peaford  
Arabic editor Saleh Jafah  
Editorial Jon Lake, Alan Warnes, Alan Dron, Jay Menon, Sam Basch, Richard Scott.  
Picture editor Ian Billinghurst  
Photographer Jeff Holmes  
Design & production Alexis Rendell  
Distribution Ethan Cobbing  
Printed by Marina Press, Riyadh

Times Aerospace TV  
TATV producer Ian Billinghurst  
TATV production Jill Stockbridge, Simon Temple  
Publisher Mark Brown  
[mark.brown@arabianaerospace.aero](mailto:mark.brown@arabianaerospace.aero)  
Marketing & circulation Clare Brown  
[clare.brown@arabianaerospace.aero](mailto:clare.brown@arabianaerospace.aero)  
Display advertising Grant Lee  
[grant.lee@arabianaerospace.aero](mailto:grant.lee@arabianaerospace.aero)

Advertising TIMES  
Aerospace Publishing Ltd  
3-4 Rumsey House, Locks Hill,  
Rochford, Essex SS4 1BB, UK  
+44(0)1702 53 0000

Content Aerocomm Limited, Norths,  
Rectory Road, Orsett, Essex RM16  
3JU, UK  
+44 (0) 208 133 3420

DISTRIBUTION SUPPORTED BY

 **ALSALAM AEROSPACE INDUSTRIES**

AND

 **ARX** Aerospace and Defense





# Hunter Killer

With a weapons configuration of **air-to-air missiles** and **wing-mounted cannon pods**, an onboard suite of **multi-spectrum search and track sensors**, long range **optical and radar surveillance systems** along with a **10 hour flight time**, the Mwari is a formidable defence against **MALE drones** loitering at an altitude of 20,000 to 30,000 feet.

**MWARI**

**Advanced and Affordable  
Anti-Drone Lethality.**

[www.paramountgroup.com](http://www.paramountgroup.com)





baesystems.com/wds

# Typhoon – Precise, Effective, Combat Proven

The backbone of combat air power for nine nations across the globe, securing our skies 24/7, 365. Typhoon is a proven swing-role fighter and the latest round of capability upgrades not only confirm its place at the heart of the future battlespace, but also ensure its interoperability with future combat air systems.

Come and visit us at stand H17 and visit our Saudi partner companies at stand Q171 and discover progress through partnership.

**BAE SYSTEMS**



Emile Hokayem at yesterday's Riyadh Defence Forum

## Procurement new look

Middle East governments are slowly moving towards more pertinent use of their defence budgets, as they better understand the nature of threats that they face, the Riyadh Defence Forum heard yesterday.

Traditionally, the region's armed forces had opted for heavy land forces, such as main battle tanks and heavy artillery, said Emile Hokayem, senior fellow for Middle East security at the International Institute for Strategic Studies (IISS).

The IISS is organising the forum, which brought together senior military officers, government ministers and industry leaders to discuss Middle East defence policy and defence economics trends. The event is being held in cooperation with Saudi Arabia's General Authority for Military Industries

and the World Defense Show.

Whereas many of the region's militaries have been 'capability heavy' in the past, there has been a move towards better understanding the nature of threats, said Hokayem.

For example, there were no fewer than six non-state actors that had access to missiles, rockets and UAVs, he noted.

"Previously, you've had small

countries investing in main battle tanks, when there was no risk of a land war." This was done because "this is how you asserted yourself, it was about regional standing".

The big threat in the region remained Iran, he said. "It's not really a land challenge." It was more important to invest in areas such as air defence, missiles, UAVs and cybersecurity. "You have to invest in technology." ▲

**دول المنطقة تراجع ميزانياتها الدفاعية لتلائم نمط المخاطر الجديدة**

أكد المشاركون في منتدى المعهد الدولي للدراسات الاستراتيجية المنعقد على هامش معرض الدفاع الدولي في الرياض بالتعاون مع الهيئة العامة للصناعات العسكرية على ضرورة مراجعة التوجهات الدفاعية لدول المنطقة بماشياً مع تغير نمط المخاطر في ضوء انتشار التكنولوجيا. فبينما كان التركيز على القوات البرية من دبابات ومدفعية برزت مؤخراً الحاجة الملحة للتركيز على الأمن السيبراني والمسيرات والصواريخ والدفاع الجوي وبالتالي التركيز على العامل التكنولوجي كما أكد إميل حكيم من المعهد المنظم.

## Middle East navies steering a new course

Gaps in Middle East nations' naval capabilities are gradually being plugged as defence budgets turn away from the traditional concentration on military aviation, the Riyadh Defence Forum heard.

Additionally, those navies are moving away from their traditional reliance on small missile patrol vessels to larger, more capable corvettes and frigates, said Fenella McGerty, Senior Fellow for Defence Econom-



ics at the International Institute for Strategic Studies. In her presentation to the forum, she added that the region's nations continued to rely on joint ventures with foreign partners. Speaking afterwards she said this was an unavoidable stage while countries were building up their indigenous capabilities. ▲

Emile Hokayem at yesterday's Riyadh Defence Forum

## Partnership is growth key for defence

CONTINUED FROM P1  
the Saudi Arabian defence sector would also empower the nation's population by offering more roles in the sector to women. Those opportunities had already expanded significantly in the past few years and efforts were under way to make jobs in the defence industry more attractive to women.

All of these initiative, reforms and programmes would act as catalysts for helping to transform the country, he said.

Speaking after the event, Al-Ohali said that Saudi Arabia had identified several priority technology areas that it hoped to develop. These included air defence and electronic defence. MRO was also "very important".

He added that there were several challenges facing the Kingdom as it pursued its defence priorities. These included dealing with emerging technologies, some of which were strongly protected by their countries of origin. However, preference would be given to those companies that were prepared to transfer technologies.

Despite the challenges, "We're building a [defence] eco-system in Saudi Arabia and making some good progress."



AIR, LAND, SEA,  
SPACE, CYBERSPACE.  
PROTECTION  
IN ALL DOMAINS.



الحرس الوطني السعودي  
يعرض الهليكوبتر AH-6i

شاركت وزارة الحرس الوطني بمعرض الدفاع العالمي في الرياض بعرض طائرتها الهليكوبتر AH-6i الفائقة الحركة في الجبال خاصة بخاصية ٦ مراوح وتوجيه بالليزر وقوة مدفعية مميزة ونظام راداري طويل المدى. الطائرة هي مبنية من طائرة الهليكوبتر أباتشي بقمرة قيادة متكاملة ونظام كمبيوتر بخاصية اللمس مع امكانية ارسال صور فيديو عبر نظام MX-15 turret مع مشاركة الصور من المسيرات وطائرات الهليكوبتر الأخرى وغرف التحكم والسيطرة الأرضية كل ذلك في نظام تشاركي متكامل.

◀ The SANG AH-6i is a fraction of the cost of the bigger AH-64D/E Apache

## Small is beautiful for National Guard's mountain missions

The Saudi National Guard is displaying one of its AH-6i which it regards as 'highly mobile and agile in the mountains, where we need it to operate' according to one officer.

In August 2014, the US Army awarded a \$234 million Foreign Military Sales (FMS) contract to Boeing to supply 24 AH-6is to the SANG, the light attack helicopter's inaugural customer. The first pair were delivered in June 2017.

Six-bladed, the AH-6i can be armed with a combination of laser-guided AGM-114 Hellfire missiles, BAE Systems 2.75 inch APKWS (Advanced Precision Kill Weapon System), GAU-19 gatling gun and 7.62mm minigun which can fire .50 calibre bullets. The exhibit on display has two Hellfires, GAU-19 and 7.62mm minigun mounted on a 'weapons plank', inserted behind the weapons plank is a back-up 200 gallon

fuel tank that can provide an extra two hours of operations, to keep the small helicopter airborne for up to five hours.

Fitted under the nose is a Harris MX-15DI EO/IR turret which has a range of around 13 miles (20kms) and can lase the Hellfires and the APKWS on to the target. The advantage of the AH-6i is the whole package can cost a fraction of the AH-64D/E Apaches, the SANG operates.

The helicopter's integrated, digital cockpit with touch screens and mission computer have been derived from the AH-64 Apache attack helicopter. The helicopter's management suite, can also send video via the MX-15 turret and also receive video from other assets like unmanned aircraft, other helicopters or ground-based command stations that maybe in the theatre the little helicopter is operating. ▲

## LEONARDO IS COMMITTED TO DEFENDING THE FUTURE

Leonardo is committed to innovation, safety and security - delivering advanced defence and aerospace products and services to partners, worldwide. 49,000-plus employees design and make leading-edge technology; enabling operational advantage and success in any kind of mission, while guaranteeing a multi-domain protection across air, land, sea, space and cyberspace.



## General Dynamics is deepening relationships

Canada based General Dynamics Land Systems (GDLS) - (Hall 1 Stand M1 and Outdoor stand CY0) is showing its products in service with the Kingdom of Saudi Arabia, which the company has supported since the 1990's.

The wheeled 8x8 LAVIII is part of the light armoured vehicle (LAV) product line that provides tactical

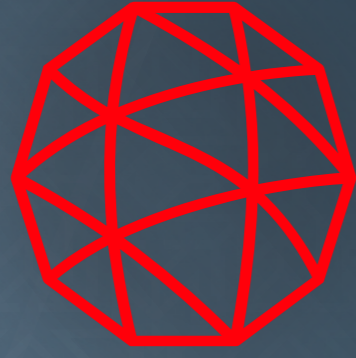
mobility, battlefield survivability, and the ability to integrate various armament systems. It boasts advanced electronic architecture and is available in multiple production-ready variants.

Also in service in the Kingdom is the M1A2S Abrams main battle tank, which GDLS continues to deliver and support.



The highly mobile LAVIII

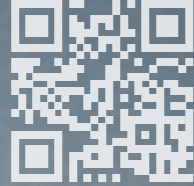




# L3HARRIS

FAST. FORWARD.

LEARN MORE AT [L3HARRIS.COM](https://www.l3harris.com)



**PARTNERS IN ALL-DOMAIN**  
**INTEROPERABILITY, INNOVATION**  
**AND LOCALIZATION**

شركاؤكم لتوطين الإبتكارات التقنية والدفاعية







# Always a step ahead of evolving UAS threats

Explore our proven remote situational awareness and hard kill capabilities, for C-UAS, on a range of host maritime and ground platforms.

- ▶ Remote or autonomous lightweight mount
- ▶ All-weather, day and night EOS suite
- ▶ Wide range of effectors: cannons and missiles
- ▶ Full target tracking and ballistic compensation
- ▶ Increased target recognition intelligence options

Visit us at  
**G15.2**  
Hall 1  
[www.msi-dsl.com](http://www.msi-dsl.com)

## The 80th Squadron breaks cover for first time



Sharp-eyed visitors might notice an unfamiliar badge on the tailfin of the Eurofighter Typhoon being shown at the World Defence Show. This is the insignia of the 80th Squadron, the third, and for now the final, Royal Saudi Air Force (RSAF) Typhoon squadron.

The unit presently operates from King Fahd Air Base at Taif as part of the RSAF's 2nd Wing, though there has been speculation that the unit might be the Typhoon squadron that moves to RSAF 4 Wing scheduled to stand up at King Saud Air Base at Hafr Al Batin near King Khaled Military City.

The RSAF is understood to want to increase the size of its Typhoon force. However, there have been some reports it has been talking to France's Dassault about the Rafale – Typhoon's great rival. Some observers suggest that this may reflect Saudi concerns as to the reliability of a Typhoon consortium that includes Germany as one of its core members. Weighed up against this is the fact that the Typhoon would offer significant commonality advantages with the current RSAF fleet, and indeed with the Kingdom's GCC allies, three of whom (Oman, Kuwait and Qatar) are also Typhoon customers.

## Jadara missile set to Spear tanks

As countries in the Middle East are seeking to acquire more medium-range anti-tank guided missiles (ATGMs), Jordan's Jadara Equipment and Defence Systems has revealed that it is developing a new weapon with a range of 3.5 kilometers.

"We are developing a new ATGM called "Spear". Almost 60 per cent of the development work is complete and we expect to test the missile by the end of this year," said vice-chairman Khaled Jafar.

Jadara is also developing a new

rocket-propelled grenade launcher J-Raptor. "The new RPG will have a range of 500 meters. This should also be ready by the last quarter of this year," Jafar added.

Referring to the rising demand for ATGMs in the region, Jafar said: "In the last several months countries in the Middle East and African regions have shown great

interest in anti-tank missiles, both hand-held and vehicle mounted. Our customers are mainly the UAE, Egypt, Tunisia and Azerbaijan, but now we want to expand our market share to Saudi Arabia, Qatar and other countries in the region."

In Egypt, the company had signed three contracts in the last three years to supply ATGMs, including the latest RPG-32 Nashshab short-range weapon system, and is currently negotiating a new deal to deliver more ATGMs, he said. ▲

**القوات الجوية الملكية السعودية تستعرض فئاتها من أف**  
مع تزايد الاهتمام بالصواريخ المضادة للدبابات المتوسطة المدى، كشفت شركة جدارة الأردنية عن نظامها مبدى يبلغ 3.5 كيلومتر تحت اسم «سبير» من المتوقع تسويقه في منطقة الشرق الأوسط. الشركة وقعت كذلك عقدا في مصر لتزويد الجيش المصري بصواريخ مضادة للدبابات من طراز ناشهاب 32 مع توقع مزيدا من العقود مستقبلا. بالإضافة إلى ذلك، تعزم الشركة تطوير صواريخ مضادة للدروع مداها 500 مترا.

**DYNATECH International**

**VALUE-ADDED LEGACY AIRCRAFT AND ENGINE SUSTAINMENT**

COME VISIT US  
World Defense Show  
Riyadh, Saudi Arabia  
6 - 9 March, 2022  
Stand L11

Aircraft: F-16, C-130, F-5, UH-60, BEECHCRAFT, T56, F100, J85, T700, PT6

WORLD DEFENSE SHOW

50 YEARS ANNIVERSARY

[www.dynatechintl.com](http://www.dynatechintl.com)



# Saudia Aerospace Engineering Industries (SAEI)

Your partner for MRO in the Middle East

Over the past six decades, SAEI has established itself as one of the largest and most experienced in the MENA region. As part of the SAUDIA Group, we have been a cornerstone for the growth and development of the aviation industry in the Kingdom of Saudi Arabia.

Now, SAEI is expanding to our state-of-the-art MRO Village at the King Abdul-Aziz Airport, Saudi Arabia. The one million square meter facility incorporates 11 hangars, as well as 26 engine and component shops, a 43,000 square meter supply chain and warehouse, as well as the largest test-cell for engine testing in the region.



السعودية لهندسة وصناعة الطيران  
Saudia Aerospace Engineering Industries **saei**

## SAEI Manufacturing, Design, and Engineering Center (MDEC)

Specialized reverse engineering capabilities enable SAEI to examine an object and then create an in-house manufacturing and design pathway to reproduce the object. To do this the MDEC analyzes the design, composition, and manufacturing method of an object. This process involves manual measurement, 3D scanners, coordination measurement machines, material analyzers, and other destructive and non-destructive methods.

The MDEC is able to design fixtures, manufacturing tools, plastic molds, and aircraft maintenance tools. A range of CNC machines enables our team to produce parts with high precision manufacturing and a large-sized production. The MDEC has extensive experience in the design and application of aircraft livery



Contact Us:

E: [commercial@saei.aero](mailto:commercial@saei.aero)

M: +966 53 308 7774

Meet us in Riyadh, Saudi Arabia from 6th to 9th March, 2022, to discover more.

Stand Number H-1N.E7



C-390 MILLENNIUM

# UNBEATABLE COMBINATION

## SPEED IN THE AIR AND FASTER TURNAROUNDS.

Reaching a maximum cruise speed of Mach 0.80, carrying 26t, and operating at a ceiling of 36,000ft, the twin turbofan-powered C-390 Millennium delivers outstanding tactical performance with strategic effect. For the crew, new innovations including the fully automated cargo handling and aerial systems that reduce workload and improve productivity. Already proven in service with the Brazilian Air Force and, with contracts signed by the Portuguese and Hungarian Air Forces, the multi-mission C-390 takes mobility to the next level even in the most challenging environments.

#C390UnbeatableCombination  
[embraerds.com](http://embraerds.com)

Photographic record made during the unpaved runway test campaign.



CHALLENGE.  
CREATE.  
OUTPERFORM.



The inaugural World Defense Show brings out the best in the F-15 fleet

## WDS: gathering of Eagles

The World Defence Show is playing host to the three different generations of Boeing F-15 Eagle that are currently in service with the Royal Saudi Air Force.

The 2nd Squadron, part of the 7th Wing from King Faisal Air Base at Tabuk, has sent one of its single-seat F-15C Eagle air defence fighters. About 80 of these first generation F-15Cs (including around 20 F-15D two-seat trainers) equip the 2nd Squadron, the 5th Squadron at Taif, and the 13th Squadron at Dhahran.

Saudi Arabia took delivery of its 60 F-15C/Ds from January 1982 to May 1983 under the 'Peace Sun' programme, and two more were purchased as attrition replacements. Subsequently, the RSAF ordered 12 more in October 1987, and 24 more were transferred from US Air Force units in Europe in September 1990, bringing deliveries to 96.

The 92nd Squadron, part of the 3rd Wing from King Abdullah Aziz

Air Base at Dhahran is showing off one of its surviving two-seat F-15S fighter-bombers. The F-15S is a slightly downgraded derivative of the USAF's F-15E Strike Eagle, and the type still equips two units, the 92nd Squadron and the 6th Squadron at Khamis Mushayt. The 68 or so surviving F-15S aircraft are being converted to the latest F-15SA standards by Alsalam Aerospace Industries.

An example of the F-15SA is also here at the show, wearing the markings of the 29th Squadron, part of the 7th Wing at Tabuk. Deliveries of 84 new-build F-15SA Advanced Eagles are now com-

plete, and the type also equips the Fighter Weapons School at Dhahran, and the 55th Squadron (the F-15SA training unit) at Khamis Mushayt.

The F-15SA is fitted with a Raytheon AN/APG-63(V)3 AESA (active electronically scanned array), a new digital electronic warfare suite, an infrared search and track system and advanced displays and joint helmet-mounted cueing systems. The new F-15 variant also has two additional wing weapons stations to boost its payload, these requiring the addition of a new fly-by wire flight control system. ▲

### القوات الجوية الملكية السعودية تستعرض فئاتها من أف 15

شهد معرض الدفاع العالمي في الرياض مشاركة الفئات الثلاثة من الطائرة المقاتلة أف 15 التي تخدم في القوات الجوية الملكية السعودية وهي أف 15 سي للاعتراض الجوي ذو المقعد الواحد التي تتمركز في قاعدة الملك فيصل الجوية في تبوك والقاعدة الجوية في الطائف والظهران بينما عرض أف 15 دي ذو المقعد الثاني وهي مقاتلة قاذفة قادمة من قاعدة الملك عبد العزيز في الظهران. كما عرضت طائرة أف 15 أس أي قادمة من السرب السابع في تبوك.

## Czechs add thrust to TJ80 turbojet

Following the success of the TJ80, Czech PBS Velka Bites has launched the PBS TJ80M turbojet, the world's most efficient gas turbine engine.

The modification offers a 35% increase in increase in the engine's thrust from 900 to 1,200 Newtons and a reduction in specific fuel consumption, while the weight and 235mm outer diameter remain unchanged. In addition, a new fuel system offers higher overall efficiency of the engine cycle, the single stage centrifugal compressor has been modernised and the materials of the single stage axial turbine wheel have been upgraded.

## Bringing Shelter

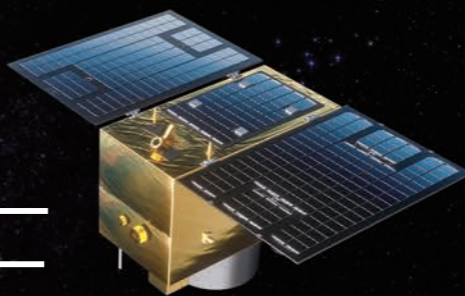
U.S. company Alaska Shelters (Hall 1 Stand N9) prides itself on its range of adaptable military shelter products and their proven service with armed forces around the world.

Its most popular is the Alaska Small Shelter System of which more than 20,000 have been deployed worldwide since 1999. It can be configured for billeting requirements for housing for NCOs, officers and commanders, besides other shelter functions.

The Alaska XP shelter system can be fully operational in less than 10 minutes without the use of ladders and is durable enough to withstand multiple deployments and extreme weather. ▲



# OWN YOUR AI SATELLITE



STAR·VISION

JOIN STAR.VISION  
BRING YOUR AI DREAM TO SPACE

## WonderJourney™ AI SATELLITE

- AI EMPOWERED INSIGHT
- MULTI-TASK SCHEDULING
- ON-ORBIT PROCESSING
- AUTONOMIC SELF-OPTIMIZATION

STAR.VISION/EN

SV@STAR.VISION



TWITTER



WEBSITE

MEET US AT BOOTH H1 - E3

Daily news updates on [timesaerospace.aero](https://timesaerospace.aero)



Embraer's KC-390 is being touted to the region as well as a broad portfolio of solutions

## KC-390 heads Embraer's push for global growth

Embraer Defense & Security is aiming to expand its presence in the Middle East with WDS being an ideal opportunity to promote its portfolio of products and innovative solutions for defense and security markets.

"There is a huge potential in the development of opportunities together in the region. And this is key for Embraer's strategy to establish meaningful and strategic partnerships around the globe," said Jackson Schneider, President & CEO, Embraer Defense & Security.

As recent examples of Embraer's latest strategic steps to establish new partnerships in selected markets, in August of 2021, Embraer opened an office in Budapest, Hungary to foster cooperation in the country. Two months later, Embraer announced a Memorandum of Understanding (MoU) with Fokker Techniek and Fokker Services, to explore a broad range of opportunities in Defense, Commercial and Support markets.

"We have one of the most modern product portfolios in the indus-

try and the most skilled engineering team in the world. That's why Embraer is in a unique position to build customized solutions for our customers, which includes collaboration with partners and countries for achieving win-win results," said Schneider.

With a 52-year history, Embraer's products are recognized for continuing to excel at designing and manufacturing some of the world's most advanced civil and military aircraft, including the

C-390 Millennium multi-mission aircraft.

The KC-390 has been in service with the Brazilian Air Force (FAB) since 2019 and was selected by two NATO nations: Portugal and Hungary. FAB's current fleet of Embraer KC-390s stands at four, exceeding 4,800 flight hours in operation, which means more than 600 flight hours per year by each aircraft, with a mission completion rate of 97%, showing outstanding productivity. ▲

### العلاقات البرازيلية امبرابر يشارك في معرض الدفاع العالمي متطلعا لبناء شراكات وطنية استراتيجية في السوق السعودي الواعد

عرضت امبرابر للدفاع والأمن مجموعة موسعة من منتجاتها التي تؤمن أفضل الحلول المبتكرة والمميزة والتي تأمل الشركة البرازيلية على توطئتها محليا تماشيا مع رؤية ٢٠٣٠٢. وهذا ليس غريبا على الشركة العالمية حيث يعتبر بناء الشراكات الاستراتيجية المحلية احدى ركائز عملياتها حول العالم خلال مسيرة الشركة الممتدة منذ 52 عاما. هذا ما يمكن الشركة من اعتماد مواصفات محلية حسب احتياجات كل سوق باسلوب شديد المرونة.

احدى نجاحات الشركة طائرة C-390 Millennium المتعددة المهام والتي تخدم في الجيش البرازيلي منذ 2019 بالإضافة الى البرتغال و المجر العضوين في حلف شمال الأطلسي حيث حققت الطائرة أرقامًا تشغيلية عالية جدا تخطت 97% مع 600 ساعة تشغيلية كل عام للطائرة الواحدة.

## Navantia online for modification

Spanish shipbuilder Navantia will be demonstrating its online configurator for its Landing Platform Dock (LPD) class of vessel. The tool allows potential customers to modify the capabilities of the LPD design, which has sold to both the Spanish and Netherlands navies.

The LPD, which is in service with the Spanish navy as the two-ship Galicia class, combines a helicopter deck with a well deck from which landing craft can be floated out, carrying several hundred troops or significant numbers of armoured vehicles.

The online configurator allows navy planners to alter the degrees of emphasis placed on airborne and seaborne assault capabilities of the vessel.

"You can alter the design; of the vessel to an extent," said Jose Luis Inoges, Navantia's marketing manager.

The configurator tool was developed after potential customers started to ask for significant changes to the design, "so our engineering department updated the vessel's design with a modular approach.

In design terms, the vessel was divided into large sections, so that design changes to one area would not impinge on other areas throughout the ship.

Alongside that development, the design team aimed to provide as many containerised solutions as possible for specific roles, for example, a towed array sonar system. . ▲

## Special Operations



Scan to watch our Tactical Diving Vehicles in action



confidence under pressure  
[jfdglobal.com](https://jfdglobal.com)



# Lockheed's Diamond sparkle

In modern conflict situations, there is a real possibility of commanders becoming overwhelmed by a surge of data indicating multiple simultaneous threats, often coupled with cyber-attacks on vital networks. The solution is DIAMONDShield, Lockheed Martin's advanced battlefield management system (Hall 01 Stand M8).



The DIAMONDShield integrated multi-domain ops

Able to increase speed, enhance agility and integrate powerful data into one system,

DIAMONDShield links disparate platforms and systems (of US and non-US origin) across air, land, sea, and space.

Commanders get a comprehensive, real-time view of their environment in a cyber secure network. By automating key functions in the command-and-control cycle, DIAMONDShield facilitates strategising, targeting, planning, tasking, execution,

monitoring and assessment of the battlespace – all while simultaneously integrating intelligence, surveillance and reconnaissance data.

Says Amr Hussein, vice president of C4ISR Systems: "The automation incorporated into DIAMONDShield allows operators to contingency plan, assess enemy intentions and task assets – all in much shorter timeframes and with much less effort."

This modular system also provides the foundation for interoper-

ability with coalition forces.

At the core of DIAMONDShield is a modern, open architecture enabling sensor-to-shooter integration and interoperability of the widest range of tactical communications, sensors, weapons, and existing legacy systems.

DIAMONDShield can incorporate data from any external military or civilian source, ranging from missile defence systems to radar and air traffic control systems. The system's artificial intelligence (AI) optimises and de-conflicts with airspaces used by civilian air traffic, and for missile defence.

Mission planning can be significantly reduced, which reduction in decision-to-action time creates a completely different outcome for the battle at hand. This development is especially vital as future threats continue to grow in both sophistication and speed. ▲

لو كهيدي مارتن تقدم نظام الدرع الماسي المتطور حيث ادارة اجواء المعركة امرا حاسما مع ارتفاع المخاطر المتعددة المصادر والاتجاهات

يقدم النظام حولا متكاملة لادارة المعركة بسرعة وفعالية مع دمج البيانات المتعددة بنظام موحد يضمن السلاسة بين مختلف جهات الحلفاء مع حفظ للبيانات وحماية سيرانية دائمة. يشمل ذلك تسهيل عمل أفراد القيادة من وضع الاستراتيجيات وتحديد الأهداف واعطاء الأوامر والمراقبة وتقييم اجواء المعركة مع تحليل المعلومات الاستخباراتية ونظم المراقبة والاستكشاف. هذا ما سيعزز الحماية من المخاطر المتزامنة السيرانية والجوية والصاروخية والبحرية والفضائية والبرية.

# India's TASL WhAP is ready for export deals

India's Tata Advanced Systems Ltd. (TASL) is in advanced stage of developing a NATO compliant version of its wheeled amphibious/armoured fighting vehicle (WhAP) platform, Seshadri Srinivasan head, land mobility, said.

TASL has already secured contracts from the Indian Army and the paramilitary forces for production, supply and maintenance of the WhAP in several applications such as infantry protected mobility vehicle and as a surveillance/attack vehicle. "Currently the contracts are under advanced stages of execution," he said.

TASL is also exploring possibility of offering the WhAP with different configurations of weapon systems to other coun-



Tata's wheeled amphibian can be seen 'virtually' at the show

tries, including Saudi Arabia.

KSA's navy and army intend to procure WhAFVs and armoured vehicles in large numbers, with an intent to strengthen the local

supply chain in the Kingdom.

"They therefore are looking for vendors who can aim to achieve the intended Investment, TASL is in discussions with

تاتا الهندية تشارك بمعرض الدفاع العالمي بالرياض عبر مركبتها القتالية الجديدة

المركبة التي هي قيد التطوير وفق مواصفات حلف شمال الأطلسي قد حصلت على عقد ضخ من الجيش الهندي وقوات عمليات التدخل السريع تشمل الانتاج والصيانة والتوريد بنماذج مختلفة للمراقبة والهجوم حيث من المتوقع تسليم أولى المركبات للجيش الهندي. وتتواصل شركة تاتا حاليا مع الهيئة العامة للصناعات العسكرية لتحديد الجهات السعودية الملائمة لتوطين المركبة في المملكة العربية السعودية تماشيا مع رؤية 2030. وقد استمتع زوار المعرض بمنصة الشركة والعرض الافتراضي الثلاثي الابعاد للمركبة بالإضافة الى أسلحة أخرى تشمل كذلك المسيرات.

GAMI. TASL is displaying the WhAP platform virtually, through a 3D projection system. Also, on virtual display are other weapon systems and optronics as well as UAVs. ▲

Unlocking your digital advantage to protect the connected world from harm

Introducing Digital Intelligence  
baesystems.com/digital

Digital Intelligence



BAE SYSTEMS



## A strong legacy for a strong future

We are proud to have been a leading provider of power to the Royal Saudi Air Force for 50+ years, and the future looks equally bright. Through critical partnerships and our strong in-country foundation, combined with a world leading portfolio developed for land, sea and air military customers, we are ready to successfully support the Kingdom's ambitions and the Saudi 2030 Vision.





# A game changer for the land engagements

## John Cockerill Defense: Innovate to Guarantee Tomorrow's Security



### COCKERILL® 1030

- Lightweight & low profile
- Main armament: 30x173mm
- Secondary armament: 7.62mm co-ax / Rockets / Turret launched AT systems
- Ballistic protection: Level 2 to 4
- Elevation: -10°/+70°
- Fully maritized and proven (TRL 7)
- Modularity and Open architecture for future technology

### COCKERILL® 3105

- Qualified
- In production
- Several hundred units distributed worldwide
- Main armament : Cockerill® 105mm HP Gun
- Secondary armament : 7.62mm co-ax / pintle mount (7.62, 12.7, 40mm GL)
- Ballistic protection : Up to level 5
- Elevation : -10°/+42°



### The **COCKERILL®** i-X :

Where the excellence of our weapon systems technology combines with the experience of Paris-Dakar performance



Discover it as a world premiere on  
John Cockerill Stand - Hall 1 : H16



# Partners in achieving Vision 2030

Working together for more than 50 years to meet the Kingdom's defense, military and civilian requirements.



Raytheon.com/KSA  
Visit us at Exhibit Stand M3

Tuwaiq programme

# MMSC fleet takes shape at Marinette

**RICHARD SCOTT REVIEWS**  
*the progress of Saudi Arabia's naval Tuwaiq programme*

**W**ork is underway at the Fincantieri Marinette Marine shipyard in Wisconsin on the construction of four new Multi Mission Surface Combatant (MMSC) vessels for the Royal Saudi Naval Forces (RSNF) under Project Tuwaiq. The ships, derived from the Freedom variant Littoral Combat Ship (LCS) already in US Navy service, are being procured by the Kingdom under a US Foreign Military Sales case to form the backbone of a recapitalised RSNF eastern fleet. The US and Saudi signed for the four MMSCs in May 2017, marking the first sale of a US-built surface combatant to another nation in more than 40 years.

**Tuwaiq programme**  
Lockheed Martin is prime contractor for the Tuwaiq programme. The company was in March 2018 awarded a \$481 million contract for long-lead materials, with \$282 million for additional long lead-time material and detail design following in November that year. Gibbs & Cox (now part of Leidos) has taken responsibility for MMSC functional design activities. A \$1.96 billion contract for detailed design and construction of the four MMSC ships followed in December 2019. The programme is due to complete by June 2026.



▲ How the MMSC ships will look

While evolved from the baseline Freedom variant LCS 'seaframe' - it retains the same 118 m hull and combined diesel and gas propulsion system - the MMSC departs from the mission module concept and instead embodies full multi-mission warfighting capabilities including a Mk 41 Vertical

Launcher System (with a forward centreline eight-cell launcher).

**Start of construction**  
Fincantieri Marinette Marine cut first steel for the MMSC programme in October 2019, marking the start of construction of first-of-class Saud. Construction of the

three follow-on MMSC ships got underway at the Marinette yard during 2021.

The MMSC combat system is centred around Lockheed Martin's COMBATSS 21 combat management system. Other key equipment include a Hensoldt TRS-4D G-band surveillance radar, two Saab Ceros 200 fire control directors, a Lockheed Martin ALEX 130 mm decoy launching system, and an AN/SLQ-25 torpedo decoy system.

Weapon systems comprise a BAE Systems Mk 110 57 mm medium-calibre gun, Boeing RGM-84 Harpoon Block II anti-ship missiles, Raytheon RIM-162 Evolved SeaSparrow Missile point-defence missiles (fired from the Mk 41 VLS), an 11-round Raytheon Mk 15 Mod 31 SeaRAM close-in weapon system (firing the RIM-116C Rolling Airframe Missile), and two Nexter Narwhal 20 mm remote weapon stations.

A flight deck and hangar aft provides for the operation and support of a single MH-60R helicopter. ▲

للمرة الأولى لبلد أجنبي منذ ٤٠ عاماً: الولايات المتحدة تستعد لتسليم السعودية السفن المتعددة المهام القتالية بعقد ٢ مليار دولار

ضمن برنامج الطويق، تسلم المملكة ٤ سفن متعددة المهام القتالية التي تبنى في الولايات المتحدة ذو المناورة العالية قادرة على العمليات في المحيطات المفتوحة بطول ٨١١ متراً مع خاصية الاطلاق العامودي من طراز ١٤ kM أما شركة فنكانتيري مارينيت فقامت ببناء الهيكل الحديدي بينما نظم الادارة من لوكهيد مارتن لقيادة المعارك ١٢ المبني على نظام آي جيس الالكتروني مع نظام رادار ونظام ثنائي لمكافحة الحرائق ونظام الاطلاق اليكس ٠٣١ مم ونظام توربيني وتسليح من بي اي سيستمز بمدفع ٧٥ مم، ونظام هاربون المضاد للسفن ونظام ٥١ kM من رايبون ونظامي LahwraN retxeN لادارة الاسلحة.



OTT Technologies

# South Africa's beasts are baring their fangs

SAM BASCH REPORTS

*How is South African manufacturer OTT drawing attention across the region with latest models*



▲ OTT Technologies offers the robust multi-purpose Bulldog M34 for paramilitary and law-enforcement operations, and (below) the Puma M36 Mk6-450 T Rex successfully completed the 2021 UAE summer trials.



fully privately-owned enterprise. Having recently acquired ADG Mobility, a specialised military vehicle design and development company, and LMT Products, OTT Technologies opened a production facility in the United States. This facility complements the group's new South Africa based fabrication and manufacturing facilities – the largest in the country.

This has created immense potential for the group to make inroads in the Middle East market – a key focus of OTT.

The Puma M36 Mk6-450 T-Rex 4x4 is part of OTT's family of MRAP vehicles produced in-house and supported worldwide. It offers flexible seating for up to 12 (2+10), with a 2-piece rear door for rapid egress, plus front doors for the driver and co-driver. The V-shape monocoque hull adds significant protection against anti-tank mines and IEDs. An ECM system is optional for protection against RCIEDs.

#### Variants

"Besides the 4x4 option in APC, ambulance, bomb-disposal, command and mobile mortar platform, we offer 6x6 logistical and recovery variants," Gildenhuys explained. "Depending on customer requirements, we can supply a selection of drive train options, given that OTT has original equipment manufacturer (OEM) support from the likes of Mercedes-Benz, Ashok Leyland, Cummins and others."

In addition to the Puma M36, OTT Technologies is also displaying its Bulldog M34 Ci 4x4 multi-purpose internal security vehicle (MPISV). The robust and reliable vehicle can be fitted with a wide variety of riot control devices and can also be deployed in a SWAT and Command role. ▲

The Puma M36 Mk6-450 T-Rex built by South African vehicle manufacturer OTT Technologies (Hall 01 Stand J5) is attracting serious attention in the Middle East. It has successfully completed the most recent (2021) UAE summer trials in which the Puma M36 was a first-time participant.

"Importantly, our Puma M36 Mk6 MRAP has been certified by the US Army Aberdeen Test Centre (ATC) in Maryland, USA, for the highest blast protection level under STANAG 4569," stated Brig Gen (Ret.) Chris Gildenhuys, business development manager. "OTT is only one of three companies worldwide with a United Nations (UN) Long-Term Agreement (LTA) for this class of vehicle. This means that the UN places orders on us as and when it requires vehicles for peacekeeping missions."

#### Proven record

With a proven manufacturing record over many decades, OTT has a strong customer base with hundreds of specialised and mine-protected vehicles operational in many conflict areas around the world.

From a humble family business in 1980, OTT to this day remains a



#### AL BATTAAR LASER GUIDED BOMB KIT

Impact Accuracy / CEP	≤ 10 meter
Max Release Altitude	25000ft
Range	8 mm
Guidance	Laser
Employment Mode	Single
Laser Designated Compatibility	Yes

#### SHAHPAR-II UAV SYSTEM

Endurance:	07 Hrs
Service Ceiling:	18,000 Ft
Max Speed:	120 Knots
Take-off Speed:	80 Knots
Data Link Range:	300km
Weapon System:	2 X Agms Of 60kg Under Each Wing Station



#### HARBAH ANTI SHIP CRUISE MISSILE

- Range: 290 km
- Highly Precise Navigation (Mid-course/Terminal)
- All Weather Operation
- High Hit Probability
- Smart Size & Weight
- Fire & Forget
- High Survivability
- Lethal Destructive Power of Warhead
- Re-attack Capabilities

#### FATAH - I MULTI LAUNCH ROCKET SYSTEM

Range:	≥ 140 Km
Accuracy:	CEP < 50 m
Rockets per MLV:	8
Cap to engage 8 different Tgts:	8km x 8km at max rg
Operating temperature:	-20 to +55°C
Warhead type :	DPICM
Shelf Life :	10 Years



GLOBAL INDUSTRIAL & DEFENCE SOLUTIONS PAKISTAN

+92-51-9280061- 62info@gids.com.pk www.gids.com.pk Complex-II, Chaklala Garrison, Rawalpindi, Pakistan

VISIT US IN PAKISTAN PAVILION



**SHORT-RANGE**  
SYSTEMS



**QUAD-1**  
**Nashshab**

Multipurpose Remotely Controlled QUAD on Ground

- Anti-Tank, Tandem with hollow charge grenade
- Thermobaric grenades
- Day/Night sighting system and Laser Range Finder

**RPG-32**  
**Nashshab**



**QUAD-2**  
**Nashshab**  
SHORT RANGE

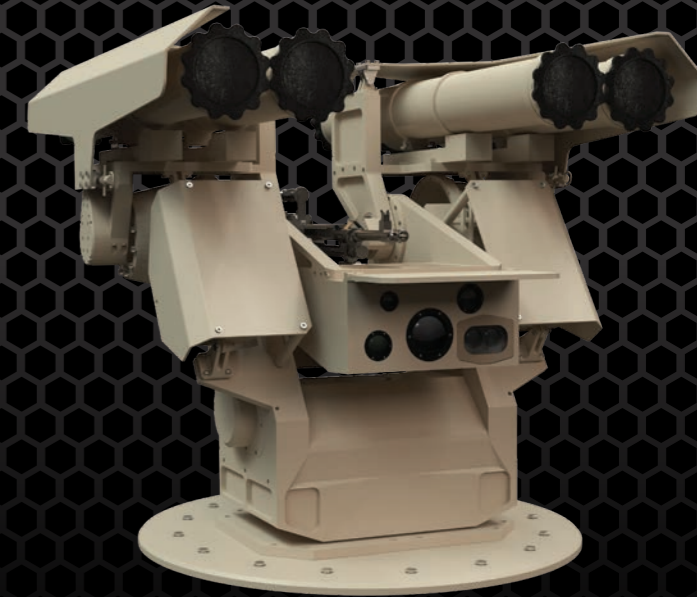


Multipurpose Remotely Controlled QUAD on Vehicle



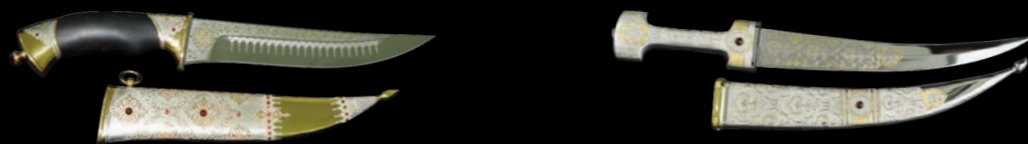
**MEDIUM-RANGE**  
SYSTEMS

**JADARA QUAD**  
**TERMINATOR**  
ATGM 2500M



Remotely Controlled Mobile Complex  
Four Laser Guided Missiles,  
7.62mm Machine Gun

**COLLECTABLE BLADED**  
WEAPON



Damascus steel, stylized oriental ornaments,  
inlaid with jewelry stones



**ATGM JADARA**  
**TERMINATOR**

Anti-Tank High Explosive,  
Fragmentation Missile



THE HASHEMITE KINGDOM  
OF JORDAN

P.O.Box (2100), Amman 11181, Jordan  
Tel. +962 (6) 401 66 44  
info@jadara.jo  
www.jadara.jo



# DEFENCE SOLUTIONS

**POLY**  
TECHNOLOGIES INC.



## Secure the mission, Secure the country

### Unique Advantages

- All-range defence equipment for Army, Navy, Air Force and Police Force
- Top10 Large SOE
- Rank 174 Fortune 500 (2021)
- Defence capacity building-up consultation
- Technology transfer and technical services
- Financial (credit) support

Visit us at WDS  
C1 D1 D2

Tel: +86 10 64082988  
E-mail: poly@polyinc.com

**POLY**  
TECHNOLOGIES INC.

Lockheed Martin

JON LAKE REPORTS

*The F-16 continues to be a success story for Lockheed Martin with the Middle East keen to extend the fleet*



## Block 70 & F-16V – new kids on the block

Until Russia invaded Ukraine it seemed likely that Turkish Block 70 F-16 ambitions would be rebuffed, though Jordan has now received approval to join Bahrain and Morocco as they wait to receive this new F-16 variant.

Last month, the US State Department made a determination, approving a possible 'Foreign Military Sale' of 12 Block 70 F-16Cs and four two-seat Block 70 F-16D aircraft and related equipment (including a formidable package of weapons) to the Government of Jordan, at an estimated cost of \$4.21 billion.

### Opposition

Meanwhile, Turkey continues to face opposition to its request for 40 new-build Block 70 F-16s and 80 F-16V upgrade kits. A bipartisan group of more than 50 U.S. Representatives, led by the leaders of the Congressional Hellenic Caucus and the Armenian Caucus have urged the US Departments of Defence and State to block the sale.

Lockheed Martin once planned to shut down its F-16 production line at Fort Worth to 'make room' for growing F-35 production numbers. But thanks to the

success of a new variant of the company's 48-year old F-16, the company has had to instead scrap plans to move the F-16 tooling to a storage facility, and build a brand-new production line at Greenville, South Carolina.

Before the advent of the Block 70 F-16, the production line looked likely to run out of work once the final Iraqi aircraft was delivered, and in 2016, with no orders booked, Lockheed Martin prepared to shut down the F-16 production line.

But the success of the F-16V upgrade for Taiwan changed all that. This F-16V upgrade was originally developed for the RoCAF (Republic of China Air Force) after the Obama administration blocked a Taiwanese request to acquire 66 Block 50/52 F-16C/Ds, after pressure from Mainland China. Ironically the scope and depth of the upgrade grew until it represented a far more advanced standard than the Block 50/52 configuration that mainland China had objected to,

The F-16V was designed around the Northrop Grumman AN/APG-83 Scalable Agile Beam Radar (SABR), an active electronically scanned array (AESA) radar derived from the F-35's AN/APG-

81, together with a new mission computer, a modern commercial off-the-shelf (COTS)-based avionics subsystem, a high-volume, high-speed data bus, provision for the Rockwell Collins-Elbit JHMCS II (Joint Helmet Mounted Cueing System), as well as new displays, datalinks, navigation and electronic warfare equipment.

### New build

Lockheed Martin soon found itself fielding enquiries for a new-build F-16 variant incorporating the same features, and thus was born the Block 70/72.

Bahrain ordered 16 Block 70s in June 2018 (but hasn't committed to upgrading its 20 surviving Block 40 F-16C/D aircraft to the latest F-16V standard), while Morocco signed up for 25 Block 72s (and 25 F-16V upgrades) in March 2019. Slovakia has also ordered 14 Block 70/72s, and Bulgaria another eight, while Taiwan will augment its 141 upgraded F-16Vs with 66 new Block 70s.

In May 2021, the USAF awarded Lockheed Martin a contract worth almost \$14 Bn to manufacture 128 F-16s on behalf of these five foreign military partners. ▲

## أف ٦١ تواصل نجاحاتها المذهلة عبر السنين مع أف ٦١ في و بلوك ٧٠

بعد ٨٤ عاما من اطلاق أول أف ٦١ أكثر الطائرات المقاتلة الحربية نجاحا وبالرغم من اطلاق برامج متعددة تشمل أف ٥٣، ما تزال أف ٦١ في تطور مستمر من تايوان الى تركيا مروراً بدول المنطقة وذلك مع بروز موديلات أف ٦١ في و بلوك ٧٠.

ادهشت نجاحات برامج تطوير أف ٦١ حتى شركة لوكهيد مارتن المصنعة ذاتها التي فكرت سابقا على انها خط انتاجها لكن نجاح برنامج أف ٦١ في المطور من تايوان أحيى الطراز بالكامل قبل الاستمرار ببرنامج بلوك ٧٠ للطائرة عندها مع صفقة توريد للأردن بقيمة ٤ مليار دولار.

وقد طورت أف ٦١ في مع رادار ٣٨-GPA/NA radaR maeB eligA (RBAS) من شركة نورثروب جرومان المقتبس من رادار ١٨-GPA/NA المجهز لأف ٥٣ مما جعل لوكهيد مارتن تتطور بلوك ٧٠ التي طلبته البحرين والمغرب والعديد من الدول بقيمة اجمالية تفوق ٤١ مليار دولار.

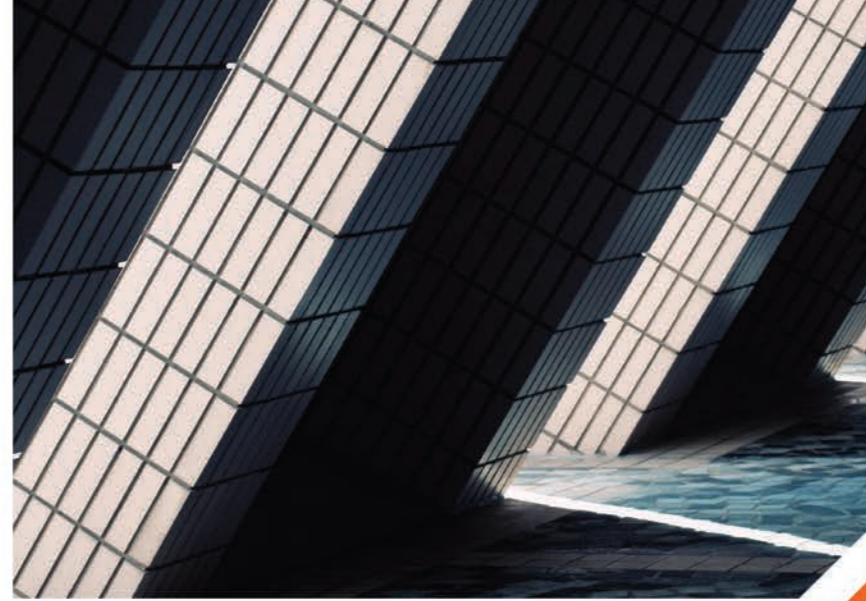


VTX Facility Management Seeks to Optimise Real Estate Performance by Reducing Costs, Increasing Revenues and Mitigating Risk. Thus, Helping Clients Solve the Complex Challenges Encountered were Real Estate interacts with their Core Business.

The sectors of business include

- Industrial/ Manufacturing
- Healthcare/ Education
- Retail/ Commercial
- Residential/ Hospitality
- Energy and Power

WE CONSULT ➤ WE DESIGN ➤ WE BUILD ➤ WE OPERATE ➤



Al Bawani is a diversified group of Saudi companies. Established in 1991, the past three decades have seen our business grow from a modest civil-works firm into a fully ledged general contracting corporation with a sizable portfolio, strong financial position, and a significant presence in a broad range of industries. Indeed, our construction division is now among the five largest operators in the country. What's more, our unwavering focus on excellence has earned us a Class-1 business ranking in Saudi Arabia.

To date, we have completed over 250 projects, building long-term partnerships and earning the trust and loyalty of our clients in the process. Furthermore, we currently have over SAR 9 billion worth of ongoing projects. These are being serviced by our 12,000-strong workforce, each of whom is a specialist in their respective fields.



**Ishbilila Compound**

Starbuks  
Paul  
Burger King  
Gymnasium  
Beauty Salon

Football Field  
Clinic  
Bowling Alley  
Running & Cycling  
Tracks

Yoga Studio  
Sauna  
Gift Shops  
Spinning Room  
Cinema

Sales@ksacompounds.com  
+966 9200 25015

**ANDORRA VILLAGE**

ANDORRA VILLAGE  
REDEFINING URBAN LIVING

24/7 Security Service  
House Keeping  
Laundry Services  
Sport Courts

Poolside Cafes  
Juice Bar  
Restaurants  
Fitness Facilities

Indoor & Outdoor  
Kids Areas  
Swimming Pools  
Spa Facility & More!

Sales@ksacompounds.com  
+966 9200 25015



# SAC الشركة السعودية للطيران SAUDI AEROSPACE COMPANY

رؤية  
2030  
المملكة العربية السعودية  
KINGDOM OF SAUDI ARABIA

أن نكون القادة والرواد في مجالات منتجات خدمات الدفاع والطيران والخدمات ذات الصلة بها في المنطقة مواكبة لرؤية 2030.

*To be the leader and pioneer in the areas of defense, aviation and related services in the region aligned with vision 2030.*

**mas** ماس للخدمات الجوية  
MAS AVIATION SERVICES

**MEPC**

**SAAB**

**KWE**  
Saudi Arabia

**CAE**



www.sac.sa.com

Tel : +966 11 269 3524

Fax : +966 11 269 3725

Navantia

## Project Al Sarawat ready to deliver



RICHARD SCOTT REPORTS

*Navantia has established a joint venture with Saudi Arabian Military Industries (SAMI) as the new Corvette class ships are close to joining the Saudi fleet*

The first of the new Corvettes on sea trials off Spain

**A**l Jubail, the first of five new Avante 2200 corvettes built by Spanish shipbuilder Navantia, is just weeks away from joining the Royal Saudi Naval Forces (RSNF) after successfully completing sea trials

Meanwhile, Navantia is continuing work on the last three ships at its San Fernando shipyard, near Cádiz.

Signed by the Kingdom of Saudi Arabia in 2018, the corvette programme - known as Project Al Sarawat -- covers the build and delivery of five Avante 2200 ships together with an initial five-year support package (with an option for a further five years). Training, education and logistics elements, plus systems to support maintenance at Jeddah Naval Base, are also included in the EUR1.8 billion deal.

### Multipurpose corvette

At 104 m in length and 14 m in beam, and displacing around 2,200 tonnes, the Avante 2200 variant being procured for the RSNF is a multipurpose corvette intended to fulfil a number of peacetime roles, including maritime surveillance

and security, and search and rescue. At the same time, the vessels' also offer significant warfighting capability with regard to air defence, anti-surface warfare, anti-submarine warfare, intelligence gathering and electronic warfare.

Powered by a combined diesel and diesel propulsion plant, the Avante 2200 corvettes are able to achieve a maximum speed of 27 kt, and have an endurance of up to 21 days. Armament includes a Leonardo 76/62 Super Rapid medium-calibre gun and a Rheinmetall Millennium close-in weapon system; provision is also made for a point-defence missile system (with a 16-cell vertical launcher silo fitted forward) and up to eight surface-to-surface guided weapons.

Aviation facilities aft provide for the operation and support of a single MH-60R helicopter. The RSNF has acquired a fleet of 10 MH-60R helicopters under a US Foreign Military Sales case.

First of class Al Jubail was launched in July 2020 and commenced sea trials in the Bay of Cádiz in September last year. Having now

completed all at-sea tests, the ship is planned to be commissioned into the RSNF at the end of this month.

### Sea trials

The second ship of the class, named Al Diriyah, has also completed its sea trials period. The third and fourth vessels, named Hail and Jazan respectively, are at an advanced stage of completion.

The fifth and final ship, Unayzah, is fitting out after launch in December 2021. It is planned to handover in August 2023, with delivery to Saudi Arabia scheduled

to follow in February 2024.

Training of RSNF crews and maintainers is being undertaken at the Navantia Training Centre in San Fernando.

As part of the Avante 2200 contract, Navantia has established a joint venture with Saudi Arabian Military Industries (SAMI) in Saudi Arabia under the banner of SAMI Navantia Naval Industries (SAMINavantia). The creation of SAMINavantia is aligned to Saudi Arabia's ambitions to 'localise' 50% of its military equipment spending by the end of the decade. ▲

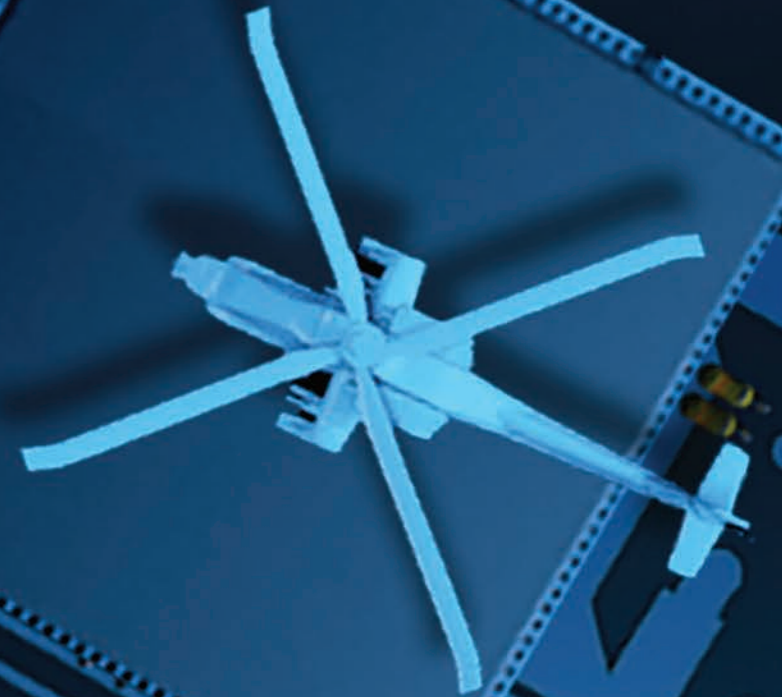
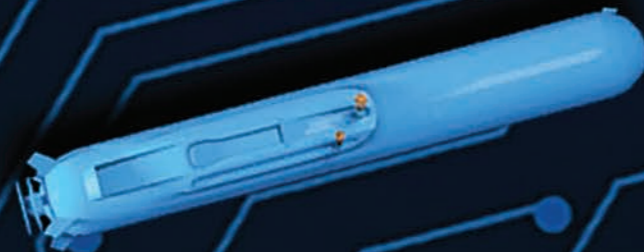
### السعودية تتسلم السفينة الأولى من خمس والمصنعة من نافانتيا الإسبانية من نوع كورفيت «أفانتي 2020» ضمن مشروع السروات

تشمل الاتفاقية بين الطرفين وقيمتها ٨,١ مليار يورو ٥ سفن مع عقد دعم وتدريب والصيانة والأمور اللوجستية مدته ٥ سنوات قابلة للتجديد. السفينة متعددة المهام من حفظ السلم والمراقبة البحرية والانقاذ والقدرات القتالية في الدفاع الجوي والبحري والمضاد للغواصات وجمع المعلومات والحرب الالكترونية مع سرعة قصوى ٧٢ عقدة وهي مسلحة برشاش ٢٧-٢٧ ونظام مينوم بالإضافة الى تجربة نظام صاروخي عمودي ونظام ٨ صواريخ سطح سطح. كما للسفينة قدرة استقبال مروحية R-٠٦-HM الأميركية. يشار هنا الى الشراكة بين سامي ونافانتيا ضمن رؤية المملكة ٢٠٣٢ لتوطين ٥٠٪ من الصناعات الدفاعية السعودية.





**DIGITALLY ADVANCED.  
EFFICIENTLY PRODUCED.  
INTELLIGENTLY SUPPORTED.**





Calidus



A mock-up of the Calidus B-350 Combat-ISTAR platform with an EO/IR turret and lightweight Osprey 30 Airborne ESA ISR radar was shown off at Dubai Airshow last year

**ALAN WARNES REPORTS**  
*Abu Dhabi's indigenous aerospace and defence manufacturer Calidus is seeing progress with its combat-ISTAR programme*

# Calidus adds weight to GCC credentials

Calidus are at the World Defense Show marketing their Calidus B250 turboprop light attack aircraft, as has been the case at many aerospace exhibitions in the UAE since 2017. Now, the Abu-Dhabi based company, has a second aircraft to add to its portfolio – the larger B-350

Combat-ISTAR platform, launched at Dubai Airshow last November.

**Designed in Brazil**

The B250 is the first military aircraft to be developed in the UAE, albeit designed in Brazil, and the United Arab Emirates Air Force & Air Defence (UAEAF&AD) has ordered 12 of them, with another 12 on order. The deal announced at Dubai Airshow in 2019, is worth AED 2.274 billion (\$620 million) and as the UAE spokesperson said, 'a UAE platform for the UAE'.

According to Mustapha Skhiri, Head of Aerospace Cluster at Al Ain, deliveries are expected to take place inside the next three years. "It's a great aircraft for the UAEAF&AD" he said, adding "Being pressurised to fly up to 30,000ft, the aircraft can stay out of the range of enemy air defences and MANPADS (Man Portable Air Defences), which the UAEAF&AD AT802 Archangel border patrol aircraft cannot do."

The two B-250 prototypes, 980 and 981, are set to be joined by two

serial production aircraft 982 and 983 soon, according to one source.

A flight test team, made up of ex-Brazilian Air Force personnel - two flight test pilots and two flight test engineers has now created to get the aircraft through certification. It's not surprising Calidus hired a Brazilian flight test team, given that Calidus acquired Brazilian company Novaero in 2015. The chief designer, Joseph Kovacs was responsible for the Super Tucano and ultimately designed the car-

bon-fibre B250.

Powered by a 1600-shp Pratt & Whitney PT6A-68 engine, with a four-blade Hartzell propeller the aircraft is faster and more manoeuvrable than the Super Tucano. Undoubtedly, the aircraft's biggest advantage is it is made from carbon fibre, weighing in around 1,000kg less than the Super Tucano, allowing it to carry more avionics, fuel and armaments.

At the Dubai Airshow last November a full size mock-up of

the bigger and more heavily-armed B350 was unveiled after working on the project for three years. Skhiri says, "Its predominantly a combat ISR (Intelligence Surveillance and Reconnaissance) aircraft, and has six hardpoints under each wing. Right now it is still a concept, but by including a retractable MX-25 and a Leonardo Osprey 30 [airborne electronically scanned array (AESA) radar primed for ISR missions, it gives you an idea of what we hope we can do."

**Serial production**

He continued, "The B-350 will be powered by a Pratt & Whitney Canada PW127C – the same engine as the ATR 72." On display around the mock up was a mix of weapons, predominantly from the UAE's EDGE company, that included Al Tariq Mk 81/82 bombs, smaller Halcon Desert Sting 16 bombs, 500lb GBU-12s and rocket pods. While two mock up AIM-9 Sidewinder air to air missiles were positioned on the outer pylons for air defence. ▲

استراتيجية خاصة للسوق السعودي من كالدوس مع طائرتين مميزتين بمعرض الدفاع العالمي

عرضت شركة ألبازاني الروسية منظوماتها المتعددة للدفاع الجوي تماشياً مع التحديات السائدة مثل ذلك طائرة B250 التربونية الهجومية الخفيفة للغاية والتي يعطيها هامش مناورة وحمولة أكبر بفتيتها والتي تستطيع الطيران على ارتفاع 30 ألف قدم حيث بإمكانها تحاشي المضاضات الأرضية الفردية والتي ستسلم قريباً للقوات الجوية الاماراتية والمصممة في البرازيل والمطورة في الامارات في صفقة بلغت قيمتها أكثر من 2 مليار درهم. بالإضافة الى ذلك، عرضت الشركة ومقرها العين، منصة طائرة Combat-ISTAR 350 الأكبر حجماً وهي طائرة مراقبة وجمع معلومات بمحركات برات اند ويتني التي هي قيد التطوير حالياً.

كما عرضت الشركة مجموعة من الصواريخ ذات الصلة.

## Command & Control Solutions

### KVM Secure Display Management Systems

What makes KVM secure display management systems unique is the ability to combine computer systems to the operators desk with reduced cabling and networking complexity while allowing increased security and zero latency interaction. KVM management systems create an operational environment where backup, recovery, forensics and data security are embedded in one non-intrusive data management system isolated from your LAN or WAN. to find out more...

**DRACO TACTICAL** mission ready

**ihse USA**

www.ihseusa.com | info@ihseusa.com | +1.732.738.8780  
see us at WDS Stand N7

## MARSS

— INTRODUCING MARSS INTERCEPTOR UAS

— AN INTELLIGENT APPROACH TO DEFEATING HOSTILE CAT I & II UAS THREATS

marss.com / marketing@marss.com



## Creating Excellence in Aerospace, Security & Defense

EFA Group consists of companies that have a leading-edge position in the international markets in the fields of aerospace, security, defense and industrial cooperation. With more than 31 years of experience, it has established itself as a leader in its field in more than 55 countries worldwide.

**THEON**  
SENSORS  
Advanced Optronics

Best in Class Night Vision & Thermal Imaging Technologies for Man Portable and Platform Integrated Systems

**SCYTALYS**  
Interoperability Systems

Tactical Data Links and Interoperability Solutions  
Mission and Tactical Command & Control Systems

**AEROSPACE**  
VENTURES

**epicos.com**  
Aerospace & Defense  
Industrial Cooperation

**EFA**  
VENTURES

Industrial Cooperation,  
Logistics & Participation  
Projects

**THEON**  
SENSORS  
Advanced Optronics

Night Vision Systems  
for Defense & Security  
Applications

**SCYTALYS**  
Interoperability Systems

Datalinks, Interoperability,  
Command & Control Systems

**ES**  
SYSTEMS

Sensors based mainly  
on MEMS and IoT

EFA Group global operations are powered by epicos.com, a leading global B2B information platform for the Aerospace, Defense and High Technology (ADHT) Industries.

### Affiliated Companies

**DEFENDER**  
360° AI Surveillance Technology

Panoramic Cameras,  
Image Analysis & Processing  
Systems

**UCANDRONE**  
Unmanned Systems

UAS for Defense, Security  
& Commercial Applications

**Aether**  
aeronautics

Target Drones, Light Aircraft,  
Flight Testing

**GA**  
AVIATION SERVICES

MRO Services & Upgrades  
of Aerial Means

**EFA GROUP**

7 Stratigi str. / 15451 Neo Psychiko - Athens, Greece

T +30 210 6728610 / F +30 210 6728624 / info@efagroup.eu / www.efagroup.eu

Qudra International Co.

Husky route clearance vehicle  
with mission equipment



**SAM BASCH REPORTS**  
on how a derivative  
of the Husky route  
clearance system is  
finding new grounds  
to clear in the Saudi  
Arabian market

# Husky sniffing out explosives and mines

In keeping with Saudi Vision 2030, specifically the Kingdom's localisation drive for the military industry, Qudra International Co. (Hall 2 – Stand R10) teamed with two foreign firms for a proven route clearance solution for the country.

"It's based on the innovative Husky mine detection system, the leading route clearance vehicle in service with the U.S. military and numerous international allies around the world, including several NATO nations," said Eng. Abdulaziz Al-Ali, business development manager.

#### Proven operations

Over more than 30 years, the Husky has proven itself in high-threat military operations and humanitarian demining missions.

"With our core expertise in land systems, weapons, and defence structures, Qudra brought together AirBoss Defense Group (ADG) of the United States and DCD Protected Mobility, original equipment manufacturer of the Husky," Abdulaziz Al-Ali explained. "This partnership now aims to provide the Kingdom with an unparalleled capability in route clearance for our armed forces and allies."

The Husky is a versatile platform that can detect, mark, and interrogate landmines and IED threats. Able to accommodate a range of mission equipment, from ground penetrating radar (GPR) and high-sensitivity low metal content detectors to a roof-mounted remote weapon station for ambush protection, the Husky has unmatched capabilities to protect lives. Collectively it has been subjected to more than 7,000 land and IED detonations in different operational theatres with no fatal operator casualties.

In a detonation the cabin protects the crew from injury, whilst the vehicle's frangible configuration allows the structural components to break apart in a predictable manner. This enables rapid in-field repairs, often completed within an hour, thus increasing system availability.

It is extremely mobile thanks to a powerful driveline, all-wheel drive and all-wheel steer capability. The automatic transmission allows the driver to focus on the prime function of detection, marking and interrogation.

Although driving at the head of a route clearance convoy, which

operates between 10 and 35 km/h, it can also lead logistic convoys, like ammunition, food, medical supplies, and spares at speeds up to 70 km/h.

"The Husky is absolutely the best in class when it comes to protection of the crew, system survivability, and relative ease of repairs in a short period of time to return it to service," said Al-Ali.

#### Long established company

The Husky was designed and developed by DCD Protected Mobility, a South African company established in 1898. Over the past 25 years, it has delivered over 1,600 vehicle

systems to international clients around the world, including NATO. DCD has a long-standing partnership with AirBoss Defense Group, who offers tailored solutions to the world's major militaries, especially industry-leading clearance and counter-IED solutions.

"We as Qudra International are confident that the combined years of experience and expertise in this partnership will not only bring proven route clearance technology to Saudi Arabia, but also enhance local production capability of this outstanding vehicle solution," Abdulaziz Al-Ali concluded. ▲

### القدرة العالمية السعودية تعرض مركبة هاسكي للكشف عن المتفجرات ضمن مشروع سعودي عالمي مشترك رائد

كشف النقاب عن المركبة هاسكي في معرض الدفاع العالمي بالرياض من شركة القدرة العالمية السعودية بالتعاون مع مجموعة أربوس للدفاع الأميركية و شركة DCD الجنوب أفريقية للمركبات المدرعة المصنعين الرئيسيين لسيارة هاسكي.

المشروع السعودي الطموح يؤمن نقل التقنية العالمية للمملكة حيث ستصنع المركبة تماشياً مع رؤية ٢٠٣٠ لتوطين صناعة الدفاع في حيث تتميز المركبة في قدرتها العالية على الكشف عن القنابل والمتفجرات والألغام مع نظام راداري متطور لباطن الأرض وخاصة الكشف عن المعادن الخفيفة الحساسة للغاية ونظام هوائي لرصد الكائنات من أجل حماية المواقع بسعة تصل ٠٧ كم في الساعة حيث خضعت المركبة لأكثر من سبعة آلاف اختبار بظروف مختلفة دون تسجيل أي إصابات.



Beretta

Aimpoint

SAM BASCH REPORTS

Compact and potent – Beretta aims at law enforcement

# The light arms of

Aimed specifically at meeting the demanding needs of military forces and law enforcement, BDT – Beretta Defence Technologies (Hall 01 Stand G8.3) is offering its next generation Beretta PMX submachine gun in 9x19 mm (9 mm Parabellum).

### Rugged design

“Reliability, accuracy, and safety are the highlights of the Beretta PMX,” said Jarno Antonelli, marketing manager. “By using advanced polymer and light alloy metals, Beretta achieved a compact, light-weight yet rugged design, which enables a versatile and easy to deploy weapon.”

Thanks to its compact design the submachine gun can easily be

بيريتا الايطالية تستعرض الجيل الثاني من بنديقتها القتالية الخفيفة 9 PMX مدمجة والمرنة والعالية الدقة معرض الدفاع العالمي في الرياض

تتميز البندقية بخاصية الاستخدام الثلاثي الآمن والفردى والمتعدد مع نظام أمان خاص للفراغ ومشط ثلاثيني الطلقات سهل القراءة والتعامل في الجبهة مختلف التقلبات والتعاملات الصعبة بسبب المواد الخاصة المستخدمة وامكانية الاستخدام مع او بدون قفازات لجميع افراد القوى الامنية.

carried or concealed by folding the stock with a push button. An oversized button releases the magazine, guaranteeing easy operation while wearing gloves.

The PMX operates on a blow-back system, designed with a closed-bolt firing mode. Components, like the barrel and bolt are machined from a special high-strength steel, and special surface treatments prevent corrosion in harsh environments and abusive conditions.

### Easily accessible

With the three-position fire selector located on both sides of the lower receiver makes it easily accessible for right- and left-handed use. It permits the selection between safe, single, and full auto fire, whilst an optional 3-round

burst position is also available.

According to Antonelli, its safety features prevent unintentional discharge, even when the weapon is accidentally dropped. A bolt-open lever holds the bolt open and in the rearward position after the last round is fired. This allows the user to determine that the submachine gun does not have a round in the chamber or in the magazine. A translucent 30-round polymer magazine allows visual count of the rounds.

The PMX sub-machine gun is equipped with Picatinny rails (MIL-STD-1913) to mount a variety of sights, illuminators and other enablers. Field stripping procedures have been reduced to a minimum allowing take-down of the PMX submachine gun in a few seconds without the use of tools. ▲

SAM BASCH REPORTS

Aimpoint has sights on new market opportunities

# Taking aim

Accurately aiming a weapon system is essential in combat and law enforcement. Sweden based Aimpoint AB (Hall 01 Stand J17) has been offering a range of innovative sighting systems for 45 years.

Last year Aimpoint advanced the standard for pistol-mounted optics with the release of the 2nd generation Acro red dot sights. The enclosed design protects the dot from mud, debris or any foreign object that could block the emitter. Weighing only 60 grams and impressively rug-



Spot the dot - Note the size of Aimpoint's 2nd generation Acro red dot sight on a pistol

ged, it can be mounted on multiple weapon platforms, where it had been proven to withstand extreme levels of vibration and environmental conditions.

With its 3.5 MOA (minute of angle) red dot, the Acro delivers fast target acquisition on close targets, while providing accuracy at extended range.

In January, Aimpoint announced the release of the all new Aimpoint Duty RDS red dot sight to meet the demands of law enforcement agencies.

Boasting high-grade reflex optics in a compact package it comes at a budget friendly price.

أيمبوينت السويدية تستعرض الجيل الثاني من نظام النقطة الحمراء للتصويب المميز في معرض الدفاع العالمي بالرياض

النظام العالي الدقة ذو ٠.٦ غراما يمكن تحميله بعدد من الطرق على عدد من الأسلحة من مسدسات الى قاذفة القنابل ومدافع مع دقة متميزة و قدرة تحمل فائقة للارتجاج وأحوال الطقس المختلفة تلائم مختلف الأجهزة الأمنية والميزات بما فيها الولايات المتحدة مع خاصية توجيه بالليزر.

Aimpoint's FCS13RE Fire Control System is currently in use on the 84mm Carl-Gustaf by the U.S. Army, U.S. Marine Corps, and U.S. Special Operations Command. With an integrated laser range finder and ballistic computer, it can be utilized on multiple weapon platforms including 40mm high velocity grenade launchers, .50 calibre heavy machine guns (M2), and the M134D Minigun. ▲

In association with Rwanda Civil Aviation Authority and RwandAir

**AVIATION AFRICA**  
12th - 13th September 2022  
Radisson Blu Hotel & Convention Centre, Kigali, Rwanda

NEW DATES ANNOUNCED

## DRIVING REVIVAL AS RECOVERY STRATEGIES TAKE FLIGHT

Where we go from here – shaping the future for aviation in the wake of the coronavirus crisis

To find out more please contact Mark Brown:  
T: + 44 (0) 1702 530 000 | M: + 44 (0) 7889 100 987  
E: mark.brown@aviationafrica.aero

[www.aviationafrica.aero](http://www.aviationafrica.aero)

OFFICIALLY SUPPORTED BY:

Follow us: [Social media icons]

**Navantia**

LHD

**Innovation where it matters**





**WORLD  
DEFENSE  
SHOW**  
SAUDI ARABIA

FOUNDED BY

الهيئة العامة  
للصناعات العسكرية  
General Authority  
for Military Industries



**2024**  
3<sup>RD</sup> – 6<sup>TH</sup> MARCH

**SECURE  
YOUR SPACE**

Visit us at GAMI stand  
Hall 2 - Q6

Boeing

ALAN DRON REPORTS

*More than 40 years of operations in the Kingdom has seen Boeing understand the importance of taking a long view*

# Building relationships for the long game

The World Defence Show may be new to Saudi Arabia, but one of its most prominent exhibitors can look back at a relationship with the Kingdom that stretches from 1978.

Boeing will be at the event in strength, building on a local history that began with Saudi Arabia's purchase of the F-15 Eagle.

Since then, the US company has had a sustained presence in Saudi, a fact that will be apparent from the company's exhibits in the static park, which is expected to include the F-15, AH-64 Apache, AH-6i Little Bird, CH-47 Chinook, all of which are currently in Saudi service, together with several UAVs, such as the Scan Eagle. The Air Power Teaming System, otherwise known as the 'loyal wingman', an advanced UAV intended to accompany manned aircraft, will also feature at Riyadh.

However, said Maria Laine, Boeing's vice president of international sales and strategic partnerships: "It's not just about products and platforms, it's about relationships – our partners and supply chain.

## Focus

"We have around 2,200 staff in Saudi Arabia, both expats and locals. A significant part of our focus is very much around the sustainment of those platforms; a defence capability is only as good as how well those products are supported and maintained. Typically, what we do is we partner. We partner locally with the customer or local industry to ensure we have a comprehensive local solution on the ground."

That can mean undertaking



The Boeing AH-64 Apache has served Saudi requirements

work on repairing or refurbishing components in Saudi Arabia, rather than shipping them back to the US to be worked on, something that the company is hoping to focus on at the show.

Developing that local capability chimes with the country's Vision 2030 programme of diversifying the economy away from the hydrocarbon industry. Laine said that Boeing was fully committed to

supporting that, with the possibility of announcements being made at the show on this topic.

While most of the company's in-country capability is taken up with ensuring the continued effectiveness of the Saudi armed forces, she added, it was possible that in future, work could be undertaken in the Kingdom for other countries in the region. "It depends very much on the product and platform; we can look at that."

While Boeing staff may not be the ones doing the wrench-turning on military aircraft in the Kingdom, they handle vital behind-the-scenes work such as data analytics.

WDS provides a major opportunity for Boeing to get back into the groove of having face-to-face meetings with customers. "It's been extremely challenging. Thankfully, for us, the fact that we had 2,200 personnel on the ground has been a saving grace, because travelling across the Atlantic and getting into Saudi Arabia has been extremely difficult.

## Connectivity for customers

"We're just thrilled that it's starting to feel like life as we used to know it and we can sit down with



**"It's not just about products and platforms, it's about relationships – our partners and supply chain"**

MARIA LAINE BOEING'S VICE PRESIDENT OF INTERNATIONAL SALES AND STRATEGIC PARTNERSHIPS

our customers and partners and reconnect. I think that's the most important thing for us at the show: connectivity for customers in the Kingdom."

An indicator of how seriously Boeing is taking the show, said Laine, is the calibre of senior executives making the trip to Saudi Arabia. Both Leanne Caret, president and CEO of Boeing Defense, Space & Security and Ted Colbert, her counterpart at Boeing Global Services, will be present, as will Heidi Grant, president of Business Development: "It will be the top chain of command at Boeing."

Like all manufacturers, Boeing is reluctant to talk about potential forthcoming business, but there are possibilities in several areas. "There are a lot of opportunities on the rotorcraft side," Laine said, while the new advanced T-7 jet trainer being developed with Saab "has a lot of interest from around the world".

## بوينج تبرز تواجدها الاستراتيجي في المملكة مع منتجات جديدة وخدمات متميزة

تشارك شركة بوينج في معرض الدفاع العالمي بالرياض بوفد رفيع المستوى مع سلسلة متكاملة من منتجاتها من أف 15 وهليكوبتر أباتشي والشينوك وليتل بيرد ومسيرات سكان إيغل بالإضافة إلى نظام إيرباور المتطور للمسيرات والذي يأتي امتداداً لتاريخ الشركة في المملكة الممتد منذ 1978 مع أكثر من 2200 موظف غالبيتهم سعوديون بطورون قدرات الشركة من صيانة وخدمات محلياً تطبيقاً لرؤية 2030 لتوطين الصناعات الدفاعية بالإضافة إلى تخفيض العامل الكربوني. كما تقوم الشركة بعملية تحليل البيانات هذا مع خطط مستقبلية غير معلنة مع توقعات لطائرة التدريب T-7 المنتجة بالتعاون مع شركة ساب السويدية.



## مؤهلات وبرامج

- ▲ بكالوريوس الهندسة الصناعية من جامعة الملك سعود بالرياض.
- ▲ برنامج القيادة التنفيذية من كلية إدارة الأعمال بجامعة نورث كارولينا.
- ▲ الرخصة الدولية "C - IDP" في مجال حوكمة الشركات.

## مناصب حالية

- ▲ العضو المنتدب للكلية الأسترالية للطيران **ARX** المشغلة للكلية التقنية العالمية لعلوم الطيران بالرياض.
- ▲ رئيس مجلس إدارة المجموعة المتحدة للتأمين التعاوني أسيج.
- ▲ رئيس مجلس إدارة شركة أسبار الخليج المتخصصة في تصفيح وتدريب العربات.
- ▲ الشريك المؤسس لشركة سفان المتخصصة في تصنيع وصيانة السفن العسكرية.

## مناصب سابقة

- ▲ رئيس مجلس إدارة شركة الطائرات المروحية.
- ▲ عضو مجلس إدارة شركة الشرق الأوسط لمحركات الطائرات المحدودة "MEPC".
- ▲ الرئيس التنفيذي للشركة السعودية لتهيئة وصيانة الطائرات **GDCME**.

## مهارات وخبرات

- ▲ خبرة تزيد عن 24 عاماً في مجال الطيران والدفاع.
- ▲ خبرة مميزة في هيكلة الشركات وتطوير وتنفيذ استراتيجيات التشغيل والتحول المؤسسي.
- ▲ مهارات عالية في التخطيط الإستراتيجي وتطوير الأعمال.
- ▲ خبرات مميزة في إدارة الأبحاث وعمليات السوق وتطوير الأعمال.
- ▲ خبرة كبرى في الإستشارات الفنية والمالية.

## جائزة القيادة والتحول المؤسسي بقطاع الطيران والدفاع

تقدّم من قبل المنظمة الإعلامية البريطانية جلوبال بيزنس أوتلوك بالمملكة المتحدة وتُمنح كتقدير ومكافأة على التميز في الأعمال الإستراتيجية والتجارية حول العالم. وهي مصممة للإنجازات في تسهيل العمل المتميز للشركات وقادة الأعمال عبر الصناعات المختلفة.

## م.فواز بن محمد الشرعبي

(جائزة القيادة في التحول المؤسسي بقطاع الطيران والدفاع)  
24 عاماً من الخبرات في صناعة الطيران والدفاع







الهيئة العامة للصناعات العسكرية  
General Authority for Military Industries

## زوروا جناح الهيئة العامة للصناعات العسكرية

HALL: 2,  
STAND: Q6

6th - 9th MARCH 2022

Visit GAMI's pavilion at World Defense Show

Centcom

JON LAKE REPORTS

on how collaboration and integration could bring benefit to the GCC according to the US commander

# Stronger together is message from US

The incoming commander of US Central Command (CENTCOM) has welcomed what he called a 'Rare Opportunity' to Integrate Air, Missile Defense in the GCC Region, speaking to the US Senate Armed Services Committee before the show. "We are collectively stronger together, and there are areas where each nation brings unique capabilities," Army Lt. Gen. Michael Kurilla observed.

The range and speed of threat systems makes it essential to detect (and preferably engage) them at long range, and places a premium on regionally-based defences, with national sensors, missile systems and air defence aircraft linked and closely co-ordinated. Any system must be as multi-faceted as the threat, since some targets will be best tackled using traditional surface to air missile systems, while others may be more appropriately dealt with by manned fighters.

### Growing threat

Centcom's outgoing commander, US Marine General Kenneth F. McKenzie Jr., recently said that the growing threat posed by Iran's growing stockpile of ballistic missiles, drones and cruise missiles makes it necessary to bring Gulf countries together to counter these threats.

"Collective security in that region could best be approached initially from an integrated approach to air and missile defense," McKenzie said. "It's about the sharing of information, because in order to have integrated air and missile defense, what you need is good sensor coverage that is shared, to build what we call a common operational picture that all partners can see."



▲ General Michael Kurilla taking responsibility for all U.S. military operations in the Middle East calls for strength in collaboration

Mackenzie emphasized that such an arrangement would not require foreign forces to be stationed in GCC countries and would not threaten state sovereignty.

Increasing missile and drone attacks against Saudi Arabia and the United Arab Emirates have focused attention on air and missile defence. A number of GCC states

and other regional powers are protected by US-made anti-missile systems, including THAAD (Terminal High Altitude Area Defense, formerly known as Theater High Altitude Area Defense), deployed by Saudi Arabia and the UAE, and Patriot.

The Patriot system is deployed by Saudi Arabia, the United Arab

Emirates, Kuwait, Jordan, Israel, and Egypt. Patriot consists of an AN/MPQ-53 or AN/MPQ-65 radar (known as the "Phased Array Tracking Radar to Intercept on Target" which is a backronym for PATRIOT) with MIM-104 missiles and an AN/MSQ-104 Engagement Control Station (ECS). But while Patriot is effective against ballistic missiles, it has been less satisfactory against some other target categories.

While THAAD and Patriot are formidable medium-to-high altitude air defence systems, there is a pressing requirement to address lower altitude and unconventional air threats. In the short term, both France and the United States have announced that they would assist the UAE in defending against missile, drone and rocket attacks, and have stepped up fighter deployments to the region.

### Joint programme

It has been reported that Israel, the United Arab Emirates, Bahrain and Saudi Arabia, are engaged in talks to establish a joint air defence programme, and this could be based upon advanced Israeli weapons, and other systems – including those that are already in service such as David's Sling and Iron Dome.

The addition of Israel to the CENTCOM AOR may facilitate the establishment of a longer term solution, in the shape of an integrated regional air and missile defense system.

"The unique capabilities that Israel brings, now that Israel is in the Central Command area of responsibility, is another great resource that we can draw upon as we build this," MacKenzie said. ▲

## القيادة الوسطى الأمريكية تدعو للتعاون لتعزيز أمن المنطقة في ضوء المخاطر المرتفعة

تبرز الحاجة لترايط الحلول الدفاعية وتشارك المعلومات بين دول المنطقة لردع المخاطر مع ارتفاع الهجمات المتنوعة على المملكة العربية السعودية والامارات ان كان الصاروخية الباليستية او الهجمات المنخفضة عبر الطائرات المسيرة. واقترح رئيس القوات الأمريكية تطوير استراتيجية "الصورة التشغيلية المشتركة" بين الدول التي لا تتطلب تواجد قوات أجنبية. بالإضافة الى أنظمة باتريوت وتهاد المتطورة المنتشرة بالمنطقة، تبرز الحاجة الى نظم دفاع جوي للمخاطر من الارتفاع المنخفض مثل نظام القبة الحديدية ونظم حديثة تستقطبها الامارات للتعامل مع المسيرات.



BAE Systems



BAE Systems delivered 72 Typhoons to the RSAF between 2009 and 2017, and if more are to come, then it is likely they will be assembled in Saudi

Alan Warnes

ALAN WARNES REPORTS

Simon Barnes, MD of BAE Systems in the Kingdom, talks about partnership and relationships

# BAE Systems – proud of its presence in Saudi

BAE Systems is undoubtedly very proud of its long relationship with Saudi Arabia, which stretches back to the mid-60s. That is when the company, signed deals to supply English Electric Lightnings and Hawker Siddeley Strikemasters under a programme called ‘Magic Carpet’ (not to be confused with the RAF/Royal Air Force of Oman air exercise).

Since then, the relationship between the British and Saudi governments has flourished, often controversially, with BAE Systems being the main deliverer of the Saudi’s aerospace requirements.

Today, BAE has a bigger pres-

ence than ever before, operating across both the training and support sectors at seven locations, with the number of Saudi employees rising to more than 70% now. Now, BAE Systems is facing the challenges of Saudi Vision 2030, created by Crown Prince Mohammed bin Salman, minister of defence and Chairman of the Council and Development Affairs.

**Localising**

One of the key aspects of his new strategy is localising 50% of Saudi government expenditure in the Kingdom by 2030, to ensure a sounder financial, commercial and social future, away from the reliance on oil. That means, there will

be more ‘Saudi-isation’ content in any contracts that are awarded to foreign companies.

Tasked with discharging that responsibility in the Saudi’s defence industry is GAMI (General Authority for Military Industries) which as the regulator follows very clear government-led guidelines to the localisation.

Simon Barnes, MD BAE Systems in Saudi Arabia, is the man tasked to work with GAMI on ensuring the UK-based business meets the Saudi Vision 2030 commitments, if it wants to remain at the forefront of the aerospace sector there. “We have been here for many years now, and well before the 2030 visualisation, our work

had a high Saudi localisation content with the transfer of capability and technology.

“That’s right across all our air programmes and training programmes. So it came as no surprise to us at all, that the rest of the defence industry overall would be asked to do what in effect we have been doing for a long time – deliver localised value to the Kingdom.”

GAMI is setting up requirements with industry, and further upstream, the Saudi users, to understand what their particular military requirement needs are. It sets the framework and audits the response to RFQs (Request for Quotations) and decide if its compliant with the national strategy.

“This is important” said Simon, “Our relationship with GAMI is key, because it helps to understand the end-point.”

Heading BAE Systems in Saudi brings many challenges, and Simon’s focus is on support and training, “They are the two main priorities of our business and everything flows from that.

Our clear obligations are discharging our contracts in terms of the fleet we support [the Cirrus SR22, Pilatus PC-21, Hawk advanced jet trainer trainer, Typhoon and Tornado] and the training capacity that we give the RSAF [at the RSAF King Faisal Air Academy] and at Tabuk [where the Hawks operate] and Navy.”

BAE Systems as a systems integrator and training solutions provider, brings together its own products and technologies, as well as other technologies and build them into an integrated training system. That provides ground based training to cadets and aircrews, and a number of flying assets are used [Cirrus SR22 for basic flying training, Pilatus PC-21 for advanced flying training and Hawk Mk165s for introduction to fighter fundamentals as well as simulation]. “We take the cadets up the capability staircase towards becoming fast jet pilots, both at the academy in Riyadh and Tabuk”

**Training output**

While the RSAF buys the assets through the government to government constructs, BAE Systems is tasked with delivering the training output incorporating those assets, in a Government to Government programme that was revolutionised in 2012 and the government renews the performance based contract every five years, after reviewing BAE’s results.

The RSAF ordered 22 Hawk



**“It came as no surprise to us at all, that the rest of the defence industry overall would be asked to do what in effect we have been doing for a long time – deliver localised value to the Kingdom”**

**SIMON BARNES** MANAGING DIRECTOR, BAE SYSTEMS IN SAUDI ARABIA

Mk165s in 2012, that saw them delivered from BAE Warton between 2015-17. In February 2016, BAE Systems announced that another 22 had been contracted, but these would go through final assembly in Saudi Arabia – at the Tornado Programme Depth Maintenance Upgrade (TPDMU) facility at Dhahran. The ceremonial first roll out from the Saudi Hawk production took place on 1 April 2019 and the first delivery to the RSAF in June 2019,

“It was more than assembly, we created a capability where they are tested after assembly, then flight tested and ultimately delivered to the customer, from within Saudi. It’s something we are proud of, and demonstrates the transfer of capability as well as showing how we are prepared to take on the real challenges, to show real commitment.” Simon continued, adding: “Saudi industry manufactures a significant number of parts of the Saudi Hawk, which all come together in the final assembly process. We are now at the very end of the production line. It was a big

endeavour and the we are proud of the outcome.”

If GAMI, the regulator was to be involved in overseeing the work-share content in the Hawk final assembly, would anything change? “Undoubtedly” Simon said, “We are in constant discussions with GAMI and they would obviously see the localisation and capabilities that have been generated, that we could do more with. Over 70% of the work force was Saudi, which we are very proud of.”

**Stumbling block**

Three years ago, the Riyadh government signed a Memorandum of Intent with the British government, for a purchase of 48 Eurofighter Typhoons, to join 72 already delivered to the RSAF. So far, there has been no contract signed, with local production probably being a stumbling block.

Simon, who spent many years at BAE Warton managing the Typhoon production line, would be a good man to have around if Typhoon production was indeed to be set up in the kingdom. Having seen the Hawk assembly line

created, is Saudi Arabia now ready to move into the more complex world of final assembly Eurofighter production? “I think you have to look at the size and scale of anything we can do in the combat-air space. The locations of manufacturing is one of many considerations, under any continuation of Typhoon work and the Saudis would like to see a continuation of what we have started. That is localising capability and that’s what we are working with the UK and Saudi government on.”

BAE Systems presence in Saudi Arabia is spread right across the country, locating out of seven different locations – but there are three central hubs – in Dhahran, Riyadh (Academy) and Taif. “We have strong links across the Kingdom, and we have a been on a journey with our customer to localise capability for several years now.” Simon said, finishing, “We have a very significant footprint here, with 75% of our workforce across all of our locations made up of Saudi Nationals which is just one of our many successes.” ▲

في ايه اي سيستمز السعودية تشارك موسم 2030 الدفاع العالمي بالرياض انعكاسا لتاريخها الطويل في المملكة مع برامج طموحة تماشيا مع رؤية 2030.

70% حضر وفد عالمي رفيع من شركة في ايه اي سيستمز العالمية لمعرض الدفاع العالمي بالرياض حيث للشركة تواجدا ضخما متصاعدا منذ ستينيات القرن الماضي ليشكل السعوديين أكثر من 2030 ن اجنالي الموظفين. واليوم ويعيد تسليمها 27 طائرة تايفون للقوات الجوية الملكية السعودية بين 2009 و 2017، تركز الشركة على التصنيع والتجميع المحلي في المملكة تماشيا مع رؤية 2030 الطموحة لتمكين الشباب السعودي الواعد.

وأوضح سايمن بارنز العضو المنتدب لشركة في ايه اي سيستمز السعودية ان العلاقة مع الهيئة العامة للصناعات العسكرية جامي تساعد على توضيح المتطلبات والخدمات بشكل جلي مما يساعد في تأمين أفضل الحلول التقنية في المملكة العربية السعودية مع تركيز خاص على التدريب والتمكين للشباب السعودي ضمن جميع مراحل العمل وسلسلة التوريد استعدادا لتسليم المييد من طائرات تايفون يوروفايتر حيث وقعت المملكة طلب شراء 48 طائرة جديدة. يأتي هذا بالإضافة الى عمليات التدريب المتواصلة على طائرات بيلاتوس وهوك مع تواجد للشركة يشمل الرياض والظهران والطائف.

الوعلان للطيران WALLAN AVIATION

Wallan Aviation, headquartered in Riyadh, Saudi Arabia has been Middle East’s leading business aviation company, for more than 30 years. Wallan Aviation is Textron Aviation’s partner for the Middle East, and Cessna Authorized Service Centre for the region. Come and visit us at **Booth Q20**

www.wallanaviation.com





PLZ45A4  
155mm Self-propelled Gun Howitzer

www.norinco.cn



**NORINCO OF CHINA  
NORINCO FOR THE WORLD**

Visit us at 2022WDS Hall1 C3&D3





VISIT US AT  
STAND G61



السلام لصناعة الطيران  
**ALSALAM**  
AEROSPACE INDUSTRIES



## SAUDI ARABIA'S LEADING MILITARY MRO, COMMERCIAL MRO & AEROSPACE MANUFACTURING CENTER

- Military aircraft MRO, modifications & upgrades
- Commercial aircraft MRO
- Manufacturing & assembly
- Technical support
- VIP aircraft interior design & refurbishment
- Aircraft operations & maintenance

King Khalid International Airport Industrial Zone, Kingdom of Saudi Arabia  
T: +966 11 874 2222 | F: +966 11 220 3972 | E: info@alsalam.aero  
www.alsalam.aero

رؤية  
VISION  
**2030**  
المملكة العربية السعودية  
KINGDOM OF SAUDI ARABIA