

SHOW BUSINESS



WORLD
DEFENSE
SHOW
SAUDI ARABIA

FOUNDED BY

الهيئة العامة
للصناعات العسكرية
General Authority
for Military Industries



WDS OPENS DOOR ON OPPORTUNITY

The results of more than two-and-a-half years of work went on display yesterday morning as the first World Defense Show opened its doors to waiting crowds.

With visitors and exhibitors from around the world enjoying the new “open” Saudi Arabia, the mood was upbeat despite the low clouds that affected planned flying displays.

A remarkable 550 or so exhibitors are now at work, displaying their products and services to what WDS CEO Andrew Pearcey, hopes will be around 60,000

visitors over the show’s duration.

Almost inevitably, there have been some last-minutes snags – like the completely unexpected dust storm that covered the site over the weekend and the low visibility that grounded display teams.

“the dust storm stopped rehearsals and didn’t help with flying validation,” he said.

But there was still plenty to see on the ground and in the halls with many companies across air land and sea announcing new products and

partnerships.

Belgium’s John Cockerill unveiled a new ground interceptor system in the form of the Cockerill i-X that has the looks and performance of a rally raid car while France’s CMN Naval gave the first demonstration operating an autonomous high speed naval interceptor UHSi 32.

Saudi Arabia’s Vision 2030 initiative aims to have

50% of the defence industry locally based and WDS is part of that drive. “GAMI are trying to build the defence industry in Saudi Arabia and this is a platform for them to do that,” Pearcey said. ▲

▼ Hawkeye: Saudi Hawks keep a weather eye for clear skies



فتح معرض الدفاع العالمي أبوابه بعد عامين ونصف من العمل وبحشد كبير من كبار الشخصيات والتنفيذيين والخبراء السعوديين والعالميين الذين حضروا لمشاهدة أكثر من 550 عارضا متلفهين إلى المساهمة في تحقيق رؤية 2030 عبر بناء شراكات سعودية وما يمثله ذلك من فرص لنقل التقنية وتوظيف الشباب السعودي وتمكينه في هذا القطاع الحساس. أكثر من 60 ألف زائر متوقعا للمعرض بالرغم من الطقس العاصف والمخبر الذي حد من إمكانية الطيران والعرض الجوي. هذا ما حول الزوار إلى البدء في زيارة المعروضات الجاثمة على الأرض. وقدرت شركة John Cockerill نظام الرصد الأرضي الجديد i-X Cockerill بينما عرضت شركة CMN الفرنسية نظام الرصد والتتبع البحري الفائق السرعة UHSi 32. من هنا فقد أكد الخبراء على أن المملكة تسير بثبات نحو تحقيق أهداف رؤية 2030 بما فيها توطيد 50% من القطاع الدفاعي في المملكة تحت إشراف الهيئة العامة للصناعات العسكرية.



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)



NAVIGATE THE FUTURE WITH A SOLUTION THAT'S BUILT FOR IT



Modernize your fleet with a trusted partner

Upgrade your C-130 fleet confidently with the Flight2™ integrated avionics system from Collins Aerospace. Our next generation avionics with Head-up Display, Enhanced Vision System and FMS provide additional operational capabilities helping pilots navigate the most challenging missions. With our vast modification experience and long history serving the Kingdom of Saudi Arabia, we fully embrace Vision 2030.

collinsaerospace.com/flight2

FLIGHT2 INTEGRATED AVIONICS SYSTEM

- CNS/ATM compliance and enhanced mission capabilities
- Lower weight compared to legacy installations
- Support from a global leader in C-130 modifications
- Service and training capabilities around the world



Collins Aerospace is a Raytheon Technologies Business
© 2022 Collins Aerospace

Daily news updates on timesaerospace.aero

UAV or OPV – Hexa does the heavy lifting

Light Aircraft's Hexa optionally manned drone is making its Saudi debut at the World Defense Show. Hexa is an 18-propeller heavy lift drone, driven by independent electric motors. Despite the carbon fibre airframe weighing only 196kg, it is capable of carrying cargo loads of up to 150kg.

Matt Chasen, founder and CEO, explained: "It is a small personal helicopter, but you can fly the Hexa with less than an hour's training on a VR flight simulator.

"It has simple push button controls, and we have built in a manned level of safety and redundancy, including an autonomous ballistic parachute that will automatically deploy if the aircraft loses control and collision avoidance sensors. The aircraft can lose up to six of the 18 rotors and still fly," he added.

Hexa offers various levels of autonomy. It can be remotely controlled completely unmanned, or in assisted manned flight, such as a programmed waypoint mission.

Chasen said: "We have had enormous interest from the military sector. We are partly funded by the US Military, through Agility Prime, an Air Force programme to develop and accelerate the commercial market for advanced air mobility aircraft, and are developing modules for military purpose. But it is dual use technology, and has commercial applications."

Chasen added: "It is modular, and very flexible, from medivac to cargo and military resupply. The military is already using small drones, but this large drone opens up new possibilities." ▲



▲ Chasen: Profits in the optionally manned drone market

المسيرة العملاقة هيكتسا في معرض الدفاع العالمي

ب 18 مروحة وماكينة كهربائية مستقلة تستطيع هذه الطائرة العمل بنظامين الأول الغير مأهول بالكامل مثل المسيرات أو نظام طيران بشري خاص. كما تستطيع حمل أكثر من 150 كيلوغراما. انها مسيرة فريدة وضخمة ومع ذلك، سهلة القيادة والتوجيه عبر نظام في آر الأمر الذي شد انتباه قادة الدفاع بعد اهتمام القطاع التجاري بها نظرا لتطبيقاتها التجارية هذا ما يجعلها ملائمة للقطاع الصحي والشحن بأسلوب مرن للغاية. انها هيلوكبتر مصغرة بنظان المسيرات الدرون وبنقنيات سلامة عالية جدا تمنعها من الاصطدام مع نظام أمان مزود بمظلات للهبوط الاضطراري.

Oceanwatch now on Tekever AR5

Europe's TEKEVER has successfully integrated the PT-8 Oceanwatch payload on the TEKEVER AR5 UAV, adding 360 degrees automatic small target detection capabilities to the system, the company said at WDS yesterday.

The Overwatch Imaging payload enhances the situational awareness capabilities of the TEKEVER AR5. Based on visual data, the PT-8 Oceanwatch can even identify the colour of the targets, said Tiago Nunes, TEKEVER's Director of Products. The UAV can carry large payload and multiple state-of-the-art sensors operating simultaneously.

The AR5 is a medium-altitude/medium-endurance, fixed wing UAS designed for missions such as land and maritime surveillance, extended patrols, and search & rescue. It is capable of BRLOS (beyond radio line of sight) by way of satellite communications.

▲ NEWS IN BRIEF

Veritable training

Training military forces and law enforcement agencies is a sure-fire way to mission success. InVeris offers a vast range of training solutions (Stand M7 – Hall 1). Its FATS 180MIL offers high-fidelity ballistic training on the 180-degree high-definition projection on three borderless screens and surround sound and include vehicle training, 3D marksmanship in photo-realistic terrain, environmental effects and 3D targets.



Visit our editorial office at stand 1020 or email us at 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 James Robbins
TATV production Jill Stockbridge, Simon Temple
Publisher Mark Brown
mark.brown@arabianaerospace.aero
Marketing & circulation Clare Brown
clare.brown@arabianaerospace.aero
Display advertising Grant Lee
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



AND
ARX Aerospace and Defense



The **highly-innovative** N-RAVEN's **modular design** provides a **versatile airframe** while offering **significant payload** options, **pinpoint maneuverability** and cutting-edge **swarm attack technology** for a myriad of **mission requirements**. With a cruise speed of **180km/h** and an extended endurance with a loiter time of **2 hours**, the 45 kg aerial system delivers enhanced capabilities to **address, neutralize and suppress** targets.

N-RAVEN

www.paramountgroup.com



The Ultimate Warrior

A global success since its launch three years ago, the **Mbombe 4** has been selected by **five armed forces** around the world. It is in production on **two continents**, thanks to our **portable production** model.

Equipped with the latest **mission-critical** technologies for optimal desert performance the **Mbombe 4s** is redefining the standard for levels of protection, mobility, and flexibility.

Mbombe 4s

www.paramountgroup.com



Blazing ahead

Raytheon Intelligence & Space delivers high-energy lasers and combat-proven sensors in a single package. A trusted solution for today's warfighter with more than 10,000 hours in use. Now you can neutralize the most agile of threats with the most advanced laser defense system.



RSAF Medevac clear view for operations

The Royal Saudi Air Force's AW139 medevac helicopters have enhanced their safe operations with a Honeywell Primus Epic 2.0 integrated avionics system Phase 8 upgrade. This delivers superior functionality, enhancing visual clarity and improving situational awareness. This allows for safer operations in marginal weather conditions in a wide variety of demanding operations.

Clear vision in the cockpit means less fatigue and increased safety, comfort and efficiency, while pilots also experience enhanced situational awareness, reduced workload and industry-leading navigation performance.

Passengers benefit from more stable approaches and smoother transitions - even at off airport landing areas. This enhances both safety and comfort.



An AW139 helicopters from RSAF fitted with enhanced avionics

Cockerill interceptor breakthrough

John Cockerill Defense (Stand H16 – Hall 1) yesterday unveiled a most innovative ground interceptor system in the form of the Cockerill i-X that has the looks and performance of a rally raid car. Its maximum desert track speed is 160 km/h (road speed 200 km/h), and sprints from 0 to 100 km/h in six seconds.

This rapid, stealthy, and ultra-connected system – through the man-machine interface based on a smart helmet – boasts an integrated remote deployable weapon system in a retractable turret traversing 360° and elevates -10° to +60°. With the weapon retracted and thus concealed, the vehicle is

less prone to be spotted, and has a neutral appearance in peacekeeping missions.

Its main armament is a 25mm dual feeder weapon with 120 ready rounds or 30x113mm, whilst an anti-tank capability can also be accommodated.

“We have designed the Cockerill i-X to be a breakthrough combat system for territorial defence interception, able to engage and defeat, by controlled means of force, any incoming threats before they reach their objective,” said Thierry Renaudin, president of John Cockerill Defense. “It will change the rules of land engagement.” ▲



Thierry Renaudin – breakthrough in territorial interception

جون كوكيريل تعرض نظامها Cockerill i-X للتتبع والاستكشاف

بسرعة 160 كم - الساعة وتسارع 0 الى 100 كم بالساعة في 6 ثوان فان هذا النظام الدائري ب 360 درجة وارتفاع من - 10 درجات وصولا الى 60 درجة فان المركبة من الصعب اكتشافها مع مظهر محايد في مهمات السلام. يسلمح Cockerill i-X بسلاح ثنائي التلقيم من عيار 25 مم مع 120 طلقة جاهزة أو 30 ب 113 مم مع امكانية سلاح مضاد للمدركات.



RTX.com/HEL
Visit us at Exhibit Stand M3

COME VISIT US
World Defense Show
Riyadh, Saudi Arabia
The Show is held by Veg
Stand L11

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

www.dynatechintl.com

F-16

C-130

T56

F100

F-5

J85

T700

UH-60

BEECHCRAFT

PT6

baesystems.com/wds

Partnership where it counts

Progress through partnership. Proud to have supported Saudi Arabia for more than 55 years.

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

BAE SYSTEMS

Pakistan's GIDS offers FATAH-I to Saudi Arabia

Pakistan's Global Industrial & Defence Solutions (GIDS) is offering Saudi Arabia its home-made FATAH-I multi launch rocket system, "as the weapon is very pertinent to the kingdom's military", the company's chief executive officer Asad Kamal has said.

"We see a requirement (for MLRS) in Saudi Arabia and we are ready to collaborate in manufacturing the MLRS here as part of the kingdom's Vision 2030. The Saudi administration is looking into our offer. Besides, several militaries from the Middle East, Africa and Central Asia have also evinced keen interest in the system," Kamal added. The missile has a range of 140 kilometers and a shelf-life of 10 years.

Talking about some of the ongoing programmes and projects in the MENA region, Kamal said, "Over the last decade our aerial systems, ATGMs, UAVs and security and riot control items have been the top selling products, exported to over 10 countries. Our recent initiatives have created new opportunities to products like smart weapons and unmanned aerial vehicles that have become one of our most sought after products in the African and South Asian regions."

GIDS has also been engaged with several industry partners in the the Gulf region on different collaboration and joint venture projects. "We are aiming to target the prevailing technological collaboration opportunities in the MENA region as well, particularly in the UAV domain," he added. ▲



One of RSAF's Airbus A330 MRTT showing the Royal motif

Heads and tails for the MRTT

The Royal Saudi Air Force (RSAF) operates six Airbus A330MRTTs, with one of them parked in the static display wearing a motif of King Salman and Crown Prince Mohammed bin Salman on the tail. The multirole tanker transport aircraft have been extremely busy since being delivered between 2013-15, supporting combat operations over Yemen as well as exercises all over the world.

The RSAF is a likely bet for the automatic air to air refuelling (A3R) system which is expected to be certified soon after four years of development and trials work. Since a contract with the Republic of Singapore Air Force (RSAF) was

signed in 2019, Airbus has been develop the system, using one of the RSAF A330MRTTs, which has been based in Madrid for the past year.

Ivan Garcia Ferreiros, Airbus A330MRTT Marketing Manager said: "Much of the recent work has

been carried out with the Republic of Singapore Air Force, initially on F-16s and then F-15s."

It won't be lost on many that the Royal Saudi Air Force which also operates the A330MRTT, flies F-15s. ▲

إيرباص تعرض طائراتها المتعددة المهام برسم خادم الحرمين الشريفين الملك سلمان بن عبد العزيز حفظه الله تستخدم القوات الجوية الملكية السعودية 6 طائرات من الطراز Airbus A330MRTTs للنقل والتزود بالوقود حيث كان لها دورا حاسما خلال عمليات عاصفة الحزم بالإضافة الى عمليات أخرى حول العالم مصادر ذكرت أن السعودية تتطلع الى نظام (A3R) للتزود بالوقود جوا قيد الاختبار خصوصا مع وجود طائرات أف 15 في الخدمة لديها.

Special Operations



Scan to watch our Tactical Diving Vehicles in action



confidence under pressure jfdglobal.com



L3HARRIS.COM

ENABLING THE FUTURE

We deliver integrated C5ISR and autonomy systems across all domains and provide breakthrough technologies that solve the warfighters' toughest challenges. L3Harris' affordable, end-to-end solutions are strategically designed today to deliver interoperability across all domains, effectively achieving the operational objectives of tomorrow.

Use of U.S. DoD visual information does not imply or constitute DoD endorsement.
Photo credit: NASA's Goddard Space Flight Center/Conceptual Image Lab





PROVEN C-UAS Capabilities

Visit us at

G15.2 Hall 1

www.msi-dsl.com

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

Skyguard armed and ready for action

Prince Sultan Defense Studies and Research Center (PSDSRC) is exhibiting the second prototype Skyguard unmanned aerial system (UAS) in an armed configuration at the outside exhibition area.

The design of the Skyguard commenced at Prince Sultan Advanced Technology Research Institute (PSATRI) around eight years ago, and development has subsequently passed on to PSDSARC to develop. A deal was signed on August 19 last year, by the acting director general of PSDRC, Sami bin Mohammed al-Alhumaidi and the Advanced Electronics Company Ziad bin Houmod al-Musallam, CEO of the Advanced Electronics Company, a subsidiary of SAMI to further co-ordinate further development.

The Skyguard's payload of 60kgs, is being demonstrated by the second prototype, SG-02, which houses an AEC EO/IR (electro optical/infra-red) turret under the nose in addition to two 25kg munitions under each wing. Work is now underway to integrate the weapons onto the platform. A half scale mock of the first prototype is also on show.

The success of the UAV's progress saw GAMI sign a contract with SAMI on November 2 last year to start manufacturing the UAS within the scope of Saudi Vision 2030. Four prototypes have so far been



▲ The PSDRC Skyguard is on show with two 25kg munitions and an AEC EO/IR FLIR turret

developed, with the fifth aircraft believed to be in production now. A visit to the PSDSRC stand, saw a model of the third prototype with a tracking aerial added on top of the fuselage, displayed alongside the UAVs training simulator. Meanwhile PSDSRC continues to develop other UAVs including another Class 2 example, the Yama which is on display.

Revealing the mystery behind THeMIS

On show at WDS is an interesting and slightly mysterious UAV. Painted in an attractive 'digital camouflage', and marked Haboob, the aircraft may be one of the new drones being manufactured by local companies Infra Defense Technologies and the Advanced Electronics Company, or may be a Turkish-built Vestel Karayel painted to represent what is a locally manufactured derivative of that type.

The Karayel made its maiden flight on 30 April 2014, and ten Karayel-SU aircraft were delivered to the Turkish military. The aircraft can carry a range of Turkish weapons, including Roketsan MAM-L or MAM-C missiles or Roketsan Cirit 70-mm or TUBITAK-SAGE Bozok Laser Guided Rockets.

The Royal Saudi Armed Forces have been operating Turkish-

supplied Karayels for some time and the government announced the beginning of local manufacture of the type as the Haboob UAV in January 2021.

It was said that six aircraft would be built during 2021, followed by 40 more over the following five years. There was said to be the possibility of exporting the aircraft to Brazil and Kuwait.

Saudi production is of a version of the Karayel-SU which has an extended span wing, end-plate winglets and two hardpoints under each wing. Each of these hardpoints is stressed for the carriage of a 30-kg load. The Karayel-SU can also be fitted with a 50-kg EO/IR payload, such as the Hensoldt Argos II EO/IR turret. The aircraft features icing and lightning protection, and uses a novel triple redundant distributed avionics architecture for extra safety. ▲



▲ THeMIS unmanned ground vehicle (UGV)

الطائرة المسيرة «حبوب» تلفت الأنظار

طريقة عرض الطائرة المسيرة بطريقة رقمية آثار فضول الجميع وهو ما يعكس مصنعها الذي هو اما شركة انتر للتقنيات الدفاعية أو شركة الالكترونيات المتقدمة أو ربما نموذجاً للطائرة المسيرة التركية Vestel Karayel التي تخدم في القوات الجوية الملكية السعودية منذ فترة. وقال المعارضون انه من المتوقع تصنيع ٦٤ طائرة مسيرة «حبوب» خلال العامين المقبلين.

OWN YOUR AI SATELLITE

STAR-VISION
The SVOS Perun followed by Vega

STAR.VISION/EN
SV@STAR.VISION

TWITTER WEBSITE

MEET US AT BOOTH H1 - E3

SVOS showcases wheeled armoured vehicles ready for action

Czech defence company SVOS (Stand G10 – Hall 1) is showcasing its new generation Vega and Perun wheeled armoured vehicles.

SVOS designed its Vega (Vehicle with Enhanced Ground performance and Armour protection) with increased blast protection and rapid evacuation from the threat situation, even in rocky terrain.

Having completed extensive trials in recent times, Vega is now ready to be deployed in any environment, regardless of climate, terrain or level of service support.

Law enforcement

It is available in 4x4 and 6x6 configuration with modular body structure allowing for troop transport, route clearance, EOD, C3I and battlefield management.

SVOS is also offering its Perun multi-purpose vehicle for military and law enforcement operations. Available in 4x4 and 6x6 configuration, the Perun can be operated with an open top for 'Scout' missions, or hard top for medical evacuation, command and control, and a special variant for pyrotechnic squads.

Its excellent driving and manoeuvring capabilities make this vehicle ideal for operations in confined urban spaces or terrain. For this reason, among others, the Czech Army has selected the Perun for its special operation group.

Specifically for law enforcement agencies, SVOS designed vehicles based on truck bodies fitted with a range of special police equipment, such as riot control devices and crew protection. ▲



The SVOS Perun followed by Vega



TheMIS unmanned ground vehicle (UGV) follows the truck to its operating site

SAM BASCH REPORTS

TheMIS showing avoidance techniques to support mission from strike to Medevac

Meet Estonian tracked intelligent flexible UGV

Milrem Robotics of Estonia (Stand H9 – Hall 1) is at WDS offering its highly capable Tracked Hybrid Modular Infantry System (TheMIS) unmanned ground vehicle (UGV).

Awareness

This operationally proven multi-role UGV was designed to support missions ranging from transport, 'strike' (weaponised) to ordnance disposal and to support intelligence operations. With a 720° awareness of the surroundings and able to detect and avoid obstacles, as well as human in the loop architecture, the TheMIS is an intelligent vehicle able to go almost anywhere.

Milrem Robotics' intelligent functions kit enables the UGV to plan and navigate routes, return home, and operate in a GNSS denied environment.

Its low visual, thermal and noise

signature allows the TheMIS to fulfil missions in extreme and complex terrains and environments. In the cargo role, it can supply provisions and ammunition and also medical casevac. Whilst able to operate at a standoff distance, it is ideal in IED mine detection and clearance, as well as EOD.

A diesel-electric hybrid drive train enables low fuel consumption, high reliability, silent operation, and reduced lifecycle cost.

PMS brushless motors provide high efficiency and torque across the speed range.

11 countries

According to Milrem Robotics, the TheMIS UGV has been acquired by 11 countries, most which are NATO members.

The vehicle is armoured up to STANAG 4569 level 3. It is field serviceable and is fitted with an integrated toolkit. ▲

میلرم روبوتیکس الاستونیه تعرض مرکبها الروبوتية الذكية الغير مأهولة

تنفذ المركبة ذات الاستشعار للمحيط ب 720 درجة مهام متعددة تشمل النقل والهجمات المسلحة ودعم العمليات الاستخباراتية ونقل المواد العسكرية والطبية وعلى مختلف التضاريس والظروف بما فيها المناطق الملوثة.

حصلت على المركبة حتى الآن 11 دولة غالبيتهم من دول حلف شمال الاطلسي وهي هجينة بماكينة ديزل - كهربائية لمسافات أطول وسرعة أكبر مع صيانة مرنة وهي مسلحة وفق STANAG 4569 من الدرجة الثالثة

Defence Beyond Limits



Precision is everything.

Leonardo's HITFACT® MkII turret, armed with 120mm/45 caliber gun and fitted for 105mm/52, provides accurate, responsive tactical capability to armed forces, worldwide.

The three-man, power-operated turret can be installed on light to medium weight tanks and wheeled or tracked tank destroyers.

The light-weight turret design and low-recoil characteristics of the gun ensure tactical mobility and high firepower for a strategic battlefield advantage.

Inspired by the vision, curiosity and creativity of the great master inventor - Leonardo is designing the technology of tomorrow.

Visit us at World Defence Show, Hall 1 - Stand G91

leonardoco.com

Helicopters | Aeronautics | Electronics, Defence & Security Systems | Space



منتجاتنا وخدماتنا:
متقدمة رقمياً
ذات كفاءة إنتاجية عالية
ومدعومة بالذكاء الاصطناعي



T-7

boeing.com/t-7

IMX/CE 2022

CMN Naval

RICHARD SCOTT REPORTS

Middle East's largest maritime exercise

Cutlass Express rides the region's high seas

القوات البحرية الملكية السعودية تشارك في المناورات البحرية الدولية

تدريبات كوتلاس اكسبرس 2022 بقيادة الولايات المتحدة هي الأكبر في المنطقة بمشاركة 60 دولة ومنظمات دولية وأكثر من 9 آلاف فرد و50 سفينة في منطقتين منفصلتين مع التركيز على عمليات التدريب و نزع الألغام والانتقاد والقبض وعمليات الأمن البحري والاستجابة للطوارئ. كما تهدف العملية التدريبية الواسعة الى المساعدة في تعزيز الأمن الاقليمي وحفظ النظام علما أن تدريبات ومناورات IMX/CE 2022 والتي استمرت على فترة 18 يوما على مساحة جغرافية واسعة شملت الخليج العربي وخليج عمان والبحر الأحمر وشمال المحيط الهندي بمشاركة الامارات العربية المتحدة ومصر وكينيا وسلطنة عمان بالإضافة الى المملكة العربية السعودية.



The RSNF mine countermeasures vessel Al-Shaqra (right) seen in company with the UAE navy landing craft Al-Futaisi during IMX/CE 2022 in the Arabian Gulf

US Army

The Royal Saudi Naval Forces (RSNF) was among the participants in the recent US-led 'International Maritime Exercise/Cutlass Express' 2022 (IMX/CE 2022) event.

IMX/CE 2022 claims to be the Middle East region's largest maritime exercise involving partners from 60 nations and international organisations. More than 9,000 personnel and nearly 50 ships operating across two regions participated in training operations focused on mine countermeasures; visit, board, search, and seizure; maritime security operations; and mass casualty response.

The seventh iteration of IMX since its establishment in 2012, IMX/CE 2022 additionally linked into the 'Cutlass Express' exercise sponsored by US Africa Command and led by US Naval Forces Europe-Africa/US Sixth Fleet. 'Cutlass Express' is intended to assess and enhance combined maritime law enforcement capacity, promote national and regional security in East Africa, and

increase interoperability between the US, African nations, and international partners.

Running over an 18-day period, IMX/CE 2022 constituted a large-scale combined exercise involving training evolutions spanning across the Arabian Gulf, Arabian Sea, Gulf of Oman, Red Sea, and North Indian Ocean. Participating naval forces were divided into four geographical combined task forces led by the United Arab Emirates, Egypt, Kenya, and Oman.

A combined task force, known as Task Force X, was also established for conducting portions of the exercise focused on unmanned systems and artificial intelligence integration. IMX/CE 2022 was in fact described as the largest unmanned exercise in the world, involving more than 80 unmanned systems from 10 nations.

The commercial shipping industry also participated in IMX/CE 2022. A joint shipping coordination centre was set up, led by a multi-national team to interface between naval and merchant vessels. ▲

AUTONOMOUS INTERCEPTOR ON THE FAST TRACK

French group CMN Naval is showcasing what it describes as the world's fastest autonomous interceptor, the UHSI32, at WDS. The autonomous abilities and features have been developed by CMN in cooperation with Boston-based Sea Machines Robotics.

CMN Naval is demonstrating the UHSI32's ability to execute autonomous transit missions, pattern autonomy and dynamic collision avoidance while being operated via over-the-horizon connectivity. In addition, its Raytheon command and control system will help analyse, track and compile data.

The UHSI32 combines multiple mission capabilities with a maximum speed of more than 45 kts and a patrol period of three days. With a length of 32m and beam of 7m, missions include maritime secu-

rity, search-and-rescue, insertion, surveillance and protection of assets at sea.

"The UHSI32 is the first high-speed interceptor in its class which incorporates autonomous technology," said Fadi Pataq of CMN NAVAL.

"As a leading developer of autonomous control systems, Sea Machines brings innovation to the global security and defense sectors," said Frank Relou, business development manager, EMEA, for Sea Machines. "This collaboration with CMN Naval represents the intersection of commercial and government sectors, and the capabilities of autonomous technology."

Sea Machines specialises in autonomous command and control and advanced perception systems for the marine industries.

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...

WORLD DEFENSE SHOW SAUDI ARABIA 6-9 MARCH 2022

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

DRACO TACTICAL mission ready

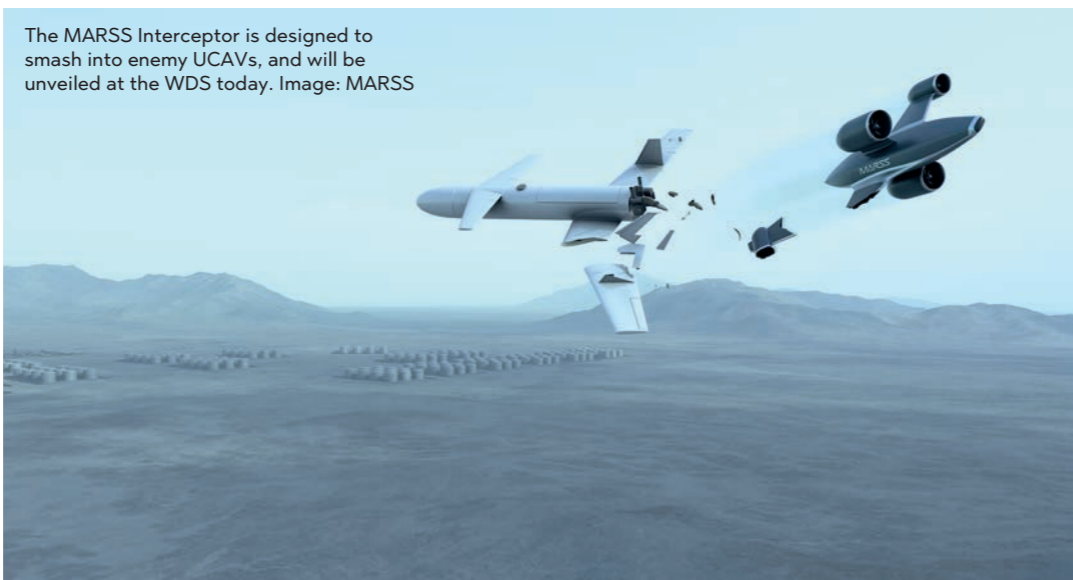
ihse USA

Navantia

580

Innovation where it matters

The MARSS Interceptor is designed to smash into enemy UCAVs, and will be unveiled at the WDS today. Image: MARSS



ALAN WARNES REPORTS

Tech company solution to fight the threat from rogue drone attacks

This MAARS mission could be a big hit

Over the past three years, drones packed with explosives have wreaked havoc in the Middle East. The ARAMCO refinery in Saudi Arabia was attacked by swarms of UAVs in September 2019, and in February the UAE was targeted, causing deaths, and millions of dollars of damage.

Several governments in the region are now looking to stop these Iranian-designed drones, allegedly fired by Houthis in Yemen, before they get to hit their intended targets.

Air defence missiles were initially a very expensive solution, but now a new counter-unmanned aerial systems (C-UAS) industry is rising to the challenge.

Tech company
Bristol-based MARSS not a typical defence company, more of a tech company operating in the defence and security business has inside 12 months, designed a C-UAS platform, known as the Interceptor. After making its first flight in the

second week of January, the first example is set to be delivered to the launch customer in early-2023.

Stephen Scott, Head of Research and Development at MARSS told ShowBiz, "The Interceptor can be used in both military and civil operations, countering Class 1 and the bigger Class 2 UAVs, the latter measuring between 2-6 metres and up to 200kg in weight. In the Middle East they are often packed with C4 and other kinds of explosives, making them a simple but lethal weapon, that are being used almost daily now."

Killer drones

The Interceptor will defeat these killer-drones by brute force at high speeds, without a warhead, so inherently safe as Stephen was keen to point out. Being composite, the weight can be minimised while the strength can be maximised.

"It can smash through several of the smaller UAVs in one go, although it probably wouldn't survive a strike on one of the bigger Class 2 targets."

The Interceptor's propulsion

comes from four electric engines blended into the composite platform that ratchets up the speed. As Stephen explains it was designed to meet three main criteria: "We wanted something that wasn't really for military use but could be used to protect civilian sites, had a very low collateral damage risk and the cost per engagement had to be much lower than a missile system. The cost per engagement was quite a driver, and makes it unique."

Cost side

On the cost side, Stephen who once worked for MBDA Systems said "While an air defence missile might cost \$150-200,000, the

Interceptor is just a fifth of that."

This innovative C-UAS solution uses MARSS' NIDAR command and control software, which fuses sensor data, and by applying machine-learning and artificial intelligence methods, integrated into the Interceptor, can detect the UAS threat. The system is not fully automated, an operator in the ground control station can abort the mission if required, and return to base, landing vertically just as it took off.

With a 90cm wingspan, capable of flying in excess of 80 metres per second and travelling just as far as a short range air defence missile, the Interceptor could be quite a hit. ▲

شركة مارس البريطانية تعرض نظام تتبع واعتراض المسيرات

النظام التكنولوجي عسكري ومدني الذي من المتوقع اطلاقه رسميا عام 2023 قادر على التعامل مع الهجمات المدمرة للمسيرات بشكل آني ومتعدد التي تنفذ في منطقة الشرق الأوسط وذلك بنظام مرن وسريع للغاية بفضل محركاته وبدون رأس حربي الأمر الذي يجعله آمنا والذي يسمح بحماية المدنيين والمنشآت وهو ما يوفر حماية فعالة بتكلفة منخفضة.

Multi-Mission Performance



AW149

Focus on your mission and trust your equipment - The AW149 is the latest generation, multi-role, military helicopter; capable, cost-effective, survivable and rapidly reconfigurable to a wide range of missions: transport, re-supply, MEDEVAC, SAR/CSAR, special ops, close air support and ISR.

Big enough for troops, gear and armaments, yet small enough to operate in confined areas and hostile environments.

Inspired by the vision, curiosity and creativity of the great master inventor - Leonardo is designing the technology of tomorrow.

Visit us at **WORLD DEFENSE SHOW, Stand G9.1 - Hall 1**

leonardo.com

Helicopters | Aeronautics | Electronics, Defence & Security Systems | Space



بخدمات أمنية دفاعية وتدريبية فريدة
مجموعة شمال
تشارك في:

معرض
الدفاع
العالمي



والرئيس التنفيذي: صاحب السمو الملكي الأمير
تركي بن عبدالعزيز بن فرحان آل سعود

يقول:

- ▲ معرض الدفاع العالمي سيوفر منصةً فريدة تجمع كل المعنيين بصناعة الدفاع حول العالم.
- ▲ تحظى الصناعات العسكرية في المملكة بدعم مولاي خادم الحرمين الشريفين وسمو سيدي ولي العهد صاحب السمو الملكي الأمير محمد بن سلمان آل سعود حفظه الله.
- ▲ هذا الدعم يعزز رؤيته 2030 كأضخم خطة اقتصادية واجتماعية لإعادة هيكلة الإقتصاد الوطني
- ▲ تشارك "شمال" بشركاتها الـ 5 في المعرض، بما تحمله من خبرات في قطاعات الطيران والدفاع.
- ▲ تعمل "شمال" على تقديم العديد من الخدمات الخاصة على مسارات مختلفة.
- ▲ المجموعة تلعب دوراً هاماً في تقديم الإمدادات العسكرية لمجموعة متنوعة من المنتجات.



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

BAE Systems



BAE Systems is proud of the training service integration with the Royal Saudi Air Force

ALAN WARNES REPORTS

on the effectiveness of BAE Systems training approach with the RSAF

Ten years on for Saudi BAE Systems training

Ten years have passed since BAE Systems was awarded a £1.6 billion contract by the Royal Saudi Air Force to fulfil further aircrew training requirements.

The deal, agreed as part of the Saudi-British Defence Co-operation Programme, included the recapitalisation of the RSAF's Academy fleet of training aircraft, with the purchase of 25 Cirrus SR22 for basic flying training and 55 Pilatus PC-21 turboprops for advanced training.

While the introduction to fighter fundamentals (IFF) stream at Tabruk, was equipped with 22 Hawk Mk165 advanced jet trainers that replaced the Pilatus PC-9s, all were operating alongside simulators and other training aids.

A decade ago that was quite a departure by BAE Systems from the way it normally worked.

Today, the company is positioning itself as a training service integrator, as Andy Kendall, BAE Systems Head of Training Strategy, explained.

"The traditional view is that we delivered Hawks and Typhoons and train the pilots, but the reality

is BAE now trains 2,500 technicians a year across the business. There are many other elements of officer training we deal in that are not pilot related."

Big aspirations

To do all that, BAE Systems works with a range of technology providers, Kendall said it doesn't have a big aspiration to develop all the required technologies itself. "What's important is how we collaborate with our customers, how we collaborate with our international partners and academia," he said.

"What we want to do is offer

flexibility in the training output. We have to recognise the front-line fleet that we are working into – with the constraints that are either financially led or in technology adoption and some other areas."

Leading the BAE Systems training operations in the Kingdom, is Dave Ward said: "It's almost as important on how we do things here, as to what we do. Around 75% of the programme's employees are Saudis, which is in line with the country's 'Saudi Vision 2030', and in all parts of the contract that we are delivering, we have Saudi companies embedded as well."

The key programme is Officer

and Aircrew Training, where BAE Systems take on the RSAF cadets, and put them through an English language course, and onto academic training before they progress to their particular technical specialism – pilots, weapons systems operators/navigation, air traffic control and weapons directors.

Partnership

"We manage everything in partnership with the RSAF, it's a performance based contract [which has been renewed every five years] and we deliver all the training, all the logistics services and technical services for the Cirrus SR22 and Pilatus PC-21 courses [at King Faisal Air Academy in Riyadh] and those cadets that graduate to fly fast jets will stay with us and train on the Hawk Mk165s up at Tabruk."

There is a huge simulation set-up, as Ward explains, particularly on PC-21, which has had an advanced simulation capability for a considerable time. "The RSAF is very forward-thinking in terms of its assets, and it likes to challenge the likes of ourselves as to how to do things more effectively." ▲

في أيه إي سيستمز السعودية تعزز عمليات التدريب للقوات الجوية الملكية السعودية نوعيا مع وصول طائرات بيلاتوس بي سي 21

يأتي ذلك لتطوير اسطول طائرات التدريب مع شراء 55 طائرة Cirrus SR22 للطيران التمهيدي و 55 طائرة بيلاتوس للتدريب المتقدم ضمن برنامج التعاون السعودي البريطاني المشترك مع وجود 70% من العاملين به من السعوديين لتدريب 2500 سعوديا بماشيا مع رؤية 2030 بالإضافة الى تدريب الطيارين وتعلم اللغة الانكليزية. يشمل البرنامج المتكامل تشغيل وادارة أنظمة التسليح والتوجيه والمراقبة الجوية والدعم اللوجستي والتقني وصولا الى الطيران على طائرات هوك Hawk Mk 165s المتقدمة علما أن جميع مراحل البرنامج تشمل العمل مع شركات سعودية.

CATIC



The UAEAF&AD has selected the Hongdu L-15 to replace the MB339s currently serving the Al Fursan aerobatic team

Alan Warnes

Chinese Hongdu for UAE display team?

ALAN WARNES REPORTS

Al Fursan could be the operator of the UAE's L-15 purchase

As the Al Fursan air display team from the UAE carries out its routines above the skies above the World Defense Show, there is speculation that the team could have a new ride soon.

The UAE Ministry of Defence said late last month that it had agreed a deal with CATIC (China National Aero-Technology Import & Export Corporation), to purchase 12 Hongdu L-15s, with options for another 36.

Zambia

This is the second foreign customer of the L-15, the other is Zambia which acquired it in 2016 – it is known as the JL-10 Falcon in Chinese military service.

While the statement didn't reveal the role the aircraft would be used for, its likely the initial 12 will replace the Leonardo MB339A (NAT) of the United Arab Emirates Air Force and Air Defense (UAEAF&AD) Al Fursan aerobatic team.

There are plans to retire the Italian trainer by the end 2022,

allowing the pilots to train on the L-15s in good time for the 2023 Dubai Airshow.

The option for 36 if exercised, indicates the UAEAF&AD is looking to fulfil the vacant advanced jet trainer role that has existed since the BAE Hawk Mk63s were retired in 2012. Initially there were plans to replace the British trainers with the Finmeccanica T-346 which was selected in 2009 but was subsequently cancelled, and ultimately replaced by the Pilatus PC-21 and ground based training. However, just like Qatar, the UAE

now wants a jet trainer to lead in to combat aircraft, in a role that is regularly referred to as the Introduction to Fighter Fundamentals (IFF).

Diversify

His Excellency Tariq Abdul Rahim Al Hosani, CEO of the Tawazun Economic Council, said the acquisition comes within the framework of the policy to diversify the UAE's sources of armament and the continuous modernization of the Air Force and the Armed Forces in general. Al Hosani said: "We have

reached the final stages of negotiations with the Chinese side, and a final agreement will be concluded soon. He stressed that diversity is one of the characteristics of the UAE armed forces, to obtain the best capabilities that fit their needs and achieve their strategic goals."

First time

Two L-15s had appeared at the Dubai Airshow last November, one in the static display, the other in the flying display on most days and marked the first time the Chinese jet had been at the event since 2009. Both aircraft had been in the UAE since October 20, a month before the show took place so UAE personnel could evaluate the aircraft.

A CATIC insider said of the improvements to the L-15, "There is now an embedded tactical training system, a mission planning system, a datalink to work scenarios with students flying the jet, as well as a much improved Head Up Display with a wider screen." ▲

فرسان الإمارات فريق الإمارات الوطني للاستعراض الجوي يطلب طائرات L-15 الصينية

الطلبية تشمل 12 طائرة Hongdu L-15 مؤكدة مع حق الحصول على 36 أخرى حيث توقع الخبراء أن تكون بديل لطائرة ليوناردو المتوقعة تقاعدها تدريجياً على أن تكون الطائرات الجديدة جاهزة لعرض دبي للطيران 2023. كما ستساعد الطائرات الجديدة بحلال نظام أساسيات القتال وهو جعل طائرة التدريب تقود إلى طائرة قتال ويأتي هذا ضمن سياسة تنوع مصادر وأنواع التسليح وفقاً لسعادة طارق عبدالرحيم الحوسني، الرئيس التنفيذي لمجلس التوازن الاقتصادي

ARMED & READY

SHAHBARI

GIDS Empowering Your World

VISIT US IN PAKISTAN PAVILION

GLOBAL INDUSTRIAL & DEFENCE SOLUTIONS PAKISTAN
+92-51-9280061- 62info@gids.com.pk www.gids.com.pk Complex-II, Chaklala Garrison, Rawalpindi, Pakistan

ROLLS ROYCE

Pioneering the Power to Protect

As pioneers of power, we focus on tomorrow. Our mission is to innovate efficient and sustainable power solutions to meet our customers' operational requirements and to protect our planet, secure our world and explore the universe.

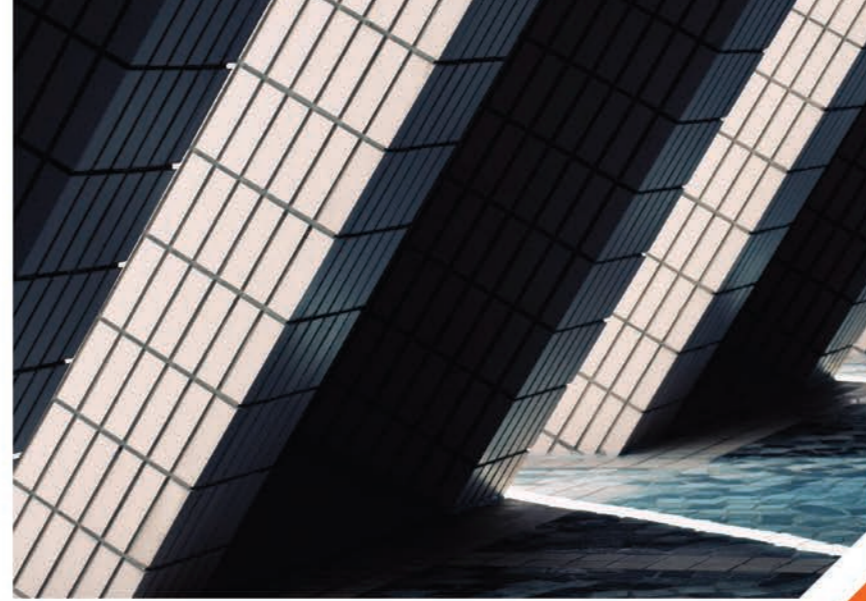


VTX Facility Management Seeks to Optimise Real Estate Performance by Reducing Costs, Increasing Revenues and Mitigating Risk. Thus, Helping Clients Solve the Complex Challenges Encountered were Real Estate interacts with their Core Business.

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

GIDS

Allen-Vanguard

ALAN WARNES REPORTS

Pakistan's GIDS set to export latest UCAV

Shahpar II ready to roam

Pakistan's Global Industrial Defence & Solutions (GIDS) is present at the WDS, fresh from the unveiling in early December of its new Shahpar-II unmanned combat air vehicle (UCAV).

Until last year the Shahpar II had been used primarily for tactical surveillance by the Pakistan Army with a ZUMR-II (Koran meaning: 'The Galaxies') electro-optical payload. Designed to take off autonomously and land with the use of a parachute.

Flight trials started during the latter part of 2021 for an armed version, with two 45kg Burraq laser guided munitions.

It is designed to take off autonomously and land with the use of a parachute. The Shahpar-II has a maximum ceiling of 20,000ft, an endurance of up to 14 hours with a line-of-sight data-link range of



The GIDS Shahpar-II armed with two indigenous Burraq laser guided munitions. There have been at least eight firings of the weapon to date

up to 300kms, although there are plans to integrate a satellite communications (SATCOM) system.

To date the UCAV has flown about 50 sorties and fired the Burraq 'at least eight times' according

باكستان تعرض نموذج طائرتها المسيرة Shahpar-II

عرضت باكستان عبر مجموعة (GIDS) في معرض الدفاع العالمي بالرياض Shahpar-II وهي مسيرة قتالية استكمالاً للمسيرة ZUMR-II المخصصة للرقابة والتي تخدم في سلاح الجو الباكستاني. الطائرة الجديدة تطير على ارتفاع 20 ألف قدم لمدة 41 ساعة ومسافة 300 كم علماً أنه يجري حالياً اختبار نظام التوجيه والاتصالات عبر الأقمار الاصطناعية للمسافات البعيدة.

to one source. Customers, with the likely to include the Pakistan Army and Pakistan Air Force, although GIDS is looking for export opportunities.

The armed Shahpar-II was shown for the first time in public at Cairo's Egyptian Defence Exhibition (EDEX) in early December. A couple of months earlier at the International Defence Exhibition Trade (IDET) the company was showing a video of the UCAV firing the Burraq laser guided munitions.

GIDS is more renowned for the Uqab tactical UAV system, used for battle damage assessment, aerial reconnaissance, and artillery fire, and operated by the Pakistan Army and Navy. A Uqab-NG UAV is also undergoing flight trials with a new surveillance system, with the Pakistan Army and Air Force being likely customers. ▲

SAM BASCH REPORTS

Canadian company supporting security forces worldwide

Outthinking the terrorists

Ottawa-based Allen-Vanguard (Stand G15 – Hall 1) has been described as "striving to outgun, outmanoeuvre and outthink terrorists."

The company, with facilities in the UK and North America, manufactures and markets counter-terrorist equipment to governments and security forces worldwide. Its proven products provide a capability that is applied in the full continuum of countering radio-controlled IEDs

(RCIED) and drones (UAS).

Just last month Allen-Vanguard and Australian/US company DroneShield signed a partnership to combine their respective solutions in combatting advanced

threats such as UAS and autonomous systems. Both companies are global leaders in their fields.

Allen-Vanguard with its extensive C-IED history

The Scorpion is a lightweight counter measures system



and portfolio of solutions has in recent years bolstered its capabilities with the ANCILE operationally proven and highly effective RF countermeasure system.

Its vehicle countermeasure systems are fielded with leading NGOs and peacekeeping organisations. Allen-Vanguard's core technology is at the heart of the SYMPHONY programme, the only system authorised by the United States for provision to coalition forces.

The company's Scorpion is a lightweight man-portable ECM system, capitalising on Allen-Vanguard's long history of effective ECM protection of personnel. The ever-increasing and sophisticated threat against deployed forces demands effective, robust protec-

tion against RF threats, which the Scorpion system delivers. It is ideally suited to be used in the full range of dismounted scenarios, or as a substitute vehicle capability. ▲

الكندية تعرض حلولاً فريدة لمكافحة الإرهاب

تشمل منتجات الشركة أنظمة مكافحة المتفجرات عن بعد والمضادة للمسيرات. جاء ذلك بعيد توقيع الشركة اتفاق شراكة مع DroneShield الاسترالية. الأنظمة تعتمد العديد من الدول على حلول الشركتين من قوى أمنية ومنظمات الاغاثة وشركات الحماية.

MARSS

NIDAR™

MULTI-DOMAIN SURVEILLANCE AND PROTECTION - AIR, LAND, SEA AND UNDERWATER

TO BOOK A PRIVATE DEMONSTRATION, VISIT US ON STAND G16.1 IN THE UK PAVILION.

marss.com / marketing@marss.com

Unlocking your digital advantage to protect the connected world from harm

Introducing Digital Intelligence
baesystems.com/digital

Digital Intelligence

BAE SYSTEMS

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

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



**WORLD
DEFENSE
SHOW**
SAUDI ARABIA

FOUNDED BY

الهيئة العامة
للصناعات العسكرية
General Authority
for Military Industries



2024

3RD – 6TH MARCH



**SECURE
YOUR SPACE**

Visit us at GAMI stand
Hall 2 - Q6

Leonardo

JON LAKE REPORTS

Italian defence giant takes a broad approach with wide-range of solutions

Leonardo steps up

Leonardo is busier than it has ever been in the GCC! Leonardo Aircraft is delivering new Eurofighter Typhoons to Kuwait (the third of 28 on order is due to arrive this month) as well as M346 jet trainers to Qatar, with four of the six aircraft ordered now delivered.

And while there are no ongoing aircraft deliveries to Saudi Arabia, Leonardo has been extremely active in Kingdom. When Saudi Arabia's General Authority for Military Industries (GAMI) launched the Kingdom's first Military Industries Human Capital (MIHC) strategy on 6 February, for example, it also signed a collaboration agreement with Leonardo. The memorandum of understanding (MoU) with Leonardo covered the creation and development of investment opportunities in the defence education field, and on developing academic programmes.

A further MoU is expected to be signed with the Ministry of Investment of Saudi Arabia (MISA) here at the show.

Several operating divisions

Leonardo is promoting a wide range of products at the World Defense Show, displaying these on several different stands, representing several of the company's operating divisions. Leonardo's Electronics Division is showing models of a number of systems that are known to be of interest to Saudi Arabia's armed forces, from fighter and surveillance radars to ESM and platform protection systems.

These represent a real Next Generation air survivability solution, and include the company's MAPPS Modular Advanced Platform Protection System (MAPPS) controller, a smart defensive aids system computer that can independently evaluate threats and automatically deploy or activate appropriate countermeasures.

The company is also showing



BriteCloud decoy coming off an F-16

its innovative Mysis DIRM (Directed Infrared Countermeasure) System, which provides dependable, persistent protection from IR-guided missile threats, including all-aspect MANPADS. Mysis uses a twin-head system as a baseline to ensure spherical coverage, though a three-head system is also available for large platforms.

Certain to attract intense scrutiny is the company's Britecloud

active RF decoy, already proved operationally on RAF Tornados and now being integrated on the Eurofighter Typhoon. Fired like an IR decoy flare or chaff cartridge, Britecloud contains a powerful miniature jammer and DRFM (Digital Radio Frequency Memory). The DRFM allows Britecloud to transmit a convincing 'electronic ghost' signal, tailored to the specific threat radar, to seduce any incoming missiles away from

the launch aircraft and towards the BriteCloud as it falls away. This ensures that the missile misses its target and detonates far from that intended target.

Final stages

Leonardo's original coke-can shaped BriteCloud 55 variant, completed extensive trials before being brought into service by the UK Royal Air Force in 2018. The more box-like BriteCloud 218 variant is now in the final stages of a US Department of Defense Foreign Comparative Testing (FCT) programme which promises to open the door to potential US procurement.

Leonardo claims the current version is capable of defeating all known current threat systems, and that the development of the new waveforms will future-proof BriteCloud, ensuring that it will be able to defeat the latest advances in radar-guided threat technology as they emerge. ▲

مشاركة واسعة من ليوناردو في معرض الدفاع العالمي

الشركة الإيطالية العالمية تعزز التزامها بالسوق السعودي حيث وقعت اتفاقية مع الهيئة العامة للصناعات العسكرية على هامش إطلاق استراتيجية القوى البشرية لقطاع الصناعات العسكرية من أجل خلق فرص استثمارية في قطاع التعليم الدفاعي والعسكري وتطوير برامج أكاديمية ذات الصلة.

شمل جناح ليوناردو منتجات إلكترونية متقدمة من رادارات وإجهزة مراقبة وقائية ونظم حماية. كما عرضت الشركة نظام Mysis DIRM للأشعة تحت الحمراء الذي يوفر الحماية من الصواريخ الموجهة وهو قادر على التثبيت على مختلف المنصات بما فيها الكبيرة. كما عرضت الشركة نظام Britecloud active RF decoy على مقاتلات RAF Tornados والذي حصل على أرفع الاعتمادات العالمية.

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



Multipurpose Remotely
Controlled QUAD on Vehicle

QUAD-2
Nashshab
SHORT RANGE



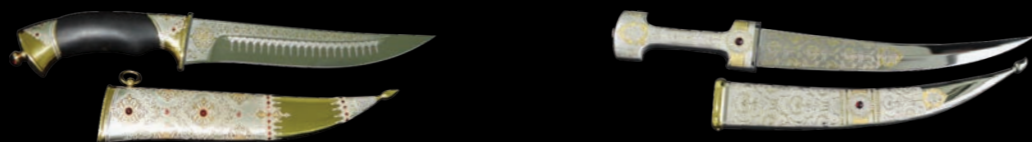
MEDIUM-RANGE
SYSTEMS

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

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.



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



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



epicos.com
Aerospace & Defense
Industrial Cooperation



Industrial Cooperation,
Logistics & Participation
Projects



Night Vision Systems
for Defense & Security
Applications



Datalinks, Interoperability,
Command & Control 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



Panoramic Cameras,
Image Analysis & Processing
Systems



UAS for Defense, Security
& Commercial Applications



Target Drones, Light Aircraft,
Flight Testing



MRO Services & Upgrades
of Aerial Means

EFA GROUP

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

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

Ubayyah just loves extreme off-road



Saudi enterprise Al Tadmra Manufacturing Company (TMC) is showcasing some impressive military vehicles at the show, including the Ubayyah V8 4x4 wheel drive extreme off roading armoured vehicle.

The Ubayyah has a turbo 330 H diesel engine and a fuel tank with a capacity of 258 litres that can produce a top speed of 120 km/hour (on the road). It accommodates up to five personnel, and features 40mm Bullet resistant glass, shock absorbing seats, four side doors and comes with a manual turret, with the same level armour as the vehicle, and gun ports on both sides.

Optional extras include a C415R integration system, thermal imager & night vision camera, intercom system and five-ton towing winch.

Every man's dream – a 4x4 with added extras

SAM BASCH REPORTS

Etion Create demos rugged and compatible navigation system

Cheetah spots nav fast track

Taking its name from the world's fastest land animal, the CheetahNAV vehicle navigation system from Etion Create is achieving success in the Middle East. Already two major contracts have just been inked with Middle Eastern customers, according to Tobie van Loggerenberg, executive business development manager.

The unit is being displayed at WDS on several vehicles at the show.

The CheetahNAV was designed for harsh environments, such as encountered in extreme battlefield conditions. Using an inertial measurement unit (IMU) comprising several aids, including an advanced Kalman filter-based algorithm, the CheetahNAV provides vehicle crews with outstanding situational awareness.

"The system provides dead-reckoning horizontal position accuracy of 0.2% of distance travelled in a GNSS denied situation," explained Van Loggerenberg. "This translates to accuracy of just 200 metres over a distance of 100 kilometres."



Cheetah NAV will be fitted on several vehicles at WDS.

He said the CheetahNAV can integrate with any number of different INS systems and can be aligned with any of the satellite navigation constellations. Combined with GNSS and IMU information, the system enables dead-reckoning and accurate positioning of the vehicle in tactical situations.

"Importantly, the tactical grade integral IMU ensures it is immune to jamming," he said. "For the export market, specifically

multinational operations that are almost the norm, we offer a multi-language option."

Data is displayed on a sunlight readable 11" touchscreen enabled moving map display unit in 16:9 TFT format, with a 1920x1080 resolution. Etion Create is also offering a slave unit for the vehicle driver, as the main display might be positioned elsewhere in a space constrained vehicle. This slave unit, measuring 3.5" diagonal TFT, displays information that is specifically required by the driver.

The CheetahNAV is non-ITAR controlled, a preference of most land forces around the world today to meet their battlefield management requirements.

According to Van Loggerenberg, the CheetahNAV evolved from a multifunctional display product from the company's existing harsh industrial product portfolio with an install base of more than one thousand units. This resulted in the system being at a high technology readiness level suitable for the export market, especially where transfer of technology is an essential requirement. ▲

شركة إيتيون تعرض نظام شيتها للملاحة على مركبة هاسكي

النظام المميز بلاتم أقصى المناخات والتضاريس الذي يمنح طاقم المركبة الانسيابية المثلى علما أن النظام يتكامل مع عدد من نظم الأقمار الاصطناعية المستعملة مما يمنح مزيدا من الدقة بدون أي توقف أو تعطل. ويتوفر النظام في عدد من اللغات خصوصا أن الشركة المصنعة في مفاوضات متقدمة مع دولتين في منطقة الشرق الأوسط لتوريد النظام.



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°



A game changer for the land engagements



The **COCKERILL® i-X** :
Where the excellence of our
weapon systems technology
combines with the experience
of Paris-Dakar performance

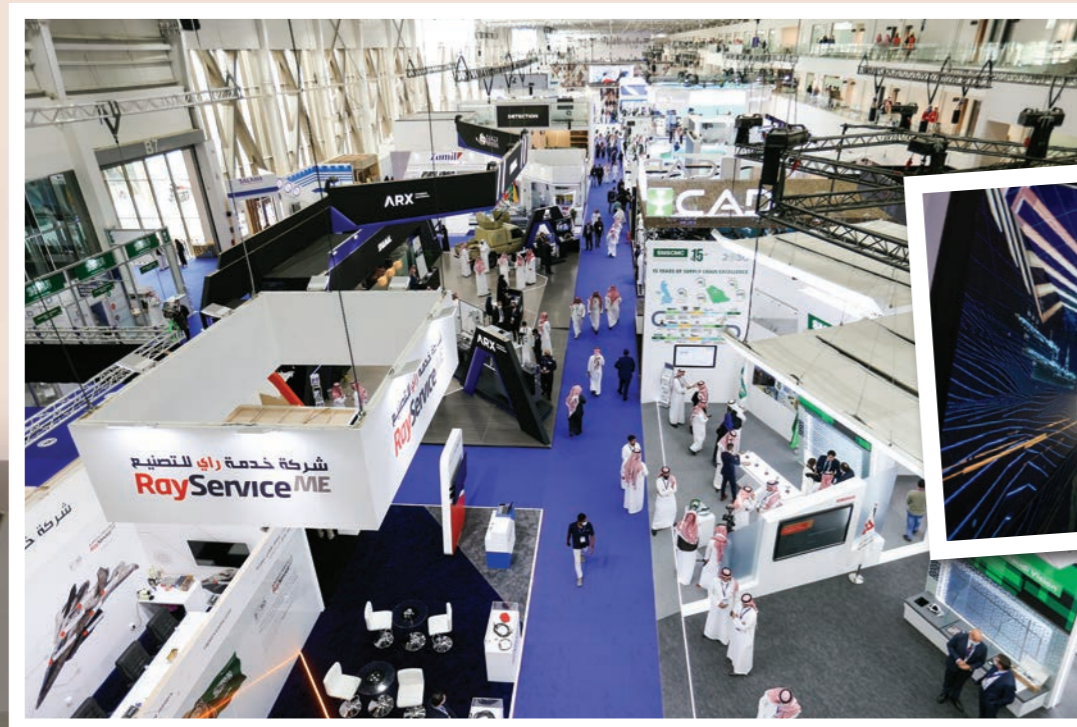


Discover it as a world premiere on
John Cockerill Stand - Hall 1 : H16

PHOTOGRAPHY BY JIM ROBBINS, JEFF HOLMES AND IAN BILLINGHURST

As the doors opened at the first World Defense Show yesterday morning, visitors had their first look at the plethora of platforms and systems that exhibitors hope will attract lucrative orders. Staff on the hundreds of stands reported they were kept busy answering questions from a healthy number of business executives and military delegation personnel, inspecting the latest products from national defence industries from around the globe. Some 60,000 guests are expected to pass through the doors over the course of the show, which will emphasise the growing strength and capabilities of Saudi Arabia's defence sector

HIGH PERFORMERS



▲ Elevated view of the exhibition halls



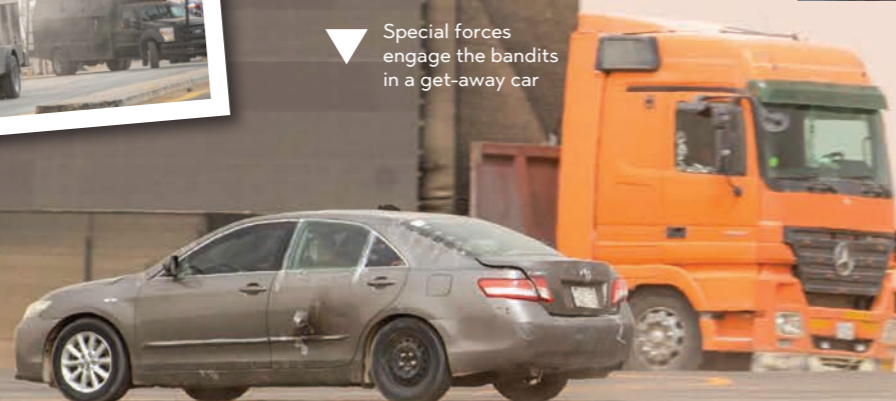
▲ Disco-like light display

▼ Convoy of armoured vehicles



◀ Special forces on assault platforms

▼ Special forces engage the bandits in a get-away car



▼ A PSS Sikorsky S92 taxis in



▲ An Airbus H145 of the PSS prepares to land

▼ Eurofighter Typhoon dipping its canards



▶ Royal Saudi Air Force fast jets



▲ M2 Bradley infantry fighting vehicle



▲ Mine-protected armoured vehicles on parade



مع افتتاح معرض الدفاع العالمي أبوابه صباح أمس، توافد الزوار إلى مختلف أجنحة المعرض العديدة مستفسرين عن أحدث الأسلحة والتقنيات المعروضة من الشركات الوطنية السعودية والعالمية البرية والبحرية والجوية، والدفاع الجوي والأمن السيبراني على حد سواء. وقد لوحظ نوعية الأسلحة المعروضة من حيث حداثةها وتطورها الأعلى في العالم مبرزة أهمية السوق السعودي اقليميا وعالميا تحقيقا لرؤية ٢٠٣٠٢ والتي تسير بخطى ثابتة. أكثر من ٠٦ ألف شخص سجلوا حضورهم للمعرض قادمين من مختلف أنحاء العالم مشيدون بالتنظيم الاحترافي وفق أرفع المواصفات العالمية.



NORINCO OF CHINA NORINCO FOR THE WORLD

As a global leader in land weapon system, NORINCO provides individualized solutions for various customers. In the field of fire strike, maneuver and assault, air-defense and anti-missile, anti-fortification and armor-penetration, special operation, intelligence and reconnaissance, command and control, as well as comprehensive support, NORINCO offers integrated & organic defense system solutions and reliable logistic support to our customers worldwide. NORINCO is committed to and strives for customer satisfaction.

Visit us at 2022WDS Hall1 C3&D3



1	2
3	4

1. PLZ45A4 155mm Self-propelled Gun Howitzer
2. SR5A2 Multiple-launch Rocket System
3. LD76 76mm Self-propelled AA Gun
4. SH15 155mm Trucked-mounted Gun Howitzer



www.norinco.cn

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
2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA