



SHOW BUSINESS





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BOEING BONANZA

Emirates Group views new horizons with landmark order

he Emirates Group made a major re-commitment to Boeing at the show yesterday, placing huge orders for Emirates Airline and sister carrier Flydubai for 777X and 787 widebodies.

Revealing the order for Emirates Airline, his highness Sheikh Ahmed bin Saeed Al Maktoum, chairman and chief executive of Emirates Group told a packed announcement event: "I am sure [this event] is what you are all waiting for."

The order for Emirates, worth \$52bn, is for 55 Boeing 777-9s and

35 777-8s and will bring the carrier's total order book for the type, including a previous 777X deal, to 205 aircraft, he explained.

It includes an order for 202 General Electric GE-9X engines. The first 777-9s will be delivered in 2025 and the first 777-8s are expected in 2030, said HH Sheikh Ahmed.

HH Sheikh Ahmed went on to say that Emirates has also updated its Boeing Dreamliner order adding a further 35 units to its backlog. This will consist of 15 787-10s and 20 787-8s.

In total Emirates now has 245

widebodies on order with Boeing, including five 777 Freighters.

The ink was still drying on these deals when HH Sheikh Ahmed made a second announcement, unveiling Flydubai's first foray into widebody operations with an order for 30 787-9s saying its "signifies the maturing of Flydubai".

Major boost

The Emirates Group orders are a major boost for Boeing, with the 777X's in-service date significantly delayed and the 787 subject to several quality issues.

Addressing HH Sheikh Ahmed

at the event, Stan Deal, Boeing Commercial Airplanes president said: "Thank you for the confidence in Boeing."

"The 777 is at the centre of the Emirates' strategy to connect cities to different continents non-stop to Dubai," said HH Sheikh Ahmed. "The order represents Dubai's commitment to the future of aviation and supports the 2033 Dubai Economic Agenda."

The Flydubai order for 787s "signals a new chapter for the airline, building on the success of its

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PURPLE PATCH!

aving welcomed the glare of publicity for the unveiling of its striking purple colour scheme at June's Paris Air Show, the curtainraising on the carrier's alternate livery yesterday had to contend with the glare of the Dubai sun.

The new Saudi Arabian flag-carrier, which is scheduled to start flying in Q2 2025, has opted for a much more 'standard' second colour scheme, with an essentially white fuselage and the airline's two shades of purple on the fin and rear fuselage.

Tony Douglas, CEO of the Riyadh-based airline, has been at pains to stress the airline's three main attributes: an "obsessional attention to detail for the passenger experience"; being a digital airline without the burden of elderly IT systems most airlines have inherited; and a strong focus on environmental sustainability.

Yesterday's unveiling focused on the latter two attributes, with the new livery becoming visible when journalists scanned a large QR code with their mobile phones, which generated a digital image of the alternate colour scheme.

The digital nature of the image also meant that the aircraft bearing the original colours did not have to be stripped and repainted at a paint shop, reinforcing the airline's environmental credentials.

Unfortunately, the strength of sunlight on the flight line meant that the digital image on telephone and laptop screens was almost impossible to discern by many scribes and photographers.



Asked for the rationale for having two liveries, Douglas replied cryptically: "Because we can.

"What we're trying to do is present ourselves in a way that demands explanation. The second livery demands an explanation." The explanation as to why the airline has opted for a second livery less memorable than its first one is still awaited.

Riyadh Air is on the verge of announcing a major order for narrowbodies, to join the 39 Boeing 787-9s (plus 33 options) that it revealed earlier this year.

Stand by your scan:
CEO of Riyadh Air, Tony
Douglas, demonstrated the new
livery digitally on a tablet in front
of an aircraft displaying the
striking primary livery

At last week's World Travel Market exhibition in London, the carrier's chief commercial officer, Vincent Coste, said that the company was "pretty much there" in terms of deciding the winning contender, with just some internal governance procedures to be completed before the announcement was made.



Zuri plans eight-tiltrotor eVTOL

Czech start-up Zuri is in the middle of series A fundraising, as it seeks to upgrade from its current large-scale model demonstrator to a full-size eVTOL aircraft. The Prague-based company is proposing a hybrid-electric aircraft with eight tiltrotors – four on the main plane and four on the V-tail. The aircraft is planned to have an unusually long range for an advanced air mobility (AAM) aircraft of 700km and maximum speed of 350km/h.

The aircraft will have eight turboshaft power plants, each with a generator that converts their output to electrical power. The carbon-fibre aircraft will carry a pilot and four passengers.

"We have a large-scale demonstrator with an 11-metre wingspan that is close to the full-size version," said Zuri founder Michal Illich at a gathering in Dubai of 20 companies in the emerging eVTOL market. We've been flighttesting it for the last two years."

The company hopes to raise €15-20m (\$16.07m-21.4m) to enable the next stage of the programme, the creation of a full-scale demonstrator. Illich said that this could be in the air three years after the necessary funding was raised.



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bin Mohammed Al Maktoum with his

father, Dubai's ruler Sheikh Mohammed bin Rashid Al Maktoum on the steps of Etihad's latest Boeing 787 Dreamliner

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Largest Dubai Air Show takes flight

An Airbus A380 flanked by the Al Fursan aerobatic team led the gamut of the UAE's aerial hardware on a spectacular flypast to open the largest Dubai Air Show in its history.

Watched by the ruler of Dubai, Sheikh Mohammed bin Rashid Al Maktoum, the patron of the show, the event brought together 1,400 exhibitors from 95 countries with some 180 aircraft on display.

More than 300 international speakers are also gathering at the event conferences to drive collaboration and technological advancement, explore the latest trends and push the boundaries of sustainable innovation for the future.



AirBaltic confirms order for extra A220s

AirBaltic's Martin Gauss, (left) with Airbus's Christian Scherer at the show

CONTINUED FROM P1

Boeing Bonanza

strong business model", said HH Sheikh Ahmed. It currently operates more than 80 737 single-aisles.

Flydubai will continue to focus on connecting "previously under-served markets from Dubai" and will "expand the horizons for the carrier as well as adding more capacity on existing routes," said HH Sheikh Ahmed.

All in all, Monday was a "darn good" show day for Boeing, said Deal announcing a host of orders including SunExpress and Egyptair, and Royal Jordanian.

FOR FURTHER DETAILS
ON THE DEALS TURN
TO P15

type.
The deal secures AirBaltic's position as the largest A220 customer and takes the airline's total firm order book to 80 aircraft with the intention to operate a fleet of 100 A220s by 2030.

∧ s day one of the show drew to

a close, AirBaltic confirmed an order for 30 Airbus A220-300 aircraft, with purchase rights for an

additional 20 aircraft of the same

AirBaltic's history with the Airbus A220-300 dates back to 2016 when it became the global launch customer for the aircraft. In 2020, it refreshed its fleet to solely operate the aircraft type.

Speaking at the signing, Christian Scherer, Airbus CCO and head of international, congratulated airBaltic on its resilience over the last few years as he said the airline is now on a trajectory for growth.

Describing the decision to expand its fleet of A220s, as a "super positive and logical step," Martin Gauss, AirBaltic CEO and president, credited the aircraft type with being instrumental to the air-



line's success and growth to date.

"For almost seven years, the
Airbus A220-300 has been the
backbone of our operations and we
are a proud ambassador for it," he
added.

To date, the airline has carried more than 13,441,000 passengers on the A220-300 and completed over 150,000 flights, flying 328,000 block hours. In 2021 it launched its Riga to Dubai service,

marking the world's second-longest A220 route.

Gauss concluded that the confirmed order followed "long and good negotiations," although wouldn't reveal the order value.

Delivery of the first aircraft is expected in Q4 2026 to align with the airline's expansion of its existing bases in the Baltics and anticipated new facilities in the Nordics.



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A NEWS IN BRIEF

Lufthansa Technik and Saudia Technic ink agreement

Lufthansa Technik and Saudia Technic further strengthened their relationship yesterday signing a transactional agreement underlining their commitment to support technical and training services for the industry.

In the "spirit of sustainability", the agreement was signed on an iPad by Saudia Technic CEO, Fahd Cynndy and Lufthansa Technik COO, Harald Gloy. Describing Saudia Technic as the emerging champion of MRO services, Cynndy said the agreement will see up to 50 Saudis working across Lufthansa's facilities over the next year and aligns with Saudia's plans to establish an MRO centre of excellence.

Meanwhile, Gloy said the agreement celebrated the ongoing partnership between the two organisations and signals the start of greater things to come.





Tawazun partners with Aerospace Xelerated

Tawazun Council has partnered with Boeing-led Aerospace Xelerated for the second year to run the start-up programme year-round, compared with the previous model of annual cohorts. A new model, the "always on" innovation approach, will deliver more significant benefits and impact to participating start-ups, and other stakeholders. Each start-up will receive up to \$25 0,000 in funding to execute a proof of concept contract if selected.



PAL showcases new ISR console

AL Aerospace is showing off its new intelligence surveil-lance and reconnaissance (ISR) console, specifically designed for the UAE market.

The Emirati company is offering the system as a solution as part of the UAE Navy's future maritime patrol aircraft (MPA) requirement. PAL is bidding with its P-6 MPA, built on the Bombardier Global 6000 platform, as a littoralcentric MPA, which the company unveiled at IDEX in February.

The onboard AIMS-C4 console, acts as the 'brains and memory', as a PAL spokesman said, by capturing a recognised area of interest via the onboard displays.

The software is being developed



here in the UAE, and takes feeds from PAL's AIMS S ISR system, that acts 'as the eyes and ears', through onboard sensors, embedded on the likes of land vehicles, sea vessels, unmanned aerial systems and of course aircraft.

The company's CEO, Keith Stoodley said it has moved all its structures and console manufacturing from Canada, in recent months, as a sign of its commitment to the UAE.

The earlier P-4, based on the de Haviland Q400 platform, has been operated by the UAE Navy since 2012, and the P-6 would be a natural successor.

Stoodley continued: "Since they were delivered our UAE team has provided the in-service support and training and developed specialised in country ISR expertise. We also now have a centre of excellence set up here in UAE."



The AIMS C-4 console with its on-board systems has been developed in the UAE and is making its debut at Dubai show



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HIS HIGHNESS SHEIKH **MOHAMMED BIN RASHID AL MAKTOUM GLOBAL AVIATION AWARD:**

UAE'S INITIATIVE TO EMPOWER AVIATION EXCELLENCE

In a world where global connectivity and economic **prosperity** are heavily reliant on the aviation industry, recognizing and encouraging excellence in this field is of paramount importance. The Sheikh Mohammed Bin Rashid Al Maktoum Global Aviation Award, established in 2016, is an exemplary initiative that sets the stage for celebrating the contributions of countries, Business Organizations, and Individuals to the aviation industry.

The aviation industry is not just an economic juggernaut; it's a airports, and air navigation service providers that are working lifeline that connects people, businesses, and nations across the diligently to reduce aviation's impact on climate change while globe. The impact of aviation as a catalyst for trade and tourism is undeniable, and it directly or indirectly involves hundreds of millions of people. From state institutions to business organizations and even individual enthusiasts, aviation is a collective endeavor that touches lives and shapes the world in profound

Every three years, we launch a new circle of this award under the Chairmanship of His Excellency Abdulla Bin Toug Al Marri - UAE Minister of Economy and the Chairman of GCAA, seeks to honor those who have contributed to making aviation safer, more liberal, and innovative. With a substantial monetary prize of one million USD, the award stands as a beacon of recognition for those who have advanced aviation by developing The Sheikh Mohammed Bin Rashid Al Maktoum Global Aviation knowledge, helping others, or exerting personal influence for the Award is not just a recognition; it's a commitment to a brighter betterment of the industry.

The award's mission is clear and inspiring: "To recognize and promote efforts that contribute to the sustainable growth and development of the aviation industry." This vision and mission are more important than ever, as the aviation industry faces complex challenges, including environmental sustainability, safety, and the need for continuous innovation.

Divided into three distinct categories, the Sheikh Mohammed Bin Rashid Al Maktoum Global Aviation Award covers a wide spectrum of aviation excellence:

1. Outstanding Resource Contribution to ICAO Programs: This category recognizes the State's contributions to the International Civil Aviation Organization's (ICAO) non-financial

activities over a three-year period. These contributions can range from enhancing safety and security to improving efficiency and environmental responsibility. Importantly, this category requires no submission or nomination, underscoring the award's commitment to recognizing achievements based on merit alone.

2 Best Aviation Sustainability Program Award: In a world increasingly focused on environmental responsibility, this category acknowledges international and domestic airlines, simultaneously supporting economic growth. The emphasis on both the environment and socio-economic progress

> highlights the aviation industry's role in contributing to a better society and a sustainable future.

3 Research & Development Award: This category is all about nurturing the next generation of aviation leaders. Targeting students from academic organizations, this award offers a generous one-million-dollar prize to the winning individuals or teams. By encouraging innovation and research within the industry, it inspires fresh ideas and solutions that will shape the aviation landscape in the years to

aviation future. By celebrating those who have made meaningful contributions to the industry and by inspiring the next generation of aviation enthusiasts, this award embodies the UAE's dedication to promoting aviation and supporting ICAO's 'No Country Left Behind' initiative.

In a world where collaboration and innovation are the cornerstones of progress, this award is a powerful reminder that the sky is not the limit for the aviation industry. With each contribution, each sustainable program, and each student's research project, we are collectively steering the aviation industry toward a safer, more environmentally responsible, and economically sustainable future for all. The Sheikh Mohammed Bin Rashid Al Maktoum Global Aviation Award is a symbol of excellence and a testament to the boundless possibilities that aviation holds for our shared future.

Sun Express kicks off order bonanza

▲ ax Kownatzki, the CEO of SunExpress, pressed the red "push" button on an executive toy to confirm a commitment for up to 90 Boeing 737 Max single-aisle airliners, kicking off a flood of aircraft orders yesterday at the show.

Describing the occasion as a "CEO dream day" and a "historic moment" for the Lufthansa-Turkish Airlines joint venture airline. Kownatzki said SunExpress has placed firm orders for 45 737 Max 8s with a further five options, in addition to 40 purchase rights for the type. The firm orders can be substituted for the larger Max 10 version if the airline chooses, he noted. The order will help fast-growing SunExpress more than double its fleet in the next decade with deliveries taking place between 2029 and 2035.

The order is the largest in its history and supplements an existing 737 Max order with nine of 42 in that deal already delivered, with the remaining 33 arriving between now and 2028.

This deal has been under negotiation for 12 months beginning with talks at a fish restaurant in Izmir, said Kownatzki, who once worked a consultant for Boeing.

In a light-hearted moment he gave Boeing Commercial Airplanes president Stan Deal a commemorative photograph of a city skyline to remind him that Sun-Express should be high up on its delivery schedule. "Our relationship is characterised by trust and collaboration," said Kownatzki,

Antalya-based SunExpress currently operates 66 Boeing aircraft 175 destinations in 30 countries.



SunExpress CEO Max Kownatzki pressed the red button and signed for up to 90 Max airliners at the show, with Boeing president Stan Deal



Royal Jordanian ups 787 orders

Royal Iordanian Airlines, the launch customer for Boeing's 787 in the Middle East, has increased its commitment to the type with an order for four 787-9s and re-instated a previously cancelled order for another two.

Although "Royal Jordanian lives in a very difficult region" this is not preventing the carrier from "going ahead with our fleet renewal programme," said its CEO Samer

In addition to the 787-9s from Boeing,

the carrier has signed deals with unannounced lessors for an additional three 787-9s.

Two of the leased 787-9s will be delivered in 2025 and the third in 2026, with the new 787-9s delivered from Boeing between 2027 and 2030, said Majali.

He also confirmed that Royal Jordanian is going to work with Boeing Services to refurbish its existing 787-8 fleet to the newer 787-9 standard to ensure its fleet can offer a consistent service standard.

EgyptAir expands fleet with leased 737 Maxs

EgyptAir signed an agreement at the show yesterday to lease 18 Boeing 737-8s in what the airline's chairman described as the first step in a major growth plan.

EgyptAir Holdings chairman and CEO Yehia Zakaria said that the new aircraft, to be acquired from Air Lease Corporation (ALC) with deliveries in 2025-2026, would supplement rather than replace the carrier's existing 737-800s, which form the backbone of its short- and mediumhaul fleet. The new acquisitions will help boost the fleet from its current 91 aircraft to 125 by 2028.

"We have ambitious plans for expansion," Zakaria said. This meant keeping the previous-generation 737s, but the new aircraft would reduce the average age of the fleet. "We will replace them later, when we think the markets are able to give us a mature aeroplane," he said.EgyptAir has particular plans to expand within the African continent.



Zakaria of EgyptAir Boeing's Stan Deal and ALC's

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Another North African carrier also had the chequebook out. Royal Air Maroc, confirmed an order for two more Boeing 787-9 Dreamliners. Chairman and CEO, Abdelhamid Addou said the airline is "actively pursuing a significant tender to quadruple the fleet before 2037."

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Boeing signs SAF MOU with Zero

oeing signed a memorandum of understanding at the show vesterday to support the certification of a new synthetic sustainable aviation fuel (SAF).

The US manufacturer will help UK company Zero Petroleum to steer its new SAF through the approvals process, a process likely to take up to two years.

The work is being undertaken at Sheffield, northern England, and is the latest stage in longstanding Boeing support for research work

"We really need to focus on the

biggest lever [to cut emissions] and SAF is 65 per cent of the opportunity in front of us," said Sheila Remes, Boeing's vice-president, environmental engagement and business development.

The new fuel being developed by Zero Petroleum uses water to produce green hydrogen and CO2 from direct air capture to create carbon. The two ingredients are then combined in a version of the Fischer-Tropsch process to create a synthetic SAF that will be a 100 per cent 'drop in' fuel that can replace fossil fuel.



At the signing of the MoU yesterday (from left): Boeing's Brian Moran and Sheila Remes with Zero's Patrick Lowe, Boeing Global president Dr Brendan Nelson and and Oliver Christian, UK's consul-general in Dubai and trade commissioner for the Middle East and Pakistan



Lufthansa Technik is showcasing its Leap-1B MRO capabilities with a scale Lego model of the CFM International engine at its stand. The working model has 400,000 parts and is 60 per cent the size of an actual Leap-1B, said Hassan Gasim, sales director Middle East VIP and Special Aircraft Services at Lufthansa Technik (pictured above). The company is the first fully-independent MRO provider worldwide to sign a CFM branded service agreement for the LEAP-1A and LEAP-1B, which became effective in January 2022.

A NEWS IN BRIEF Mirage displays with LM Sniper pod

Though the Mirage 2000-9 is nearing the end of its service in the UAE. with the Dassault Rafale selected to replace it, investment in the type is continuing. As well as integrating new weapons from the EDGE group, the UAE Air Force and Air Defence has equipped the type with Lockheed Martin Sniper advanced targeting pods - which represents a significant improvement in the type's precision attack capability. compared with the Thales Damocles pod used previously.

The Sniper pod enjoys particularly good capabilities when it comes to designating moving targets for engagement by laserquided weapons. The pod is carried on a pylon mounted below the starboard intake duct, and was seen on two aircraft that made a flypast with an Airbus A330 MRTT tanker.



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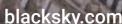
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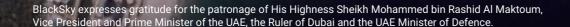
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showcase the UAE space sector. Steve Nichols takes a closer look

Business blast off! Space industry to be "prominent economic sector" in the UAE

Sarah Al Amiri, UAE minister of state for public education and advanced technology and

chair of the UAE Space Agency, said that the Dubai Air Show was a great opportunity to

e are investing quite heavily in the space industry to establish it as a prominent economic sector within the country," Al Amiri said.

"We need to further build up capabilities for designing and developing spacecraft from a commercial perspective and build a comprehensive eco-system that falls around that. We are also working on the further utilisation of space data for commercial use.

"This is rippling into other areas and will provide services and products for other sectors," she said.

Al Amiri added that they are also continuing to work on the UAE's space exploration programme, which will act as a "catalyst for change and act as a driver for scientific research".

"We now have a national space fund that will develop capability and capacity, funding different programmes and projects. These include the UAE mission to the asteroids (EMA).

The UAE Space Agency said EMA is scheduled to launch in March 2028 and will fly past six asteroids in the main asteroid belt before arriving at a seventh in 2034 where it will release a lander to touch down on the surface. EMA will have a narrow launch period of just three weeks in March 2028.

It will fly a five billion kilometres (around three billion miles) route via Venus in July 2028 and Earth in May 2029, before going by the

main belt asteroids Westerwald, Chimaera and Rockox between February 2030 and January 2031.

Al Amiri said that plans are now well under way for the UAE asteroid mission and the mission is reaching a critical review stage. They have also "onboarded" new team members to continue their knowledge transfer programme for the mission.

"We have also run three or four 'Space Means Business' programmes where we have opened up opportunities to provide hardware and services for the asteroids mission. Two contracts have been awarded so far so that the mission can move forward." Al Amiri said.

The UAE will also soon have a constellation of synthetic aperture radar (SAR) satellites, which it is

funding to help the private sector. The national space fund.

announced earlier this year, will pave the way for the research and construction of the 'Sirb' satellites - Sirb is the Arabic term for a flock of birds. The constellation of SAR satellites will create highly-detailed radar images of land use, ice cover and surface changes, with a wide range of scientific and commercial applications. Scientists can use the data to trace oil spills, track maritime vessels and monitor crop yields, a government statement said.

"By lowering the risk of entering into this business and offsetting the costs of various programmes, we can help enable the development of the country's space industry," she said. "On the Emirates

mission to the asteroid belt we are working with individuals who have experience in the space sector.

"We are funding their capabilities in terms of their development and providing a contract while they are developing their capacity. They will get to the point where they have a company that is up and running and can compete commercially.

"We are also working on a downstream enablement programme, on spacecraft development, and working on space services in the private sector.

"We need a global venue to exhibit our capabilities and so we've partnered with the Dubai Air Show as a natural progression of our growth and to showcase the opportunities open in the sector,"

Al Amiri said that we can probably expect announcements from the UAE Space Agency and commercial space companies during the show. There may even be an announcement about the UAE's second attempt at a lunar landing, with its own UAE-built rover.

"We now have a national space fund that will develop capability and capacitu. funding different programmes and projects. These include the UAE mission to the asteroids (EMA)"



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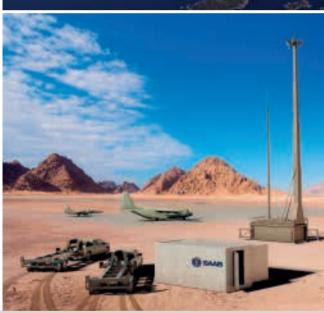
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Lilium appoints ArcosJet for private sales

ilium, the German developer of the first all-electric vertical take-off and landing jet, brokerage firm ArcosJet as the exclusive authorised dealer for private sales for the Lilium Jet in the

United Arab Emirates (UAE), Israel, and Republic of Cyprus.

The agreement includes a commitment fee payment to Lilium and grants ArcosJet exclusivity on private sales. With this agreement, ArcosJet becomes Lilium's first reseller in the Middle East and its fifth global dealer.

"At ArcosJet, we appreciate Lilium's mission as we see tremendous potential in the emerging eVTOL market – especially for jet-powered aircraft, and we are grateful that Lilium is partnering with us, "said Mikhail Alenkin, ArcosJet founder and CEO.

"We are sure that combining our experience in selling conventional aircraft with the economic and socio-demographic characteristics of UAE, Israel, and the republic of Cyprus can result in the region becoming a leader in the sales and operation of the revolutionary Lilium Jet." he added.

Sebastien Borel, chief commercial officer at Lilium said: "The Middle East offers tremendous opportunity for eVTOL and we are proud to add a reliable and experienced partner to sell and operate the Lilium Jet in the region.

"ArcosJet has an impressive portfolio of successful deals, fleet management and a huge network of industry connections to help drive firm orders of our

"A new era of sustainable aviation is coming and we are proud to be blazing the trail here alongside our new partners who support our aspiration towards new technologies and markets."

vertical take-off and landing jet. It is designed to offer leading capacity, a low-noise profile, high performance, zero operating emissions, and is purpose-built for regional connectivity.

profound knowledge within aircraft eVTOL jet.

The Lilium Jet is an all-electric



Anra 'turning vertiport vision into reality'

news headlines A

Uncrewed aircraft systems technology provider, Anra Technologies unveiled its vertiport management system (VMS) at the show yesterday.

The platform has been designed to seamlessly connect with various systems at vertiports, on aircraft and across the broader advanced air mobility (AAM) ecosystem to facilitate the safe arrival and departure of urban air mobility (UAM) aircraft.

The VMS addresses a critical digital technology gap by offering a webbased software platform that enables users to exchange real-time data with all the necessary services to facilitate the safe arrival and departure of UAM aircraft.

As well as being aircraft agnostic and compatible with multiple vertiport designs, the VMS microservice architecture integrates with current commercial air traffic management (ATM)

Subsequently, UAM operators can plan and execute their flight operations from pad to pad, supported by a suite of services, including: real-time vertiport resource status and reservation requests; system checks to verify status of outbound flights; and live surveillance data for nearby aircraft.

Amit Ganjoo, founder and CEO of Anra Technologies, commented: "While many vertiport providers are busy building the physical infrastructure and conceptualising the passenger experience, Anra has developed the digital layer."





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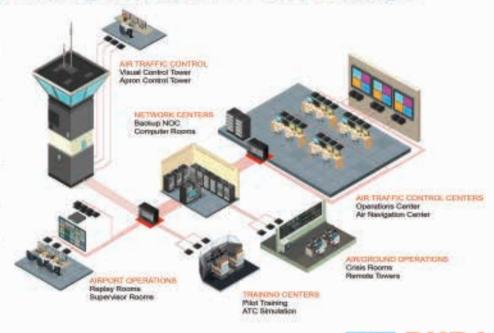
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IHSE offers next generation KVM technology tor ATM signal management and switching.

Air traffic control requires uninterrupted service, robust response, adaptability, flexibility, and intuitive fail-safe operations

When you think of air traffic control (ATC), the image of people located in a tower managing the flow of aircraft. from takeoff to landing usually comes to mind. However, air traffic control is only one part of the total operations of managing air traffic and the associated ground management systems at and between airports. Air traffic management (ATM) plays a critical role in the operations of larger airports and at the heart of the control centers is a host of computer equipment that needs to be managed 24/7. As a leading provider of display management systems (DMS) for mission critical operations, IHSE USA specializes in developing keyboard-video-mouse (KVM) systems that provide user-friendly interfaces supporting customizable displays up to 4K while considering the high safety standards of air traffic control.







EVM over IP : HB Video/Bual Read













news headlines A

Daily news updates on timesaerospace.aero

Block III JF-17C **Thunder storms** into Dubai

hough the Sino-Pakistani Pakistan Aeronautical Complex-Chengdu Aircraft Corporation (PAC-CAC) JF-17 Thunder has visited Dubai in the past, this year's show represents the first time that the new JF17C block III variant has been shown at an airshow.

The Pakistan Air Force (PAF) has dispatched three aircraft to Dubai – two block II aircraft for the flying display, and a single block III aircraft in the static aircraft park.

The first JF-17 block III prototype (serial 3,000) took to the skies for its maiden flight over

Chengdu in December 2019. But with the global COVID 19 pandemic, it was not until Ianuary 1, 2022 that the first production block III completed its first taxi trial during a ceremony at PAC Kamra, and only a small number have been delivered to date. Eight block IIIs were delivered to Pakistan's Flight Test Centre to continue testing in early 2022, before being delivered to frontline PAF units.

The aircraft at Dubai wears the markings of No.16 Squadron 'Black Panthers', part of No.33 (tactical) wing at Minhas (Kamra). The block III aircraft



This year's show represents the first time that the new JF17C block III variant has been shown at an airshow

has a liquid-cooled X-band KLI-7A AESA fire control radar, a new frameless, wide-angle diffractive head-up display, a home-grown (and rather cheekily named) Link-17 datalink, a helmet-mounted sight, allowing an expanded firing envelope for IR-homing AAMs, and some structural and airframe enhancements, as well as a stealthier intake system, incorporating DSI 'bumps'. The block III JF-17 is fitted with an additional hardpoint under the forward/starboard fuselage. This allows the carriage of the Aselsan Aselpod advanced targeting pod or a jamming pod while leaving the centreline hardpoint free for additional weapons or fuel tanks.

All eyes on US: Lockheed Martin puts trust in THAAD and PAC-3

With integrated missile defence systems proving more vital than ever as nations face increasing threats, Lockheed Martin's display in the exhibition hall is drawing plenty of attention.

The US company, which has major operations in the UAE and

proven

Saudi Arabia, has been enabling its customers to detect and defend against the most advanced threats.

Some of those capabilities – including the combat-proven terminal high altitude area defense (THAAD) weapon system and its PAC-3 family of missiles – are on

display at the show. In 2022, the THAAD weapon system was called upon to intercept an incoming ballistic missile threat. This marked THAAD's first use in combat in the weapon system's 15+ year history. A Lockheed Martin engineer

assigned to supporting that battery said: "It was great knowing that Lockheed Martin systems protected the city and the population there. Most didn't know the ballistic missile attack happened – which is probably the best compliment that could be paid to a missile defence system."

With its 100 per cent intercept success rate in flight tests (17 successful intercepts in 17 intercept attempts, 16 with a THAAD interceptor), the THAAD weapon

system is not only a deterrent to protect against a range of incoming ballistic missile threats, but also a key part of a strategic layered missile defence network.

The integration of the PAC-3 missile segment enhanced (MSE) into the THAAD weapon system further builds on IAMD capabilities to provide defence forces with more options and expanded air defence coverage, allowing them to choose the most capable interceptor against a specific threat.

The PAC-3 family of missiles defend against incoming threats using direct body-to-body contact that delivers exponentially more kinetic energy on the target than can be achieved with blast-fragmentation mechanisms.





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Honeywell and Saudia Technic to support Boeing 777 in Middle East

oneywell has appointed Saudia Technic to be the first sole authorised Honeywell service centre in the Middle East region, with a global license to service the 331-500 auxiliary power units (APUs) installed on Boeing 777 aircraft.

EDGE

Wholly-owned by Saudia Group and formerly known as Saudi Arabian Aerospace Engineering Industries (SAAEI), Saudia Technic is one of the largest and most experienced MROs in the Middle East and North Africa region.

Saudia Technic is spearheading the creation of the MENA region's largest MRO infrastructure in its innovative MRO Village located in Jeddah, Saudi Arabia, fuelling growth and bolstering Saudi Arabia's position as a prominent regional aviation hub.

As part of the 10-year agreement, Saudia Technic will provide inspection, repair, overhaul and upgrades from the MRO Village Owners and operators of these aircraft can now repair their APUs locally in the Middle East, instead of sending them to facilities outside the region.

Mohammed Mohaisen, president and CEO of Honorwell Middle CEO of Middle CEO of Honorwell Middle CEO of Middle CEO

for the 331-500 APU model.

dent and CEO of Honeywell, Middle East and North Africa, said: "Honeywell is proud to extend our existing relationship and service capabilities in region.

"The combination of Saudia Technic's delivery expertise and Honeywell's innovation will unlock tremendous value for our customers and highlights Honeywell's continued commitment to working with key stakeholders to localise our solutions."

Captain Fahd H. Cynndy, CEO of Saudia Technic, said: "Saudia Technic is honoured to have



Saudia Technic is spearheading the creation of the MENA region's largest MRO infrastructure in its MRO Village in Jeddah earned the trust of global manufacturing giants like Honeywell, which has solidified our position as an authorised maintenance facility and a reliable partner in the aviation industry.

Ryan Lees, president, EMEAI aftermarket, Honeywell Aerospace, said: "Saudia Technic is one of the largest and most experienced MROs in the region, and we are proud to extend our relationship with their team.

"Our collaboration continues to provide many advantages for our customers, including the ability to significantly reduce aircraft downtime, saving time and money with local repairs in the Middle East."

This new partnership builds upon Saudia Technic's previous agreement to be Honeywell's first authorised service centre in the Middle East region. Signed during the Dubai Airshow 2021, the agreement included a global license for 10 years for the 131-9 APU models that were installed on Boeing 737s and Airbus A320s.



Eve paves way for Dubai vertiport

Eve Air Mobility (Eve) and Swedish-based vertiport developer Kookiejar have signed a letter of intent (LOI) for Eve's urban air traffic management (ATM) system to support vertiport operations in Dubai.

The agreement marks Eve's first urban ATM agreement in Dubai and Kookiejar becomes the company's 10th urban ATM customer and fifth vertiport customer as the company continues to grow its global customer base.

The agreement comes as Kookiejar, along with its local partner Air Chateau, is preparing to showcase Dubai's first state-of-the-art vertiport hub facility with eight parking pads and a final approach and take-off area (FATO) at Al Maktoum Airport, Dubai South.

Eve's urban ATM product has been adopted as part of Kookiejar and Air Chateau's vision for Dubai. The vision is a phased implementation programme in which networks of vertiports will



be connected via Eve's urban ATM system to support a safe and scaled urban air mobility operations that provides a path to commercialisation in 2025-2026.

"Urban air mobility relies on

infrastructure within the lower air space as well as accessible take-off and landing spots," said Rob Weaver, urban ATM global business development lead at Eve Air Mobility.

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Linn Tonsberg, managing director, BP, Middle East



BP seeing increasing demand for SAF

s the gold sustainability sponsor at this year's show, Air BP's Linn Tonsberg, senior asset director, Air BP and managing director, bp, Middle East, underlined that: "This is a really exciting time for the region, with plenty of activity from all the key players in the industry to contribute to the sector's lower carbon future."

Currently serving 150 customers across 13 locations in Dubai, Saudi Arabia, Bahrain and Iraq, Air bp has established a prominent presence in the Middle East and continues to see growth in terms of new airlines coming online, according to Tonsberg.

"We're also seeing an increase for SAF demand from our customers. What's really needed now is a local supply of SAF, which is key to helping the region play its part in decarbonising the sector."

Air bp is currently collaborating with Etihad Abu Dhabi National Oil Company (ADNOC) and renewable energy company Masdar, on an ongoing feasibility study looking at the production of SAF in the UAE. "One of the things we're looking at with this study is using municipal solid waste (MSW) and renewable hydrogen, but the study is also a solid example of how stakeholders can work together to leverage all their individual capabilities and explore the technical and commercial viability of a project on this scale," said Tonsberg.

If the study's conclusions are positive, then Air bp alongside its partners will look at developing the region's first commercial scale production capacity in Abu Dhabi.

"This project really marks an important step in assessing what the potential of how the UAE is becoming a potential global leader in the SAF space," Tonsberg added

As Air bp continues to eye expansion across the region, it is currently in the process of rolling out its safe2go fuel data platform at Dubai and Sharjah airports.

The award-winning technology helps reduce the risk of into-plane misfuelling and is expected to be deployed more widely across the region in the coming years.

Linn Tonsberg will join a panel to discuss 'Scaling SAF in the next decade' during the Aerospace 2050 conference on Tuesday November 14.

Air BP expands into 31st Indian location

Monday saw Air BP announce it has expanded its joint venture, Air BP-Jio, in India with a new fuel facility at Rajkot International Airport in Hirasar.

Owned and operated by the Airports Authority of India, Rajkot was inaugurated on July 27 and officially began operations in September. It is BP-Jio's 31st location in India and the fuel provider has already completed 575 fuellings at the airport to date.

Digant Borah, airport director, Rajokot International Airport, said: "Air BP-Jio excelled in making the fuel station ready in a short space of time with all regulatory compliances and approvals. The successful commencement of flight operations at Rajkot International Airport was very much dependent on Air BP-Jio's service."



Remote Digital Tower Rethinking airport operations

Dubai Airshow 2023, booth # 1198

Daily news updates on timesaerospace.aero

Leonardo showcases AW169 at DAS

Leonardo has been active in the UAE for more than 50 years, and the nation represents one of Leonardo's largest and most important export markets across a diverse range of domains. products, and services, civil and military.

There are more than 100 Leonardo helicopters in use in the UAE for VIP and military utility transport, oil and gas support, search and rescue and security, and Leonardo and its local partner Abu Dhabi Aviation operate a major support centre here.

The AW139 is a regional favourite, and is in service in large numbers, and Leonardo hopes that the newer AW169 will repeat its bigger sibling's success.

An Italian Guardia di Finanza AW169 helicopter is on static display at Dubai, and is due to carry out a demonstration tour in the country over the next few weeks.

This aircraft is fitted with skid landing gear, improving performance, and an increased gross weight and larger capacity are expected, while dedicated search and rescue (SAR) modes have been certificated.

The aircraft on display features a comprehensive SAR/public security configuration with



several proprietary technologies in integrated sensors and mission equipment.

Leonardo believes that the AW169 is an ideal solution to modernise regional public services and energy industry support fleets.

Empire selects SD's Plane Simple

mpire Aviation has selected Satcom Direct (SD) for connectivity with the first SD Plane Simple Ku-band to be deployed in UAE. The signing took place at the show yesterday.

The two line-replaceable unit system consisting of the tailmount antenna and SD modem unit is currently being equipped by ACC Columbia Jet at their Hamburg facilities on a Bombardier Global XRS.

"As a leading management company, our clients entrust and empower us to deploy solutions that deliver reliability, commercial value and, of course, passenger satisfaction," said Paras Dhamecha, founder and managing director at Empire Aviation Group.

"Satcom Direct offers a single resource for all our connectivity needs. From cockpit to cabin. the system provides leading-edge technology backed by a network of top MRO partners and access to expert support 24/7/365 to keep

us connected. This approach gives us peace of mind, minimising the risk and pain of deploying new technology."

Since the commercial introduction of the SD Plane Simple Kuband terminal just over a year ago, the compact terminal has clocked up more than 10,000 flight hours

to date. David Falberg, Satcom Direct's VP international, said: "This deal is testimony to our continued success in delivering innovation to the market, particularly in the Middle East," he said.

The Global XRS will be re-delivered to Empire Aviation later this month.



Auxilium expands into aviation

Auxilium is expanding

its business into the

aviation sector, with a suite of solutions tailored for companies that specialise in providing support services to the region's airlines and airport operators. CEO Mark McGeever said: "The region's commercial aviation sector continues to show exceptionally healthy growth, and our services are ideally suited to businesses that offer support to this fastmoving industry." He added: "Hopefully my knowledge and insights along with those of our talented team, can bring benefits to passenger and cargo operators, especially those looking to expand regionally."

VIP AND PRIVATE JET SERVICES LUXURY HOTELS ALL OVER THE WORLD **DANY MEZHER**

PROTECTING THE SKIES

THE POWER OF UNMANNED TECHNOLOGY

t is estimated that between 30,000-40,000 unmanned flights take place each day, bringing a question to mind – who or what protects us from unwanted and unauthorized surveillance, perimeter intrusion, or even infrastructure damage?

While the majority of the Unmanned Ariel Vehicles (UAV) used for commercial missions to inspect oilfields, pipelines, construction sites, carry out surveillance of property and transport facilities and provide community services, there are some that don't necessarily reassure citizen safety. To protect citizens at large-scale events and critical infrastructures. Thales has devised a state-of-the-art counterdrone system.

The solutions protecting critical infrastructure are innovative, and Thales along with CS group are working with their partners in France and Europe's defence industrial and technological base on developing capability based on the French PARADE programme to provide permanent deployable protection. This consortium will provide a scalable, modular. multi-mission drone countermeasures system to protect people, fixed military sites or facilities deployed abroad.

The Counter-UAS system based on PARADE provides permanent 360° site protection and is designed for easy transport from one site to another by road, air or sea, considerably increasing its scope of use and speed of deployment. This solution could also be used for combined civil-military operations, for example to protect critical infrastructure such as military bases in France or in overseas theatres of operations.

C-UAS technology is rapidly developing and is roughly divided into two. In the field of C-UAS, Thales is a leader in both the military and civil domains with modular offerings designed to protect forces, people, property and activities against dangerous and malicious

Our integrated anti-drone capabilities provide a context-sensitive response to highrisk, dangerous unmanned systems in the airspace. These solutions can protect key civil and military locations such as airports, stadiums, high visibility events and military airbases or forces in the field.

It is critical that C-UAS systems detect drones in adequate time in order to identify and track them, and consequently to determine

whether or not they are a threat. In addition, they must have the ability to neutralise unfriendly drones that pose a real risk. Thales C-UAS solutions meet all these requirements and are deployed with different customers. providing different types of responses based on the criticality level of danger posed.

Our scalable and cyber-secured solutions are constantly reviewed, as our clients face rapidly evolving threats at both ends of the scale. Mini and micro-drones present an entirely new type of threat, as they are small and slow moving and therefore hard to spot, whereas the latest generation hypersonic missiles fly at five times the speed of sound, and are able to move from a very high altitudes in exo-atmospheric space, to a very low altitude in their final approach. Our solutions enable the detection, identification and neutralisation of those threats, if needed, with soft or hard kill approaches depending on the situation.

For airports and flight safety, Thales offers an agile proven system for drone detection in the glide path and around the airport using the Gamekeeper radar and various sensors. Thanks to its unique staring holographic operation, the Gamekeeper is able to detect and classify drones at long distance (+7,5km) - critical to securing the approach and departure paths of flights and enabling safe landing, as well as avoiding airport closuress. On the battlefield the use of drones

has become a game changer. They can be used for observation to gather intelligence or to strike and are difficult for opponents to counter. Thales has placed a growing focus on detecting and countering UAVs seen in modern warfare. The company offers responses for its customers to counter these threats as part of its ground-based air defence (GBAD) solutions. Such solutions can be fully integrated

operations command and control systems.

The secondary challenge is how to enact effective C-UAS measures to protect citizens and critical infrastructure, while allowing the safe growth of commercial drone activity, which is revolutionizing industry and opening up new markets by enabling physical and visual access to places that were previously beyond reach. But for commercial drones to fulfil this vital role, they must meet high safety standards - which implies the use of compact, cuttingedge technology.

Thales provides technologies to commercial and civil organisations to enable them to use drones in an effective and efficient way, so that they can use drones to fly the missions they need to, but protect the safety and security of the airspace and avoid any conflict between manned and unmanned flights, be

it accidentally or with harmful

These systems can be integrated together, and by doing so we create a holistic global vision where commercial and civil organizations work together to ensure both the safety and security of our airspace and our communities.



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Being developed in partnership with Lockheed Martin and the U.S. Air Force, the new AN/ALQ-254(V)1 Viper Shield will provide U.S. allies with cutting-edge countermeasures against sophisticated, ever-changing threats. This advanced EW system will provide a virtual electronic shield around the aircraft, enabling warfighters to complete missions safely in increasingly complex battlespace scenarios. L3Harris record includes providing EW systems on F-16s for more than 30 years and to international partners for more than 20 years.

Learn more at L3Harris.com/vipershield





BAE Systems no longer builds jet trainers. The Hawk production line was shut at Brough, Humberside in December 2020

Old Hawk, new tricks

owever, that doesn't mean that BAE Systems is not involved in jet training any more, far from it when there are still hundreds currently being flown around the world.

Four of those Hawk customers are based in the Middle East – Bahrain, Oman, Oatar and Saudi Arabia. While Kuwait and UAE did fly the Hawk, they are now retired.

So what now? At the Bahrain International Air Show last November we got an insight into where BAE Systems is going in the fast jet training world.

Along with technology partners, the company wants to upgrade pilot training not by selling new aircraft, after all it doesn't build them any more, but by using new methods. The RBAF operates six Hawk MK129s, and BAE Systems believes they don't need to be replaced yet, as they still have plenty of hours left on the

BAE Systems training strategy manager, Tim Colebrooke

explained more: "BAE Systems wants to update the Hawk within both the live flying and synthetics scenarios, but our system is platform agnostic we could integrate into any aircraft," Colebrooke said.

"The Hawk is still relevant in flying training and we are very focused on technologies and what we can do is bridge the gap between advanced jet training and front line ops."

He continued: "As a company, we feel synthetics plays a big part you don't just get the assets, the air space and ranges to deliver skilled pilots, you need to grow them into a capable front-line pilot. That's the direction we want to take it, but obviously we have to ensure the airborne experience is right." In Bahrain, BAE were offering their solution alongside UK-based Inzpire with its huge experience delivering collective training in the UK and MOD.

The other technology partner was Northern Ireland business,

Intelligence) which has systems that monitors students' progress in the crew rooms, by using biometrics to assess a pilot's performance.

Colebrooke finished: "The day we start the aptitude testing and down-selecting, we start to measure their attitude to flying, and we take that data and set about ensuring they can overcome their difficulties.

"By tailoring the training, it doesn't mean the first person has to wait for the slowest student – you have to develop to the standard by the end of course."

Just weeks after BIAS ended, BAE Systems announced a collaboration with Red 6, a US augmented reality firm at the forefront of synthetic air combat



reality systems (ATARS) with the Hawk is key as we prepare pilots for life in a fast jet cockpit for decades to come.

Meanwhile, the likes of Italian aerospace giant, Leonardo, is taking the more traditional approach of offering a new platform, as the company's VP Middle East and North Africa Italo Rossini explained: "We believe we have the best solution for training fast jet pilots with the Leonardo M-346 integrated training system. Some of the roles that the M346 advanced jet trainer can fulfil will reduce the training carried out on new expensive fighters.

"Air forces have the potential to buy the aircraft or send students to the International Flight Training School – a partnership between the Italian Air Force and Leonardo," said Rossini.









Aerodata AG is pleased to announce a new MALE UAS for Maritime Surveillance

Building on the momentum of a recently signed Memorandum of Understanding (MoU) at this year's Paris Air Show, Aerodata AG, a distinguished German specialist in mission systems and special mission conversion, has deepened its collaboration with South Africa's Milkor. Together, they are set to introduce a MALE UAS tailored specifically for maritime surveillance, harnessing the capabilities of the Milkor 380 platform.

What sets this UAS apart is its impressive adaptability. In addition to its MALE capabilities with a service ceiling of 30,000 ft, it operates seamlessly in the LALE segment, effectively covering altitudes below 10,000 ft – an essential capability for typical maritime surveillance missions. Furthermore, the UAS boasts an outstanding endurance of up to 35 hours, ensuring extended mission coverage and increased operational efficiency.

With a Maximum Take-Off Weight of 1,300 kg and the capability to carry mission-specific payloads, this UAS has

the potential to enhance the surveillance aircraft fleets of customers around the world. It's important to highlight that Aerodata's contribution encompasses state-of-the-art mission system technology, further augmented by maritime surveillance sensors from its subsidiary, Optimare Systems GmbH. This integrated approach from one source guarantees optimal performance and support.

Interested individuals may visit Aerodata's and Optimare's joint booth 835 during the show.





TCI focus

TCI Interiors' merger sees the company aiming to exceed demands and maintain its dedication to innovation and quality while also harmonising it's business culture

Inside story: TCI Aircraft Interiors sitting pretty after merger

ocated on the Turkish
Technic stand, TCI
Aircraft Interiors is
displaying a range of its
products including aircraft seats.

The company also designs and manufactures both narrow and widebody commercial aircraft galleys and stowages, VIP galleys, aircraft equipment, as well as providing retrofitting and repairing services.

"We are also working on trolley, cargo container and in-seat power systems," said Müjdat Uludağ, TCI general manager. "With our design, engineering, manufacturing and R&D capabilities at production facilities in Istanbul, Türkiye and Seattle, USA, we continue to serve multiple aircraft types."

The company recently merged with TCI Cabin Interiors, TSI Seats and Cornea. TCI Aircraft Interiors entered the sector in February 2023.

"Due to the merging of three companies, we are making a serious effort to harmonise the business culture," said Uludağ. "We are in constant contact with the employees both for the adaptation of the newcomers to the job and for the maturation of the organisational structure of the company."

More than 20 new programmes have been launched and the company plans to increase the number of employees from 350 to more than 500 by the end of the year. "Together with Turkish

Technic, we are able to provide STC support to our customers, which allows us to offer a wider and faster solution in the retrofit market," he said.

TCI operates in the MRO centre at Sabiha Gökçen International Airport, along with projects conducted with Boeing, Airbus, and Stel. TCI has become the global supplier of airlines and leasing companies including Turkish Airlines, SunExpress, Jet Airways, SpiceJet, Azerbaijan Airlines, Donghai Airlines and Anadolu Jet.

It also recently signed a 32 shipset agreement with NineAir for their Boeing B737-8 aircraft.

The company has recently designed new seats.

"The Milligram is our ultralight composite seat developed for low-cost airlines. It offers a great advantage for airlines' sustainability policies with its weight of 8.5 kg," said Uludağ.

"We are currently working on two separate seat projects for economy class. The new seats will be lighter, more comfortable and more innovative.

"In addition to our economyclass seats, our Royalux narrowbody business-class seat will also be installed on aircraft from the middle of next year."

Uludağ said sustainability is at the core when producing its products.

"The global aviation industry produces around three per cent of all human-induced CO₂ emissions and aviation is responsible for 12 per cent of CO₂ emissions from all transport sources," he said.

"While designing our Milligram seat, we focused on minimising scrap waste to improve efficiency, the parts are consolidated and simplified to minimise the number of components, features of the seat facilitates efficient maintenance and minimise downtime, reduces operational costs.

"We are conducting six different programmes with Istanbul Technical University on the development of lighter materials. We are working with academics to develop materials that can be recyclable, such as thermoplastics, and processes suitable for them."

Uludağ said he sees the future of cabin interiors as 'very bright'.

"The aircraft cabin interiors

refers to the industry involved in designing, manufacturing, and

installing various components and systems," he said.

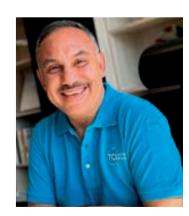
"These components contribute to the comfort, safety, and overall passenger experience. Airlines are constantly striving to increase the number of aircraft in their fleet and to accommodate more passengers by equipping existing aircraft with a new configuration and require new and improved cabin interiors incorporating the latest technologies."

Uludağ concluded: "We spend a lot of time on the details of this business and tried our utmost to not be overlooked at any point. We aim to design and produce cabin interior equipment at competitive prices and superior quality to airline companies.

"As future challenges arise, we are confident in exceeding the demands while maintaining the innovation and quality that remains unmatched."

"While designing our Milligram seat, we focused on minimising scrap waste to improve efficiency, the parts are consolidated and simplified to minimise the number of components"

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Saab's operations in the region have witnessed substantial growth over the past few decades. That growth is built on cooperation, strategic partnerships, and contributing to economic visions and in-country defence industrialisation. Alan Warnes takes a closer look.

Saab soaring high with Al

orming strategic alliances with the Tawazun Council, UAE Air Force and Air Defence, and UAE Ministry of Defence among others, has been very important according to Killian Swift, Saab's EVP and head of region for Middle East and Africa.

"These ties have been instrumental in strengthening Saab's capabilities and, as a result, in 2018 the company established a development and production centre in Abu Dhabi," he said.

In the UAE, and through Saab's production and development facility in Abu Dhabi, a strong local supply chain is being cultivated.

Swift continued: "Our advanced 5G communication system, DeployNet, designed specifically for military and crisis operations, is a source of pride as it is manufactured right here in the UAE, in collaboration with Tawazun Council."

Saab's long-range GlobalEye airborne early warning and control (AEW&C) system, plays a pivotal role in countering modern threats in the UAE.

"The Erieye system has been at the forefront of developing longrange airborne surveillance systems for more than three decades, providing early warning capabilities, real-time information, and the advantage of observing without being seen.

being seen.

"We possess the in-house expertise and capabilities to manage the complexities of integrating multiple sensors and capabilities into an airframe, consistently delivering on time – an exceptional feat that is hard to achieve,"

Swift boasted.

"Three Saab GlobalEyes have been delivered so far and two more are currently undergoing conversion at our facilities in Sweden. Two more GlobalEyes will follow for the Swedish Air Force.

"There has been significant interest from around the world, with countries like France and South Korea, some of the countries we are active in."

Saab's radar technology, both in the civil and military domains, has been witnessing renewed and growing interest globally and in the Middle East region according to Swift.

"One of our flagship programmes is the Giraffe family of radars. In modern conflicts, threats from the air have become increasingly advanced, requiring faster, more manoeuvrable sensor solutions with smaller radar cross-section."

For advanced multi-functional radar capabilities, Saab offers the Giraffe 4A. This is a radar system that provides all-weather coverage against air targets, simultaneous detection and tracking of jammer strobes, and the ability to detect low, slow, and small objects, including UAVs.

"Its multifunctional capability means that during the course of a mission, users can solve several tasks at the same time – air surveillance, ground-based air defence

"One of our flagship programmes is the Giraffe family of radars. In modern conflicts, threats from the air have become increasingly advanced, requiring faster, more manoeuvrable sensor solutions with smaller radar cross-section"

KILLIAN SWIFT

EVP AND HEAD OF REGION FOR MIDDLE EAST AND AFRICA, SAAB

and sense and warn – or focus on a specific task.

"Simultaneously, and in parallel processing, Giraffe 4A minimises the risk of information and data interference or compromising the performance in any way."

In the civil aviation sector, the Swedish company's air traffic solutions benefit air navigation service provides, airports, and airlines in over 100 locations across more than 45 countries.

"These solutions maximise traffic flow efficiency, reduce carbon footprints, and help cut operational costs. We are also delighted to be at the Dubai Airshow with our new integrated digital tower suite (IDTS)," he said.

On artificial intelligence, Saab has recently made significant acquisitions to bolster its AI capabilities. This includes the acquisition of CrowdAI, a Silicon Valley-based company known for its contributions to the field of AI and machine learning. Another exciting acquisition is BlueBear, a UK-based provider of AI-enabled autonomous swarm systems for complex defence and security applications.

"This strategic move aligns with our international growth journey in key markets, including the United Kingdom, Australia, the United States, and Germany."

Swift concluded: "These actions underscore our commitment to staying future-ready. We are actively exploring ways to integrate AI and software solutions into our existing platforms, enhancing our offerings in both military and civil applications."







Building radically better ways of moving



Alan Warnes reports



Countering armed drones or rockets has become a way of life for many of the Arab states, particularly Bahrain, Saudi Arabia and the United Arab Emirates. The perpetrators are Iranian proxy militias, primarily the Houthis fighting in Yemen

Stopping the drones

n September 14, 2019, drones and low-altitude cruise missiles fired by Houthi militias attacked Aramco's Abgaig and Khurais oil facilities and the air defence systems were unable to stop the assault. In UAE there have been similar attacks, the most recent in January 2022, while Bahrain is continuously on alert to such threats.

Both Ukraine and Russia have fielded attack drones in their war. while Israel has come under attack from both Iranian-backed Hamas and Hezbollah, as well as the Houthis in Yemen.

This method of fighting a war is relatively new, leading to heavy investments in counter-drone technology. That was evident at the 2022 World Defense Show in Saudi Arabia, the Dubai Airshow in 2021 and IDEX 23. Modern air defence systems.

surface-to-air missile (SAM) systems and large calibre machine guns are all playing their part in shooting down the larger drones. These solutions come at a heavy price when you consider the costs of these drones. For example,

firing a \$500,000 Patriot missile at a \$10,000 drone is a considerable financial burden, and air forces are now seeking cheaper solutions. The main challenge remains stopping the smaller drones packed with explosives, usually flying at low altitude and very difficult to detect. The issues that all counter-

air systems face is that 'one size doesn't fit all'. There are many types of attack drones coming in different shapes and sizes, some are stealthy and now some even have automated targeting recognition. As one industry expert said: "The Iranians have some very sophisticated drones and are developing even better ones. By increasing their artificial intelligence know-how they will become even more dangerous. One day for example the datalink will be replaced by an AI invention, that will make it very difficult to iam too.'

It is against this backdrop that the Middle East countries are having to combat these dangerous drones. Both Saudi Arabia and UAE are bidding to develop their own systems, but it is slow.

In the UAE, EDGE signed an agreement with Israel Aerospace Industries to jointly develop an advanced counter-UAS system in March 2021, just six months after the Abraham Accords, to normalise relations between the two states. SIGN4L an EDGE subsidiary has been working with IAI to develop the tailor-made anti-drone system.

Israel's IAI and Rafael have both jointly developed Israel's highlysuccessful Iron Dome system, that has been working overtime since October 7 intercepting both Hezbollah and Hamas rockets.

Another possible partner is Belarus and Russia, both have

"The issues that all counter-air systems face is that 'one size doesn't fit all'. There are manu tupes of attack drones coming in different shapes and sizes, some are stealthy and now some even have automated targeting recognition"

'highly-sophisticated electronic warfare systems and are currently working with the UAE, but it is a sensitive subject in the Emirates.

The UAEAF&AD is undoubtedly using its new GlobalEyes to detect and track combat-drones, before passing the information to a fighter that will try to shoot them down. However, with swarming being an issue, the sheer number of drones could get through most defences.

Saudi Arabia too is aiming to create a national counter-drone system, which became a top requirement after the AMMROC attacks in 2019. Saudi Arabian Military Industries (SAMI) has reportedly been taking the lead on this, but development appears to

In September, Saudi Arabia became the first export customer for Turkey's ASER Technology GHOST anti-drone system, although this system is not combat proven. This goes to show that buying off-the-shelf still remains the quickest solution, until a more sophisticated system is developed. Until then the military will continue to acquire different systems to plug the gaps in the air defences.

Alan Dron reports

Boeing Defense & Space is planning a significant presence at this year's show as the region endures new levels of tension

Looking at the role of virtual sorties for sustainability

ustainability is not a topic confined to civil aviation.
Perhaps inevitably, it will be at the forefront of Boeing's activities at the show.
This includes reducing the amount of fuel burned in training activities.

While this can partly be achieved by using training aircraft with advanced simulation electronics rather than frontline aircraft – which also reduces wear and tear on an air force's main combat units – reduction in the number of training sorties flown through use of ground-based simulators is steadily increasing.

There are, however, limits to what can be achieved through those simulators, no matter how sophisticated, said Rick Lemaster, senior regional director for Middle East business development at Boeing Defense Space and Security.

"They have a role, but there's a limit to how far you can go. Some people talk about '90:10' [in terms of simulation versus in-the-air sorties]. We think that's tipped a little too far. We think it needs to be '75:25' so people really need to get into the air and feel the dynamic limits on their bodies."

Boeing also wants to ensure that its military aircraft can operate on sustainable aviation fuel, to reduce their customers' carbon footprint.

Two major platforms that are often overlooked in favour of the more 'glamorous' fighter aircraft will form a major part of Boeing's presence at the show, namely the KC-46A Pegasus tanker and P-8 Poseidon maritime patrol aircraft. Despite persistent technical

New export orders are being sought for the KC-46A Pegasus refueller - which also doubles as a communications node for other combat aircraft problems with the KC-46A's remote camera installation that allows a crew member to oversee fuel transfer to other aircraft – a problem now apparently resolved – Boeing is pressing ahead with deliveries to the US Air Force. It is keen to see the aircraft win more export orders.

The most obvious market for KC-46A, a modified version of the Boeing 767 airliner and freighter, in the Middle East is the Royal Saudi Air Force (RSAF), which still operates seven previousgeneration Boeing KE-3A tankers.

However, the KC-46A has a competitor in the Saudi market, with Airbus having sold six A330 multi-role tanker-transports to the RSAF.

The P-8, meanwhile, remains a contender for states in the region that have significant maritime interests. For years, the threat of Iranian interdiction of vessels in the Arabian Gulf has been a concern for both local states and the West in general.

The Iranian Revolutionary Guard Corps' small fast attack craft have periodically harassed both merchant vessels and warships. The recent Chinese-brokered rapprochement between Saudi Arabia and Iran may have eased tensions, but the ability to keep a watch over surrounding seas for hostile actors arguably remains. Boeing has so far sold 183 P-8s to eight nations.

Boeing is hopeful that the lessening of tension in the region reduces the risk of any incidents. "We want to see the calming influence in the region, but most of our customers are not paid to assume that," said Lemaster. "They're paid to be ready in case it does not."

Friction points

"I think there's still the prospect that things can go wrong. If you look at the friction points [in the region] these are issues that have been generations in the making and they're going to take time to be resolved."

Boeing will also be promoting its AH-64 Apache attack helicopter, notably with a view to remanufacturing existing AH-64D models into the AH-64E, which has new capabilities including more powerful engines,

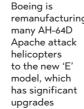
new transmission and the ability to control uncrewed aerial vehicles. Egypt is one regional power that is believed to have contracted for the update.

Lemaster added that most of Boeing's customers in the region are looking for increased 'localisation' on military programmes, with more funding spent within the country and more indigenous personnel involved in maintenance, for example.

On the maintenance front, Boeing and its customers are increasingly moving towards outcome- or performance-based contracts that guarantee a certain level of capability. If, for example, a gearbox has to be removed for repair, Boeing will ensure that a replacement is already in the pipeline to keep time on the ground to a minimum.

▲ This interview took place before the onset of the crisis in Gaza









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Dubai Airports focus

With air traffic booming to and from the UAE, Dubai Airports, which operates both Dubai International (DXB) and Al Maktoum International Airport, also known as Dubai World Central (DWC), has eyes on expansion. Chloe Greenbank takes a closer look

Expansion on the horizon for Dubai Airports

de had a brilliant first half of 2023 with traffic at DXB exceeding figures compared with the same period in 2019," said Paul Griffiths, CEO of Dubai Airports. Speaking ahead of this year's Dubai Airshow, Griffiths confirmed Dubai's primary hub served 46.1 million passengers between January and July and currently serves 257 destinations across 104 countries with 91 airlines.

"Our current forecast for the end of the year is that we will serve around 87.3 million passengers, which is a little short of the 89 million passengers served in 2018 (the airport's busiest-ever year), so the outlook is really positive."

According to Griffiths, the primary driver of growth in traffic over the last couple of years is down to Dubai being quick to vaccinate 100 per cent of the population and reopen after the global pandemic.

"It put Dubai on the map as a good, safe place to be. Subsequently, 55 per cent of our traffic is now visiting traffic, whereas before the pandemic it was only 40 per cent with the remaining 60 per cent comprised of transit passengers."

Describing Dubai as being in a "geocentric position", Griffiths added that half of the world's population is within four hours flying distance and the other half within eight hours. The increase in single-aisle aircraft flying longer distances has also seen a shift in the destinations being served from Dubai. "Air access to and from secondary cities across Europe and Asia is now within range of smaller aircraft, which has enabled us to operate with greater



frequency to a wider network of destinations," he said. Although, he added, "the long-haul market continues to do extremely well, with Emirates the carrier of choice to many destinations."

The accessibility of the wider Middle East region for tourism is also helping drive passenger demand. "The region has been underdeveloped in terms of its tourism potential, but is now starting to mature. The investments, particularly in countries such as Saudi Arabia, are of a scale and ambition that is fairly unprec-

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PAUL GRIFFITHS
DUBAI AIRPORTS, CEO

edented," said Griffiths.

He added that the introduction of a unified Gulf tourist visa, as recently approved by interior ministers of the Gulf Cooperation Council, will increase the appeal of the region for visitors.

Without confirming numbers, Griffiths explained that to meet the anticipated growth in passenger traffic, Dubai Airports' short-term goal is to invest "modest" amounts of money in expanding the operation at DXB to accommodate an additional 20 to 30 million passengers over the next 10 years.

There are programmes in place to increase the number of aircraft stands, passenger processing services and quality of lounges as well as service delivery. "But in the longer term there will be a need to further expand both DXB and DWC and therein lies huge potential to be a pioneer and build a ground-breaking, multi-modal transport hub," he said.

Developing local talent to support the airport's growth is also fundamental to Griffiths' vision. "We have consistently employed graduate trainees and our growing body of UAE national talent is something I'm immensely proud of," he said. Adding that the skills these graduates bring to the business are invaluable, he noted, "their whole approach, thought process, views on sustainability and use of social media are radically different from the older generation and can't be ignored."

Similarly, he underlined that automation and AI is something that is to be embraced particularly when it comes to speeding up passenger and baggage processing. "If we can process passengers more efficiently through check-in and security and get them through to the retail areas using technology rather than doubling the size of the facility and the resources needed, everyone benefits," he said.

Embracing change is all part of the day job for Griffiths. "There's never a dull moment. This is an exciting, dynamic environment and the pace of change is getting quicker all the time. But the future looks bright and as a business we're determined to make aviation the biggest and best enterprise here in Dubai." Griffiths concluded.



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