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THE MAGAZINE FOR AEROSPACE PROFESSIONALS IN THE MIDDLE EAST, NORTH AFRICA AND TURKEY

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FLEET PATH

**MAJALI LEADS
ROYAL JORDANIAN'S
NEW AIRCRAFT
STRATEGY**

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BUSINESS AVIATION

Business
is back
with a
bang

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DEFENCE

Bahrain's
rotary
force on
high alert

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SPACE

Take-off
for UAE's
latest
mission

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The image is a collage of four scenes related to aerospace maintenance, repair, and overhaul (MRO). The top-left scene shows a person in a dark flight suit and helmet working on a large aircraft component. The top-right scene shows two men in white polo shirts and caps, one holding a measuring tool. The bottom-left scene shows several military helicopters parked on a tarmac. The bottom-right scene shows a person working on a large engine component. A large, diagonal, light blue stripe runs across the center of the image. The SAMMI logo is in the top-left corner.

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COVER: Experienced Royal Jordanian CEO, Samer Majali, talks about the way ahead for his Amman-based airline.
PICTURE: AEROCOMM.

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REASONS TO BE OPTIMISTIC – DESPITE THE CHALLENGES

Of course, New Year's Day is just another day in the 365 working days of the aerospace and defence industries, but it always seems opportune to look back at our successes and failures in the previous 12 months – and face with optimism the year that lies ahead.

The final quarter of 2022 certainly felt like things were on the up. Successful industry events in Bahrain (the Bahrain International Air Show) and in Dubai (Middle East Business Aviation Association Show) certainly raised the profile of the industry in the region.

At the same time, Qatar was doing a magnificent job with hosting the FIFA World Cup.

Packed flights, busy private aircraft movements, and excellent use of air defence systems meant everything went to plan and showed off the region's capabilities to their finest.

As far as events go, that is sure to continue in this quarter with IDEX welcoming the world's defence leaders to Abu Dhabi, while the MRO and aircraft interiors manufacturers and businesses head to Dubai for the AIME-MRO show.

But there is still a wave of uncertainty bubbling under the surface. Supply chain issues have the potential to slow

down deliveries of new aircraft – so vital to the growth plans of airlines and business aircraft operators.

In our cover story, Samer Majali, the veteran CEO and vice chairman of Royal Jordanian, talks about his plans to firmly stamp the Amman carrier's authority on the Levant as it grows its regional fleet. And it grows it in a sustainable fashion.

I always value the opportunity to listen to Majali. His analysis of the troubles we have had and those we face come with the voice of experience of someone who has seen it all before and knows that even the great unknowns will disappear, and a new dawn will arrive.

One new dawn for Saudi Arabia is the support for the advanced air mobility sector with its investment in Lilium aircraft to boost future urban air mobility.

Finance for the sector is likely to be more selective – but it is this region where the right decisions will see the future of air transport in action.

This quarter's issue closes with an interview from an aviation services business in Yemen. If ever there was proof or resilience this was it.

We wish them luck and all of our readers, a successful and happy 2023.

Alan Peaford, editor-in-chief



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Royal Jordanian CEO talks about the way ahead for his airline.

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PICTURE: NEXT50.



Biometric initiative for Abu Dhabi

NEXT50, an Abu Dhabi-based technology company, is well on the way to delivering the first phase of a new biometric initiative at Abu Dhabi International Airport. The project, which sees NEXT50 introduce its cutting-edge solutions alongside global artificial intelligence (AI) and technology solutions partners, IDEMIA and SITA, will initially see the deployment of next-generation biometric solutions at select self-service baggage touchpoints, immigration e-gates, and boarding gates. The technology will then be implemented across all passenger touchpoints in the airport.

Saudia Group leases 20 new aircraft

Saudia Group has signed a sale and leaseback agreement with AviLease for 20 new aircraft. The deal will see 20 Airbus A320neos delivered to be operated on long-term leases by Flyadeal, Saudia Group's low-cost carrier. Ibrahim Al-Omar, director general of Saudia, said: "In the few months since it was launched, AviLease has already established itself as a key enabler of the kingdom's aviation sector development. Saudia Group is proud to partner with AviLease as we strive to achieve our shared national aviation and sustainable tourism goals."

A load off

Gulf Air and Unilode Aviation Solutions, a provider in outsourced unit load device (ULD) management, repair and digital services, have renewed their longstanding ULD management partnership for another 10-year term.

The renewed agreement will see Unilode continue to supply pallets, and lighter weight and more durable AKE containers, from its ULD pool to Gulf Air for increased synergies and sustainability benefits. Unilode will also provide speciality containers, which will be dedicated for Gulf Air's exclusive use.

Well documented

Gulf Air has extended an agreement with Flydocs, an asset management solution provider for the aviation industry, to provide digital records management software. Under the five-year renewal, Flydocs will continue to support Gulf Air with digital records management software for its fleet of more than 35 aircraft.

Iran buys four jets

Iranian aviation authorities have confirmed the purchase of four Airbus A340s. The aircraft landed at Mehrabad International

Airport in Tehran after a trip from Johannesburg International Airport in January. It is understood the aircraft formerly flew with Turkish Airlines. US sanctions have prevented Iranian companies, including the country's leading airlines – Iran Air and Mahan Airlines – from purchasing new Airbus A340s to bolster their outdated fleet.

Enter the DragonFly

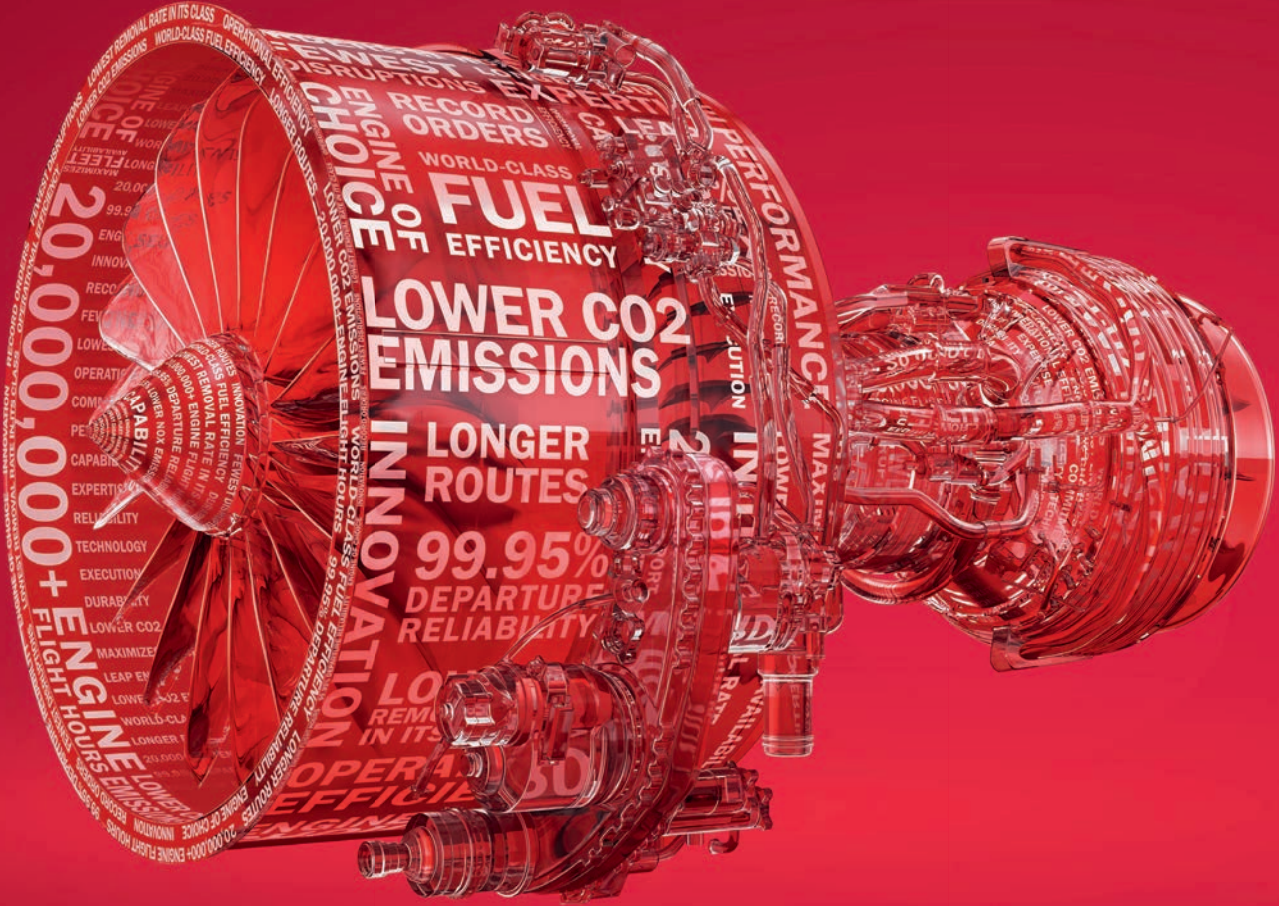
Airbus UpNext, a wholly owned subsidiary of Airbus, has started testing new, on-ground and in-flight pilot assistance technologies on an A350-1000 test aircraft. Known as DragonFly, the technologies being demonstrated include automated emergency diversion in cruise, automatic landing and taxi assistance. They are aimed at evaluating the feasibility of further exploring autonomous flight systems in support of safer and more efficient operations.



PICTURE: EMIRATES AIRLINES

Emirates reports huge increase in vegan meals

Emirates Airlines has reported a 154% year-on-year increase in vegan meals. Currently, Emirates offers more than 180 recipes catering to vegan passengers or those looking for a healthy meal on board. It has been serving vegan meals since the 1990s. Initially, vegan requirements were focused on specific routes such as Addis Ababa – where vegan meals are required during certain times of the year by those practising the Ethiopian Orthodox faith – or across the Indian subcontinent, where multiple faiths encourage a plant-based diet. Over recent years, however, vegan dishes have been rapidly gaining popularity on US, Australian and some European flights. Routes showing recent increasing interest in vegan meals include Beirut, Cairo, and Taiwan.



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New Saudi office

Serco, which offers public services within transport, citizen services and defence, has opened a new office in Riyadh.

Saudi country director, Mona Althagafi, said: “Having our regional hub in Riyadh is strategically vital as we need to be as close to our key customers as possible so that we can continue to offer them the most responsive and innovative services available. At the same time, we are striving to offer our Saudi team the best possible training and the most rewarding work experiences.”

When zero is good

Emirates has completed its latest International Air Transport Association (IATA) operational safety audit (IOSA) with zero findings.

Sir Tim Clark, president Emirates Airline, said: “To complete the IOSA audit with zero findings is a notable achievement, especially in the context of our rapid operational upscaling post-pandemic, and the global nature of Emirates’ network.”

Sustainability award

Saudi Arabian Airlines (Saudia) has received the highly commended nominee award for the airline’s sustainability initiatives throughout the year. The category recognises the trailblazing sustainability-focused initiatives launched to minimise aviation’s contribution to climate change, through cutting-edge technologies and innovative solutions.

Helping hand

Dubai Airports is rolling out a programme in two phases over two years that aims to unite service partners across the DXB community to



New look: SalamAir’s first dedicated freighter sports a modified colour scheme from its passenger-carrying sister-ships. PICTURE:

Low-cost carrier, SalamAir, purchases first freighter

Omani low-cost carrier, SalamAir, has joined the rush to tap into booming freight flows by acquiring its first dedicated freighter.

The Muscat-based airline has leased an Airbus A321P2F (passenger-to-freighter) from BBAM, converted in Germany by EFW.

“SalamAir has seen growth in demand for cargo in the last few years,” said the company’s director of marketing and digital sales, Sherif Hosny. “Also, export and import from/to Oman is showing great potential, which is currently not met and, in

many cases, is captured by foreign carriers as none of the Omani carriers have a freighter service.

“Our target markets are five hours from our hub in Muscat. However, we do operate further sectors based on demand. We carry most types of cargo including perishables, meat, electronics, plus food and medical equipment.”

Although only one aircraft is in use at present: “We can see an opportunity to increase the freighter fleet size,” concluded Hosny. ■ Regional breakthrough, page 14.

elevate the travel experience for passengers with hidden disabilities such as autism, chronic fatigue, and post-traumatic stress disorder (PTSD).

Fleet expansion

Flynas has added two Airbus A330 wide-body aircraft to its fleet.

The airline will start operating the aircraft next month as it boosts its operational capacity and increases the number of passengers on new medium-to-long-haul destinations.

Levelling up

Queen Alia International Airport has recently become the first airport in the Middle East to achieve level 3 of the airport customer experience accreditation (ACEA) issued by Airports Council International World.



PICTURE: UAE SPACE AGENCY.

UAE Space Agency launches Space Data Centre project

The UAE Space Agency (UAESA) launched the Space Data Centre, a digital platform that will provide scientists, scholars, public and private entities, start-ups, and community members with access to space data to develop solutions for national and global challenges.

The centre aims to provide an innovative ecosystem to utilise space data and technologies to address global sustainability challenges, promote space-related solutions to overcome national challenges, and boost the number of companies and patents in the space industry. The initiatives also help attract leading innovators, accelerate the development process of space products, and increase productivity in scientific research to provide people with a better life, by utilising space-related applications and services.

■ UAE ramps up space programme, page 49.

RJAF buys new Bell 505s

Bell Textron has signed an agreement for the sale of 10 Bell 505 helicopters to the Royal Jordanian Air Force (RJAF). The contract includes the delivery of the aircraft with a flight-training device and a comprehensive computer-based training package to enable an enhanced approach to basic and advanced rotorcraft flight training at the King Hussein Air College in Mafraq, Jordan.

“We look forward to adding the Bell 505 aircraft to our fleet and providing our pilots with one of the best possible aircraft for their training. The addition of 10 new aircraft will enable us to further expand our operations in the country, in turn increasing our capabilities,” said Brigadier General Mohammad Hyasat, commander, RJAF.

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Mecachrome expands Tunisia footprint

French-based precision engineering company, Mecachrome, has acquired Techni Protec Metal (TPM) in Sousse, Tunisia.

Mecachrome, probably best known for its work in Formula 1 motorsport, has interests in aeronautics, defence, naval, energy and space. It is a world-leader in high-precision mechanics and specialises in the machining of mechanical parts and assemblies.

Mecachrome chairman, Christian Cornille, said the acquisition would reinforce the industrial capacity of the group. “We are continuing to consolidate our know-how and our surface treatment capacities. These activities are already present at our sites in France and Morocco,” he added.

TPM is a member of the Tunisian Aeronautical and Space Industries Group (GITAS). It specialises in surface treatment, painting, and non-destructive testing.

With the support of its shareholders, Tikehau Ace Capital and Bpifrance, Mecachrome recently announced a majority stake in Groupe Rossi Aero, which is involved in the on-demand manufacturing of parts and equipment for OEMs and MRO operators.

Mecachrome also confirmed a merger with



Egypt buys Boeing CH-47F Chinooks to modernise fleet

The US Army has awarded Boeing a contract to produce 12 new CH-47F Chinooks for the Egyptian Air Force. With this \$426million foreign military sale, Egypt will replace its fleet of CH-47D aircraft with the modern F model, and benefit from its advanced multi-mission capabilities.

WeAre, a specialist in the manufacture of high-tech mechanical parts and complex sub-assemblies, at the end of August. The deal meant that it had become one of the five largest manufacturers of parts for the aeronautics sector.

Well connected

Emirates has invested in new high-speed, in-flight broadband, powered by Inmarsat’s GX Aviation, on board 50 new Airbus A350 aircraft scheduled to enter service in 2024.

The Airbus A350s will be the first Emirates aircraft to take advantage of Inmarsat’s Global Xpress (GX) satellite network, which powers the world’s first and only

globally available broadband network, ensuring passengers can enjoy uninterrupted global connectivity, no matter their destination, including the North Pole.

Jazeera expansions

Jazeera Airways has completed a series of expansions and upgrades at Kuwait International Airport Terminal 5. The aim is to improve the travel experience and prepare to welcome more passengers in the coming year.

The upgrades also include complete separation of arriving and departing passengers, which increases security as well as operational efficiency.

Holiday package

Oman Air Holidays has entered a strategic partnership with the Jordan Tourism Board to undertake joint promotional activities in Oman and Jordan.

The partnership will include a series of co-branded tactical campaigns that aim to position Oman Air Holidays as a preferred provider of international travel packages and encourage those in Oman to visit Jordan during peak season.

What a relief!

Kuwait Airways has signed a joint cooperation protocol with the Kuwait Red Crescent Society to support humanitarian projects,

“The F-model aircraft will enhance Egypt’s Chinook capabilities and help effectively accomplish its heavy-lift objectives,” said Ken Eland, vice president and H-47 program manager. “Boeing’s partnership with the Egyptian Air Force remains strong as we continue to work together to modernise their fleet.”

services, and relief campaigns.

Kuwait Airways chairman, Captain Ali Al-Dukhan said: “This comes within the framework of KAC’s endeavours to contribute to significant matters that are beneficial to others.”

Punctual and reliable

Etihad Airways was named as the most punctual airline in the Middle East and among the most reliable in the world by the global aviation analytics group, OAG. Etihad has achieved an on-time arrival performance within 15 minutes of 81%. It also continued to maintain one of the lowest cancellation rates worldwide.

Bombardier Global 7500 is DCAF’s cup of tea

DC Aviation Al-Futtaim (DCAF) has added a Bombardier Global 7500 aircraft to its managed fleet. DCAF will manage and operate the new aircraft on behalf of its private owner. This brings the total number of aircraft under management to nine.

The new aircraft will operate from DCAF’s home base at Al Maktoum International Airport. The management contract will see DCAF provide full flight operational aircraft management services, continuous

airworthiness management organization (CAMO), hangar parking and FBO handling, in addition to providing maintenance services for the aircraft.

DCAF managing director, Holger Ostheimer, said: “The addition of this new aircraft is a strong testament to our ability to offer our customers the highest level of service, further reaffirming our resolve to put the customer at the forefront of everything that we do.”



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▼ We've had to introduce regional jets as a third fleet in order to be able to move ahead with our strategy of blanketing the region, reaching every primary and secondary destination. ▲

SAMER MAJALI

PICTURE: AEROCOMM

*With more than 40 years in the airline business the vice-chairman and CEO of Royal Jordanian, Samer Majali, is widely recognised globally as a leading industry figure. He talks to **Alan Peaford** about the way ahead for his airline.*

Majali's magic blanket

Samer Majali has not just made it big in the Middle East. He has carved out an international reputation that recently saw him presented with the 'distinguished aviation alumni award' by Cranfield University in the UK.

Regarded as a role model for leadership, having international visibility, influence, and wide experience working across different countries, Majali has had a significant impact on the air transport industry and is highly regarded as one of the Middle East's most powerful and influential airline CEOs.

The former chairman of the International Air Transport Association (IATA) board of governors, Majali has returned to his home country of Jordan to lead the national carrier through one of the toughest periods in aviation history.

He certainly knows the airline – he was its president and chief executive from 2001 to 2009, having worked his way through the organisation since joining in 1979.

He subsequently became CEO of Gulf Air; advisor to the chairman of Oman Air; and chief executive of SaudiGulf before returning to Amman

in March 2021 as Covid was ravaging the Jordanian flag-carrier.

Continued on Page 12 ▲

CONTINUED FROM PAGE 11

“Covid was probably one of the toughest rides in the history of aviation since the Second World War,” Majali said. “The tail-end effects of the pandemic are still here. We had thought we were at the end of the crisis but, with the unfortunate events in Europe and a global commodity crisis with prices rising across the board – in particular fuel – that is not so.”

“Fuel is obviously one of the largest elements in an airline cost structure and that has gone astronomically north and become a huge burden on the airlines,” he said.

Currently, for Royal Jordanian, the cost of fuel represents 50% of its operating cost structure. “You can’t pass on the high prices to consumers. We’ve passed on a little bit but, obviously, we can’t cover all of it. So, where traffic has actually come back to, or even exceeded, the 2019 levels, unfortunately costs have eaten up most of that benefit and more.”

But Majali is not one to shirk a challenge. His leadership at RJ the first time around saw him being credited with a remarkable transformation strategy that boosted the airline’s reputation with a tough domestic audience and international travellers too.

Now he is back with plans to develop a niche airline, building on a growing reputation across the whole Levant region.

From Lebanon across to Syria and Iraq, passenger numbers are growing and Majali needs to build on this with a changing fleet strategy.

The airline announced in October that it is to invest in a

regional fleet, with the purchase of 10 Embraer E2 jets split between the E190-E2 and E195-E2.

Dubbed the ‘profit hunter’ by the Brazilian manufacturer, Majali is convinced he has the right aircraft for the job.

“We’ve had to introduce regional jets as a third fleet in order to be able to move ahead with our strategy of blanketing the region, reaching every primary and secondary destination,” he said

“Providing an excellent feed into Amman will allow us to expand our global network to Europe, the Far East and North America. So we needed an aeroplane that is smaller and would allow us to increase frequency.

“As an analogy,” he explained, “four flights a week into a place like Erbil from Amman, on a narrow-body, would be equivalent to having a daily flight on an Embraer, which means that we can offer a better product to our customers in terms of daily and multi-day flights.

“So, introducing modern regional aeroplanes on our flights to Amman with very comfortable, relaxed seating and full wireless connectivity from the ground, will be a big plus for our customers.”

The airline has also begun a replacement and growth plan for its ‘second fleet’, the narrow-bodies, currently served by Airbus A320s.

“We’re moving from 13 aeroplanes that we have today to about 20 over a three-to-four-year period,” explained the CEO. “We were the region’s launch customer for the A320 back in the 80s and we’ve operated the aeroplane for many, many years and have been very happy with it.

“Our investment has been in this aeroplane in terms of pilots, spare parts and so on. So, even though we did a competition, it was, in the end, the logical choice for us. The best economic decision was to go with the A320 family neo (new engine option) aeroplanes, saving a lot on initial investment costs through training and so on.

“Again, this aeroplane will be provided with very comfortable business and economy-class seating with full wireless connectivity with the ground and in-seat entertainment throughout.

“We will also have some aeroplanes in all-economy configuration. And, again, they will be provided with wireless and in-seat entertainment.

“We are also introducing some A321s with lie-flat seats. These will be deployed on longer-range flights to Europe and will be compatible with our 787 offering.”

At the Bahrain Airshow in November, Majali announced the engine choice for the neo fleet.

“Obviously, there’s only a single engine choice for the Embraers and that is the Pratt & Whitney GTF [geared turbo fan] but, for the A320 family, there’s a choice between P&W and CFM LEAP,” Majali said.

Both engines offer significant fuel savings, giving environmental and cost advantages. But each has also had challenges coping with the Middle East’s heat, humidity and dust. However, Majali is confident that this will not be a problem.

“Those are very challenging issues that affect new engines coming into service. With time, all these problems will disappear. Modifications are introduced over time and the engine then matures, even in this very difficult climate. It was a quite a difficult choice but, in the end, we opted for the Pratt & Whitney engine,” he said.

The total number ordered in Bahrain was 60 engines for both fleets. “We will probably be the second customer in the region to operate the GTF engine and one of the first to fly the Embraer E2s,” said Majali.

Finally, it will be the wide-body fleet that gets the attention. “There will be a replacement and expansion of the wide-body fleet,” he said “But it will be expansion first as our current Boeing 787s are not very old. They still have quite a lot of mileage left and so we will be introducing newer 787s, probably at the rate of one per year, and building up the fleet to about 11 or 12 aeroplanes.

“Only then will we start the replacement of the current aircraft.”

RJ’s Dreamliners are deployed on long-range routes to North America, the Far East, and on some high-density routes with multiple daily flights such as Dubai, Cairo, Istanbul and London.

By the time Majali’s fleet strategy is complete, the airline will have grown from 26 aircraft to somewhere between 40 and 45.

“Quite frankly, that renewal is long overdue for Royal Jordanian. But the new aeroplanes that we’re introducing will actually be cheaper for us, in spite of the increase in aircraft ownership costs,” said Majali.

“The reduction in fuel consumption, and the very positive environmental effects of these developments, mean that, from an economic point of view, its better than keeping the older aeroplanes because of the big improvements in maintenance, cost of reliability.

“Added to the obvious passenger appeal of the new types with all the latest cabin comforts, then it is clear that the Levant has a carrier of which to be proud.” ▲

■ Middle East poised for regional jet breakthrough – Page 14.

Samar Majali: “Providing an excellent feed into Amman will allow us to expand our global network to Europe, the Far East and North America.”

PICTURE: AEROCOMM.

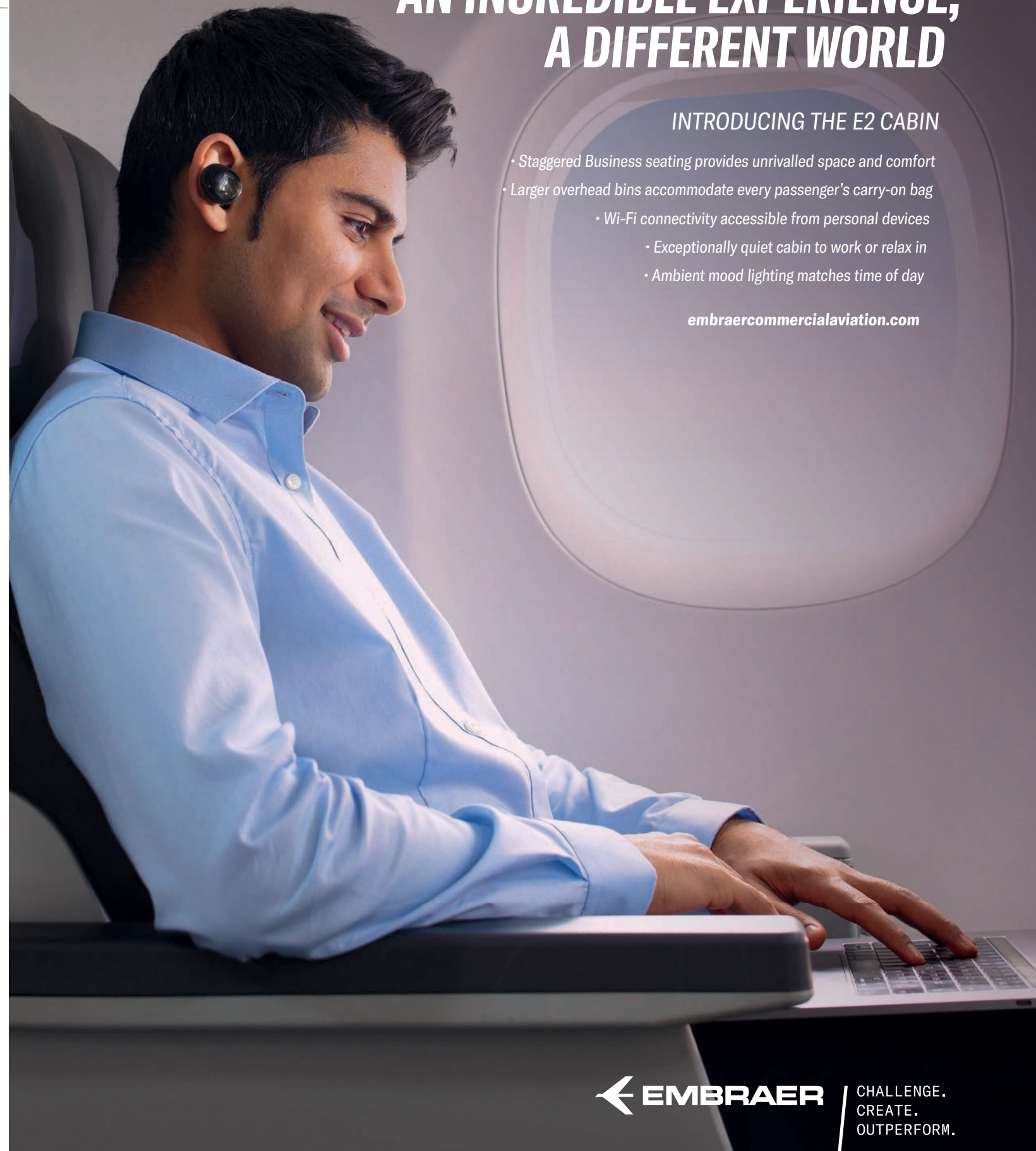


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Top option: Both EgyptAir and Iraqi Airways have opted for the larger -300 variant of the Airbus A220.
PICTURES: AIRBUS.



Old and new: Royal Jordanian is already an operator of the earlier Embraer 170 E1, while Omani LCC, SalamAir, [left] is a new name in Embraer's orderbook.
PICTURES: ROYAL JORDANIAN & EMBRAER.

MIDDLE EAST IS POISED FOR REGIONAL JET BREAKTHROUGH

With new orders for Embraer from SalamAir and Royal Jordanian, have regional jets finally made a breakthrough in the Middle East?

Alan Dron reports.

Traditionally, the Middle East and north Africa (MENA) region has not been a fertile marketplace for regional jets. The major Gulf carriers have largely focused on wide-bodies for their long-haul networks. Even where Middle East airlines have regional services, the smallest aircraft in their inventories have usually been Boeing and Airbus narrow-bodies – the 737 or A320 families. The region’s low-cost carriers (LCCs) have also opted for the US and European types. Last October, however, saw a pair of commitments for Embraer’s E2 series of regional jets – orders for six E195 E2s (plus six options) for Omani LCC, SalamAir, and a memorandum of understanding (MoU) for 10 aircraft (to be split between the E190 and E195) for Royal Jordanian. Also, Airbus notes that its A220 has been introduced by EgyptAir and Iraqi Airways. Perhaps significantly, both the E2 and the

A220 have greater capacity than previous generations of regional jets. The Bombardier (now MHI) CRJ1000, the largest of the CRJ series, had a maximum of 104 seats. The Avro RJ100 could carry up to 111. Even the largest member of Embraer’s E1 series, the E195, had a maximum of 124 seats in high-density layout.

□□□□□

New designs can carry more passengers. The single-class variant of the E195 E2 has 132 seats, or 146 in high-density. The A220-100 can carry up to 135 passengers and the A220-300, up to 160. In practise, those numbers may shrink to accommodate Middle East passengers’ comfort expectations, but modern regional jets are clearly edging into narrow-body territory in terms of capacity, making them more appropriate for MENA carriers.

In SalamAir’s case, the aircraft will be delivered in a two-class, 135-seat layout. They will initially be used on domestic flights within Oman, both to civil airports and to airstrips serving oilfields. As the fleet grows, they will fly to second-tier airports in the region not previously connected to Oman. Stephan Hannemann, Embraer’s VP, Middle East and Africa, said: “At SalamAir, it’s all about having an edge in opening new markets at lower risk, and adding frequency and connectivity.” Royal Jordanian will use its examples for short-haul services. Its aircraft will replace first-generation E175 and E190s and the new order “confirms the relevance of the segment”, according to Hannemann. An added benefit, he said, is that pilots can transition from the E1s to the E2s in just two-and-a-half days. “There seems to be a trend in airlines trying to

identify what’s the ideal complement to their narrow-bodies,” added Hannemann. “I would say the Middle East is opening up more and more.” Additionally, sustainability is now front and centre as a consideration in airlines’ equipment purchases. Reducing emissions has become very important and the E2s typically reduce CO2 emissions by 25% per seat compared to the E1s. Mikail Houari, president, Airbus Africa and Middle East, made the point that the A220 was purposely built for targeting the 100-150 seat market – a ‘crossover jet’ that blurs the gap between narrow-body and regional aircraft. “The A220 also delivers the highest efficiency and lowest risk with up to 20 more seats than a typical regional jet and up to 14% lower operating cost per seat,” he said.

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“The A220 has gained momentum in the region over the past few years. It is currently operated by Middle East airlines such as Iraqi Airways and EgyptAir. Airbus anticipates seeing customer and aircraft count based in both [Middle East and Africa] expand further in the future.” Airbus predicts that, of the 3,000-plus new aircraft needed by Middle East airlines by 2041, “an estimated 1,470 will be small single-aisle aircraft, the category of the A220.” Another capability of the A220 relevant for regional jet replacements from Africa and the Middle East, is its ability to fly into challenging airports, he added. “The A220-100 will best serve as a route-opener, while the A220-300 is ideal for more established city-pairs.” Airbus also points to the type’s baggage and cargo capacity – particularly relevant to the Middle East, where passengers tend to travel with a lot of luggage.



Opening up: Samarkand and Bishkek are two of the destinations that have become increasingly accessible as Gulf airlines expand into the region.
PICTURES: WIKIMEDIA.

WHY THE COMMONWEALTH STATES

Gulf carriers are increasingly pushing into Central Asia, both for point-to-point and connecting services. Alan Dron reports.

Osh. Namangan. Tashkent. Samarkand. Bishkek. These are names that were largely unknown outside Central Asia a decade ago, unless the reader was a student of the voyages of medieval explorer Marco Polo or of 19th century Russian-British rivalry in the region. Now, however, the area is increasingly opening up as airlines from the Middle East seek new markets to feed their hubs. Connectivity to and from cities in the Commonwealth of Independent States (CIS), which includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan, has traditionally been limited, with national carriers such as Air Kyrgyzstan, Somon Air of Tajikistan, and Turkmenistan Airlines having small fleets and route networks. Some have bucked this pattern: Kazakhstan’s Air Astana is a significant player with services to Europe and has its own low-cost carrier subsidiary,

FlyArystan – now almost as large as its parent – while Uzbekistan Airways also has a respectably sized fleet. However, the pool of potentially untapped passengers in the region has increasingly attracted the attention of Gulf carriers. Given the relatively small number of outbound routes from some Central Asian nations, Gulf airlines – particularly hybrid and low-cost carriers – have been able to attract passengers by offering not just point-to-point services but also flights to the Gulf’s connecting hubs, giving Central Asian passengers access to global routes. One carrier that began to make early inroads into the CIS nations is Flydubai. The airline now has a significant route network funnelling traffic into its Dubai hub from destinations that previously had few

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ARE BECOMING THE BIG LURE FOR GULF CARRIERS

services heading out of the region, with the possible exception of Russia. “Flydubai was established in 2009 with a clear mandate to further strengthen Dubai’s direct airlinks in the region and to open up underserved markets,” explained CEO, Ghaith Al Ghaith. “Since then, we have built a network of 114 destinations, 71 of which had no or very few direct flights to Dubai and the UAE. “We realised early on the potential and the gap in these emerging Central Asian markets. “Baku in Azerbaijan was the first Flydubai destination launched in the CIS in 2009. Since then, we have grown our network in the region to 12 destinations in seven countries – Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. “We have seen the demand for travel on these routes grow exponentially over the years. The number of passengers carried on the Almaty route has increased by 50% since 2018, while passenger figures for Astana have more than doubled for the same period.



Building passenger numbers: Flydubai has steadily increased services to Central Asia. PICTURE: FLYDUBAI.

“Georgia has been a great example of how these markets can benefit tremendously from direct connections to an international aviation hub such as Dubai. Since the launch of our operations to Tbilisi in 2011, Georgia has become one of the top tourist destinations for passengers from the UAE and GCC. We have increased our frequency from a twice-weekly to a double daily operation.” Al Ghaith continued: “We continue to look at more opportunities to grow our presence in the CIS market and add frequency on existing routes.

Around 70% of the traffic to these markets is point-to-point, with about 20% connecting further on the Flydubai network to the GCC and sub-continent.” Although on the fringes of Central Asia, Armenia is another small country that has been poorly served by airlines in recent years. The small, landlocked nation has not had a national carrier since Armavia collapsed in 2013. Armavia was the successor to Armenian Airlines, which went bankrupt in 2003 after it was spun off from Russian state carrier, Aeroflot, following the collapse of the Soviet Union. Last year, Sharjah-based Air Arabia Group set up a joint venture, Fly Arna, with the Armenian National Interests Fund (ANIF) holding 51% of the shares and Air Arabia 49%. The new airline began operations last summer and benefits from Air Arabia’s considerable experience in the low-cost sector and of joint venture operations. It is – initially at least – using Airbus A320s from Air Arabia’s fleet.



AIR ALGÉRIE THINKING ON ITS FLEET...

Air Algérie is embarking on a major re-fleeting exercise as it aims to bring a new generation of aircraft into service.

A request for proposals (RfP) for 15 new aircraft in both the narrow-body and wide-body categories was issued by the Algerian national carrier late last year.

The planned new aircraft are split into four batches. The first two groups are for five and three narrow-bodies respectively, of up to 200 seats, while the remainder are split into five wide-body types of 300 seats and two of 400-seat capacity.

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It is thought that the airline is prepared to either buy or lease the new aircraft. Responses to the RfP were being considered as *Arabian Aerospace* went to press.

If the RfP leads to the acquisition of all the desired aircraft, it will mean a complete renewal of the north African airline's wide-body fleet, which currently consists of eight Airbus A330-200s.



Facing the end: The planned re-fleeting will see the replacement of the airline's Airbus A330-200s.

PICTURE: AIR ALGÉRIE.

The bulk of the fleet – 57 aircraft – is made up of 33 Boeing 737NGs (mainly -800s with small numbers of -600s and -700s) 27 of which are in service.

For domestic flights to the country's large network of regional airports – many of them serving oil and gas fields in the south of what is Africa's largest country – the company uses 14 Franco-Italian ATR 72 turboprops, of which eight 72-500s and three 72-600s are currently in service.

The airline's route network is biased towards Europe, the northern half of Africa and the

Middle East. It serves 73 destinations in 25 countries and, following the pandemic, has good links to France – unsurprisingly, given the historic ties between the two countries.

Air Algérie is steadily re-establishing its routes – for example, to sub-Saharan capitals such as Bamako, Ouagadougou and Abidjan – as well as opening new routes, such as Doha, in Qatar.

It recently added three new African routes to its network – Algiers to Addis Ababa, Johannesburg, and Libreville are expected to operate early this year. They are the airline's three largest unserved sub-Saharan African markets. ▲

AIR ARABIA PLANS LOW-COST JV WITH SUDAN GROUP

Khartoum is to be the site of UAE-based Air Arabia's latest African venture.



A320s over Sudan: Air Arabia Sudan will operate the aircraft, but whether they will come from the parent company's fleet is, as yet, unknown.

PICTURE: AIR ARABIA.

Sharjah-based low-cost carrier (LCC) Air Arabia, which already has sister companies in Morocco and Egypt, is developing a series of joint venture airlines.

Fly Arna and Fly Jinnah began services in 2022 in Armenia and Pakistan respectively. Air Arabia Abu Dhabi, a partnership with Etihad Airways, has already expanded to nine aircraft and is scheduled to grow to 20 by the end of 2023.

In Sudan, Air Arabia will partner with DAL Group, a local conglomerate with interests in the automotive, earthmoving, energy and industrial gases sectors.

The new airline will be known as Air Arabia Sudan and will mimic the low-cost model.

It will be based at Khartoum International Airport and use Airbus A320s, although it is not yet known if the new airline will fly aircraft from Air Arabia's existing order book, or whether more will be needed. Work on securing the relevant approvals and licences is under way.

The size of the new Sudanese airline's fleet, timescales for starting operations and details on shareholdings and route networks will be released "in due course", the two companies said.

"Our decision to partner with a leading pioneer of low-cost air travel is driven by our core commitment to perpetually contribute towards realising Sudan's long-term human and economic growth and development potential," said DAL Group chairman, Osama Daoud Abdellatif.

"Given Sudan's rich national cultures, rarely publicised yet fascinating ancient history, and breathtaking topography, our nation enjoys a unique untapped potential, and we are, therefore, steadfastly committed to developing the diverse aspects of Sudan's tourism, travel, cargo transport, and aviation infrastructure sectors."

Attracting foreign direct investment to Sudan is aimed, at least partly, at improving employment opportunities. Sudan is one of Africa's poorest nations.

The new joint venture will face competition from several existing Sudanese carriers.

Sudan Airways has struggled for several years and is currently thought to operate only a single A320 and a leased Bombardier CRJ200. Two privately owned companies, Tarco Air and Badr Air, operate fleets of around 10 Boeing 737s, mainly Classic models with a few -800s. ▲



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After a two-year hiatus, the International Air Transport Association (IATA) flagship aero-political and strategy event – Wings of Change Europe – took place in Istanbul. **Mark Pilling** reports.



Turkey propels Europe towards full recovery

It was highly appropriate that Turkey – the European country that has bounced back fastest from the pandemic – was the venue for Wings of Change Europe. Host carrier, Pegasus Airlines, and flag-carrier, Turkish Airlines, along with the bustling hubs of iGA Istanbul Airport and Sabiha Gökçen Airport, have demonstrated not only resilience in keeping their national air transport system operating, but have restored their international networks at a startling pace.

The third edition of Wings of Change Europe attracted 550 delegates to debate the continuing recovery of an industry that faces strong headwinds and challenges.

Opening the event, Mehmet Nane, chairman of IATA’s governing board and vice-chair of Pegasus, said: “The aviation industry is an eco-system, and in this eco-system we are working together like a propeller. If one piece of the propeller is not working, and if other pieces are not perfect, the machine will not move and improve.”

The continent’s aviation system will prosper again with concerted action by all players working in harmony, said Nane. This was why the event brought together the main actors from across Europe’s air transport industry, including several ministerial delegations, the European Commission, Eurocontrol and the European Union Aviation Safety Agency.

Having a government that supports air transport is a key benefit for Turkey.

“The biggest responsibility rests with policy-makers,” Dr Ömer Fatih Sayan, Turkey’s Deputy Minister of Transport and Infrastructure, told the event. “Turkey was among the countries to reach the fastest normalisation after Covid-19. Recovery can be strong with the right policies and strong public-private cooperation.”

Turkey’s air transport companies were banned from firing employees during the pandemic and received state support to make that happen. Dr Ahmet Bolat, chairman of Turkish Airlines, told delegates that his carrier “was a fast learner in extreme conditions”.

The airline did not lay off any of its 65,000 employees, so

▲ We are working together like a propeller. If one piece of the propeller is not working, and if other pieces are not perfect, the machine will not move and improve. ▲
 MEHMET NANE

it was able to respond quickly to the uptick in demand. This has paid off spectacularly for Turkish, with Pegasus in a comparable situation, and both are back to pre-pandemic traffic levels faster than forecast.

One of IATA’s key messages in Istanbul was that European policymakers must recognise the crucial role all diverse types of airlines make to the region’s success. As they design the next generation of regulations, IATA’s concern is that vocal low-cost carriers are increasingly drowning out the voice of network airlines.

“It is vital that regulators have the full picture on the contribution different airline business models bring to air connectivity,” said IATA director general Willie Walsh.

IATA released a study of how airline business models meet demand in Europe, which shows that network and low-cost carriers offer different and complementary types of connectivity, while also competing on many popular routes.

Several sessions at Wings of Change were devoted to sustainability, with aviation having set out a clear commitment to reduce its CO2 emissions to net-zero by 2050.

“European states talk a good game on sustainability, but their record on delivery does not often match the ambition of their words,” said Walsh. “While some politicians flirt with ideas like banning short-haul air travel, which would save less than 5% of emissions at huge economic cost, practical measures like the ‘single European sky’ for air traffic control, which would cut emissions up to 10%, remain politically frozen.”

There were worries the pandemic might cause the industry to lose its focus on sustainability. “If anything, it has been the exact opposite,” said Jonathon Counsell, group head of sustainability at IAG. “We have made more commitments to sustainability than any other sector in the last three years.”

Sustainability will be at the top of the agenda at the 2025 Wings of Change Europe event, to be held in Amsterdam later in the year, and in Turkey on June 4-6, when Istanbul will host IATA’s annual general meeting. ▲

SAUDIA SIGNS UP FOR 100 eVTOL JETS

Saudia is planning to buy 100 electric vertical take-off and landing (eVTOL) aircraft from German aerospace company Lilium. **Vincent Chappard** reports.

Saudia has signed a memorandum of understanding (MoU) with Lilium to develop and operate an eVTOL network across Saudi Arabia.

With zero operating emissions, the Lilium Jet will enable sustainable and time-saving travel, allowing the national flag-carrier to play its part in the country’s sustainable air mobility development strategy.

Saudia intends to purchase 100 Lilium Jets and launch a state-of-the-art service, including new electric point-to-point connections as well as seamless feeder connections to its hubs for business-class guests.

Lilium Jet’s flexible cabin architecture is expected to enable a range of spacious interior configurations that are well suited to the needs of the premium market. This can drive the early adoption of eVTOL aircraft required to scale.

Saudia also expects to support the German company with the necessary regulatory approval



processes in Saudi Arabia for certification of the Lilium Jet, and any other required regulatory approvals. The carrier currently serves a network of more than 100 domestic and international destinations.

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According to Saudia CEO, Captain Ibrahim Koshy, this shows the airline’s commitment to sustainability.

The eVTOL network project will also contribute effectively to spurring sustainable tourism in Saudi using zero-emission aviation.

“We intend to meet a growing demand for regional air mobility and offer our valued guests a superior on-board experience,” said Koshy. “The potential

for such an airborne transit network is limitless.”

Meanwhile, NEOM, the smart and sustainable regional development in north-west Saudi Arabia, has announced a \$175 million investment in Volocopter, a pioneer of urban air mobility (UAM).

“This crucial investment will expand NEOM’s strategic partnership with Volocopter to progress an advanced air mobility industry in Saudi Arabia, in line with the cutting-edge strategy for its mobility sector,” said NEOM CEO, Nadhmi Al-Nasr.

Electric air taxis are a key component of NEOM’s mission to implement a seamlessly connected multi-modal mobility system powered by 100% renewable energy. ▲



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On the ball: Qatar passengers could enjoy all the live action.
PICTURE: MICHAEL REGAN – FIFA VIA GETTY IMAGES.

QATAR'S WORLD COUP...

Passengers on Qatar Airways' flights were able to keep up-to-date with the action from the World Cup 2022 thanks to Panasonic Avionics and Inmarsat.
Steve Nichols reports.



Panasonic Avionics' live television service was being streamed on Qatar Airways via Inmarsat's GX Aviation Ka-band in-flight connectivity – the first time the provider has delivered Panasonic Avionics' live television.

Passengers were able to connect to Qatar's 'super Wi-Fi' network, click on the live TV banner, and enjoy all the thrills.

The coverage was broadcast by Sport 24, which provided passengers with 56 live FIFA World Cup matches as well as other major sporting events directly on their personal devices.

The football action was produced by IMG and was exclusively available in-flight from Panasonic Avionics in partnership with Inmarsat.

Andrew Mohr, vice president of digital solutions for Panasonic Avionics, said: "Our live television service brings a whole new dimension to in-flight engagement, and enables passengers to catch unmissable sporting moments in the skies.

"We are honoured to be continuing our long-standing partnership with Qatar Airways by bringing this innovation to their cabins, in partnership with Inmarsat."

Inmarsat's Ka-band GX Aviation service already powered Qatar Airways' 'super Wi-Fi' offering, enabling passengers to scroll through social media, stream movies and TV, play games and browse the web, as well as watch live sports.

William Huot-Marchand, Inmarsat Aviation's senior vice president of in-flight connectivity, said: "Qatar Airways was the first airline based in the Middle East and north Africa to offer Inmarsat's GX Aviation in-flight broadband service, cementing its status as a leading pioneer of technology innovations.

"We are delighted that, four years later, GX Aviation continues to lead the way for Qatar Airways, powering the connectivity for its first live television offering, which also coincides with the FIFA World Cup Qatar 2022."

Sport 24 broadcasts 24 hours a day, 365 days a year, connecting airline passengers to thousands of hours of premium live content from more than 40 different global sports competitions year-round.

In September, Inmarsat was selected as the in-flight

connectivity (IFC) provider for Qatar Airways' Boeing 787-9 and 737-10 fleet, marking an expansion of its partnership with the Doha-based national carrier.

Qatar Airways provides one hour of free access to its 'super Wi-Fi', powered by GX Aviation, with the option to purchase full access for the remainder of each flight.

Inmarsat said it was committed to meeting the bandwidth requirements generated by the World Cup event and, alongside its partner, Safran Passenger Innovations, installed and activated GX Aviation on the first Qatar Airways 787-9 aircraft in less than five months from contract award.



Akbar Al Baker, Qatar Airways Group chief executive, said: "Over the years, Qatar Airways has pioneered a range of game-changing innovations as part of our exceptional five-star passenger experience.

"We were among the first airlines in the world to adopt this technology and remain the largest operator of GX-equipped aircraft in the Middle East and north Africa.

"Making 'super Wi-Fi' available across our fleet is an important milestone at a time when staying connected with loved ones and friends has never been more important for passengers."

The GX network currently consists of five Ka-band satellites and will be further enhanced with the addition of seven more satellites as part of Inmarsat's fully funded technology roadmap.

This includes two Inmarsat-6s, both of which are scheduled to enter service next year. They will be followed by three additional satellites in geostationary orbit – adding speed, capacity and resilience – and two in a highly elliptical orbit, enabling the world's only commercial mobile broadband service for aircraft flying in higher elevations and across the Arctic.

The GX network will also play a crucial role in the ongoing growth of Inmarsat's unique orchestra dynamic mesh network, which will bring existing geosynchronous (GEO) satellites together with low-Earth orbit satellites (LEO) and terrestrial 5G to form an integrated, high-performance solution. ▲

The growing interest in the region's business aviation potential was very apparent as the Middle East and North Africa Business Aviation Association (MEBAA) Show opened its doors for the first time in four years. Alan Peaford was there.

Back in the big league

With the FIFA World Cup in full swing just a short hop away from the Dubai World Central (DWC) venue for the MEBAA 22 event, it was pretty clear just how busy the emirate is for business aircraft.

Jets from the FBOs alongside the show site were joining the airline shuttle flights from the nearby Al-Maktoum passenger terminals taking fans – and players – to Doha.

Charter companies, trip planners and operators were buzzing, reporting a genuine lack of availability of aircraft due to so much activity.

Business aviation was back on the agenda and, unsurprisingly, after missing the 2020 event because of the Covid cancellation, the industry was out in force for the three-day event.

The profile has certainly risen for the region – epitomised by the re-election of Ali Alnaqbi, the founding chairman of MEBAA, as the chairman of the International Business Aviation Council (IBAC) for the second time.

"We have reached multiple milestones for the last three years, despite the difficult time caused by the pandemic," he said.

In his role with IBAC he works with other member associations, such as the US-based National Business Aviation Association (NBAA), the European Business Aviation Association (EBAA) and the International Civil Aviation Organization (ICAO), to help the industry achieve net-zero emissions.

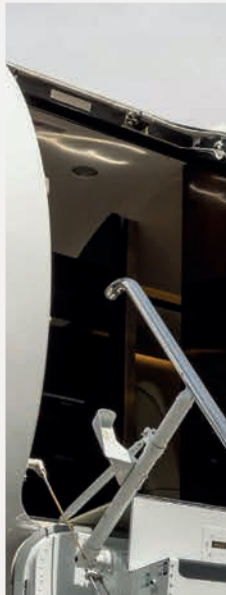


Ali Alnaqbi: "There's at least 25% growth from last year on the movement of aircraft."
PICTURE: BILLYPIX.



Chris Debergh: "The 'heavies' have been going to Europe, Singapore, or even the US. Now Abu Dhabi will be able to take up that work."
PICTURE: BILLYPIX.

Continued on Page 24 ▶



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CONTINUED FROM PAGE 21

But for MEBAA, Alnaqbi’s focus was very much on the regional success story. “The Dubai market is really growing,” he said. “A lot of things have happened lately, especially Dubai Expo 2020, and then the FIFA World Cup in Qatar. But that impact is momentary. We are looking for continuation and healthy growth throughout the years to come. That is happening and we can see it in many areas.”

There has been an increase in the number of aircraft from Russia and the Ukraine now operating from the UAE, but Alnaqbi said many other countries, too, were seeing the benefit of being based in the region.

“We can see there’s at least 25% growth from last year on the movement of aircraft. The trend, started during the pandemic, that moved a lot of passengers from airline first-class and business-class to private and corporate aircraft, is continuing. People don’t want to go back because they realise how good and convenient it is to fly privately – and how inexpensive as well.”

Alnaqbi believes this added to the attraction of the MEBAA show. “We need to be showing and assuring everyone that we can provide the right equipment, the right aircraft, so we can be very competitive when it comes to the pricing.”

According to managing director of the organising team at Tarsus, Tim Hawes, that was borne out by the numbers, with more than 100 exhibitors and representatives from 95 countries.

“An incredible 42 of those companies were first-time exhibitors,” he said.

Clear signs of industry investment were apparent, particularly in areas like MRO, customer service and training.

Bombardier announced the official ground-breaking of a new service centre to be built at Abu Dhabi International Airport. The Canadian manufacturer has been operating a line maintenance centre in Dubai for the past two years but, with the growth in the region – now some 150 Bombardier aircraft – it has opted to build its first full-service MENA facility.

At full capacity, the centre will add more than 100 aerospace jobs in the community. Targeted to open in 2025, it will feature a large hangar, comprehensive parts depot, and a complete suite of maintenance services, including scheduled and unscheduled heavy maintenance, aircraft modifications, paint modification, aircraft-on-ground (AOG) capabilities, and aircraft parking services.

Chris Debergh, Bombardier’s vice president and general manager parts and services, said the Dubai line station had seen increased business as

the number of approvals had grown. “But for the ‘heavies’, they have been going to Europe, Singapore, or even the US. Now Abu Dhabi will be able to take up that work.”

The new facility will fit up to four Global 7500 aircraft – and will also be able to service the Bombardier flagship of a new era, the Global 8000, when it enters service in 2025.

Just across from the entrance to the show another major MRO facility was taking shape.

The 15,000sqm building is set to become ExecuJet’s new regional headquarters in Dubai once it opens next month. It will be able to house 18-24 business jets simultaneously.

Nick Weber, regional vice president, ExecuJet MRO Services, said: “We have increased MRO space, particularly in the wheel shops, the battery shops, the electrical ELT department, sheet metal shops, and a spray booth that is built into the workshop area. It is designed to cater for growth within the sector, and the increase of

The ground-breaking project includes dedicated flight-testing airspace, assigned blocked airspace, and surrounding technologies designed to nurture the growth of the AAM industry.

Development of the centre, which will bring the UAE an initial direct foreign investment of \$40 million over three years, is expected to generate \$7 billion in direct revenues in Dubai and Abu Dhabi over 25 years. It will create around 1,500 highly paid jobs.

Although the centre will be developed in Dubai, it is planned to be part of a larger UAE-wide network. While AAM is discussed globally, and around 650 companies are developing eVTOL aircraft, it is the active support of the regulatory authority that will make Dubai so attractive as a global hub.

With regulatory support, the centre can accommodate safe testing for certification, bringing the future of green mobility closer, and encouraging AAM companies, and their wide support systems, to come to the UAE.

One AAM company at MEBAA already making a buzz with its anticipated all-electric aircraft, Alice, was manufacturer Eviation.

“We are in active discussions with customers for the six-seat executive version of the Alice, with a couple of companies vying to be the first operator in this region,” said CEO, Greg Davis.

Eviation conducted the first flight of Alice on September 27 from its US base in Moses Lake, Washington. Since then, interest has soared with the orderbook doubling to more than 300 letters of intent, said Davis.

The prospects for all-electric aircraft in the Middle East are bright, with numerous potential applications for an electric type with a range of up to 250nm. At the show, Davis highlighted the benefits of the business variant, expected to deliver a cabin environment at least 20% quieter than a comparably sized conventional type. “It’s an immediate advantage,” he said.

In another major announcement, flight services specialist, Skyplan, launched a flight dispatch training organisation at its Skyplan Aviation Academy. “This means that we can now offer flight dispatch theoretical and on-job training in the UAE,” said Muhammad Sami, president and CEO of Skyplan.

■ Additional reporting from Mark Pilling, Ella Nethersole, Chloe Greenbank, Jill Stockbridge and Tom Batchelor. Reports from the Show Business daily papers from MEBAA and video wraps and spotlight programmes can be found at <http://timesaerospace.aero>



Making new ground: Comlux digs in for a new VIP airliner support facility. PICTURE: COMLUX.

business aircraft in terms of size. It will cater for the Falcon 6X, and the 10X when that comes into service.”

Saudia Aerospace Engineering Industries (SAE) was also busy announcing new hangars to handle business aviation service – especially rotorcraft – at its under-construction MRO Village in Jeddah. At the show, CEO, Captain Fahd Cynndy, signed an agreement to work with the kingdom’s helicopter specialist, THC, to develop a regional rotorcraft heavy maintenance base.

Back at DWC, Comlux had a ground-breaking ceremony for a hangar that will allow it to provide line maintenance and VIP cabin repairs for the niche VIP airliner sector.

With a significant focus on environment and future aircraft, one highlight at the show was the announcement by the UAE that it is set to become the global hub for advanced air mobility (AAM), with the launch of the world’s first AAM integrator centre at the Mohammed Bin Rashid Aerospace Hub.

The centre will be developed by VPorts, Dubai South and, crucially, the UAE’s General Civil Aviation Authority (GCAA).

Drones have dramatically changed the face of warfighting. Are they about to have the same disruptive effect in the civil market? **Chuck Grieve** investigates.



Site survey: A FEDS operator launches a drone to survey progress on a construction site. Inset: Data analytics software provides a quarry operator with volumetric information from drone imagery. PICTURES: FEDS.

Civil sector set for drone revolution

Uncrewed aerial vehicles (UAVs) or drones have gained a high profile for what many would consider the wrong reasons – their use in warfighting and sabotage, not to mention the mischievous and dangerous incursion of controlled airspace, invasion of privacy and more.

But, away from the battlefield, UAV use has barely scratched the surface of the potential for this class of autonomous aircraft.

Management consultancy, TechSci Research, estimated that civil UAV operations in the Middle East account for just 18% of a total regional market that is expected to grow in value from \$2.3 billion in 2019 to almost \$4 billion by 2025.

Drone service providers say almost every industry could reap benefits from the multiple uses for which they can be programmed. Others point out the risks and dangers in deploying a technology whose development has outstripped the infrastructure needed to ensure its safe and legal use.

In 2020, Dubai took steps to correct this by issuing a law to regulate drones within the emirate’s airspace, becoming one of the first countries in the world to do so.

At the time, Sheikh Ahmed bin Saeed Al Maktoum, president of the Dubai Civil Aviation Authority (DCAA), said: “Drone systems represent one of the most promising emerging technologies in the civil aviation and transport sector. The new law supports the implementation of the authority’s ‘Dubai sky dome’ initiative, which seeks to build a structural ecosystem for drones.”

Many consider the law extremely strict. It requires the air vehicle to be registered with both the DCAA and the UAE General Civil Aviation Authority (GCAA); users must hold a pilot’s permit and a ‘no objection’ certificate, both renewable annually. Once over those hurdles, however, the commercial opportunities appear to be near-limitless.

Rabih Bou Rached, chief executive of Aerodyne Middle East and FEDS drone-powered solutions, said the early

adoption of regulation specific to drone operation – earlier than most countries – has given both the country and companies operating there a competitive advantage.

“While some may find the regulations restrictive, they are in place to protect the safety and privacy of citizens,” he said. “It’s important to note that the regulations did not impede development or research. We were allowed to experiment, conduct R&D, and run operations much earlier than was the case in other countries.

“Overall, the effect of the laws on the operation of drones has been positive for the professional drone market.”

The development of related advanced technologies, including robotics and artificial intelligence (AI), is likely to accelerate in step with the widely anticipated surge of drone use in industry. “Currently only about 20% of those [industries] which could benefit from using drones are doing so,” said Bou Rached.

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“We think drones have the potential to change many industries and create a lot of value for businesses and society as a whole, and we want to help make this happen.”

He singled out logistics as an area where drones can be expected to play a larger role, enabling delivery of goods “from one secure location to another, eliminating potential points of failure in the delivery chain”.

Benefits will include greater efficiency, reliability and “significant” cost savings.

The technology to collect and deliver a payload by air has existed for a number of years, but the lack of unmanned traffic management (UTM) systems to control fleets of drones, especially over cities, has acted as a damper on the industry. Multiple successful trials suggest this is about to change, prompting investment for first-mover advantage.

Riyadh-based Arabian Development and Marketing Corporation (ADMC) has a fleet of 180 heavy-lift UAVs on order from the California airframer, Sabrewing. ADMC is the launch customer for both A and B variants of the Sabrewing’s Rhaegal cargo drone.

ADMC general manager, Ayman Zeibak, said the investment will give his company “a mix of highly versatile aircraft to lease to our African and Middle Eastern customers”.



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PICTURE: IDEX.

GREAT IDEX EXPECTATIONS

The co-located International Defence Exhibition and Conference (IDEX) and Naval Defence & Maritime Security Exhibition (NAVDEX) take place at the Abu Dhabi National Exhibition Centre on February 20-24.

Jon Lake looks forward to the event.

Thirty years after the launch of the biennial IDEX show in 1993, and 12 years after the first NAVDEX, Abu Dhabi is again preparing to break records with the latest edition of the twin exhibitions.

IDEX and NAVDEX are held under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, president of the UAE.

The shows have witnessed a phenomenal growth in the number of exhibiting companies, the volume of deals done, and the number of visitors.

IDEX once claimed to be the only international defence exhibition and conference in the MENA region that demonstrated the latest technology across the land, sea and air domains. Now, of course, it has a rival in the shape of Saudi Arabia's World Defense Show, but IDEX is established, highly regarded, and still represents the 'gold standard' of defence exhibitions.

The 2021 IDEX/NAVDEX show was a stunning success, with 35 national pavilions and more than 900 local, regional, and international companies from 59 countries exhibiting, and attracting more than 62,000 visitors.

And the organisers are not content to rest on their laurels, with this year's event introducing a host of new features.

The new 'IDEX Next Gen' is a space dedicated to start-ups, and intended to allow entrepreneurs to demonstrate their technologies, services and solutions to leading figures in the defence and naval industry.

There will also be a new 'innovation trail', providing a focused and curated journey through the exhibition space, highlighting the latest products and innovations.

The Abu Dhabi National Exhibitions Company (ADNEC, sometimes rendered as Adnec to save confusion with the venue) and the UAE Ministry of Defence have organised IDEX and NAVDEX.

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ADNEC is hosting a series of high-level round table discussions between prominent industry thought leaders and commentators. These aim to cover the most critical and important issues facing the defence and naval sectors, and to collaborate on focused industry reports. Using dedicated free-to-attend theatres, IDEX and NAVDEX will provide sessions that will allow attendees to learn about the latest and most critical industry topics.

The IDEX talks will include sessions covering the global defence sector, while the NAVDEX talks, which will be held in the brand new marina hall, will focus on the naval defence industry.

ADNEC promise that subject areas will include motivational masterclasses, women and youth in defence, and defence heroes.

For fans of defence history there will be a 'defence through the decades' interactive gallery, highlighting products and technology from the last 30 years.

When the Emirati defence industry began, it was relatively small in scale, and many of the

Continued
on Page 30 ►

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SHOW PREVIEW

CONTINUED FROM PAGE 29

players were the result of ‘offset deals’, set up with the aid of US and European prime contractors. Those days are long gone, and companies like the UAE’s Edge Group are today major global players.

In December 2020, the Stockholm International Peace Research Institute (SIPRI) ranked Edge as the 22nd largest among the world’s arms companies, while, in July 2021, *Defense News* ranked the company 24th on the list.

The Emirati defence industry has reached this position as a result of strong local demand for military equipment, products and services, combined with a desire to reduce the UAE’s dependence on imported weapons and foreign suppliers.

Tawazun Council, as the UAE’s defence and security acquisitions authority for both the UAE Armed Forces and for the Abu Dhabi Police, has encouraged this shift. But, while the local armed forces were the primary customer for the Emirati defence industry when it began, many of the leading companies have now built up successful export businesses.

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The Edge Group, an IDEX strategic partner, was established in November 2019, absorbing more than 25 entities from the Emirates Defence Industries Company (EDIC), Emirates Advanced Investments Group (EAIG), Tawazun Holding, and other organisations. EDIC, itself, had been formed five years earlier through the merger of 11 defence subsidiaries of Mubadala Development, Tawazun Holding and Emirates Advanced Invest Group.

The Edge Group is organised between four core clusters – platforms & systems, weapons & missiles, electronic warfare & cyber technologies, and training & mission support. Within these clusters are a number of significant exporters.



Busy: IDEX attracts visitors from all over the world. PICTURE: ASDS



Attracting attention: The Calidus B-250, an indigenous Emirati defence product, was a highlight of the last show. PICTURE: ASDS.

The platforms and systems cluster, for example, includes Abu Dhabi Ship Building (ADSB), which gained its first naval export order in 2005, building a 64-metre multi-role landing craft for the Royal Navy of Oman.

Armoured vehicle manufacturer, NIMR, has supplied vehicles to the UAE, but also to Algeria, Jordan, Lebanon, Libya, Saudi Arabia, Turkmenistan and Yemen.

Abu Dhabi Autonomous Systems Inc (ADASI) develops autonomous systems including loitering munitions and unmanned aircraft, most notably the Al Sabr S-100 and the Garmooosha, and exports would seem likely in the medium term.

The missiles and weapons cluster includes AL TARIQ, whose long-range guided weapons kits have been exported to Egypt, and small arms manufacturer CARACAL, whose pistols, sub-machine guns, assault and sniper rifles have been exported to Algeria, Ethiopia, Jordan, and the Libyan National Army.

Like Edge, IDEX now has a truly global reach, attracting the largest global defence companies.

As the UAE has sought to diversify its sources of

supply (as illustrated by its selection of the Chinese L-15 jet trainer) IDEX is becoming a more and more important platform for non-traditional suppliers to the emirate, allowing them to start to familiarise Emirati, GCC and MENA customers with their offerings.

There will be substantial participation by Russian companies, reflecting both the importance that Russia attaches to the GCC region, but also enabling a Russian industry that would be constrained from appearing at many exhibitions by the sanctions and restrictions imposed as a result of the ongoing war in Ukraine.

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During his visit to the UAE in October 2022, Russian President Vladimir Putin met Sheikh Mohammed bin Zayed Al Nahyan and highlighted the importance that he places on relations between Russia and the UAE as “an important factor of stability in the world despite all the difficulties that exist in the international relations today”.

Because IDEX attracts political and military leaders, ministers, senior officials, decision-makers, and experts and specialists from all over the world, the show also provides a global ‘shop window’ for Emirati exporters. IDEX and NAVDEX thereby provide a useful, if not unrivalled, platform for partnerships and cooperation to be explored and discussed.

The chairman of the higher organizing committee for IDEX and NAVDEX, His Excellency Staff Major General Pilot Faris Khalaf Al Mazrouei, said: “Thanks to the directives of our wise leadership, the UAE has been able to build an advanced system for the national defence industries.

“This year’s edition represents an exceptional opportunity to further Abu Dhabi’s position as a leading global hub, and demonstrates the Emirate’s capability to host one of the world’s most strategic and vital defence exhibitions.”

The continuing success of IDEX and NAVDEX is also helping to consolidate the position of Abu Dhabi as a centre of business tourism and a destination for major business events. ▲

THEON SENSORS BUILDS ME BASE

Theon Sensors, a world leader in night-vision and thermal-imaging systems, is expanding on the back of increased demand for its cutting-edge products, with the Middle East positioned as a global hub.

Soldier demonstrates Theon Argus high-resolution monocular.



Theon’s NYX dedicated night vision binocular.

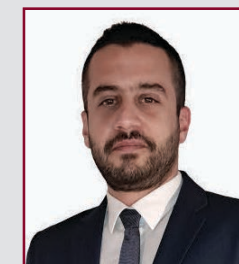


Theon’s new family of thermal sights will be on display at IDEX.

The Athens-based specialist, part of the EFA Group, returns to IDEX* flush with success in the competitive and technologically demanding business of military-grade electro-optical systems.

In 25 years, it has grown from a supplier to the domestic market in Greece to the global leader, with more than 150,000 of its systems in use or under contract worldwide. Theon’s devices have been adopted by US military end users (NYX night vision binocular) and last July, the company confirmed its status in Europe when, with partner Hensoldt, it received an Organisation for Joint Armament Cooperation (OCCAR) order for thousands of night-vision devices.

Theon Sensors’ newest office in Dubai, opened in 2022, joins established operations



Dimitris Papageorgiou: ‘Most countries [in the Middle East] are end-users, some with thousands of systems.’

in Abu Dhabi and Riyadh to cater to demands across the wider Middle East region as well as Asia, Africa and also South America.

“We firmly believe in the potential this region has, and not for just offering our products here,” says Dimitris

Papageorgiou, Regional Director of Business Development for LATAM, Africa, Middle East and Far East. “Most countries [in the Middle East] are end-users of our products, some with several thousands of systems.”

Such is the trust in its standards of functionality and workmanship that Theon Sensors enjoys a high degree of customer loyalty. The company is keen to reciprocate. Says Papageorgiou: “The DNA of our company is to share technology – that’s a big factor in the successful partnerships we have around world.”

“We believe this region offers great opportunities for partnerships which can lead to co-production and co-development. We have already put this plan in motion here – we’re excited for what the future holds.”

Theon Sensors has been active in Abu Dhabi for more than a decade, serving the UAE, and opened its Riyadh office two years ago to manage activities in Saudi Arabia where optronics devices are already being co-produced under a collaborative development agreement.

At IDEX, Theon will be promoting its state-of-the-art night vision monoculars and binoculars alongside its line of night-vision clip-on sights and several “exciting” new products, including the new family of thermal weapon sights.

“We offer cutting-edge devices which are adapted for the specific needs of the region, typically with augmented performance,” said Papageorgiou. The company finds end-users here to be well-informed about technological developments in the industry and “unwilling to settle for anything less than the best.”

The optronics industry has not escaped the effects of the pandemic, war in Ukraine and ensuing turmoil in world markets. With demand – especially for night-vision devices – sharply increasing, many manufacturers are under pressure due to supply chain issues.

Papageorgiou says Theon was able to act proactively. “Having secured and even strengthened our supply chain many months ago, we were able to limit the impact and today we are probably the only company in the market that is still able to serve customers with short delivery times and highly competitive prices.

“Today we are the No 1 company in the world based on turnover and customer reach,” he said. “Our devices are used in more than 60 countries and are in many cases the NATO standard.”

*** Visit THEON SENSORS at IDEX stand number 05-A45**

www.theon.com

New look: Two upgraded AH-FBs were seen in public for the first time at BIAS 22.
PICTURES: ALAN WARNES.



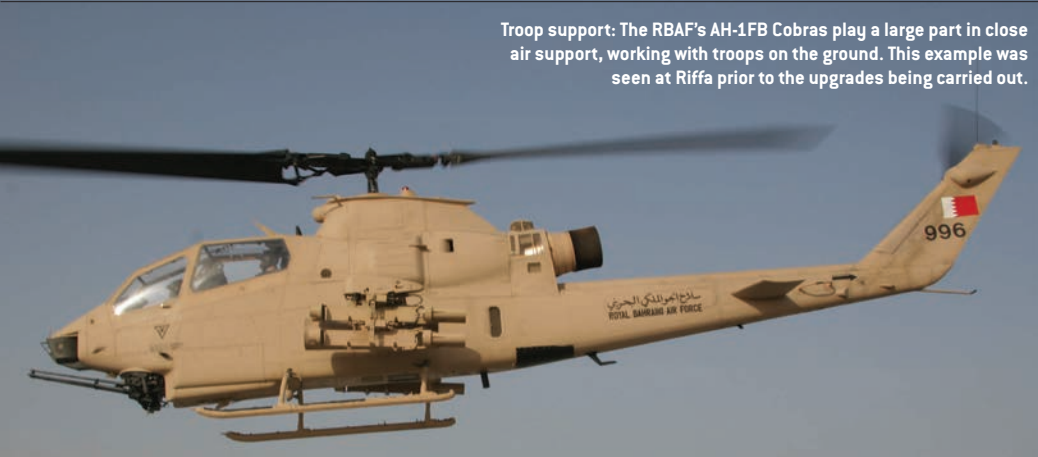
Helicopters play a major role in the defence and security of Bahrain. Alan Warnes has been looking at the Royal Bahraini Air Force and the background to its capabilities.

COBRAS GIVE BAHRAIN EXTRA BITE

The Royal Bahraini Air Force now has one of the largest AH-1 Cobra attack helicopter fleets in the world. Comprising 17 upgraded AH-1FB Cobras and 12 AH-1Z Vipers, known locally as ‘Zulus’, that’s an undeniably large number of gunships for such a small island. However, to understand why, you have to go back to April 1986, when Qatar attacked Bahrain’s Hawar Islands in a bid to take them over. The RBAF, with its Bell 212s, really came of age back then after the Qatari forces captured a multinational workforce building a coastguard station at Dibal. It was tasked to fly in troops, ammunition and medical supplies to support Bahraini units on the islands. Operating at night, with no night vision goggles, often at 100ft (30m) over land and sea with no radar or radio for three continuous nights, the helicopters completed 25 missions.

This was to be the biggest ever challenge to the RBAF’s helicopter units and, while the Bell 212 crews of 3 Squadron performed heroically, the government now understood the need to acquire armed helicopters to deter further attacks. The Hawar operation, as it is known, received little international attention. The Hawar Islands dispute was resolved in 2001 but it taught the Bahraini Government a lesson. With Iran undeniably a big threat to the Middle East’s relative peace, the military doctrine created for Hawar stands resolute against an Iranian offensive. The RBAF acknowledges that any serious attack is likely to come in overwhelming numbers, and that’s the main reason why its helicopter inventory is heavily influenced by the AH-1 Cobras. The RBAF acquired its first Cobras in 1994, when 14 ex-US Army AH-1Es and six TAH-1Ps, the latter configured for the training role without any capability to carry cannons or weapons, were

acquired. They all equipped No 8 Squadron, established the same year at Riffa Airbase. A follow-on order for 10 more reconditioned AH-1Es from the US Army followed in 1997. However, some were starting to show their obsolescence and, according to one local source, they were in poor shape and so were rejected. In 2002, 12 AH-1Fs were delivered, which brought with them full infrared day and night vision equipment (C-NITE), mission-control computers, and a wire-guided missile capability. This led to the standing up of a second AH-1 unit at Riffa, No 9 Squadron. According to an RBAF officer, all the earlier AH-1Es have now been retired and broken up, with their spare parts being used to keep the AH-1F fleet flying. By the mid-2010s, it was obvious these attack helicopters did not have the technological edge the RBAF required for future warfare operations.



Troop support: The RBAF’s AH-1FB Cobras play a large part in close air support, working with troops on the ground. This example was seen at Riffa prior to the upgrades being carried out.



Ocean-going: The 12 new AH-1Z Zulus of newly formed 22 Squadron, will primarily be used for operations over the sea.

The government scoured the market, looking for a capable helicopter to provide close air support for its ground troops. The new helicopter would not replace the older AH-1Fs but supplement them, and it seemed, in 2015, that the Bahrainis would opt for Turkey’s T129 advanced attack and reconnaissance (ATAK) helicopter. Turkey’s backing of Qatar, when the GCC sanctioned the tiny desert state in 2017, put paid to those plans.

However, negotiations on an AH-1F upgrade, to ensure there was commonality with the T129, had been signed off already. As part of a multi-million deal, agreed in June 2015, Turkish Aerospace was to upgrade 17 AH-1Fs with avionics systems already operational on Turkey’s gunship helicopter. The prototype upgraded AH-1FB (B for Bahrain) made its first flight from TAI’s Ankara facility in September 2017 and, after two years with integration work and testing completed, it was airfreighted back to Bahrain. By the time of the November 2018 Bahrain International Air Show (BIAS), three aircraft had been upgraded, but both TAI and Bahrain were not keen to discuss the work because of the ongoing political row.

Finally, at last year’s 2022 BIAS, two upgraded AH-1FBs made their public debut. “We have turned an old helicopter into a new one,” said one RBAF officer. “After the first aircraft was delivered here, the RBAF worked alongside Turkish engineers to integrate the upgrades at Riffa Airbase, where the Cobras are based.” The work includes the integration of an Aselsan ASELFLIR 300T electro optical/infrared turret mounted on top of the Cobra’s nose to replace the laser range finder. The system houses a high-resolution infrared camera, laser range finder/designator (LRF/D), laser spot tracker, colour day TV camera and a spotter TV camera. In the front cockpit, two multi-function displays replace the old analogue gauges, and both cockpits have been upgraded for night. Mounted on the both side of the two Cobras on the outer pylons are a pair of quadrack launchers to accommodate Roketsan Cirit 2.75 inch laser-guided missiles, to complete a wholly Turkish upgrade. The AH-1FBs, with their desert camouflage, are used to support troops on the ground. When it became obvious the RBAF would not be ordering the T129, the force opted to buy the Bell AH-1Z Viper – 12 of them at a cost of \$912 million.

The contract announcement came at BIAS in November 2018, when the RBAF commander, Major General Hamad al Khalifa, said: “The world’s most advanced attack helicopter will continue to secure the country. Deliveries will start in the second half of 2022 and be completed in early 2023.” He continued: “The aircraft will work alongside the current Cobra fleet and help to improve our share of the responsibility in the growth and security of the Gulf region.” Bell announced, in October 2021, that the first AH-1Z for Bahrain had been completed, with the first pair being handed over to the RBAF in mid-2022. By the end of 2022, six of the 12 had been delivered with the remainder due early this year. The AH-1Z Viper is designed to meet the operational requirements of the United States Marine Corps (USMC), with a strong focus on a reduced logistical footprint and full marinization. The aircraft is an improvement of the AH-1W Super Cobra, with an upgraded glass cockpit and a wider capability due to the variety of weaponry.

Speaking at BIAS 2022, Mike Deslatte, Bell H-1 vice president and program director, said: “The AH-1Z brings a lot of benefits, largely due to the number of different missions it can handle – close air support, anti-armour and, in USMC configuration, anti-air, so it’s quite a versatile aircraft.” The latest generation of the Viper has a Lockheed Martin target sight system, along with avionics that Bell rates as world class, with Deslatte adding: “Employing that type of capability is a game-changer. Having a proven state-of-the-art platform will help contribute to the security of Bahrain, while improving interoperability with US forces.” The RBAF confirmed that its AH-1Zs do not yet operate with an AIM-9 Sidewinder, or come equipped with the Link 16 datalink system. Being marinized, the aircraft is protected against the kind of corrosion that the Bahrain climate will bring. “It was fully marinized from the point of manufacture all the way down to detailed level parts,” said Deslatte. “This provides resistance to the likes of salt, spray, sand and dust, while working in an austere environment. You can encounter all these kind of elements when deploying forward with the units that you support on the ground.” ▲

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Eagle on patrol: RSAF F-15C Eagles have taken part in Falcon Eye exercises with the Hellenic Air Force, as well as Red Flags in the US.

Above: RSAF F-15SAs with USAF F-15Cs and a KC-135 during integrated joint sorties over Saudi Arabia in 2020. PICTURES: USAF.

Saudi Arabia and NATO learning to work together

Despite a relationship that has been strained following Saudi Arabia's involvement in the bloody conflict in Yemen, the Royal Saudi Air Force (RSAF) has continued to exercise with the United States Air Force (USAF) and, more recently, with other NATO air forces. **David Oliver** reports.

RSAF Typhoon and F-15S Eagle aircrews have participated in eight consecutive Red Flag advanced aerial combat training exercises hosted at Nellis Air Force Base in Nevada. Aircrew from the US Air Force, Navy, Marine Corps and Army, and numerous NATO or other allied nations' air forces, take part in one of several Red Flag exercises each year. In June 2020, RSAF F-15SA Eagles from the 6th Squadron, King Khalid Airbase, took part in integrated sorties with USAF F-15Cs and

KC-135 Stratotankers, which allowed the US and Saudi pilots to familiarise themselves with communications and mission planning procedures. It also allowed them to maintain readiness for longer mission capabilities in the region. More recently, after months of preparation, joint training exercise Falcon Eye 3 began in Greece in the second week of November 2022. For the third in a series of bilateral exercises with the Hellenic Air Force (HAF), the RSAF deployed

F-15C/D Eagles from Taif/King Fahd Airbase to the 115th Fighter Wing based at Souda Airbase, a large facility on the west side of Crete, Greece's largest island in the Mediterranean. Falcon Eye 3 began with ground studies to unify the exercise's concept among aircrew from both air forces, followed by joint flights in the eastern Mediterranean skies. During the exercise, different types of missions in Greek and international airspace, against various types of aircraft, were flown. To achieve this, HAF F-4E Phantom and Mirage 2000 fighter aircraft were flown from different air bases in a variety of roles, as friendly as well as opposing forces at times, to enhance the training value of the exercise. In May 2021, the HAF and RSAF had held the Falcon Eye 2 exercise at the King Faisal Airbase, in the northern sector of Saudi Arabia. Joint sorties by RSAF F-15C and HAF F-16 aircraft took part in the exercise. Other joint air exercises with Saudi and NATO aircrews are planned for 2023. ▲

WDS MAKES ITS MARK IN THE DEFENCE CALENDAR

Alan Peaford looks ahead to the defence world's fastest-growing success story.

The Middle East is really becoming a focus for global defence activities with this month's International Defence Exhibition and Conference (IDEX) being eagerly anticipated in Abu Dhabi and then, the next World Defense Show (WDS), set for next year. WDS exploded on to the show scene last year. It had been unveiled as an ambitious event to align Saudi Arabia's vision 2030 for the aerospace and defence industry with changing demands and approaches by the global military market. Many doubted it would work, but despite the Covid pandemic – or perhaps because of it – there was huge support and exhibitors rolled in from around the globe, packing the new exhibition centre with its own purpose-built runway and vehicle testing track.

Now, plans have been unveiled for the second edition, which will take place at the site near Riyadh on February 4-8 2024. The event has stepped up from four to five days to accommodate the anticipated demand. For the show's CEO, Andrew Pearcy, the success of the inaugural event has provided a platform on which to build. "The exhibitors and visitors that turned up in 2022 were unbelievable. It was about a new event, setting the kingdom in the place in the world of defence, and we have a big target to hit now – a big vision to be the number one defence show in the world," he said. For chief commercial officer, Amanda Stainer, the investment in the event will make it bigger and better than 2022.

"We're more than 50% sold already," she said. "And that was before we had finalised our plans. We are adding a third exhibition hall just to cope with the demand. "We are aware that a lot of people visited to assess the event last time and we believe many will be coming this time as exhibitors. We had some 42 countries represented in 2022 and now we're looking to grow that to at least 45." The 2024 event will focus on the future of defence and will include a space zone. "We've got a great runway and we're looking to enhance the flying display," Pearcy said. "We will also have a brand new land display area as well." ▲



Andrew Pearcy: "We're looking to enhance the flying display." PICTURE: BILLYPIX.

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AIRPORTS

STRATEGY

Moroccan airports aim to double their capacity by 2040 and the National Office of Moroccan Airports (ONDA) has many other innovations in the pipeline, as **Anuradha Deenapanray Chappard** found out from the organisation's CEO, **Habiba Laklalech**.



Habiba Laklalech: "We must project ourselves into the future by learning from the past to respond to economic, social and climatic emergencies."

Above: Casablanca Airport is already reducing its carbon use, while other airports have started the accreditation process.
PICTURES: ONDA.

Morocco steps up its human footprint

ONDA manages 25 airports in Morocco, including 19 which are international, and has a multi-faceted strategic plan that aims to transform these gateways into "state-of-the-art human spaces".

According to Habiba Laklalech, who took up the reigns during a period of considerable uncertainty because of the Covid-19 pandemic, ONDA has the required resilience to forge a profitable and sustainable airport economy.

"We intend to make the kingdom's airports real places of life, which in the eyes of their users will embody the identity of the territory where they are located and allow their economic and tourism attractions to radiate beyond their borders."

Over the past few years, ONDA has embarked on an ambitious infrastructure development programme, which has led to the upgrading and modernisation of its airports. They have tripled their capacity in less than 15 years.

"We must project ourselves into the future by learning from the past to respond to economic, social and climatic emergencies," said Laklalech.

"From control towers to runways, terminals to concourses and landside shuttle systems, we need to provide solutions tailored to the present and future needs and expectations of our customers."

"Climate risks threaten the entire global economy. The need to anticipate and transform is becoming a survival issue for aviation in the low-carbon world of tomorrow."

Laklalech said it was vital to achieve energy transition and digital transformation, especially in the face of cybersecurity issues. "We are going to introduce the environmental component into all our infrastructure projects," she added.

ONDA has just launched a study to improve energy efficiency in its airports and introduce renewable energies (including photovoltaic), like at Marrakech-Menara. Modernisation work, particularly in Marrakesh-Menara, Agadir and Tangier, will be undertaken this year to reduce their carbon footprint.

The initiative is part of ONDA's integrated eco-responsible approach, which brings together all airport stakeholders and partners. It has fully embarked on the Airports Council International (ACI) airport carbon accreditation (ACA) programme. Casablanca and Marrakech airports are at level 2 (reduction), while others have started the accreditation procedure.

"We are in the process of increasing our level of accreditation year-on-year to reach net zero by 2050," said Laklalech. "This programme allows us to structure and align our approach at all our airports."

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According to Laklalech, decarbonisation will be a top priority in the years to come. "We need to implement innovative action aimed at achieving energy efficiency through the use of renewable energy, the development of a medium-term plan to prepare our airports for sustainable alternative fuels (SAFs), and the introduction of decarbonisation requirements in our procurement policy," she said.

The ONDA CEO is convinced that the investment costs will be justified in view of the expected benefits in the long term. "Access to external financing for infrastructure projects requires compliance with international standards for sustainable development and promotes green projects," she explained.

Laklalech believes that liberalisation can be a lever of growth. Morocco's ambitious policy, initiated in 2004, led to an open skies agreement with the European Union at the end of 2006, and more liberal bilateral agreements with Arab and Asian countries, and on the American continent.

She said the Moroccan experience could be used as a model in Africa, where many countries are still hesitating about implementing open skies.

Flagship facilities: Oman Airports continues to grow as an influential airport operator. PICTURE: OMAN AIRPORTS.



OMANDATE FOR GROWTH

With the new state-of-the-art infrastructure in Muscat, Salalah, Duqm, and Suhar, Oman Airports continues to grow as an influential airport operator and a major player on the national, regional and international scene. Anuradha Deenapanray Chappard spoke to CEO, Aimen Ahmed Sultan Al Hosni.

Oman Airports provides combined operations, maintenance and infrastructure management, including on-ground services, terminal buildings, cargo buildings, runways, aircraft service, car parking and other facilities, while maintaining all proper airport certification.

Muscat International Airport is, arguably, Oman Airports' flagship facility.

Key elements of the modernisation and expansion plan carried out in four stages at Muscat are Omani-themed architecture and advanced technology, which combine for an exceptional passenger experience.

The airport has dedicated pick-up and drop-off areas in front of the departures and arrival terminals for security reasons and to prevent congestion. These areas are equipped with access systems to enhance passenger comfort and control traffic flow more effectively.

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The airport has been configured to accommodate more than 56 million passengers annually.

The facility has achieved huge leaps in the number of passengers – nearly 20 million at the end of 2019 – and cargo in the years that followed the transfer of operations to its new passenger building.

Muscat recorded an increase of 114.8% in the number of incoming and outgoing international and domestic flights until July 2022, compared to the previous year.

One of the factors explaining this rapid growth is that the national carrier, Oman Air, and the low-cost airline, SalamAir, have transformed the airport into a transit hub linking east and west.

Omani airports and airlines have also responded to the growing appetite of travellers during the post-Covid period through interesting incentives and marketing programmes.

“The restrictions that were practised in the airports due to government and health

authorities made it hard for people to travel for their leisure or business,” explained Oman Airports CEO Aimen Ahmed Sultan Al Hosni.

“Airports have enhanced their marketing. The incentives are showing benefits by expanding the reach through better structure for airlines and good packages for new destinations.”

Al Hosni, who is also chairman of Airports Council International (ACI) world added that travel restrictions and high ticket prices are major hindrances that he believed must be tackled through a coherent approach from stakeholders, especially with Covid cases soaring again in many countries.

In mid-December, Muscat Airport welcomed the inaugural flight of Air Vistara, a Tata Sons and Singapore Airlines joint-venture. The new Mumbai-Muscat route is part of Oman Airports' development strategy.

Also, through its subsidiary, Transom Handling, Oman Airports aspires to enhance the growth of the air cargo sector, support its network of operational lines, and capitalise on its strategic location as a transit gateway to regional markets, linking the Middle East with the continents of Africa, Asia, and Europe.

During the Oman sustainability week, held last March in Muscat, Al Hosni reiterated his team's commitment to build a sustainable environment and become a green airport.

“It's an international decision and the whole ecosystem should work together to reach net zero by 2050,” he said.

The construction environmental control plan, included in the modernisation of Muscat Airport, led to a reduction of its potential carbon imprint by 95%.

“Sustainability has been a top priority for Oman Airports and it's one of the main pillars of our strategic objective. Since 2017, we have incorporated a carbon management programme to measure and reduce our carbon footprint in a phased manner in Muscat, Salalah and Duqm airports,” concluded Al Hosni. ▲



Aimen Ahmed Sultan Al Hosni: “Sustainability has been a top priority for Oman Airports and it's one of the main pillars of our strategic objective.” PICTURE OMAN AIRPORTS.

The Airports Council International (ACI) Africa/world annual general assembly (WAGA) in Marrakech addressed key issues facing the airport ecosystem and highlighted the paradigm shift in the post-Covid 19 era and the wake of the new global geopolitical context. Anuradha Deenapanray Chappard was there.

WAGA strengthens the aero dynamic

A trio of resolutions to strengthen the sustainability and resilience of airports as key players in the aviation ecosystem were approved by the assembly.

It called on governments to support global electrical grid transitioning, update the regulatory framework to accommodate the integration of alternative fuel sources at airports, and incentivise infrastructure development with appropriate financial mechanisms.

“These resolutions will help airports deliver the long-term net zero carbon goal, restore economic equilibrium, support small, emerging, and regional airports, and build aviation's workforce,” said ACI world director Luis Felipe de Oliveira.

The assembly heard that ACI recognises the important role that small, emerging, and regional airports play within global connectivity and the socio-economic development of communities worldwide. Therefore, governments and the industry must support their capital and human resource development plans and facilitate their transition to renewable energy.

Emanuel Chaves, ACI Africa president and CEO of Aeroportos de Mocambique, said the association would relentlessly uphold “the strategy and roadmap of all African airports towards enhanced safety, security, best industry practices, decarbonisation, digital transformation and sustainability through various programmes and assistance services”.

At the regional level, poor connectivity, protectionism and systemic constraints continue to plague the aviation industry.

ACI Africa urged its members to implement the single African air transport market (SAATM).

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African Civil Aviation Commission (AFCAC) secretary general, Adefunke Adeyemi, said liberalisation would bring huge benefits to air traffic, especially intra-African, and national economies through increased trade, tourism and job creation.

Habiba Laklalech, CEO of the Moroccan Airports Authority (ONDA), was even more direct: “The need to anticipate and transform our models is a question of survival for the aviation industry in the low-carbon world of tomorrow. It's therefore vital to embrace energy transition and digital transformation, and face cybersecurity issues together.

“We (ONDA) are going to include the environmental component in all our infrastructure projects from the design stage to operations and management,” she said.

Ali Tounsi, ACI Africa secretary general, underlined the fact that sustainability should be a priority for African airports. It should be embedded within their overall vision and development strategy.

“At ACI Africa, we are fully aware that staying competitive and up-to-date can be challenging. We are,



Ali Tounsi: “We are fully aware that staying competitive and up-to-date can be challenging.” PICTURES: ACI WORLD.

Evolution of the airport workforce

During WAGA 2022, ACI world released the first edition of *The evolution of the airport workforce: turning challenges into opportunities* white paper.

The document comes at a time when many airports are facing workforce shortages, leading to flight delays or cancellations.

It examines the context, trends, and factors that have led to the current aviation workforce shortage, and provides recommendations to help airport operators, aviation stakeholders, and governments build a stronger workforce that meets the needs of tomorrow and ensures the long-term sustainability and resilience of the aviation ecosystem. ▲

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therefore, pursuing our knowledge-oriented vision to reskill or upskill airport workforces with the setting up of the Sustainable Aviation Academy (SAA) under the African airports development programme. This is yet another effective and user-friendly tool to accompany Africa's airports on the path to net zero carbon,” he said.

According to Sharon Mahony, sustainability expert and commercial partner of ACI Africa, the SAA aims to improve the level of training and awareness to move up on the sustainability journey.

Another major issue addressed was aerodrome certification in compliance with International Civil Aviation Organization (ICAO) standards.

It was pointed out that only 45% of aerodromes are certified in Africa, despite approximately 55 APEX ACI reviews led by industry peers and experts to optimise airport operations, regulatory compliance, and aviation standards worldwide, being conducted across the continent.

AENA, the organisation which manages 46 airports in Spain, will host WAGA 2023 in Barcelona, in partnership with ACI Europe.

The 69th ACI Africa board and committee meetings will be hosted by Rwanda Airports Company, the operator of Kigali International Airport, later this month. ▲

Claims row hots up over airlines stranded in Russia

Leasing headache: Most of the aircraft in Russia's airline fleets are leased from western or Asian companies. PICTURE: WIKIMEDIA COMMONS.



The head of one of the world's largest aircraft lessors has called for the global insurance industry to acknowledge the need to pay out for airliners stranded in Russia.
Alan Dron reports.

For lessors throughout the world, the biggest and most unexpected problem they faced in 2022 was the loss of control over aircraft they had leased to Russian airlines. The great majority of the 900 airliners on the Russian civil register are western models and most of those are leased, not owned, by the country's carriers. Shortly after the outbreak of the conflict in Ukraine last February, several nations that have large numbers of leased aircraft on their national registers, such as Ireland and Bermuda, notified all Russian operators of the aircraft that they had revoked or suspended their certificates of airworthiness. No aircraft is allowed to fly without such a certificate, which is issued by the civil aviation authority in the country where it is registered. However, as those nations cancelled or suspended the registrations, Moscow directed that leased aircraft should be reassigned to the Russian civil register. As sanctions were imposed last spring, those lessors with aircraft based in Russia tried to retrieve them, ordering their return, a move that was swiftly blocked by the Russian Government.

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A year on, lessors have largely accepted that they will not be able to recover their assets. Dubai-based lessor, DAE, for example, has now written off the value of 19 of its aircraft operated by Russian airlines, as they are no longer under DAE's control. "We proactively addressed the loss of control of our aircraft on lease to airlines in Russia by writing off our net investment," explained DAE CEO, Firoz Tarapore. "We have filed claims of \$1 billion under certain insurance policies and expect to file additional claims to recover amounts due to us." Some insurers have been reluctant to pay out, arguing that the aircraft may yet be retrieved.

As a result, Tarapore said that DAE had initiated legal action against its insurers for losses incurred on the 19 aircraft: "There is no prospect of getting them back in any timeframe. Insurers have to face up to reality," he said. Indeed, it is believed that some lessors would now rather not retrieve their assets, which may increasingly diverge from agreed international maintenance standards the longer they are out of reach. Rather, they are apparently increasingly seeking to write the aircraft off and claim on their insurance policies. If that philosophy is widely adopted, aircraft insurers could face a bill for several billion dollars.

"If we're in this position for many more months or years, the airworthiness and maintenance issues probably make it uneconomic, even if the owners can get them back," said lawyer Simon Phippard of London-based Bird & Bird. "I don't see anyone anticipating the assets coming back in an orderly form." Lessors' concerns have been increased by the growing relationship between Russia and Iran. Iran has long experience of finding ways around western sanctions aimed at its airlines. This has included domestically manufacturing copies of western parts.

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But will unauthorised spares manufactured in Iran be deemed acceptable? "If an aircraft is on the Russian register, it's primarily a matter of Russian law as to whether it's deemed to be airworthy, and which parts are approved for installation," said Phippard. "I assume that, in due course, Russian operators will look to alternative sources of spare parts and the Russian regulator would be responsible for saying that part X, made by a Russian company, or a business from another country friendly to Russia, is approved for installation. "Then you get into potential problems if, objectively, the part is not fit for purpose, if it has insufficient engineering integrity, such as it poses a threat to its safety. "If it's only flying domestically, it's probably a shortcoming in Russian regulation rather than a breach of regulation. However, if [a Russian airline] flies the aircraft internationally, it may be in breach of the Chicago Convention." However, not all nations are signatories to the convention, which lays down basic rules for the international civil aviation sector. The only certainty in this situation is that international lawyers are likely to be wrestling with the matter in courts for years to come.

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WDS2024 – EQUIPPED FOR TOMORROW

BIGGER, BETTER AND BROADER IN SCOPE

With less than a year until World Defense Show 2024, the countdown is on, with the second edition set to be bigger and better with more comprehensive coverage.

World Defense Show 2024 will be held over 4-8 February next year at the custom-built exhibition venue outside the Saudi Arabian capital Riyadh. The show will run over an increased five days and will introduce new participants, new and enhanced show features and a new theme – Equipped for Tomorrow.

Focus on the future

Under this banner, the second edition will showcase the very latest products and capabilities and focus on the emerging technologies and innovations that are shaping the military, security and defense industries. WDS exhibitors from every part of the supply chain – from primes to start-ups and innovators to investors – will be given new ways to connect, collaborate and create a more inclusive industry.

New Features

The show will feature the Space Arena. The evolution of this increasingly important domain and rapid advances in space expertise create the need for collaboration between global government agencies in the exploration and deployment of intelligent technology. The Space Arena will highlight the Kingdom's ambitions to deliver policies, develop technologies and implement a national space strategy for the sector.

The Future of Defense Hub will incorporate the R&D Hub, the Innovation Hub and the Auditorium, which will host presentations, panel discussions and funding pitch sessions, linking innovators to investors, while the Journey to the Future will take visitors on an exciting interactive exploration of never

before-seen technology. A series of dynamic live displays both on land and in the air will demonstrate the capabilities of the cutting-edge equipment on show.

Huge demand for space

The bespoke venue has been expanded to 47,000sqm, creating a larger footprint by introducing a third exhibition hall to satisfy exhibitor demand. The growth will allow the show to accommodate up to 700 exhibitors with a range of new and expanded country pavilions. Even with the extended facilities, exhibition space is already 70% sold or committed. The team has a range of participation options for interested companies across the supply chain and has seen new and expanded country pavilions clamoring for space.

Exploring opportunities in Saudi Arabia

WDS2024 has a unique proposition for the global defence industry. It offers an elite audience of leaders and decision makers from both the public and private sector. The Meet the KSA Government Program and the Delegations Program facilitate face-to-face meetings with ministers, heads of state, chiefs of staff and other high-ranking officials from 115 delegations representing more than 50 countries, in addition to senior representatives of Saudi government and military entities. WDS2024 will introduce a Preview Day, exclusive to exhibitors, delegations and VIPs, offering unparalleled access to investment opportunities in the Kingdom and creating a path to support the Saudi Vision 2030 economic diversification plans. The extended B2B Connect program will also offer unrivalled networking opportunities for exhibitors and visitors.

To discover more about the show in 2024 or to find out about participating options, visit worlddefenseshow.com

Bahrain's boutique has the perfect mix

The return of the Bahrain International Air Show (BIAS) in November proved to be a great success, as Alan Peaford reports.

Like its national carrier, Gulf Air, Bahrain's aviation and defence showcase – BIAS – could be dubbed 'boutique'. Not too big, not too small, but having just the right feel for people doing business... and having fun.

The show has grown since its launch in 2010, but the ethos has not. This event, at the Sakhir Airbase, had the right mix of defence and commercial, with flying displays that truly wowed the 50,000 visitors – everything from night-time pyrotechnic aerobatics from Mark Jeffries' Global Stars through to precision flying by military teams from the RSAF's Green Hawks, the UAE's Al Fursan and the UK's world-famous Red Arrows.

The industry representatives and their wares were there in force.

An unexpected arrival on the static display was the first Royal Bahrain Air Force Bell AH-1Z Viper, which was also the first delivery to a US foreign military sales (FMS) customer.

It comes just four years after Bell and the Royal Bahraini Air Force announced a \$912 million deal for 12 AH-1Zs at the last BIAS.

Six have so far been delivered, with the remaining six arriving soon.

Mike Deslatte, Bell H-1 vice president and program director, described the helicopter as a "game-changer". He said: "The AH-1Z brings a lot of benefits, largely due to the number of different missions it can complete – close air support, anti-armour and, in US Marine Corps configuration, anti-air, so it's quite a versatile aircraft."

The aircraft is also protected against the kind of corrosion that the Bahrain climate will bring.

One of the biggest deals ever at the show came from Royal Jordanian Airlines, which signed a \$1.5 billion package with Pratt & Whitney to power its latest orders for

PICTURES: BILLYPIX.



Viper surprise: Bell's Mike Deslatte says the aircraft is a "game-changer".

Airbus A320/321 and Embraer E2 regional jets.

Bahrain Airport Company (BAC), the operator and managing body of Bahrain International Airport, was also busy signing some \$167 million worth of contracts and accumulated investment.

BAC chief executive, Mohamed Yousif Al Binfalah, said: "Over the three days of BIAS, we have forged important partnerships with leading service providers and strategic partners.

"Investing in our ICT systems, cargo and logistics infrastructure, and duty-free offerings are key components of our growth strategy."

The airport's ambition to become a major cargo hub was clear at the show. BAC is building a new hangar with Gulf Air.

But other players are also expanding. Mena Aerospace announced it is launching an MRO facility, in partnership with Aviance Global, to support the growing narrow-body market and the increasing private aviation sector.

It also signed a partnership agreement with Singapore-based Asia Cargo Network, which will eventually see 13 freighters operating in the region.

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DHL Express was contracted to further expand its local operations, while the booming air cargo market is providing the backdrop for Bahrain-based Texel Air to significantly increase its fleet of Boeing 737 freighters.

On the static line at the show, one of the company's two Boeing 737-700FlexCombis was on display and George Chisholm, CEO of Chisholm Enterprises, Texel Air's parent company, said it is a measure of the strength of the cargo market in the Gulf that Texel Air is to increase its fleet further, by ordering four 737-800BCFs (Boeing Converted Freighters).

Space also made its way to the show.

Bahrain's National Space Science Agency (NSSA) is working hard to bring the kingdom's vision of a sustainable space economy to reality.

As the host of the first meeting of the Arab space cooperation group to be held outside of the UAE, and with a number of memorandums of understanding (MoUs) signed with countries in the MENA region, Bahrain is making giant strides.

Senior engineer Yaqoob Al Qassab said: "Our vision is to put Bahrain at the top of the developed countries in the space sector, and our strategic goal is to develop a sustainable space economy that can stand alone economically, having national capabilities and revenue streams to support itself."

BIAS will return on November 13-15 2024.

Major developments in the Middle East MRO ecosystem, set against ongoing problems in the global supply chain, ensure lively discussions when this year's MRO Middle East exhibition opens on March 1.

Chuck Grieve reports.

BURSTING FOR THE BUBBLE...

WHY MROs ARE BUILDING FOR THE 'LONG BUBBLE' BOUNCE

The MRO Middle East exhibition arrives at a time of dramatic change in the sector, as well as in aviation in general.

The two-day exhibition and conference, with the co-located Aircraft Interiors Middle East (AIME), takes place at the Dubai World Trade Centre. Organisers expect the show – the largest of its kind in the region – to attract more than 4,000 visitors.

Given the number of new aircraft orders in the region, changing patterns of travel, and ongoing supply chain and manpower problems rooted in the pandemic and exacerbated by the war in Ukraine, the stage is set for interesting times, like it or not.

Post-pandemic recovery hasn't gone smoothly for MRO. Dr Stuart Hatcher, chief economist of the IBA Group, observed that delays and costs "are still a problem".

"Lead times are improving but still way off relative to service level agreements, by up to three times," he said. "Parts pricing is recovering but not for things like engine life-limited parts (LLPs)."

Capacity is currently dominating discussions on MRO; there simply isn't enough of it.

Fraser Currie, chief executive of front-row exhibitor Joramco, sees opportunities for organisations with the right type approvals and the right people. Industry consensus, he said, is to "keep building" to be ready for the "long bubble" of work on the coming fleets of new aircraft, notably those of Saudi Arabia.

Big players are getting bigger. Saudia Aerospace Engineering Industries (SAEI) turned heads last year with the size and scale of its new MRO village, an ambitious project being built at Jeddah's King Abdulaziz International Airport (KAIA).

Meanwhile, in Abu Dhabi, ADQ, a diversified holding company and strategic partner of the emirate's government, is finalising a move to create a world-leading hub of MRO services, logistics, supply chain and advanced engineering capabilities by bringing four companies, including Etihad Engineering, under the umbrella of Abu Dhabi Aviation (ADA).

Should smaller players be alarmed? Analyst Jonathan Berger,

Continued
on Page 46



Shop visit: An Etihad Airbus A380 is wheeled into Etihad Engineering's Hangar 4 at Abu Dhabi International Airport. PICTURE: ETIHAD.

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CONTINUED FROM PAGE 44

managing director of Alton Aviation Consultancy, thinks not. “We would characterise the moves to expand capacity as simply meeting the growing demand for quality MRO services,” he said.

For established independent MROs, such as Joramco, cooperation agreements suit the company’s strategy of linking up with others “where we genuinely complement each other”. He cited recently concluded deals with Spirit Aerosystems, an MRO Middle East sponsor, and CAE Aviation Maintenance Training. “Basically there is no need to reinvent the wheel when we can get best practice by cooperating.”

But he cautioned that cooperation has to be beneficial for all; not all proposals will get off the ground.

One that remains grounded for Joramco is the idea of cooperation among the Middle East’s big MRO players, floated in a leaders’ panel at last year’s exhibition. So far, according to multiple sources, the crucial win-win balance has proven elusive.

Working with like-minded companies is also the preferred path of exhibitor Sanad Aerospace, the Abu Dhabi-based engine maintenance specialist, as it looks to expand its global MRO network. Chief executive, Mansoor

TOP INDIAN INDEPENDENT TARGETS MIDDLE EAST

Air Works, a leading independent MRO provider in India, has made no secret of its near-shore ambitions, and plans to further them at MRO Middle East.

In November, SA Air Works, its joint venture with the Scandinavian Avionics (SA) Group, achieved a landmark by becoming India’s first organisation to receive design organisation approval (DOA) under CAR 21 from the Directorate General of Civil Aviation; capabilities it can market to OEMs and operators domestically and overseas.

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“The world could eventually be our market with such approval in our portfolio,” said D Anand Bhaskar, Air Works Group chief executive.

The Indian specialist holds certifications from more than 25 countries covering both narrow-body and wide-body types. It is already active in line maintenance at Dubai International Airport, thanks to a partnership agreement with UAE-based Mach Technik Aircraft Maintenance, signed last May.

This first foray into the international market was hailed by Bhaskar as “a significant strategic development” and a matter of “immense pride”. ▲

Janahi, said in an interview he expected to add CFMI to Sanad’s comprehensive list of partnerships with major engine OEMs.

“Building on all these, and the strategic position of Abu Dhabi, we have a strategy to expand to a global MRO network in growing markets that we’re not in today that can get us closer to our client base,” he said. The Americas are firmly in his sights, but “these are evolving; there is no specific deadline”.

Meanwhile, Walid ElKhafif, the recently appointed chairman and chief executive of EgyptAir Maintenance and Engineering (M&E), sees the “need to work collectively with partners to find solutions and steadily accelerate operations” in the face of global supply chain issues.

ElKhafif sees good potential for growth in Middle East and African start-up airlines, a market that Cairo-based EgyptAir M&E is well-placed to capture with its location, quality of workmanship and competitive rates. He said: “We look at the African continent as the MRO market of the future. It is a great opportunity to serve our African neighbours.”

Airbus subsidiary, Satair, a regular exhibitor, is promoting its new one-stop shop for aircraft ground support equipment (GSE) and tools, one

Amman first: TUI’s Boeing 787 Dreamliners are the first of the type to visit the hangars at Queen Alia International Airport in Amman. PICTURE: JORAMCO.



Cooperation: Satair’s Terry Stone (left) and Joramco’s Fraser Currie used MRO Middle East 2022 to renew a long-standing partnership. PICTURE: JORAMCO.

of a number of investments it made during the downturn.

Bart Reijnen, Satair chief executive, called it “our answer to the increased and very diverse market demand” from operators of mixed fleets, with 70,000 part numbers from 1,600 original equipment manufacturers (OEMs). The expanded tools offering covers the needs of all platforms from entry into service (EIS) to end of life.

Satair also responded to customer demand by launching the Satair Marketplace, a single portal for Airbus proprietary parts, other OEM parts, used serviceable materials (USM) and standard hardware.

Reijnen said Satair’s customers will benefit from these investments and the company’s significant increase in inventory and personnel as the industry transitions to the post-pandemic era. “We have the means to make a step-change in our customer satisfaction,” he said. ▲

INCREASING THE REACH OF REGIONS

What is regional MRO? Joramco’s Fraser Currie suggests it’s a question of semantics and perspective.

“We are all based in regions,” he said, “but increasingly the reach of MROs is expanding as airlines continue to grow and MRO capacity remains somewhat static.

“Some 70% of Joramco’s capacity is for European carriers. That’s significantly bigger than most European MROs. We handle more European work than most independents in Europe.”

Joramco enjoyed a flurry of commercial activity in late 2022. Jeddah-based Flyadeal, a customer since 2018, chose Joramco for a major structural repair on aircraft from the low-cost carrier’s A320neo fleet, while the European leisure airline

group, TUI, expanded its relationship to cover heavy maintenance on its Boeing 787 Dreamliners – the first B787s from Europe to visit the hangars at Queen Alia International Airport in Amman.

New customers include Portugal’s EuroAtlantic Airways and Turkish carrier MNG Airlines.

As Currie sees it, opportunity favours those operations that can expand their business with the right combination of aircraft type approvals and engineering skills. “Standing still is not an option.”

He said: “Perhaps the greatest threat is to those MROs – and indeed airlines – that are not investing the money and resource in training the next generation of engineers. Organisations that rely on simply hiring from established businesses will damage the industry.” ▲

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THE AIME MUST BE TO 'GET CREATIVE'

Aircraft Interiors Middle East (AIME), co-located with MRO Middle East at the Dubai World Trade Centre on March 1 and 2, gives airline decision-makers an opportunity to view the latest innovations in cabin fittings and furnishings from specialists keen to capitalise on the networking opportunities that the show presents. **Chuck Grieve** reports.

Billed as the largest cabin interiors gathering in the MEASA region, this year's AIME coincides with a concerted push by airlines to complete the cabin upgrades and renewals postponed as a consequence of the pandemic.

However, as IBA's Dr Stuart Hatcher notes in the consultancy's 2023 outlook, unsettling global circumstances continue to force airlines "to make difficult decisions" about their fleets.

Event organiser, Tarsus, highlighted several new features for 2023, including an advisory board and speaker Q&A, which allows visitors to ask questions directly to the experts during a live session; the onboard hub, where products and innovations in in-flight entertainment (IFE) and passenger experience (PaxEx) can be displayed; and cabin innovations, which gives delegates an opportunity to pitch their own visionary future cabin ideas to attendees from the AIME stage.

Sessions in the Go-Live! Theatre include panels on customer-centric cabins, investing in high-quality modifications, meeting passenger expectations in connectivity, increasing profit with premium economy, and sustainability in cabin interiors.

Sustainability is an "increasingly strong topic" that Nina Schulz, managing director of the Independent Aircraft Modifier Alliance (IAMA) and a panellist in the Go Live! forum, expects to be prominent in discussions.

She said: "It is important to understand that sustainability in aviation does not stop at fuels or development of new propulsion systems. Cabins play an important role."

Credible measures to support sustainable solutions in the cabin retrofit market is something that IAMA is looking into closely.

With airlines, such as Emirates, investing heavily in full fleet upgrades, premium economy concepts are "probably the winners" amid an uptick in leisure travel.

"In general, we see recovery trends for the modification business," she said. "A number of projects and programmes were suspended during the pandemic and are now being revived."

Schulz said ongoing supply chain issues call for "creative solutions" to mitigate shortages in materials and add value for a more sustainable approach. ▲



Nina Schulz: "Sustainability in aviation does not stop at fuels or development of new propulsion systems. Cabins play an important role." PICTURE: IAMA.



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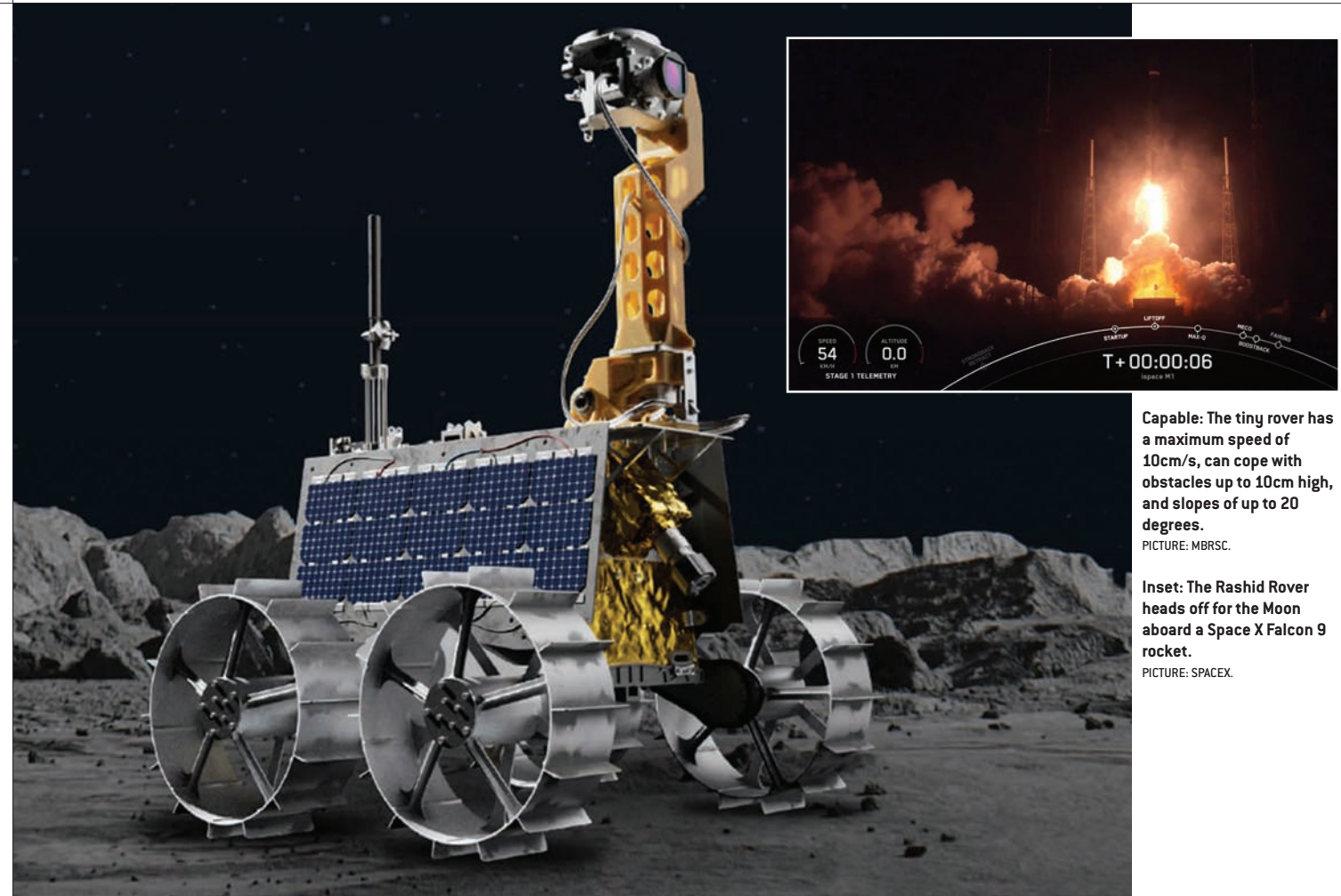


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Capable: The tiny rover has a maximum speed of 10cm/s, can cope with obstacles up to 10cm high, and slopes of up to 20 degrees.

PICTURE: MBRSC.

Inset: The Rashid Rover heads off for the Moon aboard a Space X Falcon 9 rocket.

PICTURE: SPACEX.

ROVING REPORT

UAE RAMPS UP SPACE PROGRAMME WITH MISSION LAUNCH

Steve Nichols looks at the latest space stories affecting the MENA region.

The United Arab Emirates has taken the next step in its space programme with the launch of its Rashid Rover aboard a Space X Falcon 9 rocket.

The UAE-built rover, the first Emirati mission to the surface of the Moon, lifted off from Cape Canaveral Space Force Station in Florida, USA, on December 11 aboard the Japanese lunar lander Hakuto-R, and is now making its five-month journey.

SpaceX's reusable Falcon 9 booster landed safely back on the company's drone ship after delivering the lander to space.

If successful, the UAE will become the first Arab country and the fourth country in the world to land on the lunar surface after the United States, the Soviet Union, and China.

The Mohammed Bin Rashid Space Centre (MBRSC) confirmed that the spacecraft will now take a low-energy 384,400km route to the Moon, rather than a direct approach, with the landing scheduled to take place in April.

His Highness Sheikh Mohammed bin Rashid Al

Maktoum, vice president, prime minister and ruler of Dubai, said that the UAE's space ambitions continue to be realised by "achieving high levels of accomplishment and empowering space cadres to develop the national space sector and consolidate the country's advanced position in space".

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While witnessing the launch from the MBRSC's mission control centre, Sheikh Mohammed said: "The Rashid Rover is part of the UAE's ambitious space programme, which began with Mars, progressed to the Moon, and soon to Venus. Our goal is to increase our knowledge, enhance our capabilities, and leave a scientific legacy in the history of space and humanity."

"Reaching the Moon is a milestone in our ambitious march to progress for our nation and its people, who know no limits. And our next step is bigger and higher."

The Emirates lunar mission is part of the new 2021-2031 strategy launched by the MBRSC, which includes the

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development and launch of Rashid, the first Emirati lunar rover named after the late Sheikh Rashid bin Saeed Al Maktoum, builder of modern Dubai.

Being referred to as one of the world's most compact rovers, the 70cm x 50cm x 50cm Rashid Rover was designed and developed by Emirati engineers from the MBRSC team. It aims to pave the way for humanity to make even more qualitative advances in science, technology, communication, and robotics, while enabling us to prepare for future missions to the Moon and beyond.

If the landing is successful, Hakuto-R will also become the first commercial spacecraft ever to make a controlled landing on the Moon.

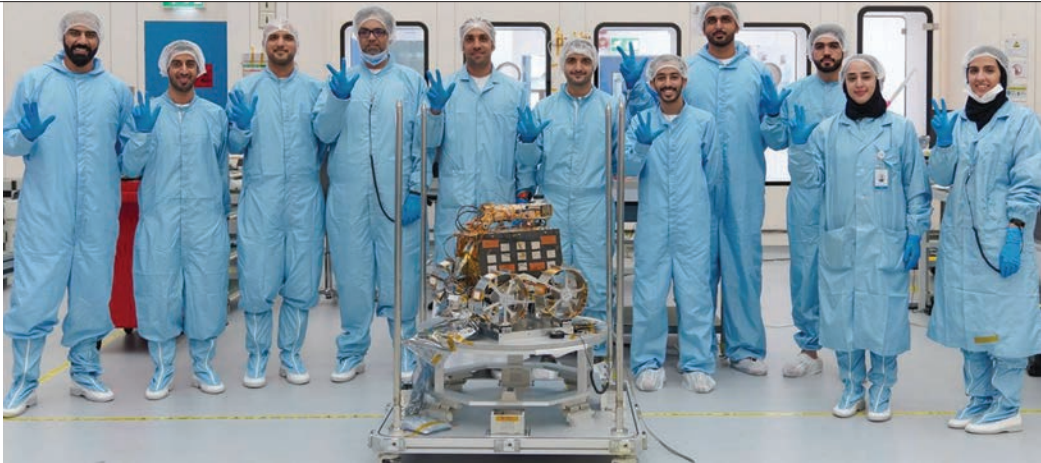
Scheduled to touch down in the Atlas crater on the northeast part of the Moon, the rover has been designed to withstand the lunar night, when temperatures can reach as low as -183°C, or -297.4°F.



The tiny rover has a maximum speed of 10cm/s, can cope with obstacles up to 10cm high, and slopes of up to 20 degrees.

But, before the rover can explore the Moon, it has to land successfully, with more than one-third of lunar landing missions failing.

Only the US, the former Soviet Union and China have achieved a soft landing on the Moon.



Made in the UAE: The proud team behind the Rashid Rover. PICTURE: MBRSC.

Recently, India and Israel have had crash landings.

If successful, the rover will spend one lunar day (equivalent to 14.75 days on Earth) on the surface, conducting its main operations. It will spend a second lunar day conducting secondary operations, to check whether the rover will survive the Moon's tough night-time environment, before decommissioning.

It has 3D cameras, an advanced motion system, sensors, and a communication system that is powered by solar panels. There are four cameras, including two main cameras, a microscope camera, and a thermal imaging camera. Its sensors will analyse the properties of lunar soil, dust,

radioactivity, and electrical activities, as well as the rocks on the Moon's surface.

The rover will also analyse the plasma on the lunar surface and conduct experiments to understand more about lunar dust. MBRSC says razor-sharp lunar dust particles can stick to and erode spacesuits and equipment, causing operational problems for astronauts.

The UAE has plans to send several vehicles, including rovers and orbiters, to the Moon, with a second rover planned to launch in 2025. And its ambitions go much further, with plans to build the first human settlement on Mars by 2117. ▲

SECOND UAE ASTRONAUT HEADS TO ISS

Sultan Saif AlNeyadi, one of the four Emirati astronauts, is due to fly to the International Space Station (ISS) early this year.

AlNeyadi acted as back-up to Hazza Al Mansouri when he conducted his eight-day mission to the ISS in September/October 2019.

AlNeyadi studied in Britain at the University of Brighton, where he received a BSc (Hons) in electronics and communications engineering in 2004.

After going back to the UAE, he studied at Zayed Military College for a year and then worked in the UAE armed forces as a communications engineer.

In 2008, he went to Australia and received a master's degree in information and network security from Griffith University, where he returned in 2011 to complete a PhD in data leakage prevention technology.

Forty-one-year-old AlNeyadi successfully completed his first year of training at NASA's Johnson Space Centre in 2021, becoming officially certified to work as an operator on board the ISS.

He trained in the Neutral Buoyancy Laboratory (NBL), passed evaluations, which included using the extravehicular mobility unit (EMU), maintenance of the ISS, the incapacitated crew rescue (ICR), and completed theoretical and practical training sessions on the T-38 jet.



Sultan Saif AlNeyadi: Granted the NASA astronaut's pin. PICTURE: NASA/ELIZABETH WEISSINGER.

He was granted the NASA astronaut's pin after completing around 20 months of general training.

In 2021, Mohammad AlMulla and Nora AlMatrooshi, the first female Arab astronaut, were selected from 4,305 applicants for the UAE astronaut programme.

The two astronauts joined the '2021 NASA astronaut candidate class' as part of a joint strategic agreement between the UAE and the US, to train at the Johnson Space Centre.

AlMulla spent more than a decade as a helicopter pilot and teacher with Dubai's police force

before applying to join the astronaut corps. He has a bachelor's degree in law and economics and an executive master of public administration (EMPA) from the Mohammed Bin Rashid School of Government.

AlMatrooshi is a mechanical engineer, with a bachelor of science degree from the United Arab Emirates University. She also studied in 2014 at the Vaasa University of Applied Sciences (VAMK) in Finland, and studied Korean at Hanyang University in Seoul, South Korea.

Since 2016, she has worked as a piping engineer at the UAE's National Petroleum Construction Company. ▲

SAUDI ARABIA TO SEND TWO INTO SPACE

Two Saudi Arabian astronauts will travel to the International Space Station (ISS) on a private mission this year, operated by Axiom Space.

The Saudi Space Commission (SSC) has also confirmed that it is to send its first female astronaut into space in 2023 as part of its astronaut programme.

The two Saudi astronauts will be the first from the kingdom to reach the ISS, 37 years after the nation launched the first Arab into space.

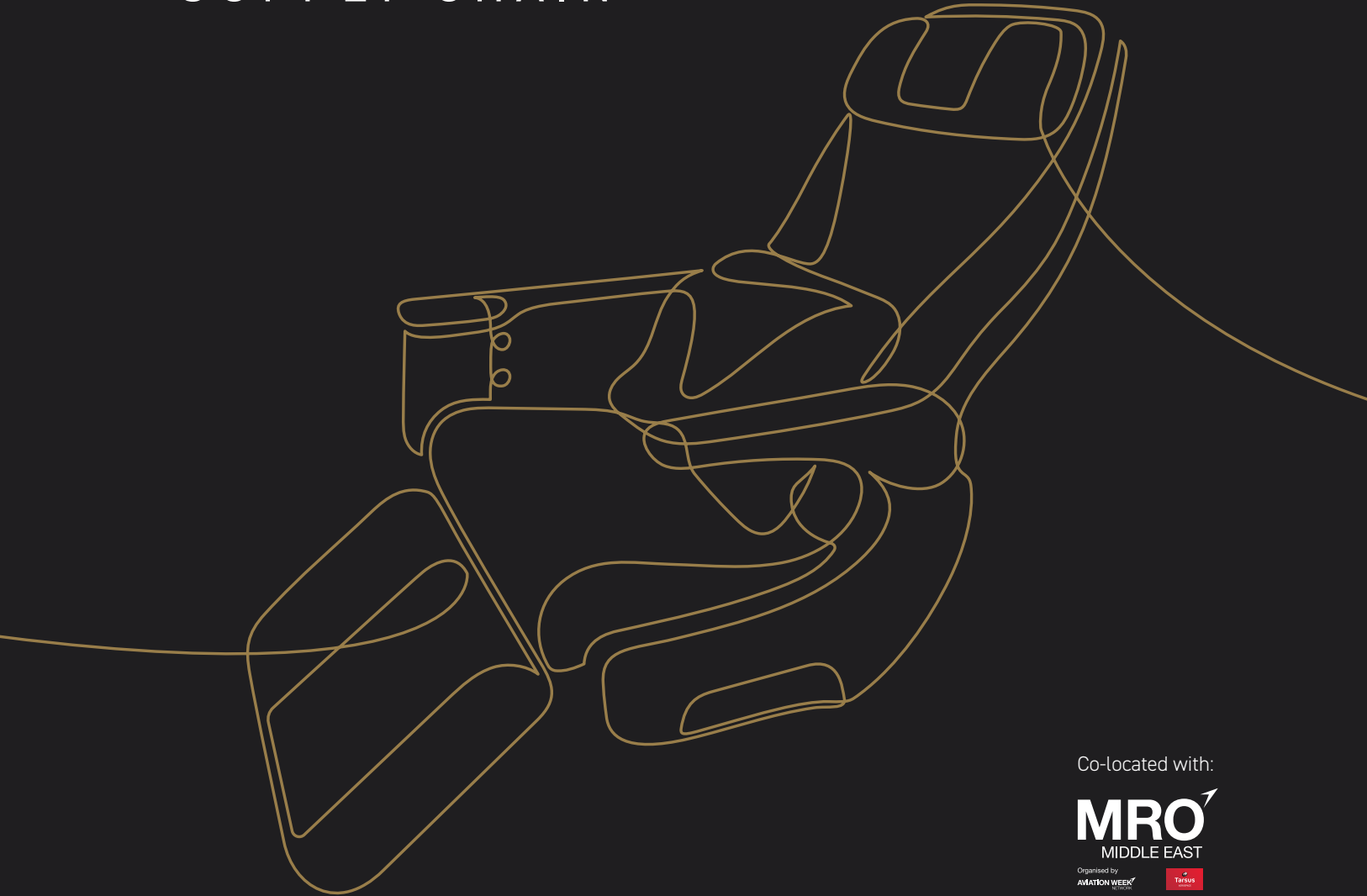
The astronauts, yet to be named, will accompany Peggy Whitson and John Shoffner on the Ax-2 mission, a Crew Dragon flight to the ISS set to launch no earlier than May 1 this year.

The mission will be organised by Houston-based company, Axiom Space, which will collaborate with the SSC to train Saudi astronauts for human spaceflight and prepare them to conduct scientific research in space, while making use of "cutting-edge space technologies and scientific innovations".

The first Saudi astronaut was Prince Sultan bin Salman al-Saud, a fighter pilot in the Royal Saudi Air Force. He was part of the seven-member crew of NASA's Discovery mission, which flew into space 37 years ago on the STS-51-G mission. ▲



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Abdulla Almutareb

Marcelle Nethersole speaks to the CEO of Tahseen Aviation Services.

Can you tell me about what the company does and the sectors it serves?

Tahseen Aviation Services was initially established in Yemen to serve the aviation industry. A few years after it started up, we opened offices in Dubai and Germany.

Our Yemen team handles flight support services, including ground-handling, fuel and permits, in all major airports in Yemen. We ensure quick turn-around time for obtaining permits and clearance, and all other flight requirements.

Our branch in Dubai deals with aircraft charter, aircraft, crew, maintenance and insurance – ACMI – (wet lease), and aircraft management.

The company has been a reliable service provider to government authorities, NGOs, airlines, VIP clients, travel agents, oil & gas corporations, and other charter and flight support companies worldwide.

How easy is it to travel into and around Yemen?

The current situation in Yemen is not ideal, and this is where Tahseen Aviation can provide services to ensure seamless travel.

Yemen is considered one of the “difficult to reach” destinations in the world for foreign operators. It is currently considered a war zone. Hence, not many operators are willing to operate flights to Yemen due to the high war-risk insurance required.

There is also a challenge in paying for airport services rendered in Yemen for operators based in other parts of the globe.

How does your company handle these challenges?

Tahseen Aviation is present in all major airports in Yemen and in the world’s major travel hub, Dubai.

This is an advantage in terms of being able to facilitate requests and payments through our Dubai company and fully provide the services in Yemen, including overflying permits, landing permits, ground-handling and fuel.

We created our business model with the aim to open the gateway to Yemen.

Is business aviation in demand in Yemen?

Despite the challenging situation, there is definitely a business aviation demand.

Tahseen Aviation has operated private charter flights, medevac, cargo, and governmental flights all throughout the year.

What medevac and cargo services do you provide?

We offer air ambulance and safely escort patients to their medical destination. Whether it is for a medical charter for an individual patient, or an urgent mass evacuation, we provide end-to-end aviation solutions.

When it comes to humanitarian and relief air cargo charter, Tahseen is one of the preferred niche companies by world-leading organisations, because of our expertise in handling high-risk and war-zone areas.

We deal with emergency food and shelter, health and medical aid, evacuation, and repatriation.

What sets Tahseen apart from its competitors?

We have been in the market for more than 15 years with a network spanning worldwide.

We are a trusted aviation partner to many operators, flight-support companies, government authorities, NGOs and VIP clients.

Our strong presence in both the UAE and Yemen gives us the advantage over our competitors. Being a Yemeni company, who would know Yemen better than us?

What does a typical day involve for you in your role?

As I am based in the UAE and managing two companies in different locations, I have to ensure both are working in sync.

I am keen in making progress and achieving goals. Hence, I keep an open communication with my teams.

The well-being of Tahseen Aviation employees is important to me. I believe that happy people drive the company’s success. This ensures our clients benefits from the high level of service we provide.



PICTURE: TAHSEEN AVIATION SERVICES



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Saudia Aerospace Engineering Industries (SAEI)

Partnered with the national airline of Saudi Arabia, SAEI serves regional and global clients from a network of more than 50 locations around the globe. For more than 60 years, SAEI has been a regional leader in the provision of aviation services, leveraging technical expertise, logistic capabilities, and supply chain to deliver end-to-end aircraft maintenance, repair, and overhaul solutions.

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