

# ARABIAN AEROSPACE

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

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# Walking the fine line between cost and benefit

**O**ur industry is all about compromise. We can produce comfortable seats with extra seat pitch and provide amazing food – but at a cost. Airline management is constantly agonising over the fine line between cost and benefit.

At the Aircraft Interiors Expo held in Hamburg in April, there was plenty of opportunity to see that balancing act in action.

More airline CEOs than you can shake a stick at were there looking at the latest technologies, gadgets, in-flight entertainment game-changers,

connectivity, seats that can convert into enough bed space to host a Playboy Mansion photoshoot, and on-board lavatories that can do their own sniff test to decide when to let the next passenger in.

And, while some elements were cost-related, others were drumming up new ancillary revenues or increasing the analytics that will better target – or attract – passengers to buy into the individual seamless service that airlines could provide.

Passenger experience really is vital and is directly related to the potential financial success of the airlines.

But some passengers are not getting the experience they deserve.

In the UK recently, an appalling experience on board an aircraft by a disabled high-profile television journalist raised the issue of how airlines help passengers with reduced mobility, or PRMs as they are known in the trade.



Three million flights by Britons with disabilities alone indicate how great the numbers affected are. How many more potential passengers are out there? But, if the passenger can not use the lavatory, then what “experience” will they enjoy.

Both Bombardier and Airbus showed at Hamburg that they have options to make lavs on board wheelchair friendly and enable PRM customers to travel with dignity. The onus is now on the airlines to give up a bit of galley space and take up the options offered by the

OEMs to support this sector of the travelling public.

Customer service and passenger experience have always been important and the Middle East airlines and their Asia Pacific rivals have competed for decades to lead the quality pack.

I am old enough to remember the glory days of the 1970s, when the leader in the field was Bahrain’s Gulf Air. It was the airline of choice for service, comfort and style.

For well documented reasons it lost its way but it is great to see the airline with its new 787 Dreamliners, a new brand and a new business cabin to match.

I hope CEO, Kresimir Kucko’s, vision is realised and we see Gulf Air mixing it again with the region’s best. I think you will enjoy reading about his plans in this issue.

Safe landings.

Alan Peaford, Editor-in-chief

COVER: Gulf Air’s CEO Kresimir Kucko. Picture: Gulf Air

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## Don't close the door on open skies, says Ali

The Middle East and North Africa needs to take "Open Skies" seriously and embrace liberalisation properly was the key message from the Aviation Africa conference in Cairo in April.

Chief executive of the Air Arabia group, Adel Ali warned that some governments were protecting their airlines to the detriment of their national economies. "They may declare they have Open Skies," he said. "But then they put 27 clauses to act as barriers"

Ali said the region has a population of 420 million compared to USA's 325 million and Europe's 508, "and yet Europe has 62 low cost carriers, while the Arab World has just 14 – but most of those have only two or three aircraft because they are not allowed to grow any bigger because they are not allowed to have the traffic rights."

In January, the African Union launched the Single African Air Transport Market (SAATM), and IATA called on the host nation to fully implement the policy.

"It is important to stress here how important full implementation is to realizing Egypt's full economic potential. We also urge other States to follow suit for their benefit and the overall benefit of the region. Protectionist policies by States are not beneficial and actually do more harm than good," said regional head, Adefunke Adeyemi.

Ali also called for Morocco to comply. "Morocco has seen the benefits from European open skies, they should do the same and open up to their neighbours," he said.

Adeyemi also hit out at rising costs.

"There has been a recent proliferation of charges and taxes in the Middle East - \$1.6 billion in extra costs in 2015 and 2016. Three out of the four major global increases are in the Gulf region. But we also see rises in Tunisia, Egypt and other countries. "Excessive taxes and charges affect the ability of aviation to meet demand and impede economic growth. Governments will earn more from tax revenues in the long-term by promoting aviation through lower taxes than they will by excessively taxing the industry in an attempt to plug budget deficits in the short term," she said.



They may declare they have Open Skies. But then they put 27 clauses to act as barriers.

ADEL ALI

### Boost for Trent 1000 sales

Rolls-Royce has won an order from aircraft lessor, AerCap, for Trent 1000 engines to power 10 Boeing 787 Dreamliner aircraft. The deal is valued at \$450 million at list prices.

In addition, AerCap has options for a further five Trent 1000-powered 787s.

The aircraft will be powered by the latest version of the Trent 1000, the Trent 1000TEN, which incorporates technologies from the Trent XWB and the advance engine programmes

contributing to the Dreamliner.

The engine is 20% more efficient and the aircraft will have half the noise footprint of previous-generation aircraft.

### Iran conference planned

Aeropodium is organising the third annual Iranian aviation symposium in Tehran on April 22-23. The keynote speakers will be Dr Farzaneh Sharafbafi, CEO of Iran Air; and Dr Hassan Shafiqi, chairman of the Iranian Association for Scientific Air Transportation.

### Kuwait signs with Safran Nacelles

Safran Nacelles has been selected by Kuwait Airways to provide unscheduled maintenance services coverage and asset management for thrust reversers on the airline's Airbus A330 jetliner fleet powered by Rolls-Royce Trent 700 engines.

Dr Falah Salman, head of Kuwait Airways' special assignment office at the engineering department, said: "Safran Nacelles' footprint in the region provides a very high level of

support and services quality, delivering value-added maintenance coverage for our fleet.

"This convinced us to continue the working relationship, which has been built on trust with Safran Nacelles as the thrust reverser OEM and our services provider."

### Algerian transporter in fatal crash

An Algerian Air Force Ilyushin-76TD military transport plane has crashed, killing more than 250 passengers and crew.

It came down minutes after taking off from the military base in Boufarik, 50km south of the capital Algiers.

The plane, which was flying to Bechar via Tindouf, crashed on to a farm field and burst into flames.

### Financing fund

Following the success of Tamweel Aviation Finance (TAF), Novus Aviation Capital, a Dubai-based aircraft leasing and financing company, has announced the launch of its second junior debt fund dedicated to the financing of Airbus aircraft.

## Qatar signs for 777 Freighters

Qatar Airways has signed a letter of intent with Boeing to purchase five 777 Freighters, valued at \$1.7 billion at list prices.

“This is a significant moment for our cargo division,” said Qatar Airways Group chief executive Akbar Al Baker.

“As the world’s third-largest cargo operator, Qatar Airways continues to invest in fleet expansion. This transaction will be a reinforcement of our confidence in Boeing to continue to deliver an outstanding product that meets our exacting standards. We expect no less than perfection, and we are confident that Boeing will continue to deliver that.”

## Black Hawks join Jordan forces

The Jordan Armed Forces (JAF) officially received the final shipment of new Black Hawk helicopters from the United States in January, bringing the total to 12 aircraft received over nine months.

The helicopters have been acquired to strengthen the JAF, its quick reaction force, and Jordan’s security.

## Wonderful, wonderful Copenhagen lounge

Turkey’s TAV Operation Services has opened its 57th lounge at the Copenhagen Airport in Kastrup. TAV Operation Services will be operating the Primeclass Lounge for 10 years.

General manager, Ali



Iker Ayçi (left) and Tom Enders sign the deal with Presidential approval.

## Turkish Airlines to order 20 A350s

Turkish Airlines has signed a memorandum of understanding with Airbus to acquire 20 A350-900 aircraft with five options. The agreement was signed at the Élysée Palace in Paris, during Turkish President, Recep Tayyip Erdogan’s, official visit to France. The deal was witnessed by French President Emmanuel Macron.

“With Turkish Airlines serving more

destinations than any other airline around the world, we will be delighted to rely on our new A350 XWB to further develop our major international routes from Turkey,” said Turkish Airlines Iker Ayçi, chairman of the board and the executive committee.

“This order is set to play a key role in our growing business in the years to come.”

Bora Isbulan, said: We daily host approximately 13,000 people in 57 lounges operated at 30 airports in 15 countries.

“Our main goal is to become a global airport service provider operating in more places with our adopted business model. We strongly believe that our goal will have a positive contribution to the promotion and reputation of Turkey.”

## New Jeddah route

Air Arabia Egypt has launched a new route linking Sohag in Egypt to Jeddah in Saudi Arabia.

## SACS Boysen has presence in the Gulf

SACS Boysen Aerospace Group has opened a new Middle East sales and technical support office in Abu Dhabi.

The privately-owned German company has been involved in aerospace for some 50 years, through Boysen in the standard hardware sector and SACS, which has a 15-year track record within manufacturing and assembly.

With its warehousing facilities, the company is supporting airlines and MROs in the region, as well

as machining, sheet metallic and assembly parts to tier-1 suppliers.

In 2017, XBAG was added to the group to support the industry with advanced solutions for lithium-ion batteries.

## Tunis engine deal

MTU Maintenance and Tunisair Technics have signed a five-year maintenance agreement for the airline’s CFM56-5B/-7B engines. The contract covers maintenance, repair and overhaul, on-site services and spare engine leasing support.

## Emirates orders 36 A380s

Emirates has ordered 20 additional A380 aircraft and 16 options. The total agreement for 36 aircraft is valued at \$16 billion based on latest list prices. Deliveries are to start as early as 2020.

In the presence of Sheikh Mohammed bin Rashid Al Maktoum, vice president and prime minister of the UAE and ruler of Dubai; and Edouard Philippe, prime minister of France; the agreement was signed on the sidelines of the World Government Summit by Sheikh Ahmed bin Saeed Al Maktoum, chairman and chief executive, Emirates Airline and Group; and Mikail Houari, president Airbus Africa Middle East.

Sheikh Ahmed said: “This agreement underscores our commitment to the A380 programme, providing stability to the A380 production line and supporting tens of thousands of high-value jobs across the aviation supply chain.”

## Tailwind for AMAC

Tailwind Airlines has signed contracts with AMAC Aerospace for its fleet of Boeing 737-400 aircraft to be maintained at AMAC’s new facility in Bodrum, Turkey.

The first aircraft arrived for maintenance in early February, undergoing a C13 check.

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## DXB gets even smarter

Dubai Airports has completed the installation of new and enhanced smart gates at Dubai International (DXB) Terminal 1.

An array of 20 new gates is now fully operational in the arrivals area, in addition to the 10 installed last year in departures.

In total, some 127 smart gates are now available across the entire airport, reducing average transaction times from minutes to less than 15 seconds.

## Booster for Recaro seats

Recaro Aircraft Seating has again received an Airbus supplier support rating certificate.

“This award shows that our long-term strategic planning for strong customer satisfaction is paying off,” said Recaro CEO Dr Mark Hiller. “It is a great incentive to the company and team. An important asset is to be a comprehensive solutions provider.”

## Etihad's bags of good news

Etihad Airways has introduced a new baggage policy tailored to varying international customer requirements.

The changes allow for a simpler baggage structure as the allowance for all markets, excluding the US and Canada, is now based on total weight rather than the number of bags checked in.



## Saudi-led consortium launches connectivity system

Saudi Arabian Airlines (Saudia) is to be the launch customer of a new high-speed connectivity system unveiled at the Aircraft Interiors show in Hamburg in April.

The system is called UON and was announced by Taqnia Space Company at AIX. The company's CEO, Abdullah Alosaimi, said the system meant “all airlines around the world will be able to offer their passengers high-throughput connectivity services that are currently provided in a limited scale by few airlines in North America”.

Taqnia is part of the Saudi Arabian Development and Investment Company (SADIC) and worked in collaboration with

French satellite operator, Eutelsat; Japanese aerospace designer, Jamco; US satellite technology company, Idirect; content deliverers, Axinom; and one of the world's major connectivity specialists, SITAONAIR.

According to Alosaimi, UON gives passengers access to the internet, telephone and live TV streaming services using their own mobile devices with all services billed using a simple, easy-to-use payment system.

Saudia passengers on both long- and short-haul flights will see the system being rolled out over the next three months.

Etihad Airways executive vice president commercial, Mohammad Al Bulooki, said: “The switch to a policy based on weight rather than the number of bags simplifies our allowance system and provides greater convenience and customer benefit while enhancing the travel experience.”

## INA runway ready

Runway number one at Istanbul New Airport (INA) is now ready for take-off.

INA has installed the world's biggest and most

sophisticated airfield ground lighting at its first runway, featuring 34,185 LED lights.

Intelligent lighting makes the visual guiding process easier and improves situational surveillance and aircraft tracking systems. This allows for optimised aircraft routing to and from the gates, a more efficient traffic flow, and an increase in safety.

Around 80% of the initial phase of INA, which is due to open on October 29, is now complete.

## CAE supports Oman academy

CAE has signed a service level agreement with the Omani Authority for Partnership for Development to support the establishment of the Oman Aviation Academy.

CAE will provide operating services to the academy, using its established international standards for aviation training.

Key elements will feature ab initio pilot training, including curriculum and courseware, as well as safety

management and quality control systems. In addition, academy flight instructors will be trained by CAE.

## Flynas opts for CFM engines

Flynas has signed an agreement with CFM International to buy 160 LEAP-1A engines to power 80 Airbus A320neo aircraft, along with a long-term services agreement on a pay-by-the-hour basis. The engine purchase and services agreement are valued at \$6.3 billion at list price.

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## Qatar invests in JetSuite

Qatar Airways has taken a minority stake in JetSuite, and indirectly in JetSuiteX.

The carrier joins JetBlue Airways, which will be increasing its investment, plus a number of private investors, as stakeholders.

Qatar Airways Group chief executive, Akbar Al Baker, said: "We believe that both businesses are complementary to our business and maintain our core values and customer focus. They deliver a truly class-leading service to the US market, with a huge potential for development, and we are very excited to invest in this opportunity alongside JetBlue and the other investors."

## DAE creates investor unit

DAE Capital, Dubai Aerospace Enterprise's leasing division, has created DAE Aircraft Investor Services (DAE-AIS), a separate unit dedicated to servicing the needs of debt and equity investors in aviation assets.

Firoz Tarapore, DAE chief executive officer said: "DAE-AIS will provide a unique offering blending our full platform capabilities with a dedicated service unit led by industry veteran Dan Stone. He will be responsible for growing the assets under management of approximately \$850 million to \$5 billion to address the growing needs of investors in this sector."



## Etihad Aviation Training re-launch

**Etihad Aviation Training has re-launched its aviation training organisation.**

**Based at two locations in Abu Dhabi, Etihad Aviation Training, previously known as Etihad Flight College, is a commercially-focused business open to external customers, while retaining the operational and safety values that have underpinned Etihad's training services to date.**

**Tony Douglas, group chief executive officer of Etihad Aviation Group, said: "Etihad Aviation Training is an ambitious enterprise, pursuing its mandate to provide outstanding training services to a global audience.**

**"The growth of the business will mirror the expansion of the global training market and we are excited about our expanding portfolio of programmes and products. These services are accessible to both Etihad Airways and, now, for the first time, to external customers."**

**Etihad's training arm strengthened with Group CEO Tony Douglas (right) and Capt Paolo La Cava, director of Etihad Training.**

## Emirates' quick response

Emirates SkyCargo has launched Emirates AOG – a new airfreight product designed for transporting aircraft parts quickly across the globe. It is built to respond to the needs of airlines wanting to service grounded aircraft by rapidly despatching critical components that are not locally available.

## Qantas caters to Dnata

Global air services provider, Dnata, has signed an agreement to acquire Qantas' catering businesses. The agreement is subject to approval from the Australian Competition and Consumer Commission (ACCC).

Qantas' catering businesses include wholly owned subsidiaries Q

Catering Limited and Snap Fresh.

Q Catering has centres in four Australian ports – Sydney, Melbourne, Brisbane and Perth – with its largest airline customer being Qantas.

Dnata divisional senior vice president of catering, Robin Padgett, said: "This agreement reflects our confidence in Australia as a market and the on-going growth potential."

## EgyptAir extends WFS partnership

EgyptAir has awarded a new cargo and mail-handling contract to Worldwide Flight Services (WFS) in Amsterdam and Brussels, extending its relationship with the company at both airports.

The three-year contract, which began in March, sees WFS handling cargo and

mail for the airline's daily Boeing 737-800 from Amsterdam to Cairo, as well as its five-times-weekly 737-800 services from Brussels to Egypt's capital city.

In 2017, EgyptAir chose WFS to also provide trucking services connecting Amsterdam and Brussels with Ostend.

## ME freight results mixed

The International Air Transport Association (IATA) released full-year 2017 data for global air freight markets showing that demand, measured in freight tonne kilometres, grew by 9.0%.

This was more than double the 3.6% annual growth recorded in 2016, with Middle Eastern carriers seeing an 8.1% increase in demand last

year. Capacity increased 2.6%. However, having not seen the strong upward demand of other regions in the first half of 2017, Middle-Eastern carriers' share of global demand dropped for the first time in 18 years.

## Interflight expands

Interflight has expanded into the Middle East with a Falcon 2000 under a sales and marketing agreement.


Newly refurbished – both interior and exterior – in 2017, the aircraft will be available from Europe and the Middle East.

## Hawker Pacific sale

Jet Aviation has entered into a binding agreement to pay \$250 million to acquire Hawker Pacific, a leading provider of integrated aviation solutions across Asia Pacific and the Middle East.

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## UPS delivers from Louisville to Dubai

UPS is launching a daily non-stop flight from Louisville to Dubai, reducing time-in-transit between the US and key destinations in the Middle East by a full business day.

The flight, operated with one of the company's new 747-8F freighters, is part of the build up of UPS' smart global logistics network. It comes as the company plans for its role as official logistics provider for Expo 2020 Dubai.

"The UAE trades with all 50 US states and has grown to become the largest export destination in the Middle East. Dubai's importance as a global trade hub increases every day – and we're now getting there a day faster with our small package express carrier and cargo offerings," said Jim Barber, president, UPS International.

## Royal service for JP Jets

Royal Jordanian (RJ) and Jordanian Private Jets Services (JPJets) have signed an agreement for RJ to be the



## Qatar strengthens helicopter force

Qatar has signed a contract for the purchase of 28 NH90 military helicopters. The agreement, which includes 16 NH90s in tactical transport configuration and 12 NH90s in naval configuration, will support the country's plan to modernise the military helicopter fleet.

Qatar will receive 16 H125 light single-engine helicopters in training configuration for operation by the Qatar Armed Forces Air Academy.

Ben Bridge, executive vice president global business at Airbus Helicopters said: "The NH90 is a modern and combat-proven asset that will meet Qatar's demanding operational requirements for decades to come, both in troop transport and naval missions. Our partnership on the new training academy will also strengthen the relationship between our countries by enabling the exchange of expertise and know-how in helicopter operations."

handling agent for all JPJets charter flights operating at Jordanian airports.

Royal Jordanian will provide ground-handling services to all JPJets' charter passenger and cargo flights at Queen Alia International Airport in Amman and King Hussein International Airport at Aqaba. This will include

baggage services, cabin appearance, cargo-handling, warehouse services, and meet-and-assist duties.

RJ president and CEO, Stefan Pichler, said: "This collaboration marks a significant step forward for both companies, delivering the finest VIP services to the private aviation sector

for the ultimate customer satisfaction."

## Spatial deal

Gulf Aviation Academy (GAA) has ordered a Boeing 787 door trainer from Ras-Al-Khaimah manufacturer Spatial, complete with Spatial's virtual slide trainer. The device is due to come into service imminently.

## Engine, go heal the self

British technology giant, Rolls-Royce, is developing an intelligent engine which, it said, would be able to "heal itself". The company launched the pioneering 'IntelligentEngine' vision at the Singapore Air Show.

Based on the premise that engines will be increasingly connected via data links to their operational environment, senior vice-president, Richard Goodhead, said the concept represented a change that is "as big a shift as going from the piston engine to the gas turbine engine".

Goodhead said engines will not just be connected to the manufacturer's support organisation – but will also be linked to the operator's infrastructure and every other engine across the fleet.

"Whereas, in the past, automatic data downloads from the engine would provide information about conditions inside the powerplant, ultimately we could see an engine that has diagnosed what's wrong and is able to fix itself," Goodhead said.

## Test flight for Turkey's Hurkus-B

Turkey's indigenous trainer, the Hurkus-B, successfully performed its first test flight at Turkish Aerospace Industries (TAI) facility.

Engine, avionics, stability and flight-test execution excellence will now be carried out.

After 90 flight hours of planned sorties, the aircraft will take its part in the inventory of the Turkish Armed Forces.

TAI president and CEO, Temel Kotil said: "Herkus-B is 100kg lighter, faster, more modern and stronger than Herkus-A. This version has a more stable and comprehensive design."



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# GULF AIR'S BRAND MASTER

*New branding, a new fleet, the world's best business-class seat and an expanded long-haul route network. Gulf Air's new CEO explains to **Alan Dron** why he is aiming high with his plans for the future.*

**B**ahrain's national airline outlined an ambitious five-year plan in February. It foresees a return to the larger long-haul network that was drastically pruned a few years ago to cut costs.

No fewer than 39 new aircraft will result in a complete renewal of its fleet. And it aims to deliver a business-class product that will out-do even the much-lauded premium cabins of the Gulf's 'big three' – Emirates, Etihad and Qatar Airways.

The man with the task of guiding the airline towards achieving those goals is Kresimir Kucko, who was appointed last November from his former role as CEO of Croatia Airlines. Kucko was with the central European carrier for 25 years and held the top position there from 2012.

Croatia Airlines and Gulf Air share some similarities. Comparatively smaller in size than their regional rivals, they both have a small domestic population from which to draw passengers. Croatia Airlines also used to be loss-making but, under Kucko's leadership, it recorded profits in the five years up to and including 2017. The board of Gulf Air will be hoping that he can achieve a similar result at the Bahraini national carrier.

#### Talking the same language

There are parallels between the challenges facing both, he said. "Especially when operating under the full-service network carrier business model there are a lot of challenges that are similar. In general, we're talking the same language."

Kucko noted that the bulk of last year's profit figure for the global airline industry was made in the US: "In other regions, it's getting better but it's not that shiny at the moment."

One major problem is wafer-thin profit margins. In 2013, he said, airlines were typically making a profit equivalent to the price of a hamburger on each passenger carried. "It was something like \$4 a passenger. Today, we can maybe invite someone for a light dinner."

As a state-run company, Gulf Air is not obliged to release financial figures and has not done so since its annual results for 2015, which showed a net loss of BD24.1 million (\$62.7 million), although Transportation and Telecommunications Minister,

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Kamal bin Ahmed Mohammed, said in summer 2017 that 2016 had not produced such good results as the previous year.

The CEO said that Gulf Air had not been alone in encountering difficult conditions in the past two years. There had been a huge increase in capacity in the region, encouraged by low fuel prices. Gulf Air was aiming for an improved performance this year, he said.

“As you know, it’s a big challenge, a huge challenge,” said Kucko when asked why he had taken up his new position. “Considering what I did in the first 25 years of my career, I think I can contribute to Gulf Air, which has huge potential that needs to be realised.”

In March, the airline announced a new strategy, based on seven ‘pillars’: safety, network growth, innovation, human resources, customer focus, revenue vs. cost and, most significantly, the airline’s role as a contributor and key driver of the local economy.

Kucko has several priorities: “In the short term, it is putting the newly-announced strategy into operation and we need to get everything and everybody ready to begin accepting the new fleet.” Five Boeing 787-9s and two Airbus A320neos will arrive this year.

**Airline of choice**

One of Gulf Air’s strategic goals, he added, is to become the airline of choice – no small task, given the high customer service standards of the ‘big three’.

In the medium term, the challenge will be to manage the new fleet and the expansion of the airline’s route network, while achieving sustainability and maintaining it in the long term: “We need to look at positioning ourselves both regionally and globally.”

In recent years, Gulf Air has focused strongly on building up its role as a regional carrier, aiming to win lucrative point-to-point traffic rather than the lower-yielding transit passengers through its Manama hub that previously formed much of its traffic. Long-haul routes were cut back severely, to just London Heathrow, Paris Charles De Gaulle, Frankfurt, Bangkok and Manila.

Under the new five-year plan, more long-haul routes will be opened up, although there will continue to be a concentration on Middle East flights (with more going to multiple-daily frequency, predominantly to suit business passengers) and also to the Indian sub-continent, which already forms a major part of the airline’s route network.

One medium-haul route, to Baku, Azerbaijan and one long-haul route to Casablanca, Morocco, will start this year. However, the CEO said that Gulf Air would not fall into the trap of over-extending itself: “We’re not aggressively attacking long-haul routes; first, we need to consolidate our home market, the GCC region.”

Servicing this expanding network will be a growing, renewed fleet. No fewer than 39 aircraft

Capt Alalawi with the airline’s new livery.

**Gulf Air’s tourist drive**

**Speaking at the Arabian Travel Market in Dubai Capt Waleed Alalawi, Gulf Air’s deputy chief executive, said the Bahraini airline was stepping up its activities with the kingdom’s department of tourism to encourage more tourists to visit the country.**

**He said he was excited by new opportunities including a number of large weddings from Indian families as Bahrain becomes recognised as a perfect wedding venue.**

**“With the new airport coming, with our new fleet, with new destinations like Baku as well as Abha and Tabuk that are great holiday destinations for people from the Gulf, this is a great time for people to see what Gulf Air has to offer.”**

are due to join the fleet by 2023 – 10 Boeing 787-9s, 17 Airbus A321neo and 12 A320neo, with a price tag, at book prices, of around \$3.4 billion. Gulf Air also has six more 787-9s on option.

Five of the 787s and two A320neos will arrive this year. The influx will gradually replace the current fleet of six Airbus A330s, six A321s and 16 A320s, then considerably expand it.

The first of the 787 arrivals was timed to handover at the Bahrain Grand Prix in April and will handle the double-daily Manama-London route, as will the second aircraft when it arrives immediately afterwards.

**Improvement in fuel-burn**

The US-built aircraft will provide a considerable improvement in fuel-burn over the A330s, but the most important change they will bring will be in terms of passenger experience, said Kucko.

“Our new business class will be ‘best in class’,” he said, adding that the new business-class seat had been benchmarked not against other carriers’ business-class, but first-class, seats. He declined to give further details before service entry, but said that the cabin would be

considerably better than ‘standard’ business-class offerings from other airlines.

“The same goes with the neo. It will have flatbed seats in business-class in the A321s flying the longer routes, such as Paris and Frankfurt.” The airline’s current A321s also have this feature – highly unusual in a single-aisle aircraft. Gulf Air says that the arrangement has proved popular on the Paris run.

As for economy class, the new aircraft will feature what the CEO believed would be “the biggest seat-pitch in the region” with enhanced in-flight entertainment systems and larger seatback screens. “It will be a new level of experience in economy class.”

Amid the fanfare for the incoming aircraft, however, one noticeable absence has been any news of Gulf Air’s plans to acquire Bombardier C-Series regional jets. The aircraft have been on the Canadian manufacturer’s order book since 2012, but just prior to the 2016 Bahrain Air Show, the airline’s former CEO, Maher Salman Al Musallam, cast doubt on whether an airline of Gulf Air’s size could handle a third distinct type in its fleet.

Kucko was reticent on the subject of the Canadian aircraft, limiting his comments to: “We are in negotiations with Bombardier.”


On the marketing front, Gulf Air rolled out its new brand identity at the Bahrain Formula 1 Grand Prix in April. Understandably, Kucko declined to give details before the unveiling, other than saying that it would involve a new logo and crew uniforms, but that the airline would retain its falcon insignia.

“It will be a mix of tradition, inheritance, and a touch of modernisation. I believe the new livery of our aircraft will be very elegant and reflect all the most important values of the company.” ■



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*Moving to the Istanbul New Airport will help Turkish Airlines forget its recent troubles and once again focus on profitable growth, chief executive Bilal Eksi tells* **Martin Rivers.**

# Bilal takes Bul by the horns

**B**ilal Eksi knew he was in for a rough ride when he took on the role of Turkish Airlines (THY) chief executive in October 2016.

His predecessor, Temel Kotil, had won countless accolades during his time in office, presiding over a decade of rapid expansion and rising prestige for the super-connector airline. By the time of Kotil's departure, however, events were conspiring against both the flag-carrier and its home nation.

A failed coup d'état, a wave of terror attacks by Daesh, and a regional slowdown in demand were setting the scene for THY's first annual loss in recent memory. The outlook was so poor that 30 aircraft were grounded and 22 routes suspended when Eksi took over the helm – a dramatic retreat for an airline that had achieved double-digit growth in each of the past 10 years.

And yet, just 12 months on, THY surged back into the black with a 2017 third-quarter net profit of 2.4 billion lira (\$695 million). The flag-carrier's share price has now more than tripled from its recent low, building confidence as management prepare for an historic move to the Istanbul New Airport.

"Actually, the third-quarter result was fantastic. It is the record for the last decade," said Eksi, the former director general of Turkey's Civil Aviation Authority.

"If you look at Turkish Airlines [performance during the] last 10 years, every year we are growing more than 14%. So, 2016, for us, was the exception, because of the security concerns. But, of course, we have learned a lot of

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**“Actually, the third quarter result was fantastic. It is the record for the last decade.”**

BILAL EKSI

CONTINUED FROM PAGE 25

things in 2016. And one of them is to make the network run in a very smart way.”

At the time of writing, many of the routes that THY suspended two years ago remain closed – among them Alborg in Denmark, Münster in Germany, Rotterdam in Holland, Genoa in Italy, Kermanshah in Iran, and Osh in Kyrgyzstan. However, rising demand has seen the flag-carrier re-open stations such as Bordeaux in France, and Gassim in Saudi Arabia. And other markets – such as Havana in Cuba, and Phuket in Thailand – have been launched anew.

Such proactive capacity management allowed THY to avoid shrinking, even during the downturn, with passenger numbers rising by a respectable 2.5% in 2016. That was followed by stronger 9.3% growth last year.

Combined with an increased reliance on wide-body jets – up from 94 to 105 units in an otherwise static fleet of about 290 aircraft – the changes have put the flag-carrier on track for a healthy full-year profit in 2017. And, while much of the credit goes to management, Eksi stressed that all departments pulled together during the hard times.

He recalled with delight how one trade union had asked him to re-open pay negotiations, despite already agreeing to hikes of 4% every six months. Their new demand? Less money.

“They said to us they can accept 2.5% wage growth, because they want to show they are helping our airline,” Eksi smiled. “The amount [saved] is not big, but the motivation and the emotion is amazing. All around the world, unions are requesting more. Our employees stand behind their airline.”

### Sacrifices by the workforce

Happily, sacrifices by the workforce coincided with a vastly improving geopolitical landscape. Having wrought havoc across the region in 2016 – including one deadly assault on Istanbul Atatürk Airport, THY’s home base – Daesh lost most of its territory in Iraq and Syria last year. Seemingly on the back foot, the terror group has not staged any large-scale attacks in Turkey since January 2017. Kurdish militant groups have also cut back their activities. And there has been no repeat of the 2016 attempted coup.

The overall effect has been that holidaymakers are now flooding back to Turkish resorts. Foreign tourist arrivals surged by 28% in the first 10 months of 2017. Officials hope to match the all-time high of 36.8 million visitors – reached in 2014 – this year.

Surging demand could not come at a better time for THY. In October, the flag-carrier will begin moving from capacity-constrained Atatürk Airport to the Istanbul New Airport – a mega-hub designed to be the biggest in the world upon completion.

Plans for a six-runway airport, capable of handling 150 million people a year, remain very much in the blueprint stage. Just two runways will be operational when the gateway opens its



doors. But, because they are parallel – unlike the two at THY’s current hub – the benefits will be immediately felt. “At Atatürk we have the two runways but they cross each other,” Eksi explained. “When the wind is coming from the south, the capacity drops to half. For this reason, the new airport is offering us much more capacity than Atatürk from the first day.”

The new airport’s third runway should be completed in 2019, putting Istanbul on-track to becoming the world’s largest mega-hub. Only Dubai’s Al Maktoum International Airport is seen as a contender.

Eksi admits that shifting bases will be a “stressful” experience for the flag-carrier.

Incheon International Airport Corporation and Copenhagen Airports have been appointed as consultants for the move, assisting with the development of an operations readiness and transfer (ORAT) plan. The precise details had not been finalised at the time of writing, but it is clear the consultants are recommending a “big bang” approach.

“This means changing the airport ORAT [in a] very short time,” Eksi said. “We are discussing how many days – one day or one week or two weeks. It will not take more than 15 days.”

He noted that slots at the new airport will be shared liberally with foreign operators.

Adopting such an open-door policy may increase competitive headwinds for THY, but management believe the indirect benefits of free-market access will outweigh the costs – particularly when it comes to bilateral restrictions. “Our competitors from the other countries can easily find slots in the new airport, and this means that they will offer more traffic rights to Turkey,” Eksi predicted.

Turning to the fleet, the airline boss confirmed that long-awaited plans for wide-body renewal are taking shape. THY currently has just three firm orders for wide-bodies – all Boeing 777-200LRF freighters – but much larger commitments are in the works.

### Possible purchase

Last September, Mehmet Ilker Aycı, THY’s chairman, announced that he was negotiating the possible purchase of 40 787-9s from Boeing. Four months later, he also signed a memorandum of understanding (MoU) with Airbus covering 20 A350-900s plus five options.

Eksi stressed that neither deal has been firmed up. He said the board had issued a tender for 40 firm units plus 10 options – perhaps hinting at a split order between Boeing and Airbus, given the size of the latter’s MoU – and that deliveries should be completed by

**Bilal Eksi: "At Atatürk we have the two runways but they cross each other. When the wind is coming from the south, the capacity drops to half. For this reason, the new airport is offering us much more capacity than Atatürk from the first day."**



2023. "There is not any decision right now," he said. "Whichever is the less cost for Turkish Airlines, we will buy from them."

Things are clearer on the narrow-body front, as THY already has firm orders for 92 A321neos, 65 737-8 MAXs and 10 737-9 MAXs.

Ten of those aircraft will arrive this year, followed by 35 in 2019, 42 in 2020, 35 in 2021, 30 in 2022 and 15 in 2023. The A321neo and 737-8 deliveries will span the full six-year period, while all of the 737-9s will arrive in 2019 and 2020.

At present, THY's passenger fleet comprises 97 A320-family jets, 89 737s, 53 A330s, 33 777s and four A340s. The flag-carrier also operates 15 freighters. Across the broader group, 33 737s are deployed with low-cost brand AnadoluJet, and another 31 with SunExpress, a leisure-focused joint venture with Lufthansa.

SunExpress has its own orders for 32 737 MAXs, but AnadoluJet has no outstanding commitments. Asked about its plans, Eksi speculated that some of the narrow-bodies being retired by THY over the coming years could be refurbished and placed with AnadoluJet. He said that Turkish Seat Industries, another group subsidiary, might be called on to reconfigure the aircraft.

Expansion by the low-cost subsidiary could, in turn, see the group deepen its presence in Ankara's

Esenbo a International Airport – particularly if AnadoluJet is granted independence.

"Today, AnadoluJet is the brand name of Turkish Airlines. It is a dedicated group but it is not a company," Eksi explained. "We are discussing whether to separate AnadoluJet as a company. It is under discussion and the decision has not yet been taken, but the board has requested us to make the evaluation. AnadoluJet, if it is separated to an individual company, can utilise Ankara as a hub."

The Turkish capital already serves as a springboard for domestic air travel, owing to its location in the centre of Anatolia. But the city has relatively few international connections. Both THY and low-cost rival Pegasus Airlines – which also uses Esenbo a Airport – are eager to change that.

Even as he considers a broader nationwide strategy, however, Eksi's attention remains firmly focused on Istanbul.

#### Powerful network

The city's location at the crossroads of Europe, Africa and the Middle East creates a powerful network effect for THY. Its geographical advantage is strengthened by the flag-carrier's high proportion of narrow-bodies – opening the door to thin markets – as well as the allure of political relations with Turkey, an enticing prospect for investment-hungry African nations. The result is that THY now flies to 300 airports in 120 countries – more than any other airline – and management continue looking for new routes.

"We will open three to five new destinations for 2018," Eksi said, singling out Samarkand in Uzbekistan, and Freetown in Sierra Leone. "But, actually, if you look at the map, there is not much space! Mainly, we will increase the frequencies for existing destinations."

THY's appetite for foreign investments has also subtly shifted gears. While it plans to take a stake in Air Albania, the new Albanian flag-carrier being set up with Turkish assistance, no other projects are on the horizon.

"As of today, we have no such intention," Eksi said, when asked about media reports linking THY to various African start-ups. "Of course, some countries and some airlines are coming to us and they are offering to establish a joint venture. If they request some help we are very keen to help them. But, as a policy, the joint venture and other establishment is not on the table.

"You know, establishing airlines is easy... but running airlines is not so easy! You should have enough population, enough network. Otherwise you can lose money very easily."

That focus on commercial viability and financial health will be Eksi's guiding light as he leads the flag-carrier away from its darkest year in recent history. With the imminent opening of the Istanbul New Airport, its future once again looks bright. ■

## Pegasus keeps pace

Like all Turkish carriers, Pegasus Airlines had a torrid time in 2016 as political unrest and terrorism laid waste to its country's tourism sector.

"It's true 2016 was a very catastrophic year for every airline in Turkey," said Emre Pekesen, sales and network planning director at the low-cost carrier.

"The coup attempt and the other security issues affected inbound traffic a lot. But all those issues seem to be solved right now and, for 2017, I can say, it has definitely recovered."

Pekesen was speaking shortly before Pegasus published financial results for the first nine months of 2017. Its figures showed an emphatic recovery, with passenger numbers rising by 14.9% and net profits surging to 492 million lira.

The rebound coincided with what chief executive, Mehmet Nane, described as a "period of renewal" for Pegasus, during which the airline sped up its transition to Airbus A320neos while also shifting capacity towards under-served non-western markets.

"We changed a little bit of our strategy, but it's not because of that crisis. It's more because we have a capacity problem in Sabiha Gökçen Airport," Pekesen said, referring to Istanbul's second airport and the home base of Pegasus.

"Slots are precious in Sabiha Gökçen, so we cut some of our domestic network and put [the growth] in the international sectors. Inbound traffic from abroad was affected by the coup attempt, but outbound from Turkey to international destinations was not.

"The Turkish people travelled more than ever in 2017. That was a good sign for us."

Having last year added six destinations in Russia, Ukraine and the UAE, Pegasus is now stepping up the hunt for new markets. Management are particularly focused on the Commonwealth of Independent States, the Middle East and North Africa.

"Those three regions are bilaterally not open-skies, so it's really very difficult to obtain traffic rights," Pekesen admitted. "But it's worth doing this because they are mostly under-served markets and the competition is less than [in] Europe."

An increased commitment for A321neos will boost access to slot-restricted markets. Pegasus agreed to buy 25 more of the stretched aircraft in December, having already signed for 18 units. That brought its Airbus order-book to 100 A320-family neos, of which 12 have so far been delivered.

Jazeera CEO Rohit Ramachandran aims to make the start of an air journey more pleasant for passengers.



## Jazeera's DIY terminal

*Fed up with your home base's terminal being overcrowded? Build your own. Alan Dron finds out that Kuwait's Jazeera Airways has done precisely that.*

**A**pril saw the first passengers making their way through the doors of a new terminal at Kuwait International Airport.

Not the new main airport terminal – that is not due to come on line until 2021/22. Unwilling to wait that long, low-cost carrier (LCC) Jazeera Airways has constructed its own, dedicated building.

Its new terminal underwent a 'soft launch' throughout April as it gradually moved its operations into the building and ensured that its systems were working satisfactorily.

It is rare for a carrier – especially a relatively small one such as Jazeera, which is acquiring its 10th Airbus A320 this year – to undertake such a project, but it feels that the effort and expense (roughly KD14 million/\$46 million) is worthwhile.

"Kuwait Airport is operating way beyond its design capacity," explained Jazeera's CEO, Rohit Ramachandran. "That's a very important part of our passengers' journey and if the very first experience is an unpleasant one, that doesn't bode well for the whole journey.

"We decided around 18 months ago to take control of that whole passenger experience and began construction in April 2017. Our new terminal will cater for three million passengers annually, of which we currently have around 1.6 million, so there's enough headroom to grow.

"From a passenger's point of view, we wanted to make the terminal experience a very simple and straightforward process to transit through. The goal is to accomplish getting to the gate from the time you enter the terminal in 15 minutes.

### Mobile app notification

"For example, as they enter the terminal, passengers will get a mobile app notification welcoming them and giving directions to the nearest check-in. There will be automated bag-drops both in the car park and in the terminal itself. A combination of Wi-Fi and beacons will direct them to the next step – for example, it will say to them 'You need to be at the gate in 27 minutes'.

"We will have 'e-gates' to help them go through immigration using their Kuwaiti identity card, rather than going through passport control."

Jazeera's new terminal will have two air bridges and two ground gates for aircraft, but the airline is already looking at

acquiring a further two air bridges. Additionally, there will be an airside link between Jazeera's terminal and the main building, to allow passengers to connect between flights.

There were, said Ramachandran, three very strong justifications for spending so much of the airline's money on the new building.

Firstly, it would no longer have to pay BGCA, the operator of Kuwait International Airport, to use the facility. Secondly, it would give Jazeera significant avenues to monetise its own facilities, such as food and beverage outlets and duty-free shops. And finally: "We have additional capacity available if other, like-minded, airlines want to use the terminal. We will certainly consider that, for a fee."

### Expanding its network

Operationally, Jazeera has put on hold its plans of finding a partner with which it could operate long-haul flights, in favour of expanding its own short and medium-haul network.

It is particularly increasing the number of destinations it serves in India; it opened a route to Hyderabad last November and to Kochi and Ahmedabad in January, all of which are out-performing their business plans, said Ramachandran.

There are more than one million Indian nationals working and living in Kuwait and most make regular trips to and from the sub-continent, either for holidays or at the start and end of contracts.

"Previously, around 65% used to go via other points in the Gulf, such as the UAE, Bahrain and Qatar." They now have the option of flying direct to Kuwait.

A major problem in the Kuwaiti market in recent years has been over-capacity and both Ramachandran and Jazeera's chairman, Marwan Boodai, have spoken out in the past about Gulf carriers with huge order backlogs frantically trying to find routes on which to deploy their new metal.

By way of example, Ramachandran said that one full-service UAE-based carrier operated five wide-bodied flights – including an Airbus A380 – to Kuwait daily, while another had no fewer than 12 services each day from Dubai. "Is there enough business for 12 flights a day? Obviously not, but it's better than keeping the aircraft on the ground." ■

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*Air Algérie's new boss, Bakhouche Alleche, tells Martin Rivers he is determined to set the troubled flag-carrier on a better path.*

# RAISING THE FLAG

**A**lgeria's Transport Ministry denied rumours that Air Algérie was heading for bankruptcy in January, insisting that the flag-carrier enjoys the full support of the government, despite its "difficult financial situation".

The intervention followed a series of walkouts by employees, who are angry at new chief executive, Bakhouche Alleche, for freezing planned wage increases. Those pay-hikes had reportedly been agreed by Mohamed Bouderbala, Air Algérie's previous boss, but were axed as part of a newly-launched turnaround plan.

Speaking shortly before the strikes, the airline's top management insisted that boosting on-time-performance (OTP) should be a higher priority than lifting an already burdensome wage bill.

"We have [had] this problem for many years," complained Zoheir Houaoui, the airline's commercial chief. "We have to go to the personnel of Air Algérie and tell them we have to improve."

Alleche emphasised the positive signs that emerged last year – his first at the helm – when the airline's OTP rate shot up to 67% from just 53% in 2015. "We only did what we should be doing [in the first place]," he shrugged. "It's mainly human factors."

But the strikes in January have now reversed those gains, tarnishing the brand and putting management back on a collision course with workers. Given that both sides are refusing to make the first concessions, further industrial action is widely expected.

Whatever happens internally at the company, Alleche and Houaoui are pressing on with efforts to improve the passenger experience – one that is generally seen as lagging behind that of other airlines in the region.

A spate of aircraft deliveries during Bouderbala's time in office kick-started the

renewal process. Eight Boeing 737-800s, two 737-700s, three A330-200s and three ATR 72-600s arrived in Algiers during or immediately before his short-lived tenure, which began in May 2015. The overhaul gave Air Algérie an enviable average aircraft age of just 11 years.

With the oldest 737s dating back to the turn of the century, however, "10 or 12" narrow-bodies are now in need of refurbishment.

"It takes two years to do," Alleche said of the proposed work, which will introduce a standardised two-class layout of 16 premium and 132 economy seats. "We will install in-flight entertainment (IFE) and also replace the old seats with new ones that are lighter and more comfortable."

Work is, meanwhile, under way to introduce a new passenger service system (PSS) linked to Amadeus that will make it easier to keep customers up-to-date about delays and disruption. "In case of a change of aircraft type or cancellation, we can do a mass mailing," Alleche explained. "That is not possible today with the current system."

Turning to operational matters, the chief executive admitted that Air Algérie's network has remained relatively static in recent times.

#### Long-haul destinations

Hungarian capital Budapest became a rare eastern European addition in 2016, but longstanding plans for a connection to Guangzhou, China have failed to take off. Air Algérie currently serves just two long-haul destinations – China's capital Beijing, and Montreal in Canada. Western Europe remains by far its largest market, accounting for 22 stations including nine in France.

Six destinations are also served in west Africa, along with four in the Middle East (Beirut, Lebanon; Amman, Jordan; Cairo, Egypt; and Dubai, UAE). Elsewhere, Moscow in Russia,

Istanbul in Turkey, Tunis in Tunisia, and Casablanca in Morocco complete the network.

Asked about opportunities for growth, the executives said that home continent Africa offers by far the greatest potential – particularly if combined with a new focus on connecting flights.

"We are looking to the south. We want to develop the Africa market," Alleche confirmed. "Maybe Chad, maybe Cameroon, maybe Gabon – Libreville – central Africa."

Houaoui added: "We see it as a big opportunity for Air Algérie also to improve the business with sixth-freedom flows. We had, previously, some issues regarding availability of the fleet and also the crew. Now we can say we are at the level [at] which Air Algérie can make a better performance."

Transforming Algiers into a hub connecting Africa and Europe will not be easy. Regional competitor, Royal Air Maroc, captures most of the flows in its Casablanca hub, and Tunisair is known to be targeting the same model.

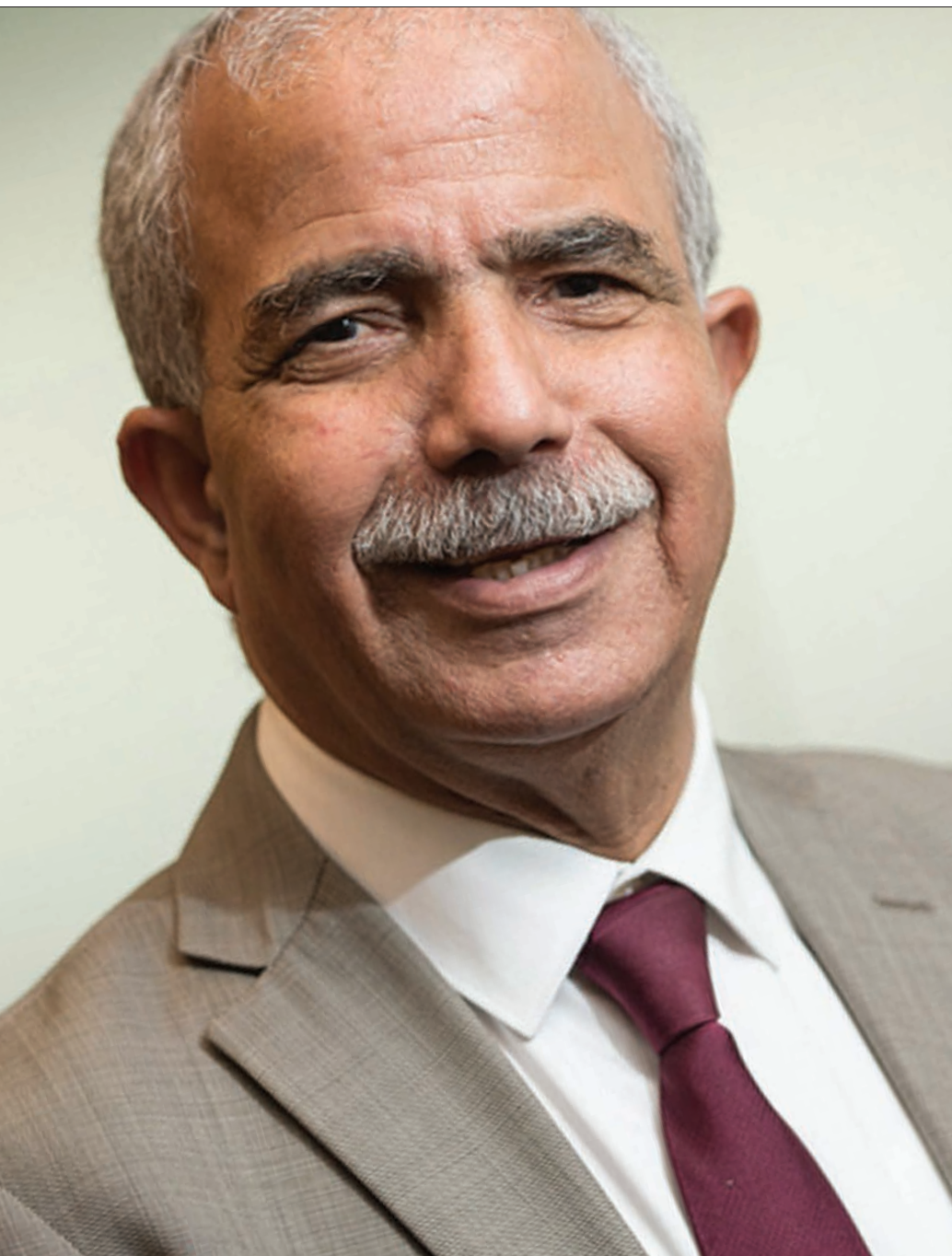
Nonetheless, the development of a new terminal at Algiers Houari Boumediene Airport should give weight to the strategy. The Western Terminal will have an annual capacity of 10 million passengers when it opens later this year, compared to just six million at the existing hub. It will feature vastly improved transit facilities that reduce connecting times between flights.

"The current airport doesn't meet the requirements of the sixth-freedom business," Houaoui admitted. "This is the main problem with the transit [traffic]."

As well as enhancing south-to-north flows between Africa and Europe, Alleche hopes the new gateway will encourage more travellers to stop in Algiers en route to Montreal and Beijing. Further down the road, he believes the addition of New York flights will cement the capital's status as a bridging point for Africa.

"We would launch tomorrow if we had the





right,” he said of the long-awaited New York route.

However, with US certification of Algeria’s Civil Aviation Authority likely to take “at least 18 months” once launched – and with no date set for its commencement – the chief executive is not holding his breath.

Continued expansion of the fleet is another consideration. Air Algérie currently deploys 56 aircraft: eight A330s, three 767s, 24 737-800s, five 737-600s, two 737-700C convertibles, 11 ATR 72-500s and three 72-600s. The recent deliveries mean that renewal is no longer a top priority, but Alleche remains mindful of the need for long-term planning.

“We are working on a plan of development maybe until 2025,” he said. “We think we need another 15 aircraft [for growth] ... including replacement units, all together [the number] is 35 aircraft.”

Narrow-bodies will make up most of the orders, allowing Air Algérie to maintain its focus on short- and mid-haul flying. Within the regional-aircraft space, Alleche said the Bombardier CSeries is among the models being considered to replace eight 72-500s.

“We can stay on the ATRs and maybe get the -600, or change maybe to the CS or Embraer,” he speculated. “It’s not decided yet.”

The flag-carrier’s three 767s – by far the oldest

As we see it now,  
the sky is already open.

BAKHOUCHE ALLECHE



aircraft in its fleet, at 28 years of age – will also be withdrawn from service this year. But there is no plan to source replacements given the recent addition of three A330s.

Asked about the likelihood of Algeria following Morocco’s example by opening its skies with Europe – and what this would mean for the flag-carrier – Alleche seemed perplexed.

“As we see it now, the sky is already open,” he insisted. “The tourist market does not exist in Algeria at the moment. That’s why we don’t have the low-cost companies like EasyJet or Ryanair.”

Houaoui added that competition on French routes is particularly dynamic, with Aigle Azur, Air France, ASL, Vueling and Transavia all fighting for market share. While true, Air Algérie nonetheless commands 59% of seating capacity in the country-pair – an advantage that would almost certainly crumble if bilateral restrictions were abolished.

#### Financial health

Instead of boosting foreign competition, Alleche believes the state should focus on improving the financial health of its ailing flag-carrier.

Lifting restrictions on ticket prices would be a good start, he said, noting that management are currently forced to seek government approval before setting internal fares. “We are losing money mainly on the domestic flights,” he complained. “We cannot charge the fare [we want] on the domestic flights.”

The opening of Algeria’s East-West Highway strengthens the case for free-market pricing, as travellers now have a cost-effective and convenient alternative to domestic air travel.

However, persuading both the state and its citizens to turn their backs on decades of socialist tradition is not easy. With Air Algérie bracing for more staff walkouts, management have yet to convince even their own employees about the best path forward.

# A market ready for optimized fleets

## In the Middle East, right-sizing is unlocking profits

Airlines in the Middle East are renowned for operating large, long-haul aircraft linking all parts of the world through modern, gleaming hubs. Closer to home, however, and despite their long-haul expertise, their intra-regional services have yet to achieve maximum connectivity and profitability. The culprit? A lack of fleet optimization; most carriers do not have the right-sized aircraft to unlock the business potential of these short and medium-haul routes. Approximately one-third of the world's population lives within a four-hour flight radius in the Middle East and the region is poised to see robust economic growth. Are airlines leaving cash on the table?

### FLEETS FIT FOR PURPOSE?

In the Middle East, wide-body and large single-aisle aircraft compose 95 percent of the fleets of the main network carriers. Within their large single-aisle fleets, many carriers have chosen to offer a substantial number of premium seats (averaging 16-24 seats), thus reducing their average overall capacity to below 140 seats.

Overcapacity in the premium cabin has put pressure on yield, which declined by 15 percent in the last 4 years. While offering added comfort to passengers, breakeven becomes difficult, even with very high load factors. To restore profitability airlines must seek to right size with the most efficient small single aisle aircraft.

### SIGNIFICANT GROWTH POTENTIAL FOR A RISING REGION

The prospects for the economy of the region are considerable. According to the World Bank's report, Global Economic Prospects 2018, growth in the Middle East and North Africa region is expected to accelerate to 3 percent in 2018 and 3.2 percent in 2019. The report also forecasts the GCC (Gulf Cooperation Council) economies to be among those with stronger growth in the region, "supported by easing fiscal adjustment, infrastructure investment such as the UAE Expo 2020, and reforms to promote non-oil sector activity."

Economic growth (GDP) has long been recognized as the primary driver of air traffic demand. Based on forecasted economic growth in the region, air passenger traffic on intra-Middle East flows will rise to become the fifth largest in the world.

### MAKING UP FOR MISSED OPPORTUNITIES

IATA figures published in October 2017 show that 75 percent of intra-Middle East routes have a sector length of less than 700 nm. Moreover, routes in the region are highly competitive with 95 percent of the top 200 being served by more than one carrier, with a quarter having at least four operators. On the other hand, more than half of all intra-Middle East routes have fewer than seven flights a week. Of those flights, the average number of passengers is below 100. This fleet arrangement is putting negative pressure on passenger yields and subsequently, the profitability of the overall carriers.

Since the turn of the decade, the expansion of the intra-Middle East network has trended towards smaller markets every year. In the last four years, all new markets launched have involved destinations with fewer than one million passengers a year. Again, this is far from ideal with fleets of larger single-aisle and widebody aircraft.

Aircraft which are right-sized for these markets, with the new generation of more efficient engines, can almost match the per-seat costs of the larger single-aisle workhorses. However, because of their lower seat count, they reduce considerably the trip cost of each flight sector.

### ALL-AROUND BENEFITS

With the per-seat cost close to the larger single-aisle models, fares attractive enough to the cost-conscious traveler can still be offered. The business traveler, meanwhile, benefits from the increased frequencies which these right-sized aircraft enable. Finally, airlines will profit from all travelers having better access to long-haul services through their hubs.



The lower trip costs of aircraft optimized for this market segment also enable airlines to introduce new routes with less risk. If they grow well, additional capacity can be added either by extra flights or by using larger single-aisle aircraft at certain times of the day. Right-sizing is not all about replacement.

All new services carry some risk, of course, but with right-sized aircraft, airlines can give them more development time. If a route does have to drop after its planned development period, the fact that the operator has given a service plenty of opportunities to become established – rather than a short trial and rapid withdrawal – reduces potential damage to the airline brand.

### INCREASED PROFITABILITY FROM THE PREMIUM CABIN

Beyond the operating cost benefits of right-sized aircraft being deployed on intra-Middle East routes, optimization of the seating configuration can bring further yield advantages.

While the culture of flying with low-cost carriers has begun to take hold in the Middle East, there is still considerable demand for the high-quality service to be found in a business class cabin. Data from *Flightglobal's* Fleet Analyzer shows that on the large single-aisle aircraft currently used for intra-Middle East flights, the number of business-class seats – ranging from 16 to 24 – is far higher than required. The occupancy level of these seats is 50 percent.

Consequently, the use of right-sized aircraft will enable the premium cabin to be optimized with between eight and 12 business class seats, thus doing away with the wasted space taken by those large empty seats with their increased legroom. At a time when business passenger yields have been under pressure – down 15 percent over the last four years according to IATA figures – the value of maximizing the overall onboard real estate will be truly significant.

### RIGHT-SIZED AIRCRAFT, MAXIMIZED YIELDS

The intelligence accrued by the airlines of the Middle East from many years of long-haul operations now needs to be utilized on their intra-regional services. Significant potential revenue remains untapped because fleet configurations could be easily optimized. New aircraft families, designed and upgraded to deliver higher yields at lower costs are now available. It is the right time for these right-sized aircraft in the Middle East.

The clean-sheet design of an airplane like the C Series allows very efficient small single-aisle aircraft specifically optimized for the mission. With a reduced business class cabin (8-12 seats), the C Series CS100 and CS300 will be the best right-sized aircraft to increase connectivity, open new routes, and more importantly, make a profit.

**Jean-Paul Boutibou** Vice President Sales, Middle-East & Africa  
Commercial Aircraft Bombardier

*While Etihad Airways itself has been struggling of late, with losses from fuel hedging and disappointing results from investments in other airlines, its cargo division has been holding the line.*

**Tom Pleasant** spoke to Justin Carr, vice president cargo, to find out more.

## End of the line for Etihad's A330 freighters

**E**tihad Cargo was forced to ground its five A330 freighters earlier this year due to its parent's difficulties. The decision came despite the cargo division meeting its targets and Justin Carr, vice president cargo, confirmed there is little chance the aircraft will return to service.

"We made a conscious decision last year to look at what fleet size and composition best suits our short- and medium-term plans. The outcome of that was pretty clear: the Boeing 777 is the right aircraft for those plans.

"As for the A330s, our fleet-planning team is dealing with them and I don't foresee them coming back into service, certainly not under Etihad colours."

To be fair, many operators have struggled to make the A330F work as well as they had hoped, with the 777F becoming a popular alternative. Etihad already has five 777Fs and will accept a sixth by the end of the year. Those are largely being used east-west, but north-south demand is also strong, which justifies services to and from points in Africa.

"Africa is still an interesting proposition for us and represents a good growth area due to Abu Dhabi's geographical location," said Carr. "Our freighters operate three times a week out of Nairobi, along with belly capacity on our passenger services, and we recently relaunched a freighter into Johannesburg. Still, for freighter deployment, our preference would be to have them where we have the majority of our passengers, and that still remains on the east-west corridor."

Meanwhile, belly capacity continues to be an essential resource. "Our belly load factors are high," he said,

"certainly higher than most numbers in the industry. So, when we rationalised our fleet and redeployed passenger aircraft to key locations, that was made collectively with our passenger divisions [to take into account] cargo capacity."

As with other airlines, Etihad is working on developing specialist products to serve particular verticals, such as pharmaceuticals. "We have some really exciting developments we'll be able to punch out quite soon in the pharmaceutical and fresh-produce sectors," Carr revealed. "We're also developing, along with key stakeholders, products to support the oil and gas industry."

In terms of infrastructure, the Abu Dhabi Midfield Terminal, due for completion in the final quarter of 2019, will provide Etihad with plenty of room to grow. "It's certainly going to be an iconic symbol of Abu Dhabi and something that we'll be extremely proud of," said Carr. "Such a large infrastructure development will certainly have an impact – not just on the airline but also the cargo process and plans going forward."

### Economic stability

The new terminal is part of Abu Dhabi 2030, the 22-year strategy to secure the emirate's long-term economic stability. As the flag-carrier of Abu Dhabi, Etihad is obviously part of that vision.

"Our short-, medium- and long-term cargo strategies are to ensure that we embrace that [vision], but we also need to be profitable. Our proposition fundamentally stays the same, in that we have specialist products and services for our key customers, but the interpretation of that is going to change over the next few years."

That degree of cross-industry harmonisation is sadly lacking within the air cargo industry as a whole, something Carr was reminded of at the recent International Air Transport Association (IATA) World Cargo Forum in Dallas.

"There's a lack of standardisation and collaboration in the industry. Air freight, by its nature, is time-sensitive and, therefore, speed is a key driver. Airlines and freight forwarders do their best but, in certain countries and regions, the customs regime, cargo-handling and infrastructure slows everything down, hampering the effectiveness of the whole air freight product.

"It's got a lot better over the last few years," he added, "but across the industry, collaboration needs to take us to the next level. The biggest game-changer will be digitalisation, but there will have to be open sharing of information to produce the big data needed to be effective."

**Etihad Cargo has opted for the Boeing 777 instead of the A330.**



**Tom Pleasant** finds out why Dennis Lister, Emirates SkyCargo's VP cargo commercial development, is optimistic about prospects for the future.

# LOADS OF POTENTIAL...

**E**mirates SkyCargo has been the region's leader in air freight for years. However, a global slump in demand and neighbouring airlines' rapid growth in the field has affected the division's results. Cargo tonnage was 2.5 million in 2017, down slightly from 2.6 million the year before.

Nonetheless, Dennis Lister, vice president cargo commercial development, is optimistic. "Last year was very interesting for us," he said. "After what had been a few challenging years for cargo, we saw an important resurgence in demand for capacity starting towards the end of 2016 and continuing all the way through 2017, which resulted in improving yields. We expect demand to be strong in 2018."

As competition from other Arabic airlines increases, Emirates has started a programme of investment and partnerships that it hopes will keep it ahead of the pack. Notably, it signed a memorandum of understanding (MoU) with Luxembourg's all-freighter carrier, Cargolux; an unlikely collaboration that Lister says is "working well".

## Operational partnership

"We announced the start of the operational partnership in May last year and followed it up with the cargo codeshare announcement in October. It's a unique deal within the industry: you have two industry leaders in air cargo working together in a win-win scenario. We have access to Cargolux's 747-freighter capacity and Cargolux has access to [the belly capacity] on our global, high-frequency passenger network."

It's also a less capital-intensive way to have freighter capacity, considering Emirates, like many carriers around the world, had to shrink its freighter fleet in January this year.

It returned its two 747-400ERFs to Belgium's ASL Airlines, leaving it without a nose-loading freighter, a vital design type for a lot of over-size cargo.

That leaves the division with 13 777Fs leased from



**Dennis Lister:** "We wanted to develop a secondary cargo footprint close to Amsterdam to diversify and build up our base in the region."

Dubai Aerospace Enterprise. These continue to be deployed to the main hubs, such as Amsterdam and Kenya, but now include less usual destinations, such as Maastricht (the Netherlands).

"We did a lot of groundwork and research before we launched our freighter services to Maastricht," explained Lister. "We wanted to develop a secondary cargo footprint close to Amsterdam to diversify and build up our base in the region. So far, demand has been good. It's still early days, but we'll keep monitoring market conditions and adjust our offerings accordingly."

Other new destinations for cargo, whether via freighter or belly, include Newark (US), Phnom Penh (Cambodia), Santiago (Chile), Stansted (UK) and Zagreb (Croatia).

As well as partnerships and changes to its fleet, Emirates has also initiated a comprehensive range of investments in specialised air cargo products.

## Transportation of pharmaceuticals

For example, transportation of pharmaceuticals is a growing segment, one that is high-value and low in weight. But each consignment is incredibly susceptible to fluctuations in environmental conditions. Leave a ULD container on the tarmac for a minute too long and a consignment of vital anti-cancer medicine, worth \$1,000s per unit, is suddenly worthless.

Lister says Emirates has introduced blankets, dollies and dedicated transit corridors at key stations across the network. "We started off with our pharma product – Emirates Pharma – and since its launch we've seen volumes grow by about 38%," said Lister.

Other vertical-specific products include Emirates Fresh for moving perishables and Emirates Wheels for moving high-value automobiles.

"We've seen good growth in the uptake for these products as customers are now quite specific about how they'd like their cargo transported," Lister added.

Like all carriers, the division is looking at how to better handle e-commerce shipments for the ever-growing trend of online shopping. So far, most carriers haven't been able to provide the kind of service the likes of Amazon and Ali Baba want. That's driven Amazon to launch its own freighter fleet – Prime Air – that will reach 40 by the end of 2018 and, it's rumoured, up to 100 by 2023. Like everyone else, Emirates hopes to grab some of that market share.

"The time has come to offer more than just raw capacity between airports," said Lister, "which is what is happening in the industry currently. We'd like to combine the network and frequency strengths of Emirates SkyCargo to offer something along the lines of a 'flying fulfilment centre' for e-tailers. It's still early stages but this is a focus area for us."

**Emirates has introduced blankets, dollies and dedicated transit corridors at key stations across the network.**



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When four Arab countries decided to close their airspaces to Qatari aircraft last year, it had a massive effect on Qatar Airways. Tom Pleasant found out more from Guillaume Halleux (right) the airline's chief officer cargo.

## Qatar builds on the blockade



"Everybody was taken by surprise," admitted Guillaume Halleux, talking about the blockade of Qatar imposed on June 5 last year. "It was a massive challenge, but undeniably it created opportunities for us."

The decision by Bahrain, Egypt, Saudi Arabia and the UAE to close their airspaces to Qatari aircraft not only eliminated the airline's two largest cargo markets – Saudi Arabia and the UAE – but also its access to Bahraini airspace, which until then it had regularly flown through as its own airspace is so small.

"For the first 30 days," Halleux explained, "we operated 15 charters per day on top of our regular activity, purely for the food programme. At the same time, the passenger activity was redeployed, mainly to Beirut, Kuwait and Muscat, which became markets with a lot more capacity than before and allowed us to generate business opportunities."

### Growing its network

Qatar Airways was already growing its cargo network and investing heavily in new products and additions to its fleet before the blockade was imposed, but the restrictions haven't slowed its plans. It carried 1,153,825 tonnes in financial year 2017, over the 954,191 tonnes in 2016, and Halleux expects that trend to continue.

"Business was amazing in 2017," he said excitedly. "It was another record year for us with continuous growth. We received two 747s toward the end of the year, at the ideal moment, so we've been very fortunate. We expect 2018 to be just as good."

It would be easy to suggest this growth is only thanks to

the blockade, but it is also due to network development. Halleux said Qatar Airways is now one of the top five airlines that can truly negotiate and cooperate on a global level. "Customers are increasingly looking at global approaches but not everybody can do it – Emirates, of course, Lufthansa, IAG, Air France-KLM group, and that's about it. And now us."

Along with the network is the fleet. The airline currently has 23 freighters: 13 777Fs, eight A330Fs and two 747-8Fs. It also has another eight A330Fs and two 777Fs on order. The first 777F will be delivered in July and the second in November, although Halleux refused to reveal where they would be deployed.

"We wish we could get four or five more, because there's the demand for it, but we're currently assessing our [entire] fleet strategy for the next five years. One must not underestimate the impact of belly capacity, because the passenger aircraft play a massive role in our capacity; about 50% is carried on them."

### Vital part of the airline

Despite the high proportion of freight being carried in passenger belly holds, Halleux says freighters will continue to be a vital part of the airline, but recognises they don't always work for some companies.

"In a previous life, I worked at Air France KLM, which was de-investing from freighters. The reasoning was that since 90% of the commodities in the world travel in the belly, you don't need freighters. That reasoning works, but only for a country that has a natural market of export and import.

"We import everything, and we export nothing. For us, freighters are feeders, the same way that British Airways would feed London Heathrow with trucks coming from Germany. It's the same model, just bigger."

Some of Qatar's particularly strong cargo routes include Hong Kong, where it operates 23 freighter flights to per week, Chengdu, with between five and seven per week, and, most recently, Ho Chi Minh City, which has grown from two freighters per week 18 months ago to seven.

Fresh food remains a common vertical, as well as live animals, cars and heavy lift for the gas industry, but Qatar's big success has been pharmaceuticals. Its new dedicated climate-control centre handles about 285,000 tonnes of the cargo type every year.

"We've become a market leader and we are extremely proud of it.

"Who would have thought, a few years back, that one of the leading hubs of pharmaceutical products would be in the middle of the desert in the Middle East?"

*Fifteen MENA region airlines have signed a 10-year framework agreement with global merchandising company, Amadeus, for innovative distribution services.*

*Vincent Chappard and Anuradha Deenapanray report.*

# Amadeus in tune with AACO



**The whole industry is moving toward a more integrated system. We want to be at the heart of that trend.**

**MAHER KOUBAA**

**T**he Arab Air Carriers Association (AACO) has negotiated a new deal with Amadeus, a technology partner and transaction processor for the global travel and tourism industry.

The 15 airlines covered by the deal flew 110 million passengers in 2016. They will serve more than 1 billion passengers during the lifetime of the contract.

Working together with Amadeus, they will explore how they can further develop and maximise the potential of its travel agency network, including enhanced merchandising and retailing capabilities.

The framework deal came about because there's a need for ongoing technological innovation and improved skills to drive global travel volumes – particularly when faced by geopolitical and security issues.

In addition, booking of core travel elements needs to be made more straightforward and efficient through a better interconnectivity of different travel modes and services.

#### Essential solution

Digitalised services are an essential solution to gain a more competitive edge. Airlines have to look at their home markets and their distribution worldwide to respond efficiently to the whole ecosystem.

AACO secretary general, Abdul Wahab Teffaha, said: "This efficient, long-term agreement with Amadeus represents a landmark for a number of members, giving them a technology partner dedicated to supporting new business strategies."

Amadeus has recently obtained its International Air Transport Association (IATA) new distribution capability (NDC) certification. It has done extensive work on the IATA one order standard, which aims to standardise the

communication between airline order management, revenue accounting and delivery providers.

Amadeus will, thus, equip participating AACO airlines with tools to pursue the right distribution strategy to meet their individual business goals.

"For the participating AACO members, the partnership will drive economies of scale, technological efficiencies and support the airlines' vision for distribution in the future," said Maher Koubaa, Amadeus VP head of airline group Middle East and Africa.

"Whether their focus is on providing travellers with a premium product, capitalising on the region as a hub between Asia and Europe, or pursuing a partnership approach, airlines see the value in an omnichannel distribution strategy to maximise their sales with travellers across the world."

Koubaa stressed that partnership and cooperation are key elements for Amadeus to improve passenger experience, enhance the brand activity and maximise revenues of airlines. "As a technology provider and a customer-centric organisation, we not only serve our clients but drive their businesses as their partners," he explained.

"The whole industry is moving toward a more integrated system. We want to be at the heart of that trend. Technology is of the utmost importance and partnership is the way forward. That's why we are promoting synergies to satisfy airlines and passengers."

#### Competency centres

Amadeus is also creating competency centres to support airline activities.

Booking remains a main challenge for Amadeus as customer experience is becoming more and more embedded in the industry. It is working on a hybrid system to provide booking facilities for both business aviation and commercial bookings.

The AACO agreement comes at a time when traffic is growing more and more from west to east. Amadeus wants to power this shift.

"The airlines in this vibrant region are preparing themselves to face the growing challenges and competition as the travel industry continues to outstrip world GDP growth. This trend will continue for the foreseeable future," said Koubaa.

After three decades in business, Amadeus continues to invest in its platforms, ensuring that they are capable of delivering the flexible shopping experience demanded by modern travellers and its customers around the world.

With 46 airlines and 1.3 billion passengers boarded in 2016 Amadeus, which has a presence in more than 190 countries, shows that the "indirect distribution model is a powerful and efficient tool".



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Air Italy's new livery, seen here on an artist's impression of one of its new Boeing 737 MAX 8s, combines Qatar Airways' signature maroon and a blue-green said to represent the Mediterranean Sea off the coast of Sardinia, the airline's home.

# Qatar's Italian job

*Qatar Airways' now-finalised involvement in Meridiana – for many years Italy's 'second airline' – will see the Italian airline adopt a new identity and potentially challenge beleaguered flag-carrier Alitalia.*

**Alan Dron**  
*reports.*

It was the sort of press conference that combative Qatar Airways CEO, Akbar Al Baker, relishes. Air Italy, the newly renamed and rebranded Meridiana, he said, would put the cat among the pigeons in the Italian market.

Qatar Airways has a 49% stake in a new holding company overseeing Air Italy and intends to have a major influence on the Italian airline – notably by leasing it around 50 aircraft over the next five years that will more than quadruple the size of the Sardinia-based company.

"I know we have already caused a lot of excitement in the industry," said a smiling Al Baker at the Milan news conference announcing the rebranded airline's plans. "Excitement not in a positive way – in a negative way, because now [other airlines] will have different competition."

Interest from Qatar Airways in the then-Meridiana began in 2015. Having made heavy losses for several years at the turn of the decade (the company's owners made it private in 2015 and up-to-date details of its financial status are unknown) it seemed an unlikely partner for Qatar Airways.

However, Al Baker seems to have seen something in Meridiana that most people did not. At the Arab Air Carriers' Organization (AACO) AGM in Casablanca in 2016, he commented that:

"If we didn't have confidence that we could turn it around quite quickly, we wouldn't be interested. We see there's huge potential in Meridiana; it's the second national carrier of Italy and it's not burdened with as much debt as people think."

Despite being Italy's second-largest airline, it is almost unknown among the travelling public outside its homeland. So, the more readily recognizable Air Italy name has now been adopted.

Qatar Airways' influence on the revamped airline is immediately obvious. The Arab carrier's distinctive maroon branding is prominent in Air Italy's new livery (the accompanying bluish-green is said to represent the colour of the sea off the Costa Smeralda, Sardinia's northeast coast that has become a popular holiday destination).

Meridiana's recent history has seen its fleet shrink from

27 aircraft in 2014 to just 11 today, made up of eight Boeing 737NGs and three 767-300ERs. The last of a batch of elderly McDonnell Douglas MD-80s has just left the fleet. However, there will be an immediate infusion of new aircraft as a result of Qatar Airways' involvement.

From this April, it started to receive what will eventually be more than 20 Boeing 737 MAX 8s from an order previously placed by Qatar Airways, together with five Airbus A330-200s from Qatar Airways' current fleet. The A330s will replace the Boeing 767s.

Although the A330s will carry Air Italy's colour scheme, their interiors will essentially remain that of Qatar Airways.

The A330s will, in turn, be replaced at Air Italy from May 2019 by Boeing 787-8s, again from a Qatar Airways order with the US manufacturer. The aircraft will be leased to Air Italy by Qatar Airways at market rates.

The existing 737s and 767s will be retired over the next two to three years.

Milan Malpensa will be the main hub for Air Italy's long-haul destinations in an intercontinental route network that will expand considerably beyond the current handful of destinations. New routes to New York JFK, Miami and Bangkok are already in the pipeline and Al



Air Italy business class.

Baker said that three additional long-haul routes will be announced by the end of 2018. A second long-haul base will be set up at Rome Fiumicino.

Air Italy will open a batch of new domestic Italian routes and Qatar Airways will codeshare on several of them. It will also codeshare on some of Air Italy's international sectors, starting with Dakar, Senegal.

Significantly, however, Al Baker said that Qatar Airways would not codeshare "on any international routes to the west" – presumably to prevent accusations by US carriers that the Qatari airline is trying to increase its presence on their home turf.

In turn, Air Italy will codeshare on all Qatar Airways flights from Italy to Doha, as well as on several onward destinations, including Tokyo, Singapore, Seoul and Malé. ■

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## UAE in the swing with GlobalEye

*Saab unveiled its new GlobalEye swing role surveillance system (SRSS) aircraft during two days of ceremonies at Linköping, Sweden. The first day was closed, but was attended by a UAE delegation.*

**Jon Lake reports.**

In a recorded address played on the second day of the roll-out, Major General Staff Pilot Ibrahim Naser Al Alawi, chief of the UAE Air Force, described the GlobalEye as a ‘strong force multiplier’ and added: “It’s such a powerful system and will save you platforms, manpower and cost.”

The GlobalEye SRSS was specifically developed for the UAE, which Sebastian Carlsson, Saab senior vice president and head of group communications, described as a “well committed customer with a far-reaching vision”.

The UAE Air Force announced a \$1.27 billion order for two GlobalEyes at the Dubai Air Show in 2015, becoming the launch customer for the type. A \$236 million order for a third aircraft was announced at IDEX on January 4 2017.

Saab had previously signed a November 2009 contract for two former Swedish Air Force Saab S 100B Argus aircraft. These were equipped with the original Erieye radar and provided the UAE with an interim air surveillance capability. Deliveries took place in August 2010 and April 2011. They are operated in a minimally-manned configuration with a single radar technician in the cabin, and no on-board operators.

The new GlobalEye is an evolution of the Erieye airborne surveillance system, with a similar phased array radar mounted in a plank-like ‘skibox’ radome. This unconventional configuration allowed Saab to use an antenna that was about the same size as that carried by an E-3 Sentry, but on a much smaller, cheaper and more economic aircraft platform.

### Special mission specifications

The Global 6000-based GlobalEye has an endurance of more than 11 hours, and the aircraft’s overall performance and crew comfort make it ideally suited for special mission specifications, with very low cabin noise levels and a 3,500ft cabin altitude. The spacious cabin can accommodate five multi-role operator workstations.

Saab claims that the GlobalEye represents the world’s first multi-role and swing-role airborne surveillance system. It is based on the advanced Erieye extended range (ER) radar that is capable of operating in air-to-air, air-to-ground and maritime modes.

Ground/tower-based testing with the AESA Erieye ER is already at an advanced stage in Gothenburg.

“We have made substantial enhancements to the

system,” reported Erik Winberg, a senior director in Saab’s airborne surveillance division. He said that the new radar offered a 70% improvement in range performance when compared to its predecessor, thanks to the use of new technology – including gallium nitride transmit/receive modules.

The GlobalEye uses this longer-range performance to provide superior detection and tracking performance against the most challenging targets, and also to operate at greater stand-off range to enhance survivability. It is equipped with a new command and control (C2) suite and can incorporate additional sensors that enhance its overland and overwater capabilities.

### Maritime surveillance radar

The aircraft also features the Leonardo Seaspray 7500E X-band maritime surveillance radar, which has synthetic aperture radar and ground moving target indication modes. A FLIR Systems Star Safire 380 HD electro-optical turret is installed below the nose.

There is currently no domestic Swedish Armed Forces requirement for the GlobalEye, and Saab is aiming the aircraft at the export market.

Lars Tossman, head of airborne surveillance systems, said the company already has a customer base of eight countries – the biggest in the world. Erieye systems are in service in Brazil, Greece, Mexico, Pakistan, Saudi Arabia (coyly referred to by Saab as ‘country X’), Sweden, Thailand and the UAE. Tossman claimed interest from nations in Asia, Europe and Latin America.

Saab is modifying ‘green’ Global 6000 airframes in Linköping under a supplemental type certificate. To turn a Global 6000 into a GlobalEye requires a great deal of engineering modification to allow the installation of mission systems, sensors, electronic warfare and self-protection systems.

The wings and airframe are strengthened and an extended tailfin and finlets are fitted. Ventral strakes are also installed beneath the rear fuselage, and the aircraft has additional power and cooling equipment.

All three UAE aircraft have started the conversion process at Linköping, though Saab repeatedly declined to provide details of the planned first flight date, the expected duration of the flight test campaign or the planned delivery schedule. ■



# THE RESCUERS...

*The Abu-Dhabi-based National Search and Rescue Centre (NSRC) is the first of its kind in the UAE. Alan Warnes looks at how it came into being and what success it has had.*

**T**he UAE's national search-and-rescue (SAR) operation was, until recently, run by the military – but it was quite restrictive. According to one source: “Anyone requesting assistance would have to call one central focal point in the UAE Armed Forces Joint Operations Centre (JOC). It wasn't quick or easy.”

So, a plan was put together to take the responsibilities away from the military and overhaul the system. Recommendations were made to change legislation and find a body that would be responsible for the SAR effort.

“Until those components were right, we couldn't get the SAR effort into the right place to do the job,” explained the source. “All the support issues needed considering: how to work with the International Civil Aviation Organisation (ICAO); the International Maritime Organisation (IMO); as well as the regulators and jurisdictions on the ground. We wanted to stand up capabilities to work with everyone, including the military and the police. But we needed them to recognise us.”

Objectives were drawn up to be an international example of rapid response and operational readiness by harnessing the latest resources, technology and communications, and a plan was formed to fulfil all land, sea and air SAR requirements within a maximum of one hour, known as the ‘golden hour’.

Things started to move in 2013, when the SAR role was set up under the Supreme Council for National Security. “That meant the NSRC, which was launched at the 2015 Dubai Air Show, was part of a ‘super structure’ – above the military and

police,” explained the source. “It meant we could gain their support in the right way. If we had been part of the Civil Aviation Authority (CAA), we might not have got their support on a day-to-day basis.”

The NSRC is now in charge of all UAE search-and-rescue operations. One of the driving forces behind the facility is Sheikh Hazza bin Zayed Al Nahyan, the UAE's national security advisor.

In August 2016, when the NSRC joined the International Maritime Rescue Federation (IMRF), His Excellency, Major General Staff Pilot Stephen Toumajan, the general manager of NSRC said: “Our objective is saving lives in all of the UAE. Joining the IMRF will certainly enhance learning from experience and exchanging perspectives and knowledge among SAR practitioners.”

There are seven emirates in the UAE, which all require SAR coverage. They are looked after by five AW139 helicopters, on alert at Abu Dhabi (Al Bateen Airport), Fujairah IAP (Fujairah), Al Ain (Abu Dhabi), Al Hamra (Abu Dhabi) and Liwa (Abu Dhabi). Between them, the helicopters can reach anywhere in the UAE within the golden hour, which includes a 15-minute brief.

For SAR missions, the helicopters are manned by a pilot, a co-pilot, a crewman and a paramedic. The pilots, who are mainly Emiratis, come from the UAE's Joint Aviation Command, based at Al Bateen.

Abu Dhabi Aviation (ADA) – the Middle East's largest commercial helicopter operator – provides the rear crew with the paramedics all certified to category one trauma nurse status. The crewmen

are a mix of military expats from Australia, South Africa, Malaysia and France, while the paramedics are mainly from South Africa, largely due to the head of ADA's paramedic recruitment being from that country.

According to one source, it was requested that paramedics to be sent to cover UAE combat search-and-rescue (CSAR) operations, where helicopters would often fly into enemy territory to pick up downed aircrew or ground troops, but, as they were civilians, they were not allowed to go. Whether this might mean more military Emirati personnel being trained in the paramedic role isn't clear.

Initially, the UAE Air Force and Air Defence (AF&AD) operated five AW139s, in military markings, to cover the SAR role. The intermediary helicopter is powered by two PT6-67C turboshaft engines with full-authority digital engine control (FADEC) to minimise pilot workload and offer high power margins for maximum safety.

In 2015, the UAE armed forces ordered a further six, which were delivered in two batches from the Finmeccanica (now Leonardo) Helicopters facility in Milan. While all 11 aircraft are owned by the UAEAF&AD, they are operated and maintained by ADA at the international airport. It has meant the original five aircraft, which operated in the grey scheme, have been repainted in the red and white NSRC markings.

All the aircraft operate with a Spectrelab SX-16 NiteSun, designed to provide a mobile, high-intensity light source.

All 11 AW139s are also equipped with L3

## SEARCH AND RESCUE



Above: The latest six AW139s were delivered in the Abu Dhabi Aviation colour scheme, which has been applied to the rest of the fleet.



Left: At the 2015 Dubai Air Show, the UAE's Joint Aviation Command announced a tentative order for three Leonardo AW609 tilt-rotors. Among the personnel at the announcement were the Deputy Cdr, JAC Brigadier Staff Pilot Saeed Ali Al Ali (3rd from left), Major General Abdulla Al Sayed Al Hashemi of the UAE Defence Ministry (fourth from left) and Leonardo's Daniele Romiti (third from right).

Wescam electro-optical/infra-red (EO/IR) forward looking infra-red (FLIR) turrets. The first five have the MX-10, while the latter six are fitted with the MX-15, which means they can fly at a medium altitude, ideal for CSAR operations. They also have a shortwave infra-red (SWIR) camera, which means the FLIR operator can see through haze.

In November 2015, at the Dubai Air Show, the UAE Joint Aviation Command placed a tentative order for three Leonardo AW609 tilt rotor helicopters. They will be used by the NSRC, most probably for long-range SAR.

At the time, the AW609 programme was still reeling from the loss of the prototype AW609,

which had crashed in northern Italy, just days before, claiming the lives of both test pilots.

According to Major General Abdulla Al Sayed Al Hashemi, of the UAE Defence Ministry, the AW609 would significantly improve the service's SAR capabilities: "It will provide the flexibility of a rotary and fixed-wing, with its 275kt (500km/h) speed and 750nm (1,400km) range, much faster and further than conventional helicopters," he said.

By November 2017, Leonardo was close to clinching the deal, with the avionics packages and the UAE's concept of operations (CONOPS) to be finalised. Certification of the Pratt & Whitney Canada PT6C-67A-powered tiltrotor is still to be approved, which means delivery would be pushed

back into the initial months of 2019, rather than the previous target of late 2018.

There were more than 1,000 rescue missions in 2016 – 157 of them life-saving.

These included a walker, who fell off a ledge in Ras al Khaimah, where rescuers couldn't get in or out to the site. Fortunately, one of the party called the Ras al Khaimah police, who contacted the NSRC, followed by a 'WhatsApp' message with the location. A helicopter was launched and was overhead 23 minutes after the initial distress call.

Another incident involved a seven-year-old boy, who suffered a brain injury and a collapsed lung after an accident. He was taken to a hospital in Diba, Fujairah, but wouldn't have survived because it did not have all the services and amenities he needed. He was put on a helicopter in what would be, for him, a high-risk flight, and transported to the trauma centre in Abu Dhabi. Today he is alive and well. ■

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# Russia to base in Syria – permanently

*With its aerial intervention having played a major role in pushing back Daesh terrorists in Syria, Russia is now seeking to maintain a presence in the country with permanent bases.*



**The powerful Sukhoi Su-34 Fullback strike aircraft has been among those deployed by Russia to its purpose-built base in Syria.**

**R**ussia is no stranger to Syria. Throughout the Cold War, the port of Tartus acted as a major replenishment facility for units of the Soviet fleet deploying through the Black Sea to the Mediterranean. Soviet air units also periodically visited Syrian air force airbases.

Its presence in the country, together with its influence in the region generally, diminished rapidly following the collapse of the Soviet Union and the shrinking of the Russian fleet. With Russia again playing a more assertive role in international affairs, it is keen to re-establish itself in the region.

Moscow has made it clear that, as a major power once again, it wants to be listened to by the world – particularly by the west. And the Middle East has always been a region where it has sought to play a role, at least partly as a counterweight to the US presence there.

Syria's Government, under president Bashar Assad, which looked earlier in the decade as though it would be overthrown by one or other of the many opposition or terrorist groups ranged against it, is naturally grateful to Russia for its military backing, notably the thousands of ground-attack missions carried out by fixed-wing and helicopter units based at Hmeimim since 2015.

Hmeimim, situated southeast of the port of Latakia, was purpose-built for the Russian intervention. At the very end of 2017, Russia announced that it intended to make the base permanent, together with the naval facility at Tartus.

Russia has based a wide range of aircraft there, said Douglas Barrie, senior fellow for military aerospace at London's International Institute for Strategic Studies. Over the course of their operations against Daesh, Sukhoi Su-24 Fencer swing-wing strike aircraft and Su-25 Frogfoot close

air support aircraft have come and gone regularly, as have Sukhoi Su-30 Flanker-C multirole fighter and Su-34 Fullback strike aircraft.

And, in a piece of showmanship, the new, fifth-generation Sukhoi Su-57 stealth fighter was also deployed there for a couple of days in 2017.

On the rotary-wing side, a variety of attack and transport helicopters – Kamov Ka-52 Alligators, Mil Mi-28 Havocs and Mi-17 Hips – have also seen extensive service at the base.

Numbers of individual types stationed there have varied, but typically Hmeimim supports around a dozen Su-24s, four to six Su-30s and 34s, roughly the same number of Su-35s, plus MiG-29SMT Fulcrum and varying numbers of Su-25s: "It's not an insignificant deployment," said Barrie.

"This is the first time the Russians have done out-of-area operations in a very long time. The sortie generation rate seems to have remained high. Availability [of aircraft] has remained high and they seem to have sustained the operation comparatively well.

"It's difficult to tell if they will have more bases. I think they will certainly keep Tartus and Hmeimim... [it is uncertain] whether they will have another forward deploying site."

## Layered missile defence system

The layered missile defence system currently installed at Hmeimim will likely stay in place. This is a combination of the long-range S-400 missile, known by NATO as the SA-21 Growler, and the close-range Pantsir-S1 air defence vehicles (SA-22 Greyhound), which match two 30mm cannon with 12 short-range surface-to-air (SAM) missiles.

The Pantsirs saw action in January this year, when the Hmeimim base came under attack by multiple mini-drones armed with explosives and launched by an unknown group.

The effect of the attacks is unclear; there were claims of several deaths among Russian personnel and of several combat aircraft being damaged or destroyed. Russia has denied the claims and said that its ground defences – notably the Pantsir-S1 – had downed the approaching drones.

Indeed, Russia announced this year that it would be arming the Pantsir with a new, miniature missile called Gvozd ('Nail'), designed to knock down small targets such as drones.

With four Gvozd carried in each of the Pantsir's 12 missile launch tubes, that would give it a formidable load-out of 48 missiles per vehicle – ideal for dealing with mass attacks by small, cheap drones.

A mobile jamming system – "An interesting bit of kit to go in there," noted Barrie – has also been seen at Hmeimim. ■



The RSAF has the biggest C-130 fleet outside of the USA, boosted in March 2016 when it took delivery of two KC-130Js.

PICTURE: LOCKHEED MARTIN



*Nearly 200 C-130 Hercules aircraft have been operated by Middle East air forces since the first was delivered to Iran in 1962. Alan Warnes reports.*

## Mighty task for Hercules in Middle East

The Shah of Iran enjoyed a close relationship with the US back in the 1960s, so it was no surprise when the Imperial Iranian Air Force (IIAF) became the first Middle East Hercules operator, with the arrival of a C-130B (c/n 3698, IIAF 5-101) in June 1962.

It was the first of 61 Hercules delivered to the IIAF before the Shah was overthrown in 1979.

After Iran came Kuwait, which took delivery of a civilian L100-20 in December 1970, Jordan (ex-USAF, 1973), Egypt (first delivery December 1976), Saudi Arabia (December 1979), and Dubai/UAE (January 1981). Then remained a long hiatus until Qatar, Oman, Iraq and Kuwait ordered 16 C-130J/-30s, which were delivered between 2011 and 2014. In April 2016, there was a report that Egypt had ordered two C-130Js to be delivered in 2019, although Lockheed Martin (LM) won't confirm this.

### Tactical workhorse

The tactical workhorse has proved popular in big countries like Iran and Saudi Arabia. Landing in hot and high conditions, as well as austere airfields, has only added to its popularity when a transport aircraft is needed to visit military outposts or civilian communities.

Today, the Royal Saudi Air Force (RSAF) operates the biggest fleet (65) outside of the US. It contains six different variants, although only around 50 aircraft are still operational.

According to LM, there has been a shift from airlift and humanitarian type Hercules sorties to special operations, which has seen an increase in KC-130J demand in the region. A spokesman said: "Interoperability is a key issue, particularly between operators flying together in foreign countries like Yemen and against DAESH [over Iraq and Syria]. On air-to-air refuelling, you can't take any receiver and plug into a tanker; it has to be qualified. And, because there are so many nations operating the C-130, we have qualified several refuelling platforms."

### Middle East operators

- **Bahrain:** two ex RAF C-130Js are set to be acquired after overhaul;
- **Egypt:** 26 C-130Hs (approx 20 current), three C-130H-30s, two VC-130Hs;
- **Iran:** four C-130Bs (later donated to Pakistan), 24 C-130Es, 32 C-130Hs and one EC-130E. Around 30 are still believed to be operational;
- **Iraq:** six C-130Js delivered in 2012/13;
- **Jordan:** one C-130E, four C-130Hs;
- **Kuwait:** three KC-130Js delivered in 2014, two L-100s;
- **Oman:** one C-130J-30 delivered in September 2012, two C-130Js in 2014;
- **Qatar:** four C-130Js delivered in 2011;
- **Saudi Arabia:** two KC-130Js, 11 C-130Es (none current, six sold to Turkey), 35 C-130Hs, three C-130H-30s, seven KC-130H-30s, six L-100-30s. Around 50 C-130s still current;
- **UAE:** three C-130Hs, three L-100-30s; three L-100s with Dubai Air Wing.

Many of the Hercules are supported by the local companies. Despite military embargoes, Iran Aircraft Industries (SAHA) works alongside the military to keep the IIAF fleet in the air. Saudi's Alsalam Aircraft Co, partnered with Boeing, carries out maintenance on the RSAF examples.

Egyptian Hercules are believed to be overhauled by the air force at Cairo-West, although some work in the past has been carried out at Helwan.

In the UAE, C-130 work is completed by the Advanced Military Maintenance Repair and Overhaul Center (AMMROC) at Abu Dhabi, but this will be transferred to the new complex at Al Ain, currently under construction, in 2019. The company is a joint venture between EDIC, Sikorsky and Lockheed Martin, and is being primed to overhaul all Hercules, including the C-130Js.

### Supported operations

Singapore Technologies Aerospace, Hellenic Aerospace Industries and Marshalls of Cambridge, are all known Middle East C-130 maintenance companies. Iraq is currently looking to the latter to overhaul its six C-130Js, which have supported operations against DAESH since being delivered in 2012/13. Several have been hit by mortar fire.

There is still more to come. On November 9, 2012, the US Congress was notified of a possible \$6.7 billion 25 C-130J deal, comprising 20 C-130J-30 and 5 KC-130J variants to Saudi Arabia. So far only two KC-130Js have been sold. A LM spokesman said: "It is a foreign military sales (FMS) agreement, so we are supporting the US Government in Saudi with the pacing of the deliveries."

The UAE also had a requirement for 12 C-130Js, but these discussions seem to have stalled or broken down. The UAE is the biggest operator of the civilian certified L-100 Hercules; three currently serve the military and three are with the Dubai Air Wing. It is possible that the new LM-100J Super Hercules might be a favoured option. ■

*As the combat aircraft inventories of Middle East nations continue to grow, air forces are increasingly seeking to back up their front-line units with support aircraft such as tankers. As Alan Dron reports, Boeing believes that its new contender in this field will appeal to the region's air arms.*

## Boeing eyes up Middle East for tanker export

**F**or decades, the US Air Force (USAF) has used the Boeing KC-135 Stratotanker as its main air-to-air refuelling aircraft. But, with many examples now well into their fifth decade of service, it has been realised for some time that a replacement would be required sooner rather than later.

That replacement is due to be the Boeing KC-46A Pegasus, a derivative of the long-established Boeing 767 airliner, which is today produced purely as a freighter.

The KC-46A is currently in the final phases of its flight-test programme, with six aircraft having completed more than 2,600 hours in the air.

The first production examples are scheduled to be delivered to the USAF later this year and, if all options are eventually exercised, 179 examples will go to Air Mobility Command. More than 30 airframes are in various stages of assembly.

### Wing refuelling pods

The KC-46A will have both a centreline drogue and wing refuelling pods to service aircraft fitted with probes, such as the Boeing F-18 Hornet/Super Hornet, as well as the more usual US refuelling method of a boom for aircraft that have a built-in receptacle, such as the Lockheed Martin F-16 Fighting Falcon.

Unsurprisingly, Boeing is keen to find export orders for its new product and, with that in mind, has been briefing overseas nations on the KC-46A.

The manufacturer customarily does not talk about specific countries, but says there is “strong interest from numerous countries looking to modernise their aerial refuelling capabilities”, including “multiple countries in the Middle East”.

Several nations in the Middle East and North Africa operate tanker aircraft and could potentially be interested in Boeing's new aircraft.

Some, such as Morocco and Kuwait, fly tanker variants of the C-130 Hercules and are less likely to want, or need to upgrade to, the larger Pegasus.

The UAE has three Airbus A330 Multi-Role Tanker Transports (MRTTs) but these have been bought relatively recently.

Similarly, Qatar is in the process of buying two of the Airbus type – although Doha is known for buying military equipment from a range of suppliers so as not to have all its eggs in the same basket. Additionally, the huge planned increase in The Qatar Emiri Air Force's combat strength – it is expanding from a single squadron of Dassault Mirage 2000-5s to a force that is planned to increase to 18 Dassault Rafales, 36 Boeing F-15QAs and 24 Eurofighter Typhoons – may well see it increasing its inventory of tankers to support them.

Elsewhere in the region, Turkey operates seven Boeing KC-135Rs, while the biggest potential prize may come in Saudi Arabia, which has a large tanker fleet of seven Boeing KE-3As (a variant of the 707), as well as six A330 MRTTs, seven KC-130Hs and two (plus three on order) of the updated KC-130Js.

Making the case for the KC-46A in the region, Boeing notes that “more and more Middle East nations are taking on an increasingly large expeditionary role, which necessitates more aerial refuelling”.

### Flight-deck armour

It promoted the KC-46A at the DIMDEX 2018 exhibition in Qatar in March and argues that, unlike its competitors, the aircraft has been “designed as a combat tanker from day one”. Equipment that is factory-fitted, rather than being retrofitted, includes flight-deck armour for protection against small-arms fire, a chemical and biological weapons protection system, and a threat awareness/avoidance system.

Like its European rival, the KC-46A is not limited to the tanking role. Boeing says it can be reconfigured in two hours to carry passengers, cargo or 58 medical cases (or any combination of those) while still fulfilling its tanker role.

In the cargo role, it can carry up to 18 full-size 463L pallets and has more than 7,800sqft of cargo space, while its 767 heritage means that it is based on a mature design, which should help dispatch reliability while giving what it claims are the lowest life-cycle costs of any tanker on the market today.

Boeing has won a single KC-46A export order so far; three aircraft from Japan. It will be hoping to replicate that success in the Middle East. ■

**One of Boeing's KC-46A flight-test aircraft sits on the flight line at the company's Renton, Washington State plant before its next sortie.**



## Upgrades will extend life of Omani F-16s

Although it is now taking delivery of a squadron's worth of Eurofighter Typhoon multi-role strike fighters, the Royal Air Force of Oman will continue to rely on its force of 23 F-156 Fighting Falcons for many years.

To ensure that these aircraft remain viable, it is pursuing a number of upgrades aimed at enhancing interoperability and improving operational capabilities.

Oman took delivery of eight single-seat Block 50 F-16Cs and four two-seat F-16Ds in 2005-6 under the Peace Asama Asafiya I programme. Ten more F-16Cs and two F-16Ds followed in 2014 under Peace Asama Asafiya II.

One of the initial batch of F-16Cs was lost in a fatal crash on September 22 2013.



The aircraft are powered by General Electric F110-GE-129 engines and feature AN/APG-68(V)XM radars – the most powerful hardware package available when they were bought.

The aircraft are armed with AIM-120C AMRAAM and AIM-9M Sidewinder air-to-air missiles, AGM-65D/G Maverick air-to-surface missiles, AGM-84D Harpoon anti-ship missiles, enhanced GBU-10 and enhanced GBU-12 500lb laser-guided bombs, GBU-31(v)3/B JDAMs, and CBU-97/105 sensor fused weapons.

Finally, four Goodrich (now UTAS) DB-110 airborne



reconnaissance system pods were supplied, giving a full spectrum multi-role capability.

The aircraft were supplied with Sniper targeting pods with terrain following radar, and these have since been augmented by a small number of advanced Pantera pods.

In January 2018, the US Defense Security Cooperation Agency announced that the State Department had approved a \$62 million foreign military sale of electronic warfare and communications equipment for Oman's F-16 fleet,

including Mode 5 identification friend or foe (IFF) and secure communications equipment, as well as an incremental operational flight profile (OFP) and joint mission planning software upgrade.

The new IFF equipment comprises 29 KIV-78 cryptographic/timing modules, 29 KY-100M cryptographic radio encryptors, and 29 AN/APX-126 combined interrogator transponders. These will help Omani F-16 pilots to gain better interoperability with US and other allied platforms, including the new Omani Typhoons, using mode 5 IFF instead of Mode 4.



## UK boosts maritime presence with Wildcat

Britain's Royal Navy has deployed a pair of AgustaWestland AW159 Wildcat HMA Mk 2 helicopters to Al Musanna Air Base in Oman, near Muscat. The move is part of the wider UK maritime presence in the region, known as Operation Kipon.

The UK has strong political, commercial and trading links in the region and units of the Royal Navy and Royal Fleet Auxiliary have been on patrol in the Gulf since October 1980, following the outbreak of the Iran/Iraq conflict.

There is typically at least one escort, supported by a tanker of the Royal Fleet Auxiliary, employed by the UK Maritime Component Command (UKMCC) on maritime security patrol, with a four-vessel squadron of minehunters and a Royal Fleet Auxiliary support ship within the wider operational area.

The Wildcats will replace a similar detachment of Merlin HMA.2 helicopters, which has been in Oman for more than a decade, tasked with monitoring shipping movements in the Strait of Hormuz and with supporting Omani naval forces.



The changeover was part of wider RN helicopter fleet management plans, which require the 30-strong Merlin HMA.2 fleet to be concentrated at Royal Naval Air Station Culdrose to support the formation of an air group for the new HMS Queen Elizabeth aircraft carrier and the introduction of the Crowsnest airborne early warning capability.

Royal Navy Wildcats have deployed to Oman

previously, assisting the Oman Coast Guard in April 2016, and visiting Oman during HMS Daring's deployment to the area in May 2017.

The Royal Air Force of Oman operates about 16 examples of the Super Lynx Mk120, which is powered by the same LHTEC CTS-800-4N engines as the Wildcat. These are flown by No15 Squadron at Al Musanna, with a search-and-rescue detachment at Masirah.

The Omani Super Lynx fleet has been concentrated with No15 Squadron since No3 Squadron at Salalah re-equipped with Bell 429s in March 2017.

Leonardo Helicopters has now delivered the last of 34 Lynx Wildcat AH.Mk 1 and 28 Lynx Wildcat HMA.Mk 2 helicopters for the British Army and Royal Navy respectively, as well as eight Lynx Wildcats for South Korea, and is fulfilling a two-aircraft order from the Philippines.

## Kuwait probes Airbus Helos deal

Kuwait Prime Minister, Sheikh Jaber Al-Mubarak Al-Hamad Al-Sabah, has ordered an investigation into the €1 billion (\$1.19 billion) order signed by the air force for 30 H225M Caracal multirole military utility helicopters, 24 of them for the Kuwaiti Air Force and six for the Kuwait National Guard.

"It has been decided to transfer the case of the Caracal helicopter deal to the National Anti-Corruption Commission," said Kuwait Minister of Cabinet Affairs, Anas al-Saleh. The deal will also be probed by the State Audit Bureau (SAB).

The investigation was launched after the French magazine, *Marianne*, alleged that a Lebanese middleman, Farid Abdelnour, had demanded a commission payment of €60 million (\$71 million) from Airbus in connection with the deal.

The contract for the helicopters, plus an associated support and services package, was originally signed on August 9 2016, during a visit to Kuwait by the then French Defence Minister, Jean-Yves Le Drian. As Foreign Minister, Le Drian is now in the middle of delicate negotiations aimed at settling the problem.

The Kuwaiti order for the Caracal, which is a military counterpart to the EC225/H225, provided a useful boost for the type after an emergency airworthiness directive grounded the commercial H225 fleet following a fatal accident in Norway.

Kuwait originally issued a request for proposals (RFP) for a new medium helicopter in 2013, selecting the H225M Caracal in June 2015, while rejecting an AgustaWestland proposal based on the AW149 and a Sikorsky S-70i bid.

Kuwait had previously purchased Gazelles, Pumas and Super Pumas from Airbus Helicopters and its



The H225M deal is under review.

predecessor companies (Eurocopter and Aerospatiale) and the new aircraft were intended to replace a fleet of 11 older SA330 Puma and AS332 Super Puma variants.

Delivery of the first helicopters was originally expected in early 2019.

The Kuwaiti probe is the latest in a series of investigations into commercial and military sales by

Airbus. In 2016, the British Serious Fraud Office started investigating "irregularities" involving the company's use of middlemen to secure contracts overseas; the French Parquet National Financier opened a similar investigation in 2017; and there is also an Austrian investigation into allegations of fraud and misrepresentation connected to the Alpine nation's Eurofighter purchase.

## Saudi Arabia grows its Black Hawk fleet with \$194m contract

With about 80 aircraft delivered, the Sikorsky S-70 has become the backbone of Saudi Arabia's rotary-wing fleet. Now the Saudi Black Hawk fleet is set for dramatic expansion following the announcement of a \$193.8 million firm-fixed-price foreign military sales contract for 17 UH-60Ms in January 2018.

Eight of the new UH-60Ms will go to the Saudi Arabian National Guard and nine to the Royal Saudi Land Forces Airborne Special Security Forces.

These will join the survivors of a single S-70A VIP helicopter, 12 S-70A-1 Desert Hawk utility helicopters, eight S-70A-1L medevac helicopters, eight ex-US Army UH-60As, transferred during Desert Storm, as well as about 24 UH-60Ls delivered between 2008 and 2014.

Most of these serve with the Royal Saudi Land Forces.

□□□□□

Between three and five S-70i International Black Hawks are assigned to the General Civil Defence Agency (GCDA) – the paramilitary wing of the Ministry of Interior. Delivered from August 2011, the S-70i helicopters augment some 16 S-92s in providing helicopter support to the kingdom's counter-terrorism forces.

A major 2010 arms deal with the US saw the kingdom being authorised to receive 84 new-build F-15SA strike fighters (and to upgrade 72 F-15S aircraft to the same standard), and the \$25 billion package also included authorisation for the purchase of large numbers of helicopters (36 AH-64E Apaches, 36 AH-6i



The Sikorsky S-70 is the backbone of Saudi Arabia's rotary-wing fleet.

Little Birds, and 72 Sikorsky UH-60M Black Hawks), primarily for the newly-established air element of the Saudi Arabian National Guard.

By mid-2017, the Saudi Arabian National Guard operated 12 AH-64E Longbow Apaches, 24 UH-60M Black Hawks and 12 AH-6is. By then, the number of S-70s planned had grown again, with 12 MH-60R Seahawk helicopters added for the Royal Saudi Naval Forces, and with a new plan for Lockheed Martin and

Saudi Arabia's Taqnia to co-produce up to 150 S-70 Black Hawk helicopters, with final assembly taking place in the kingdom.

Deliveries were scheduled to begin in October 2017 and to conclude by the end of June, 2022.

This programme appears to have been delayed and the recent order for 17 aircraft appears to be another interim purchase, adding to about 39 aircraft ordered since 2015.

Turkey plans a maiden test flight in 2023 for the TF-X.



## Turkey plots flightpath for development of TFX fighter

Turkey is pushing ahead with its ambitious plans to develop and deploy an indigenous fifth-generation fighter, known as the TF-X or Milli Muharebe Uçagi (national combat aircraft).

On January 13 this year, Turkish Prime Minister, Binali Yildirim, chief procurement officer, Ismail Demir, Turkish Aerospace Industries (TAI) CEO, Temel Kotil, and other senior officials, met with a high-level British delegation, including International Trade Secretary, Liam Fox, and Rolls-Royce CEO, Warren East, to discuss how to progress the project.

They set out development roadmaps and timescales, including the ambitious goal of achieving a maiden test flight in 2023.

Yildirim reportedly expressed his satisfaction with the "recent advancing of our strategic partnership

with the United Kingdom via joint programmes".

The TF-X programme was launched in December 2010, when the Turkish defence industry executive committee (SSIK) decided to design, develop, and manufacture an indigenous next-generation combat aircraft to replace the F-16 and augment the F-35, placing a \$20 million two-year conceptual design contract with TAI.

British involvement in the programme began in October 2015, when Rolls-Royce signed a memorandum of understanding with Turkey. This eventually led to the TAEC Uçak Motor Sanayi AS joint venture with Turkish industrial group Kale, which will establish an advanced manufacturing and technology centre in Turkey to produce engines for the TF-X, and for helicopters, tanks and missiles.

No TF-X engine decision has been made and Tusas

Engine Industries (TEI), which is co-owned by TAI (50.5%), General Electric (46.2%) and the Turkish Armed Forces Foundation and Turkish Aeronautical Association (3.3%), has also submitted an engine proposal to the Undersecretariat for Defence Industries (SSM).

SSM awarded TAI the TF-X indigenous design and development programme prime contract on August 5 2016 and, in January 2017, awarded BAE Systems a four-year £100 million contract under which it will provide TAI with 400 man-years of engineering consultation and technical support work.

The TAI-BAE systems collaboration agreement came into effect on August 25 2017. BAE is expected to receive further contracts to support TF-X development following a meeting between Yildirim and his British counterpart, Theresa May, in Ankara on January 28.

## Talks move forward on a new batch of Saudi Typhoons

The Kingdom of Saudi Arabia has signed a memorandum of intent (MoI) with the UK Government aimed at finalising discussions for the purchase of 48 Typhoon Aircraft.

The MoI was signed on March 9, during a UK visit by Mohammed bin Salman, the Crown Prince of Saudi Arabia.

The Royal Saudi Air Force (RSAF) ordered 72 Eurofighter Typhoons in 2006 and these were delivered between June 2009 and June 2017. Saudi Arabia had initially planned to manufacture (or at least assemble) 48 of its first 72 Typhoons but the in-kingdom industrial programme (IKIP) failed to materialise.

Instead, a modification to the project Salam contract was signed in early 2012, and this set a renegotiated price, and agreed greater local participation in through-life support.

There was also an agreement that the final batch of 24 aircraft would be delivered to tranche 3 standards, with structural, electrical and cooling provision for



Saudi Arabia aims to buy 48 Typhoons from the UK.

active electronically-scanned array (AESA) radar, and with provision for conformal fuel tanks.

After some early problems with an interim software standard, the RSAF has enthusiastically embraced the Typhoon, becoming the first operator to gain an air-to-ground capability with the tranche 2 aircraft, the first

to start gunnery training, the first to gain a night air-to-air refuelling (AAR) clearance, and the first to use the tranche 3 aircraft in combat. The type's successful combat record made the acquisition of more aircraft inevitable, leading to the new MoI.

It is expected that arrangements for local final assembly will play a key part in negotiations surrounding the 48 additional aircraft. Saudi Arabia wants to develop key industrial capabilities as part of its ambitious Vision 2030 programme, and has gained invaluable experience in converting F-15S airframes to the latest F-15SA standard, incorporating locally made forward fuselage and wing sections.

Many years ago, before Saudi Arabia had even ordered the Typhoon, the then-First Deputy Prime Minister of Saudi Arabia, Crown Prince Sultan, reportedly declared his intention for the RSAF to have "200 plus" Typhoons in service by 2015, and an order for a further batch of 24-72 Typhoons has been eagerly awaited for some years.

Saudi Arabia's King Abdulaziz City for Science and Technology (KACST) unveiled the indigenous Saqr 1 medium-range UCAV last year.

Inset: The Skyguard tactical UAV designed and built by Saudi Arabia's Prince Sultan Advanced Tech Research Institute.

## Middle East UCAV capabilities building up

**David Oliver**  
*takes a look at the Middle East's combat aerial vehicle capabilities.*

Since the Obama administration's ban on the sale of US-manufactured unmanned combat aerial vehicles (UCAVs) to Middle East countries, China has focused on filling the gap in this important market.

Not only has it sold highly capable UCAVs to Egypt, Iraq, Jordan and the United Arab Emirates, now it is opening a UCAV production facility in partnership with Saudi Arabia's King Abdulaziz City for Science and Technology (KACST).

Initially, the facility will produce the Reaper-like CH-4B and assemble the more advanced Wing-Loong II. The Royal Saudi Air Force has an urgent requirement to use the latter in its Operation Restoring Hope battle against the Houthi force in Yemen.

Last May, KACST unveiled the indigenous Saqr 1 medium-range UCAV. Equipped with a satellite communications (SATCOM) system and an autonomous take-off and landing capability, it is made from lightweight carbon and glass fibre materials to reduce its fuel consumption.

Powered by a 113.3hp (84.5kW) Rotax 914 engine, the Saqr 1 has a range of 1,553 miles (2,500km), an endurance of 24 hours, and a ceiling of 22,000ft (6,700m). It can carry a 880lb (400kg) payload, including sensors and laser-guided missiles, such as the Chinese AR-1 ground-attack weapon, and FT-1 precision-guided bombs with a range of up to 6.2miles (10km).

### Chinese design assistance

In addition to Chinese design assistance, the KACST can also draw on the expertise of the Prince Sultan Advanced Tech Research Institute (PSATRI), which was founded by King Saud University (KSU) and the Royal Saudi Air Force (RSAF). It obtained the approval of the Minister of Defense in 2008.

Its Autonomous Vehicles Laboratory was established with the objective of building indigenous capabilities in the field of unmanned autonomous systems (UAS). Current activities span several areas, such as flight-control units, communication systems, ground-control systems and various payloads, such as gyro-stabilised platforms.

PSATRI has designed and built a number of tactical unmanned aerial systems (TUAS), including the Skyguard. Powered by an Italian piston engine, the all-

composite 24.6ft (7.5m) wingspan Skyguard can carry a 50kg payload, which includes electro/optical infra-red (EO/IR) day/night vision cameras. It has an endurance of eight hours.

The Skyguard system comprises a ground control station (GCS) and a ground data terminal (GDT) equipped with datalink communication and storage. First flown in 2015, six prototypes are undertaking a flight-test programme prior to production in 2018.

Saudi Arabia's neighbour, the United Arab Emirates, is also taking part in Operation Restoring Hope and is expanding its UAV capability. Although it was the first Middle East country and non-NATO member to be permitted to acquire the unarmed RQ-1E Predator UAV, the UAE is reported to have ordered an undisclosed number of armed Wing-Loong II UCAVs.

At the same time, it is also committed to the purchase of eight Italian Piaggio P.1HH Hammerhead UAV systems.

### Military requirements

Established in 2002 by the Government of Abu Dhabi, the Mubadala Investment Company has become the 100% owner of Piaggio Aerospace. It is focused on developing existing core activities and introducing new programmes to bring the company in line with military requirements.

His Highness Sheikh Mohamed Bin Zayed Al Nahyan, Abu Dhabi's Crown Prince and Deputy Supreme Commander of the UAE Armed Forces, is chairman of Mubadala.

To answer a requirement of the UAE Armed Forces, the joint Al Sabr programme was launched in 2003 in partnership with the Austrian rotary-wing UAV manufacturer, Schiebel, and Abu Dhabi Autonomous Systems Investments (ADASI).

Based on the Camcopter S-100, the Al Sabr system has a fully autonomous vertical take-off and landing platform, providing a live video feed within a mission radius of 124 miles (200km) from the GCS, as well as an ability to remain airborne for up to 10 hours.

Production of major components, final assembly and testing of 40 systems for the UAE Air Force by ADASI began in 2006, and 10 systems have been delivered to the Jordanian Special Operations Command. ■





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An Emirates 777 was allegedly intercepted en route between Bahrain and Dubai.



## Watch this airspace – UAE

*The airspace ban for Qatar by its neighbours Bahrain, Egypt, Saudi Arabia and the UAE has seen military involvement, reports*

**Jon Lake.**

The breakdown in relations between Qatar and most of its GCC partners in June 2017 led to the closing of Qatar's only land border. It also resulted in a number of airlines suspending services to Doha, including Gulf Air, EgyptAir, Saudi Arabian Airlines, Air Arabia, FlyDubai, and Etihad.

Bahrain, Egypt, Saudi Arabia and the UAE also banned overflights by aircraft registered in Qatar, as well as imposing other sanctions.

Qatar complained to the Montreal-based International Civil Aviation Organization (ICAO) about the boycott, which had cut off vital air routes, forcing its flag-carrier, Qatar Airways, to fly longer routes through Iranian and Turkish airspace, and cutting off the airline's regional feeder flights in Saudi Arabia and the UAE.

### **Blockade and sanctions**

Qatar's critics cited its alleged support for terrorism as the principal reason for the blockade and sanctions, and alleged that Qatar had violated a 2014 agreement between the members of the GCC.

Tensions have escalated since June and, on January 11 2018, Qatar announced that it had sent letters to the UN Security Council and the UN secretary general complaining that UAE Air Force and Air Defence (UAEAF&AD) aircraft had violated its airspace in December and January. The following day, the UAE flatly denied Qatar's allegations. The UAE Minister of State, Anwar Qarqash, tweeted: "The Qatari complaint regarding the violation of its skies is false and shaken." He also called the complaint an "unjustified" escalation, and described the airspace complaints as being "incorrect and confused".

UAE officials also denied the charge and made

the counter-claim that Qatari fighter aircraft had intercepted two Emirati commercial airliners in international airspace en route to Bahrain's capital, Manama, also complaining to the UN.

The UAE official news agency, WAM, reported that the two civilian aircraft were intercepted while following their regular flight paths to Bahrain International Airport at Muharraq, quoting Saif al-Suwaidi, the director-general of the UAE's General Civil Aviation Authority (GCAA).

The intercepts happened at 10:30am and 11:00am on Monday January 15 and were witnessed by Bahraini radar, and by the crew and passengers on board the airliners, who clearly saw the Qatari military aircraft. These, he said, had "constituted a clear and explicit threat to the lives of innocent civilians".

The GCAA did not identify the two affected flights, but the Bahraini Foreign Ministry identified one of the services as Emirates flight EK837, the service from Dubai International Airport to Bahrain, usually operated by a Boeing 777, and the other as Etihad flight EY371 (ETD23B), a direct Abu Dhabi-Bahrain service operated by an Airbus A320.

On that day, EK837 left Dubai almost an hour later than scheduled, flying out over international waters around the northern tip of Qatar. The flight arrived at Manama 32 minutes later, taking 12 minutes longer than the normal scheduled journey time of 20 minutes. Bahraini radar showed that the Qatari fighters had taken off from and returned to Doha. The Emirati pilots identified the fighters as Mirage 2000 fighters, which are used by both the UAE and Qatar.

The UAE General Civil Aviation Authority lodged a complaint against Qatar with the ICAO,



A Qatari Mirage was allegedly behind the interceptions.



## and Qatar accuse each other

accusing its neighbour of violating the Chicago Convention. The GCAA said it hoped that the ICAO would stop Qatar from repeating the incidents and said that the UAE would consider re-routing its flights as an interim precautionary step. The UAE did not rule out escorting civilian aircraft. GCAA director general Suwaidi said that the UAE could “use different tools to protect its airlines”.

With just one fighter squadron, operating nine single-seat Mirage 2000-5EDAs and three two-seat Mirage 2000-5DDAs, the Qatar Emiri Air Force’s fighter force is currently heavily outnumbered by neighbouring air forces. This looks set to change, however, since Qatar now has 36 Dassault Rafales, 36 Boeing F-15QA Advanced Eagles and 24 Eurofighter Typhoons on order – a total of 96 advanced fighters.

### Operations centre upgrade

The US State Department recently approved a \$197 million plan for Qatar to upgrade the Qatari Emiri Air Force operations centre.

Fortunately, the UAE seems to be trying to de-escalate the crisis, and Ahmed Al Jallaf, assistant director general of air navigation services for the GCAA, said that consideration was being given to changing the routes taken by the UAE aircraft flying to Bahrain.

A military spokesman, Helal Saeed Al Qubaisi, said that while there had been several previously undisclosed incidents between the Qatari and Emirati air forces, the UAE armed forces had “orders to avoid military escalation to preserve peace and protect lives”. He added that military aircraft had been using alternate routes in Saudi airspace. He acknowledged that US Central Command had informed the UAE that the Qatari fighter aircraft involved in the

incidents had been on a training mission.

Sheikh Saif Al Thani, head of the Qatari Government Communications Office, said in response that the UAE’s claim had been “completely untrue”, while Qatar’s Foreign Ministry observed: “It seems that the UAE is trying to draw attention away from other incidents that have caused media crises.”

In response to this Qatari denial, Bahrain released radar tracks that showed Qatari fighter jets passing close to the two Emirati commercial flights and “strongly” condemned the interception of the UAE aircraft by Qatari fighters.

This series of accusations and counter-accusations has continued. Qatar complained that Emirati military transport aircraft had violated its airspace on January 14 and again on 25 February, adding that a Bahraini military aircraft had allegedly flown into Qatar’s airspace on February 26.

On March 9, Qatar complained to the UN that a UAE navy vessel had kidnapped a Qatari fishing boat and its Indian crew. Qatar said that its marine surveillance forces had seen a UAE naval ship launch a boat into the Qatari economic zone, and that this boat then “obstructed and kidnapped a Qatari fishing boat. The fishermen were forced at gunpoint to enter the UAE economic zone.”

Amid the accusations of alleged airspace incursions and the interception of airliners, the UAE turned its attention to improving its cooperation with the North Atlantic Treaty Organisation (NATO).

On January 10, Major General Falah Al-Qahtani, assistant under-secretary for policy and strategic affairs at the UAE Ministry of Defense, held discussions with a visiting delegation from

the NATO parliamentary assembly centred around coordination and strategic cooperation with regard to a number of “regional and international issues of common concern” in an effort to enhance regional security and stability.

Qatar has also been making great efforts to improve cooperation with NATO, signing a security agreement at the alliance’s headquarters in Brussels on January 16 this year during a visit by Brigadier General Tariq Khalid MF Alobaidli, head of the Qatar armed forces international military cooperation department. This formed part of the Istanbul Cooperation Initiative (ICI) framework.

### Global and regional security

NATO’s ICI was launched in 2004 and is intended to enhance long-term global and regional security by allowing Middle East countries practical bilateral security cooperation with NATO. Four Middle Eastern ICI partner countries (Bahrain, Kuwait, Qatar, and the UAE) have now signed individual security agreements with NATO.

The US is trying to broker an end to the crisis, which involves important allies in the fight against Daesh and wider Islamist insurgency and terrorism. The US has significant forces at Al Udeid Air Base in Qatar, and bases some 10,000 personnel in the Emirate, which also hosts the regional headquarters of US Central Command.

Though President Donald Trump made public pronouncements supporting Saudi Arabian and the Emirati allegations that Qatar had been a destabilising force as a result of its support for militant Islamic groups, the recently departed Secretary of State, Rex Tillerson, has undertaken a round of shuttle diplomacy in the Gulf, and attempted to mediate in the dispute. ■



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Top: ADA's busy terminal at Abu Dhabi. Above left: ADA's medevac helicopters are in frequent use. Top right: The deal is signed for Mercy Flight operations.

# THE ROTARY CLUB

**Dave Calderwood** spotlights the work of the Middle East's largest helicopter operator.

It is hard to think of another operator in the world that has such a diverse and complete range of services as Abu Dhabi Aviation (ADA).

It is known as being the largest operator of helicopters in the Middle East, but its portfolio is so much more than that. Just look at its fleet – a mix of AgustaWestland (now Leonardo) AW139 and AW109s, Bell 212 and 412s, and four Bombardier Dash-8 (now the Q400 and Q200) twin turboprop transporters. That's 57 helicopters and still growing!

Even as recently as last November, a new order for two more AW139s was placed with Leonardo.

The AW139 is a major success story for Leonardo, fitting into the intermediate, twin-engine bracket and perfect for supporting Abu Dhabi's oil and gas industry, flying staff and supplies to rigs. The two new helicopters join ADA's existing fleet of 15 AW139s, and are part of a bigger order of AW139, AW169 and AW189 types, with deliveries through to 2019.

All these aircraft need a big staff to keep them flying and to manage operations, so ADA has more than 1,000 employees, including in excess of 150 pilots and 283 engineers/technicians.

As well as oil and gas support flight, ADA also provides VVIP passenger transportation, search and rescue for the UAE military, crop-

Continued  
on Page 58

## CONTINUED FROM PAGE 57

spraying, with a specially modified Bell 206, aerial construction, seismic support and fire-fighting in Europe – Spain, in particular.

None of these operations are particularly straightforward, so it's interesting to note that ADA has held the Helicopter Association International (HAI) platinum award of safety since 2006, clocking up more than one million helicopter flight hours with an enviable safety record.

Given that offshore operations frequently average seven cycles – take-offs and landings – per hour, that gives credibility to ADA's assertion that it demands the highest calibre of flight and maintenance crews, supported by its quality assurance and training regime.

“Owning a fleet of ultra-fast aircraft and a state-of-the-art safety system has helped ADA to drive its operations to the highest level of customer service,” said company chairman HE Nader Ahmed Al Hammadi. “The services provided are driven by customer needs.”

Al Hammadi went on to talk about the latest AW139 order. “These helicopters are widely used in the UAE, the GCC and the Middle East. ADA's AW139s benefit from the support solutions provided locally by AgustaWestland Aviation Services LLC, an ADA and Leonardo joint venture delivering thorough support and maintenance services in the region.

“The company has recently expanded its fleet to cover its contractual obligations inside and outside the UAE and to further its investment in the aviation industry.”

The maintenance, repair and overhaul (MRO) side of ADA not only provides servicing for its own aircraft, but is also a significant regional provider of maintenance to third-party aircraft, both rotary and fixed-wing. Not least among its contracts is the UAE military.

**Wide range of aircraft**

Such a wide range of aircraft means ADA holds maintenance and quality certifications from several regulatory authorities. In addition to its UAE civil aviation authorisations, it is approved by the European Aviation Safety Authority (EASA), the US Federal Aviation Administration (FAA), the Presidency of Civil Aviation of Saudi Arabia (GACA), and the International Standards Organisation ISO 9001:2000.

Last year, ADA became an authorised Bell Helicopter customer service facility (CSF) for Bell 412s and Bell 212s.

“This authorisation is considered as an international certification of the efficiency of Abu Dhabi Aviation's maintenance services that meet the highest standards,” said Al Hammadi. “Through quality customer and maintenance services we have been able to achieve 100% operational readiness on our Bell fleet.”

Bell Helicopter's Glen Isbell, executive vice-president, customer support and services, said: “The Middle East is an extremely important market for us. As our operator network grows, it

The AW139 is the cornerstone of the ADA fleet.



is important we provide our customers with smart and simple service solutions to accommodate the expanding region. Bell Helicopter and ADA share a rich 40-year history, accumulating more than one million flight hours on the Bell helicopter fleet.”

A lesser known side of ADA's reach is its humanitarian and support services on a year-round basis. These include aerial application missions, aid relief support in disaster areas, including medical evacuation when required.

ADA has worked with the Saudi Red Crescent Authority (SRCA) to provide helicopter emergency medical services (HEMS) covering Jeddah and Mecca throughout the year, including the Ramadan period and Hajj.

Beyond the Middle East, ADA continues to support on and offshore oil production and mining exploration in Ethiopia, India, Brazil, Indonesia, Madagascar and Papua New Guinea. Negotiations are also under way for expansion into South America and the Far East.

There's more for this expanding company. It has a 50% stake in Royal Jet, the VVIP private jet operator, which has the world's largest fleet of Boeing Business Jets. Royal Jet also operates Dassault Falcon, Challenger and Gulfstream private jets.

Global cargo operations are supported by a wholly owned subsidiary, Maximus Air Cargo. In addition to transporting cargo, ADA also uses the heavy jets to position its helicopters wherever they are required.

To keep that 1,000-strong staff up to speed, and to train new entrants, ADA has created its own aviation training centre. As well as pilot training, ADA also has a full set of courses for engineers and cabin crew, including crew resource management (CRM), human factors for engineers, handling dangerous goods, fire-fighting and first aid.

On pilot training, ADA has created a state-of-the-art centre with no fewer than eight bays. It includes two new full-flight simulators (FFS)

from CAE. They are the very latest CAE 7000XR Series, equipped with CAE Tropos-6000XR visual systems, and were due to be ready for training in the first half of 2018.

The delivery of the new training equipment complements the existing CAE-built AW139 and B412 FFSs delivered to ADA. CAE also provides instructors and course materials.

“We are delighted to further expand our relationship with our training partner CAE,” said Al Hammadi. “CAE has been training our pilots and providing state-of-the-art equipment for more than a decade and we are looking forward to this extended collaboration for the support of our own and our customers' growing training needs long into the future.”

**Latest expansion**

It's not just ADA's own pilots being trained. The latest expansion has come from Falcon Aviation – another fast-growing Abu Dhabi-based aviation business. ADA will train pilots from Falcon and other regional operators of the Embraer ERJ145 airliner in its training centre, using CAE's full-flight simulators.

Al Hammadi said: “It is an honour to provide Falcon Aviation with best-in-class training, including high-quality courseware, experienced instructors and innovative training equipment.”

This particular development has taken a while to come to fruition and the relief can be sensed in the comments of Nick Leontidis, CAE group president, civil aviation training solutions: “After months of development, it is gratifying to officially kick-off this new training programme to support our customers, including Falcon Aviation's pilot training needs in the Middle East.”

So, what's next for ADA? There have been reports that it is to help the Government of Kerala, a state in southern India, establish and operate Kerala Air, a state airline. That's still in the air but you can be sure ADA won't be standing still for very long. ■

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## PHENOM 300: LIVING THE DREAM

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It is, without a doubt, the best thing I ever did in my life. And I also know that when I roll down that door and walk up that set of stairs, I feel quite powerful because that plane makes a statement. No matter where it goes, it attracts a crowd. It's been a ride that I can, at the end of the day, look up and say, 'I'm glad I bought that Phenom 300.' If I hadn't, I don't know what would have happened – I would've died without that experience."



- Lance Mortensen , Owner, Mortensen Signature Homes  
Watch Lance's story and request more information at  
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CHALLENGE.  
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*Dassault Aviation unveiled the Falcon 6X at Paris-Le Bourget in February. The first flight is due in early 2021 and deliveries will start in 2022. The group shows much optimism, especially in the business aviation sector.*

**Anuradha Deenapanray reports.**

**D**assault Aviation organised two major events in February and March with the launch of its Falcon 6X and the presentation of its financial report for 2017, which chairman and CEO, Eric Trappier, described as “eventful”.

Beyond the delivery numbers, forecasts show an improving business aviation market with a reset year. This trend is instilling optimism in the industry.

Dassault Aviation wants to be ready to benefit from the recovery, which will gain momentum by 2019.

There are positive signs, like the recovery of the pre-owned aircraft market, but at low prices, in a very competitive market environment.

Underpinning this optimism is the strengthening of the US economy, the largest business aviation market, and in Europe and emerging markets.

Africa and the Middle East are markets with considerable prospects for the company. Trappier said: “We sell a lot of business jets in Africa in all segments. The Falcon 900 has a very good market within the continent. The 7X is suitable to go to Europe and the 8X to the US.”

He added that businessmen in the Middle East travel in larger groups, which necessitates bigger aircraft. “A new generation of entrepreneur is burgeoning, willing to travel efficiently and rapidly, and to land in less crowded airports.”

Last year was marked by the termination process of the Silvercrest contract, which led to the end of the Falcon 5X programme. Trappier explained that the group had to react positively with a smarter programme as Safran Aircraft Engines encountered new problems with the high-pressure compressor: “They announced that they were unable to meet the commitment they took in 2016, even though the engine was already four years behind contract schedule.”

He said, there was an urgent need to reassure clients after 15 Falcon 5X orders were cancelled in 2016 (12) and in 2017 (3) and “given the remaining need of customers for an aircraft of this category”.

Dassault Aviation, therefore, launched the Falcon 6X, featuring the same cross-section, with a range of 5,500nm and powered by Pratt & Whitney PW812 engines.

According to Dassault, this versatile twinjet is the best, quietest, most spacious and most



comfortable in its segment on the market. It is equipped with the industry’s most advanced digital control and cockpit technologies, inherited from recent Falcon models and fighter jet programmes.

The 6X will be the first business jet to use a flaperon, which considerably improves control during approach, especially on steep descents.

“We wanted to push the boundaries with this new aircraft, to provide the best flight experience possible using today’s aviation know-how,” said Trappier. “The Falcon 6X will offer a mix of range, comfort and capability that no other large-cabin business jet can match, while guaranteeing fully mature systems and a proven powerplant.”

The 6X will be delivered with a full package of equipment, including the FalconSphere 11 electronic flight bag and the revolutionary FalconEye combined vision system for enhanced and synthetic vision capabilities.

Trappier underlined that no more flight-testing is required for the 6X on which the company is “betting a lot”.

“With the new Falcon 6X, our PurePower

PW800 engine once again demonstrates its leadership in the long-range business jet category,” said Irene Makris, vice-president, marketing, Pratt & Whitney Canada.

She added that the PW812D offers “the highest level of technology available, paired with the reliability provided by an award-winning platform”.

The turbofan engine incorporates the latest generation technologies.

Dassault has invested around €1 billion (\$1.24bn) in the 5X programme. According to CEO Trappier, the new programme will fit in this budget.

He also announced that discussions on “compensation” are on-going with Safran.

Discussing the military sector, Trappier said: “We are going to increase our capacity regarding the Rafale. We are going to deliver two-and-a-half aircraft. There are prospects in the UAE.

He also highlighted the agreement signed with Qatar to exercise the option for 12 additional Rafales and on a future cooperation (option for another 36 Rafale). “We have started with Egypt



Eric Trappier (left): "We wanted to push the boundaries with this new aircraft, to provide the best flight experience possible using today's aviation know-how."

and Qatar. We have a relationship based on trust," he said.

In 2018, the group will deliver 40 Falcon and 12 Rafale (nine for export and three in France).

This year will also see various strategic challenges and projects for Dassault Aviation.

The new French Military Procurement Law 2019-2025, presented earlier this year, gives a better outlook to the company until 2030.

Combat drones will also be a priority with the nEURON development and a new flight-test campaign, as well as the MALE RPAS reconnaissance drone in cooperation with Airbus Defence & Space and Leonardo to equip four European countries.

While North America remains its priority market, Dassault Aviation is targeting new markets in Asia. As Trappier underlined, the "Made in India" industrial line is "essential" and the "entire company is mobilised to make it a success".

After India, the group hopes to have an installation in Malaysia. "The Malaysian Army appreciates the Rafale for its quality. A technology programme will be presented to the authorities after the elections," said Trappier.

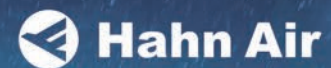
With the mature 8X responding well in the region, Dassault Aviation is determined to capture other emerging markets worldwide with the additional support of the 6X. ■

### Textron 'monitoring' Silvercrest engine

Cessna is the only client currently on board for Safran's Silvercrest engine, which will power the twin-engined Citation Hemisphere. The first flight is scheduled for 2019 and Textron Aviation, which owns Cessna, is monitoring the progress very closely to see if the HP compressor problem will affect the Hemisphere development timeline.

At NBAA 2017, Safran executives said that this issue "should not affect the timeline of the Silvercrest-powered Cessna Citation Hemisphere" and showed confidence that the HP compressor problem will be solved.

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# POWER BROKERS

**Dave Calderwood** *catches up with Jetcraft president, Chad Anderson, to ask him to spill the beans on the broker's remarkable success*

**J**etcraft is one of the world's leading business aircraft brokers. In 2017, it completed 93 transactions – that's eight a month or two a week when you take out time lost over Christmas.

It was a record year for the company, topping off a decade of growth that saw 550 transactions valued at more than \$10 billion.

During that decade, Jetcraft has opened offices around the world – two in Dubai – to accelerate its global presence. This February it opened its first UK office in Mayfair, London, a district popular with high-net-worth individuals, especially from the Middle East.

The opening coincided with Jetcraft's 10-year business aviation forecast, which paints an optimistic picture as the world shrugs off the lingering effects of the 2008 economic crash.

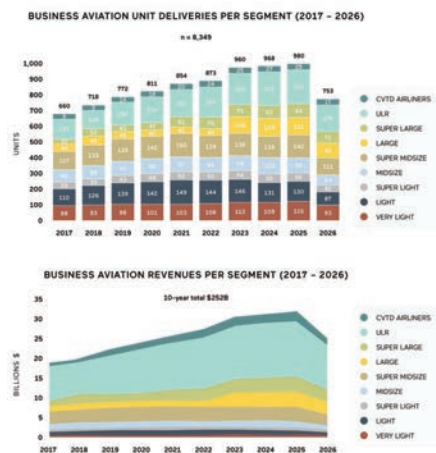
**Q. Why open a London office now?**

**A.** London is the financial mecca for many countries in Europe, the Middle East, Africa and India. We have a lot of clients from several continents who like to gather here, have homes here and businesses. Our business model is to be within a few hours of any of our clients.

As we looked at the improvements in North America and Europe, the number one and two markets worldwide, we couldn't afford not to be in London.

**Q. What's driven the rapid growth of Jetcraft over the past decade?**

**A.** The globalisation of our enterprise. You have



**Jetcraft's figures show the predicted market growth in the different business aviation sectors - and the revenue predictions alongside.**

to remember that Jetcraft was founded more than 55 years ago. A lot of our clients are repeat or referral clients. As they've grown, so have we. A client who bought a Citation One 20 years ago is probably today buying a G450.

Jetcraft made a momentous, strategic change to our business model back in the early 2000s, when Bucky Oliver, our founder, started the Jetcoast programme. We were buying factory-new Challenger 604s, green, and doing our own custom completions.

Up until then, Jetcraft had been a mid-size and under broker – that was our market, the smaller

aircraft. But things changed once we got into the 604s, which became the 605 programme, and subsequently we've done numerous Globals on the factory-new side, in addition to other work with Dassault and Gulfstream.

We're among the few dealers, brokers who are either crazy enough or smart enough to do factory-new aircraft at an ultra-high-end level where our presence makes a difference. That difference may be completion flexibility, it may be availability of supply, as well as tradeability.

The one thing manufacturers universally agree on is that none of them really like to do trades.

They do trades when they have to, but that's certainly not a strategic objective.

That's our business model. We fit that mould. That's exactly what I want to do. I want to take a new aircraft sale and turn it into two or three aircraft deals.

I love trades and I'm OEM indifferent. I don't care if it's a Gulfstream, Bombardier, Dassault, we like them all.

The thing is, we care about the transaction structuring, being able to make a good deal for the client and a fair trade for Jetcraft. Our objectivity among the main OEMs has helped us stay in the face of the ultra-long-range buyers.

**Q. How do you attract new customers?**

**A.** Sometimes we attract a client through open marketing and our sales directors networking and so forth. At other times, it's either inventory or relationship-driven. Thankfully, it's a pretty





The Jetcraft team.

good mix of both. We love it when we can attract a new client through our expensive marketing, but a huge amount of our business is still client referrals. They really rely on us.

**Q. How can you be so positive in your 10-year forecast?**

**A.** Even as much as a year ago, we had a lot of market indications that were conflicting. Prices were still falling at a relatively rapid pace, nothing was agreeing.

Now everything is pointing in the same direction.

North America, the largest installed base of current owners, has returned in a big way for several reasons. Number one, businesses are full of cash and now finally at a place where they're comfortable doing fleet replacements or fleet right-sizing.

Europe has been growing nicely for us again, even in the form of it being a supply chain. So, even if Brexit is going to be confusing – people don't have confidence yet to go ahead and buy an aircraft, they've said: "Heck, I'm going to get out of it for a bit until I know" – there's more than enough demand in North America to take good-quality European aircraft, which most of them are.

The other thing we've seen is Asia, a market that didn't exist 10 years ago and today it's the number three market in the world.

So, of our seven continents, the top three are North America, Europe and Asia, all giving the same confident signals.

**Q. What's selling?**

**A.** Some people will always take the three or four-year-old aircraft that has seen showroom depreciation. That's what the market is favouring right now – five years and under, young, bigger aircraft.

The other trend we're seeing, and you'll notice that in our forecast, big aircraft are not just in vogue, they're meeting the desired mission of the buyers in today's world.

They're buying them because, while a trip from New York to Chicago is incidental, a trip from New York to Dubai, or New York to London, is now common. The need for the truly international abilities of the bigger aircraft is what the market's telling us is the future.

**Q. What are the most exciting aircraft?**

**A.** It depends on the day! We've resold 14 G650s in the last two years. The G650 has been a hot model.

Lately the Falcon 7X – we have two 7Xs and have multiple offers of both. We did 50% of the Global 5000s and 80% of the 6000s last year.

I'm excited about the Global 7000, simply because so many of our clients have them on order. It's not yet certified and we don't want to see Bombardier miss that, because it's important for the company's success to hit its certification targets. It's a beautiful aircraft with a four-cabin environment, an apartment in the sky. You can work in one cabin, sleep in another, dine in another.

The Falcon 5X was cancelled but we know there's something else coming. I'm excited to see

it. Dassault builds a lovely aircraft; they're efficient, they're technologically advanced.

Gulfstream 500 and 600 are going to be logical successors to the 450 and 550. That upper end is fun, it's sexy, it's needed.

**Q. Can Cessna move up to that bracket?**

**A.** Yes, they can, they're trying. The thing about Cessna is they have incredible brand loyalty among their installed base of clients – and they have an incredible installed base of clients.

The only thing I'm a little guarded about is that a lot of their installed base are owner-pilots, the CJ series for example. The bigger aircraft, the Hemisphere, Longitude and Latitude, they aren't owner-pilot aircraft so they're going to have to make an impact in a different way.

**Q. What's your opinion of the Middle East market?**

**A.** The Middle East has always been a good market for us. It's a niche market in terms of size; it's not huge, but the beauty of it is that the deals that are done are customarily big aircraft. They need to be able to go London to Dubai, or Riyadh to London.

I'd love it if oil prices were higher. If you look at the [business jet] market, it's always been higher when the oil price is high and the dollar is weak. Well, the dollar is weakening and the oil price recovering.

The Middle East is an important market for sure, but we haven't seen a major swing for better or for worse. ■

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*Tensions in the Middle East and North Africa may be hampering the growth of the business aviation sector but MEBAA is pushing forward, as Asma Abdullah discovers.*

## Reaching out – Alnaqbi reflects on MEBAA mission



**I would love to do MEBAA activities in 26 countries. We have a very aggressive plan but the regional situation is not helping us.**

**ALI ALNAQBI**

**A**li Alnaqbi, founding chairman of the Middle East and North African Business Aviation Association (MEBAA), is upbeat about the progress being made by the region's industry body.

"We will continue to reach all countries as much as we can. I would love to do MEBAA activities in 26 countries. We have a very aggressive plan but the regional situation is not helping us and we understand that," Alnaqbi said.

MEBAA has grown healthy over a lifespan of 12 years, becoming the fourth largest association in the world, even though it is the youngest.

This year the region will witness six or seven conferences, including MEBAA's flagship event in Dubai. In March, a conference was scheduled for Jeddah, with the focus on the grey market, which has continuously disrupted the growth of private and business aviation.

The next conference for this year will be in Egypt or Tunisia. However, no official venue and date announcement had been made as *Arabian Aerospace* was going to press.

"Due to the challenges faced in some countries, reshuffling of the programme can always be expected," Alnaqbi said.

MEBAA has developed a reputation for listening as members discuss the challenges they face. Later,

professionals brainstorm and produce dynamic solutions and a conference agenda is born. Different countries' authorities are also selected to attend and meet with members, trying to come up with solutions to any common problems.

"MEBAA is a non-profit association established for the sole purpose of providing a platform for the members associated with the aviation industry," said Alnaqbi. "I do not like to be seen competing with airlines; we complement each other. We fly to airports that airlines cannot reach."

So, are the outcomes of the various conferences implemented in the market?

"In the Kingdom of Saudi Arabia, the issue of a private operator's licence was cancelled to help reduce the grey market problem. This took place as a result of a MEBAA recommendation," said Alnaqbi.

"Another example is the introduction of FBOs to Morocco. Previously, the country depended entirely on supervision but, because of demand from MEBAA members, it now has two FBOs at many major airports.

"Also, based on the request from MEBAA to the Government of Abu Dhabi, Al Bateen Airport was built to accommodate private and business aviation. This was the first private airport in the Middle East region. The support from the government and its continuing encouragement inspires MEBAA to move forward and to become a leading association in the business aviation market."

Alnaqbi also explained how countries were chosen to host MEBAA conferences.

### Potential for growth

"The event is normally chosen to be in countries where there is a potential for growth and a place for innovation," he said. "It is very important to make sure that the area is safe and secure for people to travel to that city and an infrastructure is ready to guarantee a successful experience.

"A conference is not only for the people in the country, but for the entire globe; hence comprehensive safety procedures are followed before it can be agreed."

The MEBAA show itself, which takes place at Dubai World Central in December, focuses on bringing the supplier to the customer to make it easier for the market to get exposed to new features and to make deals.

Alnaqbi said he believes in the effectiveness of communicating concerns from the region's business aviation operators and suppliers to help establish excellence in the sector.

He is currently vice chairman of the International Business Aviation Council (IBAC) and is set to become chairman in 2020.

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# FLIGHT FAN-TASTIC?

*The XTI Aircraft Company exhibited a one-third scale model of its planned TriFan 600 aircraft at the inaugural Kuwait Aviation Show in January 2018, as part of the company's ambitious equity-based crowdsourced funding campaign.*

**Jon Lake reports.**

**X**TI chief executive, Robert LaBelle, estimates that “a conservative \$375 million” will be needed to bring the TriFan 600 to market.

Certification and service entry is expected to take between five and seven years, following an 18-month research, development and test programme, which will initially use a two-thirds scale test aircraft.

This sub-scale prototype will be used to prove the aircraft's innovative aerodynamic design and configuration, which uses a vertically mounted lift fan in the centre fuselage, in conjunction with two ‘vectoring’ ducted fans mounted in the wing leading edge.

The TriFan will use all three ducted fans pointing downward in order to take off vertically. The two wing fans will then rotate forward to give a seamless transition to forward flight and an initial climb.

The aircraft will reach its cruising speed within just 90 seconds, when the transition to fully wing-borne flight will be complete. It will then transition back to the hover before landing vertically on any clear helipad-sized paved surface.

The small prototype will also demonstrate and evaluate the TriFan 600's ducted fan engines, testing their performance characteristics on take-off, in the hover and during the transition to horizontal flight.

#### Electric motors

Blade design and performance of the electric motors will come under particular scrutiny at this stage, before the company freezes the configuration of the full-scale production TriFan 600 design, which is planned to be a six-seater, accommodating a pilot, five passengers and ‘overnight bags’.

Denver, Colorado-based XTI claims that the TriFan 600 is the first vertical take-off and landing (VTOL) aircraft designed specifically for the business aviation market, offering true door-to-door travel with the speed, range and operational flexibility needed for true efficiency.

The company says that the TriFan 600 is designed to fly as fast, as high above the weather, and as far as conventional business jets, while being able to go to more places and with shorter travel times thanks to its VTOL capabilities.

Provisional performance figures released by XTI include a maximum cruising speed of 300 knots, a maximum

cruising altitude of 29,000ft (a height that will be reached in 11 minutes) and a range of 1,200 nautical miles.

XTI began developing the TriFan 600 in 2013, with the aim of creating an aircraft with the speed of a business jet and the take-off and landing performance of a helicopter.

The aircraft was originally designed around a pair of 2,600shp Honeywell HTS900 twin-turboshaft engines. However, in early 2017, XTI decided to move to a hybrid-electric propulsion system with a turbine-driven generator, batteries and motor, in an effort to reduce weight and production costs. This new system is being developed by Bye Aerospace.

#### Potential customers

XTI has used a succession of exhibitions to show the TriFan 600 to investors, potential customers and the media. The first such appearance was at the Paris Air Show in June 2017, where it claimed to have secured an order for three aircraft from what it coyly described as a “globally recognised operator”. This, the company said, was a landmark order that validated the programme and gave potential operators “confidence that the aircraft was coming into being”.

The programme was officially launched at the National Business Aircraft Association trade show in Las Vegas in October 2017, where XTI announced that it had received “numerous additional orders”.

The following month, at the Fort Lauderdale International Boat Show, XTI announced that it had received more than 60 orders for the TriFan.

The Kuwait Aviation Show was, thus, the fourth major trade show appearance for the TriFan 600 in just seven months.

XTI has a heavyweight team of board members. Vice chairman Jeffrey Pino is the former president and chief executive of Sikorsky, while Charlie Johnson was president of Cessna. The board also includes chief engineer Dr Dennis Olcott, formerly chief engineer with Adam Aircraft and with the PiperJet programme.

Media and investor relations are the responsibility of Amelia Earhart, a prominent pilot and reporter for KUSA-TV in Denver, Colorado, and founder of the Fly With Amelia Foundation, which grants flying scholarships to 16-18-year-old girls. ■

Gulfstream's G500 and G600 on test flight with its new interior and impressive flight deck.



# G WHIZZ

*An extraordinary experience awaits those private jet passengers who are buying or chartering Gulfstream's latest masterpieces – the G500 and G600. Dave Calderwood reports.*

**B**oth the G500 and G600 are on course for type certification with the US Federal Aviation Authority (FAA) and the European Aviation Safety Agency (EASA) this year.

The G500 is imminent, while the slightly bigger G600 is due later in the year.

Every area of the G500/600 is new and state-of-the-art. These jets are the pinnacle of current passenger jet design and technology from the avionics-packed nosecone to the fly-by-wire operated rudder.

Nothing has been left to chance by Gulfstream to make them the best performing private jets, for passenger experience, for pilots flying them, and for the operators.

When a slight delay in the type certification process occurred last year – a supplier got a little behind with the paperwork for EASA (now sorted out) – Gulfstream took the opportunity to add a little more performance, announced at last year's NBAA show.

The G500 gains an extra 200nm range at its long-range cruise speed of Mach 0.85, now offering operators a maximum range of 5,200nm. The G600 gains 300nm and can now fly a maximum of 6,500nm at Mach 0.85.

“As we methodically moved through our concurrent flight-test programmes, which are going exceptionally well, we recognised we had both the time and ability to enhance G500 and G600 performance and give our customers a

business-jet family that's better than the one we had promised them,” said Mark Burns, president, Gulfstream.

“Extracting more capabilities from our aircraft has become a Gulfstream hallmark, the result of creating and maintaining a culture committed to continuous improvement, listening to our customers and exceeding our promises.”

A more recent update confirmed the aircraft were on track. By February's Singapore Air Show, the five G500 test aircraft had accumulated more than 4,250 flight hours over more than 1,175 flights. The G600 had amassed more than 1,395 flight hours during more than 360 flights.

#### Incredible cabin

Welcome though the extra range is, what passengers will appreciate most is the incredible cabin Gulfstream has created.

Simply put, it's the quietest in the industry – so quiet, apparently, that you can't hear the engines at all in the cruise. It's also the brightest, with the same large oval windows used in the range-topping G650ER, and a cabin altitude of 4,850 feet at its maximum operating altitude of FL 510.

There are five basic designs that buyers of the \$44.65 million G500 can choose from and Gulfstream provides an iPad app that allows people to play around with all of the options, adding, removing, varying, to their heart's content.

Divans, hidden TVs, options such as floor

finishes (including stone if you want), and even a shower, are all possible. Locate the galley fore or aft, add connectivity and entertainment options – it's all possible. Iridium and Inmarsat satellite communication systems are standard, and various broadband options will be offered.

The five basic designs reflect a wide range of tastes, although the two designers, Tray Crow and Vicky Amores, leading the team behind the G500/600 cabin, say they've employed a 'less is more' rationale. The five designs are classic, layered, sport, minimalist and next gen.

Classic is a traditional look and will probably find favour with US corporations.

Layered is a step sideways from classic to make the cabin more like a home than an office.

Sport is a bit more 'in your face' with high contrast finishes, including carbon fibre, just like the latest yachts and high-end cars.

Minimalist is probably more European or even Asian, with a focus on tones and textures to emphasise an architectural look.

Next gen is more colourful and playful, shaking off usual design concepts. It sounds like it could be almost anything.

Gulfstream is picking up on a distinct trend among current large jet buyers that it's really all about the cabin. And so, it has dedicated one of its five G500 test aircraft simply to getting the cabin right, testing all the finishes and technology in flying conditions. Nothing is being left to chance.



Of course, that goes for the rest of the aircraft too. The G500 and G600 are very similar, though the G600 has a slightly bigger wing and longer fuselage.

Pilots will only need one type rating to fly both aircraft. The type rating is taken at FlightSafety's centre at Savannah International Airport – also home to Gulfstream.

Pilots looking at the demo aircraft gives any pilot, jet-rated or not, a thrill with its high-tech array of four screens and touch-controls, and clean, uncluttered environment.

The design philosophy here starts with the side-sticks, which are works of art in themselves. Side-sticks are universally loved by pilots after a few minutes to get used to them. They free up space in front of both pilots. They fall naturally to hand and it's easy to apply the relevant force and direction.

Gulfstream is not the first to employ side-sticks. Airbus uses them, as do Cirrus, Dassault and Embraer.

But Gulfstream is the first to have what it calls 'active control', giving feedback through the side-stick. That means flying the G500 will feel like flying a normal aircraft with direct controls, making it far more intuitive.

That's a big-plus for fly-by-wire controls, which can feel a bit lifeless. Through operating the side-stick, the pilot is telling the computer where he wants to go, then the computer

calculates the best way of achieving just that while staying within safe flying parameters. It's almost foolproof, and even if the captain (left seat) and co-pilot (right seat) put in opposing inputs, the system will default to the captain's choice, just as it should be.

Gulfstream has also built in what it calls 'intelligence-by-wire', which links the active-control sidesticks and touchscreen avionics with the autopilot, auto-throttles, autobrakes and automatic emergency descent, to protect against lost cabin pressurisation. It is continuously making tiny corrections to keep the aircraft optimised, which gives a smoother flight and better passenger experience.

#### Impossible to stall

It's also next to impossible to stall the aircraft, automatically staying within limits.

Gulfstream calls the G500/600 cockpit 'Symmetry'. It is based on the Honeywell Primus Epic suite, which also forms the basis of Dassault's EASY III cockpit and integrates a third-generation enhanced vision system (EVS).

A vastly improved camera on the nose of the aircraft has 400% better resolution and a wider field of view. It is linked to the head-up display to allow pilots to see through low and obscured visibility conditions, and ultimately for lower minimum decision heights during an instrument approach.

The four displays are not touch-screen but the

10 other displays are. Because of the constant interaction with pilots' fingers, touch-screen can occasionally fail but Gulfstream has made them easily swapped by the pilots themselves. There's no need to involve an engineer or have an aircraft stuck on the ground.

No doubt some pilots will hang on to their precious sheep-skin seat covers, but many will revel in their immaculate, perforated leather standard seats. This cockpit is more like a top-of-the-range British or Italian supercar than the crammed, uncomfortable ergonomic nightmares of old.

So, what else is new? The power units, obviously. Gulfstream has departed from its usual engine supplier, Rolls-Royce, with the G500/600 and chosen Pratt & Whitney's PW800 turbfans.

Gulfstream says the aircraft will have the best fuel efficiency in the class, the lowest noise footprint, and, important for operators and for costs, a 10,000-hour time before overhaul (TBO) interval with no mid-life inspection.

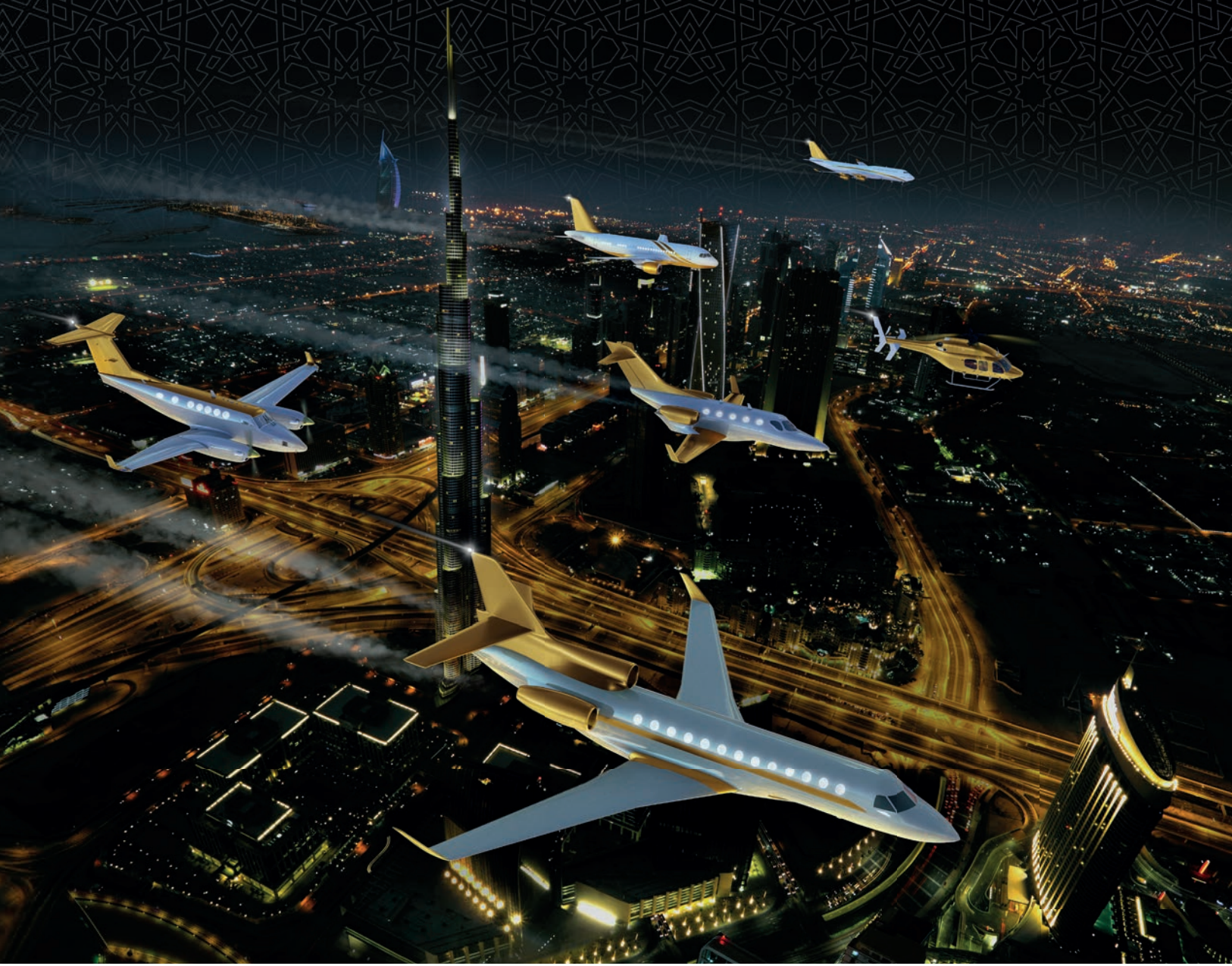
The PW800s are based on airline engine technology, where dispatch reliability and low operating costs are absolutely key.

So, despite the business jet market still not having recovered to the heady levels of 2008 – although it's improving rapidly now – manufacturers like Gulfstream continue to invest and innovate and create simply wonderful aircraft. ■

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**Dave Calderwood** looks forward to this year's European Business Aviation Conference & Exhibition (EBACE), at Geneva Palexpo from 29-31 May and predicts that Brexit will be on everyone's mind this year.



# Brexit the big talking point for EBACE...

There's less than a year until the UK withdraws from the European Union and, with no deal yet in place, there's a great deal of uncertainty. It's not just how it affects the UK – the whole of European business aviation wants to know how Brexit will have an impact on air traffic rights, aircraft ownership, customs duties and myriad other issues.

The European Business Aviation Association (EBAA), which stages the event, published Brexit scenarios for business aviation last year in a bid to influence negotiators on both sides. EBAA is pushing for recognition of business aviation's global nature and minimum disruption.

Given the uncertainty, you might think European business aviation would be suffering, but that's not the case. Last year, traffic was up by 6%, with Eurocontrol reporting more than 700,000 movements.

"The reality is seeping in that business aviation is an integral part of the overall mobility mix," explained Brandon Mitchener, outgoing EBAA CEO. He added that new forms of service, which increase access to business aviation and interest from the younger generation, have led to a steady increase in traffic since November 2016.

It's not just the western Europe countries that are growing. Central Europe saw a 12.2% growth in average daily flights, bolstered by Slovakia (30.9% increase), Bosnia-Herzegovina (25.7) and the Czech Republic (13.8).

European Union business aviation traffic is now on a par with 2006 levels, but has not yet returned to the historic peak of 2007 and 2008.

In preparation for EBACE, the EBAA has

prepared its economic value and business benefits report, analysing the value of business aviation within Europe. It says:

- 374,000 European jobs are either directly or indirectly dependent on the business aviation industry;
  - The industry represents €87 billion (\$108bn) in output and €32 billion (\$39.7bn) in gross value added (GVA);
  - France, Switzerland, Germany and the UK are the main players in the sector, producing 76% of the total GVA of the industry;
  - 92,000 of the sector's jobs stem from the operation of business aircraft – with aircraft operators, maintenance firms (MROs) and ground-handlers/ fixed-base operators (FBOs);
  - Across European point-to-point flight routes, bizav flights save 127 minutes on average;
  - Business aviation in Europe serves 25,280 city or area pairs not connected by non-stop commercial flights;
  - More than 12,000 air ambulance and medical evacuation flights were flown in 2017 to and from remote regions – more than 50 a day.
- We can expect news updates from the aircraft

manufacturers but, perhaps the most dramatic news came from Dassault at the end of February. It is to replace its cancelled Falcon 5X long-range, large cabin twin-jet with... the 6X.

Instead of the innovative but troublesome Safran engines, which forced Dassault into this position, the French manufacturer has turned to Pratt & Whitney Canada, whose engines already power the existing range of Falcon jets.

Eric Trappier, boss of Dassault Aviation, admitted the company had been forced into 'plan B' because it still needed a new product to fit that gap in the market – and it needed it quickly. The 5X was supposed to have entered into service in 2017 and now Dassault is looking at the 6X's first flight in 2021 and entry-into-service the following year.

One upside of the delay is that Dassault is able to fit the updated EASy III cockpit to the \$47 million 6X, which will include the latest version of the FalconEye head-up display.

Over at Bombardier, the big news will be whether its long-awaited Global 7000 is on schedule for its type certification and entry-into-service

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on Page 72

**Is Bombardier's Global 7000 on schedule?**



**CONTINUED FROM PAGE 71**

in the second half of 2018. A mock-up of the big Global's cabin has been touring the world – most recently in the Asia-Pacific region – featuring four living spaces including a dining area, entertainment lounge, en-suite master bedroom and private washroom.

The 7000's fully equipped kitchen includes high-end appliances, with ample room for dinnerware and glassware. The aircraft is said to have an astonishing range of 7,400nm and a top speed of Mach 0.925.

Bombardier is also celebrating the success of its Challenger 350 super midsize jet. Last year, it delivered 56 of the aircraft, more than half the total for that market segment.

“Thanks to their exceptional cabin comfort, connectivity, reliable performance and ultra-smooth ride, our Challenger 350 business jets continue to lead the market in unit sales and have earned their place as the leading choice among experienced flight departments and charter operators,” said Peter Likoray, senior vice president, sales and marketing, Bombardier Business Aircraft.

Cessna is riding high on the success of its Citation Latitude and looking forward to the entry-into-service of the Longitude.

Newshounds will be asking for progress of

**The Challenger 350 and (inset) the HondaJet.**



Cessna's biggest ever business jet, the Hemisphere, wondering if that programme has also been affected by the Safran engine delays. The Hemisphere is also due to be powered by the same Safran Silvercrest turboprops as the Falcon 5X.

Expect also details of progress on Cessna's GE-powered Denali single-engine turboprop that's due to go head-to-head with the successful Pilatus PC-12.

## Nice work if you can get it...

Two Gulf airlines have enthusiastically embraced helicopter operator Monacair's scheduled flights between Nice Côte d'Azur Airport and the Monaco Heliport.

Monacair won a 10-year tender to operate the route in 2015, beating incumbent operator Heli Air Monaco.

It aimed to reverse a decline in the number of flights on the route by adding new services and streamlining connection times – getting heliport passengers to their boarding gate at Nice within 20 minutes (including the seven-minute flight), with security checks taking place in the Nice heliport.

In order to service the route, Monaco-based Monacair purchased six Airbus Helicopters H130s, though night flights (representing about 10% of the total) are operated by twin-engined helicopters – an EC145 and an AgustaWestland A109SP.

Monacair's service is high-end, despite planning to operate an intensive schedule, with flights departing every half-hour and averaging 50 flights per day.

The company became official supplier to the Sovereign Prince of Monaco in 1999 and, since then, has provided all helicopter transport for the royal family, the government and for visiting heads of state.

Emirates has long offered a complementary chauffeur service for first and business-class passengers at their departure airport and at



**Monacair purchased six Airbus Helicopters H130s.**

their destination, and in Venice it offers a complementary motor boat transfer. For passengers on the Emirates A380 service to Nice, it now offers helicopter transfers between the airport and Monaco using Monacair's flights, in addition to a limousine service from the heliport to their final destination.

Emirates started flying to Nice, which it views as the gateway to the French Riviera and Provence, in July 1994. The airline replaced its Boeing 777 service with a daily A380 on July 1 2017. Nice, thereby, became the only city in

France, apart from Paris, to boast a scheduled A380 service.

The Monacair helicopter transfer service is free for first-class Emirates passengers, while business class passengers pay €79 (\$98) and economy class passengers are charged €109 – the normal Monacair fare is €160.

On July 4, Qatar Airways added a similar helicopter transfer option to its new five-times-weekly service between Doha and Nice, operated by a Boeing 787 Dreamliner. Qatar Airways has also partnered with Monacair.

However, with the worldwide market for turboprop singles and twins in the doldrums, Cessna's bosses at Textron Aviation might be more concerned about the Beechcraft King Air models.

There might be some relief for turboprop makers if Europe's business aviation market follows what's happening in the US, where charter operator Wheels Up is building success operating King Airs.

The great thing about the King Air is lower operating costs than an equivalent size jet, and its ability to get in and out of awkward and short runways.

Something similar is being offered by newer operators such as Wijet, which has just announced a \$78 million deal for 16 HondaJets, with deliveries continuing over the next 18 months. Wijet plans to fly a taxi-jet airline operation to 1,300 locations across Europe and north Africa.

Discussing EBACE analyst WingX Advance said: "We think there's more growth to come in 2018, thanks to lots of capacity, smarter platforms, scaled-up ops, smarter and wealthier customers. But beware sustainability of the charter model; return on investment (RoI) is difficult to discern."

## Silence is golden on the Longitude's tour

Cessna took its Citation Longitude jet on a world tour over 31 days earlier this year.

The Longitude covered 31,000nm, flew 27 legs and visited 12 countries, to show off its ultra-quiet cabin and performance.

It left Cessna's HQ at Wichita, Kansas, and headed for its Asia-Pacific debut at the Singapore Air Show, followed by a tour of Europe, before flying back to White Plains, New York from Farnborough, UK in a flight time of 6 hours 50 minutes and a crossing speed of Mach 0.82.

Tom Perry, vice-president of sales in Europe, was keen to show off the comfort and low noise levels of the Longitude's eight-seat cabin during a 90-minute flight at Farnborough.

The sound level inside the cabin is, indeed, extraordinarily low, especially with the cabin bulkhead doors to the cockpit and rear baggage area shut.

You could whisper and be understood, let alone have a conversation at normal voice levels. Cessna has achieved this by noise attenuation – using sound proofing materials known to work at certain frequencies, such as engine and wind noise.

This cabin quietness coupled with the market-leading cabin pressure of 6,000ft at flight level 450 (FL450) makes travelling in the Longitude an effortless exercise. The performance take-off from Farnborough, climbing quickly to FL430, was pretty exciting too.



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The Airport Show in Dubai is now the largest in the world.

# MORE ON SHOW... AND MORE SHOWS ON!

*This year's Airport Show in Dubai will see its largest turnout of exhibitors displaying cutting-edge technologies and innovations to transform the way we travel.*

**Marcelle Nethersole reports.**

**T**he UAE is gearing up for the largest airport show in the world. It takes place at Dubai International Convention and Exhibition Center (DICEC) from May 7-9.

"The Airport Show in Dubai is now the largest in the world, mainly because the region continues to post strong passenger growth and its airlines show a huge appetite for expansion," said Daniyal Qureshi, group exhibition director at event organiser Reed Exhibitions.

In 2017, the event received 7,095 visitors from 87 countries. They recorded more than 3,000 business meetings via the show's business connect programme.

"This year we are expecting 7,500 attendees and 350 exhibiting companies from 90 countries," said Qureshi. "Normally, 15 to 20% of our exhibitors are new each year and we expect visitors from almost all of the Middle East, south Asian and African countries, as well as attendees from across the world.

"In particular, we expect more than 1,000 attendees alone at the show conferences, many of whom will be C-level (senior management) officials at regional airports, civil aviation authorities, air navigation service providers

(ANSPs) and government departments."

Of the 350 exhibitors, Qureshi said many were debuting at the show and several were exhibiting in the region for the first time.

"The show has become a leading global platform for the newest technologies. The focus is on the smart technologies that are changing the passenger experience and travelling process," he added.

"Exhibitors will be displaying smart modular data centres, new aviation cloud solutions, the latest scanning technologies, and robot baggage-handlers, among many other new products.

"This exciting time in the industry will be reflected with technology being the biggest visible influence on the future airport experience."

Carmanah will be exhibiting at the show for the first time. The Canadian company manufactures compact solar airfield lights and aids to navigation for some of the harshest environmental conditions. These include military-grade products offering a low-cost runway lighting solution for public and private airports.

Also new to the event is Safe

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## CONTINUED FROM PAGE 75

Passage International (SPI). The US company provides training programmes and services for the critical infrastructure, transportation, and ports and borders markets. Its customers include Saudi Arabian airport operator Dammam Airports Company (DACO), and Polish company Dimark, which specialises in the design, manufacture, assembly, commissioning, and servicing of baggage-handling systems.

UK company AGI will be exhibiting its emergency airport lighting products for the first time.

“The company’s airport systems division – branded as Metalite – has been at the forefront of design and manufacture of portable emergency airfield lighting systems that are low maintenance, highly reliable and highly available, since the 1960s,” said international sales manager Moataz Elwalily. “It makes us the leading manufacturer of equipment for both the civilian aviation market and the manufacturer of choice for global military operations.”

**Battery-powered**

One of the company’s lighting products is CALKIT – a battery-powered portable runway lighting system meeting relevant international aviation standards for airport or airfield use.

“The 66 portable runway lights contained in the system can be deployed in less than 20 minutes and offer a minimum of 16 hours light output before recharge is necessary,” explained Elwalily. “The trailer has a simple drop-in charging system, which allows fast loading and unloading of the lights before and after the eight-hour charging process.”

Elwalily added that it is the perfect time to be debuting at the Airport Show.

“This is looking to be a very exciting year for AGI, particularly with the imminent launch of our new portable lighting range, and we are delighted to be able to attend the show at such a great time for the aviation industry in the Middle East,” he said. “The show is going to be a major platform for the launch of our new range so we would definitely like this included in the article as above.”

AGI will be based in the UK country pavilion. France, Germany and Denmark will also have pavilions, as will China, which has 11 companies exhibiting.

Chinese companies include Ainuo Instrument Company, which focuses on aircraft ground power supply systems and electrical equipment testing systems; the Chongqing Techking Industry company, which specialises in ground-support equipment and service; and Hunan Chendong Technology, which manufactures green navigational aid products, mainly for aviation obstruction lights, helipad lighting, and low-visibility operation lights.

This year’s Airport Show will also introduce two new co-located events.

“Backed by the government and other industry-specific organisations, the new ATC Forum has been created specifically for the air traffic management community and will offer a three-day exhibition and one-day conference,” said Qureshi.

“The UAE has just undertaken its most ambitious airspace restructuring project, and ATM upgrades are under way across the region.

The ATC Forum will bring the latest global solutions to the region to help its ANSPs successfully implement these upgrades.

“Likewise, security continues to play an increasingly important role as airports remain keen to accelerate their outputs while enhancing their customer experience, so a new three-day dedicated exhibition and one-day conference focusing on airport security has also been created.”

The 2018 Women in Aviation conference, with gold sponsor Honeywell, will also take place on May 9 and will highlight the achievements of women in aviation globally, opportunities for them in the region and feature case studies on how to integrate them further into the workforce.

**Growth indicators**

Key sessions will include: growth indicators for the Middle East aviation industry; developing successful programmes that inspire students to pursue aerospace careers; key regional aerospace programmes and the exciting job opportunities they offer; and will the first woman on Mars be an Arab?

Speakers will include Mervat Sultan, co-founder and president of the Women in Aviation Middle East chapter, Laila Hareb, assistant director general aviation strategies and international affairs, General Civil Aviation Authority (GCAA), Aysem Sargin Isil, managing director Boeing International Turkey, and Dr Mohamed Nasser Al Ahbabi, director general, UAE Space Agency.

Qureshi said the Airport Show is diverse, offering the most effective platforms for global airport industry suppliers to meet with regional aviation officials and provide the solutions they require for their developments.

“More than 11% of the projected 40,000 new aircraft deliveries over the next 20 years will be to the Middle East and Africa,” he said. “The region will add almost 450 million new passengers by 2035 and this requires massive expansion and upgrading of its airport infrastructure.

“In addition, through our highly successful buyers, VIP and matchmaking programmes, we have been able to maximise networking opportunities for our busy attendees and increase return on investment for our exhibitors.

“We plan to continue investing in the show’s development with new features launched each year to reflect the changes in our industry. This will help maintain our position as a leading global aviation platform and visitors to this year’s show will be able to see that.”



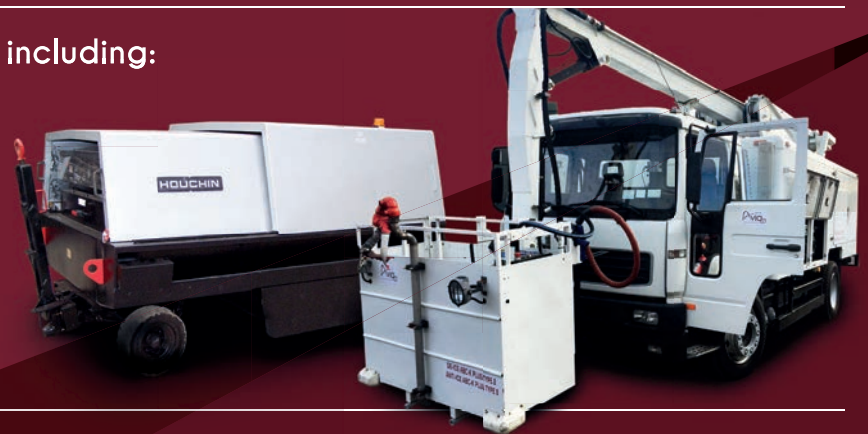
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Emirates was the first international airline to land a scheduled commercial flight at the newly inaugurated passenger terminal at Muscat International Airport on March 21.



*Oman Airports Management Company (OAMC) successfully opened the new passenger terminal building at New Muscat International Airport last month, as it overcame a plethora of delays over the last two years.*

## The delayed Muscat International Airport has now arrived...

**T**he New Muscat International Airport project catapults Oman into the top flight of airport design and execution schemes currently occupied by the region's leading airports in Dubai, Abu Dhabi and Doha.

Opening Day, March 20, saw the first Oman Air flight depart at 5pm, with the first arrival touching down before 6pm. National airline, Oman Air, said it would be operating 200 flights a day from the facility.

OAMC, the Public Authority for Civil Aviation (PACA) and Oman Air officials had long recognised that the country's prospects as a high-end tourism destination were being inadequately served by the existing terminal at Muscat – built decades ago and often involving passenger boarding at remote stands.

“Oman Air, the national airline for the Sultanate of Oman, is starting its operations from Muscat International Airport on March 20 2018, when all incoming and outgoing flights will be transferred from the current terminal to the new airport,” announced the international carrier.

An official video said the terminal housed several first and business-class lounges and would “efficiently accommodate” more than 20 million passengers a year, rising to 48 million in two further stages of development. Oman saw a total of around 17 million passengers in 2017.

“The opening of the new Muscat International Airport has long been anticipated and is a momentous occasion in the sultanate's history,”

news reports quoted acting Oman Air chief executive, Abdulaziz Al-Raisi, as saying.

“As a major stakeholder, our strategy is to support the anticipated growth in tourism and logistics and we are stepping up investment. In 2018, we have already announced the arrival of new aircraft, routes to North Africa, Russia and Europe, and an expansion of existing services.”

The new terminal would allow Oman Air to offer a “thoroughly enhanced service”, it said. “Muscat International Airport has been designed to be a shining symbol of the modern state of Oman being built by His Majesty Sultan Qaboos bin Said.

### Significant boost

The hub will be a significant boost to Oman's already flourishing travel sector as it will have the capacity to handle 12 million passengers per year and its runway will be able to accommodate the world's largest aircraft, the Airbus A380, and an independent parallel operation.

“The airport also boasts a number of excellent facilities, including 6,000sqm of duty-free shopping, 96 check-in counters, 8,000 parking spaces and a 90-room airside hotel.”

Oman Air said in a press release that a new Boeing 787-9, its seventh Dreamliner, which joined the fleet on December 6, would be utilised on its European and Far-Eastern sectors. One more aircraft of the type is on order. The airline also said it recently ordered 30 Boeing 737 MAX aircraft, enabling a diverse range of configurations, and that

it took delivery of the second such aircraft on March 11.

“With the addition of the new MAX, Oman Air's fleet currently consists of seven Boeing 787 Dreamliners, six Airbus 330-300s, four Airbus 330-200s, five Boeing 737-900s, 21 Boeing 737-800, two Boeing 737 MAXs and four Embraer 175s,” it said.

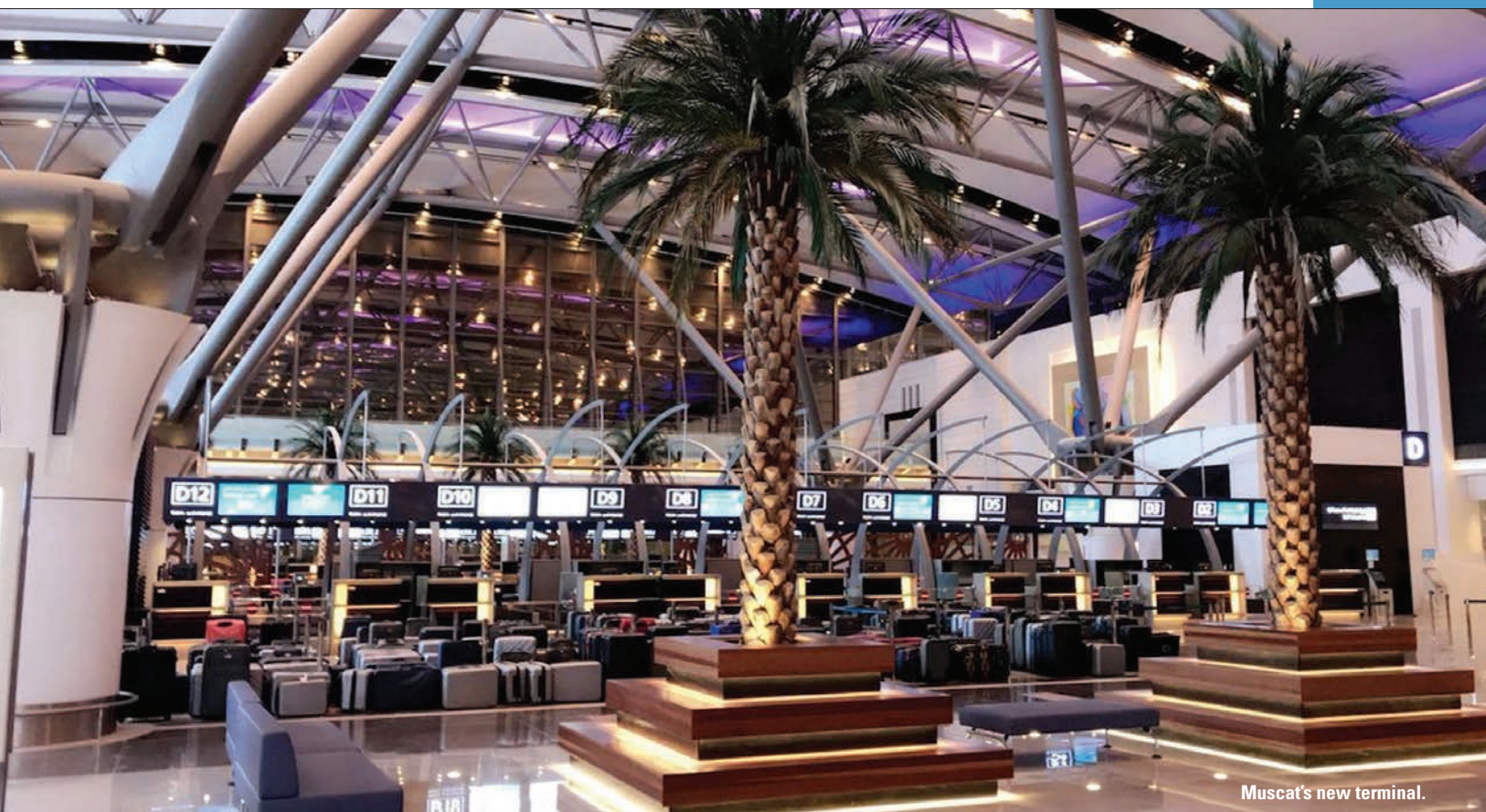
OAMC CEO, Sheikh Aiman Al Hosni, must take the credit for the achievement in opening the new facility, even if an official video, which saw him gazing through a window at the airport's impressive exterior, may have summed up his feelings about the project: “What does it take to push through to the finish line when the inches become miles and the miles an eternity?”

As a troupe of Omani pipers and drummers worked their way through the atrium, he beamed and laughed, giving the thumbs up to waiting television camera crews filming the opening ceremony.

Dubai International Airport (DXB) became the world's busiest international airport in 2015, while Abu Dhabi Airport's iconic ‘X-shaped’ Midfield Terminal Building will set new standards for design and execution when it opens this year; Qatar's Hamad International Airport at Doha is the last word in luxury and sophistication, handling 120 million passengers since opening in 2014.

“Muscat Airport's new terminal will be 345,000sqm, have 45 boarding gates, 29 remote stands, and will have a capacity for 20 million





Muscat's new terminal.

passengers per year, with the potential for that to eventually be increased to 48 million. Hopefully this means that a majority of flights will now leave from gates rather than remote stands," Ben Schlappig, author of renowned airline industry blog *One Mile at a Time* wrote of the new facility.

"I can't wait to check out the new terminal, and especially to see what Oman Air's new lounges are like. The airline already has quite a nice lounge in the old terminal and I imagine the new one will be even nicer."

Oman Airports is owned by the Government of the Sultanate of Oman, and is responsible for the management and operation of Muscat International and Salalah Airports and for the future new airports at Duqm, Sohar and Ras Al Hadd.

Omanis are notoriously prickly about matters to do with domestic administration. The case of the new passenger terminal building at Muscat Airport was a particular case in point. The opening prompted an outpouring of Omani pride, perhaps in direct proportion to the embarrassment felt in recent years at developer difficulties over contractor payments due to the collapse in oil prices, and technical faults Omani airport officials said needed rectification during the build-out.

Oman's official TV channel carried a three-and-a-half-hour live broadcast to mark the opening of the new complex. Presenters were keen to stress that the project symbolised a 'new

airport' for Muscat, rather than simply a new passenger terminal building.

OAMC's operational readiness, activation and transition (ORAT) team had been preparing for the opening for months. The first test flight, Oman Air WY2001, took off on December 23 last year.

The ORAT team, in coordination with consultants from Munich Airport, said it organised 35 advanced tests with more than 17,000 community volunteers, using a variety of scenarios.

The tests were held on a weekly basis every Wednesday in December and every Monday and Wednesday starting from January 2018 until the official operation of the new terminal commenced.

#### Insight into delays

Former Oman Air CEO, Paul Gregorowitsch, gave an insight into the delays that dogged the new Muscat Terminal project at the Arabian Travel Market in Dubai last year. Design, IT and security problems all played a role in holding the project back, quite apart from payment difficulties.

"Let me take an example. If you start testing your IT systems and you find your IT cables next to your high-powered electricity [network], that could cause problems. To ensure entry into service, some parts of the building had to be redone. That's one," he said.

"The second part is that security and fire

alarms should be state-of-the-art. So, when you start testing them at the airport, [sometimes there are problems]. Either the distances are not correct, or they are not activating properly. Those types of steps are made.

"Of course, you can get a design from an architect, and you think it will work without a problem. The reality is that there can be delays at every airport. Berlin is a good case in point," he said.

"It was planned to open the new Muscat Terminal last year (in 2016). Now we expect it to open in November 2017. When I came to Oman in 2014, the plan was to have it open at the end of 2015, [or] 2016. That became now 2017. That is the delay I am talking about."

With the opening of the new airport, Oman finally has a gateway commensurate with its undoubted tourist riches.

Travellers to Muscat's Burr Al Jissah resort, the Chedi Muscat or the Al Bustan Palace Hotel, will get their holidays off on the right foot. Whether visiting the Sultan Qaboos Grand Mosque, the Royal Opera House Muscat or the green mountains around Nizwa, the warmth of the traditional Omani welcome will only be accentuated by this new tour de force.

Sheikh Aiman will take a sense of quiet satisfaction as Oman moves into its place in the sun. He mused: "What does it take to create something that everyone is proud of when the odds are stacked against you and nobody thought it was possible?"



# Riddle of Britain's ban on Sharm El-Sheikh

*European tourists have returned to Egypt's Sharm El-Sheikh, bringing much-needed revenue to the city's population. Yet UK airlines are still barred from flying there. Alan Dron tries to find out why.*

**M**ystery surrounds the continued refusal of the UK Government to allow the country's airlines to fly into Sharm El-Sheikh, more than two years after they imposed a ban following the destruction of a Russian airliner near the Red Sea resort.

The Metrojet Airbus A321 crashed shortly after take-off from Sharm El-Sheikh, killing all 224 passengers and crew.

The aircraft's destruction is widely believed to have been caused by an explosive device planted while the aircraft was on the ground, although the sabotage theory has never been officially confirmed.

The incident led to the immediate suspension of flights to Red Sea airports by many European governments. However, while most countries – including Russia – have restored all services to Egypt, the UK has yet to allow the resumption of flights to Sharm El-Sheikh.

#### Largest national group

British tourists were the largest single national group to fly into Sharm El-Sheikh, particularly in the winter season, and their absence has left many hotels, dive schools and shops near-deserted.

Egyptian officials have become increasingly frustrated at the refusal to permit resumption of services. At last November's World Travel Market (WTM) – the world's largest tourism exhibition – in London, Egypt's ambassador to the UK, Nasser Kamel, said his country had spent \$30 to \$50 million on upgrading the airport.

Speaking at a WTM press conference, reported in the travel industry publication *Travel Weekly*, he added: "As far as the Egyptian Government is concerned, we have implemented a joint action project and upgraded security at Sharm el-Sheikh [airport]."

"The project has been so successful that the whole world, except Britain, has resumed flights."

*Travel Weekly* reported that, although UK visitor numbers to Egypt as a whole rose slightly in 2017 (230,000 visited in the first nine months against 170,000 in 2016), numbers were still well below the peak of more than one million in 2009-10 and 750,000 as recently as 2014.

By contrast, Germany, which initially cancelled flights to Sharm El-Sheikh but then restored them, sent more than

800,000 tourists to Egypt in the year up to the end of September 2017.

The ban has also affected some UK airlines, most notably veteran tourist carrier Monarch Airlines, which collapsed in autumn 2017 after Egypt and Tunisia – two of its most popular destinations – were hit by terrorist attacks that prompted the UK Government to officially advise its citizens against going to either country.

Tunisia has now been removed from the blacklist – another factor that irritates Egypt.

The matter has been raised several times in the UK Parliament. One member of the ruling Conservative Party, Jonathan Lord, noted in December 2017 that, following an inspection from the UK's Department for Transport, a 25-point plan was drawn up and implemented to ensure the safety of the airport.

"I understand that security experts in the UK and Egypt now agree that Sharm El-Sheikh has one of the world's most secure airports. Egypt has spent more than £20 million on improving security at the airport, replaced outdated equipment, trained 7,000 staff using the UK aviation security firm, Restrata, run rigorous background checks on current staff, laid off more than 40% of the original staff and introduced a new biometric ID system for all airport employees."

#### Giving in to terrorism

Stephen Timms, a member of the opposition Labour Party, added that the refusal to allow UK airlines back to Sharm El-Sheikh "is characterised by many in Egypt as the UK giving in to terrorism. It is hard to understand why the ban is being kept."

Replying, Transport Minister John Hays said: "It has been acknowledged that the level of security at the airport has improved from where it was before."

However, he added, there was "a wider range of security-related reasons" involved that he could not talk about publicly. This is thought to be a reference to terrorist activity further north in the Sinai Peninsula.

In a statement, the UK Department for Transport said: "We continue to work closely with the Egyptian authorities on security arrangements at the airport. We keep aviation security under constant review and will resume flights as soon as we can."

# EGIS BUILDS ON DECADES OF MIDDLE EAST TRUST

Egis is supporting Saudia and Flyadeal airlines during the transfer of their operations to the new terminal at Jeddah Airport. **Vincent Chappard** reviews the group's main projects in the region.

French engineering group, Egis, has been present in the Middle East since the 1980s.

Today it boasts 1,400 employees and a turnover of €160 million (\$198m) in the rail market, including the Riyadh and Doha subway projects; road infrastructure (Doha motorway system); and, of course, in the aviation sector.

In 2016, Egis generated 17% of its turnover in the Middle East and 10% in Africa.

In the airline industry, it has a unique portfolio of air traffic management (ATM) and airport services, ranging from strategy to operations. It provides assistance to its customers in their strategic, organisational, regulatory, operational and technological evolutions to develop a sustainable air transport system.

Egis has led projects to improve operational performance at Dubai airports and to build control towers at Cairo, Alexandria (Borg El Arab) and El-Arish airports.

The company is present in the Saudi market, where it is preparing the launch of the new terminal, scheduled for May 2018.

It is also assisting Saudia and Flyadeal in their transfer operations to their new hubs in Jeddah.

The ongoing expansion work at King Abdulaziz International Airport (KAIA) in Jeddah will run until 2035. Egis is working on the integration of the systems of the new terminal and the control tower.

"The transfer requires a lot of planning, logistics and training, especially for the movement of the aircraft fleet, systems and personnel," explained Egis Middle East aviation director Jacques Khoriaty.



Egis is also interested in projects at the country's regional airports, including the Abha and Jizan airport infrastructure in the south of the country. These domestic and regional destinations are experiencing growth in air traffic from 20 to 25% thanks to tourism.

Khoriaty is closely following the Saudi airports privatisation programme – part of the government's 'Vision 2030 Plan'. The

group is studying these opportunities as both a potential investor and operator.

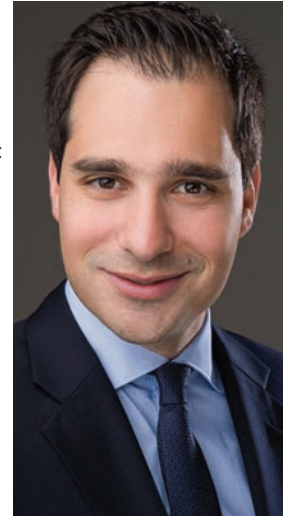
Egis also wants to diversify its activities in the UAE and Kuwait and has submitted tenders for several airport development projects. These include the extension of one of Sharjah's airport terminals, a project management contract for Kuwait Airport, and a partnership for Ras Al Khaimah International Airport.

Khoriaty believes Iran also has much opportunity for development, but the group doesn't yet have the green light (especially the financial flow) to operate in the country.

"We are preparing market studies and masterplans with Iranian staff from our Dubai office to position ourselves," said Khoriaty.

The company has been working with all Gulf countries for the past two years to reorganise and find solutions to facilitate air traffic flows.

It has also signed a strategic partnership with Projacs, a leading Middle East project management company, aimed at creating growth opportunities.



Jacques Khoriaty: following the Saudi airports privatisation programme.



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*Communications technology provides answers for improving the safety, efficiency and cost of line and base maintenance operations.*

*Chuck Grieve has been finding out more.*

## Safran breakthrough channels communication to a new level

**A** new support service and tool for borescope inspections (BSI), just launched by Safran Aircraft Engines, is being heralded as a breakthrough for the MRO industry.

Called B.Side, it uses a bundle of communication channels, including live two-way video, to connect technicians in the field with an engine expert.

The service is designed to support remote critical inspection in real time, around the world. It was demonstrated at MRO Middle East, ahead of its commercial launch in April.

B.Side emerged from innovation workshops that brought together end-users, Safran experts and product developers to discuss how to simplify BSI. It has been piloted with customers, including Luxembourg-based Luxair, and Safran's own on-wing support teams have been using it since autumn 2017.

### Voice and video

Marcellette Cloche, business developer, services and MRO division, said workshop participants underlined the need to use "all channels, including voice and video, for effective communication. It's important to be able to see the person you're talking to."

She told delegates to the Airline Engineering & Maintenance conference in Dubai that B.Side was designed as a "relatively inexpensive" way to enhance collaboration and improve BSI productivity. In operation, it also promises to shorten the learning curve for engine technicians and improve their skillsets.

The tool comprises a video converter and ergonomic web platform and is compatible with all types of borescope and hand-held communication devices, including smart phones

and tablets. Users can collaborate through voice, photos, video, document sharing and live conferencing with any number of participants. For precision and clarification, they can mark up the photos and videos they share.

B.Side also gives users a checklist and report generation function that automatically organises photos, comments, sanctions and electronic signatures. Using the B.Side cloud centralises all relevant documents on the engine's health and allows them to be shared.

"Technicians can encounter new situations, whether they're doing line or base maintenance, that prevent them from signing off the engine inspection report," said Cloche. "Particularly in remote locations, this could cause delay and disruption and add cost."

Using Safran's new tool, technicians can ask for support, discuss the case with an expert, share images and videos, and together resolve the situation.

"B.Side then generates the appropriate report and the aircraft can take off."

Safran also sees good potential for B.Side for sharing and issuing reports internally, for scheduled assistance and on-the-job training, and for aircraft-on-ground (AOG) help. And, while it was designed for borescope inspections, technicians could also use the tool in the same way for outside-of-engine or piece-part inspections.

### Simplified process

The aircraft technician's need for a simplified process – in this case for documentation – is also the rationale behind a voice-activated system from Honeywell to be adopted by Abu Dhabi's TS&S Aerospace.

The two companies used MRO Middle East as the stage for signing an agreement making the Abu Dhabi-based company Honeywell's first Middle East customer for its maintenance and inspection (M&I) voice system.

TS&S Aerospace said it is a significant step toward realising the company's ambition of digitising its processes with data-generated solutions, known as smart connected assembly.

The Honeywell system uses advanced voice and sound-recognition algorithms to create a 'hands-free, eyes-free' environment in which technicians can log their observations and diagnoses in real time by speaking into a simple headset with a remote network connection.

Honeywell says its system can significantly reduce paper-based documentation and cut the amount of manual data entry. Users typically see a 35% improvement in productivity and 25% reduction in operational errors, the company says.

TS&S plans to automate processes in its materials requirement planning (MRP) system using the new voice capability.

**A voice activated system from Honeywell is being heard by TS&S Aerospace.**



*More than 1,300 airliners reach lease-end in 2018, expanding the opportunities of MRO operators worldwide to work with lessors on smooth, cost-managed transitions.*

# PLEASE RE-LEASE ME....

New lease-end data from independent aviation consultancy IBA suggests 2018 will be characterised by lease extensions rather than aircraft returns.

The data assumes the price of oil, interest rates and other market forces will remain constant.

Airbus A320ceo and Boeing 737-800 types are expected to account for the majority of narrow-body lease-ends in 2018; the 767-300ER and A330-200 lead the pack for the wide-bodies.

“With burgeoning operator demand in the majority of global markets, we would advise MROs to plan upcoming worksopes with lessors so they can meet the transitions head-on,” said IBA president and chief executive, Phil Seymour.

The data from IBA.iQ, a fleets and values data platform, indicates the majority of extensions and returns will involve mid-life aircraft.

Only around 200 aircraft less than 10 years old will be available; a number of the older aircraft will head for retirement. “Extracting maximum value from these aircraft in terms of tear-downs, refurbishments, conversions or re-leases will be the real challenge for MROs seeking to offer compelling services to lessors,” said Seymour.

Among narrow-bodies, 128 examples in the global A319 fleet reach lease-end in 2018. For the 737-700, that number is 58. Lease-end dates for A320-200s are expected to exceed those of the 737-800 in both 2018 and 2019. “We expect extensions and re-leases will fill the shortfall from 2023,” said Seymour.

For wide-bodies, the projections show A330s and 777s will account for more than half of lease-ends this year. More than 160 B767-300ERs are also forecast to come to their lease-end over the next two years. “Suitable airframes are likely to be snapped up for freighter conversion,” said Seymour.

The first 787-8s are expected to come back from their initial leases in 2022.

“Our projections show a high concentration of lease-ends in 2026,” said Seymour. “That could prove to be a testing year for the secondary market.”

IBA’s lease-end forecast for the 777-200ER shows lower volumes than for the competing A330ceo family. However, more -200ERs are going to storage: records indicate 52 examples of the type are currently parked.

Seymour said: “With the failures of Transaero and VIM Airlines, it appears that placement opportunities for the aircraft are becoming scarcer. The prospect of increased numbers of



**Phil Seymour: “Extracting maximum value from these aircraft will be the real challenge for MROs.”**

aircraft coming to market makes a gloomy future for values and lease rates.”

The outlook for the 777-300ER is relatively promising. IBA has identified a spike in lease-ends in 2019, and forecasts many of these leases will be extended. “We think the likes of Air France/KLM will extend their leases, while some of the Emirates, Cathay Pacific and LATAM aircraft are likely to be handed back to lessors,” said Seymour.

“So far, aircraft appear to be firmly placed so there are no immediate concerns. However, the next couple of years will put 777-300ER liquidity to the test.”

Although about 60-70 A330ceo lease-ends are projected per year over the next four years, the majority of these will be the smaller A330-200 model. Peak A330-200 lease ends are expected in 2020. This coincides with the peak deliveries phase in 2008, with those aircraft coming back off their first leases. “While there will undoubtedly be extensions, IBA’s projection points to increased pressure on the A330-200 as we enter the 2020s,” said Seymour. ■

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*Wheel and brake MRO specialists offer not just skills and expertise but a variety of business models to meet the needs of operators.*

**Chuck Grieve** looks at some of the options.

## Brake's progress...



**TP Aerospace president Thomas Ibsøe and CEO Peter Lyage.**

**T**he stresses on wheels and brakes in normal operating conditions make them the components most frequently in need of replacement on the airframe.

This, combined with their dimensions and weight, make logistics and stock management a big task for the operator – and a competitive market for MROs.

Numerous Middle East maintenance providers offer wheel-and-brake solutions, some in conjunction with landing gear overhaul and repair or scheduled maintenance checks.

Another option is the ‘cost-per-landing’ programme offered by TP Aerospace, a leading wheel and brake provider in commercial aviation. It is similar to a power-by-the-hour (PBH) contract but focused on wheels and brakes, and TP is the only standalone in the market using that format.

“We only see this with the big MRO integrators,” said company president Thomas Ibsøe. Cost-per-landing is a full service including stock and logistics with a 24/7 service guarantee. “We add extras, such as a personalised point of contact and unlimited warranty.”

Wheels and brakes “require proximity” to the customers, explained Ibsøe, which is why TP opened its Jebel Ali MRO base in 2017. It is one of seven bases worldwide, six of which – including Jebel Ali – carry out overhauls, minor repairs and tyre changes.

He said: “Our ‘sweet spot’ customers are airlines within the 1-30 aircraft range,” a segment well-represented and growing in the Middle East.

With MROs in the Middle East mainly centralised in large clusters, TP Aerospace tailors its bespoke client programmes to the hub and spoke model, covering both main base and line stations.

### ■ **Dedicated workshop**

Lufthansa Technik (LHT) opened a state-of-the-art wheel and

brake workshop in Frankfurt in mid-2017 to provide for the expected growth in both its core and third-party business.

LHT technicians overhaul more than 25,000 wheels a year for major European, African and Asian airlines. Their work encompasses tyre changes, extensive non-destructive testing (NDT), major repairs and modifications for all Boeing and Airbus types.

The plant also handles about 5,000 brake units a year. It has the capability to rework structural parts and rotor discs of steel and carbon brakes.

### ■ **Breadth of capabilities**

For smaller operations, the breadth of a company’s capabilities can provide its unique selling point. The expertise and accreditations of wheel and brake specialist Rotable Repairs cover a range of platforms “from Cessnas to Airbus A340s”.

From its base at London’s Southend Airport, the company is well positioned to serve customers in the Middle East and Africa – a message its representatives brought to MRO Middle East in January.

Recently Rotable became the UK’s first authorised wheel and brake service centre for Honeywell. Sales and marketing director, Bryan Croft, said the Honeywell agreement complements its acquisition last year by the Desser Group “which has since enabled us to offer greater support and pricing for a range of mediums including tyres.”

The company says its status as an independent outsourcing supplier allows it to give customers a “responsive and customised service... tailored to meet the specific requirements” of any operation.

### ■ **‘Quality and consistency’**

US-based TT Repairs was at MRO Middle East to promote its core work in wheel and brake part repair. The company, located near Louisville International Airport, highlighted its “expert services” to meet aircraft repair, fabrication and custom-tooling needs on a variety of fixed and rotary-wing airframes.

“Airlines choose us for the quality and consistency of our work and the value we deliver,” said a spokesman. “We provide these services to wheel and brake shops globally, including the OEMs along with airlines operating their own shops.”

### ■ **Well located**

A location close to Toulouse-Blagnac international airport has helped Mazerès Aero Equipment establish a strong relationship with Airbus, which underpins its work in wheel and brake MRO.

Part of the large French contingent at MRO Middle East, Mazerès has capitalised on its role supporting Airbus during the certification of the A380 to offer wheel and brake repair for the super-jumbo, alongside technical support for other Airbus models on parts manufactured by Meggitt, Honeywell, Goodrich and others. ■



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# Starling puts a fresh spin on seating

*Starling Aerospace exhibited at two major industry shows this year to highlight its VIP track and swivel seat as well as to announce its new aqua transfer printing investment.*

**Marcelle Nethersole** reports.

**A**viation companies are always looking at ways to improve passenger comfort – including offering something different in the luxury travel market.

That includes Starling Aerospace, which had its new VIP track and swivel seat on display at both Aircraft Interiors Middle East (AIME) in Dubai and Aircraft Interiors Expo (AIX) Hamburg.

“The lightweight aluminium aircraft seat has been designed to lie flat at 179°, turn 360° rotation with positive locking in all positions, and accommodate passengers over 6ft in height,” said Coralie Wigg, Starling’s commercial director and co-founder.

“It also tracks sideways, backwards and forwards to optimise passenger space for recline and relaxation.”

The seat comes in cream with blue leather piping and twin stitching, and its features options include plug-in or hidden headrest, retractable leg and foot rest, adjustable lumbar support, stowable food trays, and an in-flight entertainment (IFE) option.

“The seat meets the latest aircraft regulations and is certified for 9G and 16G crash impact. It can be on any business aircraft from Embraer up to an A340,” said Wigg. “We are already in talks with a potential launch client.”

The company, based in Leatherhead, UK, has a staff of 50 and is fast expanding.

## Major improvements

“We have carried out major improvements to our facility and invested in new technologies to improve efficiencies and increase production capabilities,” said Wigg. “From the shop floor through to the offices, the company has all the technologies, equipment and skilled technicians in place to carry out every aspect of aircraft interiors work with shorter lead times and an even higher standard of customer service.”

The company’s newest offering, also highlighted at both AIME and AIX, is its technology equipment for aqua transfer printing – a model aircraft finished in a wood-look film was on display.

“We have two tanks at our facility in Leatherhead; one a standard size and one is three metres by 1.2 metres, allowing us to dip even the largest panels, such as a bulkhead or sliding door,” said Wigg.

With a super-large tank and using a robotic arm, consistency of print scale is guaranteed across the unit.

“Aqua Transfer panels are easily repairable, or can simply be buffed to give a delivered finish,” explained Wigg. “Clients can select a high-gloss, semi-matt or matt lacquer finish. All finishes will meet Federal Aviation Administration (FAA) and European Aviation Safety Agency (EASA) smoke and toxicity, heat release and flammability requirements.”

The company boasts mainly European and Middle Eastern customers – including Emirates.

“We do repair work for all the key seat OEMs, for Emirates, and several other carriers who use aqua-transfer printing on their cabin interior,” said Wigg.

“We are also about to undertake a project for a head-of-state aircraft in the Middle East that will include sliding doors and bulkheads that will dip in one go.”

Starling Aerospace is also known for its berthable divan – available as a single, double, triple or as required – and its lavatory upgrades.

“The divan is a high-strength lightweight aluminium frame construction. It berths with a smooth manual motion, converting the divan into a 91-inch long by 35-inch wide flat bed,” said Wigg.

“With our lavatory upgrades, we work with clients to develop a new upgraded look for standard lavatories,” added Wigg. “We can refurbish the lavatories in house, or provide a kit at the MRO. We have a range of basins, faucets and designer flooring from which to select.

“Smoky mirrors will be used to enhance the space available. Our design certification department will develop the accompanying EASA minor modifications.” ■



**Starling's Track and Swivel Seat.**



**Coralie Wigg:** “The seat also tracks sideways, backwards and forwards to optimise passenger space for recline and relaxation.”

# THE HOT SPOT

*In-flight connectivity has the potential to unlock a \$5.2 billion market within the Middle East region by 2035, according to a new report from the London School of Economics. Steve Nichols reports.*

**B**ased on current International Air Transport Association (IATA) data and industry sources a new report – Sky High Economics: Quantifying the commercial opportunities of passenger connectivity for the global airline industry – shows that airlines around the world are likely to increasingly benefit from four new revenue streams.

These include broadband access charges, e-commerce and destination shopping, advertising, and premium content.

The report was prepared by the London School of Economics and Political Science (LSE) in association with Inmarsat.

The research argues that, as passenger numbers grow globally, so too will passenger expectations for access to high-quality in-flight connectivity.

## Passenger value

According to the data, when it comes to passenger value brought about by new, Wi-Fi-enabled ancillary revenue streams, airlines will benefit from an extra \$3.21 per passenger.

At present, the report says, airlines around the world average an additional \$17 per passenger from ‘traditional’ ancillary services, like duty-free purchases and in-flight retail, food and drink sales.

Also, despite the gradual blurring that has occurred in the airline type selected by many business passengers, the Middle East region continues to represent one of the higher revenue opportunities for both domestic and international full-service carriers (FSCs). In 2035, it predicts the split will be low-cost carriers (LCCs) at \$239 million versus FSC at \$511 million.

The research confirms the very strong position of many global FSCs based in the region.

Dr Alexander Grous from the department of media and communications at LSE, who authored the report, said: “The airline industry is rapidly evolving across the world, including the Middle East. This research shows that airlines have a clear strategic opportunity to become distinctly more retail-focused and reap the benefits of this.”

Ben Griffin, vice president, Middle East, Africa and South Asia at Inmarsat Aviation, added: “The latest advancements in satellite technology have unlocked exciting new opportunities for airlines to enhance their passenger experience, increase their operational efficiencies and grow important new revenue streams.

“Having the right capabilities in place – from the cabin to the cockpit – is the key to benefitting from everything that a connected aircraft can offer, today and in the future. As the Sky High Economics report has identified, airlines in the Middle East are extremely well-positioned to take a lead with the game-changing new trend.”

On the back of strong passenger demand, Inmarsat says high-speed in-flight connectivity will be ubiquitous on commercial aircraft by 2035.

Airlines in the region that are currently signed up to Inmarsat’s fast GX Aviation in-flight connectivity system include Qatar Airways and Emirates.

Qatar Airways is the first Middle Eastern carrier to offer the Ka-band GX Aviation service to passengers on more than 130 of its aircraft.

Emirates and Thales also have an agreement in place to equip the airline’s new Boeing 777X fleet with Inmarsat GX Aviation, due for delivery starting in 2020.

In addition, the companies have a multi-

million-dollar deal in place to fit the Boeing 777X fleet with a Thales AVANT in-flight entertainment system.

Emirates currently offers all its customers 20Mb of complementary Wi-Fi data on board in-flight connectivity-equipped aircraft, while Emirates Skywards members in first and business-class enjoy unlimited complementary Wi-Fi and discounted plans in economy class.

Emirates, Thales and Inmarsat say they have invested heavily in the new generation Wi-Fi solution and will work together to meet increasing demand for Wi-Fi on board.

Broadband connectivity speeds, coupled with Thales’ AVANT IFE system, will provide a further boost to ice, Emirates’ award-winning in-flight entertainment system.

## A little slow

Emirates has traditionally offered Inmarsat’s slower SwiftBroadband in-flight connectivity system aboard its Airbus A380 fleet. Its 432kbps speeds now look a little slow when compared with the latest Ku and Ka-band high-bandwidth multi-megabit offerings.

Eagle-eyed observers may have noticed that some Emirates A380s have been fitted with Ku-band radomes. An Airbus source said about 20 of them have now been fitted with Panasonic Avionics’ Ku-band global communications services (GCS) in-flight connectivity, while retaining the Inmarsat SwiftBroadband, possibly as part of a trial.

The SwiftBroadband equipment is being retained for safety services and back-up in case of loss of the Ku-band signal.

But the future of the fleet, in terms of what will be retrofitted and/or become line-fit, remains unclear as no official announcement has been





The Middle East looks set to log in to a massive market.

made and Emirates hasn't responded to calls for more information.

Panasonic Avionics has a strong foothold in the Middle Eastern in-flight connectivity market with its Ku-band GCS solution.

It recently showcased a number of in-flight entertainment and connectivity (IFEC) firsts on Emirates' new Boeing 777-300ER, on display at the 2017 Dubai Air Show.

These include line-fit Wi-Fi connectivity and a new IFE system that is 12% lighter overall than previous versions, helping to cut fuel burn and emissions.

It also recently announced its third-generation communications network. This is built on Panasonic's high throughput satellite (HTS) service, which today covers all dense mobility traffic areas around the globe with high-throughput spot beams and wide overlay beams that support Panasonic's global in-flight television service.

When combined with the rollout of the company's new satellite modem, developed in conjunction with Newtec, Panasonic says it now offers bandwidth up to 20 times greater than previously available and virtually seamless beam switching.

This supports the provision of services such as fast internet, video streaming, VoIP applications, improved TV picture quality and a broader channel choice, the capability to offer 3G phone services, and greater bandwidth for crew applications.

The network is backed by a range of new measures Panasonic has launched to provide higher levels of support to its customers.

It says these initiatives are channelled through its new customer performance centre, which

drives enhanced network performance, reduced outage times, and faster response and resolution times for customer enquiries.

The centre sees three previously separate support teams rolled into one and offers a range of value-added services, including traffic shaping tools, live monitoring and management of the user experience, and Panasonic's ZeroTouch service, which enables real-time IFE content loading, validation and management.

This includes a newly formed business intelligence group focused on usage analytics, demographics analysis, route-based statistics and predictive analysis on upcoming trends in connectivity.

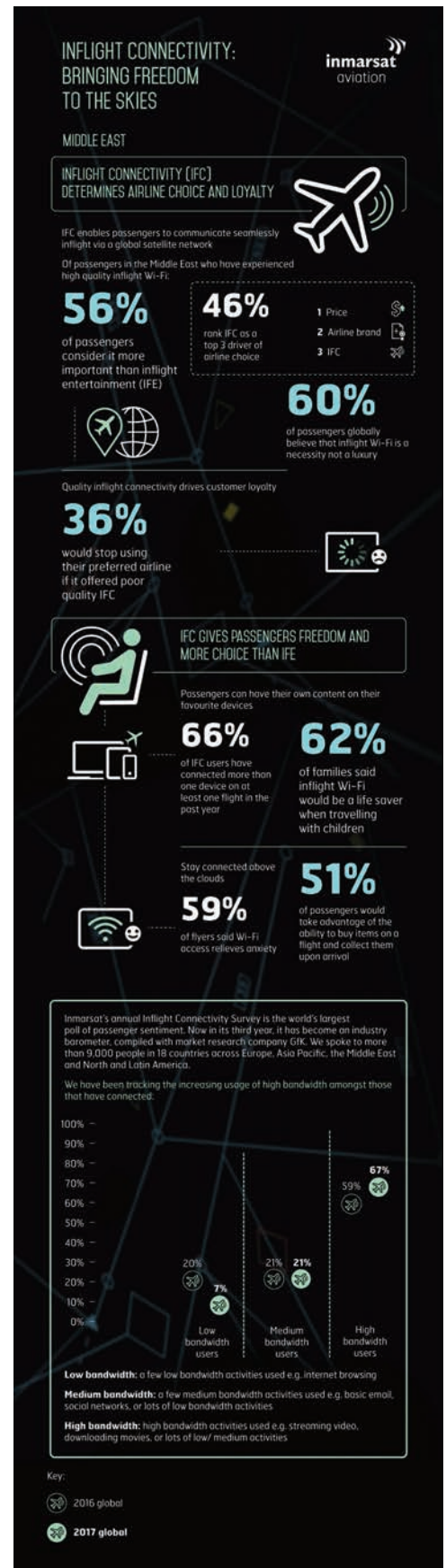
#### Right capabilities

David Bruner, Panasonic Avionics vice president, global sales and marketing, said: "We're really super excited about what we've achieved with Emirates. We've worked together for more than 20 years to provide best-in-class experiences for its passengers. We've also invested a lot in the region and that is now paying off. Our projections show business is going to be very strong."

Flydubai also has fast Ku-band in-flight connectivity from Global Eagle Entertainment aboard its B737-800 fleet.

Speaking at the 2017 Aircraft Interiors Expo, Josh Marks, Global Eagle's then executive vice president, aviation connectivity, said: "The undoubted sweet spot for take-up by business users is on flights of about one-and-a-half to two hours long, but we are looking at how that varies across long, short and medium-haul flights."

He said Flydubai has routes that offer flight durations ranging from around one hour to six or seven (to Asia).





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**AVTRADE**

*An air tragedy inspired STG Aerospace to develop a key emergency system for aircraft. Today, the company also leads the way in LED cabin lighting. Marcelle Nethersole found out more from CEO, Nigel Duncan.*

## STG lights the way

**S**TG Aerospace was established in 1995 and based on the development of its photoluminescent technology. The company originally developed systems for installation on submarines and nuclear installations. However, after the 1985 British Airtours crash at Manchester Airport, where 54 people died as smoke filled their aircraft, the need for more effective signposting of escape routes was highlighted by the air accident investigation branch.

From this, STG Aerospace was the first company to design, develop, patent and certify a photoluminescent emergency way guidance system for aircraft, which is today known as Saf-Tglo.

“Saf-Tglo is installed and flying on more than 11,000 aircraft, serving more than 300 global airlines – it is certified for practically every aircraft type flying today,” said CEO Nigel Duncan.

“Available for retrofit with competitive acquisition costs, it is a completely sealed photoluminescent floor path marking system that’s hard-wearing, long-lasting and low-maintenance.”

When Duncan joined STG in 2013, the UK-based company began to take a new direction by entering the LED cabin lighting market. It was here that liTeMood was born.

“This is a true plug-and-play programmable blue/white LED mood lighting system designed specifically to retrofit commercial aircraft cabins,” said Duncan.

“It significantly enhances the cabin ambience of non-LED-equipped aircraft, bringing them up to the same quality standard as brand-new aircraft. It is quick and easy to-install for any airline seeking to improve passenger experience and increase yields across its fleet.”

The system is available for retrofit on the 737NG and 757 series of aircraft, and is currently installed and flying on 20 airlines worldwide, including Titan Airways and Blue Air.

“With a major US carrier reporting it has replaced its reading lights on an annual basis to ensure reliability, liTeMood LED Reading lights provide airlines with a low-cost, highly reliable solution,” said Duncan.

“With reliability in excess of 100 times that of the incumbent, the system guarantees every passenger on board a fully reliable reading light, which, in-turn, reduces the on-going maintenance and operational costs.”

### Sense of smell, taste, and sight

A passenger’s perception of, and sensitivity to, their environment in the air is far more acute than their perception to things on the ground. This includes sense of smell, taste, and sight – things all aviation companies try and improve to help the experience for both passenger and crew.

“Anything that can be done to improve the passengers’ perception on board can be a significant driver of overall satisfaction with their experience,” said Duncan.

“In an enclosed space, like an aircraft cabin, it is crucial that all lighting sources complement each other to deliver a



**Nigel Duncan:**  
“It is crucial that all lighting sources complement each other to deliver a superior consistency of light.”

superior consistency of light throughout. A contrast between, say, LED ceiling and sidewall lights, against a halogen reading light, delivers inconsistencies in light, which ultimately could negatively affect the passengers’ perceptions of the cabin.”

He added: “We haven’t forgotten that for the cabin crew it is also a workplace. Studies have shown that negative ambient conditions, such as noise, smells and lighting, can have a subconscious impact on our health.”

Duncan said the cabin lighting industry comes with big challenges – the main concern being to accommodate the many different activities that any passenger could be undertaking.

“A cabin may only be a small capsule, but everyone is doing something different at all times during a flight; from sleeping, to reading, to watching their preloaded content on their mobile device,” explained Duncan.

“The reality is we cannot optimise an aircraft cabin for each of these environments perfectly – especially in economy. We need a light that works for all of the above tasks and more; our patented reading light has a highly uniform output that not only reduces glare and improves the on-board reading environment, but also minimises light spill on to neighbouring passengers, helping to make having 40 winks just that little bit easier.”

Anything that can be done to improve the passengers’ perception on board can be a significant driver of overall satisfaction with their experience.

NIGEL DUNCAN

*All aircraft passengers suffer lethargy and dehydration while in flight but now one company has made it a mission to get them to their destinations as refreshed as possible.*

**Marcelle Nethersole** finds out more.

## CTT's fresh approach to dehydration

**S**wedish company CTT Systems (CTT) provides aerospace products for active humidity control in the cabin (humidification) and in the fuselage (non-condensation), as well as de-humidification systems.

"To put in context just how dehydrated you get while flying, the desert and the Arctic have 10% more humidity than in a first or business-class cabin," explained Peter Landquist, the company's VP sales and marketing.

"On a flight, your mucus membranes are affected. Once these are dried out you can suffer a cold. This can be particularly the case towards the front of the cabin. So, when you travel in premium class, you might want to sleep and therefore drink less water and will awaken to feel sluggish. Our humidifiers will help hydration, allowing better sleep and helping people to feel fresh when they wake. Also, humidifiers in premium will reach out to economy class."

Landquist says his company's products solve the 'humidity in balance' in the aircraft for the entire lifetime, providing multi-value for airlines – lowering operational and maintenance costs and improving guest experiences.

"We originally started with humidification for the VIP sector; then we got contracted by Airbus on its A380 for cabin crew rest humidifiers in 2003. This followed with a contract for the B787, which has been very successful for us," said Landquist.

### Premium class

The company also provides its humidifiers on the A350 and the B777X, not just in cabin crew rest areas and the flight deck, but also in premium class.

In long-distance aircraft, there are many temperatures zones. "On average, a person loses 70gms of water an hour," explained Landquist. "The front of the aircraft suffers the driest environment. The paradox is that people who pay the most have the driest environment."

The humidification concept works with water poured into the humidifiers, which is then sprayed over the evaporation pan, allowing pure vapour out in to the cabin.

CTT also provides its system to several VVIP customers in the Middle East and Landquist said the company hopes that a Middle East airline will soon select its cabin humidification system as it is "ideal" for the dry region.

"Aircraft in this region are parked in a very warm and dry environment and, as Middle Eastern airlines are pushing the



**The front of the aircraft suffers the driest environment... people who pay the most have the driest environment.**

**PETER LANDQUIST**

developments of first and business classes to a very high standard, we believe they will also select cabin humidification to provide the most optimal comfort to their passengers."

The company also has a de-humidification product called the zonal drying system, a method for preventing excess moisture in modern aircraft.

"Our humidification and de-humidification systems work in very different ways, so are not to be confused," said Landquist. "A first indication of a wet plane is foggy windows; the zonal drying system prevents condensation in modern aircraft by combating the root cause, the dew point of the air moving close to the cold aircraft structure. Less condensation means less weight, resulting in significantly lower fuel consumption and emissions. And, in the long term, increased lifetime of aircraft components and insulation."

Landquist added that aircraft cabin humidity during cruise is dependent on how many passengers are being carried. The more passengers, the higher the cabin humidity and more fuselage condensation.

"I believe that in five years' time cabin humidifiers will be highly requested and almost a standard product for long-distance aircraft," he said. ■



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*EgyptAir In-Flight Services chairman and CEO, Hesham Abdel Hafeiz Mohamed, is hoping for growth in the Middle East and Africa.*

## MOHAMED'S TASTE FOR EXPANSION

**H**esham Abdel Hafeiz Mohamed hit the ground running when he became chairman and CEO of EgyptAir In-flight Services over a year ago, saying he is “happily on-call 24/7” to make sure everything runs smoothly.

“EgyptAir In-Flight Services is a huge company with more than 2,500 fully trained staff across its various departments, so there is a lot to oversee to make sure we run a seamless operation,” said Mohamed. “The method of running the business has been refined and enhanced over 60 years of producing high-quality meals, services and solutions and delivering more value to our customer, which means that, in turn, we earn their respect and loyalty.”

The company recently renewed its joint venture with Lufthansa and Egyptian Aviation Services (EAS) in a company known as LSG Sky Chefs Egypt – of which EgyptAir owns 70%.

Its catering unit at Cairo International Airport can provide 30,000 meals daily and its rapidly expanding facilities at Hurghada International Airport and Sharm el-Sheikh International have production capacity of 6,000 meals daily for each.

Soon a new catering unit will be open in Burg El Arab Airport in Alexandria.

“We have bought a piece of land there and we have started to establish a new unit,” said Mohamed. “Staff are currently there but with external suppliers until the unit opens.”

Mohamed added that while the state-of-the-art kitchens can serve up to 30,000 meals a day at full capacity, it is more normal to see figures of 12-15,000 meals per day, unless it is holy holiday periods like Hajj and Umrah, where figures climb to 27,000.

He is hoping to see these figures increase substantially within the next 10 years.

“As soon as I started in my position, expansion was my plan,” he said “So we are now working on a 10-year plan to increase our catering capacity level by another 30,000 meals – to reach 60,000. We believe Egypt is already back on track seeing passenger numbers increase, and expect in 10 years it will once again be one of the world’s top destinations.”

He added: “We are also thinking to expand outside Egypt – we have already looked into extending catering units in other



**We are now working on a 10-year plan to increase our catering capacity level by another 30,000 meals.**

**HESHAM ABDEL  
HAFEIZ MOHAMED**

Arab countries and Africa. We are currently in talks with Iraq for a catering unit in Baghdad, but this is at an early stage.”

The company’s catering menus change every three months according to airline requirement.

“We make sure we keep airlines happy by providing new menus with different choices for each class. This is something, for example, EgyptAir likes,” said Mohamed.

While the company’s kitchen staff and chefs are all Egyptian, Mohamed said he is looking into finding chefs abroad that can offer expertise in various cuisines.

The company also provides services for business jet customers, as well as providing ground support equipment at Cairo, including a fleet of 47 high-loaders.

### **Dry ice factory**

Other facilities that Mohamed oversees include a dry ice factory with a capacity of 625kg an hour, a laboratory that ensures that each product line meets food safety standards, and a huge laundry service.

“We are the only company at Cairo International Airport to provide a laundry service that consists of washing, drying, maintaining, and replenishing cabin interior products including napkins, tablecloths, pillowcases, headrest covers, trolley runners and cotton towels – basically everything you see on board,” said Mohamed.

If that wasn’t enough, the company also has its own registered brand name in cafe management – Aero Café – and a sales department for different on-board brands, including perfumes and watches.

With so much going on Mohamed said that his main challenge is maintaining and finding the ‘right balance’ between quality and price.

He added: “We provide a very high-quality product, so my challenge is how can we offer a reasonable price to customers while still making a profit. During the recent circumstances of inflation in Egypt and its political position, it is a challenge to keep business running and stable while regaining profit for high standards.

“However, in the last few years, we are keeping it all in great shape and we are seeing an increase in profit each year as tourist figures climb.”



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# EAA aims to be top of

**Captain Elias Sadek:** "I am targeting having 75% non-Egyptian students in the next few years – mainly from African and Arab countries."



*Egyptian Aviation Academy is targeting African and Middle Eastern student pilots and engineers, says chairman and CEO, Captain Elias Sadek.*

**E**stablished in 1931, the Egyptian Aviation Academy is located at the 6th of October Airport in Giza. It is Egypt's oldest aviation academy.

It consists of three faculties – Misr Flying College, the Air Traffic Control College, and the Civil Aviation Management Training College.

The academy has the recognition and the approval of the Ministry of Civil Aviation of Egypt for all of its colleges as a regional training centre in Africa and the Middle East. It was the first academy to get such approval.

Its Misr Flying College gives student pilots a 'unique' advantage by offering a jet rating licence upon graduation.

"For a small sum of money, students will get the jet rating licence upon graduation, which will serve as a transition for pilots from light aircraft to large commercial aircraft – and we are the only company in the world to do this," explained Captain Elias Sadek, chairman and CEO.

The college offers 38 training capabilities of different aircraft types on its young and advanced fleet.

"We offer training on the Cessna 172 G1000, which is the most modern with a glass cockpit, so when they transition to the real aircraft it is exactly the same," said Sadek.

## WHY GOING BEECHCRAFT MAKES SENSE

Choosing the two Beechcraft piston engine aircraft, the single-engine Bonanza G36 and twin-engine Baron G58, is an inspired move by Egyptian Aviation Academy.

For a start, both are complex aircraft and both are equipped with the very latest Garmin G1000 NXi glass cockpit, making them ideal preparation for student pilots preparing to operate high-performance turbine aircraft.

But there's another excellent reason for keeping it in the Beechcraft family – the cabin, instrument panel and controls are almost identical on both aircraft. Even the engine(s) are the same; 300hp Continental IO-550s with constant speed propellers.

That means pilots transitioning from single-engine initial training to multi-engine will be familiar with the layout and the flight deck, leaving them free to concentrate on the key aspects of multi-engine training.

The big item for training on twins is learning to cope should one engine fail – not that it happens very often but pilots have to be ready for it.

So, that's practising what to do should one engine fail on take-off – the most crucial emergency because



you're low to the ground and need all the power you can get – and when in the cruise, or when making an instrument approach to land.

There's another reason for Egyptian Aviation's choice. Both the Bonanza and Baron have plenty of power, which will come in useful when operating in the extreme heat of the Middle East. Both have plenty of range (920nm and 1,480nm respectively), payload

(482kg, 705kg) and a good cruise speed (176ktas, 202ktas).

The big cabin can seat up to six, though there's the usual trade-off in fuel capacity as the seats are filled, and both cabins have a luxurious leather finish with club seating for the rear passengers and a rear door.

All this means both aircraft are ideal for longer trips, whether training or simply for going places.

# the class in the region

The fleet also include Bonanzas – it received two new ones in November – as well as two Baron multi-engine aircraft, and four Cessna Mustang C510s. The company also has seven modern flight simulators.

Sadek has been CEO of Egyptian Aviation Academy for 18 months but he still manages to fly for EgyptAir once a month on a B777 to maintain his licence.

He is also an instructor and examiner, and last April was elected a member of the TRAINAIR PLUS steering committee (TPSC) in Addis Ababa. This is the body that is connected to the International Civil Aviation Organization (ICAO), which is responsible for the upgrade and development of all courses.

“As a full TRAINAIR PLUS member, the Egyptian Aviation Academy is applying right now to become a centre of excellence – the final accolade,” said Sadek.

The CEO wants to reach out to other Arabic countries and, especially, to the African market.

“I am targeting having 75% non-Egyptian students in the next few years – mainly from African and Arab countries,” said Sadek.

“**The EAA is applying to become a centre of excellence – the final accolade.**”  
CAPTAIN ELIAS SADEK

“We currently have Egyptian students, as well as other Middle East students from countries including Yemen, Kuwait, and Iraq. Our African students are from Nigeria, Tanzania and Sudan.”

He added: “We would like to serve as a place where African pilot and engineer students can come for high-quality training. We have competitive prices but we have lowered the margin of profits to help attract both Africa and the Arab world.”

Sadek believes there is a “deep shortage” of pilots and aviation engineers in many of these targeted countries.

“Iraq has ordered about 70 Airbus and Boeing Aircraft, so they have a pilot and engineer shortage.

Our academy is perfect for them and, actually, we already have Iraqi engineers training.”

Sadek said the company has many things of which to be proud.

“We have a department that graduates aircraft maintenance engineers and I am delighted that, for the first time, the class that joined in October last year will graduate with an ICAO licence carrying a European Aviation Safety Agency (EASA) endorsement.

“We have a lot of female students from all over the world. One female pilot that trained at the Egyptian Aviation Academy is Naveen Darwish, now captain of an Emirates A380.”

The academy also offers aero medical examiner certificate training – allowing graduates to have the licence to examine pilots and flight crew, and it will soon start a new field, in hot-air balloon training for pilots and engineers.

“We have about 28 companies working in the south of Egypt, so we are starting pilot and engineer training for this in 2018,” said Sadek. “A hot-air balloon pilot training course takes six months. It is quite complex – but we can do complex.”



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CAE Oxford will conduct the training activities at the Oman Aviation Academy. Both single- and twin-engined piston aircraft will be employed.



# Sohar ...so good

*The Oman Aviation Academy is expected to start operations soon as it gears up to produce future generations of pilots for the Gulf region.*

**Alan Dron**  
*reports.*

**T**he new airport at Sohar, in the north of Oman, is a relatively quiet location. Currently, just three airlines operate into it. That may make it a one of the quieter airports in the Gulf but the relative lack of airliner movements brings other benefits. It makes it an ideal place for Oman Aviation Academy (OAA), with uncrowded airspace allowing plenty of room for local training flights.

Having signed an initial shareholders' agreement last July to establish the OAA, arrangements have been moving forward behind the scenes to put in place the training infrastructure. It is understood from sources close to the project that the establishment is "very close" to being finalised.

The project is being overseen by the Oman Authority for Partnership for Development (OAPFD), in partnership with Airbus Helicopters, Oman National Investments Development Company (TANMA), Al-Hosn Investment Company and the Ministry of Defence Pension Fund. In a statement last December, the OAPFD said that it expected the academy to be operated by Canadian training and simulator specialists CAE; its UK branch, CAE Oxford Aviation Academy, will handle the actual training.

OAA will provide training for both Omani and regional trainees, with the aim of enabling them to obtain a European Aviation Safety Agency (EASA) frozen air transport pilot licence, which qualifies them to be pilots with regional and international carriers.

#### **Military pilots**

The academy will be able to provide basic flight training for military pilots destined for Oman's armed forces. Graduates from the academy will also go on to become the next generation of local flight instructors.

OAA's facilities will include a 3,000sqm hangar, plus a further 4,000sqm of estate on the airport for a tower, taxiway and student accommodation. It will be able to handle up to 150 students a year.

The academy will be the final part of Airbus Helicopters' offset commitments from earlier contracts with Oman. CAE is also undertaking some remaining offset commitments after having supplied the Royal Air Force of

Oman with two simulators for the AgustaWestland Super Lynx 300 helicopters some years ago.

"Airbus has always prided itself on its long-standing relationship with Oman [and] our partnership with Oman Aviation Academy is a direct reflection of our efforts to support Oman and be part of its growth vision," said Ben Bridge, Airbus Helicopters' executive vice-president, global business. "We are keen to help shape the future of Oman's fast-growing aerospace sector by fostering innovation and talent development."

#### **Increasing the capabilities**

As part of this aim of increasing the capabilities of the aerospace sector, OAA has signed a training agreement with national carrier, Oman Air, to provide training for 48 pilots annually, instead of sending them abroad for their flight training. This will aid the airline's Omanisation plans.

Shortly before retiring late last year, Oman Air CEO, Paul Gregorowitsch, said that the airline's involvement with the new OAA would bring significant benefits, not just for the airline but the nation as a whole: "The national carrier synergises seamlessly with OAPFD to achieve comprehensive and sustainable economic development in the sultanate."

The academy is expected to attract trainees from throughout the Gulf, with CAE marketing the new establishment both regionally and globally.

The OAPFD has also signed a cooperation agreement with Oman's Sultan Qaboos University for the first students to undertake a special foundation course before moving on to their flying training.

The types of aircraft to be utilised by the academy have not yet been formally announced, but the fleet is expected to consist of nine piston singles and four piston twins, together with the appropriate simulators.

The academy will play a part in developing the Sultanate's wider economy, through the development of the local aviation sector; more than 30,000 pilots are expected to be needed in the Middle East over the next 20 years. OAA's presence will also enhance the operational role of Sohar Airport, attracting foreign investments. ■

*The French aerospace association, Gifas, has launched a Middle East branch (MEFAN), which is now entering its operational phase.*

**Vincent Chappard** reports.

## Gifas launches the Abu Dhabi French connection

**S**etting up MEFAN in Abu Dhabi follows the success of Gifas' first two international branches in North America and South East Asia.

MEFAN brings together French companies that are established in the Middle East and are members of the French aeronautics and space industries group.

Gifas has more than 391 members, from major prime contractors and system suppliers to small specialist companies. They cover the full spectrum of skills, from the design, development and production of aerospace systems to marketing, maintenance and operation.

Gifas members are active in all sectors of the aerospace industry, including civil and military aircraft, helicopters, engines, missiles and weapons, satellites and launch systems, UAV, large aerospace, defence and security systems, equipment, subassemblies and associated software applications.

Dassault Aviation CEO, Eric Trappier, has been Gifas chairman since June 2017.

Mikail Houari, Airbus president for Africa and the Middle East, who oversees MEFAN, said: "Our new move is a direct result of the authorities' strategic desire to

prepare for the post-oil era. We are pleased to support the strong dynamism of the region in the aerospace sector."

Two major UAE programmes – the Dubai tourism vision 2020, which aims to reach 20 million visitors a year by the 2020 World Expo, and the Abu Dhabi 2030 plan – drive this decision toward diversification and sustainability.

Gifas wants to support the local industrial development policy, helping its member companies who wish to grow in the Middle East. MEFAN has three missions: to connect up French aeronautics companies interested in the region; to inform interested parties by making documentation available on the zone; and to assist members in their development.

### Major global players

Today, MEFAN has nearly 30 members based in the UAE, with major global players including Airbus, Thales, Dassault, Safran, and MBDA, and many small and medium enterprises (SMEs) whose know-how constitutes a strong added value for their local partners.

"Our network remains relatively young and building a partnership takes time," said Houari. "We are working to bring our industries closer together."

To achieve this, MEFAN relies on the various specialised events and shows in the region, including the likes of IDEX, the Dubai Air Show, the Bahrain International Defense Conference, and the Kuwait Aviation Show, where it organises networking activities.

Gifas had a strong presence during the last Dubai Air Show at the French pavilion, which Houari described as "an important milestone".

"By bringing industry closer to the local aerospace market, Gifas wants to contribute to the construction and development of a competitive and state-of-the-art regional aviation industry," underlined Houari.

Gifas is determined to provide a global and coordinated answer to the UAE's ambition of transforming its aerospace industry into the cornerstone of its economic and scientific development. ■

**MEFAN brings together French companies that are established in the Middle East and are members of the French aeronautics and space industries group.**



*The Yahsat Al Yah 3 satellite is on target to reach its final orbital slot by June, despite the Ariane 5 rocket used to loft it into space experiencing a launch anomaly.* **Steve Nichols** reports.

# LOST IN SPACE

Everything seemed normal at first when the Ariane 5 rocket launched from Kourou, French Guiana, in late January. It was carrying Al Yah 3, the SES-14 communications satellite, and a hosted payload for NASA.

Shortly after launch, however, Arianespace lost contact with the rocket.

Arianespace CEO, Stephane Israel, announced the Ariane 5 had experienced an “anomaly”. A loss of telemetry had occurred and the satellites’ locations were unclear.

Later, Arianespace confirmed the telemetry issue occurred nine minutes and 26 seconds into the flight, when ground-tracking stations lost contact with the Ariane 5 launcher. Initial investigations showed the situation resulted from a “trajectory deviation”.

“A few seconds after ignition of the upper stage, the second tracking station located in Natal, Brazil, did not acquire the launcher telemetry. This lack of telemetry lasted throughout the rest of powered flight,” Arianespace explained in a statement.

The result was that both satellites were inserted into orbits that differed from the flight plan.

Despite this, the Al Yah 3 satellite has been successfully acquired by Yahsat and the company reports it is healthy and responding to commands.

## Revised flight plan

The company says a revised flight plan is being executed in order to “help Al Yah 3 achieve its operational orbit and fulfil the original mission”.

Yahsat CEO, Masood M Sharif Mahmood, said: “We are pleased to know the satellite is healthy, and that the necessary steps are being taken to ensure the original mission is fulfilled.”

Al Yah 3, an all Ka-band satellite, is the first hybrid electric propulsion GEOSTAR-3 satellite completed by American aerospace manufacturer, Orbital ATK.

Frank Culbertson, president of Orbital ATK’s space systems group confirmed: “Based on data from initial communications, I can report that Al Yah 3 is in orbit, healthy and responding to commands from our mission operations team.”

It is still unclear why the rocket and satellites went off course but the Orbital ATK and Yahsat team say they are “working on a strategy to efficiently get the satellite back into the original planned orbit”.

One report said the telemetry loss led to an off-nominal deployment of the satellites in an orbit with an inclination of 20.6° instead of 3°. It added the consequences on the lifetime of Al Yah 3 are currently not known.

The launch anomaly was unusual as the Ariane 5 had completed 82 consecutive blast-offs since 2003 without incident. Arianespace has set up an independent investigation commission, chaired by the European Space Agency’s general inspector, to establish what caused the problem.

## New market

Al Yah 3 joins Yahsat’s Al Yah 1 and Al Yah 2 satellites, which launched in 2011 and 2012 respectively. It will triple Yahsat’s commercial Ka-band coverage in Africa, and adds Brazil as a new market for the company.

Al Yah 3 will be able to provide broadband to 25 countries – 24 in Africa, plus Brazil. Five of the African countries (Angola, Lesotho, Nigeria, South Africa and Swaziland) are already covered by Yahsat’s previous satellites, while an additional 19 countries on the continent have been added.

They include: Algeria, Botswana, Benin, Burundi, Cameroon, Congo, Cote D’Ivoire, Democratic Republic of the Congo, Gambia, Ghana, Libya, Morocco, Mozambique, Malawi, Senegal, Rwanda, Togo, Zambia and Zimbabwe.

Al Yah 3 was manufactured and tested at Orbital ATK’s satellite manufacturing facility in Dulles, Virginia. It carries 53 active Ka-band user beams and four gateway beams, and produces approximately 7.5 kilowatts of payload electrical power. The Ka-band spot beams provide two-way communications services to facilitate high-speed delivery of data to end-user applications, such as broadband internet and corporate networking, as well as IP back haul for telecommunications service providers. ■





Shortly after launch  
Arianespace lost  
contact with the rocket.

*KhalifaSat, the first fully UAE-built Earth observation satellite, has been flown to South Korea prior to its launch in Japan later this year. Steve Nichols reports.*



## KhalifaSat flown to Korea with Emirates SkyCargo

KhalifaSat was transported from Dubai to Incheon International Airport in South Korea on an Emirates SkyCargo Boeing 777 freighter aircraft, which was chartered for the project. Emirates SkyCargo also unveiled a special branded truck to mark the event.

Given the delicate nature of the shipment, teams from Emirates SkyCargo and the Mohammed Bin Rashid Space Centre (MBRSC) had worked together since November 2017 to prepare and plan all the steps.

The satellite was transported from MBRSC's manufacturing facility in Dubai to the Emirates SkyCentral DWC freighter cargo terminal at Dubai World Central Airport. The road trip was completed using a remotely monitored Emirates SkyCargo truck travelling with a police escort.

The satellite was then loaded through the main deck doors of the B777 freighter for onward delivery to South Korea.

Nabil Sultan, Emirates divisional senior vice president, cargo, said: "Over the years Emirates SkyCargo has carried a wide variety of unusual items, but being able to transport the first satellite manufactured in the UAE is a unique honour. We are delighted to bring our expertise in air transportation to the table on this historic and momentous occasion."

KhalifaSat is a 350kg Earth observation satellite which, after launch, is due to orbit roughly every 90 minutes at a height of around 600 kilometres.

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The Emirates Institution for Advanced Science and Technology (EIAST) launched its first satellite – DubaiSat-1 – in 2009. It passes over the UAE four times a day providing 2.5 metre resolution colour images.

The much bigger DubaiSat-2 was launched in 2013, providing 1 metre resolution panchromatic (black and white), plus 4 metre multispectral (colour) photographs across a 12km-wide imaging swath.

KhalifaSat will better these resolutions thanks to developments in imaging sensors and optics.

DubaiSat-1 and DubaiSat-2 were built in partnership with Satrec Initiative (SI), a South Korean satellite manufacturer. But, with the knowledge gained through this cooperation, MBRSC engineers

designed and developed KhalifaSat in the UAE without SI's assistance.

With its four solar panels, the new satellite will have a resolution of 0.7 metres for panchromatic images and 2.98 metres for multi-spectral imagery.

The satellite will be able to store 1,024 images, each representing a 12km x 12km area. The total image size that can be stored by the satellite will be 12km x 1,350km.

His Highness Sheikh Mohammed bin Rashid Al Maktoum, vice president and prime minister of the UAE and ruler of Dubai, recently visited the MBRSC to see the progress of the KhalifaSat project.

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He said: "Emirati engineers are the first in the Arab world to construct a satellite without foreign assistance. This is a major achievement that signifies the high level of capabilities UAE youth have acquired in space technologies. The high level of expertise that Emirati scientists and engineers have developed creates a strong foundation for the future scientific and technological development of the UAE."

The KhalifaSat project is part of MBRSC's long-term strategy to encourage innovation, stimulate technological progress, promote sustainable development and create a generation of Emirati scientists and engineers who will contribute to a scientific renaissance and lead ambitious space projects over the next decade.

The MBRSC has an agreement with Mitsubishi Heavy Industries Ltd (MHI) for the launch of KhalifaSat to take place in Japan. The launch vehicle will be the H-IIA rocket and is scheduled to launch at an unspecified date later in 2018.

Once in orbit, MBRSC says KhalifaSat will provide detailed high-quality imagery for a variety of uses, allowing the UAE to provide competitive Earth-observation services across the world.

The MBRSC ground station in Dubai, UAE, will support KhalifaSat, and its high-resolution imagery of the Earth will be used for various purposes, including urban planning, change monitoring, area classification, monitoring environmental change and aiding relief efforts for natural disasters. ■



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# BADR AIRLINES CATERING



**BADR Catering Unit** was established in January 2017 and has witnessed rapid expansion over the past 14 months, it has intensified its efforts to promote continuous improvement, innovation and streamlining processes to meet growing demand and operational efficiency. Our operations cover a wide range of support services and hospitality services to airline customers and other leading companies in other sectors.

This includes catering services in the field of menu coordination and planning, frozen meal production and lounge management.

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*Airline pilots can at last benefit from a technology that has changed the world for passengers and general aviation pilots around the world. Alan Peaford travelled to Boston, USA, to visit the Bose Corporation and hear about the company's latest revolutionary development.*

# The sound of silence on the flight deck



**The ProFlight is the industry's smallest, quietest, and most comfortable active noise-cancelling communication headset.**

**W**hen the music-loving Dr Amar Bose boarded his Swiss Air flight to Boston in 1978, he was full of excited anticipation. The airline was featuring headsets for the first time to allow passengers to listen to music during the long transatlantic flight.

That excitement didn't last very long. After realising he couldn't hear the music above the noise of the engines and turning up the volume simply distorted the sound, the MIT professor threw the plastic tubes off and took out his notebook.

By the end of the remaining seven hours of the flight, Bose had written out the equations that would develop the noise-cancelling technology that would revolutionise the passenger experience.

It took six years before a working prototype was developed, coinciding with a lot of interest in another aviation pioneering moment as pilots Dick Rutan and Jeana Yeager were preparing for their mission to become the first people to circumnavigate the world, non-stop, without refuelling. The pair were advised they could lose 30% of their hearing during the mission.

Dr Bose demonstrated his new headset to the pair, who described the invention as "mission critical". The record-breaking Voyager flight resulted in no hearing loss.

While Dr Bose and his now successful Bose Corporation turned their focus to bringing the active noise-cancelling technology to market for passengers, the commercial aviators were left behind.

But not any more.

At a series of major aviation events during April, from Sun and Sands in Florida, Aircraft Interiors Expo in Hamburg, Aviation Africa in Cairo, and Aero Friedrichshafen in Germany, Bose unveiled its new active

noise-cancelling headset for the flight deck, the Bose ProFlight Aviation Headset.

Designed for the professional pilot in business and commercial aircraft, the ProFlight is the industry's smallest, quietest, and – having tested it myself at Bose's Massachusetts headquarters – most comfortable active noise-cancelling communication headset.

It is packed with new technology, featuring more than 30 US design and utility patents, and features a lightweight and comfortable in-ear configuration, three user-selectable levels of active noise cancellation, and a tap control for a talk through communication function that allows pilots to hear anyone on the flight deck who is not connected to the intercom – without removing the headset or an earpiece.

It is Federal Aviation Administration (FAA) TSO C139a and European Aviation Safety Agency (EASA) E/TSO C139a certified – a requirement that is increasingly important for many airlines and corporate flight departments.

"We've spent more than 30 years researching and developing active noise-cancelling technology," said Matt Ruwe, senior product manager, Bose aviation and military headsets. "This is the culmination of that experience and knowledge, and provides a real solution to many of the challenges pilots of crewed and turbine-powered aircraft face."

## Unique needs of pilots

The ProFlight is designed for the lower noise environment. It caters for the unique needs of pilots of airline and top-end business jets.

The company's best-selling A20 headsets already dominate the market for general aviation and turboprop pilots and the new ProFlight takes it a stage further.

"As a company, we are obsessive about bettering what has been done before," said Tim Leland, head of brand and product marketing. "We recognised the big differences on the airline flight deck and that the pilot needed to control the level of noise reduction. We wanted to develop it so the pilot doesn't have to take off the headset during flight, to make it that comfortable."

Using ideas from the Bose well-being range, the lightweight in-ear silicone tip rests in the upper ridge of the ear for more comfort, and the technology allows the pilot to just flick his ear to turn any noise reduction off. It also features Bluetooth and has a 48-hour battery life.

Bose is talking to airlines across the Middle East and Africa about fleet deals for the headset, which becomes available for retail sale during the first week of May at an expected price of a little less than \$1,000.

"There is interest already," said Patrick Schutterop, business manager, EMEA and India, "Reducing fatigue and improving communication is important to the airlines." ■



## Qatar passengers get a Super WiFi treat

Qatar plans to install GX across all of its flagship fleet.

*Qatar Airways has become the first Middle Eastern carrier to offer Inmarsat's Ka-band GX Aviation (GX) satellite-based in-flight connectivity service to its passengers. Technology editor Steve Nichols explains the significance.*

**S**uper WiFi' is the name that Qatar Airways is giving to its new, faster, GX in-flight connectivity service, which could offer speeds up to 100 times faster than currently exist. Qatar's intention is to install GX across all of its flagship fleet. The company has said that the service will be available to passengers on board more than 150 of its aircraft.

GX hardware, including a fuselage-mounted antenna from Honeywell Aerospace, has already been equipped as line-fit and is being activated on Qatar Airways' latest Airbus A350s. GX provides global coverage (apart from the poles) from four Inmarsat-owned geostationary satellites.

Following supplemental type certification approval, installations on a retrofit basis are also currently taking place across the airline's Boeing 777 fleet. The retrofits have been undertaken by Qatar Airways maintenance teams during scheduled C-check maintenance windows.

Ben Griffin, Inmarsat Aviation vice president, Middle East, Africa and South Asia said: "A total of nine A350-900s and one A350-1000 have been now delivered to Qatar Airways with GX as line-fit.

"Seventeen Qatar Boeing 777s have also now been retrofitted with GX, with a variable installation rate for the rest. Generally, one is being retrofitted at any given time."

Griffin confirmed that GX is now active on part of the fleet and is being provided to passengers free (for now). Qatar is still to decide when it will start charging.

"GX is performing extremely well on the fleet and 'as advertised'," said Griffin. "We are seeing strong take-up rates with high levels of consumption, exactly as we'd expect from the calibre of passengers flying on Qatar Airways. They expect the best levels of service from all aspects of their in-flight experience."

One journalist reported that the Inmarsat GX system didn't work properly when he tried it on the first Airbus A350-1000 delivery flight to Doha, Qatar, from Airbus in Toulouse, France.

The reality was that the GX system had not been activated on the aircraft and passengers had actually been

using the aircraft's much slower Inmarsat SwiftBroadband (SBB) connectivity. SBB is used as backup and for cockpit and air traffic control operations.

So why is GX so much quicker than SwiftBroadband?

Inmarsat GX uses much higher Ka-band frequencies with its satellites, which means data throughputs are in the region of 30-50 megabits per second (Mbps), compared with 432kbps with the L-band SwiftBroadband – up to a 100x speed increase.

The confusion came before the A350-1000 flight after Qatar Airways CEO, Akbar Al Baker, had praised the aircraft for having "the best Wi-Fi" available. A case of the left hand not knowing what the right hand was doing.

### Download speed

I tested GX on a Lufthansa flight over Europe in March 2017. Then the slowest recorded download speed (to the aircraft) was 1.4Mbps and the fastest seen was 14.2Mbps. The average speed to the aircraft was around 10Mbps, while the average speed off the aircraft (when uploading files) was around 5Mbps.

When fully implemented, Qatar Airways says the first hour access will be free, and a \$10 plan can be purchased for the full flight with unlimited data downloads.

The airline said there are no restrictions on the paid-for plan, but voice over internet (VOIP) calls are restricted for passengers' comfort.

Speaking at the 2017 Connected Aircraft eEnablement Conference, Babar Rahman, head of global sponsorships, CSR and IFEC, Qatar Airways, said: "Ground technologies are growing faster than satellite-based technologies, so we won't have the same speeds as a ground network, but we will get close to the experience passengers are used to.

"Connectivity will allow us to do a lot of things that you never thought were possible as eEnablement and a broadband pipe to the ground can bring a lot of benefits.

"We have a lot of stakeholders within Qatar that are looking at the possibilities with eEnablement."



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*The challenges of costs, competition, workforce and technology were among topics tackled by top MRO industry speakers at a conference in Dubai. **Chuck Grieve** reports.*

# GRAPPLING WITH CHANGE

“As a collective, we need to start engaging in discussion at a regional level.”

FREDERIC DUPONT

**M**aintenance is a major part of an airline’s overheads but, despite growing MRO capacity in the Middle East, more than half the maintenance budget is spent outside the region. This was one of the concerns raised by speakers at the annual Airline E&M: Middle East conference.

The event was staged alongside MRO Middle East and Aircraft Interiors Middle East in January.

Frederic Dupont, vice-president technical sales for Etihad Airways Engineering (EY Eng), said it was “surprising” how much MRO is outsourced outside the region.

Despite the existing capacity within the region, a lot of airlines here are thinking of starting their own MRO operations, he said. It highlights a communications problem.

In his view, the industry lacks continuity and cohesion. “As a collective, we need to start engaging in discussion at a regional level.

“Competition is good for MROs – it keeps us sharp, and that’s good for the customer,” he added. But operators also need to know when they ought to complement each other.

He said about 70% of EY Eng’s work comes from other airlines, from as far

afield as Asia-Pacific and South America. No longer a cheap labour market, the Middle East’s unique selling point (USP) is now a comprehensive offer at a competitive price. It’s a sustainable business model as long as MROs here can attract airlines from outside the region.

New technology presents an on-going MRO challenge as 50-60% of the region’s fleet is going to be new generation aircraft.

Dupont predicted more consolidation. “It’s hard out there for independents in an industry dominated by OEMs,” he said.

## Opportunities exist

Husham Osman, Royal Jet’s head of maintenance, said opportunities exist for third-party MROs but start-ups face a lot of challenges, including staff, licences, locations and competition from the big players. The Middle East geo-political situation adds to the risk for investors.

An issue for the industry, he said, is an apparent lack of understanding among authorities about various qualifications, leading to licences not being recognised from one jurisdiction to another.

The third-party MRO sector will pick up fast when it starts in earnest. It needs a kick-start from government, but Middle East governments seem more interested in

investing in MRO operations outside the region, he said. “What message does that send?”

Authorities need to relax regulation and encourage competition, he added.

Richard Brown, principal at ICF International’s aerospace consultancy, told delegates the impact of new technologies on aircraft will change how we think about MRO. Although health-monitoring capability has been built in for some years, technologically ‘smart’ aircraft are coming. With them comes big data and a range of opportunities.

ICF analysis shows aircraft-on-the-ground (AOG) costs the industry about \$8 billion a year, he said. Predictive maintenance “goes beyond MRO” – it opens up the possibility of running a complete airline “in the round” at a potential saving of \$3 billion a year for airlines.

“The landscape is changing,” said Brown. “A lot of players are getting into the data field.”

For independent MROs, the way ahead may be joining up with OEMs, which themselves are increasingly offering MRO services.

The Middle East MRO market is growing at 7%, faster than the fleet. Low-cost airlines are adding capacity, while





## Skills remain at a premium

Grappling with the complexities of the workforce are a constant headache for MRO executives in the Middle East.

Training and keeping staff was a challenge that would only intensify as the sector expands over the next decade to double its present value, said Ziad Al-Hamzi, chief executive of Lufthansa Technik Middle East.

Companies such as his wanted to build a skilled local workforce, but he questioned whether the courses on offer were geared up to what's required. "We're investing in technology and automation," he said, "but they won't replace human skills."

There's good support for training from the authorities, he added, but it will take time. Relying on expat workers is "not feasible" in the long term. "We must have programmes in place to train people from the region in these skills."

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Frederic Dupont, of Etihad Airways Engineering, said MROs had a "critical role" to play in supporting education establishments in the region.

Yasin Birinci, Turkish Technic's production planning and control director, said the constant pressures on cost meant 'headcount' would always be under fire. But he added: "We have to see cost-cutting as a chance to improve our processes and manpower to serve our airline customers better."

Birinci said Turkish aviation had emerged stronger from a "tough" year in 2016 when profitability throughout the supply chain was under pressure. "By focusing on job assignment and sequencing, we were able to optimise our workforce and use man-hours better. That allowed us to offer more services without having to hire more people; more processes, not higher costs."

He acknowledged that cost-cutting can have a negative impact on staff motivation but developing "fringe benefits" for employees could counter that. For example, for those at a lower level, the company can add value to their employment by helping them add to their licence.

Small things really matter to your workforce, said Ian Taylor, acting vice-president sales and commercial for TS&S Aerospace. "Things like a family day, extra holidays, feedback on their work etc. A little interaction every morning on the shop floor goes a long way to motivating your team."

traffic growth with the main carriers is flattening. "Some routes have been cut – something we've not seen before," he said.

Brown did not see an end to the "highly competitive situation" for MRO in the region nor the "rational use" of capacity, often duplicated, particularly in airframe. However, as more aircraft come out of warranty, there should be more demand for their services.

Guillaume Mille, head of flight hours services sales for Airbus, also spoke about the impact of big data and advanced monitoring, saying there is already a move away from the "mega-check" toward more frequent task-oriented checks.

As data from the global fleet grows, scheduled checks on some components may no longer be needed.

Ultimately, he said, maintenance will be "dynamic", with every check and interval based on the individual aircraft's operational history. Programmes such as Skywise, which collects data from the global Airbus fleet, are moving this toward a reality. Work remains, he said, in coordinating efforts between OEMs and showing authorities that this approach is reliable and safe. ■

Ziad Al-Hamzi: "We're investing in technology and automation but they won't replace human skills."



Guillaume Mille: maintenance will be "dynamic", with every check and interval based on the individual aircraft's operational history.

## Record numbers at MRO expo

MRO Middle East and co-located Aircraft Interiors Middle East attracted 4,541 trade visitors – a record, say organisers – over their two days.

Among the 320 exhibitors was a cross-section of the industry in the Middle East and further afield.

The MRO market in the Middle East is experiencing "exponential growth", which results in "a lot of focus and attention" on the industry, commented Amir Emam, senior strategic marketing manager for Honeywell Aerospace.

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Taarek Hinedi, vice-president of FedEx Express Middle East and Africa operations, said the exhibition was "a great platform" for showcasing his company's services and networking with aerospace industry professionals.

A number of companies used the show to highlight new business.

Among them was Etihad Airways Engineering (EY Eng) which announced

contracts with Kenya Airways (KQ) for A-checks on a number of its Boeing 787 and Boeing 737 aircraft.

EY Eng has already completed C-checks on B787s in the KQ fleet.

The show gave Lufthansa Technik (LHT) an opportunity to talk about its plans to double the size of its facilities at Dubai South. The extension, expected to be done in the next six months, will provide more space for storage and component capabilities as the MRO expands its capabilities beyond nacelles and composites.

Safran Nacelles signed two contracts at the show to support thrust reversers on Rolls-Royce Trent 700 engines, which power A330 aircraft. One contract covers unscheduled maintenance and asset management for Kuwait Airways, while the second, with EgyptAir, involves scheduled soft-time maintenance – preventive primary maintenance performed at operation-chosen intervals. Dubai-based Aerostructures Middle East Services (AMES), a component repair centre of excellence, will carry out the work.



**W**hile the show was not exactly brimming with new announcements, there were a number of new and interesting aircraft on display.

Mostly, it was an important event for a number of key suppliers to the Kuwaiti and general Middle Eastern markets to show off their wares and reaffirm their commitment to the region.

Kuwait's inventory of military and civil aircraft was displayed during the show, with a Kuwait Airways Boeing 777-300ER wide-body twinjet flying alongside the air force's Boeing F/A-18C/D fighters on the opening day, demonstrating the two ends of the nation's aircraft capability.

Kuwait is acquiring the Eurofighter Typhoon to bolster its fighter capability, which is expected to enter service in 2020. The aircraft are being delivered to the air force via consortium prime, Leonardo.

#### Expressed confidence

The country's ageing BAE Systems Hawk trainer was on the static display and, during the show, the OEM expressed confidence that Kuwait would opt to purchase the upgraded Advanced Hawk to complement the Typhoon buy.

The new fighters will be integrated with Leonardo's active electronically-scanned array (EASA) radar – the first customer for the sensor system – and will also carry the Pirate infrared search and track (IRST) sensor being provided by the EuroFirst consortium, which is led by Leonardo and comprises Thales UK and Tecnotbit Spain.

Other air displays included the Solo Turk team from the Turkish Air Force, which flies the Lockheed Martin F-16 Fighting Falcon. The Saudi Hawks, meanwhile, flew on the second day of the show, carrying out an impressive and colourful display using the national air force's advanced military trainer.

One new aircraft on show was the

*The inaugural Kuwait Aviation Show introduced a new, yet small, addition to the international air show calendar. The Arabian Aerospace team were there.*

## KUWAIT DISPLAYS AN INTERESTING DYNAMIC

recently delivered Airbus Helicopters AS365N3+ belonging to the Kuwait Police, which was delivered in December 2017, adding to the two AS365N examples already in service with the force.

The aircraft will be used in support of search-and-rescue and VVIP roles, and will be joined by two new H225 helicopters in the first half of this year.

Kuwait's air ambulance service also displayed its Bell 429 rotorcraft. This is typically based at Sabah Hospital and is operated alongside the Bell 420.

One innovative indigenous design being presented by Kuwait Aerospace Technologies (KAT) was an unmanned combat air vehicle design that can be re-rolled depending on requirements.

This includes threeengine and three-wing options, and the patented design can be reconfigured in just 30 minutes, swapping from a medium-altitude to a high-altitude design.

KAT also has a tactical UAV not

dissimilar to the Insitu ScanEagle on offer, which carries an electro-optical/infrared payload developed in conjunction with Chinese industry.

In terms of civil projects, Kuwait International Airport promoted its expansion work, which is adding a new terminal building that will facilitate travel for some 13 million passengers under an initial phase. This throughput will then increase to 25 million and 50 million passengers respectively under follow-on phases, in an attempt to place Kuwait as a hub for air transport in the Middle East.

The 140,000sqm terminal building is based on a trefoil design, consisting of three symmetrical wings of departure gates. Each facade of the trefoil will be 1.2km long, and extend from a 25-metre-high centre point.

#### Terminal project

The terminal project began in May 2017, with Turkish company Limak Holding's Cengiz Insaat division and Kuwaiti partner, Kharafi National, being responsible for the build.

There was also an abundance of civil primary training aircraft on display, including one of Qatar Aeronautical College's new Diamond Aircraft, which the school is introducing to replace its fleet of Piper trainers.

Provided via local channels, in Qatar the DA42-VI twin-engine and DA40NG single-engine types are being supported by Khalid Al-Khater, while in Kuwait, Dynamic Aviation is responsible for in-country sales.

In terms of business jets, the Gulfstream G650ER was present at the show, with the OEM most likely hoping to tap into the high number of wealthy Arab residents wishing to operate a high-end aircraft.

To this end, the Leonardo AW139 – a rotary offering that can be used for VIP transport – was also on display. ■



Seating was one of the key focuses when Aircraft Interiors Middle East took place in Dubai in January. **Marcelle Nethersole** reports.

# STAND OUT SEATS

**T**he aircraft cabin interiors market is projected to continue growing dramatically.

According to figures produced by Aircraft Interiors Middle East (AIME) organiser, Tarsus F&E LLC Middle East, it will leap from \$16.87 billion in 2016 to \$29.16 billion by 2021.

AIME, together with the co-located MRO event, received 4,541 trade visitors. It featured 320 exhibitors and many have already booked to return next year.

“The commitment we have seen from exhibitors is testament to the value they achieve from exhibiting at these events and demonstrates their importance to the industry,” said aerospace director Caryn McConnachie.

AIME had a variety of exhibitors but it was clear that aircraft seating companies played a key role.

## Stowage points

Aviointeriors introduced its new Galileo full-flat business-class seat. The staggered 21-inch pitch seat allows all passengers free access to the aisle and provides several stowage points.

Its creation came about in double-quick time. “We were originally working on our Adagio seat when we were visited by a customer from south east Asia looking for a completely new seat for an A330 – he wanted a comfortable seat built from zero,” explained Gianluigi Mormile, senior sales manager.

“We slowed down work on the Adagio to concentrate on this new seat as quickly as we could. From the day the customer came in, we managed to design, produce and get the Galileo certified within six months.”

The seat can also be certified for 787 and 747 or A350 aircraft.

The company soon got back to working on its Adagio, which was presented at this year’s AIX in Hamburg.

“The Adagio is a new high-density



The Galileo staggered 21-inch pitch seat allows all passengers free access to the aisle.



Alan McInnes: “The whole fundamental behind the Acro design is that we remove more sources of discomfort by giving more space to the passenger.”

business-class seat for both wide and narrow-body aircraft, ranging from eight abreast to five,” explained Mormile. “The seat is aligned as all-forward facing with exclusive 100% aisle access and 100% fully flat configuration.”

Mormile explained why he believes Aviointeriors stands out: “We have more than 40 years’ experience in design and certification. We are very flexible when it comes to customisation too, which can’t be said for many of our competitors.”

Acro Aircraft Seating was attending the show for the second time hoping to generate interest in the Middle East.

“It’s important for us to attend AIME and demonstrate why our seats are so good and why they can work for this region,” said Alan McInnes, SVP sales.

The 11-year-old company currently has a 100,000 seats flying – mainly with European and US carriers.

“The whole fundamental behind the Acro design is that we remove more sources of discomfort by giving more

Continued  
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CONTINUED FROM PAGE 111

space to the passenger. An Acro seat offers two inches more legroom because of the unique design of the seat,” explained McInnes.

The company has a series of seats that incorporate extra spatial design.

“A lot of seats are just straight at the body with a fist size space that is lost; we have a curve,” said McInnes.

“Extraspatial design maximises the ‘micro spaces’ that are often overlooked in traditional aircraft seating. By looking at the ‘space within the space’ our approach optimises hidden dimensions in a way that creates extraordinary differences to passenger experience.

“If you were designing a seat from an engineering perspective, you would make every seat the same. However, with an Acro seat, you will see one with 18.5 inches and the middle one with 19-and-a-quarter inches – we can do this in an Airbus cabin.

“With a Boeing aircraft, it typically has a 17-inch seat but we have made one almost 18 inches. Our theory is that it is important to give the space to the passenger.”

UK company Pitch chose AIME to launch its two new dress covers for its PF3000 fixed recline seat.

**Comfort range**

“The first cover is from our lightweight baseline range and is presented in Lantal fabric with a printed leather antimacassar from Andrew Muirhead. The second is from our comfort range and is presented in e-leather with a contrasting stitch,” said Gary Doy, director.

The PF3000 seat was developed in-house and builds on the attributes of the company’s PF2000 product.

“The seat back is sculptured with a low-profile bungee storage system and an optimised table shape, providing excellent leg room, even at the tightest pitch,” said Doy. “The patented lightweight cushion system delivers a comfortable seat, which is easy to keep clean and maintain during service.”

The company developed an efficient and flexible assembly process by adopting lean manufacturing techniques.

“Manufacturing lead times can be minimised as high-value components and sub-assemblies are bought in from a proven UK-based supply chain,” said Doy. “We currently work on a 12-week lead time for delivery of the standard fixed-back product. However, for customers who require shorter lead times, the company holds sufficient stock to deliver an initial ship set or two. The assembly facility is highly scalable and has the



capacity to deliver more than 1000 PAX places a week.”

First deliveries are for the A319, A320, B737-300 and B737-500 aircraft.

A new aerospace foam technology was being displayed by Slovenian company, Vanema, which creates seat and back rest cushions.

“Octaspring is a key enabling technology that will reinvent passenger comfort, while at the same time shaving off up to 30% of the seat cushion’s weight,” explained Boris Ribicic, director of research and development.

“The patented foam springs are used to create individual support points, unlike the rigid uniform blocks of foam that fly on today’s aircraft, and they can be manufactured in varying firmness – which are colour coded – allowing for the creation of unique ergonomic zones without additional costs.”

**Teamed up**

In 2016, the company teamed up with Airbus, Stelia Aerospace, and Boxmark to develop aircraft seats with Octaspring – with a prototype seat winning a Crystal Cabin Award for excellence in aircraft innovation at the Farnborough International Air Show last year.

Ribicic said Stelia Aerospace is now at the stage where it is ready to market the product after it passed all necessary tests.

While displaying a range of its seating dress covers at the show, Sabeti Wain was also highlighting its recent large expansion at its facilities at Dubai Airport Freezone

**Pitch chose AIME to launch dress covers for its PF3000 fixed recline seat.**

(DAFZA). It had grown the factory after struggling to hire skilled staff at its UK and US facilities.

“In the last four or five years, we have had to move a lot of our work from the UK, our main plant, and the US to our facility at DAFZA as we are able to get the right size premises and skilled staff there,” said director, Paymen Sabeti.

“We have gone from 2,500sqm to 5,000sqm at DAFZA and have increased from 150 sewing machinists to 300 – all of which are extremely skilled Pakistani guys. This recent expansion now makes Dubai our largest facility.”

Sabeti said that the company is finding a shift in the nature of the business in the region.

“The Middle East is changing,” he said. “The airlines in this region are trying to save costs. They now refurbish and reuse equipment rather than having new OEM parts. So, on the one hand you see the new part business is going down but the refurbishment and the spares business are going up.”

He added that there is “a lot of pressure and emphasis” on cost-cutting and getting more lifespan out of products.

“For us, we are designing more time-saving equipment seat covers and trying to expand the life cycle of the products,” said Sabeti.

“Where a seat cover would have a life span of 10 dry clean cycles in the past, we are extending that to 15 or 20 – double what it used to be. We are being driven by our customers.”



**Boris Ribicic: “Octaspring is a key enabling technology that will reinvent passenger comfort, while at the same time shaving off up to 30% of the seat cushion’s weight.”**

*This year's Aircraft Interiors Middle East (AIME) event in Dubai highlighted the importance of in-flight connectivity and entertainment to airlines in the region. Steve Nichols reports.*

**M**any of the main connectivity and wireless in-flight entertainment (IFE) providers were out in force at the two-day AIME event at Dubai World Trade Centre.

Those exhibiting included Gogo, Honeywell, Panasonic Avionics, AirFi, Astronics Aerosat, Bluebox, SITAONAIR, Rockwell Collins, Global Eagle, Inmarsat, Lufthansa Systems and Thales InFlyt Experience.

Amir Emam, senior strategic marketing manager at Honeywell Aerospace, said: "The Middle East is a high-growth region and there is a lot of focus and attention on the MRO industry.

"Given the exponential growth of the MRO market in the region, as well as aircraft connectivity, it is the ideal place to see our partners and customers and demonstrate our dedication to the market."

#### Annual awards

The event also featured the annual Inflight IFEC Awards, with Saudia claiming the prestigious 'Inflight airline-of-the-year' title for the first time.

Other airline winners were Emirates (airline IFEC experience) and Ethiopian Airlines (interior retrofit project).

The 2017 winner, Panasonic Avionics, picked up another Inflight Middle East award in the "IFE system provider" category; Global Eagle took home the "content provision" award, while Inmarsat claimed the "connectivity enablement" trophy for its GX Aviation high-speed Ka-band system.

Qatar Airways plans to provide GX Aviation on board more than 130 aircraft, consisting of Airbus A350s and Boeing 777s, and Emirates intends to install the service on its Boeing 777X aircraft fleet. Airlines connect to the GX network using Ka-band JetWave terminals produced by Honeywell Aerospace.

Ben Griffin, Inmarsat Aviation vice president, Middle East, Africa and South Asia said: "Consistent, reliable high-speed connectivity opens a new world of service innovation and personalisation to today's airlines.

"This latest industry recognition attests to our commitment to provide the best in-flight connectivity to passengers within the Middle East and we're looking forward to seeing more and more passengers experiencing our award-winning broadband in the sky."

# CONNECTIVITY'S LIVE WIRES...



**Consistent, reliable high-speed connectivity opens a new world of service innovation and personalisation to today's airlines.**

**BEN GRIFFIN**

The terminals are designed for ease of installation and maintenance to assure the lowest downtime for any cabin connectivity solution in the market, allowing installation with minimal labour and using standard tools available in maintenance hangars.

Panasonic Avionics also promoted a major evolution of its satellite connectivity service, with the introduction of its third-generation communications network.

It says the network is built to "meet the growing connectivity demands of airlines and their passengers". Throughout the first quarter of 2018, aircraft from a number of airlines will be transitioned to Panasonic's new network.

Today, Panasonic says more than 1,800 aircraft flying routes all around the world use its global high-speed in-flight connectivity service. The company expects more than 10,000 aircraft to be connected by 2025.

AirFi also announced it is off to a flying start in 2018, signing two new large unnamed airline clients, a major contract expansion and a landmark deal to expand and support its rapidly growing Middle East and North Africa footprint.

#### Long-term partnership

AirFi wireless IFE will be soon be flying on another 90 aircraft and, through a new long-term partnership with a major unnamed Middle Eastern caterer, 200 further aircraft will be operating its sister platform, Connected Crew digital cabin assistant and EPOS.

Job Heimerikx, AirFi CEO said: "Welcoming two new larger fleet operators into the AirFi client family and tripling the AirFi-enabled fleet at one of our longest-standing airline customers represents a hugely exciting opportunity for us and the level of confidence our clients have in our technologies and capabilities."

Bluebox is a finalist in the upcoming Crystal Cabin Awards, being presented during Aircraft Interiors in Hamburg in April, with its accessible in-flight entertainment (aIFE) platform for passengers with partial or full visual impairment.

Bluebox says aIFE provides any airline with a much more advanced and radically lower-cost solution than the alternative of updating seat-back or other IFE systems, and can do so across mixed fleets with different IFE systems. ■



*Aircraft Interiors Expo (AIX) is the world's largest show for the sector covering cabins, passenger experience, in-flight entertainment and connectivity.*

**Marcelle Nethersole and Alan Peaford were in Hamburg and picked out the highlights.**

# PANASONIC LANDS CONTRACT DOUBLE

**T**wo of the region's major airlines boasted a couple of the largest connectivity and in-flight entertainment (IFE) contracts at the AIX show in Hamburg.

Panasonic announced an agreement with EgyptAir to provide the in-flight entertainment and connectivity (IFEC) systems for six Boeing 787-9 aircraft.

Meanwhile, Turkish Airlines also announced a major commitment to Panasonic for IFEC solutions to be line-fit installed on 50 wide-bodied aircraft it has on order, with options for a further 10.

Panasonic's X-Series IFEC system, along with its rivetMEDIA solution, and a suite of connectivity services including in-flight Wi-Fi, mobile phone use, and global live television, will be fitted on 25 Boeing 787-9s and 25 Airbus A350-900s, with the first aircraft due to

be delivered to the Istanbul airline in June 2019.

The EgyptAir order is for the Panasonic's eX3 IFE system, which features the industry's largest selection of options including HD monitors, capacitive touch handsets, in-seat power, and ensures a premium experience in every cabin class.

Safwat Musallam, chairman and CEO of the EgyptAir Holding Company, said: "High-quality in-flight Wi-Fi is changing the way people think about flying and how they spend their time in the air. Accordingly, in addition to our fleet upgrading strategy, we needed a solution not only capable of providing a reliable system, but also a truly immersive in-flight experience to our passengers."

EgyptAir has also opted for a range of additional software applications across the fleet that include passenger surveys, on-board

shopping, 3D moving map and OneMedia – Panasonic's advertising platform.

The Turkish Airlines' aircraft will be fitted with Panasonic's new satellite modem, which offers bandwidth up to 20 times greater than previously available, enabling a host of next generation in-flight connectivity benefits from high-quality live television programming to fast internet, video streaming, in-flight mobile phone service and greater bandwidth for crew applications.

It will include Panasonic's unique passenger data integration (PDI) service, which will allow Turkish Airlines to add higher levels of personalisation to its in-flight experience. PDI will also enable the carrier to seamlessly recognise the travel preferences of its guests and recommend specific content, services and amenities that will enhance their experience both in flight and in their destination city. ■



## OMAN AIR 'REST' IN LUXURY

Oman Air's Boeing 737MAX aircraft is the first to feature Rockwell Collins' new Air Rest luxury business-class seating solution for narrow-body aircraft. Initial deliveries for a total of 30 aircraft began recently and will continue through 2022.

The company said the seat brings "the comfort and technology of Rockwell Collins' wide-body business-class seat to narrow-body business seating".

Its enhanced cradle-style recline, featuring patented seat kinematics – along with the latest generation video monitor integration, ample stowage and large bi-fold table – accommodate passengers for both working and relaxing during the flight.

In addition, Air Rest's proprietary fixed living space feature allows passengers total control of their environment without the worry of other passengers intruding into their space.



## WHY 'BINNING IT' IS GOOD NEWS FOR AIRBUS

With the Airbus A321LR completing its first transatlantic flight from Paris to New York in February as part of the test programme for the new long-haul narrow-body, questions about the cabin potential were swiftly dealt with at AIX Hamburg.

The European manufacturer was showing a mock-up of the new Airspace cabin developed for the A320 family, which offers more space and facilities for the long-haul variant.

The display featured a welcome area with patterned lighting effects and full-flat seats for premium passengers.

Most striking were the Airspace XL bins

and new lavatory system. "The bins are 40% larger but give 60% more baggage space," said Ingo Wuggetzer, Airbus' vice president of cabin marketing.

"The A321LR will offer fantastic comfort for the passengers but also an excellent cost base for operators," he added.

With a number of Middle Eastern carriers eyeing the A320neo family for reaching thinner long-haul flights, the options for the premium cabin will appeal. "We see about 20% of the single-aisle operators looking at three-class cabins going forward," Wuggetzer said.



## TAPPING INTO SPARKLING WATER...

A water treatment systems company has entered the world of jewelled taps. Canadian company, International Water-Guard (IWG), has teamed up with Italian master jeweller, Lilou, to create a joint venture called IWG Lilou, producing handcrafted sparkling taps and towel rails.

"All the jewels are fully drilled into place and nothing is glued," explained IWG sales and marketing director Giles Lapierre. "Due to the craftsmanship involved, we guarantee them for life."

Lapierre said designers had been making luxurious cabins but tended to overlook bathrooms.

"The products have been so successful that we have now turned our focus to the cabin to offer more bejewelled seat buckles – which set the mood for the flight," he added.

Mindful of saving weight, the company, based in Vancouver, British Columbia, is also launching its pre-select system, which is designed to give operators the ability to carry exact amounts of water per flight sector.

"On an annual basis, it will save airlines considerable amounts of money," said Lapierre.

## Zodiac signs up to a good night's sleep

A330 passengers could be the first to bed down in a lower-deck sleeping compartment from 2020 thanks to a new partnership between Airbus and Zodiac Aerospace.

The companies announced that they are to develop and market lower-deck modules fitted with passenger sleeping berths.

The modules, which would fit inside the aircraft's cargo compartments, offer new opportunities for additional services to passengers, improving their experience while enabling airlines to differentiate and add value for their commercial operations.

□□□□

The modules will be easily interchangeable with regular cargo containers during a typical turnaround if required. The aircraft's cargo floor and cargo loading system will not be affected as the passenger module will sit directly on it.

Sleeper compartments on the A350XWB airliner are also being studied.

The innovation builds on Airbus and Zodiac's experience in producing and integrating lower-deck crew-rest facilities.

Geoff Pinner, head of Airbus cabin and cargo programme said: "This approach to commercial air travel is a step-change towards passenger comfort. We have already received very positive feedback from several airlines on our first mock-ups."

## Kuwait Airways plans Middle East 'first'

Kuwait Airways is extending its partnership with connected service expert SITAONAIR.

Geneva, Switzerland-headquartered SITAONAIR is to deploy its award-winning Internet ONAIR portal and Mobile ONAIR services – powered by Link ONAIR, over Inmarsat's high-speed GX Aviation network, across the airline's new A320 and A321 Neo aircraft fleet.

With service activation on commercial flights planned for early 2019, Kuwait Airways will be the Middle East's first airline to offer in-flight connectivity services over GX Aviation in a single-aisle aircraft fleet.

## New seat worth the weight

A new seating system for the Bombardier Q400 turboprop could save airlines millions of dollars a year, the company said at AIX.

In a joint event with Indian low-cost-carrier SpiceJet and seat manufacturer Expliseat, Bombardier showed the latest Dysit E2 seat, which weighs just 5kg.

"That is a weight saving of 400kg on each 90-seat configured Q400," said the manufacturer's VP of marketing, Patrick Baudis. "And that equates to \$100,000 per year savings on fuel for each aircraft."

Expliseat CEO, Benjamin Saada, said the company had worked with Peugeot on the lightweight design. ■

## STG AEROSPACE LIGHTENS THE MOOD



Marcus Williams: full-colour, fully programmable solution.

STG Aerospace has launched the latest version of its liTeMood LED lighting system for Airbus A320 and A330 aircraft. The first two launch customers – Small Planet Airlines and XL Airways France – will upgrade their A320/A321 and A330 fleets in April.

Marcus Williams, STG Aerospace director of global sales, said: "Since 2014, our liTeMood retrofit LED system has revolutionised the way airlines with Boeing 737 and 757 aircraft can accomplish a lighting upgrade. We are now delighted to announce the availability of our next-generation system for the Airbus A320 family, A330 and A340 fleets, along with the first two launch customers. For the first time, we will be offering a full-colour, fully programmable solution."

An extension of the proven feel and performance of STG Aerospace's liTeMood, the Airbus system offers fully customisable, animated scenes that can change post installation in just minutes via a patented infrared wand.

As well as the choice of selection from more than 16 million colours, the system offers the ability to incorporate bespoke scenes, from northern lights to sunrise and sunsets, to more unique settings that celebrate national holidays.

## IT'S PLASTIC FANTASTIC FOR STRATAYS

Stratays, was at AIX highlighting its Fortus 900mc aircraft interiors certification solution.

This new product is based on the company's Fortus 900mc production 3D printer, which produces aircraft interior parts meeting Federal Aviation Administration (FAA) and European Aviation Safety Agency (EASA) certification requirements.

James Orrock, vice president product leader, said: "This upgrade solution consists of ULTEM 9085 resin, which is a strong, lightweight thermoplastic meeting aerospace flame, smoke and toxicity (FST) regulations, and a new edition of the Fortus 900mc production 3D printer with specialised hardware and software designed to deliver highly repeatable mechanical properties."

The system is currently used by Airbus and



James Orrock holds the new Antero 800NA thermoplastic as he shows off the Fortus 900mc.

Boeing, but Orrock pointed out that it could be used by "anybody who wants to make parts for interior aircraft operations".

The US company also announced a new 3D printing material designed for its fused deposition modelling (FDM) process.

*A major step forward in UAE airline security is in the works following an agreement between the country's two largest carriers. Alan Dron reports.*

## RIVALS TAKE A GIANT STEP FOR SECURITY

**T**he agreement by Emirates Airline and Etihad Airways to cooperate on aviation security matters will bring the two carriers closer together in one of the most vital areas of civil aviation.

Although rivals, the two companies are well aware of the benefits of working closely in this area and the arrangement makes a great deal of sense – the two airlines, after all, have their respective hubs just 80 miles (130km) apart and both have played significant roles in propelling the UAE to its current leading position on the world aviation scene.

An indicator of the significance of the January signing of the memorandum of understanding (MoU) agreeing security cooperation could be seen from the fact that the ceremony at the Emirates Group HQ in Dubai was attended by both the chairman and chief executive of Emirates Airline & Group, Sheikh Ahmed bin Saeed Al Maktoum, and the vice-chairman, Etihad Aviation Group, Hamad Abdulla Al Shamsi.

### Foremost priorities

“Security is one of the foremost priorities of the global aviation industry,” said Sheikh Ahmed. “Over the years, Emirates Group Security has built strong expertise and capabilities to successfully navigate the complex landscape of security risks and threats in aviation.

“Through this agreement, Emirates Group Security will cooperate with Etihad Aviation Group to share know-how and extend aviation security services in order to better handle shared challenges, which ultimately benefits travellers.”

Replying, Al Shamsi commented that the agreement was a “landmark partnership” and one which is as important symbolically as it is strategically. “As the national airline of the UAE, we have a responsibility to seek and develop greater collaboration with our major aviation partners in the UAE for the continued safety and convenience of millions of travellers worldwide.

“Security is our utmost priority and, given the current sensitive climate we operate in, it should never be underestimated.

“The signing of an MoU between the two largest aviation groups in the country will have a positive impact on local and international operations by significantly enhancing aviation security measures.”

The MoU talked of ‘exploiting joint synergies’, without going into details; neither airline would expand on the nature of this cooperation. However, Emirates Group Security will extend its security training and education programmes to Etihad Airways, to help the latter airline develop its own security escort capability.

### Content and structure

In the longer term, Emirates security staff will also share the content and structure of its security development curriculum and work with Etihad Aviation Group in setting up an in-house security education programme – possibly with university-level accreditation.

Given last year’s agreement between Emirates Airline and Flydubai to cooperate more closely at the operational level, it is possible that the low-cost carrier may also become involved in the sharing of security activities, although there have been no comments on this to date.

The new understanding on security raises the possibility of further areas of cooperation being opened up between Emirates and Etihad.

“Aside from the fact that they are from the same stomping ground, the rumours and noise about closer cooperation between Emirates and Etihad have been around for a long time,” noted Saj Ahmad, chief analyst at London-based aviation consultancy StrategicAero Research.

“So, this security pact is certainly not surprising and, indeed, should be seen as a first step in more collaborative efforts as time goes on. When you look at the two airlines there are plenty of areas where convergence between them makes sense.”

How far any collaboration might go is uncertain, but with both being UAE carriers, some level of cooperation is not impossible. Currently, however, Etihad is going through major changes, having pulled back from its involvement in both Airberlin and Alitalia.

**Tim Clark, president Emirates airline, and Tony Douglas, group chief executive, Etihad Aviation Group, sign the MoU for cooperation in aviation security.**



*A revolutionary aviation security risk-management solution was launched in Abu Dhabi late last year. Steve Knight talked to the man behind the system.*



hoped for, sparking a growing realisation that an independent solution would not be constrained by the same diplomatic pressures.

“Basically, we haven’t got to worry about diplomacy or politics. We can just report what’s going on, in real time, which means that our clients will get what they need, when they need it,” said Nicholson.

Osprey’s new software system is able to deliver an instantaneous, integrated risk assessment bespoke to the specific geographical planned route of a flight and can provide dynamic re-assessment in real-time if the flight-route is altered.

“The analysis is continuously updated, ensuring the assessment is accurate to the second the flight is planned,” said Nicholson.

Using the latest technology, the London-based company’s software interrogates more than 200,000 information sources in over 60 languages, picking up patterns and trends that may be invisible to a purely human analyst.

“It’s a system for the 21st Century,” said Nicholson. “All the information is out there. Now, for the first time, our technology is able to bring it all together and the analysis is instant. When you supplement this information with our team of leading aviation security experts working all around the globe, it means we offer a unique 24/7 operation.”

**Cheap enough for people to use**

Civil aviation is very much the focus. “We want our system to be available to everyone, which means it has to be cheap enough for people to use – typically less than \$50 per flight,” said Nicholson.

“Aviation safety and security is our top priority, which is why people can sign up to our breaking news security alerts on our website, a service we provide for free.

“We believe it is vitally important that every operator, from a single aircraft owner/pilot to the largest commercial airline, has access to the right information to best understand and mitigate the threats to their crew, passengers and aircraft.”

Nicholson, a highly experienced aviation security expert, admits that he had been thinking about the service for some time. “I knew what was needed from a security point of view but it was only in the last 12 months that I gained sufficient knowledge of the technology and how it could be used,” he explained.

“The technical challenges – and particularly integrating our technology with other operators’ systems – have been a huge learning curve for us.”

From a Middle East perspective, the service is already being used on a daily basis by one major German airline, with particular emphasis on Iraq.

“The situation in Iraq is changing on an hour-by-hour basis,” said Nicholson. “Our service means the airline concerned is getting vital safety and security information in real time. It is a classic example of using technology and expert analysis in tandem to provide the safest possible aviation outcome.

“It was absolutely appropriate to launch our service in the Middle East, which is so often at the cutting edge of innovation within the aviation sector.”

# Osprey en route to safer flights

**It is vitally important that every operator, from a single aircraft owner/pilot to the largest commercial airline, has access to the right information to best understand and mitigate the threats to their crew, passengers and aircraft.**

ANDREW NICHOLSON

In today’s dynamic and challenging airspace environment, the lack of a cost-effective, real-time risk-management solution has been an industry concern for years.

Now Osprey Flight Solutions, a new aviation security company, has come up with the answer.

The company’s innovative new system will provide all operators with instant access to flight-specific, accurate and comprehensive airport, country and overflight risk assessments.

For the first time, this analysis can be delivered instantly and directly into flight-planning software, heralding an important step in enabling operators to maximise the protection of crew, passengers and aircraft.

The man heading up the service, Osprey Flight Solutions CEO Andrew Nicholson, has been delighted with the feedback the company has received since it unveiled the system at AVSEC World in Abu Dhabi in November.

“Everyone has been fantastically positive, saying its what’s been needed for years,” he enthused.

The urgency to launch was spurred on after the AVSEC World 2016 event in Kuala Lumpur, where Nicholson shared a panel on ‘Next Generation Risk Management’ alongside Mitch Fox, the International Civil Aviation Organization (ICAO) chief of strategy planning and regional affairs coordination.

During the session, it was said that ICAO’s conflict zone information repository (CZIR) had not achieved what was

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## Airbus Helicopters gets Even as CEO

Bruno Even has been appointed CEO of Airbus Helicopters with effect from April 1. He will report to Airbus CEO, Tom Enders, and joins the company's executive committee.

Even, 49, had been CEO of the Safran Helicopter Engines business since 2015.

Enders said: "Bruno has climbed the management ranks at Safran at a very young age. His broad background of the helicopter business and his strong customer focus, combined with programme and engineering expertise, make him the ideal candidate to succeed Guillaume Faury and to continue our successful improvement journey in a very demanding business environment."

## GALANS strengthens

GAL Air Navigation Services (GAL ANS) appointed Jesper Skou as its new chief operating officer and David Adebisi as director strategy and business development in February.

Reporting directly to the

## UAE NATIONALS TAKE EMIRATES COUNTRY MANAGER ROLES



Salem Al-Marri.

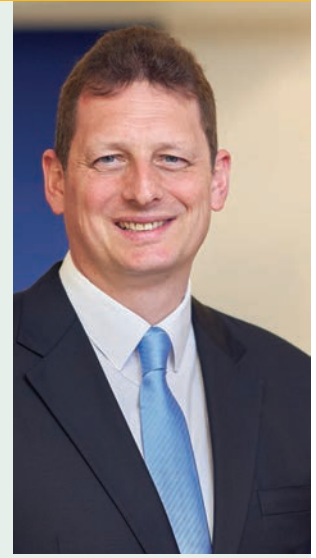
Emirates has made several management appointments within its outstation commercial operations team, with three UAE nationals taking on leadership roles in Japan, Malaysia and Zambia.

Salem Al-Marri is the new country manager for Japan, while Abdalla Al Zamani has been appointed manager, Malaysia, and Mohammad Bin Hafiz is manager Zambia.

Bin Hafiz joined Emirates in February 2010 as a commercial support manager and was then appointed as district manager, Riyadh in 2013. In March 2014, he was promoted to manager Morocco. He then joined the national military service in January 2016, where he served his term until January this year.

Meanwhile, the carrier has also appointed Richard Jewsbury as the new divisional vice president of the UK. Jewsbury started his role on April 1, taking over from Laurie Berryman, who retired on March 31.

Jewsbury said: "To lead Emirates in one of our biggest and most important markets is an exciting opportunity and my immediate priority will be to ensure the successful launch of our new service between Dubai and Stansted in June. I'm looking forward to working with our local teams in London, Birmingham, Glasgow, Manchester and Newcastle, to build on the successes achieved to date."



Richard Jewsbury.

CEO, Skou is responsible for all GAL ANS operations. Prior to joining the company, he held leadership positions within air navigation service providers in Denmark, Sweden and Switzerland.

Adebisi said: "It is with great pleasure that I take up this important position within the GAL ANS executive team and I am delighted to be part of an organisation with significant potential. I look forward to

continuing the organisation's success and working with them to utilise current operations as a springboard for the future, with customer responsiveness and efficiency at the heart of what we do."

## Gulf Air appoints COO

Gulf Air has appointed Captain Suhail Abdulhameed Abdulaziz

Ismail as its new chief operating officer. CEO Krešimir Ku ko, and his deputy, Captain Waleed AbdulHameed Al Alawi, welcomed Ismail to his new post in February.

## Murad joins Joramco

Abdelmalek Murad has become the new COO of Joramco. He has gained 27 years of diversified aviation

experience since graduating from the University of Southampton in 1991 with a first class (honours) aeronautical engineering degree.

## Communication role for Mills at Boeing

Boeing has appointed Linda Mills as vice president of communications for Boeing Commercial Airplanes, the company's \$58 billion business unit that designs and builds some of the world's most advanced and efficient jetliners.

Mills, an award-winning executive with 20 years' strategic communications experience, joins Boeing from Seattle-based Starbucks, where she served as vice president of global communications.

## Holiday time

Oman Air has appointed Holiday Aviation as general sales agent (GSA) for South Africa. The airline said it is expanding its presence in Africa and positioning South Africa as an important point of sale for its international network.

## AL GHANNAMI AND STARRS MOVE IN AT OMAN AIR



Paul Starrs.

Oman Air has made two significant top management appointments.

Suleiman Al Ghannami is the new chief financial officer (CFO) and Paul Starrs is the new chief commercial officer.

Al Ghannami said: "It is a very prestigious role and I am confident that I have the right skills and expertise to deliver financial success. I am excited and proud to join the airline at such a pivotal time and to play my part in its transformation into a performance-driven organisation that is well-positioned for the future."

"I look forward to adding value to Oman Air's growth through the concerted efforts of both me and my team."

Starrs was previously senior vice president global sales, distribution and ancillary products for Emirates.

He said: "It is an exciting time to join Oman Air as it continues to build on its position as an award-winning international airline. It would be my targeted priority to assist and support Oman Air's expansion plans during this growth period."

"Inbound tourism is a key focus area for Oman Air and now, with the new fantastic world-class passenger terminal, there has never been a better time to visit Oman for leisure, business or any other purpose."

"I'm very much looking forward to working with the teams to attract more visitors to Oman and Oman Air."

## Lars Barsoe

Marcelle Nethersole *speaks to the Vestergaard Company vice president sales and marketing.*

1

■ Tell me about your company.

Vestergaard Company provides ground support equipment (GSE) for the aviation industry and has a line of de-icers that are renowned for innovation and high quality. There are Vestergaard Elephant de-icers in almost all major airports.

The main advantage of our de-icer is lower operational costs compared to others in the market. Our de-icers are sold as far south as Amman, Jordan, where it actually gets cold enough for about a month every year.

In Amman, we have made a version of our Elephant MY de-icer that can be used as an aircraft washer as well as a de-icer, so the units are in service all year.

We have been active in the Middle East for a long time and there are aircraft washers across the region, plus a few in Europe and the Far East. We also have a series of toilet and water service units used across the world.

2

■ Is the company launching any new products?

We are continuously working to improve products and introduce new features that save our customers money and automate some of the functionality in both de-icing and aircraft servicing. The airlines, demand fast turnarounds and low cost per operation, so those are our focal points.

We are also working on several areas within operators' ease of use and reduced muscle strain. And there is a big push from airports, unions, authorities, and even consumers, to reduce the environmental impact, so that is also a focus.

3

■ What sets you apart from other GSE companies?

We are known for the high quality of our products, which gives the users higher uptime and less worry. Our units spend less time in the workshops and there are fewer operational alarms and stops. That same quality also provides for longevity. We have de-icers in use today that we delivered in the early 1980s.

The same goes for toilet and water service trucks. With such a proven track record, that means the resale value of second-hand Vestergaard equipment is quite high, which again provides security to customers.

4

■ How do you see the future of airport ground support?

One of the biggest challenges is short-term agreements. With low margins and short-term contracts, ground-handlers are reluctant to make any kind of long-term investments.

In some countries this is changing and, as the industry is maturing, both parties understand that costs and conditions have to be fair to all.

It is getting increasingly difficult in many markets to hire staff for the ramp, so there will be a strong push for automation and for higher efficiency equipment.

5

■ As a GSE company, what challenges do you face?

There are several challenges when supplying to many different countries and customers. Some can be convinced to use the same type of equipment as the typical customer, whereas others require special adaptations.

We sell our equipment on standard chassis from the largest chassis manufacturers. Challenges here are the different engine and exhaust norms from country to country. Some of the Middle East countries have a very high level of sulphur in their diesel and modern engines – Volvo or Mercedes – cannot use this, so we have to supply chassis with older specifications and built especially for them.

Selling across borders also gives problems, as dealers have exclusivity and will not deal with equipment that they have not originally imported themselves.

6

■ What does a typical day for you involve?

From the office, I am typically in touch with a lot of customers and potential customers looking at existing and up-coming projects.

I only spend about half of my time in the office. The rest is spent travelling to customers around the world. During those visits we discuss needs and wants. We look at solutions and discuss future needs and desires to both product and operation.

Most of our product development is driven by these kinds of discussions and they are highly valued. For me it is also about getting a feel for where a market is going, so we can plan our resources accordingly.

“Selling across borders also gives problems, as dealers have exclusivity and will not deal with equipment that they have not originally imported themselves.”



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