



# ARABIAN AEROSPACE

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

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## Why training tops the agenda to meet region's growth needs



I make no excuses for starting this column for the second successive issue with reference to training.

For the Middle East and North African aerospace industries to continue the rapid growth that has seen them propelled into the focus of attention of world markets, then training is the single most important aspect of the entire strategy.

The figures are alarming. In order to just keep up with the current growth plans involving the major carriers in the region, MENA airlines need to be recruiting around 2,000 pilots a year. That number excludes the growing demand of business aviation.

This is – and has been – a headline grabbing figure but it is dwarfed by the numbers expected to be required by Asia. While at the moment the major Gulf carriers are an attractive proposition for expatriate pilots and crew, competition from Asia could seriously damage this.

But it is not just in the air that the threat to growth is coming. It is on the ground too. Ground handling, aircraft engineering and air traffic management needs ten times

the numbers that the pilot fraternity require.

And so the region is responding. Countries are working hard to inspire and encourage nationals to look at aviation as a career with prospects.

We look at a number of the training organisations that are making a mark in reacting to those calls. Some have been here for decades; others are new. But there is a single-minded belief that working with the airlines, with the education systems and with the governments, will see a new generation of professionals entering our industry across the spectrum of jobs.

We also take the opportunity to look at some of the effects of the so-called Arab Spring on key aviation markets. Egypt and Tunisia were the first to take to the streets and we meet the leaders of the industry in Cairo and visit Tunis to see just how the business is recovering.

It makes interesting reading.

Safe landings.

**Alan Peaford, Editor-in-chief  
Arabian Aerospace**

Cover: H.E. Hussein Massoud, Egypt's Minister for aviation. Picture by Ian Billingham

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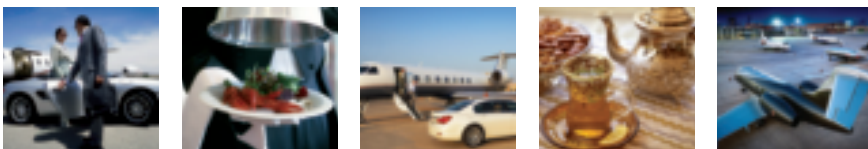
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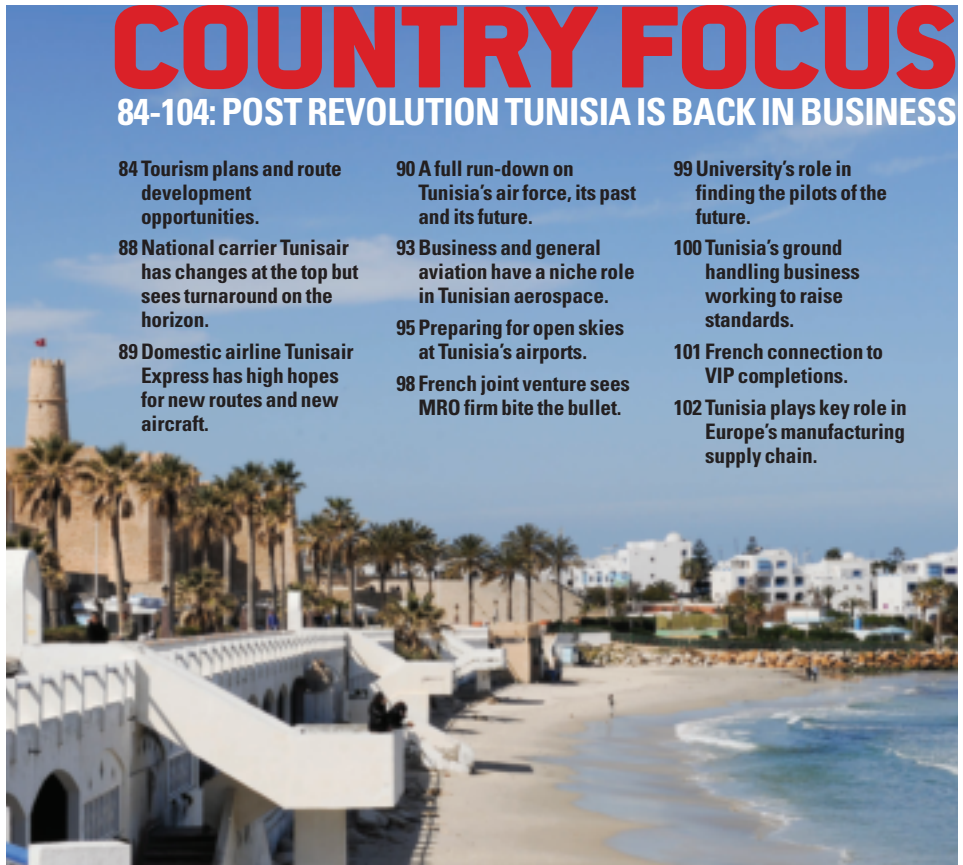
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## Iraq settles legal claim with Kuwait

Iraq is believed to have settled its dispute with Kuwait over compensation for the theft and destruction of the Kuwait Airways fleet during the first Gulf War.

Iraqi Foreign Minister Hoshyar Zebari said that a settlement of \$500 million had been agreed.

Reuters reported that Iraq will pay Kuwait \$300 million in cash and will invest another \$200 million in a joint Iraqi-Kuwaiti airline venture.

## UAE company linked to Iran deal

A UAE-based company is allegedly connected to an aircraft deal that has seen three Boeing 747-300 passenger jets set for service in Iran.


According to flightglobal's online news service, Iran Air has acquired the first of three Boeing 747-300s from Al Sayegh Airlines, the Kyrgyzstan operator owned by UAE-based Sayegh Group.

The aircraft are believed to have been sold to an unnamed Gambian company, which fronted the deal.

## RAK Airways selects SITA

UAE carrier RAK Airways has selected Horizon, the passenger service solution from IT provider SITA, to facilitate interlining with other carriers, as well as enabling exponential growth in the airline's business in the coming years.

In the six-year, multi-million dollar deal, SITA Horizon will provide fare pricing, ticketing, reservations, revenue integrity, passenger revenue accounting, online booking and shopping services. In addition, it will include full



## Etihad fuels environmental debate

**Etihad Airways' flight from Seattle to Abu Dhabi – the delivery flight of the airline's latest Boeing 777-300ER – was the first in the Gulf to be operated using sustainable biofuel.**

**The 14 hour delivery flight of the airline's newest and most efficient long haul aircraft was operated using a combination of traditional jet fuel and plant-based jet fuel, which is fully certified for use as commercial jet fuel.**

**James Hogan, Etihad Airways' president and CEO, said: "This flight marks a significant milestone in our efforts to support and drive the commercialisation of sustainable**

**aviation fuel in Abu Dhabi, the region, and globally. However, the use of a presently available biofuel is just one part of a more comprehensive long-term biofuel strategy to ensure that we are able to use biofuels to decarbonise substantially an entire industry sector in the long term."**

**SkyNRG, an Amsterdam-based sustainable jet fuel provider, supplied the fuel, which is based on recycled vegetable cooking oil. As a plant-based source that has been used already for cooking purposes, it qualifies as a bio-based waste stream with a high sustainability value.**

**Dirk Kronemeijer, SkyNRG's managing director, said: "We think the Middle East has great potential to give a critical boost towards making a market for sustainable jet fuel that is affordable. With this flight Etihad Airways has taken a fantastic step, particularly in increasing awareness within the region.**

**"There is a lot more to come in this continent and we are determined to be there when that happens."**

**Boeing also supported this initiative by supplying their 'fly-away' fuel, provided for every new delivery, as a biofuel blend.**

departure control services for the airline at its main hub Ras Al Khaimah International Airport.

The new integrated system will be used by up to 200 reservations personnel at RAK Airways' headquarters call centre, as well as at travel agency offices.

## GCAS offers more IATA courses

GCAS has announced a new series of IATA training courses covering a wide range of topics at the centre at Al Bateen airport in Abu Dhabi. They include: IATA - ISAGO for ground service providers course and aircraft weight & balance course.

GCAS is also running ACI-recognised courses

and is providing an ACI-apron management course

GCAS has signed a MoU with the Abu Dhabi Police for co-operation and co-ordination between the two organisations to develop human resources specialised in aviation.

## UAE opportunity to fly 747 simulator

Aspiring young pilots or those who always wondered what it is like to handle one of the world's most iconic aircraft can now try it out in Abu Dhabi.

Mutahida Simulators and Al Forsan International Sports Resort have partnered to introduce a cutting-edge flight simulator of the Boeing 747 Jumbo Jet, offering all

ages the ultimate virtual experience.

Participants can set their own flight paths between any two airports with more than 200 destinations from which to choose.

Guests can also choose the length of flights to either refine flying skills in the air or practice take-offs and landings, or even do all in one session.

## Competition hots up in Saudi market

Plans for Saudi Arabia to open up its skies to foreign and new carriers to operate domestic and international services took another step forward as the country's civil aviation authority, GACA, confirmed 14 applications had been

received by the deadline day.

GACA confirmed that applications included those from Saudi-owned airlines and also from other GCC airlines, but also featured new ventures from consortiums, including Saudi-Gulf Arab groups and Saudi-Chinese companies.

It was earlier reported that Gulf Air and Emirates had expressed keen interest on entering the Saudi domestic market.

## Jet Aviation adds to EMEA fleet

Jet Aviation has added a Dassault Falcon 2000 under its AOC for charter across the Europe, Middle East, Africa and Asia regions.

## Airbus' in-flight refuelling move

Airbus Military has successfully completed receiver qualification of the two primary aircraft-types that the UAE Air Force will refuel from the three A330 MRTT multi-role tanker transports that it currently has on order.

In an extensive series of flight tests in Abu Dhabi, the compatibility of the new generation A330 MRTT with UAE Air Force Mirage 2000 and F-16 Block 60 fighters was fully demonstrated.

## Sabena Technics wins upgrade deal

French firm Sabena Technics has won a \$9million contract from Abu Dhabi's Royal Jet to carry out an upgrade on one of the luxury flight service company's Boeing Business Jets.

Sabena Technics – based in Bordeaux, France and in Monastir, Tunisia – will be carrying out an in-depth cabin refurbishment, livery painting, aircraft maintenance and a systems upgrade, including state-of-the-art in-flight entertainment, live TV, satcom, Wi-Fi and global mobile systems (GSM) for



## Emirates joins 1,000th B777 celebration

When the 1,000th Boeing 777 rolled off the production line in March destined for delivery to Emirates, it was celebrated with a special ceremony involving more than 5,000 Boeing employees, customers and government officials.

"As the largest 777 customer, it's highly appropriate that Emirates is the recipient of our milestone 1,000th 777," said Jim Albaugh, president and CEO of Boeing Commercial Airplanes. "Emirates has set an industry high bar in providing excellent customer service and we're honoured that the 777 is central to its efforts to be a global airline leader."

the ultimate in passenger relaxation and connectivity. The refurbishment will be designed by New York aircraft interiors consultancy Edése Doret.

## Yemenia extends Airbus contract

Yemenia Airways has extended the component

support contract it signed with AFI KLM E&M in 2005.

This follows a thorough post-revolution review of the airline's contracts and commitments.

According to the Paris-based firm, the terms of the extended contract are the same as those of the original one, covering

component support with pool access and repairs for two Airbus 330s.

## Twinned shows to go annual

The successful co-location of the Middle East's aircraft interiors and MRO shows has led to both now running together on an annual basis.

F&E Aerospace has confirmed that the next co-located Aircraft Interiors Middle East (AIME) and, in partnership with Aviation Week, the Maintenance, Repair and Overhaul (MRO ME) shows will be held on January 22-23 2013 at Dubai World Trade Centre.

## Gulf Helicopters confirms 15 AW189s

Doha-based Gulf Helicopters has signed a preliminary contract for 15 AW189 helicopters, which it proposes to use for offshore transport missions.

The company already operates 13 AW139s with five more on order and has its own full flight simulator for the aircraft.

## Saudia receives fourth B777-300ER

Saudi Arabian Airlines has taken delivery of its fourth B777-300ER. The airline has six more on order to go with the 23 Boeing 777-200 ERs it already has in its fleet.

## The planes in Spain fly mainly in this way...



Three Airbus Military A330 MRTT multi-role tanker transports destined for different customers are shown in formation over Spain recently. The lead aircraft, furthest from the camera, has now joined the UK Royal Air Force, where it is known as Voyager as part of the Future Strategic Transport Aircraft (FSTA) programme; the middle aircraft is the original development example that will eventually enter service with the Royal Australian Air Force and the aircraft nearest the camera is the second for the United Arab Emirates Air Force.

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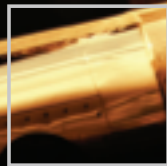
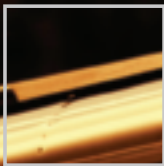
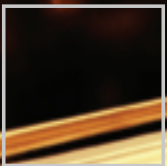
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## EJME to launch air ambulance services

Executive Jet Middle East (EJME) has signed a five-year concession allowing the Iraq-based company to operate air ambulance services at the Erbil International Airport.

EJME is an American owned and operated company and its fleet of Bell 412 and Sikorsky S-76 helicopters will service the region with air ambulance, executive passenger services, and oil field logistics.

## Honeywell and Emirates sign up

Honeywell and Emirates have consolidated their partnership on avionics and mechanical component repair and overhaul support by signing an agreement that extends until 2019.

Honeywell will provide repair and overhaul support for its avionic and mechanic components on Emirates' 777, A350 and A340 aircraft over a five-year term.

## Emirates claim over A380 wing problems

London's *Financial Times* has reported that Emirates will be seeking compensation from manufacturer Airbus over the cracks in the wings of the A380s.

As the world's largest operator of the A380 with 21 in its fleet, Emirates is having to ground six aircraft at a time for the vital repairs to be made.

Emirates has found wing



Dr Al Zarooni, centre left, and Ghaith Al Ghaith formally open flydubai's new training centre.

## Doors open on flydubai's new training centre

A new state-of-the-art training centre has officially been opened by flydubai, making it the only certified Boeing 737 facility in the UAE.

Airline CEO Ghaith Al Ghaith was joined by the director general of Dubai Airport Freezone (DAFZ), Dr Mohammed Al Zarooni, to cut the ribbon on the new centre, which has been approved by the GCAA.

The centre, located at DAFZ, not only allows flydubai to train its own cabin and flight deck crews, but to also conduct third-

party training to other airlines, including Global Jet, around the region.

The facility, which cost more than AED 2 million, includes a fire and smoke training simulator plus four large classrooms and a dedicated computer-based training room. It is an expansion of the original training centre, which was opened in August 2010, and houses a 737 door trainer, emergency training slide, pilot training seat as well as four traditional classrooms.

cracks on the 10 A380s that have been inspected so far, with president Tim Clark telling the newspaper that it was likely that all 21 would need remedial work.

Emirates has a further 69 A380s on order with Airbus.

## FAS secures future at Al Bateen

Falcon Aviation Services (FAS) has secured its long-term presence at Al Bateen Executive Airport following the signing of a land lease.

The lease covers an area to the west of the airport where FAS has just commissioned a new 10,000sqm hangar to support its corporate helicopter and private jet charter and MRO business.

## Duo to integrate Dreamliner plans

Etihad Airways and airberlin have agreed to integrate their Boeing 787 Dreamliner programmes, affecting a total of 56 firm aircraft – which is more Dreamliners than are on order with any other airline – and saving millions of dollars for both carriers.

## Rizon Jet opens Doha VIP terminal

Qatari aviation services company Rizon Jet has formally inaugurated its VIP terminal at Doha International Airport.

The inauguration was under the patronage of HE Abdul Aziz bin Mohamed Al Noaimi, chairman of

Qatar Civil Aviation Authority, who was joined for the ribbon cutting by Ghanim bin Saad al-Saad, founder of the company that owns Rizon Jet.

## Etihad joins attack on Kuwait market

Etihad Airways has followed the move by Emirates to increase the push for passengers from Kuwait and Saudi Arabia. The Abu Dhabi-based airline has added new flights to both Kuwait and Dammam.

Etihad has increased frequency to Kuwait from 21 to 25 flights per week and to Dammam from 13 to 16 flights per week, increasing capacity by approximately 20% across both routes.

## New event for air traffic managers

F&E Aerospace, organisers of the Dubai Airshow and MEBA, are to launch a new event. Gulf Air Traffic Management (GATM) will be co-located with the second edition of the Gulf Aviation Training Event (GATE) from September 19-20 this year at the Al Bustan Rotana Hotel, Dubai.

F&E Aerospace has designed GATM to bring senior airspace experts together to address key issues and develop solutions that can be implemented in the region.

## Turkish police confirm Bell orders

Bell Helicopter confirmed that it has now signed the contract with the Turkish National Police for the purchase of 15 Bell 429s with deliveries to begin in May 2013. The new Bell 429s will be used as multi-mission airborne platforms flown across the full array of law enforcement missions from surveillance to air support of ground operations.

## ADAC signs arrivals deal with Quovadis

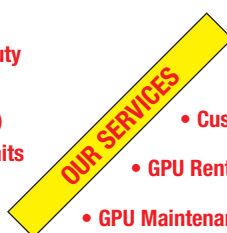
Abu Dhabi Airports Company's (ADAC) Air Navigation Services (ANS) has signed a MoU with Airbus airspace design subsidiary Quovadis to design new standard terminal arrival routes (STARs) and required navigation performance authorisation required (RNP-AR) approaches for Al Bateen Executive Airport.



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## BAE Systems signs avionics repair deal

BAE Systems' Commercial Aircraft Solutions business has entered into a long-term agreement (LTA) with Abu Dhabi Aircraft Technologies (ADAT) and SR Technics – both part of the Mubadala Aerospace MRO network – to provide repair, overhaul services and component support for its flight critical controls, cabin and cockpit systems portfolio.

The LTA will provide ADAT and SR Technics a preferred pricing structure and “world class” turn-around-time guarantee.

BAE Systems said the LTA ensures that ADAT and SR Technics have the backing of OEM-branded repair and overhaul services, as well as access to around-the-clock technical and engineering support.

## Risk of intentional satellite interference

The World Space Risk Forum 2012 in Dubai embarked on a series of sessions that addressed the hot topic of intentional interference of satellites.

Delegates were addressed by Felix Lindner, head of Recurity Labs GmgH, on the subject of ‘hacking risks for satellites’.

This session followed a number of high-profile developments aimed at tackling satellite jamming.

These include the move by the International Telecommunication Union's (ITU) to allow governments to take “necessary actions” when foreign powers deliberately interfere with satellite transmissions and the findings of a UK study that concluded that the frequencies used by GPS systems were being jammed routinely in the UK by individuals attempting to block the location tracking systems used by delivery trucks and anti-theft systems.

Happy Design's Didier Wolff with his latest project.



## Maximus livery gets first airing

The first aircraft to be painted in Maximus Air's new livery was revealed when it rolled out of the Abu Dhabi Aircraft Technologies (ADAT) hangar and immediately re-entered the fleet to head off on another mission for the all-cargo airline.

The livery comprises the new name and brand identity, created by French design team Happy Design, which was first revealed at last year's Dubai Airshow, and forms one important pillar in the company's current five-year growth strategy.



## Jet Aviation Dubai honoured by award

Jet Aviation Dubai has been named by Jeppesen as its handler of the year for Africa, the Middle East and India. The Jeppesen award is voted on by the company's trip planners located at offices worldwide on several criteria, including response time, problem solving skills, facility, safety and customer service.

“Jet Aviation Dubai was voted the handler of choice in the region,” said Wynand Meyer, vendor relations manager of flight support services in the region. “We wanted to present this award and certificate to Jet Aviation Dubai as a token of our appreciation for their hard work and efforts in providing exceptional service to our clients.”

Jet Aviation Dubai FBO director Philippe Gerard said: “We strive to provide our customers with the best possible service and this award is a generous acknowledgment of our having succeeded in fully meeting the service expectations of our discerning customers.”

## Air Arabia chief backs privatisation

Adel Ali, the CEO of Sharjah-based Air Arabia, called on governments to release their grip on airlines and push towards privatisation at the Aviation Outlook MENA conference in Dubai.

“There should be more business people and entrepreneurs involved in the airlines,” he said. “If airlines were run as businesses there would be more profitable airlines and more jobs.”

## UAE launches AOPA branch

The UAE has made a positive step towards developing a genuine platform for private and general aviation in the country with the launch of a branch of AOPA, the aircraft owner and pilot association.

The UAE becomes the 70th local branch to join the international organisation. The first chairman, Yousif Al Hammad, said: “Launching the AOPA UAE marks a significant milestone for aviation in

the UAE in general and for Abu Dhabi as a leader in the industry.”

## Royal Jet reports record profit growth

Luxury VIP jet operator Royal Jet has reported a record growth in net profits, announcing that its 2011 figures soared by 226% out of total revenues that increased by 31.2% from the previous year.

The record performance followed a programme of organisational realignment that propelled the Abu Dhabi company, chaired by Sheikh Hamdan Bin Mubarak Al Nahyan, to its best-ever result in its eight-year history and sixth consecutive year of profitability.

## SPA becomes largest 7X operator

Saudi Private Aviation (SPA) is now officially the largest single customer of Dassault Falcon 7X aircraft after taking delivery of its fourth trijet. The private aviation arm of Saudi Arabian Airlines first announced the four aircraft deal at the 2007 Dubai Airshow.





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## Resource Group's unmanned training

Aerospace training specialist Resource Group has launched of a new division – Resource UAS.

It will deliver foundation training for unmanned aerial systems (UAS) operators and sensor payload operators. The scope of the training will include nano, micro and MALE UAV systems and also cover payload operators for both manned and unmanned aircraft platforms.

Delivery will be by a combination of web-based and classroom-based ground school and practical training using a combination of an advanced mission simulator and live flying using representative vehicles.

## Gulf Air chasing Omani government

Gulf Air is reportedly in talks with the Omani government regarding more than \$300 million of unpaid debts owed by Oman after it allegedly pulled out of the airline coalition nearly five years ago.

News agency Reuters reported that Bahrain's cash-strapped airline claimed the Omani government owes the carrier as much as \$311 million and quoted a statement from the airline as saying: "This continues to be a matter of discussion amongst concerned parties."

## Jet Aviation speeds up check downtime

BBJ and ACJ owners will see weeks of downtime reduced during 12-year inspections thanks to new investment from Jet Aviation in Basel, Switzerland, where many aircraft from the region go for this specialist MRO function.

Intended to facilitate the 12-year BBJ inspection, Jet Aviation Basel has added a

## Destination Morocco for a record-breaking solar flight

Morocco is to be the record-breaking destination for the Solar Impulse aircraft later this year.

After its inaugural flight to Paris and Brussels in 2011, Bertrand Piccard and André Borschberg's solar airplane will attempt, for the first time ever, to fly more than 2,500km (1,550miles) without

using a drop of fuel, finally landing in Morocco. This trip will coincide with the launch of work in the region of Ouarzazate to construct the largest solar power plant ever built.

During May or June, Solar Impulse will take off for its longest ever flight, crossing the Pyrenees and the

Mediterranean. Bertrand Piccard and André Borschberg will take turns to fly the aircraft on its 48-hour journey, with a scheduled intermediate stopover near Madrid to change pilots.

This long-duration flight will serve as a dress rehearsal for the round-the-world flight in 2014.



tail and wing-docking platform to its wide-body hangar, enabling complete access to all areas of the tail on all four levels, as well as full structural inspection of the wings. The new custom-built dock station is certified for the Boeing 737 and Airbus 320 series per EU standards and is fitted with air and electricity.

## Emirates serves ace to break into US

Emirates is following the successful formula that won it so much awareness in Europe as it attempts to make a major impact into the US air transport scene.

In partnership with the United States Tennis Association (USTA), Emirates has announced a global, integrated sponsorship of the US Open and US Open Series.

As part of the agreement, Emirates becomes the "Official Airline of the US Open" and the title sponsor

of the "Emirates Airline US Open Series," whose 10 events combine to form the summer hard-court professional tennis season and lead into the US Open.

## Etihad's lightweight cargo containers

Etihad Airways, along with its unit load device (ULD) partner Jettainer, has embarked on a programme to replace 3,000 containers from the original aluminium ULD fleet with environmentally friendly lightweight versions.

The new lightweight containers are manufactured from a range of composite materials including Kevlar, the material used in making bullet-proof jackets.

This composite is tougher and much lighter, with an average weight saving of 17kg per ULD or more than 200kgs per average wide-bodied flight.

This significant weight

reduction will lower fuel consumption, costs and CO2 emissions. It is estimated that the implementation of the new containers will cut emissions by approximately 5,000 tonnes in 2012.

## Airport Show gears up for increase

The Airport Show, to be held at Dubai's World Trade Centre in May, looks like it could be the biggest yet.

Organiser, Reed Exhibitions, has announced that the event could attract 15 or 20% more participants than previous editions. The show is switching to a biennial event from this year.

## UAE airports scoop top regional awards

Dubai International Airport and Abu Dhabi International Airport took first and second spots respectively in the prestigious Airports Council

International (ACI) awards for service quality across the Middle East.

## P&W renews F-16s engine contract

Pratt & Whitney announced a \$19.2 million material management programme (MMP) contract with three one-year options from the United States Air Force in support of F100-PW-220E engines powering the Royal Jordanian Air Force fleet of Lockheed Martin F-16 fighters. This two-year programme covers 68 engines, scheduled to be serviced at Pratt & Whitney San Antonio Engine Centre.

## Nexus in India

Middle East flight operations services company Nexus has announced the establishment of Nexus India following its expansion into Africa and the signing of a memorandum of understanding with Mumbai's Sovika Airline Services.

*Civil aviation was a casualty in the Arab Spring uprisings a year ago.*

**Alan Peaford** talks to *Egypt's Minister for Civil Aviation about nursing the industry back into shape.*

# Massoud stays cool in the Egypt hot seat

**L**ong-term job security is not a given in the post-revolution Egyptian Government with the latest incumbent in the hot seat at the civil aviation ministry being the fourth in less than a year. But His Excellency Hussein Massoud is smiling.

With presidential elections looming as democracy settles on Egypt following the 2011 revolution, inevitably there will be government change. However, Massoud is confident that civil aviation will continue to be a cornerstone of the economy.

"Even through the revolution and in the time afterwards there has been no change in the strategy. As ministers have come and gone the direction has remained constant," he said. "The investment in civil aviation is seen as essential for Egypt and for the country's future."

Massoud is no raw recruit to the challenges of the civil aviation industry. Until taking up the post in December he was the chairman of EgyptAir holding company and had chaired both the Arab Air Carriers Organization (AACO) and the African airlines association AFRA.

"This job is very different but you have to remember that EgyptAir accounts for around 33,000 employees, which is around two-thirds of the people in the sector and therefore two-thirds of the responsibility," he said. "I keep a fixed distance from all of the sectors and there is no special relationship with EgyptAir. The

responsibility is wider. Regulatory matters and, of course, safety issues are at the head of the list; these are our top priority."

Massoud said the on-going uncertainty in the country as it moves slowly towards democratic elections is taking its toll on the aviation sector and, indeed, the country.

"The main problems are instability and security but the big issue is the economy," he said. "The decrease in the number of passengers can be described as nothing less than dramatic. Last February we restored routes but revenue decreased by 80%, leading to losses.

#### **Financial crisis**

"These losses are not just challenges for EgyptAir but also for the charter airlines and for Egyptian Airports, as well as employment across the country in areas like tourism and so on."

Massoud described suggestions to stop developments in civil aviation during the financial crisis as "dangerous".

"If we were to stop or delay this would mean that in the future, when we are back to a normal status, we would not be ready," he said.

"All the contracts – like Terminal 2 at Cairo International – were signed before the revolution. On February 1 we started on the redevelopment of the terminal.

"At Hurgada we started on the expansion to increase capacity. We had already increased from

5 million to 7.5 million. Now we have started the new building to take it to 15 million passengers. We are expecting to have this by 2013 when we think the tourism and the passengers will return as the security, economic, and political stability is back to normal. We have to be ready."

Elections in Egypt are due to take place on June 30. "For civil aviation we have a very wide vision and I think changing of personnel will only lead to a change in how to handle the subject; the actual plan will stay the same," said Massoud.

"Since 2011 we have had the four ministers but there has been no change in policy, planning and so on. The objectives and targets are well defined but how to handle the subject is different."

During his time at EgyptAir, Massoud had a vision for Egypt on the wider stage of Africa. As minister he believes he can build on that.

"We have ambitious plans for Africa in general and special intentions to West Africa. I have asked for a meeting with 16 West African ambassadors in Cairo. They appreciated this step. We are looking at creating a hub in Africa to help the countries develop better air links. Of course we hope Cairo will become the gateway to Africa but we believe that by creating hubs in places like Accra we can access Europe, North America and Far East."

Massoud sees a role for EgyptAir and the other major African airlines, such as South African, Kenyan and Ethiopian, to assist neighbouring countries in training, maintenance and safety.



“As chairman of AFRA I proposed this and I hope to see it push on now. This leadership would enhance the performance of each airline and within two to four years we could get most of the African airlines in good shape.

“Egypt also has long experience regarding security to the highest international levels so we can help the airlines and airports in this. Security is a big problem. It is not easy. We have to start. It is a long-term plan.”

The minister believes there is a huge opportunity for improvements in air traffic management. “We need navigation aids. We have to find financial resources and there is a role of the big airlines to help the others,” he said.

In November 2006 a company called Navisat Middle East and Africa was established in Egypt with a primary mission to carry out a detailed study for a regional system that would offer aeronautical communication and navigation services in a more cost-effective way.

“We have an ambitious plan with Navisat and we are trying to collate all the Arab and some African information and work with American and European manufacturers to get our ATM systems right,” he said.

Post Gaddafi Libya is also suffering from continued uncertainty and unrest but Massoud believes the special relationship between the North African neighbours is still sound.

“We are in close co-operation with Libya,” he

said. “Before the revolutions in Egypt and Libya we had deep co-operation between EgyptAir and Libyan and Afriqiyah airlines. Even after the revolution we have repaired some of their aircraft. We are looking at leasing some of our aircraft to Libya. That is still under discussion.”

As head of EgyptAir, Massoud strongly opposed an open skies policy that would hit the airline’s main hub in Cairo. Has his view changed?

“No,” he said firmly. “We believe in an open skies policy but we are very conservative. Some open skies are there for the benefit of one partner only and therefore unfair. We believe in it but follow it on the basis of win-win.

#### **Very slim profit**

“I do believe we need to get a broader involvement in the industry,” he said. “In general, airlines have very slim profit. Not many Egyptian investors think to establish a new airline. We have to encourage them to such an industry.

“Our main role is to push on both sides; the national carrier is one way and private airlines is another.”

Foreign investment of up to 49% is permitted. Saudi investors are now involved in charter operations and the region’s leading low-cost carrier, Air Arabia, has established a hub and a subsidiary airline from the north of the country.

“There are great opportunities,” Massoud said,

pointing to the fact that the country has 23 airports but generally uses just seven.

“The Egyptian people are discovering air transport. We created EgyptAir Express three or four years ago with just six Embraer aircraft. We have now doubled that. We used to do one flight to Sharm El Sheikh in the morning and evening, and would then go to Paris between times – very unprofessional.

“Now on a normal day we have eight flights to Hurgada, Aswan, Luxor, and Sharm – and maybe increase to 10/12 flights a day in the season or holidays. It is very clear Egyptian people have learned to use aircraft for domestic transportation.”

With Terminal 2 at Cairo closed, pressure is on and Massoud is leading a study to look for another airport to the west of Cairo or at building a fourth terminal. An airport for business aviation is also on the agenda.

The removal of 7.5 million capacity from the airport means that hopes of low-cost carriers getting admission to the lucrative Cairo market is a long way from being completed. “Maybe after the new terminal is considered, but...” Massoud shakes his head.

Then he smiles. “I think we will be better. We work closely with the tourism ministry – the tourism minister and I were friends before we became ministers. We have a weekly joint meeting. By working together we are stronger.”



## This is your captain, er...chairman, speaking

*You never know who you are going to meet on a flight as Alan Peaford found out between Heathrow and Cairo.*

**V**ery few passengers on the late morning EgyptAir flight from Cairo aboard the latest Boeing 777-300 would have taken a second look at the suave captain as he ventured among the passengers – unless of course they happened to be reading the in-flight magazine.

For on the very first page Captain Hossam Kamal, the new chairman of the EgyptAir group of companies that includes the national flag carrier along with the MRO, the training academy, the cargo business and the domestic airline, had been sharing his views on the airline's future. And the high powered chairman and CEO had more than a passing resemblance to the uniformed pilot checking the wellbeing of his passengers.

"I think it is a great thing to be able to fly the line with the airline," said Captain Kamal. "I have the knowledge of what is going on and as a pilot you see it first hand – from the maintenance, the ground handling right through to the catering.

"As a pilot still flying, you mix with employees, talk with people on board the plane; it lets you be near to them."

Kamal is adamant that leading one of the region's largest aviation businesses is not going to stop him maintaining his hours on his beloved Boeing 777.

### **Clocked up more than 14,000 hours**

Many of the captains and first officers in the EgyptAir fleet were already familiar with the new holding company chairman. Kamal has 30 years' experience with the airline and has clocked up more than 14,000 hours.

He came completely through the ranks, having begun his ab-initio training with Egypt Flight Aviation Academy in the early 1980s before progressing through to general manager of the EgyptAir flight training centre. He was responsible for the introduction of the new Airbus A330s and the Boeing 737-800s. "We made all of the training services and agreements concerning the training for those types," Kamal said. "It was a good experience preparing the company for the arrival of a new type of aircraft, for the pilots, the cabin crew and everything."

Kamal took over the senior role at EgyptAir Holding Company when his predecessor, Hussein Massoud, became minister of civil aviation in the new temporary government. Kamal also succeeded Massoud as chairman of the African airlines association, AFRA.

"I see this as a vital role," Kamal said. "We are seeing a big change in the way Africa is approaching aviation. The trend now is to renew all the fleets. Kenyan Airways, and Ethiopian have Boeing 787s on order. This investment automatically improves safety and performance through having a modern fleet. We know others are looking to lease because they can't afford to buy. But it is on the right track. It is ironic that we want the competition to improve, but we need balance.

### **Important role to play**

"EgyptAir has an important role to play. We have experience with all the safety certificates, such as IOSA, IASA, with no findings against us. We have auditors and experience. I am planning at next meeting of AFRA to encourage the airlines to use our experience and facilities to improve safety factors. They should know safety is a number one priority."

Kamal said EgyptAir's membership of the Star Alliance had been a vital part of the airline's survival following the disastrous 80% drop in passenger numbers in the immediate aftermath of last year's revolution.

But things are picking up. "We still have new airplanes coming through as planned," Kamal said – the airline has taken two B777-300s; three A330-300s and a pair of B737-800s since the revolution and is expecting the last two 737s next July and August. "Our fleet now has an average age of five years," he added.

The new aircraft will be in place for the next stage of growth, which will include many new destinations in Africa.

"We were voted the best business class for airlines in Africa," Kamal said. "There are great opportunities. Other new routes include Toronto."

And when the first B777 touches down on that inaugural route in 2013, there will be no prizes for guessing who will be at the controls.



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# D-day looms as Bahrain

Availability of financing is likely to be the hard-headed deciding factor for the Bahrain Air deal, although CEO Richard Nuttall believes that opting for a new design is, in itself, useful to an airline like his.

"We're small, so we need something that has a bit of pizzazz about it. It's much better to be small and one of the early customers for a new aircraft than to be small and a 'me too'," he said.

Regardless of whether the company opts for the Canadian or Russian contender, Bahrain's second airline will already be transitioning from its launch position as a low-cost carrier to a hybrid 'premium value carrier' and seeking to rebuild its fortunes after 2011's travails.

Like many airlines in the region, Bahrain Air was badly affected by last year's unrest in the region and had the additional problem of the political disruption in Bahrain itself with which to contend.

"When you're an airline with five aircraft and you're asked by the government to stop flying to Iran and Iraq, there's no market to Egypt, no market to Syria and you're left with nowhere to fly, your aircraft utilisation goes down," said Nuttall. "So, you're paying for those assets and you've still got the costs."

With competitors also suffering, there was huge competition for those remaining passengers, which meant that both passenger numbers and yields dropped.

Whereas the airline had seen passenger traffic increase by 30-40% in each of its first three years of existence, 2011 saw that figure reverse by roughly the same amount: "Effectively we lost two years of growth in 2011," said Nuttall, who became CEO late last year.

## Hybrid business model

Bahrain Air aims to move to its new, hybrid, business model in the realisation that the island kingdom's population is too small to provide the necessary passenger volumes to allow it to create the economies of scale to be a true low-cost carrier: "We will never have low enough costs to compete with people like Air Arabia or flydubai," he admitted. Nor was there enough point-to-point traffic.

Additionally, some points in the region, notably Dubai and Abu Dhabi, had become destinations in their own right, further boosting passenger volumes; Bahrain had not.

"Bahrain's never been properly promoted as a destination," he commented. This was a shame, as those people who came both to Dubai and Bahrain generally found they preferred the latter's atmosphere and hospitality to that of the emirate further down the Gulf.

"It's a real challenge. This is where the Dubai carriers get ahead of us. At certain times of the year we have 100% full aircraft leaving, but

*While there is talk about Bahrain Air's future role in the country's transport structure, the airline is mulling over a decision on whether to buy either the Bombardier CSeries or the Sukhoi Superjet as its future equipment. Alan Dron reports.*



**Richard Nuttall:** "We will never have low enough costs to compete with people like Air Arabia or flydubai."

nobody coming in. We somehow have to create an inbound market."

While unable to compete with volumes in the low-cost carrier market, neither was it sensible to cross swords with full-service giants such as Emirates and Qatar Airways: "So, we want to be somewhere in the middle. It's about finding a realistic niche."

This meant giving passengers most of the benefits they would receive from a full-service carrier but at a regional level. Those benefits included a premium class, access to a lounge, complimentary on-board food and a decent baggage allowance.

Nuttall believes that Bahrain Air can carve a niche as the local partner for major carriers based outside the region but accepts that his company has to improve its internal systems for this to happen.

Plenty of business passengers arrived in Bahrain on intercontinental carriers with the

intention of travelling onwards to multiple destinations or to secondary airports in the region, he said. Their original carrier was understandably reluctant to transfer them to rivals such as Emirates, Etihad or Qatar for the next stage of their journey in case they were tempted to switch their allegiance. They would prefer, he said, to place them with a reliable, on-time, independent regional carrier.

He hinted that such airlines had already expressed interest in using Bahrain Air in this role. However bringing this to fruition, he admitted, would require the company to invest in its reservations and distribution systems and to improve its connectivity to allow it to work with other carriers.

## Traffic rights

To improve future growth Nuttall would like to see a change in the way the Bahraini government deals with airlines based on the island: "Growth is driven by traffic rights. The current situation is that we're allowed what pickings we can get after Gulf Air."

Bahrain's civil aviation authorities "are very fair with us when it comes to new bilaterals, but we're four years old and Gulf Air has been around for a long time. Basically, Bahrain's traffic rights until four years ago were Gulf Air's traffic rights." Nuttall would like – not unnaturally – to see that situation change.

"What we're gradually pushing for is an environment where it's 'use it or lose it', so that if Gulf Air doesn't use certain traffic rights we would get access to them. That would allow us to grow a little more quickly."

Bahrain Air will also be looking to nations that effectively have 'open skies' policies or at least accept multi-designation of carriers, such as Lebanon.

It also plans to step up operations to the Indian sub-continent throughout 2012. Long a source of passengers because of the huge traffic in expatriate workers to and from the Gulf, Bahrain Air hopes to tap into this by launching three new routes there this year. However, "all are dependent, on different levels, on sorting out traffic rights".

In late January, the airline also restarted its services to Kuwait. Nuttall admitted: "The first time we flew there, we got it wrong due to bad scheduling." The company's reputation duly suffered in the local market.



# Air seeks niche market



## IATA boost for Bahrain Air

Bahrain Air has been accepted as a full member of the International Air Transport Association (IATA).

Bahrain Air CEO, Richard Nuttall, said the airline fulfilled all the required operational and safety standards necessary to qualify for the IATA certificate and has successfully renewed its IATA operational safety audit (IOSA). He said: "This is an historic moment for a young airline like Bahrain Air. Membership of IATA will allow us to build on our distribution and to work with other IATA carriers to provide better connectivity to, from and over Bahrain. At the same time we will have better access to all the services of IATA as we continue to take Bahrain Air to new levels in the future."

Now, by making Kuwait an intermediate stop on the Beirut route, he is hopeful that better passenger numbers and timetabling will restore its image with customers.

The hangover from last year's regional unrest will see Bahrain Air's fleet shortly drop to four aircraft as it returns one of its leased A320s. However, Nuttall hopes to see another A320 return to service in June as traffic recovers. By around that time it should be close to deciding which modern twinjet – C-Series or Superjet – will be the chosen contender to take it into the future.

The carrier currently operates two Airbus A319s and three A320s. However, its A319s come off lease in 2014-15 and it requires an aircraft with smaller capacity than the A320 for some of its routes, notably to regional destinations such as Beirut.

Whether the Canadian or Russian aircraft will eventually replace all the European twinjets has not yet been decided, said Nuttall. While there were obvious benefits in operating a single-type fleet, running two would not be a problem.

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# Dawn of the Afghan airline

*It is a big role for any national airline to be involved in a country's reconstruction programme but East Horizon Airlines is ready to take to the skies and start linking the remotest corners of war-torn Afghanistan.*

**Marcella Nethersole** speaks to CEO Captain *Jahed Azimi.*

**E**ast Horizon Airlines is the first Afghan-owned airline to be certified under the new Afghan Civil Aviation Regulation, which was developed in 2010 by the Ministry of Transportation and Civil Aviation in conjunction with the ICAO and the FAA.

Founded three years ago, the airline is preparing to commence its services with its mission to connect all major transit points throughout Afghanistan.

"Through our hub in Kabul, we can connect these destinations with regional and international airlines," said newly-appointed CEO, Captain Jahed Azimi.

Azimi was formerly president of Ariana Afghan Airlines and domestic carrier Kam Air and he believes he is the right man for the job.

"I have been in the aviation industry all of my adult life; I have reached over 20,000 flying hours and was selected as an astronaut candidate for the joint space exploration programme of Afghanistan and Russia," he said. "I have more than 30 years in the military and commercial aviation sector, I was deputy minister of transport and civil aviation and I have worked at a senior management level in a number of airlines, such as Ariana Afghan Airlines, Pamir Airways and Kam Air.

"Being at the helm of East Horizon Airlines, I feel it is my patriotic duty to support the countries, organisations and business companies that are engaged in providing peace, progress and the future for our nation."

The new airline is staffed by a team of internationally-trained pilots and ground crew comprising Afghan nationals and a team of international specialists.

The airline's fleet consists of two aircraft (HS748 & B737). The lease/purchase and documentation work for registry are under process and operations were scheduled at the end of 2011.

For the moment, the airline will serve Afghanistan with domestic connections to cities such as Bamiyan, Chaghcharan, Lashkar Gah, Herat, Kunduz, Farah, Khost and Fayzabad.

"We will be facilitating the domestic travel of our Afghan

nationals but we also intend to serve foreign companies that are also actively engaged in re-development plans for the country," said Azimi.

Private airline Safi Airways suffered problems with blacklisting over security but Azimi said East Horizon has not encountered such problems: "The Ministry of Transport and Civil Aviation experts are continuously reviewing safety standards. Rules, regulations, circulars and directives will support not only Afghan carriers, but also all those who use the country's airports. The Afghan government is supporting and promoting the private sector, which is one of its main objectives. The government is very keen to facilitate our operation."


## Good infrastructure

The thought of flying into Kabul International Airport might be concerning for many a passenger but Azimi is keen to point out that the airport has a good infrastructure and pilots feel as safe landing at Kabul as they do in any other city in the world.

Azimi said: "Our prime flight operating base is Kabul International Airport. Major carriers operate daily from there and category one airlines operate following their safety standards and regulations. Every airport in Afghanistan is upgraded regularly and complies with international safety and security standards."

With the global recession weighing heavily on the aviation industry, where can Azimi see East Horizon Airways in the next five years?

"With the global recession comes challenges, especially for Afghan private airlines," he said. "Unlike the other carriers, our prime focus is to facilitate domestic air links between each and every city. For the next decade the connection will stay by air, as the country develops its ground infrastructure to make the movement of various forms of transportation safe. Our air service will provide a connection to remote areas, where the demand is high but yet no passenger and cargo operation has been offered. Within five years, we hope to provide a safe, regular and reliable air service for passengers and cargo between Afghanistan's major cities."



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# High-flying Pegasus is creating its own legend

*In Ancient Greek mythology the flying horse Pegasus carried a single 'passenger', the warrior Bellerophon. The Turkish airline that bears the same name last year performed somewhat better. Alan Dron reports.*

Istanbul-based Pegasus Airlines carried 11.3 million customers last year, making it Europe's fifth-largest low-cost carrier (LCC), according to the company's figures.

While Turkey's expanding economy continued to shrug off the economic malaise gripping Europe, Pegasus's growth was even more spectacular; last year's passenger figures saw a rise of 32.2% over 2010.

That expansion looks set to continue and to accommodate it Pegasus was planning to announce a massive order for 100 single-aisle aircraft just as *Arabian Aerospace* was going to press.

The contenders for the deal are the latest versions of the world's two most popular airliners, Boeing's 737 MAX and Airbus's A320neo.

Speaking before the decision announcement, Pegasus general manager Sertac Haybat said the

defining factors for the winning bid would be fuel burn performance, together with price. Delivery dates would also be important: "We want to start to receive the new aircraft as they become available but MAX is coming into the market around two years later than the neo."

The new Boeing is due to enter service in 2017. Depending on the delivery dates of whichever aircraft is chosen, Pegasus may lease some short-term capacity in the interim.

Pegasus has hitherto been a Boeing customer. Its fleet in early 2012 consisted of 33 Boeing 737-800s with a further 12 due to arrive, plus two older 737-400s.

The order would not be entirely devoted to expansion, said Haybat, explaining that some of the new aircraft would replace around 20 aircraft the carrier currently has on lease. Nevertheless, an order of this magnitude gives some idea of the

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Sertac Haybat: "The Middle East, Russia and Central Asia fit perfectly into this network system."



carrier's ambitions (Pegasus's fleet in early 2012 consisted of 33 Boeing 737-800s, with a further 12 due to arrive, plus two older 737-400s).

Pegasus no longer defines itself as a classic LCC. Increasingly, hybrid business models are appearing and Pegasus, with its hub at Istanbul's Sabiha Gokcen Airport, refers to itself as a 'network LCC', operating transit traffic through its home base rather than as a point-to-point airline.

"Geographically, the Middle East, Russia and Central Asia fit perfectly into this network system," said Haybat.

Pegasus's main areas for expansion over the next few years will be to the Middle East, Central Asia and Russia/Ukraine. No new western European destinations are planned for the next year at least, although frequencies to some existing destinations such as Paris Orly and London Stansted will be increased.

Pegasus is taking a particularly close look at Russia, the second largest source of incoming tourists to Turkey (the first is Germany). At the start of 2012 it flew only to Krasnodar, in southern Russia, but Haybat added that new Russian services were likely to be launched around the time *Arabian Aerospace* was going to press.

Pegasus currently also serves the eastern

Ukrainian cities of Kharkiv and Donetsk, which have largely ethnic Russian populations.

Haybat also sees considerable potential in the Central Asian nations, but exploiting that potential will require changes to what he regarded as existing restrictive bilateral agreements.

"They are limiting both in terms of the number of operators allowed on the routes and in terms of frequencies," he said. This meant that services to several Central Asian nations were effectively monopolies or duopolies. "I believe that if we can bring in a low-cost model into that region there will be a boom in traffic."

**Expanding in the region**

Slowly, however, it is expanding in the region. In January, for example, Pegasus began operating its longest scheduled sector to date, between Istanbul and Almaty, in Kazakhstan.

In the Middle East, meanwhile, Haybat sees potential in the medium term, but is picking his targets carefully.

At the time of writing, Pegasus operated to just three Middle East destinations, Tehran, Erbil and Beirut. "We're trying to get permissions for Jeddah, Amman and Damascus – although for the last of those, we need things to settle down there."

He is wary of getting involved in markets where he feels there is over-capacity, such as the UAE and Qatar. Saudi Arabia is very different, he believes: "Turkish Airlines and Saudi Arabian operate almost as a duopoly, so I think there's big potential there." Similarly, "people are paying a fortune to fly to Amman" and routes from Turkey to the Jordanian capital would benefit from increased competition. "We're still in negotiations [over that]," he said.

One area where plans have been put on the back burner, however, is expansion into long-haul services. Haybat was previously on record as saying Pegasus was targeting 2015 as the long-haul launch date, with New York and Bangkok tipped as initial destinations.

Now? "I don't think so. In the past we talked about it but I gave up on the idea in this decade. The reason is that to fly long-haul you have to have a feeder system for those flights and I don't think we will have that ready within that time."

Expansion is certainly the overall game plan: "But as I said, it all depends on the bilaterals."

Haybat wants to expand Pegasus's codeshare activities – both with Air Berlin and a couple of other carriers that he declined to name. For this to go ahead, however, further systems integration would be necessary.

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# Strike one for JSF

**Jon Lake** looks at *Lockheed Martin's Joint Strike Fighter and its role in the region's defence.*

**T**urkey has become progressively more important to the joint strike fighter (JSF) programme, which remains mired in difficulty, with technical problems and development delays.

Rising costs and prices that have seen several of the partner nations delaying their purchases and/or scaling back the number of aircraft that they intend to purchase. Even the US has delayed the purchase of 179 of its F-35s by five years.

So it was good news when, on January 5, Turkey prime minister, Recep Tayyip Erdogan, chairing the defence industry executive committee (SSK), authorised the under secretariat for defence industries (SSM) to open negotiations with Lockheed Martin for the purchase of two F-35 Joint Strike Fighters for delivery by 2015.

This represented a halving of Turkey's original planned order for F-35 test aircraft but defence minister Ismet Yilmaz confirmed that Turkey still plans to buy a total of 100 F-35s, at a total cost of about \$16 billion.

Turkish JSF numbers have fluctuated between

100 and 120 since the country joined the programme in 2002. The confirmation of 100 represented a reduction in aircraft numbers compared to Turkey's original plan to procure 116 aircraft, but the planned budget has expanded from \$11 billion.

Turkey is one of eight international partners in the JSF programme and undertook to contribute US \$195 million towards development of the aircraft (though it has now spent more than \$315 million), as one of five so-called 'level three' partners along with Australia, Canada, Denmark and Norway.

The UK is the sole 'level one' partner, while Italy and the Netherlands are classed as 'level two'.

Turkey's 'level three' partner status entitles it to bid for work on the programme, provides some guarantee of technical transfer, and should ensure some priority in the order in which countries can obtain production aircraft.

Turkey hopes to assemble its F-35As under licence in country and also hopes to manufacture parts and

Continued  
on Page 30

## CONTINUED FROM PAGE 29

sub-assemblies. This would follow on from Turkey's industrial participation in the F-16 programme, which saw Turkish Aerospace Industries (TAI) at Akinci (formerly Mürted) assemble 148 of the 156 F-16 aircraft delivered to the Turkish Air Force under Peace Onyx 1, 80 more from Peace Onyx II, 40 from Peace Onyx III and 30 from Peace Onyx IV.

TAI also assembled 46 Block 40 F-16C/Ds for the Egyptian Air Force under Peace Vector IV and carried out structural modifications and an upgrade of the electronic warfare system on Turkish Air Force F-16s, MLU, Falcon-Up and Falcon Star Modifications on Royal Jordanian Air Force (RJAF) F-16s and the upgrade of 42 Pakistan Air Force Block 15 F-16s to Block-50 standards.

TAI and Northrop-Grumman have already signed a letter of intent that will see the Turkish company becoming the second source for the F-35 centre fuselage, for which it is already producing components.

The number of centre fuselages to be produced by TAI will depend on how many F-35s that Turkey procures and on the overall number of F-35s built, though it has been said that Turkey already stands to benefit from about \$4 billion of work on the programme.

**Committed members**

Turkey remains one of the most committed members of the NATO alliance and its air force has an enviable reputation for professionalism and enjoys long-standing links with the US Air Force.

Turkey was home to US nuclear weapons for decades held under dual key arrangements – and some of them would have been delivered by Turkish pilots had the Cold War ever turned 'hot'.

It is also a valued customer for Lockheed Martin, having received 270 F-16s under the four-phase Peace Onyx programme. Turkey's validation of the F-35 is, thus, seen as being valuable and its rejection of the type would be a significant setback.

Against this background to both Lockheed Martin and the US Government, Turkey's order for two aircraft represents a valuable 'vote of confidence' in the F-35.

Turkey also promises to offer a low-cost second source of production and assembly, since it enjoys lower labour costs than the USA and since the cost of producing advanced composites in Turkey is also lower than it is in the USA.

Lockheed Martin has had a long-term relationship with TAI on the F-16 and views the Turkish company as a reliable and valuable partner.

Numerically, the overall Turkish requirement for 100 aircraft means that Turkey is likely to be a bigger customer than each of the 'level one' and 'level two partners', and probably the biggest of the 'level three' group as well.

The UK requirement still stands officially at 138, though a cut of unspecified size has been confirmed by official spokesmen and senior RAF sources have hinted at a force of around 40 aircraft. Australia, too, still has an official



requirement for 100 aircraft, but seems likely to reduce this to around 75.

Turkey's commitment to the JSF has sometimes looked shaky, especially in March 2011, when the government announced that it was putting the planned F-35 purchase on hold over concerns about technology transfer, and especially source codes.

Without the source code, Turkish engineers wouldn't be able to make any changes to the aircraft's software and would not have a full autonomous and independent ability to support, upgrade or modify the aircraft.

**Similar arguments**

Turkey will also be looking back to similar arguments about the F-16's source code, when it had to argue long and hard to get access to identification friend or foe (IFF) software codes, in order to give greater national control over the aircraft's systems. In the end Aselsan, a Turkish corporation that produces tactical military radios and defence electronic systems, developed a new IFF system, which is now operational on Turkey's F-16 fleet. This allows Turkish pilots to determine whether their IFF should recognise Israeli fighters as either friendly or hostile, where the original US IFF equipment had a default setting that recognised Israeli aircraft as 'always friendly'.

Today, Turkish F-16s use many indigenously designed and developed systems and Turkey has retrofitted and modernised its F-16s without needing Lockheed Martin's assistance. Some sources suggest that Turkey is the only export customer to have been given full source codes for the F-16. This may have raised Turkey's expectations in relation to the F-35.

The Turkish government decision to approve in principal the order for two F-35As has been taken in some quarters as formally ending the debate over software source codes. But such an interpretation of events is probably over-optimistic and the US position is likely to be

challenged further before Turkey orders the rest of its F-35s. The US position is that any national need for operational independence can be met by interfacing with the software at the application level, rather than through interfacing with the lower level source code, any changes to which could compromise flight safety.

The purchase of F-35As by Israel and Japan without any guarantee of access to source codes may reassure the doubters, though this is uncertain. In Turkey's case, though, the Israeli procurement may provide an additional impetus, as the Turks have always tended to keep abreast of Israeli capabilities and if the IDF/AF operates a low observable tactical fighter, capable of 'first day of the war', 'kick down the door' type missions, Turkey is sure to want to be able to do the same.

But many potential F-35 operators and customers suspect that without access to the source code, they cannot guarantee that there will not be some means by which the USA could effectively disable their aircraft, or prevent them from flying particular types of mission.

And in some ways, Turkey is more important to the F-35 than the other way around. The F-35 will not be the sole combat aircraft platform in Turkey's air force inventory when it is introduced, nor will it be the most numerous Turkish Air Force fighter type.

**Fighter aircraft programme**

The 100 F-35As will be augmented by about 200-240 advanced Block 50+ F-16s, and by another 200 tactical fighters.

These could be built as part of an autonomous and independent Turkish TF-X fighter aircraft programme, or could be newly purchased fighters from non-US sources. If the F-35 purchase were to be abandoned or curtailed, Turkey could simply buy more TF-X fighters.

Turkey formally announced that it intended to develop a stealthy multi-role fighter in December 2010 and the TF-X programme was formally started in August 2011, aiming at a service entry date in the 2020 timeframe.

The government is known to have favoured a mixed purchase pairing the JSF with the Eurofighter Typhoon, and a purchase of Typhoons after 2020 remains a possibility.

But in case Turkey does continue with a new indigenous fighter design, a number of major aerospace manufacturers are assiduously courting the Turks, pushing themselves forward as potential partners. These include Embraer of Brazil, KAI of South Korea and Sweden's Saab, as well as Italy's Finmeccanica.

Finmeccanica has proposed a wide-ranging co-operation, including extensive technology transfer, building on the Italian-Turkish relationship that has seen AgustaWestland's A129 Mangusta helicopter being built in Turkey as the T129.

Finmeccanica's 'trump card' may lie in its ability to offer a number of the advanced technologies used in the Eurofighter Typhoon aircraft.





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## Rafale saga takes a new turn in the UAE

The long-running saga that is the UAE fighter contract has taken another turn. The story finally seemed to have ended for Dassault in January when it was reported that the general staff of the UAE Air Force and Air Defence (UAE AF&AD) had proposed limiting its consideration of new fighters to the Boeing F-15, Lockheed Martin's F-16 and the Eurofighter Typhoon, effectively shutting Rafale out of the competition.

This came on top of a series of knocks delivered by the UAE before and during the Dubai Airshow last November.

First it emerged that the UAE had been in contact with Boeing and had been seriously examining and evaluating the F-15 and the F/A-18E/F Super Hornet. Then, on the eve of the show, it emerged that the UAE had issued a request for proposal (RFP) to Eurofighter, further opening up the competition.

Finally Sheikh Mohamed bin Zayed Al Nahyan, crown prince of Abu Dhabi and deputy supreme commander of the country's armed forces, praised French president Nicolas Sarkozy for the role that he had played in keeping Dassault at the forefront of the UAE's considerations (saying that Sarkozy "could not have done more diplomatically or politically to secure the Rafale deal"), but condemned Dassault, who, he said, seemed regrettably "unaware that all the diplomatic and political will in the world cannot overcome uncompetitive and unworkable commercial terms".

Behind the scenes, though, contacts between the UAE and the French side continued, and Charles Edelstenne chairman of Dassault's board of directors and chief executive officer, returned to Abu Dhabi after the show to try to repair the breach.

And in the wake of India's selection of the Rafale as the L1 (lowest) bidder in its medium multi-role combat aircraft (MMRCA) competition on January 31 2012, Rafale's prospects in the Emirates suddenly seem to have been resurrected.

"Good news reports are like worries, they fly in

squadrons," commented French defence minister Gerard Longuet after the Indian announcement.

Buoyed by its success, and with a massive 126 aircraft order virtually guaranteed, Dassault and the French government presented a new offer to the UAE, making unspecified changes to its previous commercial bid, presumably bettering its price, and perhaps agreeing to some of the upgrades which the UAE is understood to require.

French newspaper *La Tribune* reported that there were still a few technical details to be ironed out but claimed that the deal could be finalised imminently. This report was followed by an article in *The National* in which Khalid Al Buainain, a former commander of the UAE Air Force, stated that "discussions never stopped", and that "the technical and financial and contractual discussions have been completely finished".

But Buainain is not an entirely impartial source, as he is the chairman of the Baynuna Group, which has a joint venture with Dassault, and which is working on "how we can smooth out this contract".

France's *Air & Cosmos* magazine has also reported that all of the technical and financial terms of the Rafale sale to the UAE have been settled, and that contract signature is awaiting the signing of a broader state-to-state defence agreement. This could be signed with President Sarkozy due to visit the UAE as *Arabian Aerospace* went to press.

But despite these optimistic reports, BAE Systems is continuing to work with the UAE on its offer of the Eurofighter Typhoon and UK industry sources were quick to sound a cautionary note.

One said: "The French were in a bad position in the UAE but MMRCA turned things round for them and they're now in a good position, but I'm confident that as things stand, the Typhoon now offers a better solution for the UAE's needs, and I think there's a way to go before any decision."

The UAE process is being watched with interest elsewhere in the GCC, as both Qatar and Kuwait have similar fighter requirements, and both Rafale and Typhoon are under consideration in both nations.

*Jon Lake looks at the on-going soap opera of Dassault's campaign to sell its Rafale 'omni-role' fighter to the UAE.*

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# Al Fursan aims to stamp its class at UK tattoo

*Just eight months after its major airshow debut, the UAE's Al Fursan team will take centre stage at the world's major military display event.*

**Jon Lake reports.**

The UAE's aerobatics display team, Al Fursan, is to take its place among the world's top military performers when it makes a debut appearance at the UK's Royal International Air Tattoo in July.

The event is the highlight in the world calendar of military aerobatics and includes air forces from around the world. It takes place at RAF Fairford in Gloucestershire on July 7-8.

The team initially consisted of six pilots from the Flying Instructors' School at Al Ain, piloting four or six MB339s in standard camouflage.

It made its debut in January 2010 with a four-aircraft fly-by at the graduation ceremony for pilots and air-traffic control students at the Khalifa Bin Zayed Air College.

The team later participated in the Al Ain Air Show. Its pilots had been training for a year in their spare time and the leader, Lt Colonel Abdulla Al-Amimi, said at the time that he and his pilots would need another eight months of training before they could perform full aerobatic displays.

The work began. A group of eight pilots underwent a dedicated training course at Udine-Rivolto Air Base in Italy, under the supervision of the Italian air force's Frecece Tricolore team. The Al Fursan pilots included a new leader, Lieutenant Colonel Nasser Ahmad Al Obaidli, a solo, five regular team pilots and a supernumerary.

Though the Al Fursan pilots were all experienced instructors and fighter pilots, none had done formation aerobatics.

The training began with familiarisation with low-flying aerobatics and gradually built up the number of aircraft

being flown together, initially to two, then three, and finally four aircraft, before moving to full team training.

The team then undertook further training at Minhad, Dubai, with six senior ex-Frecece Tricolore pilots attached to the Emirati team led by Colonel Paolo Tarantino, former commander of the Frecece.

This definitive team was sized to fly with seven aircraft, with one acting as a solo. The significance of the seven aircraft was that each represented one of the seven individual Emirates that form the UAE.

Two contracts were placed with Alenia Aermacchi. One for upgrade and supply of six MB-339A aircraft, already in the UAE inventory, to the National Aerobatic Team (NAT) configuration – the same standard as the Frecece Tricolore. The work was undertaken in the UAE. The second contract covered the acquisition of four additional ex-Italian air force MB-339As, again upgraded to the same standard.

An elegant and exclusive black and gold livery was designed for the team, with a smart black and gold colour scheme on the upper surface and the UAE's national colours on the under surfaces of the wings.

The team was then outstanding at both the Dubai Airshow and the Bahrain International Airshow in January, where it made its international debut. It also appeared as the star of the Abu Dhabi Air Expo in March.

Lt Col Nasser Ahmad said: "For us, the Air Tattoo offers an important opportunity to exchange ideas, build relations and share our experience with other military display teams. It will be an honour to perform in the UK."

Air Chief Marshal Sir Stephen Dalton, head of the RAF, said: "I am delighted that Al Fursan has agreed to perform. This will be the team's first display in Europe and I can think of no better place for the team to demonstrate their flying prowess than at one of the world's largest military air shows."





# Scout of Africa

**Alan Peaford**  
*reports on a new alternative to UAVs as a low-cost multi-mission solution... and it is produced in Africa.*

**N**orth African and Middle East countries are said to be considering a revolutionary aircraft for multi-role missions – one that is designed and manufactured in Africa.

The advanced high performance reconnaissance light aircraft (Ahrlac) is the initiative of South African defence and aerospace giant Paramount Group together with technical partner Aerosud, South Africa's largest aeronautical engineering company.

The companies say this is the first time in Africa's history that the continent has independently designed and manufactured its own aircraft. The market potential of the aircraft could add up to half a billion US dollars to the industrial output of the South African economy.

Ivor Ichikowitz, executive chairman of the Paramount Group said: "We are anticipating strong interest in Ahrlac from governments across North Africa and the Middle East, primarily because the aircraft meets many of the unique security challenges that these regions face.

"Whether it is patrolling long desert borders, monitoring isolated strategic installations, such as oil pipelines, or taking action against terrorist groups, Ahrlac provides an innovative and cost-effective solution. With countries across the region looking to modernise their forces, I am confident many will regard Ahrlac as a very competitive and attractive solution."

Ichikowitz described Ahrlac as a cost-effective, flexible, multi-role aviation platform that "bridges the gap between manned and unmanned aircraft".

Unmanned Aerial Vehicles (UAVs) have become increasingly popular over the last few years due to the absence of serious aerial threats in conflicts like Afghanistan and Iraq. Ichikowitz said these platforms are complex and expensive, lack multi-role flexibility and situational awareness, which could result in collateral damage.

He said: "Ahrlac is a huge technological triumph for South Africa. The reality is that the technology behind UAVs has been oversold and that Ahrlac provides a far more comprehensive solution. For example, Ahrlac has strong defensive capabilities, which mean that it can operate in hostile airspace, as well as the ability to carry out operations in domestic airspace because it is piloted.

"This makes it ideally suited to some of the long-term security issues facing the world, such as drug trafficking control, piracy, patrol of exclusive economic zones, protection of fisheries and rainforests, coast guard and border surveillance and the monitoring of strategic installations such as oil pipelines."

#### **Challenge the dominant Western manufacturers**

Paramount expects Ahrlac to make an impact in countries which may not have immediate access to purchase or support equipment from the main Western OEMs.

"The new category of aircraft will challenge the dominant Western manufacturers because of its low acquisition cost, reduced requirement for back-end support, extensive operational capabilities and greater degree of pilot situational awareness," said Ichikowitz.

The Ahrlac airframe uses a mixture of metal and composite construction and provides maximum visibility for the crew. It is designed to carry an internal 20mm cannon, with additional hardpoints for carrying weapons mounted under the wings, including rocket pods, unguided bombs, and both air-to-surface and air-to-air missiles.

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# C-17

*EBACE is the place to be in May for anyone in the EMEA region who is involved in the business aviation industry. Liz Moscrop looks at who will be there this year.*

# Geneva's gem has Middle East sparkle

**T**here is no doubt that the annual European Business Aviation Conference and Exhibition (EBACE) has become the premier annual event for the private aviation industry in the EMEA region. This year's event takes place on May 14-16 in Geneva, Switzerland.

There is a good turnout of exhibitors from the Middle East, which is encouraging after the tumult of last year's 'Arab Spring' comprising uprisings in Tunisia, Egypt, Libya, Bahrain, Syria, and Yemen; plus major protests in Algeria, Iraq, Jordan, Morocco and minor protests in Oman, Kuwait, Lebanon, Mauritania, Saudi Arabia, Sudan, and Western Sahara.

This time last year the MENA business aviation market had taken several punches. However, founding chairman of the Middle East Business Aviation Association (MEBAA) Ali Al Naqbi is bullish about today's prospects for private aviation growth. He said: "We know there is much greater potential. In Yemen, for example, there is not a single AOC issued for business aviation – yet I can think of 12 Yemeni owners with Swiss-registered aircraft. We know there needs to be infrastructure in place."

Many of the Gulf's key players, who provide this infrastructure and related support, have taken booths at EBACE. Flight planning and ground handling are huge local requirements, reflected in the amount of service providers who will attend.

Dubai-headquartered Jetex, for example, always has a huge presence at the show. This year the aviation services provider will be promoting its new Shannon FBO, which has been fully



**Top: Ali Al Naqbi – campaigning for Middle East business aviation interests. Above: Dubai's JetEx has made an impact in Europe. Not least because of its new FBO at Le Bourget, Paris.**

operational since October 2011. Company PR specialist Komal Quaiser said: "It has turned out to be as successful as we hoped with more than 90 flights in our first four months of operation." The FBO offers more than 40,000sqft in hangarage, as well as an executive terminal, private apron and fuel bowser, into-plane fuelling, pilot lounge and flight planning room.

Quaiser said: "Geneva is in the heart of Europe and with FBOs in Europe and firm plans for further expansion, we find it absolutely essential to be present at EBACE. It is full of opportunities for all involved; we get a chance to share knowledge with other prominent names in the industry and to network with such a large community of people with similar interests."

Fellow flight planning firm Hadid International Aviation Services is also a show stalwart and Moonjet Flight Support is also there once again, promoting its global flight services, as is Turkey's Bilen Air Services. The company offers FBO and handling services, as well as hangarage and crew lounges.

Another well-known name on the Middle East handling scene is Dubai-based Palm Aviation. The company recently entered an agreement with Jordan Aircraft Maintenance Limited (Joramco), whereby Palm will offer flight support, ground handling and re-fuelling services to Joramco's customers on demand during their maintenance visits to Joramco's facilities at Queen Alia International Airport in Amman, Jordan.

Jet Aviation has a stand. The

Continued  
on Page 40



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RizonJet formally opened its Doha FBO in March 2012 with a special ceremony – and a new CEO who will be pushing the company's European interests.

#### CONTINUED FROM PAGE 38

General Dynamics-owned firm has a maintenance and FBO operation in Dubai, as well as two other bases in Riyadh and Jeddah.

British company Gama Aviation also has a booth. The firm obtained a UAE GCAA CAR 145 maintenance approval in the first half of 2011 and is working on a new 12,000sqm hangar facility at Sharjah. The company also manages business jets from its Sharjah base.

Several companies are vying in the aircraft charter and management services space. EBACE exhibitors include VIP Jet, the Moroccan air services company. The firm is the brainchild of a team of aviation and tourism professionals with high-level experience in processing VIP flights. Chairman Khalid Hadachi said: "The reason behind our success is simple – we strive to create partnerships based on mutual trust and adherence to commitments to customers and agents alike."

Qatar Holdings has two of its companies in Geneva. Harrods Aviation and Qatar Airways' private jet division Qatar Executive, which announced an ambitious expansion plan for 2012. The operator's 2011 milestones included doubling its fleet of Bombardier aircraft, as well as adding a dedicated hangar for its bizjets. The 6,400sqm hangar facility for maintenance operations is based at Doha International Airport and also serves other carriers.

Additionally, the firm is offering aircraft management, maintenance and a full range of FBO services. Last year the operator added three new Bombardier aircraft to its fleet, including the

ultra-long-haul Global Express XRS, a Global 5000 and a Challenger 605. CEO Akbar Al Baker said: "Even in the current economic conditions, Qatar Executive has shown a dynamic performance and significantly increased earnings compared to 12 months ago."

Fellow Qatari company Rizon Jet opened a VIP terminal at Doha International Airport in 2008 and at London Biggin Hill in 2011. Rizon has carried more than 2,000 passengers and handled in excess of 450 aircraft movements since May 2011 at Biggin Hill. The company says it is "confident of being fully ready for the anticipated increase of business brought by the 2012 London Olympic Games".

#### Additional approvals

Its Doha MRO is in the final stages of securing EASA base maintenance approvals for the Bombardier Global series, Challenger series and Hawker series. This year Rizon also plans to secure additional approvals for Bermuda, UAE and Saudi Arabia. The Qatar AOC will also be taking on private management of an A319CJ in early 2013 and a new Global 6000 in mid 2013.

Other charter operators at the show include: MNG Jet Havacilik, Sky Aviation Services and Jordanian Private Jets Services (JPJets), which recently opened a VIP lounge at Amman Civil Airport – Marka. The lounge offers hotel rooms for crews, VIP office and relaxation rooms. JPJets also re-established its charter department and will register a new aircraft on its AOC.

Jet cards may prove a draw for charter users in

the Gulf. Dubai's Fly Aviation Services will be promoting its Fly AeroCard; a prepaid card that grants customers unlimited permits on a monthly per sector basis. George Kinj, general manager said: "With the Fly AeroCard's flexible plans, aircraft operators can budget what are traditionally difficult to manage variable costs."

The region's only full executive aviation airport, Al Bateen, is promoting its services at EBACE. It comes to Geneva fresh from the first Abu Dhabi Air Expo, which played host to the inauguration of the newly formed Aircraft Owners and Pilots Association (AOPA) in the United Arab Emirates. Al Bateen's deputy general manager Yousif Al Hammadi heads up the new entity. He is also the president of the Experimental Aircraft Association (EAA) UAE.

Every exhibitor from the Gulf has good reason to be grateful to MEBAA, which has taken a stand along with its partner F&E Aerospace, (which organises shows in the Gulf, including Aircraft Interiors Middle East show, the Dubai Airshow and the Middle East Business Aviation Show).

MEBAA campaigns tirelessly for a better operating environment for local business aviation services providers. Al Naqbi announced at last year's EBACE that he would set up an informal working group dubbed "Middle East Control", rather like the early days of Eurocontrol. At last year's show he said: "This is not necessarily a government-backed entity, rather a private grouping of small companies working together to start something that we hope will be eventually be adopted across the whole MENA region."

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## Horizons has Saudi growth in the palm of its hand

**S**audi business aviation services provider Aviation Horizons has a huge task on its hands – but is confident it is on the right track.

Established in Jeddah in 2007, the company now has a branch in Riyadh and offers several integrated services to its clients. The firm's offerings include aircraft management, sales and acquisition, leasing, financing assistance, crew training and placement and related support.

The kingdom's latest part 135 charter operator earned its Aircraft Operator's Certificate (AOC) at the end of 2011 and already has grand plans to develop the country's executive aviation market. The company recently took delivery of a Bombardier Learjet 60XR towards this end.

Chief executive Mohammed Bokhari said: "There is more demand in the country than there are aircraft. We are really busy."

The company would like to acquire "at least three more planes" by the end of the year, likely to be Bombardier types. Bokhari added: "We would eventually like to have three Learjets and two Challengers on our books." The firm is also interested in becoming a Bombardier distributor in Saudi.

He added that there is huge demand for private lift in Saudi, so much so that even European operators are coming to the kingdom. "There is enough for everyone," he said.

Indeed, the company's website offers charter services on an Airbus A318, a Hawker 800, a Boeing Business Jet, a Gulfstream G450 and G550, and a Boeing 767 and 757. According to Bokhari, Aviation Horizons is the "go-to" company of choice for Saudi's elite businessman. He said: "Everyone knows us and trusts us when they want to get into private jet ownership."

A key part of Aviation Horizons' business development strategy is to work with the country's four other private jet

*A relaxation in Saudi's policy for issuing Air Operator's Certificates has meant there is room for new players on the private aviation scene.*

**Liz Moscrop**  
*reports.*

Part 135 charter operators to educate aircraft owners on the dangers of illegal charters. Bokhari said: "If people really understood how much they would hurt if they had an accident, that it could cost them more than \$20 million in unpaid insurance, they might think twice before operating these flights."

He pointed out that the new initiatives by the General Authority of Civil Aviation (GACA) would help. Bokhari reckons there are more Saudi AOCs in the pipeline and said: "The more aircraft there are in the country the more that will help eliminate the grey charter market."

He added that the new AOC is evidence of a desire by GACA to develop civil and private aviation in the kingdom. This all falls neatly in line with a new Saudi openness, evidenced at the recent Bahrain Airshow. Operators from every segment of the aerospace industry were keen to talk about co-operation and industry development.

Last month, too, the Sixth Global Competitiveness Forum in Riyadh ended with a call for more openness, confidence and compassion to promote entrepreneurship and sustain prosperity. Minister of Commerce and Industry Tawfiq Al-Rabiah opened the event on behalf of King Abdullah. More than 2,000 Saudi entrepreneurs and 140 local and international speakers took part.

Former South Korean prime minister Un-Chan Chung closed the event and said the "three mores" were essential to creating a society of educated people who can aspire to a hopeful future.

Aviation Horizons is training young people and has an executive board with a great deal of international experience. Bokhari, for example, worked in the US for several years. The company's ambitions extend beyond Saudi.



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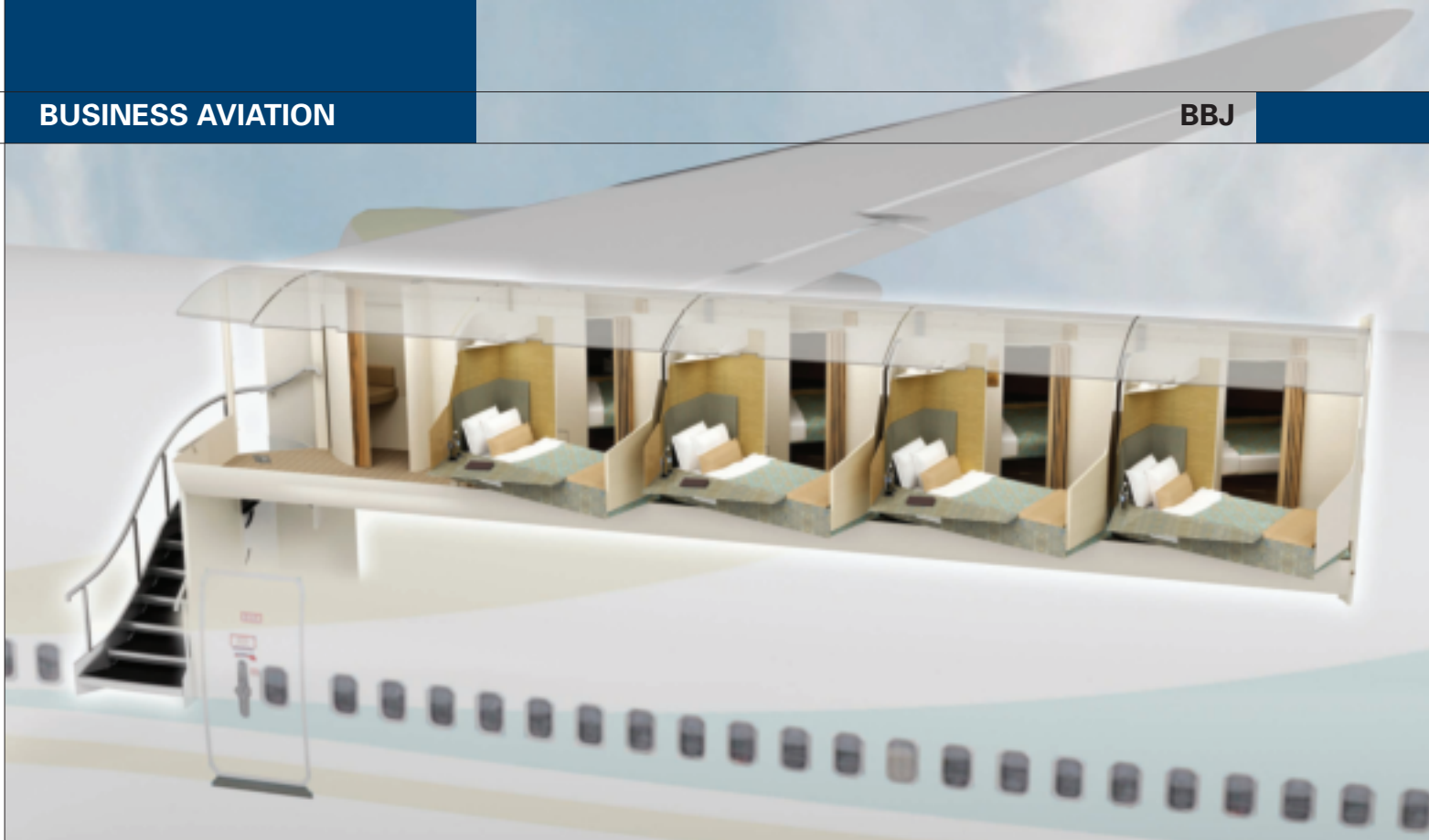
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# Boeing buoyed by the Middle East big boys

*US correspondent*

**James Wynbrandt** reports on the progress of the latest Boeing Business Jets, which will be making their presence felt in the Middle East's VVIP sector.

**T**he first 747-8 Intercontinental (747-8I) that rolled off Boeing's Everett, Washington, assembly line in late February was a VIP version ordered by the Qatari royal flight – although the Seattle manufacturer reported it was for “an undisclosed Middle Eastern customer”.

Nine of the 36 B-747-8Is on order are VIP aircraft and eight of these are bound for the Middle East.

“The Middle East has always been a huge part of our business,” said Steve Taylor, president of Boeing Business Jets (BBJ), the Boeing company's VIP airliner division. The region accounts for “a quarter to 30%” of global sales of its four models – the eponymous Boeing Business Jet along with the 777VIP, 787VIP and 747VIP.

And, as orders for the 747VIP hint, when it gets to the “really big” VIP airplanes – the 777 through the 747 – 80 to 90% are bought by customers in the Middle East.

“The Middle East is the centre of where they're based,” Taylor said.

While the big jets get attention commensurate with their size, the BBJ division was built on the wings of the Boeing Business Jet, its heavily modified executive variant of the 737 airframe.

BBJ was created in 1996 in a 50/50 partnership with General Electric (GE), which helped develop the CFM56-7 engines that power the Boeing Business Jet through GE's CFM international partnership with SAFRAN.

Taking advantage of the higher useful load resulting from its low passenger load, the Boeing Business Jet has long-range fuel and navigation systems for trans-oceanic flights. It also boasts a lower cabin altitude (6,500ft vs. 8,000ft) than standard airliners, and was the first Boeing to have winglets.

The addition of the 787 and 747 to BBJ's VIP fleet was announced in 2006. BBJ has sold more than 205 VIP airliners, in addition to executive-configured versions of the 757 and 767, which are not part of the official BBJ fleet – most of the dozen VIP 767s are based in the Middle East, Taylor said, and three 777s purchased by Middle Eastern customers are currently undergoing completions.

A selection of VIP model variants (BBJ, BBJ2, BBJ3, 737-700C; 777-200LR, 777-200ER, 777-300ER; and 787-8 and 787-9) enables customers to optimise the choice of aircraft best suited to their missions.

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Given the level of interior customisation wanted in these aircraft, about a year of engineering precedes induction of the airplane on to the assembly line.

“Once they place the order, that’s when the real work starts,” Taylor said. “There’s an amazing variety of things people have on board these airplanes. When you get to an airplane that size, it’s really a blank canvas.”

And when they’re completed, on-board interior embellishments may include canvases that are anything but blank. “Some of these airplanes have spectacular art masterpieces displayed that can be worth more than the airplane,” Taylor said.

Clients typically come to Seattle several times during construction to see work in progress and some buyers position a representative at the factory full time to monitor construction.

While both BBJ and rival Airbus Corporate Jets (ACJ) are discreet about how their VIP aircraft are outfitted, anecdotes of customer requests include an elevator to enter the aircraft and stairs to access stables built in the baggage hold, enabling the owner to visit his horses while in flight.

All Boeing VIP aircraft are delivered green to one of Boeing’s 16 authorised completion centres in the United States, Europe, New Zealand and China, where the highly customised deluxe interiors are installed.

**Absolutely different**

Tastes and preferences for design and furnishings are “absolutely different” from region to region, Taylor said. Middle Eastern customers, for example, typically fly with a larger team and have significantly more seats than a traditional North American VIP airplane. A rear section with business class airliner seats for staff is common.

Given that preference, it’s not surprising the first VIP-81 is at a Boeing facility in Wichita, where it’s being outfitted with an Aeroloft, an eight-cabinette sleeping area above the main deck’s headliner developed specifically for the -81 by Greenpoint Technologies or Kirkland, Washington, an authorised completion centre.

“It’s like a Pullman car on the railways of yore,” Taylor said. Three of the first eight VIP -81s have been signed on for the Aeroloft modification and another two may also possibly sign on, according to BBJ. Installation takes approximately six months.

Greenpoint has delivered 17 BBJ completions on almost all Boeing models and currently has “multiple wide-body and narrow-body VIP Boeing aircraft in various completion stages,” according to Christine Hadley, Greenpoint’s manager, sales and marketing.

“We can’t share the most interesting innovations due to proprietary agreements,” Hadley said. “However, we have overcome interesting obstacles, such as an excursion into a



remote Asian jungle to find rare wood befitting a king. We have also installed painted artwork by royal artisans that have passed flammability testing.”

Lufthansa Technik will handle installation of the interior of this first -81 at its Hamburg completion centre. BBJ is in the process of delivering three-D engineering data for the -81 to completion centres.

Unlike dimensions in the 787, which are constant because the aircraft is entirely designed using three-D technologies, Taylor noted the 747 is essentially a hand-made airplane. Its minor differences in dimensions must be accounted for in designing and installing the interior. Some completion centres use stereo scanning technologies to get exact interior dimensions.

**Six VIP specialists**

To promote sales, Boeing has six VIP specialists. Most cover vast swaths of territory – South America and Asia; North America; Europe and Russia; Southeast Asia and Australia. Robert Johnstone handles only the Middle East. “The joke is he lives in terminal five in Heathrow somewhere between Seattle and Riyadh,” Taylor said, adding that the company also keeps in close contact with existing customers. “We don’t have to stand on a street corner with a sign that says, ‘Boeing’. We know the candidates.”

Nonetheless ACJ, Boeing’s competitor in this market, is hardly ceding the region. ACJ garnered lots of attention with its sale of a VIP A380, the world’s largest airliner, to Saudi Prince Alwaleed bin Talal in 2009, though the jet has yet to emerge from completion.

ACJ has been selling corporate jets in the Middle East since the mid-1980s and the region is its largest corporate jet market, said David Velupillai, ACJ’s marketing director.

But Boeing is about to seize the VIP spotlight once again. Three of its new state-of-the-art, composite wing 787 Dreamliners have just been placed for sale with BBJ. The three come from the fleet of six Dreamliners used for the 787’s certification programme.

“We think the best target for those airplanes is a VIP customer,” Taylor said, noting that early airplanes had an empty weight a little higher and maximum take-off weight a little lower than the certificated version.

While that’s a deterrent to a commercial operator, for a VIP customer, there’s such phenomenal performance, and since you can’t use all the weight anyway, with more than an 8,000nm range, the penalty isn’t very significant.

Another reason a VIP customer might want one of these three flight test aircraft is that production of the 787 is spoken for until 2020 (some for VIP variants). “The VIP customer has no patience,” Taylor said.

Of the three available Dreamliners, Taylor expects “at least one or two of them to end up in the Mid East”.

**BBJ price comparison**

Model	First Availability	List Price \$(U.S.)	VIP Interior Est.
BBJ	June 2014	\$57.0 M	\$20-25 M
BBJ 2	June 2014	\$68.0 M	\$25-30 M
BBJ 3	June 2014	\$74.0 M	\$35-40 M
BBJ C	June 2014	\$66.0 M	\$20-25 M
747-8	Dec. 2012	\$299.548 M	\$140-250 M
767-300ER	Aug. 2013	\$156.7 M	\$80-120 M
777-200ER	3Q 2015	\$229.256 M	\$90-175 M
777-200LR	3Q 2015	\$255.834 M	\$90-175 M
777-300ER	3Q 2015	\$271.475 M	\$90-175 M
787-8	2Q 2020	\$178.138 M	\$80-150
787-9	2Q 2020	\$206.81 M	\$80-150



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# Why Sharjah is the alpha site for Gama



**Marwan Khalek: "Sharjah will be very quick to get in and out from, and with the excellent new roads in the Emirates, VIP passengers will quickly be able to get to their destinations."**

**S**harjah could become the next big thing in business aviation if Gama Aviation founder Marwan Khalek's vision becomes a reality.

The company, which is celebrating its 30th anniversary next year, has been operating in the UAE for three years and, following an exclusive agreement with Sharjah Airport, a purpose-built business aviation centre is being developed.

Lebanese-born Khalek believes that with restrictions on slots and parking at Dubai International Airport, along with the move for business aviation to Dubai World Central, there could be a gap that Sharjah is ideally placed to fill.

"Sharjah is very close to Dubai city, where a lot of business is done. Business aviation works because people can get to where they want to go when they want to go there. With the constraints on business aviation at Dubai, Sharjah will be very quick to get in and out from, and with the excellent new roads in the Emirates, VIP passengers will quickly be able to get to their destinations," he said.

Khalek's family owned a furniture manufacturing business in West Africa. Like many Lebanese families, education was seen as a top priority and when young Marwan – equipped with a civil engineering degree and a private pilot's licence – identified aviation as channel he wished to follow, he had his father's support. His father helped with the purchase of a Beech Baron and within a short while the enterprising Khalek and his partner, Steve Wright, had won contracts to ferry livestock. From there came the transition to passenger charter and Gama Aviation was up and running.

#### **Fourth big recession**

Today it is multi-national, with a headquarters at London's Farnborough airport and operations in Europe and the USA.

"We made the decision to take our business model elsewhere," Khalek said. "You have to remember, this is our fourth big recession. We have taken our business model, thrown it at the wall a few times and it hasn't broken. That reinforced our conviction that what we embarked on is sound. It's a robust viable working model and our idea was to replicate it. We have done that in one of the harshest business environments. Three years down the line we see

*Visitors to EBACE will be hearing why Sharjah is a viable alternative to Dubai for business aircraft.*

**Alan Peaford**  
*meets the man behind the ambitious plan.*

that the model is resilient and in good shape. We have no regrets."

Gama Aviation identified Sharjah as being the ideal platform from which to grow. "The main markets in the region are UAE, Saudi and Lebanon. Jeddah, Dubai and Beirut are the three busiest airports and I make no excuse for going after those first," said Khalek. "The market, unlike other parts of the world, is not saturated yet. Sharjah's position is perfect."

#### **Expanding to Jeddah**

The company is expanding to Jeddah – and subsequently Riyadh – and is also progressing plans for Beirut.

"Subject to a few bureaucratic hurdles, we are ready to start doing business in Saudi. We are recruiting the core staff to begin by offering aircraft management and charter, as well as charter brokerage and consultancy. We then hope to receive a Saudi AOC before looking at FBOs and Part 145 MRO activities," Khalek said.

Beirut is at a much earlier stage of development. "The dynamics of that place are quite interesting. It is not as bureaucratic as others but more political."

He sees Sharjah as a long-term investment. "Sharjah has significant potential and opportunity. It is a good location with good access on the ramp. The airport is committed to wanting to attract and service business aviation at the airport.

"We have the knowhow of what customers want. Airports have to be focused on delivery of that product. Trying to get airline service providers to do five or six business aircraft doesn't work. They are not attentive enough. That creates a vicious circle because if people don't get attentive service, they won't come back.

"We say we can service that demand with the quality demanded. It requires investment and we willing to invest. To make it a viable business we need exclusivity and so we are working with Sharjah in partnership."

The two sides are concluding a review about developing the most advantageous location for an FBO and MRO facility that fits in with the long-term plans for the airport. "It is exciting times," Khalek said.



# MOVING FORWARD THROUGH BACK-UP

*With the Middle East a bright spot in a challenging global market, business aircraft original equipment manufacturers (OEMs) are bolstering their presence in the region to accelerate sales growth.*

**James Wynbrandt** reports.

**B**izjet OEMs are expanding service and support in the Middle East to boost sales with the potential upside justifying their investment.

Bombardier's 2011-2030 market forecast, for example, foresees deliveries of 1,175 business jet deliveries in the Middle East between now and 2030. That compares to a total fleet of 340 executive jets in the Middle East at the end of 2010.

OEMs realise that prospective buyers – not only current owners – want access to a solid support network in the region, primarily in the form of sanctioned service centres, for any aircraft make and model they consider purchasing.

As Gulfstream president Larry Flynn said at the Dubai Airshow last year about the region's business jet shoppers: "They're buying an airplane manufactured far from here. So having an authorised service centre, a big inventory of parts and field reps makes a big difference to them."

For its part, Savannah-based Gulfstream, which makes the eponymous line of large cabin and mid-size cabin business jets, is partnered with MRO provider Jet Aviation, which has facilities in Dubai, Jeddah and Riyadh. (Gulfstream's parent,

General Dynamics, purchased Jet Aviation in 2008.)

These facilities now provide factory-authorized service for most Gulfstream models. And Gulfstream is working to expand that list of models. "One of the things we have done most recently is assist Jet Aviation with getting approvals for [servicing] mid cabin G150 and G200s," said Gulfstream director Greg Hammerstein, the man responsible for field service, entry into service, customer programme management, contractor logistics support and authorised warranty repair facilities.

Hawker Beechcraft Corporation (HBC), manufacturer of the Hawker line of business jets and King Air twin-engine turboprops, has also used partnerships to extend its presence in the Middle East, forming alliances with MRO providers Arabasco in Jeddah, Saudi Arabia, and ExecuJet in Dubai, providing customers with two authorised service centres in the region.

"Customers in Saudi Arabia don't want to bring their aircraft to Dubai; they prefer to have them serviced in country," said Sean McGeough, HBC's president, Europe, Middle East and Africa, explaining the impetus for having a large regional footprint.

But not all HBC's alliances are

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strictly aviation related. The Wichita-based company teamed with British sports car manufacturer Lotus to host the Abu Dhabi Grand Prix last year and has been a sponsor of the Emirates Invitational Pro-Am Golf Tournament in Abu Dhabi for the last five years. Such events give HBC an opportunity to associate its brand with high-performance products and lifestyles, and also entertain customers and prospects as they rub shoulders with star athletes and celebrities.

McGeough notes that in the last five years HBC sales in the region have almost quadrupled over the previous five years, but attributes the growth mostly to what HBC sees as a movement “from big airplanes to smaller, mid-size airplanes” a trend that has benefitted both the Hawker and King Air lines. The latter aircraft has found favour in the region as a special missions platform.

**Cloud seeding**

“The Saudis may use the King Air for medevac, do a quick change and use it for VIP transport. It’s also used a lot for surveillance and cloud seeding in the region,” McGeough explained, adding: “A lot of customers like to use the King Air 350 to go hunting. They can load it up with passengers, fuel and game, and can land on a dirt strip in the desert. So the King Airs have been very popular of late.”

Meanwhile, HBC is further enhancing its support capabilities in the region. The company is opening an “expanded office” in Dubai, in the Jumeirah Lake Towers, beefing up the staff with a contracts specialist, technical representative, vice president of sales, and two sales associates, one for the Beechcraft and one for the Hawker line.

Last year HBC awarded full-authorized service centre (ASC) status to ExecuJet Dubai and added more than \$3 million in parts to its inventory in Dubai, helping ensure faster parts deliveries to



**Sean McGeough: “HBC sales in the region have almost quadrupled.”**

customers in the region. Indeed, faster service seems to be the holy grail of OEMs and their customers alike.

“The phrase ‘time is money’ couldn’t be more true than when talking about people operating aircraft,” Hammerstein said. “That type of support is pivotal in selling aircraft – being there when they need you.”

To that end, last year Gulfstream launched its field airborne support team (FAST) in Europe, comprised of four highly trained and experienced Gulfstream engineers “100% dedicated to supporting only unscheduled road trip-type events”,

Hammerstein said. Each of the four engineers is type-rated on multiple Gulfstream aircraft models. Three are EASA-licensed mechanical and electrical engineers and all four have a FAA airframe and power plant license. The team has two G100 aircraft at its disposal and is on call 24/7.

While Gulfstream previously fielded an airborne response team for aircraft on ground (AOG) events, its members were technicians from Gulfstream service centres, who had to be pulled off other jobs to respond to the grounded aircraft. The FAST works solely on AOG situations. “They support all of Europe, Africa and the Middle East, and they support all makes and models of Gulfstream aircraft residing in those regions,” Hammerstein said. “So with Jet Aviation Dubai and the FAST team in Europe, that’s a major improvement we’ve made to support Gulfstream operators in the Middle East, Europe and Africa.”

Gulfstream has also added a new service representative, Mohammed Al Ghanin, in Amman, Jordan, who is “able to travel throughout Jordan, Israel and the Middle East,” Hammerstein said, further enhancing the company’s response capability in the region.

Bombardier, manufacturer of the Challenger, Global and Learjet families of business jets, has also upped its presence in the Middle East.

**Regional support office**

The Montreal-based company’s efforts include opening a regional support office (RSO) in Dubai in 2010, as well as planning to add “significantly” to its \$11 million in parts inventory in the region, according to Eric Martel, president, customer services and specialised and amphibious aircraft.

Bombardier is also seeking to establish an MRO support centre in the region. As Martel said: “We felt we couldn’t do our customers justice by supporting them from Montreal. We needed to be in their times zone. The Middle East is a key region for us and we are projecting significant growth there.”

Along with the prospects for increased sales, the good news for OEMs is that customers in the Middle East are no different than customers in any other part of the world, say those who serve them. “When I first took over field service ten years ago, I thought they were very demanding,” said Hammerstein. “Now, after working with Brazilians, the Chinese and Russians, I see all our customers are exactly the same. They all are very intense, successful organisations that are very busy, that use airplanes for what they need to do, and make significant investment in their tools.”

And how are OEMs measuring the success of their investments in the region? “The biggest way any manufacture, including Hawker Beechcraft measures success, is by market share,” said McGeough.

That’s good news for current and prospective customers, who can count on OEMs continuing to invest in regional support as they duel each other for market supremacy in the Middle East.



**King Air: “A lot of customers like to use the King Air 350 to go hunting. They can load it up with passengers, fuel and game, and can land on a dirt strip in the desert. So the King Airs have been very popular of late.”**



# Aviation Horizons

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**Patrick Margetson Rushmore:**  
Grey charter is a big issue for lenders  
as they could lose their asset.

# A FUND OF IDEAS

*Finding funding for a new private jet is increasingly difficult, even in the Middle East. Liz Moscrop looks at what's on offer.*

**F**inancing business jet acquisitions has become trickier since the market dipped in 2008. Even clients in regions that have traditionally been able to access borrowing have been struggling, according to industry experts.

The Middle East is no different. With the exception of ultra high net worth individuals (UHNWIs) banks have been reluctant to loan money without stringent requirements.

There is, however, a silver lining. Some lenders are willing to take a risk on strong business propositions. Earlier this year the Corporate Jet Investor (CJI) company held an inaugural awards ceremony at its annual conference to honour financiers who have showed a willingness to risk funds to support the industry. Investec and Mubadala GE Capital took the Middle East & African Financier (joint award), with Barclays, Cessna Finance Corporation, and Rand Merchant Bank taking 'highly commended' tickets for the region. Private banks like Credit Suisse, UBS, and Citi are also active EMEA players.

Mubadala GE Capital only launched in 2010

but had GE and the sovereign wealth fund of Abu Dhabi as its main investors. Alasdair Whyte, CJI's CEO said: "It was hardly a start-up. Equipment leasing is one of the Abu Dhabi specialist finance company's core divisions and corporate aircraft finance is an important part of the division."

He pointed out that much of the bank's focus is on the big business jet markets of United Arab Emirates, Saudi Arabia and other Gulf countries. However, Mubadala GE Capital Corporate Aircraft Finance is increasingly active in Turkey and Africa.

Although the team is called Corporate Aircraft Finance, it offers financing to any user of business aircraft, including high net worth individuals, governments and others. It does not have a maximum deal size but prefers deals larger than \$5 million.

Like GE Corporate Aircraft Finance, Mubadala offers a range of structures including loans, finance leases, operating leases. It can offer Islamic finance compliant structures but does not have a Sharia Scholar Board.

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on Page 56

## CONTINUED FROM PAGE 55

There is huge potential for private aviation in the EMEA region. Speaking at the CJI conference Louis Pinto, CFO of fractional ownership provider Netjets, said that Africa is fast becoming a contender. He said: "A billionaire is being born in Africa each day."

He also said that the Middle East still showed a great deal of potential and Netjets' business in the Middle East grew by 40% last year, particularly in Qatar and Kuwait.

To counteract the difficulties customers are experiencing in raising finance, Netjets Europe has introduced a new product – direct financing. The company accepts a deposit of 25% on a fractional aircraft share and loans start at 5% interest. Netjets will fund the product itself and offer a corporate guarantee on the aircraft.

Pinto explained: "This is our response to banks leaving the lending market. We aim to fill the gap between leasing and acquisition programmes."

**Financing is not as available as it should be**

Hawker Beechcraft's EMEA president Sean McGeough took a dourer stance. He reckons that Hawker "has never lost a deal, but financing is not as available as it should be". According to McGeough, regions where more financing would be useful include Africa. He said: "UHNWIs are growing, there. Nigeria has been good. More banks should be looking at Africa."

The African corporate jet market is driven by telecoms, mining, oil and gas and growth is coming from UHNWI, entrepreneurs, corporates, and heads of state.

Wouter du Preez of the First Rand Bank indicated that the continent could take up to 25 jets a year, particularly long-range and ultra-long-range. Investec's head of aviation finance for Africa, Melanie Humphries, agreed, saying: "Manufacturers support that prediction. Bombardier forecasts the African fleet doubling in the next ten years. It is old so needs replacing."

She continued: "You need to move as much country risk as possible. For example, in Nigeria you want to have documentation in English law and agreements governed by arbitration in London. South Africa, Nigeria and Angola count for 90% of the finance market."

For smaller aircraft both Investec and Rand run special lending divisions. Humphries said: "It is financially not viable to structure small aircraft deals in the African market due to the legal fees."

Marwan Khalek, Gama Aviation's CEO, cited



**Kurosh Tehranchian: leasing is a good alternative.**

reasons why there may be reluctance to finance aircraft in the Gulf. He said: "There are pressures on margins from an aircraft management point of view. Charter business has dropped too. At one point it was down to 50% of pre crash levels." However, he believes the business is sustainable, with grey charter "a thorn in the side still".

London Executive Aviation's chief executive, Patrick Margetson Rushmore, added: "Grey charter is a big issue for lenders as they could lose their asset, and they pay great attention to the management of the aircraft. If a flight goes down it is not insured under those circumstances." Khalek agreed, saying: "If you found your client engaging in illegal activity then you wouldn't lend. It is a serious problem for the industry."

Jim Crowley, MD Guggenheim Partners, pointed out that aircraft prices have dropped: "Loan to value has changed and is down to 70% in some cases. Credit analysis is different today. Can the client service the debt? We investigate more thoroughly than before. We ask what kind

of liquidity does the client have in good and bad times?"

Currency fluctuation can also be problematic. Banks are happy to loan in US dollars but local currencies can be volatile. Lenders also look at the history of an aircraft, missed periods of maintenance, and which management company has handled the asset.

Ex Ocean Sky owners Kurosh Tehranchian and Niki Rokni have another solution. The pair established Axon Aviation last year to plug the gap in the financing market by sourcing and offering aircraft for lease. Tehranchian said: "We locate aircraft mainly in the large-cabin sector, including Boeing Business Jet, Airbus ACJ, Bombardier Challenger and Global Express, Gulfstream V and 550, Falcon 900EX and Embraer Legacy types."

Axon specialises in principal-to-principal transactions and always on a strictly exclusive, mandated basis. The company has recently structured lease transactions on a Bombardier Global 5000, Challenger 605, two Challenger 604s, a Gulfstream IVSP, a Falcon 2000EX and a Challenger 300. It also holds signed mandates for the lease of a further nine large-cabin aircraft, which are required by April 2012.

**Attractive and compelling**

Rokni said: "As the global business aviation sector continues to recover from the economic slowdown of 2008, we see leasing emerge as an attractive and compelling financial strategy for business jet buyers."

She added: "The fundamental reasons are quite simple. For buyers, leasing reduces pricing risk and avoids large capital outlays. For aircraft owners, leasing delivers a steady revenue stream, irrespective of other market forces."

According to Tehranchian, leasing is also an attractive option for aircraft owners who wish to avoid risk, while maintaining the consistency of service associated with ownership. He said that it is also a compelling proposition for buyers who would otherwise have to wait several years before delivery of a new aircraft.

Prospective owners need not despair, according to the banks. Guggenheim's Crowley remains optimistic about the prospects for people looking to finance an aircraft purchase. He said: "Credits are improving. The high-end segment credit side has a strong link to emerging markets and these are currently performing better. It is business as usual for some banks."

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# World Central ready to welcome MEBA

*Alan Peaford checks out the new site for the 2012 MEBA business aviation show.*

Nobody likes change and the news that Dubai Airport Expo had finally shut its doors after more than a decade of hosting events such as the Dubai Airshow, MRO Middle East, the Dubai Helicopter Show and, of course, MEBA, the headline event for the business aviation industry in the Middle East, sent a shudder of nervousness among the exhibition managers and marketers across the aerospace industry.

For MEBA, decisions about the future were the most pressing. Over the past few years the rumours of the demise of Airport Expo and the opening of a new purpose-built centre within the new Dubai World Central (DWC) appeared to have been greatly exaggerated.

Delays to the completion of the DWC and the world's biggest airport, now to be called Dubai World Central Airport, suggested plans could be shelved. But as AIME and MRO Middle East events closed and the final exhibition booths were removed, so the demolition experts moved in. There was no turning back.

MEBA takes place from December 11 to 13 this year.



There was speculation that show organisers F&E could be planning to move the event to Abu Dhabi or Bahrain but during the Dubai Airshow, the DWC venue was confirmed.

And the panic began! "Where is it?" "It's in the middle of nowhere." "There's nothing there but dust." "They haven't even started building the exhibition centre."

During March, packing water, survival kit and other sundry necessities, I began the search for the venue.

Less than 20 minutes after leaving one of the plush five-star hotels on Dubai's beachfront and marina, I was pulling up outside the terminal at DWC airport.

"Ah," you might say. "That's easy, but that's the airport. What about the show ground?"

And that's the rub. MEBA will enjoy the acclaim of being the world's first business aviation show to take place in the departures area of a major international airport.

The terminal is already 95% complete and will be ready in time. Spaces that will in future allow millions of passengers to pass through its doors will instead be home to exhibition booths.

Outside the gates where buses and baggage trucks will bustle in future will be the corporate hospitality chalets that served so well at Dubai Airport Expo. And on the apron beyond will be the business jets and private aircraft that makes MEBA the region's premier business aviation event.

It's audacious, it's different, it's adventurous – but that's Dubai... and it will be a show to tell the grandchildren about.



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# Model performance as DubaiSat-2 passes key tests

*Engineers from the Emirates Institution for Advanced Science and Technology (EIAST) say that the DubaiSat-2 project has completed a crucial stage in the design phase.*

**Steve Nichols**  
*reports.*

The DubaiSat-2 qualification model (QM), which is the third and final design, has passed a series of rigorous tests to ensure it can withstand the harsh space environment.

DubaiSat-2, a joint development programme between EIAST and Satrec Initiative of South Korea, is the UAE's second remote sensing satellite and is due to be launched into orbit by the end of 2012.

Ahmed Al Mansoori, director general of EIAST, said: "I am delighted that we have passed this significant milestone, which reflects the dedication, expertise and commitment of our team of highly skilled UAE engineers."

"The vision of His Highness Sheikh Mohammed Bin Rashid Al Maktoum, UAE vice president and prime minister and ruler of Dubai, is to propel our youth towards the cutting edge of advanced scientific research and development."

#### Series of tests

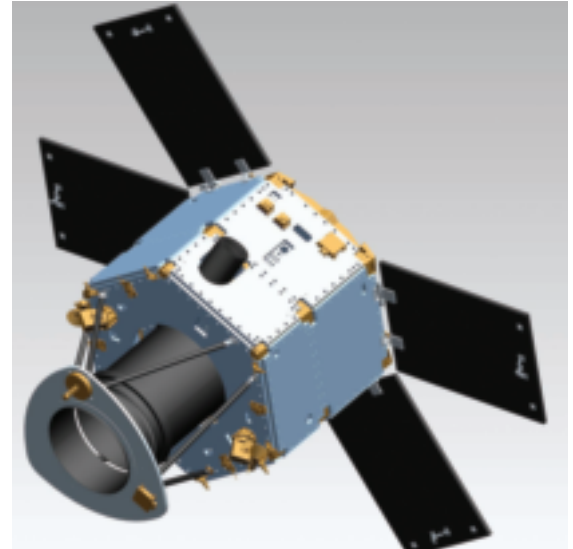
The DubaiSat-2 QM was put through a series of tests to ensure the final satellite can withstand launch and its mission in space. The tests covered vibration, acoustics, thermal, thermal vacuum, shock and mass measurement.

"These tests are designed to put the satellite through the same or similar conditions that it will face on its journey to space," said Salem Al Marri, head of projects and space missions at EIAST.

"From lift-off to separation of the satellite from the launcher takes 15 minutes, but the amount of pressure, shock and vibration is very high and we need to put the model through those same conditions to make sure our satellite will survive."

Al Marri added: "As it orbits the Earth every 90 minutes, it will be in front of the sun for about 60 minutes and behind the Earth for the rest of the time. It will, therefore, be subjected to huge changes in temperature."

The satellite will orbit 600km above the Earth's surface, compared with the 690km orbit of DubaiSat-1. The orbit

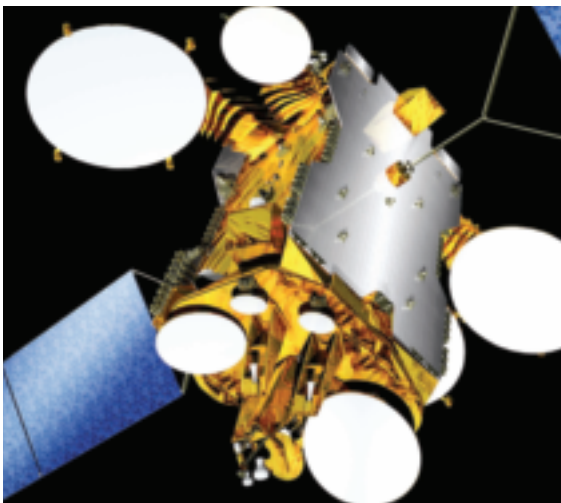


has also been changed from an ascending orbit (south to north) to a descending orbit (north to south), which will allow both satellites to work well in constellation as well as give better coverage of the UAE area.

Among other significant improvements the UAE team, along with their South Korean partners, have designed the satellite to produce higher quality images at one-metre resolution, which can serve various applications, including environmental projects, urban planning, infrastructure, telecommunications and electricity projects.

Sixteen UAE engineers have been working on the design, development, testing and manufacturing of the satellite.

The participation of the UAE engineers, who are currently working in South Korea, has increased by 100% from the DubaiSat-1 project and Ahmed Al Mansoori hopes that this will take EIAST to the next level in satellite development.



## Satellite failure delay Yahsat 1B launch

The launch date of the Yahsat Y1B satellite from the Baikonur Cosmodrome in Kazakhstan was still not totally clear as Arabian Aerospace went to press.

The satellite had originally been due to launch in February but this was postponed until some time in April 2012.

The delay was the direct result of two failed launch attempts of the SES-4 satellite, which was originally due to launch in December 2011. The rescheduled January launch date of the SES satellite was again postponed due to technical reasons with the satellite's ILS Proton launch vehicle.

Tareq Abdul Raheem Al Hosani, Yahsat chief executive officer, said: "The delay is unfortunate but it is well-known that launch delays, and the 'domino effect' they often have on the subsequent launches, is a risk that the satellite industry must face."

"However, we are actively working with our partners to minimise the impact of the delay by using this time to optimise our planned post-launch testing for the Y1B satellite and associated services."

"We are also working with our partners to minimise the delay in our commercial roll-out and are looking at ways we can begin these as early as possible," he concluded.

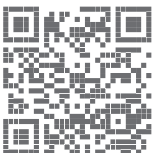
Yahsat's Y1B satellite, which weighs about six tonnes, is due to be launched into space by a Proton-M launch vehicle with a Briz-M booster.

One of the core functions of Y1B will be to provide broadband satellite communication, internet and corporate data transfer services across the Middle East, Africa and South West Asia.

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"This is a high-tech industry creating high-value jobs."  
– Strata CEO, Ross Bradley

# Strata plots its stratospheric rise

*Strata, the advanced composite aerostructures facility section of Mubadala, had a hectic time at the recent Dubai Airshow. Jill Stockbridge finds out why.*

**P**ress, partners and the public gathered on the Mubadala stand each day as further proclamations were made of new joint ventures and business won.

One of the most significant was the announcement of a strategic agreement to establish Strata as a direct supplier to Boeing, with a plan to become a major tier 1 supplier.

The announcement of deals and deliveries give weight to the high-flying aspirations of the relatively new, but fast-developing, venture. Just 10 months after breaking ground, Strata had built and qualified a new composite airframe manufacturing facility in Al Ain, UAE.

The first shipment of flap track fairings left the facility six months after the opening. Now in its second year, the company has US\$2 billion worth of work orders and is on track to becoming a tier 1 supplier to both Boeing and Airbus.

Russ Bradley, CEO, is determined that the pace of development will not slacken: "We will develop into an aviation park, like Seattle and Toulouse, and within a decade we will be a global leader in

advanced composite airframe. Simply put, we want to be the Toyota of the aerospace industry."

While acknowledging the company's aims as a little ambitious, he also dismisses the old school thinking. "It may be outrageous to aim to do this in 10 years, but the UAE runs on a different timescale. Look at what we have done so far."

The company specialises in wings and empennage and does not intend to diversify. Bradley has defined his market precisely.

"Composite airframes are part of a revolution. Previously they were all aluminium alloy, now more than 50% of the Boeing 787 will be composite and over 50% of the A350 body is composite. The new 737 aims to be around 70-80% composite. We are looking at a US\$4.1 trillion market over the next 20 years.

"But we don't want to be like other aerostructure manufacturers. We will specialise in wings and empennage. This area has only a few players, whereas the fuselage market has thousands of suppliers."

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He also believes there is a high probability that wings and empennage will remain with composite construction, whereas fuselage may return to aluminium.

Another clear objective is to be a single source for manufactured parts. Bradley said: "We put people into plants and learn how to make the products, then we try to improve on that. We know intimately how to produce the product, then transfer the production to our own facility. We insist on being the sole supplier and supply direct to both Boeing and Airbus."

Already the factory is looking to expand, having secured significantly more business than it can handle. The current facility comprises 21,600sqm of floor space, of which 4,000sqm is clean room. Parent company Mubadala has stated that it plans to pump more than \$500 million (Dh1.8 billion) into composite manufacturing in the UAE over phases one to three of Strata's long-term development.

A confident Bradley believes the company should be in a position to return Mubadala's initial \$250 million investment in the factory by the end of 2014.

A tour of the factory floor belies the burgeoning order books, as staff quietly progress with the work in a light, airy and distinctly uncrowded space. It is the coloured tape on the floor that gives away the plans for new plant and assembly lines.

**Lean principles**

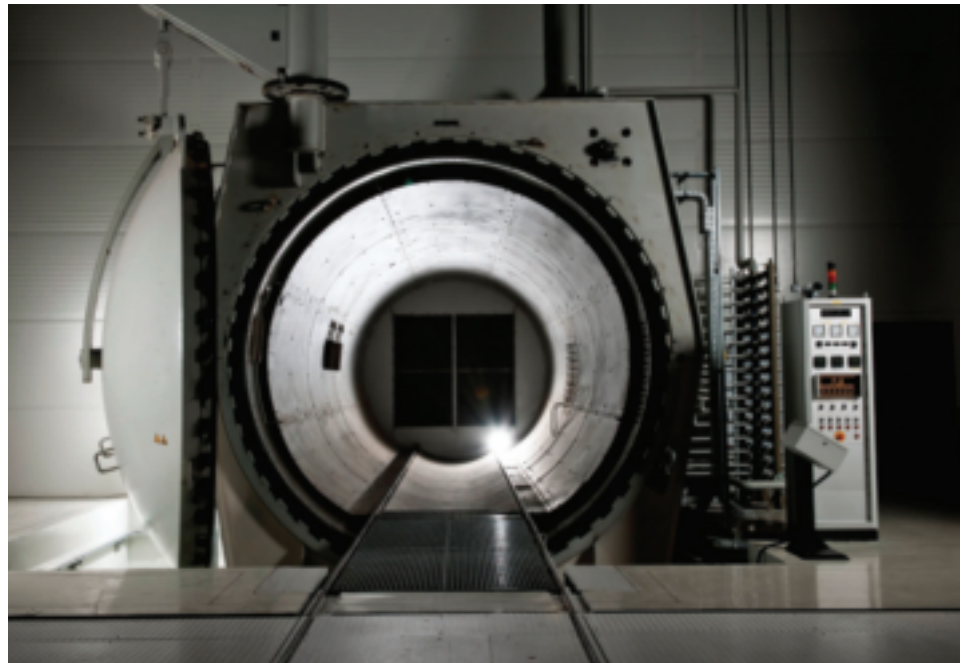
The company is run on Toyota's lean principles, with adaptable floor space and flexible plant. The technology is cutting-edge, with the benefit of no legacy equipment or staff. Ceiling-mounted lasers in the clear area show staff where to lay the fibre and honeycomb cores, speeding up production. Non-destructive testing employs the latest in X-ray, high-pressure water and ultrasonic technology.

Brad Hume, operations director, said: "We constantly look to improve production. We are talking to different companies about new technologies for different resins for different applications. Many of the senior management are still connected to higher education around the world and we make sure we are up to date with the research and development going on."

In addition to the flap track fairings for Airbus A330/340s and the A380 currently in production, the company will manufacture spoilers for the Boeing 787 and rudder and vertical and horizontal tail assemblies for ATR turboprop aircraft through Alenia Aeronautica.

A contract to provide flap track fairing for the Airbus A350, through SABCA, is currently being finalised.

The current production rate for the A330/340 flap tracks is 2-2.5 ship sets per week. Each ship set consists of 34 major elements. With the factory running 20 hours per day, it takes around 10 days for a single element from start to finish, and that finish is exceptional, according to Hume.



The latest manufacturing technologies are utilised at Al Ain.

"Airbus has commented on how good the finish is, marking it as very high quality. Our advantage is that we were able to create a sophisticated plant from scratch. We have been able to plan carefully for each new work order we win."

While the order books are swelling, Strata is not just about the money. As part of Mubadala, the company claims a double bottom line, putting social investment in the UAE and the development of the national workforce, on a par with profit.

Currently the company boasts Emiratisation rates of 30%, with 90% of those staff being female. The company works closely with the adjacent Al Ain International Aviation Academy, which has replicated part of the manufacturing facility and liaised with Airbus to use part of its training programme to train the potential staff.

**Developing people**

Bradley said: "We are looking for sustainability and we put a lot of effort into developing people. National high school leavers join the academy for a 10-month training programme, learning about aircraft, composite and parts. We hope to offer positions to those that meet the standard."

Competition is tough, with more than 300 applicants for 150 positions in the last recruitment wave. The young applicants see the ambitious company as already successful and a place where each person can develop their own career path.

The company ends 2011 with a workforce of 510, expects to employ around 720 staff by the end of 2012, and aims to create more than 1,000 jobs by 2015.

"We have had outstanding results," said a gleeful Bradley. "We were told that we would not get Emiratis on to the shop floor. Not only have

we successfully done so but there is so much passion and enthusiasm that we have to chase them out the door after hours. They are proud to be part of the team. This is a high-tech industry creating high-value jobs."

The large number of female workers is down to social and physical factors.

While young men will travel to Dubai and Abu Dhabi for work when they have graduated, many local families prefer their daughters to remain close to home, providing a pool of highly-educated young women. The company is happy to take on female employees, finding them to have greater dexterity and the ability to pick up the job quickly.

While many of the women are trained in Al Ain, those free to travel have undergone training with companies in Europe and the US, including Boeing.

Hume said: "Our long-term aim is to have a 50:50 mix of nationals and expatriates and we are well on our way."

There are areas for development. Strata has engineers currently working with machine tool companies as it looks to move away from being labour intensive and introduce robotics to offset costs.

It plans a research facility in order to develop its own intellectual property, partnering with both educational institutions and cutting-edge companies.

There are also supplier discussions to set up factories in the region, to reduce import costs, a proposal that becomes more attractive as other aerospace companies sign up for the Al Ain Aerospace Cluster.

The overall aim of both Strata and Mubadala is clearly stated – they plan to turn Al Ain from the city of education to the city of aerospace.





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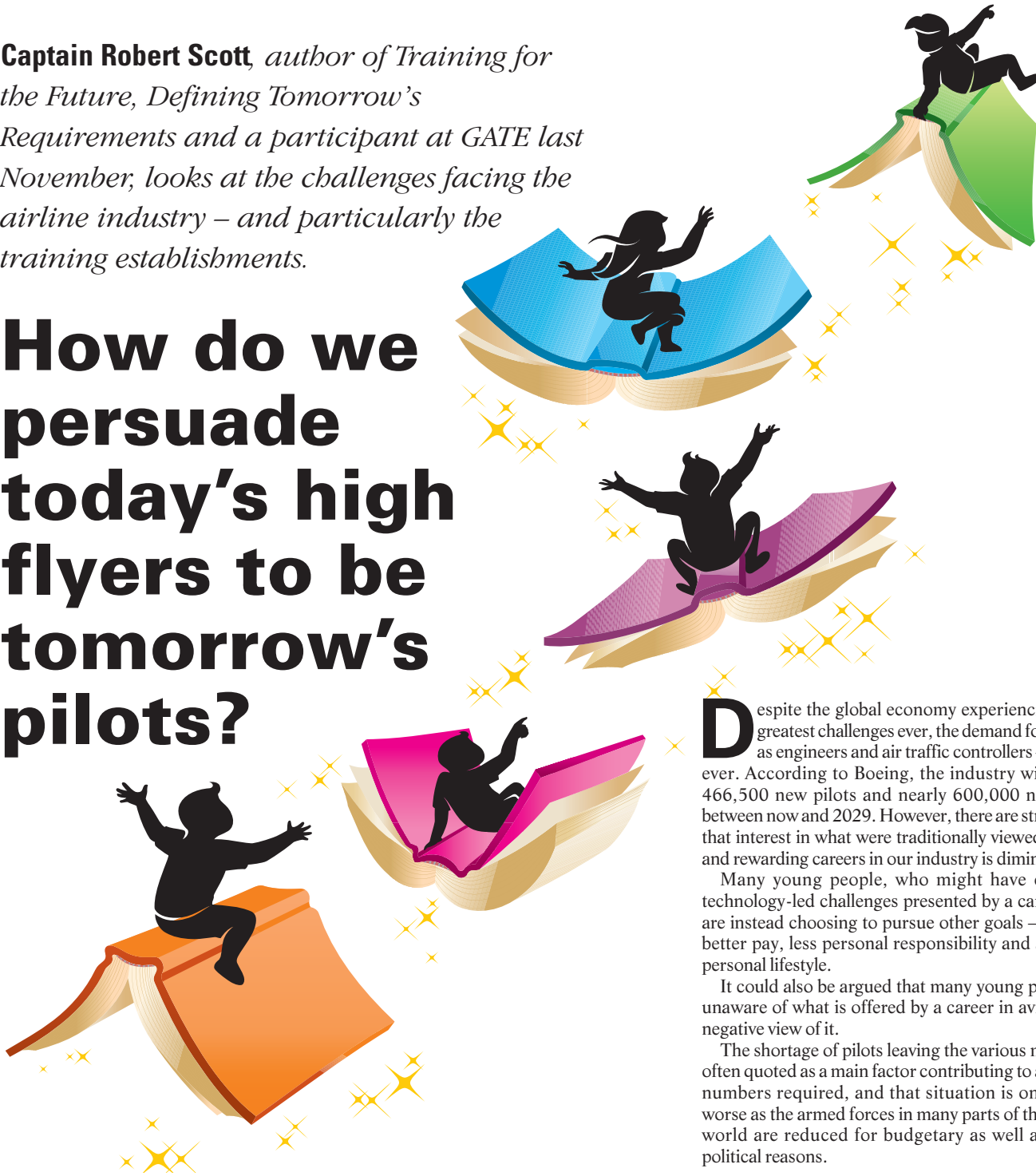
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**Captain Robert Scott**, author of *Training for the Future, Defining Tomorrow's Requirements* and a participant at GATE last November, looks at the challenges facing the airline industry – and particularly the training establishments.

# How do we persuade today's high flyers to be tomorrow's pilots?



**D**espite the global economy experiencing arguably its greatest challenges ever, the demand for pilots – as well as engineers and air traffic controllers – is greater than ever. According to Boeing, the industry will have to train 466,500 new pilots and nearly 600,000 new technicians between now and 2029. However, there are strong indications that interest in what were traditionally viewed as challenging and rewarding careers in our industry is diminishing.

Many young people, who might have considered the technology-led challenges presented by a career in aviation, are instead choosing to pursue other goals – ones that offer better pay, less personal responsibility and a less fractured personal lifestyle.

It could also be argued that many young people are either unaware of what is offered by a career in aviation or have a negative view of it.

The shortage of pilots leaving the various military forces is often quoted as a main factor contributing to a shortfall of the numbers required, and that situation is only going to get worse as the armed forces in many parts of the world are reduced for budgetary as well as political reasons.

Continued on Page 66

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Regrettably, going hand-in-hand with the projected shortfall of suitable candidates are many reports that indicate a reduction of academic standards, particularly in the western public school systems. It seems ironic that, in a world now becoming dominated by technology, the number of students demonstrating proficiency in, and interest of, science and mathematics, is reducing to a level that concerns many in business, industry and research.

In the United States an initiative known as STEM (science, technology, engineering and mathematics), was the result of the report Prepare and Inspire, which reviewed the state of the K-12 educational system and how it compared with other industrialised nations. This initiative seeks to address the parlous state of competency in the above subjects, though it may well founder due to budgetary limitations and political interference. Other industrialised nations suffer from the same shortcomings.

Bearing in mind the pilot qualities listed previously and the undoubted technological challenges facing the pilots of tomorrow, where will suitable candidates come from? If the combination of a 'teach to test' mentality in schools, followed by a 'train to test' mentality in the industry is aggravated by candidates' poor understanding of the meaning of intellectual curiosity, personal responsibility, critical thinking and ethical behaviour, how can we expect the industry to maintain its enviable record of safety and reliability? Will the accident rate, which stubbornly refuses to reduce further towards a theoretical zero, instead start to increase?

Although there are many initiatives in place to encourage an interest in aviation in young people, these are generally fragmented.

**Aviation studies courses**

There is little doubt that it is essential for interest to be generated at a young age and one way to accomplish that would be to provide 'aviation studies' courses in the schools, preferably at high school level.

With a move to end the study of worthless subjects in schools and universities, which lead to unrealistic expectations by the students concerned, it should surely be possible to replace those with courses designed to provide valuable grounding in subjects that will lead to fruitful and rewarding careers.

Bearing in mind the contribution to GDP by aviation in many countries, it should surely be possible to convince educational authorities that courses in aviation studies would help direct young people into careers that provide major benefit to the entire community. It is an indisputable fact that aviation is a major contributor to economies, mobility, wealth generation and employment.

At a time when nations are struggling to re-energise their economies and position themselves for the inevitable turnaround in business, it should surely make sense to ensure that there is a



steady supply of young people available to enter careers in aviation.

High school courses in aviation studies could be designed to appeal to anyone wishing to pursue a career as a pilot, engineer/mechanic or air traffic controller. A two-year course could be divided up into a first year that covers the generalities, such as aircraft systems, mechanics, aviation mathematics and science, meteorology, aviation law, history and structure of the aviation industry and ethics, while the second year could focus on the specifics of the career path that the young person wishes to pursue. Properly structured, these courses could lead to completion of the basic regulatory examinations leading to issue of the appropriate licences.

There are, arguably, two things that have led to aviation becoming the safest and most efficient method of transportation in the world and they seem oddly at variance with each other.

On the one hand we have seen the imagination and inventiveness of aircraft designers supported by the professionalism and courage of test pilots, while on the other the conservatism of an industry that is often resistant to change: the risk takers and risk-averse working symbiotically together.

One thing more than any other has driven the development and innovation of the industry and that is technology.

Sadly, many lives have been lost over the years, some through material and equipment failure but far too many through human failings. Clearly, technology can only do so much. It seems incredible that, despite huge sums being invested in technology that is supposed to improve safety and efficiency, we continue to lose aircraft and people.

What is particularly surprising – and disappointing – is that the majority of these accidents are totally avoidable and involve serviceable aircraft, right up to the moment of impact. Obviously, what we are doing is working to a certain extent, but falling short of the theoretically possible zero accident rate.

In an industry that relies so heavily on technological innovation one would expect that technical training would have increased in step with that innovation. As failures of automation can often provide significant challenges as far as

handling of the aircraft is concerned, one would have expected the industry to place great emphasis on maintaining those skills. Regrettably, neither of those is the case. Instead, there is overwhelming evidence that an over-reliance on technology combined with a reduction of basic pilot handling skills has led to aircraft accidents that should have been perfectly avoidable.

Loss of control in flight (LOC-I), currently the leading causal factor in accidents, is often touted as a new phenomenon that requires new training and new skills. Not so.

The same skills that were required in a pre-automation age are just as relevant now. Suitably updated to suit the size, performance and aerodynamic characteristics of today's aircraft, they should have the same priority as managing automation now has. Remarkably, a recent survey of one of the industry's most successful airlines showed that not one of the pilots surveyed had ever received any training in handling that airline's aircraft in the cruise, or demonstration of its handling characteristics.

**Dumbing down**

Bearing in mind that the majority of pilots spend long hours in that environment, it seems astonishing that this is the case. This is by no means an exception and although this has, belatedly, been addressed by some airlines, it is not receiving the attention that it should.

Over the last two to three decades we have seen what can only be described as a 'dumbing down of the airline pilot'. The intellectual and physical skills once required of the pilot have largely been replaced by an emphasis on 'soft skills' and automation management. The pilot who once cynically challenged sources of information now readily accepts information from a variety of sources, many computer-generated, without question. This 'training mismatch' has undoubtedly been a factor in recent accidents where pilots have failed to demonstrate the basic skills that could reasonably have been expected of them.

A recent editorial comment in a major aviation publication laid the blame on regulators for the current problems. However, this is an inaccurate and unfair comment. Many CEOs, directors of operations and flying training managers have been seduced by the idea that modern aircraft are so reliable that traditional skills and knowledge can be reduced to the absolute minimum and replaced by mere management of the automatic systems. Consequently, pilots often receive the absolute minimum amount of training, which is borne out by some recent accidents.

Regrettably, while the names and reputations of the pilots involved in aircraft accidents will always be associated with their failings, the people who bear much of the responsibility for their lack of skills, the CEOs, directors of operations and flying training managers, will enjoy comfortable anonymity.

If the industry moved to address this problem it would surely pay dividends. When a captain who has a record of failing check rides continues to be rostered in the left seat, then who is to blame when he/she has an accident and people are killed? Surely it must be the management that either turned a blind eye and accepted the risk rather than address the problem, or were too incompetent to recognise that a risk existed.

It is a rare pilot who would voluntarily give up a career that he/she loves but it is not difficult to terminate someone's training if he/she clearly does not have what it takes to perform satisfactorily on the line, especially under pressure.

A study of recent accidents reveals that in more than a few cases the captain – and in some cases the F/O – was known to be a weak performer. As has been pointed out before, management that wilfully pares training to the absolute minimum, adopting a one-size-fits-all approach to its trainees, is as guilty of compromising the safety chain as one that knowingly puts a weak captain in charge of public transport flights.

One of the problems with some young pilots today is that they “don't know what they don't know”.

We have reduced training to a minimum, relying on aircraft that ‘can never go wrong’. Unfortunately, they sometimes do and the pilots may be at a loss as to how to handle the situation.

With reduced time to command – a possibility as the industry expands rapidly – there is absolutely no way that the experience gap can be filled other than by increased, rather than decreased, training, combined with appropriate mentoring. The latter, however, needs almost as much care and attention as a refined training programme and requires overbearing captains being either ‘reprogrammed’ to change their ways or terminated as captains. While this is possible – and even likely – with the more enlightened operators, it is not going to happen so easily with others.

As the aviation industry moves forward into an era that is intensely technology driven it needs to reassess the way it recruits and trains pilots. The current system, based on decades-old concepts, has adapted to change by use of ‘band aid’ solutions, where add-ons, such as CRM, SMS and others, have come to define the face of modern aviation.

Complex situations require complex solutions and a systemic, rather than reductionist approach. If we are to avoid an increase in the

accident rate, we need to ensure that our pilots are as well trained as possible.

Novel approaches to continuing education, forums for exchanges of ideas and information can all help to ensure that the pilot remains fully informed of new developments in the industry as well as improving his/her technical knowledge.

Better use of training time in the simulator, as well as the aircraft, will help develop confidence as well as handling skills. Better management will ensure that weaknesses are identified earlier and those that do not respond satisfactorily to remedial training are terminated.

Someone once described manliness as ‘confidence in the face of risk’. I would suggest we could apply the same description to piloting. It is our responsibility to ensure that our pilots have that confidence.

■ *Robert Scott FRAeS has extensive experience of training in the military, airlines, corporate and general aviation environments. He is director, business development, for Scott Consulting Services and writes regularly on aviation matters, particularly those pertaining to recruiting and training. He can be reached at robert@scottconsulting.co*

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## Ayla trains in on its Facebook friends

Jordanian training company Ayla Aviation has always tried to encourage the youth in the Middle East to take an interest in aviation – from organising student summer camps to encouraging young women to check out what is often deemed to be a more male market. And this year is no exception.

“About a year ago we wanted to set up an organisation as a platform for youth in aviation within the Middle East,” said CEO, Marwan Atalla.

“While we formed the idea, it needed funding, so we put it on hold. Then, coincidentally, last year we saw a company on Facebook called Young Arab Pilots Association (YAPA) so we got in touch and invited them to Ayla. It turned out they had the same idea as us, except they were focusing on pilots and we focused on aviation in general.

“But it was a good start. So we gave them our presentation, told them to use it and go forth and multiply and we will help them and support them.

“Since then, they have visited our facilities in Aqaba and we have helped them with their Facebook page. They come into the office at times to help with marketing and business plans to set their mission and vision statement in place to open themselves up more to potential sponsors.”

YAPA was formed by three 16-year olds still in high school who hope to, one day, become pilots.

“YAPA is a non-profit association, which was



Marwan Atalla, CEO of Ayla Aviation has high hopes for YAPA.

Boys pictured from left to right are Hagop Toranian, Eyad Rayyan, and Omar Sayegh.

established in January 2012 to expose Arab youth to aviation by giving them opportunities to learn more about this industry, to provide a social hub for the youth to share their ideas and experiences, and to encourage them to consider aviation as a career,” explained Eyad Rayyan, chairman.

Along with friends – vice president Omar Sayegh, and CEO Hagop Toranian – all have a huge amount of flying hours on simulators.

“We got our passion of flying either through friends or family,” said Rayyan. “In the Arab world the youth know very little about aviation and we want to open this up to them,” added Sayegh. “As young future pilots we want to set the right example about aviation in this region.”

While Ayla Aviation is already guiding YAPA, it is also looking at funding them.

“These three young men are exceptional. It’s a really exciting project to be involved in,” said Atalla.

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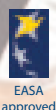
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## Competency-based training is way forward, says JATS boss

*Jordanian pilots have long held a reputation for excellence.*

**Marcella Nethersole**  
*visited Amman to see what the country has to offer future pilots.*

**J**ordan Airline Training and Simulation (JATS) was originally founded as Royal Jordanian's Training Centre in 1970.

Separated in 2000 as part of the privatisation of RJ, it was the subject of a 2006 sale with 80% of the company going to current owner Eastern Holdings, and the remainder with the national carrier.

Today the company, which is based at Queen Alia International Airport in Amman, is one of the leading independent airline and customer service training academies in the Middle East.

Investment in simulators began in 1975 with Boeing 707 and Boeing 727. Over the last couple of years Dr Majid AlSadi, chairman of Eastern Holding and JATS, has invested heavily in developing and improving the facilities and services.

"With the increase in tourism and passenger demand, the airline industry in the Middle East is reaching unprecedented heights in terms of service providers. The demand for qualified pilots, engineers and cabin crew has increased substantially in the region," said AlSadi.

He highlighted the fact that JATS' services continue to boost the efficiency of the aviation industry in Jordan and the Middle East. He has invested in the development of a set of flight simulators at Coventry University in the UK that will support the training of student aircraft engineers.

JATS' state-of-the-art facility covers

30,000sqm, with pretty gardens and sidewalks. In 2011 it unveiled a new glass hangar that houses the B737NG and the Embraer 170/190 simulators.

Amer Fakhoury has been general manager since March 2011 and he says the facility will continue to grow to accommodate customers' training requirements.

"At the moment our full-motion flight simulators include two A320s, A310, B767-300ER, B737-800NG and the EMB170/190," said Fakhoury.

### Dilemma with the A310

And when it comes to type-rating Fakhoury will be keeping the simulators up to standard. But, at the moment, he has a dilemma with the A310.

"The A310 is getting quite old and may be faded out," said Fakhoury. "We can't decide if we want to keep it, but it is one of only a few in the world. If it goes, we will either install an A330, A340 or 787. Royal Jordanian is getting 11 787s. If that goes ahead, it makes sense we get a 787 simulator."

The company also provides an EASA 147-approved maintenance and engineering section, as well as cabin training, with door trainers and slides for A340/330, A310, A320, L1011, B727/737, and B767.

"We have just signed for an Embraer 195 door trainer, which we will take delivery of in

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– *Ratan N. Tata*  
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### CONTINUED FROM PAGE 70

September. We see a future for Embraer as many airlines in the region already use it,” said Fakhoury.”

The site is also home to a huge pool for ditching and wet drill exercises, as well as having a cabin service trainer with working galleys.

“Since we started, we have trained around 100,000 students. Customers come to us from all over the Middle East, as well as Asia and Europe,” said Fakhoury.

“Our instructors are of the highest calibre, with an international reputation. They believe that learning to fly, whether in an aircraft or in business, is a never-ending experience.

“We have 17 freelance pilots as well as 86 full time staff.”

Around 95% of JATS’ customers are airlines, mainly within MENA. They include RJ, Oman Air, Bahrain Air, MEA, and Air Arabia.

The company has a very high success rate with, perhaps, one failure a week. “This failure is a real failure, though, as we give students chances,” explained Fakhoury. “We do not, and will not, produce a bad pilot.”

Fakhoury said the growth of pilot numbers in the region is unprecedented.

“In the coming 15 years the Middle East area will be needing 37,500 pilots – that means all the

academies in the region must produce five pilots a day – which is not possible for us. I can’t do five pilots a week. It will be a big challenge for everyone.”

Like many others, Fakhoury believes the future of training lies in the multi-crew pilots licence (MPL) programme. “I see the future as MPL for airlines that can afford it. Also, the student must be committed to do this, so locked in for five or ten years to conduct the training as per the airline syllabus and regulations,” he said.

“Last year we were the first to offer this project in the region through Air Arabia’s training arm, Alpha Aviation UAE.”

#### Required skills

The MPL is a competency-based training programme that ensures the flight crew reach the required skills and behaviour before progressing to the next level of training.

Fakhoury said: “MPL training incorporates threat and error management into the entire training programme. This develops a higher level of safety and human factors awareness, learnt from aviation incidents and accidents over time. The aim of the course is to train pilots to the level of proficiency necessary to enable them to operate as a co-pilot of a multi-engine turbine powered air transport aeroplane.”

Fakhoury is not alone in thinking that MPL is the future. A friend and competitor, Marwan Atalla, CEO of Ayla Aviation Academy based in Aqaba, is also pushing for MPL.

The training school has recently received approval by Qatar Airways. “We are now Qatar Airways certified and the airline is hiring almost everyone graduating from Ayla with a JAA licence. The next step is to train students from Qatar Airways as a trial batch. But Qatar Airways is now hiring our graduates,” said Atalla.

There could be the potential for a partnership between Ayla Aviation and JATS going forward.

“To do an MPL you need a flight school, you need a type rating training organisation, like at JATS, and you need an airline,” said Atalla.

“So, for Ayla, we would happily work with JATS. But it’s not my decision – it’s the airlines’ decision. If the airline wants to work with Ayla and choose JATS alongside, then both myself and Amer Fakhoury will be happy.”

Atalla said MPL would also give greater capacity to the schools. “The average MPL student flies 70 hours on the plane, the rest is simulator training, so you go from 200 hours to 70 hours. It means I can triple the number of students. It is better for the airline, too, as quite simply, it will get a better quality first officer.”



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Members of the crew of an Air Arabia Airbus A320 get wet as they attempt the ditching exercise in the EgyptAir Training Center pool.

# EgyptAir academies make a splash in Africa

*Alan Peaford heads to Cairo to find out how the nation that has produced many of the MENA region's greatest teachers and academics is applying learning skills to aviation training.*

**P**ost-revolution Cairo has its challenges and, as many Egyptians will tell you, very little has changed.

For sure the Cairo traffic that snakes and grinds and hoots its way through an unstructured series of pointless manoeuvres is as horrendous as ever. And another thing that has remained constant is an Egyptian commitment to learning.

Egypt is in partnership with South Africa to help develop a network of training providers and systems across the African continent. The goal is to help raise standards and meet the challenge of the predicted aerospace skills shortage, which affects pilots, engineers and air traffic control (ATC) staff.

The country certainly has the experience.

It was some 80 years ago this year that the first Egyptian flying academy – the Misr Flying Institute – opened its doors to train pilots for the new-fangled flying machines that would launch Misr Airways, the forefather of today's Star Alliance carrier, EgyptAir.

Today, working at the 6th October airfield to

the west of Cairo, the Egyptian Aviation Academy (EAA) is at the heart of aviation training. It features ab-initio training for pilots taking them through private pilot licence (PPL) to multi-engine and instrument ratings and on to a commercial licence.

Just a couple of hundred metres away from the flight training school sit ATC simulation centres, where around 80 trainee air traffic controllers a year can work radar, ground and tower situations, often operating in real-time communication with the trainee pilots who are “flying” simulators in the room next door.

In other classrooms, a whole gamut of ICAO and IATA-recognised training courses are under way. These range from aviation medicine through to risk management and safety operations.

Some 50 kilometres away, and next to Cairo's international airport, is a real jewel in the Egyptian training scene, the EgyptAir Training Center (ETC). The ETC features a four-bay simulator hangar housing an A320, a Boeing 777, a Boeing

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**Captain Hany Azmy with the Boeing 777 flight simulator in great demand with Middle East and African airlines, as well as with Egypt's flag carrier.**

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737NG and an A330/A340 full motion simulator.

These meet the need of the national carrier – which is part of the same holding company – but ETC has been working hard to develop third-party work. And again it is Africa that is creating a great deal of interest.

In February the school signed a deal with Ethiopian Airlines for B777 training; Libyan Arab and Afriqiyah are already customers and Nigerian, and Air Tanzania have all been visitors in recent months.

It is not just pilots at the training centre. It hosts full cabin crew training facilities. Airlines from across MENA, including Qatar and Air Arabia, are regulars.

As we toured the impressive facilities, a team from Air Arabia were practicing emergency cabin drills, including the utilising the raft and the centre's pool to simulate an evacuation.

In another classroom that resembled a high-class salon, a team of pursers from EgyptAir were going through a refresher on grooming. Across the corridor, Libyan flight attendants – using real food – were undergoing cabin service training.

“We offer the complete range of training activities here,” said Captain Hany Azmy, the vice

president, responsible for the training centre.

“We have been offering simulator training for more than 30 years. Our first Boeing 707 flight simulator entered service in 1976. The technology has progressed from simple training devices through to today's state-of-the-art full-flight simulators.”

As well as the contracted African carriers, airlines from the Gulf carriers have been making use of available time on the simulators, particularly on the A320. Other airlines such as Kuwait Airlines, Royal Jordanian and Jordan Aviation have been using the B777 and the A330.

“The Level D simulators are used for initial, transition and recurrent courses,” Azmy said. “We have found Cairo to be popular, too, with pilots and crews from around the region.”

As an IATA-recognised training centre and as an EASA-part 147 maintenance-training centre, it is not surprising that the ETC is busy. At any one time there are some 240 people receiving training – and Azmy estimates around 49,000 people a year are served by the centre.

Back at 6th October EAA's flight training arm, Misr Flying College (MFC), sees its students carrying out cross-country flights between Cairo and Arish on the Sinai Peninsula using a fleet of modern Cessna 172 Skyhawks.



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The campus is also home to Rockwell Commander 114B, Beechcraft Bonanza F33, Beechcraft B58 Baron for multi-engine training and the star of the fleet is the Cessna Citation Mustang.

EAA, working with EgyptAir, has developed a multi-crew pilot licence (MPL) and has been recognised by ICAO as a centre of excellence for Africa and the Middle East.

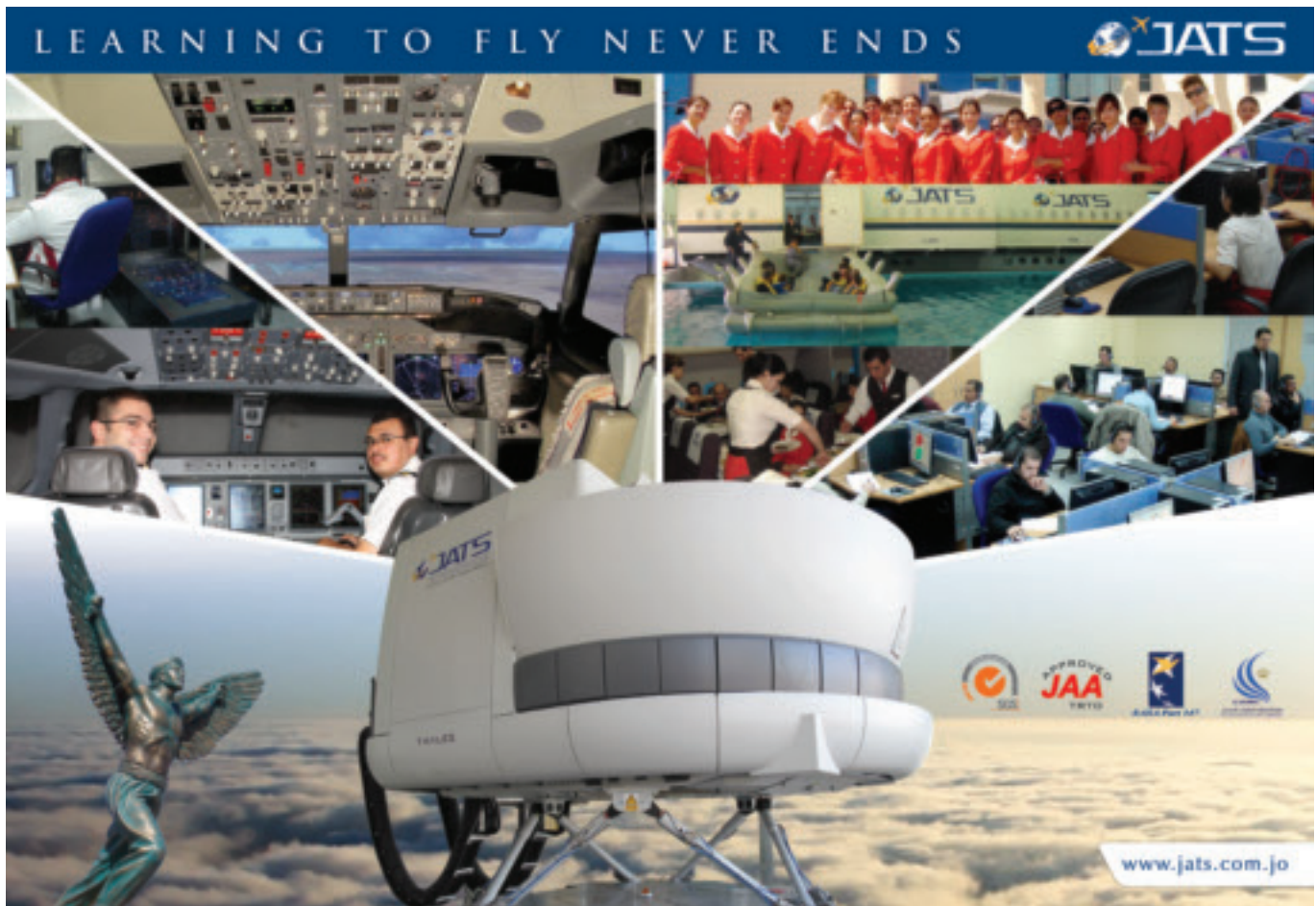
Dean of the MFC, Adel El Banna, stressed the importance of the training. “Africa needs more than 900 new pilots a year. Egypt requires 300 of those. We are going to be able to meet that need but it has taken a lot of investment.”

El Banna points to some of the young women who have earned their wings with MFC. “These are the role models. There are opportunities for women in aviation and we need to be recognising the potential these young people have.”

Former air traffic controller Abdelkarim Elsayed, dean of the civil aviation management training college (CAMTC), also recognises the potential that EAA can deliver. “Egyptians have a great experience in aviation. Our multilingual and multicultural team understands working in an international environment and we feel we can play an important role in the way Africa develops its aviation industry.”



Dean of the Misr Flying College, Adel El Banna, in the foreground with staff and the latest group of students.



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# REGION PLAYS THE SIM CARD

*The looming pilot shortage in the Middle East – part of an anticipated global deficit of crews needed to operate tomorrow’s airliners and business jets – has the full attention of the North American-dominated flight simulator and flight training provider market.*

**James Wynbrandt reports.**

**B**oeing predicts that between now and 2030 the Middle East will need more than 36,000 pilots simply to crew airliners on order for the region.

The figures speak for themselves yet, whatever their interest in helping satisfy the future demand, training solution providers are quick to note they are hardly newcomers to the Middle East.

“We’ve been in the UAE since 1995,” said Camille Mariamo, regional leader for the Middle East and India, commercial training and simulations for Montreal-based CAE, which provides flight simulators emulating today’s latest Airbus and Boeing airliners. “We were the first to sell full flight simulators [FFS] to airlines in the region.”

CAE’s joint venture with the Emirates Group to create Emirates-CAE Flight Training (ECFT) was another regional milestone, establishing the first FAA and JAA-certified commercial training facility in the Middle East in 2005.

Today the ECFT centre in Dubai’s ‘silicon oasis’ offers more than 14 programmes for aircraft type ratings and recurrency training, as well as training for ground crews. But CAE recognises it will take new pilots, not simply type ratings and recurrency training, to meet the needs of tomorrow’s Middle East airline fleets.

“In the Gulf states, the market has traditionally

been served by experienced pilots hired from abroad,” said Mariamo. “We believe in the future that there will be demand for the ab initio market – training for students with no flight experience – and for the Middle East to rely on ab initio graduates.”

CAE is already serving the ab initio market through its CAE Global Academy (CGA), which provides “cadet to captain” training, earning graduates a commercial pilot license, airline transport pilot license or multidrug pilot license.

#### **Largest provider**

With some 1,800 annual CGA graduates from its network of 11 facilities, CAE claims to be the largest ab initio training provider in the world.

Though none of these facilities are in the Middle East, Mariamo noted that prospective pilots from the region on an airline career path usually attend one of the three CGA facilities in India. “Once they graduate from Global Academy they can move into type rating for a specific aircraft,” Mariamo said.

Simulator manufacturer Frasca International of Urbana, Illinois, has historically been focused on the ab initio market and, likewise, has long-standing, if less public, ties to the Middle East. “We’ve been in the region for decades, in Iraq, Saudi

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## TRAINING

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Arabia and Qatar, mostly supporting the customers and being available to them,” said Victor Velpze, a Frasca sales representative.

Frasca, which makes FFS for piston and turbine fixed-wing aircraft and helicopters, has its training devices installed in several universities in the region that offer primary, or basic, pilot training.

Velpze said Frasca has recently seen “an increase in questions and demands” from these customers, but said the company is taking a more deliberate approach to increasing its sales in the region.

“We’re not simply selling the devices but sitting down and offering suggestions on how to run the [training] programme holistically,” Velpze said. “Simulators tend to be an afterthought, that’s what we’re trying to change.”

Indeed, the kinds of discussions Frasca is having about its core concept of “transfer of learning” could help determine the shape of primary flight training in the region for the next generation.

Velpze noted that a single Frasca simulator could emulate five different airplanes. “But you have to make so many compromises, not all are simulated effectively,” he pointed out. “If the instructor has to keep saying, ‘Push this button

here [in the simulator], and push another in the airplane,’ what has been accomplished?”

“If the airplane has a certain avionics configuration, the simulator should have the same configuration to a very high level,” Velpze continued. “You have to teach things accurately in the simulator so that knowledge gets transferred back to the airplane. I’ve seen situations in universities where half the students flunk check rides because they’re pushing the wrong buttons. One simulator that can do five different airplanes looks good on paper, but in reality it doesn’t get the job done.”

### Global market

The shortage of qualified pilots will affect business aviation as well as airline operations, experts say. But flight training providers see business aircraft training as distinct from airline crew training for two reasons: business jet operators don’t cultivate and train pilots en masse as airlines do, and the training centres needn’t be in the same location the crew calls home. As Mariamo said: “Business aviation is not a regional market, it’s more of a global market.”

No training provider is more focused on the business aviation market than FlightSafety International (FSI) of Flushing, New York, which

provides type ratings and recurrency training for fixed and rotor wing business aircraft made by 17 OEMs.

FSI provided “well over” 2,000 training events to customers from the Middle East in the past year, according to Steve Phillips, vice president, communications, with the greatest increase in demand coming from operators based in Bahrain, Egypt, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates.

But, as with CAE’s ab initio programmes, most of FSI’s training is conducted outside the region, primarily at its learning centres in Farnborough and Paris, which between them offer 25 full flight Level D qualified simulators, mimicking Bombardier, Cessna, Dassault, Embraer, Hawker Beechcraft, Gulfstream, and Sikorsky aircraft.

FSI will add Level D simulators for the Bombardier Challenger 605 in Farnborough and the Dassault Falcon 7X in Paris this year.

Asked about any plans for an FSI facility in the Middle East, Phillips said: “As with all regions of the world, we continuously measure the current and expected future demand for our training services and add new programmes and locations as appropriate to ensure that we offer access to conveniently located, high-quality training

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CAE, meanwhile, will open a second ECFT facility in Dubai in the third quarter of this year, with flydubai as the launch customer. The new facility will initially have four full flight simulator bays for crew training for the Airbus A320 and Boeing 737 families, and may expand to up to ten bays.

CAE also recently became the first provider in the region to offer a helicopter flight-training programme, focusing on the Bell 412. “That shows our commitment to regional needs,” Mariamo said. “Oil and gas platforms rely heavily on helicopters. We’re the first to come in and invest in that segment.”

Yet, whatever the training solution suppliers can and will provide, addressing the looming pilot shortfall will also require commitment from the leadership of the region’s aircraft operators. And that’s a commitment some training providers question.

“I know there’s a significant pilot shortage,” said Velpze. “Emerging markets are not very good at understanding how long it takes to ramp up something. You can sound the alarms as much as you want but until airplanes are parked on the ramps because you don’t have pilots, the need for training usually does not make it up very high in the management chain.”

## EASA boost for Gulf helicopter academy

**Qatar’s Gulf Helicopters Company announced in March that the Gulf Helicopters Training Academy (GHTA) has received initial EASA Part 147 maintenance training organisation approval.**

**This means that GHTA is now fully approved to conduct courses on the AB139/AW139 (PWC PT6) helicopters.**

**The Doha-based company said that additional training capabilities are passing through the approval process, and will be added shortly.**

**Chief executive Mohammed Mohammadi was delighted. “With this EASA Part 147 maintenance training organisation approval, we can offer required EASA-approved maintenance type training to third-party commercial and non-commercial organisations,” he said. “This approval is Gulf Helicopters next step to offering a comprehensive one-stop training solution to AW139 operators worldwide.”**

**A prime AW139 operator itself, with five units on order and 13 already in operation, Gulf Helicopters is owned by Qatar Petroleum through the holding company, Gulf International Services and General Public of State of Qatar.**

**It has been providing helicopter services since 1970, working with companies throughout the Middle East, India, the Far East and North Africa.**

**For some years it has had its own in-house**



**maintenance facility with a team of highly qualified and experienced engineers undertaking fleet maintenance and modification work. More recently it became a FAA-approved repair station and EASA-approved Part 145 maintenance organisation.**

**But, like many other operators in the Gulf, it has realised the importance of developing its own training facility to provide the maintenance engineers and technicians it will need to support its ambitious plans.**

**It recently commissioned the EASA-certified AW139 full motion simulator.**

**Meanwhile, in the UAE, AgustaWestland has designated Horizon Flight Academy’s joint venture with Abu Dhabi Aviation as an authorised training centre for the AW139 in Abu Dhabi.**

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*A Kuwaiti-Australian venture is bringing a new generation to the aerospace industry. Alan Peaford reports.*

## Kuwaiti students happy to go down under a Boeing 737...

**M**ishrif is a quiet residential neighbourhood in the suburbs of Kuwait City. But suddenly, straight ahead and behind a simple glass wall, is a Boeing 737-200.

Yes. A real one.

Fortunately for the residents' peace and quiet, the two turbine engines have been removed but everything else is in tip-top working order.

The airliner was supplied by Boeing as part of an offset programme with Kuwait and forms the centrepiece of the Australian College of Kuwait.

The college itself has more than 2,000 students and was the brainchild of a Kuwaiti geologist, Abdullah Al-Sharhan, who wanted to give young people the chance to develop vocational skills. Al-Sharhan was responsible for finding water deep in the Kuwait desert; a remarkable feat that is used as an example of how personal drive can help young people achieve the unexpected.

Today his son, Saad Abdullah Al-Sharhan, the college's director of support services, carries on in his father's traditions in pushing to improve the education in Kuwait.

"We have a bachelor of technology programme and a number of engineering specialities and the latest of those is

aviation," he explained. "My late father wanted to concentrate on a practical education that doesn't only focus on theory but also shows the students how to do things with their hands. The Australians were very specialised in vocational training and that is why he went there to meet the people to help set this up."

Aviation is the most recent addition to the college. The school is headed by Australian Peter Fraser who said: "The set up at this college is one of the best in the world. Facilities are first class and the EASA-approved curriculum is world class. The students come out with the skills knowledge and attitude that the industry is desperately seeking.

"The skills shortage will be 35,000 over the next six or seven years in the Gulf. Our part is Kuwait and looking after Kuwait's interest and in particular Kuwait Airways. We will be producing fully qualified B1.1-approved trainee engineers for Kuwait and the military. The first two graduates have come through the programme with all those skills."

Fraser said he is in awe of the facilities – especially that B737.

### Remove and install

"It was flown in from Saudi Arabia to Kuwait Airport, dismantled and put on low-loaders to be driven out to Mishrif. Once it was in place the facility was built around it. The classrooms and the back-shop are behind the hangar. The students and trainees operate on all of the systems – the undercarriage, the flight controls, and the avionics. We remove and install, inspect, test and troubleshoot. Its vocational in its basis and that is why it is so successful."

There are currently 23 students going through the system but the college has the capacity to take up to 120 aviation engineers and technicians at any time. The college has signed a deal with the Kuwait ministry of defence to add 25 students.

"We are concentrating on Kuwaitis and GCC citizens. It is important to promote these specialisations to the new generation of nationals in the region to bring about the knowledge transfer from the other countries," Al-Sharhan said.

The college offers the Diploma of Maintenance Engineering (Mechanical B1.1 – Pathway 1) to help students gain employment in the aerospace industry as trainee engineers. Completion of the five-semester course – two-and-a-half years full-time – provides a pathway towards a licence. Students take EASA examinations.

"Our graduates are safety trained and conscious of industry requirements and able to perform complex maintenance tasks," Fraser said. "We know from the feedback we have received already from Kuwait Airways how well they are performing."

**Australian Peter Fraser and Kuwaiti Saad Abdullah Al-Sharhan demonstrate international cooperation can improve training opportunities.**





Tim Shattock with the niche E170/190 simulator that firmly puts Bahrain training on the map.

## Emerald isle helps put the sparkle back into piloting

*Bahrain's training organisation GAA is growing. Alan Peaford pays a visit to its Mubarraq headquarters.*

**B**ahrain's aspirations to once again be a driving force in the region's aviation industry is given credence by the country's major training organisation.

GAA – the Mumtalakat-owned aviation academy – has seen numbers grow since officially earning its wings from the regulators 20 months ago.

The organisation has been reaching out across Bahrain to encourage young nationals to look at aviation.

"This is the future," said CEO Tim Shattock. "The youngsters now are looking at software and other industries. There are misconceptions about the aviation industry. The sheen or gloss about being a pilot has gone. But the industry needs to be bringing in bright youngsters with technicians and engineers in great demand. There is a shortfall in demand and cabin crew are essential. GAA holds open days; we go to universities and schools."

During the Bahrain Airshow, GAA signed a deal with the Irish-headquartered Pilot Training College (PTC) – one of the world's largest pilot training colleges – to help train up to 120 Bahraini nationals through the ab-initio process.

The first 12 cadets began training at PTC's Florida base in March.

"Ensuring that we continue to train professional pilots is a strategic priority for the airline industry in the MENA region in particular, and this is GAA's core market," Shattock said.

"Following a stringent assessment process we were most impressed by PTC because of their professionalism and attention to detail, which was apparent in their proposal. We took comfort that the college is already working with a number of airlines in the MENA region."

PTC has also just opened a training base at the UK's Cambridge Airport and is attracting the attention of several airlines in the region, including NAS from Saudi Arabia.

GAA has moved on tremendously since it was taken out of the Gulf Air structure to become a stand-alone business.

Shattock's strategy was simple. "I wanted us to focus; to adopt a crawl, walk, run approach. I would say we are now walking comfortably.

"We have grown substantially. We have taken in two new simulators since January 2010, ordered a new A330 and we have a growing customer base."

The numbers are impressive. There are 58 training courses on offer, some 38 customers and a remarkable 2000 trainees passing through GAA on an annual basis.

Many of these are Bahrainis. "GAA really is non-political and non-discriminatory," Shattock said. "Nobody gets special favours. It's about getting the right people into the industry."

Working with the Bahraini Government's Tamkeen organisation – the kingdom's enterprise agency – GAA originally took 100 Bahraini nationals for pilot training. The first cohort has now completed ab-initio and members are being type-rated. A number of the Bahrainis are working as second officers with a Gulf airline. Meanwhile, some 250 others are learning engineering and technician skills.

GAA has also become a regional training partner and authorised training centre for IATA, which has seen the academy offer more courses, including key subjects such as emergency planning, dangerous goods regulations and cargo management.

As well as Bahrain's two national carriers Gulf Air and Bahrain Air, GAA has seen a number of other Gulf airlines signing up to either use the company's excellent facilities or to seek type rating with GAA's training staff using the four simulators on site.

The two newest simulators are an Embraer 170/190 and an A320. There is also a second A320 and an A330/A340, which will be permanently configured as an A340 when the latest A330 simulator arrives in the summer.

Another bay is available at the centre and GAA is considering the market.



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# GATEWAY TO A NEW BEGINNING

*The scent of jasmine is once again in the air over Tunisia as the country dusts itself down after the 2011 revolution and starts to welcome back its usual high number of tourists. Marcella Nethersole reports.*

**J**asmine is the national flower of Tunisia and when the country started the Arab Spring it was nicknamed the Jasmine Revolution.

Before the revolution, the country was already one of the most visited tourist destinations in North Africa and this is set to be the case again as the country settles in to a new government.

"The year 2011 was exceptional with regards to the slump in tourist figures due to the revolution but 2012 is already looking very positive again," said Abelkader Khelil, director of Tunisia Direct, part of the federation of travel agencies.

"Tunisia was the first country to start the Arab uprising but it was with a peaceful outcome. Since the revolution we won one thing, our

voice. Now we can speak out. Now the people are just looking forward to a fresh start, which includes welcoming back the tourists."

Tunisia is a small country but one that packs in an awful lot. It was once the heart of Roman Africa and still contains some of the world's most preserved Roman sites and ruins. It is home to eight UNESCO World Heritage sites.

It is the smallest of the nations situated along the Atlas mountain range. Algeria sits to the west and Libya to the southeast, while the mighty Sahara desert is to the south, where tourists arrive in their droves to experience desert safaris. "Guests can stay in basic tents to luxury ones with air-con," said Khelil. "Visitors can also enjoy sand duning and camel riding. The desert also has the salt flats where

depression areas below sea level are covered in salt, which is a very beautiful sight. The desert in Tunisia is also where Star Wars was filmed."

On the north and east side of the country sits the beautiful water of the Mediterranean Sea, which offers plenty of palm fringed beaches where tourists can relax, swim, and bronze.

"Tunisia was originally a mass market of 80% tourists who came to enjoy our beaches and all-inclusive holidays," said Khelil. "The main tourist resorts are Hammamet, Sousse, and Monastir. But Tunisia offers much more than just resorts. We have realised that more up-market visitors are experiencing our rich historical attractions."

Continued  
on Page 86



**TOURISM/ROUTE DEVELOPMENT**



Main picture: Rooftop view over Tunis from a former palace located inside the capital's famous Medina. Above from the left: Beach front and old citadel at Monastir; Outdoor cafe life in Tunis; 'January 14th Square' in Tunis, named after the Tunisian Revolution of the same date.



## CONTINUED FROM PAGE 85

Indeed, Tunisia is steeped in history.

"Tunisia is home to some of the world's finest Roman sites," said Khelil. "Visitors can see the sites of Phoenician and Roman Carthage, the ruins of the Punic town of Kerkouane, the ancient Roman city of Dougga, and the medinas of Tunis and Sousse, both UNESCO World Heritage sites.

"In the south we have the desert with the Berber villages – some are still inhabited – and mountain oasis villages. So there is a natural and cultural side still needed to be explored by all visitors."

For the business traveller and tourists not on a charter flight, most arrive in the capital, Tunis.

If you're arriving into Tunis airport and getting a taxi to your hotel, it's worth noting that chaos might ensue upon arrival with the taxi drivers. Make sure you get a yellow taxi at the front of the queue and make sure the metre is running. A journey into Tunis centre should not cost more than 15 Dirham. Many of the drivers are quick to charge you much more.

But, Tunisians are friendly people and will go out of their way to help you, especially when it comes to the language.

**Build a modern country**

"Since independence in 1956 from the French, the president wanted to build a modern country so boys and girls from six to 16 learnt Arabic," explained Khelil. "After a couple of years schooling French is taught, then a third language is introduced at 14, which is often English."

This may explain why locals are amused when visitors to their country can only speak one language.

Tunis itself still maintains a French charm, with beautiful street lamps, tree-lined roads and people sitting outside sipping coffee in one of the many cafes.

Visitors can enjoy the Islamic architecture and get lost in the narrow lanes of the famous medina.

"From the 12th to the 16th century Tunis was hailed as one of the Islamic world's most important and prosperous cities and this can still be witness in the medina," said Khelil. "It boasts around 700 ancient monuments, including mosques, mausoleums, madrasas, palaces and fountains."

Close to Tunis is one of the country's most famous sites, the Carthage. Founded in 814BC, it became the home of a civilisation and trading empire throughout the Mediterranean.

Just 10 kilometres from Tunis sits the



**Abelkader Khelil, director of Tunisia Direct.**

picturesque town of Sidi Bou Said. "This is a gem of a town with its traditional white washed buildings with blue shutters, cobbled alleys, orange and lemon trees, and boats bobbing on the marina. It was the first protected site in the world," said Khelil. "There are a few boutique hotels located here and a few smaller guest houses."

Tunis is generally a business hub. It has a large convention centre, which receives a lot of MENA business travellers as well as those from Europe.

"Tunis has a relatively good selection of hotels, such as the Sheraton and Hotel Africa. There is also good quality hotels in the district of Gammarth, offering five star beach holidays, always a welcome for the business traveller staying on a few days," said Khelil.

"International restaurants are dotted all over the country, as well as in Tunis. The capital also has a vibrant nightlife, although, if you're really looking to party, you're best heading to Hammamet and Sousse, where top DJs from around the world play in the various nightclubs."

"In 2010 we received a million French visitors. As we are a French speaking country France is our biggest visitor," said Khelil. "We have a lot of tourists from our neighbouring countries of

Algeria and Libya. It's easy for them to get here and we also speak the same language.

"Libyans also come here for medical care as the facilities there are very poor and our private medical facilities are up there with the best in the world."

In 2010 around half a million Germans also arrived along with 400,000 Italians and the British.

"We don't tend to have many American visitors but when we do they enjoy group tours," said Khelil.

He added that the country is very safe to visit pointed out that of all the countries involved in the Arab uprising, Tunisia saw the least trouble.

"We can't hide the fact that since the revolution there have been moments when security was not guaranteed but that was really only at the beginning," said Khelil. "Since then, we have had elections and a new government. Everyone is back to work and we're getting back on track. There are some small demonstrations but that is no more unusual than many countries. Tunisia is now safe."

Khelil said that the country's economy still relies heavily on tourism and hopes, with a new government, changes will be set in place.

**Tourism industry**

"Around 12 million people live in Tunisia and 400,000 of them work in the tourism industry. It accounts for 7% GDP," said Khelil. "We work with the Ministry of Tourism and under them we have the Tunisia National Tourist Office; we are licensed by them and work with them to promote the country."

Khelil believes one of the difficulties for tourism in Tunisia is lack of flights coming into the country.

He said: "Because of the nature of tourism years ago with mass markets it was left to the charter business to take up flights. Today, there needs to be more flights and more choice for up-market travellers. Like many people in the tourist industry, we are looking forward to the open skies agreement. We think the package to come to Tunisia could be better if there was an open skies policy."

While the country is waiting for the skies to open, Khelil is positive that Tunisia will always be a top tourist destination.

"Tunisia knows how to play the balance with the extremes. For a small country, it offers an awful lot. It is a true crossroads between east and west."





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# Tunisair reaches

## Investment the key to growth

*Tunisia's national carrier is hampered by old working practices and new social regulations but Alan Peaford finds an airline calling for investment to realise its potential.*



It was March in Tunis. The North African city was bathed in spring sunlight. Blossom appeared in those green spaces not occupied by the military and close to the airport the bright red signage of Tunisair shone above the airline's white concrete headquarters. Inside, however, there was just a hint of gloom.

CEO Mohammed Thamri had just 'resigned' to take up a new role in the civil aviation ministry and was being replaced by Rabah Jerad, an engineer with a background in the state's energy sector as the former deputy director-general of the Tunisian society of electricity and gas, STEG.

One of Jerad's first jobs was to announce positive news. The national carrier revealed it had recorded a traffic increase of 79% over the previous February, carrying nearly 191,000 passengers.

Of course, a year earlier Tunisia's uprising was in full swing. But even a fairer comparison to February 2010 still saw an increase from the 172,000 passengers transported by Tunisair in that month.

As the summer season started on March 26, Tunisair began in style by reopening a twice-weekly route to Lille that it had closed ten years previously.

The move was a bold one and a clear marker that the airline intended to work alongside the tourism authority in returning visitors to Tunisia and getting the economy back on track.

The airline has been in existence for more than

60 years. Launched just after the second war by Air France, it trained its first Tunisian pilots and bought its first aircraft in the late 1950s.

An early adopter of the B737 and of the A320, it has steadily grown its ancillary businesses, such as Tunisie Catering, handling and maintenance before spinning off the businesses to fully autonomous subsidiaries.

According to Faouzi Mouelhi, director of planning, in more than 63 years of existence, the airline has enjoyed 57 years of net profits. On its 60th anniversary in 2008 it ordered 16 new aircraft to help bolster its scheduled activities for flights to Europe and Africa, and to strengthen its charter business, which is already the tenth largest operator worldwide.

### Traffic numbers fell

But the first of the Arab Spring uprisings hit it hard. Traffic numbers fell.

"Overall the fall wasn't as bad as some other countries," said Hatem Hachmi, the airline's senior revenue manager. "We lost almost 14% overall – but our charter business just fell away by more than 40%.

"Realistically, we considered this to be a good result for the airline given that there was, for example, a 41% drop in visitors from France and 66% drop for Germany. Given the crisis in the Eurozone we expect numbers to stay down again in 2012."

The airline is working on a fleet renewal plan. It

currently has 31 aircraft with an average age of 13 years – 17 are A319/320 and 11 are Boeing classic 737 family. There are three A300-600s.

The 60th anniversary order was for ten A320s, three A330s and three A350XWBs with the first 320 delivered and the others coming through between now and 2021. "We have parked one A330 and we will be disposing of the 737s," said Mouelhi "By 2021 we will have an all-Airbus fleet of 31 or 32 aircraft."

Like other MENA carriers, Africa is a target. Mouelhi said the airline was looking at expansion into West Africa. "We believe Tunis is an ideal hub between Africa and Europe and a link to the Middle East," he said.

The airline is also hoping to develop sixth freedom traffic to Dubai, Kuwait and other key points in the Gulf.

"We know we have to improve our business offer. At the moment that is just 4% of our passenger numbers," Hachmi said.

The Tunisair Group currently employs 8,400 people – almost half by the airline itself.

There is a clear feeling that, despite the social promises made by a newly elected government, some jobs will have to go. The airline will require investment and may downsize its fleet in order to build again steadily.

"We know we have a challenge," Mouelhi said. "Tunisia rises well to challenges but with threat of open skies we need the government to decide now how the airline will go."

# for the sky again



Far Left: Faouzi Mouelhi and Hatem Hachmi: planning on a future for Tunisair.

Left: Hatem Motemri: taking domestic carrier to a new level.

## Motemri plots the Express delivery

Hatem Motemri had a simple message for the new Tunisian government when he was asked by the minister of transport to take over the reins of the Tunisair group's regional carrier Tunisair Express. "I don't do politics!"

"I explained I am a manager. I will do my best but I will not get involved in political issues," Motemri said.

Motemri is something more than just a manager.

He was a powerplant engineer with the national carrier before leaving to work with entrepreneurial start-ups at the end of the 1990s; he was technical director of Nouvelair and then, keen to understand how French companies worked, moved to the new joint venture with Sogerma that is now Sabena Technics, before going back to help Tunisair and Air France put together the in-house MRO facility and then joining the civil aviation authority as director of safety.

Now he has the job that many would envy – running his own airline. It may be small but Motemri has ambitions.

"We have just four aircraft at the moment. Three ATR 72s and a Bombardier CRJ-900," he said. "I am very interested in the commercial side as this is new to me."

Tunisair Express was originally planned as a domestic carrier and still operates flights at Djerba, Tunis, Sfax, Tozeur, Gafsa and regular services to El Borma oilfield. But over the 20 years it has developed into more of a regional carrier, with flights to Tripoli, Malta and to southern Italy.

*Tunisair Express is carving an interesting niche business from the regional markets. Alan Peaford meets the airline's new CEO.*

The airline also offers its CRJ for charter operations to France, including Nantes and Lille.

"We do very specific flights. For example, some charters are for things like bringing back students to Tunisia; others could be weekly. It is important for us to keep the aircraft working," Motemri said.

The airline continues to fly all of the domestic routes but during the drop in the charter and international activities Tunisair took back some of the international flights from Express.

"Unfortunately domestic flights can cost us," Motemri said. "The cost of domestic tickets is regulated and so we are losing money. To meet the government's regional policy we have to do it but as a manager I am trying to keep the number of flights and costs down. The government used to provide a subsidy to keep these routes open but at the moment it has other priorities."

Tunisair Express is also seeing other competition. With Syphax Airlines beginning operations from Sfax to Libya and Europe with an A319 and the imminent

likelihood of open skies allowing in LCCs from Europe and the Middle East, the Tunisian carrier feels threatened.

"Threatened, but not complaining," Motemri said. "There is room for competition. We have to be open. We are looking with some fear at the experience of Morocco as far as open skies goes. But for Morocco tourism has grown. Look, we are transporting people. People are not coming for the airline. You don't fly an airline because it is cheap. It is because it is going where you want to go to."

Motemri is preparing a new plan for the airline that could see new aircraft.

"We could accommodate new aircraft without increasing the staff, other than a few pilots," Motemri said. "We have 330 people in the company – 28 pilots, 40 stewards and about half of the people are clerical."

"As far as new aircraft goes we should stay in our niche. The CRJ is a good aircraft for regional flights and the ATR is very cheap to operate."

"People see turboprop and think old aircraft but this is not the case. This is a very modern aircraft and once people are inside they realise what a great airplane it is."

On the horizon are increased thin-route charters to Eastern Europe, which is fuelling the demand for more regional jets.

But Motemri is happy. "I used to fly this airline as a passenger. The crew are good. We are like a family. Even when people go on to other companies they have Tunisair Express in their hearts. We will grow but there will still be that friendliness," he said.



# Small force that has a

**Jon Lake** looks at the *Al Quwwat al-Jawwiya*  
*At'Tunisia – the Tunisian*  
*Air Force*

**T**he Tunisian Air Force (*Al Quwwat al-Jawwiya At'Tunisia*) is the smallest and least modern, in terms of its frontline combat element, of all of the five Maghreb countries. It is small by regional standards with just 3,500 personnel – 700 of them conscripts – and with about 20 fixed-wing frontline fast jets and around a dozen armed helicopters. But though it is equipped with relatively ageing aircraft, the air force is viewed as being professional and broadly capable of fulfilling its allotted roles. In recent years it has made real efforts to forge links with neighbouring air arms, most notably in Italy and Spain.

Prior to the 2011 revolution some Tunisian pilots were trained in Egypt, while other officers attended staff colleges and other advanced training courses in France and Italy.

Tunisia has participated in recent UN peacekeeping efforts in the Democratic Republic of the Congo and Ethiopia/Eritrea, and previously participated in similar operations in Burundi, Cambodia, Namibia, Rwanda, and Somalia, though few of these required much use of air power assets.

The Tunisian Air Force did see some action during last year's uprising in neighbouring Libya, with Tunisian F-5E fighters and various helicopter types patrolling the Tunisia-Libya border in May and June after pro-regime Libyan troops fired artillery shells and rockets close to the frontier.

For the future, Tunisia is unlikely to make a major contribution to offensive coalition air operations – its fast jet element is simply not large enough, nor are its ageing F-5Es suitably equipped to allow interoperability with most potential coalition partners. However, the Tunisian Air Force does have a significant rotary-wing capability, with about 40 frontline tactical helicopters on charge, including Sikorsky S61Rs, AB-205s, UH-1Hs and UH-1Ns, AS-350Bs and armed Gazelles. These helicopters, and the nation's 16 aircraft transport force (consisting largely of C-130 Hercules tactical transports) give Tunisia's armed forces an unusual degree of air mobility, relative to the nation's size.

Though Tunisia had been a French protectorate from 1881–1956, when the nation gained its independence, it did not initially follow



Top left: Tunisia operates Aero Vodochody L-59T armed trainers. Bottom left: The Tunisian front line fighter – The F-5 must be on the list for replacement. Top right: Tunisia has a significant rotary-wing capability including the Bell UH-1 Iroquois. Bottom right: The C-130 could soon be joined by Super Hercules if orders proceed.

# wealth of experience

the pattern set by other francophone North African nations and did not turn to France to supply its aircraft. Instead, when Tunisia established its air force in 1959 – the last branch of the Tunisian Armed Forces to form, fully three years after independence – it turned to Sweden for its first aircraft. Eight Saab 91 Safirs (later followed by another seven) were transferred after the first pilots completed training in Sweden.

Tunisia did later acquire aircraft from France, including a number of T-28D Fennecs – T-28 armed trainers converted by Sud-Aviation – as well as an initial pair of Alouette II helicopters, three MD315 Flamants and 12 T-6 Harvards. The air arm was even initially known as the Armée de l'Air Tunisienne, though it was soon re-named.

The Tunisian Republic Air Force's first jet type was the Italian MB326 jet trainer. Tunisia acquired eight MB326Bs and used these to form an Advanced Flying Training Squadron, preparing the way for the induction of 12 F-86Fs delivered from the United States.

The Sabres were seen as an interim type and there were a number of attempts to procure A-4

Skyhawks to replace them. Sixteen aircraft drawn from the USA's desert boneyard were offered and refused in 1973. In the end the Sabres were replaced in 1978 by further MB326s, when eight single-seat MB326KTs and four MB326LTs were delivered, giving a useful light attack capability. The surviving six or so MB326s are still serving with No11 Squadron at Sidi Ahmed.

## Under-wing hardpoints

In the meantime, the Saab Safirs had been replaced in the basic training role by nine SIAI Marchetti SF.260CTs delivered in 1974. Tunisia also took delivery of 12 similar SF.260WT Warrior aircraft, which featured under-wing hardpoints and were capable of being armed.

The late 1970s and early 1980s also saw a real expansion of Tunisia's helicopter force, with the delivery of two UH-1N and two UH-1H Hueys in 1975, followed by 18 Italian-built AB205s in 1980. Later these were augmented by further UH-1H helicopters supplied as US aid and (according to some reports) by a number of AB412s.

While the MB326KT was a useful ground

attack aircraft, it did not provide a credible air defence capability. To rectify this perceived capability gap, Tunisia ordered six F-5Es and two F-5Fs in 1981 and augmented these with nine or ten ex-USAF F-5Es and two more F-5Fs that were delivered in 1989. About 13 of these remain in service today with a single fighter squadron at Bizerte-Sidi Ahmed, tasked with fighter ground-attack and air defence duties.

A shortage of trained F-5 pilots is believed to have been rectified and Tunisia has expressed interest in an upgrade for its F-5s, which are currently armed with AIM-9J Sidewinder AAMs and AGM-65 Maverick ASMs.

The final element in the Tunisian Air Force's 1980s modernisation came with the procurement of a pair of ex-USAF C-130B Hercules. The Hercules fleet has subsequently grown with the delivery of further surplus USAF C-130Bs and two or three newly built C-130Hs, of which some seven aircraft remain in service.

Despite some reports to the contrary, there is little hard evidence that Tunisia ever received

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any Alenia G222 aircraft to augment its Hercules.

During much the same period, the Tunisian air force also gained a new long-range SAR and maritime over-watch capability, acquiring between seven and 16 (probably 11) Sikorsky S61R (HH-3E) helicopters.

In the mid-1990s Tunisia negotiated a major deal with the Czech Republic and took delivery of 12 new AERO Vodochody L-59T armed trainers and three L-410UVP light transports in 1995. Two further L-410s were delivered subsequently. Nine surviving L-59T aircraft underwent a major overhaul in the Czech Republic in 2007.

Before the 2011 revolution, the Tunisian Air Force had a number of requirements for new aircraft and new capabilities but all of these have been delayed as a result of events.

**Multi-role combat aircraft**

Perhaps the most obvious Tunisian Air Force requirement, if not the most urgent, is for a replacement for the F-5E and the MB326KT. The Air Force would seem to need a more modern, multi-role combat aircraft capable of all-weather air defence, beyond visual range air-to-air combat, and with a robust air-to-ground capability using PGMs. An aircraft in the class of the F-16A MLU (and probably using refurbished second hand aircraft) would seem to meet this requirement, though little progress has been made in launching a competition to find an F-5 replacement.

More urgently, Tunisia needs to replace many of its older helicopter types, and particularly the HH-3E and UH-1H.

The US Defense Security Cooperation Agency (DSCA) has notified Congress of a plan to supply 12 refurbished Sikorsky SH-60F Oceanhawk multi-mission utility helicopters to Tunisia, but Congress has yet to approve the plan.

Tunisia contracted French company Aerotec Group SAS to upgrade five of its SA 342F2 Gazelle light support helicopters in June 2010.

This provided a 4,000 hour/15-year life extension, Pall Corporation Centrisep engine intake filters and a range of capability enhancements, including the integration of a Nexter Systems' M621 20mm cannon; belly and door armour; a night attack system based around the use of HELA MK1 night vision goggles; and a nose-mounted Thales airborne gyro-stabilised infrared light equipment (AGILE) 2 sensor turret.

The aircraft also received the MICCA mission system with a digital map and battle management system and a Euroavionics EuroNav RN6 digital map generator.

The government of Tunisia also signed a contract with Lockheed Martin for the purchase of two stretched C-130J-30 Super Hercules airlifters (plus an initial three-year logistics support package) for delivery in 2013 and 2014. Tunisia thereby became the 12th country to select the C-130J Super Hercules, which will augment the existing C-130H and older C-130B aircraft.

The new aircraft are expected to be used for traditional military airlift duties but also for international relief efforts and for aerial fire-fighting duties.

The Tunisian Air Force currently has ten squadrons, based at four main bases.

The first is Bizerte/Sidi Ahmed near Tunis, a short hop across the Mediterranean from Sardinia to the North and Sicily to the East.

A former USAAF heavy bomber airfield during World War II, the airfield was subsequently occupied by France, the colonial power (along with the neighbouring naval base) even after Tunisian independence, until it was finally abandoned on October 15 1963. Today it houses the Tunisian Air Force's 13 F-5s, six MB326KTs and 326LTs and seven or so C-130s. The base is also thought to accommodate the L-410UVPs, though some reports suggest that these serve with '12 Squadron' at Tunis-Laouina.

The base may be used by the single Boeing

737-7H3 BBJ that has been operated by the government for VIP and head-of-state flying since 1999. This aircraft may be based at the International Airport, however, and may only operate from Sidi Ahmed when used by the Air Force.

Bizerte/La Karouba is a separate heliport adjacent and connected to Sidi Ahmed. Some helicopters from the based units are detached at Sfax and Gafsa in the south, and at Monastir's Habib Bourguiba International Airport.

The next Air Force base is at Sfax-Thyna, where the remaining six SF.260CTs serve with No14 Squadron alongside the eight surviving SF.260WTs. These aircraft are used for basic training and for liaison, observation and light attack.

The L-59T advanced trainers are based at Gafsa in the south, close to the Jebel and the great inland salt lakes of Chott el Jerid and Chott El Fejaj. The L-59T training aircraft have a limited combat capability but it is not known whether the Tunisian Air Force exploits this.

**Limited radar coverage**

There are a number of other air bases in Tunisia, including Gabès, Monastir – Habib Bourguiba International Airport, Tozeur, Tunis – Carthage, and Zarzis, though these have no permanently-based units assigned.

Tunisia has only the most basic air control and warning system, with limited radar coverage of its airspace. There is no integrated air defence system, with the Army maintaining a mix of light SAMs and AAA, most of which are obsolescent. They include 26 M-48 Chaparral and 60 RBS-70 SAM fire units and about 200 AA guns, including 20mm M55s, 37mm Type 55s, and 12 self-propelled M42 40mm guns. These give a measure of local low level air defence coverage, but do not come close to providing any kind of cohesive air defence umbrella.

The Air Force relies heavily on foreign contractors for engineering and logistics support (with Abu Dhabi's GAMCO providing maintenance for the C-130 fleet, for example), and has experienced some problems in the training and retention of key personnel.

Attempts to forge a combined operations capability are still in their infancy. In February 2012, Tunisia's defence minister, Abdelkrim Zbidi, called for increased co-operation with the United States (especially in the fields of training and logistics). There is seen to be an urgent need to gain help in safeguarding Tunisia's borders, with a growing threat posed by armed groups with links to militants in Libya, and from Al Qaeda-linked groups in Algeria.

Neither the Army nor the Navy have their own air arms, but the 12,000-strong paramilitary National Guard does include an air element with about eight SA-318 and SA-319 Alouette helicopters. The National Guard comes under the control of the Ministry of Interior and shares responsibility for internal security with the police.

# Tunisian Air Force Air Order of Battle

Bizerte-Sidi Ahmed	
No11 Squadron	Aermacchi MB326
No15 Squadron	Northrop F-5 Tiger
No21 Squadron	C-130B/H Hercules, Let L-410
Bizerte-La Karouba (Pointe Karoube)	
No31 Squadron	Alouette III, Agusta-Bell AB205, Bell UH-1H Iroquois
No32 Squadron	Alouette II, Ecureuil, Agusta-Bell AB205, Bell UH-1H Iroquois
No33 Squadron	SA330, AS355F, SA365C
No36 Squadron	HH-3E
32 Squadron also has a detachment at Monastir Habib Bourguiba International Airport	
Sfax-Thyna	
No13 Squadron	SF-260WT
No14 Squadron	SF-260CT
No36 Squadron Det	HH-3E
Helicopter Detachment	Agusta-Bell AB205, Bell UH-1H Iroquois
Gafsa	
No 16 Squadron	L-59T
Helicopter Detachment	Agusta-Bell AB205, Bell UH-1H Iroquois

# UNCHARTERED WATERS...

*Kelly Green meets the Tunisian charter operator who reaches the places others dare not go.*

“Competition? In Tunisia? It’s zero,” laughed Lotfi Kefi, sales and marketing manager of Tunisavia, the Tunisian aviation company that has found its vocation through providing support to the oil and gas companies operating in the region.

Since it opened its doors in 1974, Tunisavia has developed a special relationship with the energy sector locally and around the world, transporting personnel and cargo to production platforms, seismic vessels and drill rigs by helicopter, as well as offering medical evacuation services.

“Tunisavia was created to look after all of the helicopter flights for oil companies and still our main activity is to fly between the Tunisian airports and the oil rigs in the Mediterranean sea,” said Kefi.

Whether in the desert, on the high seas or in rough and virtually

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inaccessible areas, Tunisavia’s fleet of two fixed-wing aircraft and five helicopters (with a sixth on order and due for delivery next April) are capable of landing and taking off on any airstrip and continuously make day and night landings on helidecks located next to imposing flares.

Not bad for a company that was created when there was only one other aviation company in Tunisia – the flag carrier Tunisair.

Since 1974, the company has expanded from a small enterprise of 20 people. Today it has three operating bases and employs approximately 130 professionals, 99% of whom are Tunisian.

And the size of the company is not the only thing that has grown; as it now offers a diverse range of services – expanding into business aviation, aerial works, ground handling and medical evacuation.

“Our core business is not only business aviation,” explained Kefi. “Although we have two or three aircrafts here, we do not own them; we are just managing them for third parties. We touch the business aviation from another side, as we do all the handling of business aircraft coming into Tunisia.

“We have our own VIP lounge, which the passengers can come to just 15 minutes before departure. We do the same when a foreign aircraft comes in; we look after it in terms of handling.



Tunisavia’s rotary wing is a strength.

But we do not operate aircraft for business purposes.”

The business aviation side of Tunisavia has seen a decline since the revolution in the country last year.

“The activity was quite good before but since the civil unrest in 2011 there has been some slowdown and everybody is just standing by.”

Yet despite the slowdown, it is unlikely that you will find any available aircraft at Tunisavia, should you approach the company as a private client.

“Our aircraft are always dedicated to some operations on long-term contracts,” explained Kefi.

These long-term contracts with oil and gas companies have been unaffected by the civil unrest and Tunisavia remains dedicated to its clients.

“We have worked for big companies like British Gas, OMV and Marathon, ENI, Total,” Kefi explained. “We have been certified by oil companies as service providers so we are on their vendors’ list.”

And, as a service provider for the energy sector, Tunisavia must maintain strict standards. “The standards put down by the oil and gas companies are higher than the standards of civil aviation,” said Kefi. “A lot stricter in fact.”

He continued: “Almost every month we receive auditors from our clients who are making sure that they have the safe standard that they deserve.”

Maintenance is another area that Tunisavia has mastered, maintaining its own fleet, as well as other third-party aircraft.

“Our base in Sfax has been Part 145 certified since 2006, so it is a guarantee for any operator. It means we have the European standards applied in Tunisia at our facilities,” said Kefi.

“We are in the process of maintaining foreign aircraft in our facilities in Sfax and we have also been a service station for Eurocopter, since 2009.”

Director general Mohsen Nasra smiled as he added: “We are the only company in North Africa offering the services that we offer today. We are unique.”

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# FROM REVOLUTION TO EVOLUTION...



*The 2011 revolution in Tunisia had an effect on the country's airports with a slump in traffic and passenger figures. But, now, life is getting back to normal and the airport authority is gearing up for the introduction of 'open skies'.*  
**Marcella Nethersole reports.**

**T**he Middle East and North Africa (MENA) was just another region badly affected by the global economic climate. But while other areas began the steady climb back towards prosperity, there was another hurdle to jump within parts of MENA – the start of the Arab-uprising.

It was Tunisia that started the domino effect with its revolution in 2011. Understandably, tourist figures slumped in the country, which meant lower traffic at most of its nine airports.

But 2012 is a fresh year. Tunisia has started to see its tourist and aircraft traffic figures rise as visitors slowly head back to the popular Mediterranean holiday destination. The airport authorities are already looking at studies for airport expansions and improvements, as well as a new airport.

But the big news in the air over Tunisia is that after years of whispers of an open skies policy, the

Tunisian Civil Aviation Authority, which regulates the sector, says this is set to happen by the end of 2012.

“Our plan is to grow the traffic at Tunisian airports with an open skies agreement. This is imminent,” said air transport manager, Mejda Baccouche.

“We have meetings scheduled within the next few months with the EU to commence the negotiations of an open skies agreement, which we believe will start by the end of this year.”

To deal with the extra traffic, Baccouche said the country's main airport, Tunis-Carthage, would need to be expanded.

“The vision for the ministry is to enlarge Tunis-Carthage or even to develop another airport, as right now there is not enough space at Tunis-Carthage. We don't think an open skies policy will bring more traffic to the other airports as we have so

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many charter flights, but it's still a positive thing for Tunisia," said Baccouche. "Any airlines can come into the country tax free, so we wish to welcome as many as possible in to Tunisia."

The news of a Tunisian open skies agreement will produce mixed feelings. TunisAir, the national carrier, is not likely to welcome the idea.

"TunisAir probably doesn't want an open skies policy as the conditions after the revolution are not adequate for the airline to enter into it. The airline is in some difficulty," said Baccouche.

But one organisation that will be celebrating is the Tunisian Civil Aviation & Airports Authority (OACA).

OACA is a commercial and industrial public establishment. Under the supervision of the ministry of transport it is in charge of operation, layout and developments of seven airports in Tunisia, as well being responsible for all the necessary processes and facilities for passengers, the public, aircraft, equipment, and freight.

"OACA knows an open skies policy is on the cards. It is not a decision for OACA; only the minister can decide if it goes ahead, but we will welcome it, and know it is just a matter of time," said Romdhan Ben Belgacem, head of management and operations.

**Positive thing**

"Everyone, such as TunisAir, has its point of view, but for OACA open skies is a positive thing. It will give us an opportunity to have more aircraft in the country and more money. Post-revolution we have more problems but with open skies it will offer us more opportunities."

The seven airports under OACA's supervision are: Tunis-Carthage, Djerba-Zarzis, Tozeur-Nefta, Sfax-Thyna, Tabarka Ain Draham, Gafsa-Ksar, and Gabès Matmata.

OACA concluded a concession contract with Turkish company TAV Airports Holding for the operation of the international airport of Enfidha Hammamet in 2007 and it is also responsible for Monastir Habib Bourguiba airport.

"The most essential role and aim of OACA is to ensure a high standard at the airports, as well as a warm welcome to our visitors," said Ben Belgacem. "In order to do this, during the last 30 years, OACA has taken care of planning and equipping new airport platforms according to strategic tourist zones by developing passenger terminal capacity to cope with the increase of passenger flow. We also work on improving the facilities within the airports."

As the revolution took place in 2011, OACA has given the figures for 2010 to give an idea of a 'normal' year at all the airports in Tunisia.

"In 2010, the total capacity of the nine Tunisian airports reached 21.5 million passengers. The number of passengers processed through these airports during the same year reached just over 11 million," said Ben Belgacem.

Tunis-Carthage was not really affected by the revolution, as only 10% of flights are charter.

"Tunis-Carthage is mainly a business hub, so



**From the top: Airport of Sfax Thyna, Monastir airport, and Tozeur-Nefta international airport.**

people were still flying in and out of the country. The tourist airports were the ones badly effected by the revolution, but this is getting back on track now," said Ben Belgacem.

Tunis-Carthage processes around 44.25 % of total traffic.

After the development of its infrastructure and terminal area in April 98, and the inauguration of a second terminal in 2006, the airport has witnessed the extension of aircraft parking areas as well as the opening of new taxiways and new storage zones for handling equipment.

"We have a project at the moment replacing the jet way in Tunis-Carthage and also putting one in Djerba airport. We also have a new radar system at Tunis-Carthage," said Ben Belgacem.

OACA is working with the Tunisian Civil Aviation Authority on a 2030 study. "The basic 2030 plan is to have good capacity in all Tunisian airports," said Ben Belgacem. "This includes looking at more technology solutions at Tunis-Carthage and at Djerba Zarzis – which receives four million passengers a year. And also to build a new airport in the country."

The newest airport in Tunisia is Gabes Matmata, and while one study is to look at either expanding Tunis-Carthage or building a new airport in Tunis to deal with extra traffic, it is in the south of the country where the authorities are also looking.

"We have the opportunity for a new airport close to the frontier of Libya. This is not yet official but it does look positive. This is an opportunity to work with Libya and open ourselves up more in the south," said Ben Belgacem.

One of the big developments after the revolution was the start-up of a new airline, Syphax Airlines, which Ben Belgacem said is important to the region and will also create competition.

The airline is to operate a fleet of Airbus 319s and plans to initially serve limited routes, which include Paris, Marseilles, Tripoli, and Istanbul.

With the revolution still being fresh, airport safety is high on the list for OACA.

"Since the revolution we have stepped up our security at the airports even more. We are on high alert at the airports but this is precautionary; we're not too concerned that anything will happen," said Ben Belgacem.

**Level of safety**

"Several actions have been undertaken in the last few years to reach optimal level of safety at all our airports, which includes resurfacing of the traffic roads and strengthening of security fences, installation of a fixed command position to manage any possible crises, acquisition of mobile command positions at certain airports, and replacing and renovating fire safety vehicles. These are just a handful of actions undertaken.

"Security is taken very seriously at all our airports. We take the same lengths of security that airports like Heathrow and JFK do."

OACA also takes care of the air navigation and the tower, and all the equipment needed.

"A big part of civil aviation here is navigation. This gives all certification and documents working within the aircraft – such as pilots, and the rest of personnel," said Ben Belgacem. "With the equipment Tunis-Carthage, in particular, has some new high technology meant to improve the quality of the service, and to automate certain airport operational activities."

While OACA is busy running seven airports, it also likes to promote Tunisia as a tourist destination.

Ben Belgacem said: "We're very proud of the airports we run, and proud of our country. OACA has made sure its airports have excellent infrastructure and we are looking at ways to cope with future traffic from open skies, from expansions to new airports in the country, as well as promoting Tunisia as a travel destination for either tourist or business traveller. We are here to help and we would like to encourage more airlines and travellers to visit our country. Our door is always open."



**Chedly Damergi:** "It was not a flight that many would want to do."

One French-Tunisian joint venture has established a firm foothold in the MRO activities in the country. **Alan Peaford** reports.

## SCARY RIDE ON THE BULLET PLANE

**A**s the Afriqiyah Airlines A320 limped over the sun-drenched beaches of Monastir on Tunisia's central west coast, the first glimpse of the 2,950m Runway 25 at Monastir's Habib Bourguiba Airport must have been a welcome sight.

Even more appealing was the large steel hangar belonging to French MRO specialist Sabena Technic, which would be responsible for getting the Libyan aircraft back to revenue service.

The A320 was riddled with bullet holes. It was the victim of being in the middle of the fierce battles in the Libyan revolution. Like others in the fleet it had been on the ground at Tripoli Airport for around six months and with pressurisation impossible, the aircraft was flown at low altitude with landing gear down for the one-hour flight from the Libyan capital to Monastir.

Chedly Damergi, general manager of Sabena Technic's joint venture with Tunisia's Nouvelair,

watched with admiration as the pilots taxied the aircraft to the MRO hangar.

"It was not a flight that many would want to do," he said. "The aircraft hadn't moved and so they couldn't trust putting up the gear in case it wouldn't go down again."

Sabena had begun working with Afriqiyah in 2010 providing C-checks on the aircraft at Monastir. The Sabena Technics MIR station was developed originally by Sogerma and independent Tunisian airline Nouvelair in 2000.

With the French company owning 51%, the initial aim was to provide MRO services for the airline with additional capacity being offered to third parties. By the time Sabena Technic took over the Sogerma business five years ago, the rapidly expanding Nouvelair was responsible for 70% of the hangar usage.

"We still fill with third-party work. Airlines such as Air Med, CAA airline from Congo, Iberian airlines and even the French president Sarkozy's A319 have come here for work," said Damergi.

But with the revolution in Tunisia cutting back Nouvelair's operations by some 40%, Sabena Technics saw little but gloom for 2011. The Libyan situation changed that.

"Afriqiyah had nine A320s. One was destroyed, but the others have come here for repair and for the C-checks that were due. It made a big difference to us. Although our figures were down for the year, they were not as bad as they could have been."

The Monastir base operates at a significantly lower cost than its European counterparts. A committed and skilled workforce of 240 engineers has workshops available to repair and rebuild even composite parts.

"In Tunisia each technician on the aircraft must have his own licence – not like in Europe where one engineer can sign for all the work done," said Damergi. "In addition we have 20 engineers with European licences to go to our line maintenance stations in places like Kuwait or Russia or other places that Sabena Technics need them."

The Monastir facility recruits locally but often loses qualified staff to the Gulf operators. "It is frustrating, but we cannot compete on salaries. But while it is bad for us it is good for Tunisia," Damergi said.

With the new airport at Enfidha now growing, Damergi believes Sabena should be expanding too. "There are great opportunities here. I would love to see us with two lines and the capability to take A330s," he said.

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# ESAT on course to train tomorrow's workforce

ESAT's campus is a landmark building in Tunis. Right: The DA-42 allows students the opportunities to get multi-engine ratings.

*As manufacturing industries look to lower their costs, Tunisia is attracting aviation companies with its tax-free zones and incentives, low salaries and close proximity to Europe. Kelly Green finds out how the Tunisians are training to meet the growing demands.*

**D**r Ali Chibani, dean of the University College of Aviation & Technology (ESAT) in Tunis, is determined the demand for expertise in the aviation sector will be met by skilled aviation industry workers, thanks to the university's variety of training programmes.

"The manufacturing industry is trying to lower costs as much as possible to remain competitive in the market, but it cannot because the price of material everywhere is the same," he observed. "So the only way to lower the costs is the workforce – the expenses for engineers, technicians, normal workers."

Equipping that workforce with the skills required for careers in the aviation industry is ESAT, Tunisia's first university specialising in aviation.

"We have the University College of Aviation & Technology and we have the Aviation Flight Academy (AFA). AFA is for pilot training and the university is for engineering," explained Chibani.

Working together as sister institutions, AFA and ESAT are training the next generation of aeronautical engineers and pilots in Tunis. Both groups of students take integrated preparatory classes based on maths and physics during the first two years at ESAT together, before continuing on their chosen training paths.

## Skilled engineers

"Our focus is to have skilled engineers that have the basic training in everything to do with aeronautics, aviation engineering, mechanics, avionics and also have the hands-on experience," said Chibani. "They also need to be skilled on the CAD software so they will be hired."

Getting a job is the main objective for the students and their teachers. The school started in 2003 and the first group graduated in 2008/2009. In the last four years a further 70 have graduated with about 40 now already working. Chibani added: "This is good for Tunisia – if you have around 60-70% who are working this is a good result. Most stay in Tunisia to work but also we have opportunities abroad."

"We have a small problem here in terms of language – our

problem is English," he added. "We are trying to enforce English here and that is why we signed with Jeppesen Academy for Aviation English training."

"Basically, I'm building a relationship with manufacturing companies like Zodiac and Aerolia," said Chibani. "Also we have a partnership with the Aeroconseil engineering group based in Toulouse, and now they have a site right here in Tunis. Two years ago they started here in Tunis with our engineers. They hired about 10 from our school and these engineers are now working on projects with them."

To prepare the students for working in the industry, the aeronautical engineering programme at ESAT is divided into two parts. The first is dedicated to aviation maintenance technology, preparing the student for a career in aircraft maintenance and repair as an airframe and power plant mechanic. Career opportunities include general aviation aircraft maintenance but it is also a good companion programme for those that might be interested in corporate pilot careers or careers in mission flying.

The second part of the programme focuses on avionics technology and prepares the student for a career working on the advanced radio, electronics, and related aircraft instrumentation systems in the aircraft industry.

Alternatively, students may choose to embark on the pilot training programme at AFA. Its ATPL theoretical knowledge course is designed for people with knowledge levels of PPL up and covers all the areas for the commercial pilots license, as well as the instrument rating.

Through these programmes, ESAT's mission is to provide the aviation sector with well-trained professionals who have the skills needed for employment, through a training programme recognised and certified.

Practical training through qualifications type rating and industry internships allow students to get professional experience while progressing in their curriculum. "They don't have this kind of school in other countries that have this kind of higher degree qualification," Chibani said.



*For the past four months Chiheb Ben Ahmed has been general manager of TunisAir Handling, setting up a staff training system as well as preparing for a big project in Libya – and all this before he starts his new role as director general for technical affairs at TunisAir.*

**Marcella Nethersole** caught up with him.

## The man to handle change

**T**unisAir Handling is present at seven airports in Tunisia offering support services to airlines, including assistance to passengers and the handling of both aircraft and passengers.

“The main objective for TunisAir Handling is essentially the supply of airport support services that meet the needs of our customers,” said general manager Chiheb Ben Ahmed. “This objective is primarily concerned with continuous improvement of performance, quality treatment and extreme vigilance over the level of security. TunisAir Handling provides its customers with quality services in accordance with IATA standards.”

The company provides services to more than 125 airlines travelling in and out of the country.

“Our busiest airport is Djerba, as this is a major charter airport, followed by Tunis-Carthage. We have 2,700 staff members and more than 750 vehicles across the airports,” said Ben Ahmed.

Since being at the helm, Ben Ahmed has worked on a human resources project to provide staff with the right training.

“I have changed the human resources system,” he said. “We have a big project with the training of all the staff to make us more competitive. We have a service level agreement (SLA), so need to meet these demands.

“It’s essential our staff be trained correctly. Each member of staff is trained in house at one of the seven airports.”

There are two unions within Tunisia and Ben Ahmed feels they will be supportive with the new government change within the country.

### The unions will be supportive

“Going forward we won’t have problems with the workforce when the new elected government comes into play; we believe that the unions will be supportive,” he said. “For now, we need to work harder to improve our quality of service.”

The big project TunisAir Handling is preparing for is working with the airports in Libya.

“We have been approached by the Libyans to provide all the ground handling services at its airports in Tripoli and Benghazi,” said Ben Ahmed. “The traffic is slowly increasing at these airports and will grow further as the country gets more stable and back on its feet again. They want us to help, as they know about the quality of service we offer and the equipment we can provide for all the aircraft, including the A380. This is a great opportunity for us and we are looking forward to working with our neighbours, which we hope will start within the next few months.”

For the future, Ben Ahmed expresses his desire for Tunisia to have an open skies agreement.

“My challenge is to push for the open skies agreement and prepare the company for it. It will be much better for the country,” said Ben Ahmed.

Asked if he feels an open skies agreement is good for the national carrier Ben Ahmed added: “I personally think it will be good for TunisAir in the long run.”



# For sale! One unused head-of-state aircraft

When French design agency PLUS 33 was selected to design the interior of the Tunisian government's head-of-state A340-500 aircraft, the only request was that it be fitted with bedroom and dining room capacities.

"We proposed the design and a specific trim and finish with the perception we had about the Tunisian culture," explained Frederic Nevejan, PLUS 33's owner and designer.

As the work was under way Tunisia had its revolution and the new government decided it had no requirement for the aircraft, so handed it to Tunis Air.

"The A340-500 was completed and is now available for sale," said Nevejan. "It was a great challenge to complete this aircraft but the help from the Tunisair people was terrific."

The resulting design for the aircraft is a VIP configuration for 56 passengers, with the cabin divided into four main areas.

"There is a lounge area, including a dining room for six people, a desk for two and a multimedia area with two big sofas with a capacity for eight passengers," said Nevejan.

"Close to this area there is a bar, including sofas. The third area is composed of a main bedroom with en-suite bathroom, and two lounges with convertible sofas. Finally, the fourth area is composed of galleys, first class seats and some economy seats."

PLUS 33's work obviously impressed the Tunisians



Above: Frederic Nevejan.  
Left: Interior of an A340-500, VIP Lounge area.

and the team is now working with Tunisair on the design of its new two-class A330-200.

Nevejan said: "We have developed a specific trim and finish for these aircraft, with a completely different colour approach in comparison to the existing Tunisair cabin.

"For the business class we imagined a new idea by using some materials we have never used on any airlines before, and for the economy class we decided

to give more space by 'playing' with different colours for the seat fabrics."

He continued: "In any case, we developed this new cabin by taking into account that passenger profiles can be Tunisian but also from European/American/Asian cultures. So we wanted to find a good compromise where every passenger feels good, relaxed and definitely wants to travel on the Tunisair A330."

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*Tunisia is rapidly becoming to Europe what Mexico is to the United States – an offshore manufacturing centre. Alan Peaford and Marcella Nethersole visit some of the key people behind the growing opportunity.*

# TUNISIAN AEROSPACE SHOWS ITS METTLE

**W**hile many MENA countries are looking eagerly at the prospects that aerospace can bring to employment, Tunisia is already cashing in.

For more than a decade Tunisia has been a beneficiary of inward investment by European aerospace companies, led by the French.

As the most recent colonial power to control the country, France has left a strong mark on both the language and the business scene.

In the capital, it is no real coincidence that the office for the country's aerospace industry association – GITAS – shares its premises with the French consulate and trade office.

Wassim Srarfi, the GITAS secretary general, said he spends a lot of time explaining that his organisation welcomes aerospace business from all over the world.

"There is a perception that, as a French speaking country we prefer just French investors, but we treat everyone equally," he said. "We would expect to have 40 member companies by the end of this year and that will include locally-owned Tunisian businesses and UK companies. Of course, at the moment, the majority of members are French companies."

## Important role

Srarfi said that GITAS played an important role in growing the supply chain. "In the past companies were working in an isolated way. The more they know about each other, the more synergies are found and the more the businesses can be developed."

GITAS was created six years ago by a triumvirate of French companies led by Zodiac Aero. Now EADS, Sabena and other majors, have begun creating Tunisian subsidiaries or working with companies based in the country.

The small country of 10 million people has much in its favour. It is, after all, just 40 kilometres from Europe and barely a 90-minute flight from Paris. With a low cost-base, a highly-educated workforce, well developed transport infrastructure, duty-free access to Europe and low taxes, it proves an attractive opportunity to investors



**Christian Froget: "Our costs are much lower than we had in France."**

According to Srarfi, key sectors include precision engineering, composite manufacture, surface treatment, sheet metal work, electronic, plastic and wiring engineering and the production of systems and equipment. "The number of companies has grown six-fold in the last six years and revenues have leapt from 18 million dinars to 200 million," Srarfi said.

With 95 factories in 21 countries worldwide, the 159-year old company Hutchinson – a subsidiary of French energy giant Total – took a while to begin operations in the MENA region. However, now a new 12,000sqm facility is up and running.

"We opted for the Sousse region of Tunisia; it is the third largest city in the country with a great record in engineering and is ideal," said Christian Froget, general manager of Hutchinson's Tunisian business.

Sitting on a 25,000sqm site, the factory was built in 2009 and opened in 2010.

With 250 employees already and plans to double staff numbers over the next two years, the company is producing a number of components

and parts for big players like Airbus, Eurocopter, Snecma and Dassault.

Inside the sterile environment of the Hutchinson facility, employees are working on thermal insulation, composites, avionic trays and even clamps.

"The work is precise and the quality has to be good," said Froget. "Our productivity levels are increasing and we will be introducing more product lines. I would say we are at about 60% of 70% of where we want to be and our costs are much lower than we had in France."

Hutchinson, like many of the other companies that have set up in Tunisia, is there for the long game. "Training is important to us. We are certified ISO9001, EN9100 and ISO 6949. Quality is vital and we make use of Hutchinson in France to help develop our people," said Froget. "The level of quality is good for technicians and engineers in Tunisia. People are dynamic and motivated and very proud to work for this kind of activity."

Srarfi said there are four aerospace clusters in the country – Tunis, Suliman, Sahal (the area that includes Monastir and Sousse) and Zaghouan.

## Newest businesses

EADS-owned Aerolia is one of the newest businesses near the capital, where French company Latecoere and Italian aerospace structure manufacturer Dema also have factories.

In Suliman, the largest player is Zodiac, which has been in Tunisia since 2003.

The French multinational came to Tunisia to produce air bags for the automotive industry but soon began to add aerospace products. It now produces a wide range of equipment, from oxygen masks to landing gear harnesses.

Zodiac chose NP Tunisia to make its technical plastic parts for the motor functions of its aircraft seats.

The global French company specialises in moulding by injection and compression of thermoplastics within various industries.

The NP Tunisia plant in Tunis turns over some of its 35 machines 24/7 to make the plastics for Zodiac.

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Precision working at the highest quality is the trademark of aerospace companies in the Tunisian supply chain.



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“We transform plastic for different business areas, such as electronic and cosmetic; a small part is aeronautical,” explained plant manager Arnaud Boulard.

“In the aeronautical field Zodiac is our biggest customer at this facility. They produce the tablet for the plane, provide us with drawings and we industrialise the tools and make the injection.”

The Tunis plant has a yearly turnover of \$500,000 in aviation plastics and a group turnover of \$8million.

The company, as a whole, has been dealing with aviation plastics for more than ten years and also works with Airbus, Bombardier, Snecma and General Electric, as well as making the plastics on the gate for the B787.

#### Aviation market

“The aviation market is very different for us,” said Boulard. “Producing plastics for aviation is a challenge. In other industries, when we produce the plastics the process is a lot easier. In aviation, there are certain procedures we need to go through with many changes, and obviously there are more safety checks, but this is nothing we can’t handle.

It is this development of the supply chain within Tunisia that has made a big difference.

Jean-Marc Nagel heads the TechniProtec Metal (TPM) business that sits in a small industrial estate on the outskirts of Sousse.

The business is French and sits like a customs free zone in the centre of Tunisia. “We are French and once you walk through these doors you are in

France,” said Nagel. “We work with other Tunisian companies on products that are being exported to Europe. With our chemical treatment specialism we are able to treat up to 100 different pieces for seats every day for Zodiac or Hutchinson; we can produce black anodizing for Zodiac’s fuel tanks or aluminium parts for Airbus for the A380 or the A350 and we have grown from 154,000 pieces in 2007, our first year, to 1.8million last year.”

More than 50% of the TPM workforce are women. “We have found the local women to be well educated and they do a really good job. Of course, they cannot work at night. Obviously during the time of the revolution we were worried but we weren’t really affected. People were quickly back to work; we had no strikes. It is harder for companies at the moment but this is a good place to be working.”

Barely 50 metres across the street is sheet metal producer SOTIP, a family-owned business that began in Toulouse supporting manufacturers such as Airbus, ATR and Eurocopter, but since 2009 has had a base in Tunisia.

Director of the company is Frederic Camerin, who has taken the company into its new impressive factory in Sousse. “We needed more space,” he explained.

The company produces key metal parts for aircraft, such as the cockpit dashboard for the new ATR42 and 72-600; the pylons for the A320; various metal components for Zodiac for both Airbus and Boeing as well as products for Dassault, Sogerma, Thales, Astrium and Eurocopter.

Camerin believes that the Tunisian aerospace industry is ready to move on to the next stage of development and his company’s involvement in GITAS is part of that.

“Training is essential going forward. We have things we can learn from each other but it is important that the workforce is continually trained,” he said.

“We had two French companies – Recif and Aeroplast – who were like Godfathers to us. We have learned a lot and want others to do the same.

“We have a lot and an agreement in place to be training people coming into the aerospace industry on a one or two-year programme that will help them really understand the aviation culture. It is so different from making gates or cars.”

With 1,300 pieces in the company catalogue, Camerin is confident that the move to the bigger facility a year ago was the right one. “We are now manufacturing between 40 and 50,000 parts a month,” Camerin said. “We have a happy and very capable staff. Even before the revolution we were recognised as a good employer. People want to work here. We know that Airbus believes in Tunisia. The quality is good and there is real competence.”

#### Local supply chain

Airbus’s parent company, EADS, has certainly backed Tunisia. Its subsidiary, Aerolia, is one of the newest names in aerostructures, having been spun out of Airbus as a semi-autonomous supplier. It opened its 10,000sqm factory just ahead of the revolution.

EADS said the business was established in Tunisia to create a local supply chain based on just-in-time logistics. Chief executive Christian Cornille has already set about bringing together other companies into the supply chain and working on the same site.

Srarfi sees the creation of the supply chain at the heart of what GITAS is doing. The Tunisian government is keen to encourage more small producers to set up in the country alongside their customers, while at the same time encouraging larger companies to set up with the comfort of knowing there is a healthy base of local manufacturers to meet the just-in-time requirements of supply.

“There are benefits for Tunisia,” said Srarfi. “We are a young industry here, but we are one with rapid growth. We are working on education and we are working with universities and schools of engineering.

This means we have a knowledge-based career opportunity here. Lots of Tunisians work in Europe in the aerospace industry. By creating opportunities we create wealth for the country.

“Our geographic advantage is that we have good sea ports and can ship products to Marseilles in a day; we can be in Rome in an hour by air and in Toulouse in 90 minutes. We have proved to be efficient and we are open to all to be here. Tunisia is an important part now of the supply chain.”



Frederic Camerin: “It is important that the workforce is continually trained.”



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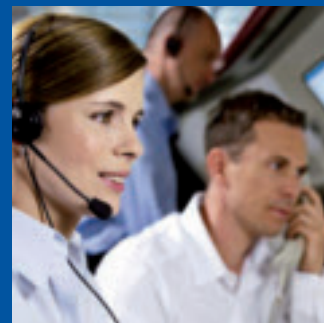
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## 5

## ways to manage rapid growth

**Paul Willis**, head of aviation at international built asset consultancy EC Harris, explains the challenges surrounding the improvements planned for air traffic management across the Middle East.

**G**iven the rapid growth achieved over the last 30 years it is easy to forget that the Middle East is still relatively young when compared with more established economies such as Europe and North America.

Recent data released by the Airport Councils International (ACI) underlines the rate at which the region has developed, with 200 million people estimated to have travelled through airports across the Middle East in 2011 alone.

In many respects the speed of the expansion could also be a potential barrier to the region's future growth as the associated infrastructure may not be able to develop at a comparable rate.

In the aviation sector this challenge is particularly evident as airlines, including Emirates and Etihad, need airport infrastructure that can match their ambitious plans. The need to align business requirements is essential if this growth is to be realised.

Currently Emirates has 162 aircraft with a further 234 on order. However, existing capacity constraints at Dubai International Airport may restrict the airline to 260 until 2025, at which point extra space is expected to become available.

It is no surprise, then, to see multiple airports across the GCC actively planning major capacity upgrade schemes. This extra space will be vital if the region is to capitalise on the economic opportunities that will be created by increased visitors.

However, a greater focus will also be required in terms of how they manage air traffic if the benefits of improved airport infrastructure are to be fully realised. As cities such as Dubai, Abu Dhabi, Doha or Jeddah seek to establish themselves as strategic stop-off destinations and gateways between Europe and Asia, operators need to ensure their approach to air traffic management (ATM) is as sophisticated, efficient and comprehensive as possible.

Five key areas to focus on include:

### 1 Servicing the long-term capacity forecasts:

Increased social mobility, a burgeoning middle-class and the rise of low-cost airlines have all meant that the number of people travelling by air has grown significantly since the turn of the

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The speed of the expansion could also be a potential barrier to the region's future growth.

PAUL WILLIS

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millennium.

In the Middle East this growth is expected to remain unchecked over the next 20 years with the ACI predicting that by 2029 almost 450 million people will travel through the region.

The ultimate constraint for service providers across the GCC will be the airspace surrounding the asset. Ensuring a seamless transfer between flight information regions (FIR) and national airspace boundaries will be essential. The need for collaborative decision making (CDM) to improve communication between all service providers will be key to delivering a safe and efficient operation.

Getting ATM right will be crucial in ensuring that the airspace can service the projected long-range capacity forecast and that the benefits of expensive new-build schemes are fully realised.

## 2 Adhering to a fully-developed master-plan:

Building on the previous point, a common element in a best-practice approach to ATM is getting all stakeholders to buy into and understand a unifying vision.

While this makes sense, in practice it often becomes a challenging proposition because the various parties within an airport operating environment are responding to very different drivers. For example, operators need to develop a masterplan for the future of the airport over the next 30 years while the air traffic control team will typically not look beyond the next day or week of operations.

The key performance indicators against which each team is judged are markedly different, yet their ability to successfully carry out their jobs is intrinsically linked.

Master planning and ATM will play a vital function in helping to ensure all parties strike a balance between their immediate responsibilities and their capacity to contribute towards the future growth of the airport. Having everyone heading towards a shared vision will better enable the airport to deliver on its ambitious growth plans without compromising the ability to deliver a safe and efficient passenger experience.

## 3 Ensuring all stakeholders are aligned:

Whilst master planning maps out a long-term vision, there is an equally important need to ensure that stakeholders work closely together on a daily basis. The complexity of the operating environment means that teams can end up focusing too much on their own particular area of responsibility and work in silos rather than in a joined-up manner that enables them to mutually support each function.

From an ATM perspective this can be a real concern as, while the air traffic control team's primary responsibility will always be to ensure that flights leave and arrive safely, they also need to know that staff on the ground are capable of dealing with the next phase of play.



In more simple terms, a prompt take-off or landing will mean nothing if their taxi time to the terminal is lengthy or if passenger luggage is misrouted. Without this open line of communication and mutual understanding of each-other's roles, inefficiencies can quickly develop and it becomes difficult to ensure the passenger enjoys a seamless experience from the moment they arrive at an airport until they reach their destination.

## 4 Deploying technology to improve operations:

Globally the aviation industry is pushing for technology to play a more influential role in helping to manage air traffic more efficiently. With traffic predicted to grow particularly rapidly across the MENA region, the benefits of technology will be welcome. Some of the key technologies include:

- Automatic dependent surveillance (ADS): The ICAO has defined standard and recommended practices (SARPs) and technical specifications for this secondary surveillance radar (SSR)-based equipment and trials are now being conducted in the USA. This surveillance tool includes a collision avoidance capability and is particularly useful in areas where traditional ATC radars cannot be commissioned, like the North Atlantic and Pacific routes. Initial plans suggest use in en-route airspace. However, application closer to the aerodrome would further enhance safety.
- Airborne separation assurance system (ASAS): This system is designed to provide enhanced situational awareness to the flight crew to enable them to better appreciate traffic in their

vicinity and take actions necessary to remain separated; in a missed approach, for example, the flight crew may be able to keep the speed of their aircraft in a range that allows separation with traffic ahead. Issues around division of responsibilities between ATC and the flight crew are currently being considered. However, initially it is planned for use in the en-route phase only, although it is probable that its use will be extended after a period of operational usage.

- Precision runway monitor (PRM): This is currently defined as a specialized SSR system that monitors aircraft conducting simultaneous independent instrument approaches to parallel runways spaced less than 1,525m (5,000ft) but not less than 1,035m (3,400ft) apart. Additional safety gains can be made with the use of this equipment at runway spacings in excess of 1,525m, as it enables the early detection of traffic that starts to deviate from a runway centreline.
- Multi-alteration radar: Multi-lateral radar systems can help to eliminate the technical failings of conventional primary surveillance radars. These systems have a faster aerial rotation rate than primary radar (i.e. one second against four seconds for approach radar) and this increased refresh rate tracks heading changes more quickly, providing a controller with good warning of a potential problem occurring. This is particularly useful when detecting a missed approach or an aircraft starting to deviate from a centre-line or nominal track.
- Required performance navigation (RNP-RNAV):

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Implementation strategies for area navigation (RNAV) started with the basic RNAV (B-RNAV) in 1998. However, containment values of +/-5nm were agreed to be insufficient for terminal airspace purposes and so precision RNAV (P-RNAV) has become the voluntary standard. Taken as a whole P-RNAV will materially contribute to track-keeping and RNP-RNAV will further enhance safety, particularly in the missed approach phase and the departure phase, by preventing an aircraft from drifting from the nominal flight path.

**5 Minimising the environment impact:**

Traditionally, airport operators across the MENA region have been under less pressure than their global counterparts to consider their environmental impact. However, as traffic continues to grow and new legislation comes into force, they will have to develop strategies around proactively seeking to limit carbon emission levels.

Better ATM can drastically reduce the time aircraft spend circling waiting for a window to land or taxiing waiting for a signal that they can take-off.

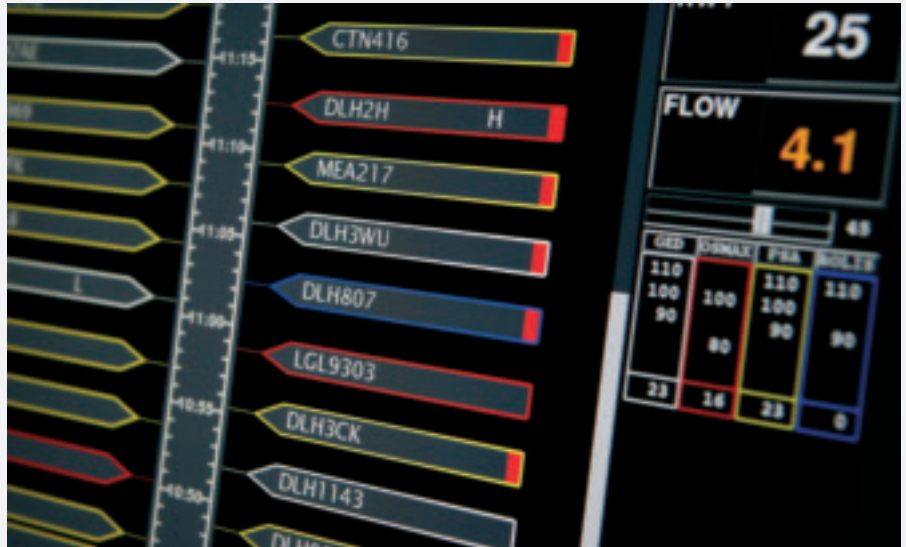
That said, environmental savings made during take-off and landing could be quickly negated by inefficiencies within other parts of the operation. For example, ground handlers must deliver as quick a turnaround as possible and ground vehicle circulation between the terminal and the air fleet also needs to be optimised.

When airports were first built across the Middle East, operators were quick to spot the importance of ATM. However, this approach needs to be reassessed as the challenge facing them continues to evolve.

With two billion people now located within two-and-a-half hours of the Middle East by air and 80% of the world's population within eight hours, the demands placed on aviation infrastructure has grown considerably in a short space of time.

If the region is to capitalise on this positive momentum and truly consolidate its position as a strategic gateway between the West and the East, then it's absolutely critical that it can manage and service this growing demand.

Now is the time to make improvements to their existing operations for in ten years time it will be too late.



## DFS aids ATCs by pioneering dynamic arrival management

International hubs are operating at their peak as more cargo and passengers are carried each year and more aircraft movements have to be controlled.

This is pushing airport infrastructures to their limits, resulting in holding patterns, delays and capacity bottlenecks.

But DFS Deutsche Flugsicherung's advanced arrival management system (A-AMAN) is supporting air traffic controllers by calculating optimal approach sequences in real time.

A-AMAN continuously looks at suggested landing sequences, trajectories and times in relation to the actual situation in the air and the controller's actions so that runway capacities can be optimised.

The system also uses flight plan, radar and weather information, as well as aircraft performance data, to allow for efficient separation of arriving aircraft and the best possible sector hand-over procedures.

Stefan Lentz, director of aeronautical solutions at DFS said: "We have more than 25 years' experience in the development and use of arrival management systems. The first in-house developments were introduced, continuously improved and enhanced at international hubs at Frankfurt and Munich Airports.

"DFS profited from the introduction of dynamic

planning data, which is why we are equipping the new Berlin Brandenburg International Airport (BBI), the future airport of Germany's capital, with an A-AMAN."

In the future, A-AMAN will also bring about capacity gains at airports in Brazil. The Department of Airspace Control (DECEA), Brazil's air navigation service provider, has chosen DFS for approach control at São Paulo, Brasilia, Recife, Manaus and Rio de Janeiro airports.

"We have successfully completed the factory acceptance tests in São Paulo and Brasilia and full implementation of the system will be completed by 2013," explained Hans van der Meulen, DFS project manager.

Reliable planning information is not only used in arrival management, but can also be used when introducing or improving airport collaborative decision-making (A-CDM).

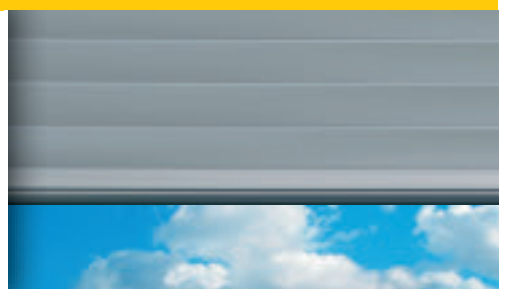
This optimises the ground processes at airports with an exchange of information between stakeholders.

"Hubs that are growing significantly can achieve capacity gains by using a dynamic arrival management system and A-CDM. There are also ecological and economic advantages too," said van der Meulen

DFS is currently providing consultancy services on these topics to customers in the Middle East.



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## ARINC in screening trial at Cairo International Airport

Terminal 3 at Cairo International Airport is currently undergoing a trial of ARINC's VeriPax passenger screening system, which was due to end at the start of this month (May).

VeriPax enhances the manual screening of passengers attempting to gain access to a terminal's airside areas. It can detect and highlight duplicate boarding passes and can be customised to perform other checks, such as validating passenger names against a 'watchlist' database or checking passenger itineraries against valid flight schedules for the day.

Airlines can customise the checks to suit their business needs and the system can be integrated with local and external data sources, including biometric security applications.

ARINC says heightened security concerns, leading to greater vigilance and national security guidelines, have increased the need for the quick validation of bar-coded passes for passenger checks.

The company's regional director for the Middle East, Tony Lynch, said: "The recent explosion in web check-in has seen more and more passengers arrive at the airport carrying home-printed boarding cards, which allows them to bypass the traditional check-in process and proceed straight to security."

Airlines and government departments are demanding increased checks on 2D barcode home-printed boarding cards, ensuring duplicate passes are



recognised and rejected and controlling access according to the list of active flights, added Lynch.

The new contract follows ARINC's delivery, installation and integration of a suite of 14 specialist information handling systems at Cairo Terminal 3 and its new seasonal flights terminal.

"This complex project, our first in Egypt, brought several leading-edge technologies to the country for the first time, including common use self-service

(CUSS), passenger information kiosks, biometric gates and automated ramp management," said Lynch.

ARINC expects to make an announcement of a further major contract win for its passenger handling systems in the near future.

The company says that the Middle East is being targeted for its growth potential. It has expanded its team in Dubai to seven and is focusing on a new marketing campaign for the MENA region.



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# Kuwait's solar system LEEDs the way...

*Work on Kuwait's new international airport is under way. Once complete, it is believed the facility will set a new environmental benchmark in aviation, becoming one of the largest airport users of solar power in the world.*

**Keith Mwanalushi** reports.

**T**he true nature of airport sustainability has been analysed from various perspectives, especially considering the ever-evolving suite of rating systems for the design, construction and operation of high performance buildings.

Foster + Partners is now firmly renowned for its jaw-dropping architectural and airport design projects around the world and the firm has certainly carved out a niche with the design of the new Kuwait International Airport (KIA).

Plans for KIA include the ability to harvest solar energy at levels not seen before on this scale.

Kuwait is one of the hottest places on earth and the airport is strategically located in the middle of the desert some 16km from Kuwait City. "The central challenge has been creating a comfortable environment for passengers in Kuwait's intense heat while limiting energy requirements," observed Nikolai Malsch, partner, Foster + Partners.

"Part of this involved using indirect daylight to create an uplifting space, without increasing the temperature with direct sunlight. The roof canopy, therefore, incorporates light wells and slim perforations based on the traditional architecture of Islam, which create a dynamic play of light and shade without creating additional heat."

Key to the environmental ambitions driving the project is the leadership in energy and environmental design (LEED) rating system developed by the US Green Building Council. LEED is a voluntary certification that provides independent, third-party verification that a building, home or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.



The emblematic three-winged design will be as distinctive from the air as from the ground.

Inset: A sense of space will be a prime feature.  
Pictures: Foster+Partners



The Kuwait project targets LEED ‘gold’ status – it aims to be the first passenger terminal in the world to attain this level of environmental accreditation. The concrete structure provides thermal mass and the roof incorporates a large expanse of photovoltaic panels to harvest solar energy. The basic idea is to use the intense desert sun to generate sufficient energy despite the airport’s remote location.

Malsch explained that the design targets LEED ‘gold’ through a combination of active and passive means, exploiting the thermal properties of the concrete structure and integrating a large expanse of roof-mounted photovoltaic panels to harvest solar energy.

“The principal benefits of a sustainable approach are environmental, but there will also be an impact on operating costs. LEED guidelines are a useful tool and our client has a progressive

Continued  
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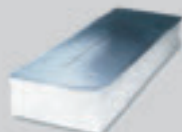


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## CONTINUED FROM PAGE 113

approach to sustainable design, so together we are proud to be able to aim for such a high standard,” said Malsch.

The aim behind the master plan is for KIA to significantly increase capacity in order to establish a new regional air hub in the Gulf. Despite being a small country and possibly overshadowed by the larger regional hubs, traffic in and out of Kuwait is on the rise.

The new facility will be built to the south of the current terminal complex with new access routes from the Seventh Ring Road to the south of the airport compound.

This rise in passenger throughput is evident. As of April 2012 Etihad increased frequency to Kuwait from 21 to 25 flights per week.

In 2011, the Abu Dhabi-based carrier transported 180,000 passengers to and from Kuwait, an increase of 22% on the previous year.

At the same time Emirates is vying for higher yield premium traffic out of Kuwait with a recent increase to five daily flights, including the deployment of a tri-class 777-300ER.

“The terminal we have designed is strategically located to anticipate and enable future expansion – the airport will initially accommodate 13 million passengers per year, with the flexibility to increase to 25 million passengers and to accommodate 50 million passengers with further development,” explained Malsch.

**13 million passengers**

Some 120 check-in desks are expected to cater for the 13 million passengers during the first phase and the baggage handling system will be able to tackle a peak of 2,930 bags per hour. During the 25 million second phase, 180 check-in desks are expected to process 5,390 bags per hour into the baggage handling system. An integrated baggage system will incorporate screening, dynamic storage and sorting, according to the Directorate General of Civil Aviation (DGCA) in Kuwait.

Malsch said the layout of the apron is generated by forecast and is similarly adaptable: “With 35 flexible contact stands in its first phase, the arrangement can allow an increase of up to 74 contact stands for 50 million annual passengers. The first phase went to tender in spring this year and we are aiming to start on site in 2013.”

The master plan shows that the terminal building has a trefoil plan, comprising three symmetrical wings of departure gates. Each facade spans 1.2km and all extend from a dramatic 25m-high central space. To further aid orientation, the building is planned under a single roof canopy, punctuated by glazed openings that filter daylight, while deflecting direct solar radiation.

The canopy extends to shade a generous entrance plaza and is supported by tapering concrete columns – their fluid, organic forms draw inspiration from the contrast between the solidity of the stone and the shape and movement of Kuwait’s traditional symbolisms.

“Our research into vernacular Kuwaiti



Research into vernacular Kuwaiti architecture provided inspiration for the design.

Picture: Foster+Partners

architecture provided a rich source of inspiration for the terminal’s design,” said Malsch. “This meant examining the density of housing clusters in traditional cities; passive shading and ventilation principles; the use of loggias and shaded colonnades; the application of local materials and techniques; and the dimension and orientation of apertures in the thick walls, which allow daylight to penetrate interior spaces while ensuring a comfortable climate.”

He further indicated that sand and dust were clearly an issue on site, “so we chose a durable, concrete structure to reduce energy-intensive maintenance demands”.

The project also includes development of the landside area. Renderings depict the landscaping as a lush oasis, with strands of drier planting and species native to the desert climate extending further away from the terminal. This leads to a series of submerged parking structures with green roofs.

“As you approach the building the landscaping becomes more lush and green. Passengers will enter the terminal via this generous, cool ‘oasis’ and drop-off area, shaded by the deep overhang of the roof,” Malsch explained.

**Complete redevelopment**

Spanish engineering firm Ineco won a contract to carry out the technical project management and managing the expansion of the airport under a €26.5 million deal. The contract includes the complete redevelopment of the airport.

Ineco will be responsible for managing various stages of the project including construction, costing, deadlines, risks, quality management, communications and documentation procedures. In order to achieve this the company has a multidisciplinary team of 25 technical experts, who will be involved in different specialist areas throughout the course of the initially-planned five-year period.

The project will see the development of other areas outside the terminal building, including the

construction of a car park, an administration building, rescue and fire housing, freight and maintenance facilities and an airside hotel. In addition, Ineco will also oversee the construction of a new runway and the extension of the two existing ones.

The need to upgrade KIA’s airport infrastructure became ever more evident when unionists and MPs in Kuwait called for aviation authorities to investigate an incident involving a Lufthansa flight to the Gulf state in February 2012.

According to local media reports a Kuwait-bound flight from Frankfurt was diverted to Al-Dammam Airport in Saudi Arabia after reported problems with KIA’s airport navigation systems, triggered by a sandstorm. Reports from the DGCA said a total of six flights were cancelled during the disruption and a further ten were rescheduled. Questions have now been raised as to why no back-up system was in place.

Despite these reported shortfalls, KIA has seen some infrastructure upgrades. Back in 1999-2001 the airport underwent a considerable expansion project. Inaugurated in 2002 the first phase of a KD 18 million (US\$60 million) 32,000sqm extension of the passenger terminal was made that included a spacious new commercial centre adjacent to the arrivals hall, as well as extensive car parking facilities.

The second phase opened in mid-2003 and included the expansion of the departure hall with 64 new fully-automated check-in positions, a new baggage handling system and a raft of new concessions and facilities including, for the first time, a children’s zone.

Kuwait International Airport has faced significant challenges in the past and will perhaps be forever haunted by the ghost of a British Airways 747 that was burnt to the ground in August 1990 at the start of the Gulf War.

However, these days the key issues revolve around growth, sustainability and the efficiencies derived from new airport technologies that will allow KIA to be a viable contender as regional hub competition intensifies.

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*The aviation industry is always looking for ways to make flying more comfortable and energy efficient. Kelly Green visited the Aircraft Interiors Expo in Hamburg to look at the new products and services being unveiled during the three-day event.*

**S**eats, galleys cabins as far as the eye could see. This year's Aircraft Interiors Expo hosted more than 500 exhibitors from 30 countries.

As has become customary, many of these exhibitors used the opportunity to launch their latest product offerings. One such company was UK-based Pitch Aircraft Seating, which hoped to win over the single-aisle, economy class retrofit market when it unveiled its new lightweight economy seat.

The manufacturer worked with Intier Automotive, a division of Magna, and automotive and aviation design specialists Design Q to create the PF2000 seating solution, which weighs less than 25kg for a triple unit and is currently being tested for certification.

"This is our first seat," said Stewart Corder, sales and marketing director. "Testing should be finished by September and will go into production in December. What we're trying to do here is show everybody, look Magna International are behind it, the seat is already being tested and it has passed most of the tests," he explained.

"The seat is one of the lightest in the world, weighing 8.2-8.4kg per passenger, per seat. So that saves a lot of fuel," Corder continued. "The design, which was done by Design Q, is ultra-slim. Your whole body is sitting so far back in the seat that you have 1.5 extra inches of leg room."

Continued  
on Page 118



**Getting the massage:** Nicola Medina demonstrates InSeat Solutions' new PA product which features vibration massage with a variety of modes, intensity and speed settings, allowing each passenger to customise their preferred massage level.

# Are you sitting comfortably...?

## CONTINUED FROM PAGE 117

The product is a fixed-back seat in a semi-reclined position. “You can’t recline the seat but what’s good about it is that you have this position designed by the automotive designers, Design Q, so it’s in the optimal position for most people. Also if you have someone sitting in front of you, they can’t recline back into you,” Cordner said. “So you have your space – it’s your environment. And once you know your environment you get more comfortable with it.

“The other good thing about the seat is that most seat manufacturers have an order lead time between 12 and 15 months at best; we’re down to 12 weeks, thanks to Magna’s automotive production expertise and facilities.”

Also focusing on passenger comfort was InSeat Solutions, which introduced its second generation aircraft massage system at the show – Pulsating Acoustics (PA). “Our standard massage system flies in Emirates, Etihad, Qatar, Qantas and Gulfstream business jets,” explained Mark Hodgson, account executive for InSeat Solutions.

“Emirates is our flagship; it has used our massage systems for approximately eight years in all the seats in its business and first class.”

Building on its experience of providing vibrating massage systems to the airline industry for the past 10 years, InSeat Solutions’ new PA product features vibration massage with a variety of modes, intensity and speed settings, allowing each passenger to customise their preferred massage level.

The system also features an interactive movie mode, in which it responds to the low frequency audio output from the IFE through feedback movements, enabling the seat to massage to music, or vibrate at certain points in the film to simulate high-end cinema. “You can multi-task with the product, from massage, to watching a movie – everything is interchangeable,” said Hodgson.

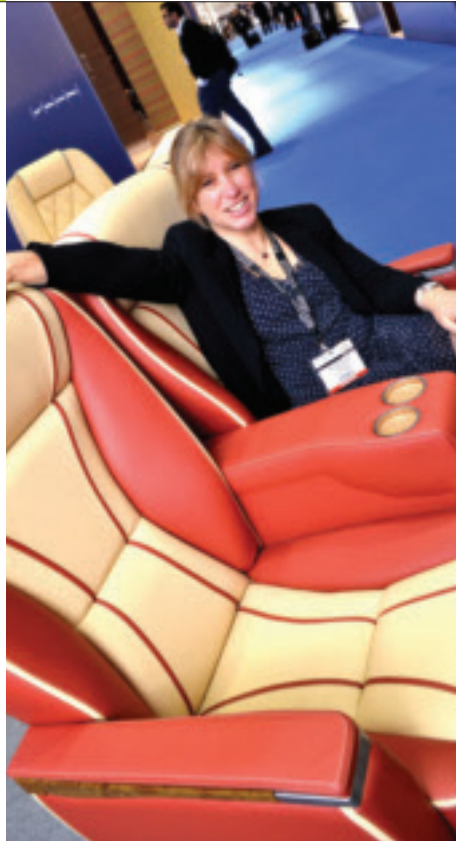
**Biggest advancement**

However, the biggest advancement of the new system is the development of lighter motors, meaning that the massage system can now potentially be fitted in economy seats. “We’ve been able to cut the weight in half with our new motors,” said Hodgson. “We do have a company this year coming out of North America that is going to be using the massage in economy, because we’ve been able to get the weight down.”

Another company concerned with acoustics on board the aircraft is interiors supplier Tapis, which supplies fabrics to Etihad, Emirates and Qatar Airways.

Tapis introduced its Ultraleather Bolero at the show, which it believes sets a new standard for sound absorption. “Bolero is a new product that we’ve launched for acoustical value, both for corporate as well as the commercial jets,” explained Jason Estes, director of commercial & VIP sales.

The fabric has been designed to significantly reduce cabin noise by improving low and mid



**Coralie Wigg, Starling Aerospace: “We do everything – they come to us with an aircraft and we do the whole thing.”**

frequency absorption and Tapis claims that during independent testing, Ultraleather Bolero outperformed fabrics and genuine leather.

“When you use Bolero with sound-absorbing foam it allows the sound to go through it and be absorbed into the sound-absorbing foam,” said Estes. “It really started with Falcon; they came to us specifically and wanted a material that could perform to help reduce cabin noise. We’ve had interest from many customer bases because cabin noise reduction is becoming more and more important.”

Schott Lighting and Imaging and Lufthansa Technik presented their first joint invention at the show – their new cabin lighting product HelioJet.

Unlike conventional LED stripes, which work with multiple LEDs in a row, Crystal Cabin award-nominated HelioJet only relies on two LEDs that guide their light into an optical light converter.

“HelioJet only requires about one fifth as many light-emitting diodes as conventional LED solutions,” said Andrew Muirhead, director of innovation at Lufthansa Technik. “This has a positive effect on reliability, maintenance and costs and makes our latest development attractive for all airlines.”

Meanwhile, Lumexis Corporation debuted its new wireless data delivery system WiPAX alongside its established fibre-to-the-screen (FTTS) in-seat IFEC offering. WiPAX allows passengers to stream high-definition video to their personal electronic devices.

“This is for an airline that doesn’t want to install seatback systems; it can be just used with the passengers’ carry-on devices – whether that be an iPad, smartphone, laptop, iPod...” explained Clyde Stroman, regional sales director for Lumexis.

“The benefit is that since you are using the passenger’s own devices for the programming, you don’t incur high expenses installing monitors in every seat. We have one airline that has signed up to do an evaluation on one aircraft and I suppose in the next six months we will be announcing new customers.”

Also making its Hamburg debut was the world’s first child seat certified for take-offs and landings in all configurations. Manufactured by UK-based Gama Engineering, the seat was demonstrated at the show by Starling Aerospace Interiors.

Already in service with long-haul carriers Virgin Atlantic and Cathay Pacific, the Gama Infant Safety Seat is designed to enhance the in-flight experience for both toddlers and their parents as children no longer need to travel on their parents’ or guardians’ laps.

Lightweight at 7.5kg and easy to install, adjust and stow, the seat may be used on any aircraft seat type in any cabin of CS Part 25 aircraft.

**Concept through to completion**

Starling Aerospace Interiors was also showcasing its own services in aircraft interior outfitting. Providing a complete engineering, design and development service from concept through to completion, the London-Heathrow based company has already won many Middle Eastern clients.

“We do VIP/business class aircraft so we have a lot of Middle East clients,” said director, Coralie Wigg. “We do everything – they come to us with an aircraft and we do the whole thing. We design it all, we build it all, we buy the seat frames, we do the upholstery how they want it, and then we install it with the maintenance company.”

German 328 Support Services/328 Design GmbH was at the show to tell the industry that its production capabilities reach beyond the Dornier 328 jet and can be applied to a growing number of other aircraft, such as Boeing 737/BBJ or Airbus A340.

“We are a type certificate holder of the Dornier 328 aircraft but we are trying to spread the word that we are not limited to the 328 aircraft as a type,” explained Florian Luthlen, sales manager at 328 Support Services. “We are working with other major outfitters as supplier of VVIP galleys – we supplied an A340 galley worth around \$2 million, we are just working on a 767 VIP galley, and have won the contract for two BBJ galleys, so we are not limited to the 328 as an aircraft,” he explained.

“We are still working on becoming more known in the Middle East market,” he said. “Most people read the 328 and think it’s 328 aircraft only – that’s why we are trying to spread the word that we are not limited to that type of aircraft.”



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# Innovation and style means Qatar Airways is sitting pretty

Although it has one of the most modern fleets in the world, Qatar Airways CEO Akbar al Baker said on a visit to Germany that he was looking closely at seat options to revamp the cabins of his company's earlier aircraft.

The airline has also unveiled revolutionary new business and economy class seats for its Boeing 787 Dreamliner aircraft, which should begin entry to service later this summer.

The new 787s will feature a total of 254 seats in a two-class configuration of 22 in business class and 232 in economy

Up front, the B/E-designed seats offer space, comfort and a revamped in-flight entertainment system, including the award-winning touch-screen Android technology control units that will debut on Qatar Airways' 787s.

The IFE features WIFI and GSM telephony, sending both text and MMS messages. Voice calls, although possible, will be disabled to minimise passenger disruption, Al Baker said.

With a 1-2-1 configuration in business class, the layout features two fewer seats than most competitors on conventional wide-body aircraft, more typical of a first class cabin where each passenger is assured of direct aisle access.

The seats have been designed exclusively for Qatar Airways by B/E and can convert at a touch of a button into different cradle positions before reaching an 80ins long, 30ins wide flat bed.



Qatar Airways' Boeing 787 seats will make their long-haul debut on the Doha Heathrow route this summer.

In economy class, configured 3-3-3, the Recaro-produced seats embody the very latest in design technology and materials. With seven inches of recline, both the seat cushion and backrest adjust to 'cradle' the passenger into greater comfort. The slim-line seat design set at a pitch of 32 inches also offers more personal space than ever before.

Each economy class seat is fitted with 25cm seat

back TV monitor offering passengers optimum viewing of a wide array of in-flight entertainment options.

Al Baker said: "The 787 aircraft architecture is such that a lot of attention has been placed by Boeing on spacious cabins, which we are maximising to ensure our passengers get what they pay for – value for money and a great travel experience."

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*The large local appetite for business jet interiors is attracting both local and international providers to the Gulf region.*

**Liz Moscrop** reports.

# THE COMPLETE PACKAGE...

**A**s the Middle East market for private aviation matures so, too, does the need to bring more related services closer to home.

The lucrative world of VIP cabin completions is an obvious contender and the major local aerospace players have thrown their hats into the ring to support their clients.

Last November, Bahraini giant MENA Aerospace announced that it had partnered with Canada's GAL Aviation to create a joint venture based in Bahrain, which will provide design, refurbishment and interiors installation for corporate aircraft. GAL MENA will also offer design and production capabilities, as well as carry out staff training. The new centre is slated to be operational by the second quarter of 2012.

#### Region's first

Ralph Eisenschmid, MENA's CEO, said: "We anticipate a lot of interest in this venture and are excited to be involved in the establishment of the region's first business aircraft interior refurbishment centre. GAL Aviation brings a wealth of experience which, when coupled with MENA's regional presence, will provide a new level of service and expertise to the region's aircraft owners."

His counterpart in GAL, Marc St-Hilaire, VP of business development, added: "The demand for these products and services is strong. This operation will focus on aircraft cabin refurbishment, reconfiguration and warranty programmes. This complements our operation in Canada, where we design and produce new aircraft cabin components for major business jet manufacturers."

Abu Dhabi Aircraft Technologies (ADAT) has already made inroads into the outfitting market for commercial airliners, so it does not require too much imagination to see that the company has the capability to move into the VIP market eventually. Back in 2010, Etihad Airways selected the firm as

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The interior of the Comlux Boeing 767 at Bahrain. Comlux designed and completed the BBJ at its completion centre in Indianapolis.

**CONTINUED FROM PAGE 121**

a partner for its A320 and B777 cabin retrofit programme. Modification work is carried out at ADAT's facility in Abu Dhabi.

Owned by the Mubadala Development Company (Mubadala), the strategic investment arm of the Government of Abu Dhabi, ADAT is spearheading Abu Dhabi's regional aviation MRO ambitions and is pivotal in the development of Mubadala's worldwide MRO network.

Western companies are also keen to get a slice of the action and are pairing with regional firms to establish a foothold in the Gulf. For example, 328 Design teamed with Turkish Technic (part of Turkish Airlines) to work on design projects. The first for this collaboration is a GIV interior conversion.

The 328 team will certify designs and materials selected by Turkish Technic through a supplemental type certification (STC) issued by its sister company AMDS. The German company's MD, Ralf Kohlen, said: "This is an exciting time for our team and another important step to develop our business beside the Dornier 328."

Swiss entity Comlux The Aviation Group is also making a bid to gain more Middle East outfitting work. The firm has set up shop in Bahrain and took its two largest business jets to the Bahrain International Airshow earlier this year: an Airbus ACJ320 and a Boeing 767BBJ.

**Capabilities in interiors**

This was partly to show off its capabilities in interiors. Comlux designed and completed the BBJ at its completion centre in Indianapolis. The main room features a VIP lounge, followed by a fully private compartment in the middle of the cabin. This can be either a day lounge, or a bedroom at night, and also has a dedicated bathroom with shower.

At the back of the aircraft, a large business class section allows passengers to travel with their delegation. The cabin was intentionally designed for the Middle East charter market. Designer Tim Cailles said: "Often Arabian clients like modern clean cabins with colours reminiscent of sand and sea."

Comlux has also appointment Middle East Business Aviation Association (MEBAA) chief, Ali Ahmed Al Naqbi, to its board of directors.

The big global players will not relinquish their hold on the interiors market easily and work intensively with local firms to obtain contracts.

Major Saudi outfit MAZ Aviation brokers interiors deals alongside its sales and acquisition work, for example working with San-Antonio's Gore Design Completions on a full refurbishment and reconfiguration of the interior for an Airbus A340-200 for a Middle Eastern client.

In the six years since its formation Maz has moved into several business lines including consultation. Chairman Mohammed al Zeer said: "The best description of us is 'gap fillers'. We see gaps in the market and fill them."

Relative newcomer Zurich-based AMAC



**MAZ Aviation's Mohammed Al Zeer (left) and Alsalem's Mohammed Falatah. The two Saudi companies are working together to add design and completions to the region's business aviation capabilities.**

Aerospace won an Airbus A319-ACJ completion contract through Rizon Jet in Qatar. Rizon will manage the aircraft and British designer Andrew Winch will design the interior. The aircraft is scheduled for delivery in January next year.

AMAC has also won contracts for a VVIP Boeing B747-8i for a Middle Eastern head of state and a Boeing B777-300 ER for a client in the Gulf region – due for delivery at the end of this year. CEO Heinz Köhli said: "Many of our clients are from the Middle East. They like large aircraft as many of them have big families."

In 2011 ExecuJet and Saudi's National Air Services' subsidiary NasJet partnered to open a new FBO at King Khalid International Airport in Riyadh. This is another Middle Eastern offering from ExecuJet, which also beefed up its local service provision with a partnership with Turkish company Bilen, based at Istanbul International Airport.

**Consultancy services**

There is no doubt ExecuJet will be offering further interior consultancy services like the collaboration with Ontario-based Flying Colours Corp, which delivered a completed Bombardier Challenger 850 into the Middle East last summer.

Sean Gillespie, Flying Colours' director of completions said: "This is the first time we have delivered a green Challenger 850 to a customer to the Middle East."

The big outfitters are also deepening their regional foothold. Lufthansa Technik (LHT) announced at last year's Dubai Airshow that it is to

set up a new Dubai company. Lufthansa Technik Middle East Services (LTMES) will bundle all the Middle East sales and service activities pursued by a variety of members of the international Lufthansa Technik Group. Managing director Ziad Al Hazmi said: "LTMES will make it possible for us to speed up services and communication between Lufthansa Technik and the customer and structure them more efficiently."

LHT has strong business ties to the Middle East and inked its second Boeing 747-8 VIP completions deal at the end of last year for an undisclosed regional customer. The aircraft is due to arrive at the company's Hamburg base in late 2012.

Rival Jet Aviation has strengthened its local service offering with the appointment of Abdullah Al-Ghamdi as new customer relations manager in Saudi and Peter Lewis as new senior manager at Al Bateen Executive Airport.

The company's Basel base was the first completions house to sign a contract for the VVIP completion of a Boeing 747-8 cabin interior with an undisclosed client from the Middle East. Following its expected arrival in Basel in early 2012, the aircraft will be completed within 24 months.

Although there are many players making a bid to gain more traction in the Middle East completions market, there is still a swathe of new VIP aircraft slated to enter service in the Gulf over the next few years. This is good news for the interiors sector, which is likely to remain buoyant for the foreseeable future.



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Airbus has notably revised its performance handbook, or “orange book” for the Engine Alliance powered A380. Fuel figures for the EA powered A380 are now amended to reflect an additional 0.5% improvement to the previous version of the performance handbook. There in black and white, is proof that our engine burns even less fuel than previously stated. Far less. In fact, this latest revision brings a total fuel saving of \$1,000,000 per aircraft, per year. Proving you don’t need extra juice to fly further. Just an extra special engine. See it at [www.enginealliance.com](http://www.enginealliance.com)

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**THE FUEL SAVING ENGINE FOR THE A380**



*The Aircraft Interiors Middle East (AIME) show took place in Dubai alongside the MRO Middle East show. The two-day annual event in February displayed the latest innovations from aviation companies in aircraft interiors, from galleys to seats.*

**Marcella Nethersole** reports on four different companies and what they are offering the aviation market in the Gulf region.

## **B/E inserts the perfect blend to upgrade galleys >**

B/E Aerospace introduced its Essence Inserts Collection at AIME. The company describe the line as a "revolutionary line of galley engineered with the latest innovations in technology and designed to deliver an unrivalled experience".

Gerrit Baron, regional sales manager, said: "This latest line of next-generation galley equipment seamlessly blends the essentials of function with sophisticated design and intuitive features, helping to deliver superior service to our passengers."

Products in the range include: espresso maker, water heater, oven – steam and convection, chiller/refrigerator/freezer, beverage cup, beverage maker and the bun warmer.

"The range is currently fitted for A350 aircraft. We worked closely with Airbus to produce a smart and tasteful design that all matches, a little like you expect in your kitchen at home," said Baron. "Our current Essence range is the lightest in the world. It is also economical as it has less power but more performance."

B/E has already been selected by three major Middle Eastern airlines to outfit wide-body aircraft with B/E Aerospace next-generation super first class suites. The awards are initially valued in excess of \$125 million.

The cabins firm will provide the three airlines with individually and jointly developed customised private suites for their first class international passengers. Each of the airlines has chosen luxurious amenities, extraordinary comfort and private personal space designed to maximise the passenger experience.

Bob Ponti, corporate account executive at B/E Aerospace, said: "For B/E Aerospace, AIME is one of the most significant events in the Middle East, which helps us develop new and existing customers."



## **< Percival has everything covered in the cabin**

Percival Aviation thinks of everything when it comes to cabin interior. The UK-based company provides everything from seat covers and curtains to passenger restraint kits, which include handcuffs.

"We manufacture replacement covers and foams for mattresses inside flight crew and cabin crew rest areas, as well as offer replacement seat covers and foams for all types of attendant, flight deck, and passenger seats," said Mukesh Bhanderi, regional manager for the newly-opened Dubai office.

But it's not just about seats and foams; the company also does a range of associated equipment for the cabin including composite structures, door entry mat, fire extinguishers, first aid kits, and even flower vases.

"We provide vases in Emirates first class cabin," said Bhanderi. "We also provide installation in lavatory modules, either to our own design or that specified by the airline."

The company, which was set up in 1978, is currently going through a major growth plan to expand its overseas presence to support its customers around the world.

"We opened up our Dubai office two months ago," said Bhanderi. "For a couple of years we were talking to Emirates and Etihad and it just seemed to make more sense to open an office here and show our presence, as well as be more accessible."

The company is keen to grow its current customer base of Emirates, flydubai and EgyptAir, to include other operators in the UAE and other countries such as Qatar, Saudi Arabia, Oman, Bahrain and Jordan.



## < Botany weaves its way into the Gulf

Family-run Irish company Botany Weaving is one of the largest aircraft seat and carpet manufacturers in the world.

"We have been the exclusive supplier of seat fabric, curtains and carpets for Etihad Airways since the airline's start-up," said Myles Hobbs, export sales manager. "We continue to deliver high-quality products at the right price for the airline."

Botany Weaving also has an exclusive contract with Air Arabia to supply seat fabric, curtains and carpeting, after successfully meeting the strict design, durability and competitive cost requirements of the UAE's first low-cost airline in 2010.

The company, which was established in 1934, has three manufacturing plants in Ireland, with Dublin being its hub.

In 2007 and 2008 it invested more than €4 million in weaving facilities.

"Given the economic climate, we are a financially secure company," said Hobbs. "We are currently renovating our Dublin facility by expanding and modernising it to keep it running efficiently."

The company has its own in-house design studio with the designers working directly with the airlines to make sure they get exactly what they're looking for.

"We work with more than 120 of the world's leading airlines and besides Etihad and Air Arabia, we are the leading supplier to Air Canada, Air France, British Airways, Cathay Pacific, United Airlines, Qantas and Virgin Atlantic," said Hobbs.

"We have faced some design challenges. One was for Hawaiian Airlines, which wanted a real island feel to the fabric, so passengers could get a sense of Hawaii. So we made a design of palms and the sea. It was a fun challenge really."

Hobbs said that being a family-run company helps: "It makes us more personal and we're quick to make decisions and act on them."

Asked if the company faces any challenges ahead, Hobbs said: "There is constantly an emphasis on everything being lightweight in the aircraft and obviously that includes fabrics. For example, with the Boeing 787 we know that it needs to be very lightweight to fit in with the airline's image; this might be a challenge but not one we can't solve."



## < Equinox equals a high-class solution

EADS Sogerma showcased its latest innovative business class solution called Equinox.

The new seat offers the passenger a full flat horizontal bed length of up to 78ins with a consistent surface shape at a minimum pitch of 58ins, thanks to a patented design.

"It has been developed following intensive research to solve the complex equation airlines are facing over including a high number of passengers and a premium full horizontal bed comfort as a must," said, Richard Gourman, sales director for MENA.

"One of the most important features is that it's very lightweight at 94kg per double seat. This is a very important feature. The seat is also very easy to maintain."

Equinox, which was first launched at the Interiors Show in Hamburg in 2011, also features a seat width of 22ins, six or seven abreast for wide-body configurations, and four abreast for single-aisle configurations.

"We can basically work to the customer's requirement," said Gourman.

The company is currently working with Airbus on its 350 catalogue. And, it has already taken an order for the Equinox from an airline in the Far East, yet to be disclosed.

The French company is focused on four major products dedicated to first and business class seats which are: class 180, evolys, ultimate 17 and ultimate sleeper.

"The Equinox is the first of all our products to make a full-flat horizontal bed. But, now we have a range to suit all airline and passenger needs," said Gourman. "Passenger seating is important for airlines regarding comfort, innovation and design for long-haul flights. The range of products can be entirely customised to meet the airline's corporate image requirements and travel expectations."

*A late-2011 billion-dollar deal between UAE national carrier Etihad and Sabre Holdings for a suite of the latter's products was the biggest contract ever signed in the Middle East by the US technology specialists.*

*Alan Dron reports.*

# SABRE CHARGE

**T**he huge agreement, designed to replace Etihad's current heterogeneous range of systems handling everything from reservations to marketing, flight planning and departure control operations, is intended to provide a coherent platform for the airline's planned growth over the coming decade.

The breadth of the deal, noted Sabre Airline Solutions' president Hugh Jones, emphasised that, contrary to the image still held of it by some people: "We're not just a reservations and check-in company."

Etihad's 'youthfulness' – it was founded in 2003 – gave it a considerable advantage in being able to induct such a wide-ranging portfolio of products, added Maher Koubaa, Sabre Airline Solutions' general manager for Middle East and Africa.

Existing systems and processes were not so ingrained as in legacy carriers. Five to 10 years down the road, it would have been a much more difficult process to change, he said.

## Multiple systems

"Etihad currently has multiple systems from different suppliers and fragmented IT platforms. There's no economy of scale, plus they spend a lot of money on top of the existing providers to make sure all the systems are talking to each other and adjusting their business processes to those different systems.

"Sabre will provide an end-to-end offering that will give them that economy of scale. The overhead costs that go with the integration of the old fragmented systems will all go away."

The new Sabre software will be implemented by February 2013.

The Etihad deal was the latest expression of the upward trajectory of the airline market in the region – a market to which Sabre is paying considerable attention. Some years ago it demonstrated this by splitting its existing Europe, Middle East and Africa division, hiving off Europe to give greater focus to the latter two zones.

"When we compare the 'weight' of the Middle East from a business perspective it's as important as Europe or Latin America from a turnover or resource perspective," said Koubaa.

He was careful to note that the Middle East consisted not of one market, but three – each with different problems.

The first consisted of the giants – Qatar Airways, Emirates and Etihad. With global ambitions and swiftly-widening catchment areas: "The biggest issue for them is how to handle growing pains." This included ensuring that their profitability kept pace or outstripped their investment costs. Their booming fleets and personnel numbers also meant that they needed systems that were scalable to meet their requirements, he said.

The second category he described as the regional players – national carriers such as Gulf Air or Royal Jordanian. "They need to survive and continue to protect their market share. We've seen the race for consolidation and alliances to use the synergy that those alliances will bring."

He foresaw market liberalisation as being a growth area for these carriers. If regional frequencies could be increased so that business executives could make day trips in the same way as they could fly between European centres such as London, Paris or Zurich, national carriers'

prospects would be considerably enhanced, he believed. "Some progress has been made in this direction – but not enough."

Finally, there were the low-cost carriers. "When you see the market penetration LCCs have achieved in Europe, the US and Central America there's a market for those [in the Middle East]." He foresaw them expanding further, with the migrant labour market responding well to their product.

One way in which Sabre covers these different sectors is via its relationship with the Arab Air Carriers Organization (AACO). In 2006 AACO and Sabre initiated the Arabesk unofficial alliance system under which members aimed to boost market share, reduce duplication on routes and co-ordinate their schedules.

## Management report

One of the newest aspects of Sabre's relationship with AACO sees the company distributing a regular, executive-level management report to AACO CEOs providing competitive intelligence on such areas as fare levels, potential market opportunities and tracking of airlines' KPIs. "The whole idea is to serve as a catalyst to improve performance," explained Koubaa. "Usually airlines are very good at understanding what they are doing but are not necessarily aware of what's going on around them in terms of competition."

The report fuses information on market demand and capacity, together with a variety of third-party data sources, to help the airlines to determine whether they should expand capacity or alter fares to take best advantage of market conditions. Jones refers to this as "decision support".





**Maher Koubaa:** “The overhead costs that go with the integration of the old fragmented systems will all go away.”

**Inset:** Etihad Airways CEO James Hogan shakes hands with Sabre CEO Sam Gilliland.

It would, he said, be more useful to medium-sized and smaller carriers that did not have ready access to the management tools, systems or consultants employed by the major players in the region.

Added Jones: “We have a nice footprint in the region today. There are carriers that are growing rapidly and extending their influence.

“I think we’ll have a relationship with those carriers simply because we’re effectively in every IT discussion that a carrier has because of the breadth of our portfolio.”

Sabre hopes to make use of the increasing power exercised by airlines such as Etihad, which is growing as the Abu Dhabi carrier takes major stakes in airlines such as Air Seychelles and Air Berlin: “As airlines like Etihad extend their influence, that can be beneficial for Sabre.”

#### **Continue to invest**

As Middle East carriers and their influence on the industry grow, “We need to be part of that, so we will continue to invest in the region,” added Jones.

A facet of the industry that remained strong in the region was the travel agency business, said Jones: “It’s still a big piece of distribution in the Middle East. The online industry is evolving, but business travel continues to be built through the agency channel. We haven’t really seen any change in that because agencies, particularly those focusing on the corporate market, have evolved over time. They don’t just provide tickets but a full portfolio of products.”

For this reason, the Etihad deal included a multi-year, full content distribution system to provide Sabre-connected travel agents with real-time access to Etihad’s flight and scheduling information.



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Air Expo showed the joy of aerospace to the UAE with unusual aircraft, parachute and aerial displays.



# Al Bateen lands on its feet

*A brand new show entered the aerospace calendar in March. Alan Peaford went to Al Bateen to see the first Abu Dhabi Air Expo. Pictures by Paul Merritt.*

**A**l Bateen – the region’s first dedicated business aviation airport – saw the arrival of a raft of new aircraft types as it hosted the premier edition of the Abu Dhabi Air Expo.

Sceptics had questioned whether there was space in the busy calendar for another show but, according to the Abu Dhabi Airports Company (ADAC), it saw more than 10,700 visitors and 105 exhibitors from local, regional and international companies give the event their backing.

Names such as Dassault, Gulfstream and Sikorsky took their place in the avenue of tented structures alongside local operators including training schools, parachute teams and charter businesses.

The manufacturers and the operators parked their aircraft behind their tents and VIP visitors and enthusiasts alike were able to look closely at their dream machines.

There were aircraft making their debut appearances in the region, including the TBM 850 – the world’s fastest turboprop, with a maximum speed of 745kph (402 knots) and a range of 2,780km (1,500nm).

Another aircraft that caught the attention of the royal entourage was the Vulcanair A-Viatopr. Although shown featuring FLIR equipment for maritime surveillance operations, it also featured a VIP cabin and demonstrated space for hunting equipment. “With the ability to land on dirt strips and with twin Rolls-Royce engines to fly distances over water, this aircraft is ideal for the region,” said Vulcanair CEO Remo De Feo.

Yousif Hassan Al Hammadi, chairman of the organising committee, said: “The idea of the event was to demonstrate Abu Dhabi’s commitment to general aviation. From private pilots to private aircraft, the number of visitors welcomed at the show combined with the generated value of signed agreements is a clear indication of Abu Dhabi’s strong position as a key aviation hub for the region.”

The show witnessed several big announcements, including ADAC’s own agreements with Falcon Aviation Services and R Offices, and the launch of a UAE branch of the aircraft owner and pilot association (AOPA).

Falcon Aviation Services also used the event as an opportunity to host two children of the Make A Wish Foundation and made their dreams of becoming a pilot come true during the event.

The spirit of adventure was certainly there, too, among the GA community.

Saudi Arabian pilot Sami Al Refai turned up in his Mooney ahead of his attempt to become the first Arabian pilot to circumnavigate the earth in a light aircraft.

Visitors to the show also enjoyed a daily air display performed by Al Fursan Aerobatic team and Emirates Sky Diving team along with a daring display by the famous Captain Zoltan Veres, owner of five Guinness records in aerobatic displays.





**Alan Peaford** *reviews the second Bahrain Airshow and discovers an event that restored reputation and created new opportunities.*

# In Bahrain, the door is always open...

**T**he door of our temporary office on the hard-standing area of the Sakhir Airbase flew open and a military official strode in.

The tension in the office could almost have been cut with a traditional *khanjar*.

Seconds earlier a cynical journalist had made a critical aside about a somewhat blinkered story in the local paper that appeared to be missing a sense of political reality.

Big smiles broke across the face of the lieutenant colonel and the captain who accompanied him. "Welcome to Bahrain," he said. "If there is anything you want, or anything you need to know, just ask."

The captain – an F-16 pilot and a member of the ruling Al-Khalifa family – echoed the words.

Our hosts from the Royal Bahrain Air Force demonstrated a sense of openness that was unprecedented across the MENA region.

The struggles in the island kingdom have been widely publicised but they haven't dented the warmth that has personified Bahrain for decades.

From security staff to police officers, visitors were greeted with smiles and a clear sense that

this, the second Bahrain International Airshow, was about a lot more than just flying displays.

Bahrain's reputation has been dented and several absences in the hospitality chalet row reflected it. But the show demonstrated Bahrain's capability to run an event and run it well, and the line-up of business, government and royal VIPs from across the region – and even further afield – who joined King Hamad on the opening day tour, demonstrated a high level of support to the country eager to show that it is business as usual.

#### Order numbers

The Bahrain Airshow is never going to be about order numbers. The sheer size of the domestic market prohibits it from the demand of dozens of new aircraft and the resulting powerplants that create the headlines at events such as Dubai or Farnborough.

But centuries of being a trading centre between Arabia, the East and Europe has not been lost on the Bahrainis and the show reflected that.

The chalets saw a stream of high-level VIPs from Bahrain's closest neighbour, Saudi Arabia,

make the 21km ride across the causeway to talk about aircraft needs. The 18 civil delegations and 20 military delegations were an increase on the previous show two years ago.

More than 40,000 badges were scanned over the three days of the show, with just over half in the public area a kilometre away from the main show site. This, too, was an increase over the previous edition.

Captain Abdulrahman Al Gaoud, the undersecretary for Civil Aviation Affairs (CAA) and a member of the supreme organising committee was bullish at the closing press conference.

"A high percentage of the participating companies have already expressed commitment to return to Bahrain for the next Airshow in 2014. In addition, one of our headline sponsors, Batelco, has signed a MoU during the show to continue with its sponsorship of BIAS in 2014," he said.

"We are delighted to have received reports that the organised delegations programmes have been a great success and that BIAS has once again



**A spectacular night flying display was a highlight of the Bahrain show - but plenty of kit on display, a debut by Al Fursan and a warm welcome from the Bahrain defence team made it a show to remember.**

facilitated many very constructive and valuable meetings. We have positive indications that many further deals will be announced in forthcoming days and weeks as a result of contacts made during the show.”

Hopes for one single headline order were dashed when a predicted deal between national carrier Gulf Air and Canadian manufacturer Bombardier failed to materialise.

But on the positive announcement side, there were a number of indicators that Bahrain’s intent to create a “world class” aviation hub in the kingdom has made up ground. Two years ago at the show, the country’s sovereign wealth investment arm Mumtalakat, which owns Gulf Air, had announced a number of initiatives to strip out various elements of the airline, such as training and maintenance, and create separate businesses with a clear goal to develop third-party work and at the same time create additional opportunities for Bahraini nationals.

At this show GAA, the country’s aviation training arm, announced new training agreements that will see a further 120 nationals

advance through ab-initio to type rating and Gulf Technic, the MRO business, announced funding deals that will enable it to compete with Abu Dhabi’s Sanad and others in the component supply and repair market.

The sense of openness from the Bahrainis – and the military in particular – seemed to spread to others.

#### **Shared information**

Officers from Saudi Arabia shared information as they surprised everybody (including the organisers) by bringing a Eurofighter Typhoon; chief executives from airlines joked together and even the British Ambassador – a rare official representative from the UK – even joined in the fun by parachuting into the show with the Red Devils to raise money for Help for Heroes.

For the show itself, it was spectacular.

A highlight was the night-flying and pyrotechnic display by the Twisters ahead of a firework show. Bahrain was also pleased to welcome an Emirates A380 on its debut flight to the island.

Some 84 aircraft took part in the static and

flying displays, which included special show debuts for the Sukhoi Superjet 100 and the UAE’s Al Fursan aerobatic team, making its first international appearance.

There was also a rare appearance by the SU-27 formation team the Russian Knights, which was reportedly disbanded after Moscow’s MAKS show last year.

The RBAF also took to the air with three F-5s and four F-16s for a spectacular show opener.

Bahrain has signed a MoU with UK’s Farnborough International (FI) to partner for the next seven shows. FI’s exhibition and events director Amanda Stainer said: “BIAS has established itself as an event that delivers exclusive networking opportunities in an intimate, welcoming environment. The unique strength of this event is in the calibre of the attendees and the convivial atmosphere, which together create an environment highly conducive for forming and cementing quality relationships and cultivating potential for business.”

■ *The Bahrain 2014 show will take place between January 14-16.*

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## Jackie Chan kicks off a Legacy sales drive



Hong Kong's most celebrated son (and Legacy 650 owner) Jackie Chan has become the new face of Embraer. The Brazilian airframer is taking a punt on the fact its new brand ambassador is popular the world over.

As famous for his death defying stunts as much as his acting, Chan designed the vibrant red and yellow livery on his aircraft himself. It displays his logo, a dragon image and his son's initials. The 650 is an extended-range derivative of the super midsize Legacy 600. It can fly up to 3,900nm (7,223km) non-stop with four passengers, or 3,840nm (7,112km) with eight passengers. In the Middle East, for example, it can connect Dubai to London, Singapore, or Johannesburg.

The performer is perhaps best known for his

comedic acrobatic fighting style. He has been acting since the 1960s, appeared in more than 100 films, and – broken every bone in his body. Insurance companies in the US refuse to insure him.

This dedication to his craft means he is recognised everywhere he goes and he reckons he invariably receives a warm welcome. He said: "Wherever I go people never say, 'Jackie. I want to challenge you.' That's what happened to Bruce Lee. When they see me they say, 'Jackie, you're okay. Please don't hurt yourself.' It doesn't matter where I go."

He will also use his jet to help him travel in his capacity as a Unicef (the children's charity) ambassador. He takes the role seriously and is disappointed when he is prevented from offering support everywhere he would like to go. He said: "Last

year I wanted to go to Afghanistan to see all the children but there were explosions in India and they [his management team] stopped me. I said, 'I don't care. I don't think people would do something to harm me.' I believe that, but they said 'no' on safety grounds, so I did not go."

Chan is aware of how he can use his fame for good.

Embraer is hoping the Chan magic will rub off on its sales in the Gulf. To date the OEM has delivered more than 150 executive jets to customers in the region, including a new Lineage 1000, which joined ExecuJet's charter fleet in Dubai this February. As of the end of 2011 there were 90 super midsize Legacy 600s, nine Legacy 650s and ten ultra-large Lineage 1000s flying within EMEA, together with 45 Phenom jets.

## Aerobatic first now Her Royal HIGHness

Jordan's Captain Bassmah Bani Ahmad, the Arab world's first female aerobatic pilot, former instructor with Ayla aviation academy and chief pilot at the Royal Aero Sports Club, is now a real "Royal" Jordanian pilot, having married HRH Prince Hamzah Al Hussain.

Princess Bassmah is an active member of the Arab chapter of the Ninety Nines and was promoting the case for women pilots during the Dubai Airshow in November.

The wedding ceremony was attended by Her Majesty Queen Rania Al Abdullah, Her Majesty Queen Noor Al Hussein, a number of Royal family members, Mr Mahmoud Hassan Bani Ahmad, his wife and other members of his family.

British educated Prince Hamzah is the son of the late King Hussein and his American-born wife Queen Noor. A qualified fixed-wing and rotary-wing pilot, like his father, he trained at Sandhurst military academy in England.



## Captain Vanessa makes history

Vanessa Uмба has made history after becoming the first female captain in the 62-year history of Gulf Air. The 31-year-old Belgian joined Gulf Air in 2006 as a first officer. "I always wanted to become a pilot and the minute I started my career I wanted to be a captain," she said. "I do sometimes get some odd looks from passengers though."

Captain Uмба began her pilot training with the Sabena academy in her home country and after graduating she flew for Brussels Airlines as first officer on BA146 for three years before joining the Bahrain airline.

**Energy expert is TunisAir president**

Rabah Jerad has been named as the new president of the TunisAir group. Jerad, an engineer with a background in the state's energy sector, was selected by the government – a 75% owner of the group – to succeed Dr Mohammed Thamri, who moves to a new post within the ministry of civil aviation.

The Tunisia national carrier's group has responsibility for ground handling at Tunisia's airports, for catering and for maintenance of the group's aircraft as well as for the domestic carrier TunisAir Express.

**Ashley Bob joins Al Bateen in Abu Dhabi**

Jet Professionals, the global aviation staffing company

**BOUTEILLER JOINS NASAIR AS CEO**



The co-founder of Swiss regional carrier flybaboo, Francois Bouteiller, has been appointed CEO of Saudi Arabian low-cost carrier nasair.

Canadian-born Bouteiller succeeds Simon Stewart. Bouteiller began his career in business aviation before working with the Red Crescent in the first Gulf War. This was followed by a period in Afghanistan with the United Nations.

In 1996 he co-founded Swiss World, a long-haul scheduled airline based in Geneva and in 2003 co-founded flybaboo.

and wholly-owned subsidiary of Jet Aviation, has appointed Ashley Bob as senior account manager in Abu Dhabi.

Jet Professionals expanded its services to the EMEA & Asia markets in 2008, opening a new branch office in Abu Dhabi at Al Bateen Executive

Airport last year. With the appointment of Bob, the Abu Dhabi facility is now fully operational.

**Esling moves from Cessna to Gulfstream**

Gulfstream has named veteran international sales executive Trevor Esling as

regional senior vice president, international sales, Europe, Middle East and Africa.

Esling, who has more than 25 years experience in the aviation industry, comes to Gulfstream from Cessna Aircraft Co.

In his new role, Esling is responsible for leading the

Europe, Middle East and Africa sales team.

He will work with current and new customers, including those in Russia, and will be based in central London.

**Etihad's new Ireland country manager**

Etihad Airways has announced a new country manager to lead its Irish management team, as the airline continues to build its presence in the Irish market.

Dave Walsh takes over from Justin Warby, who has returned to Etihad Airways' head office in Abu Dhabi to head up its e-commerce division.

Walsh has more than 15 years' experience working in the travel industry and joins Etihad Airways from Travelport.

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**New executive director for MEBAA**

The Middle East Business Aviation Association (MEBAA) has appointed Khaldoun Muhtaseb as executive director of the body which represents business aviation interests across the MENA region.

The Jordanian-born Muhtaseb had previously worked with the UAE's Presidential Flight before becoming IT Manager at MEBAA. He holds an MBA in aviation management from Emirates Aviation College and the UK's Coventry University and took over the new post at MEBAA in February.

**Carlyle structures dual MENA team**

Asset management group Carlyle has restructured its



**Khaldoun Muhtaseb**

management team to reflect a clear focus on two key areas in the MENA region – the GCC and Turkey.

It has promoted Can Delda and Firas Nasir as co-heads of Carlyle MENA Partners.

Delda, based in Istanbul, is head of Carlyle's investment team in Turkey and Nasir, based in Dubai, is head of Carlyle's investment team in the GCC. They succeed Walid Mussallam.

**Etiihad appoints Haitham Al Subaihi**

Etiihad Airways has appointed Haitham Al Subaihi – a UAE National – as vice president sales central USA, based in the airline's new Washington DC office.

In his new role, Al Subaihi will oversee the development and launch of the airline's sales strategy in central USA, particularly growing a strong market presence in the national capital region.

Al Subaihi began his career with Etiihad Airways in 2007 as a graduate management trainee.

In 2009 he served as business development manager for North America, based in New York, before returning to the UAE to take his most recent role as manager sales – government.

**AL MOUSAWI IS RIZON CEO**



Middle East and UK-based business aviation services company Rizon Jet has appointed former Jet Airways manager Captain Hassan Al-Mousawi as CEO.

As the head of a recently refreshed management team, Qatari national Al-Mousawi will lead Rizon Jet into the next phase of its strategic development.

He said: "My vision for Rizon Jet is to maintain our commitment to seven-star service; whether that means providing unparalleled world class executive passenger handling facilities and services, or managing and maintaining business jets to standards that exceed industry norms."

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# all in a day

PEOPLE

## Kevin W Massengill

**Marcella Nethersole** *speaks to the vice president and regional executive Middle East and North Africa at Raytheon.*

1

■ How long has Raytheon been active in the Middle East and how do you view the company's role there today?

We have served the Middle East for nearly half a century. Our enduring commitment to our customers and the people of the region has always been focused on saving lives by delivering innovative, reliable and affordable solutions. As a technology company, we remain firmly committed to providing the right solutions and technical support to our customers, not only from a defence standpoint, but also from one of development. Raytheon's Middle East partners know that we are committed to them for the long haul.

3

■ Describe your overall presence in the Middle East and North Africa.

We have people and customers in Saudi Arabia, the UAE, Oman, Kuwait, Morocco, Algeria, Tunisia, Egypt, Jordan, Lebanon, Iraq, Qatar, Bahrain, and Oman, with representation in Afghanistan and Pakistan as well. In addition, we have business relationships and partnerships with a number of regional technology companies. In the UAE, for example, we are working with Emirates Advanced Investments (EAI) to develop the TALON laser-guided rocket, and our recent testing on that programme has gone exceedingly well. We are working with Abu Dhabi Ship Building Company's Baynunah-class Corvette programme to deliver the Evolved Seasparrow missile and Rolling Airframe missile.

4

■ What is your background?

I served in a variety of US Army and staff positions from infantry rifle platoon leader to unified command staff officer. I owned a private equity advisory firm for five years. I have also served in the foreign area office of the US Embassy in Abu Dhabi and have received a Master of Arts in Near Eastern Studies from Princeton University. Combining a military, entrepreneurial and academic background has been instrumental to my success since joining Raytheon in 2009.

5

■ What do you see as the greatest challenges in your job?

This is a highly competitive region with global economic powers continually investing in MENA. That is why it is so important that Raytheon remains firmly distinguishable within our industry. It is very competitive so we must continue to deliver superior innovation, quality, reliability and service. One success we have worked hard to achieve is an understanding that today's Raytheon is much more than a defence company.

6

■ What words of advice would you give someone starting out today?

The region's youth truly represent its future. In the UAE, we're partnered with several leading centres of learning, including the higher colleges of technology (HCT); Khalifa University of Science, Technology & Research; and the Centre of Excellence for Applied Research and Training. Our executives have spoken publicly in forums on education and provided role model experiences at the Abu Dhabi Women's College, at the World Robot Olympiad hosted by the Abu Dhabi Education Council, and at HCT's incredible 'Festival of Thinkers'. Further, we are starting a programme to translate children's books into Arabic. My message to the youth of the region is to enjoy the fun that can come with an education in maths and science.

2

■ Is Raytheon involved in civil projects?

Our ATM systems provide air traffic control for more than 60% of the world's airspace, including many in the MENA region. Our next-generation system, AutoTrac III, has been installed at Dubai World Central International Airport and is currently operational. We also have the largest training capacity in the world for air traffic controllers, which we hope to bring to the Middle East as well.





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- Cold and Hot Water Pressure Washers
- Air Conditioning Units
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- Trailer Mounted Floodlights
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