



# ARABIAN AEROSPACE

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

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# GROUNDED!

**HOW REGION'S AVIATION  
AND DEFENCE HAS STOOD  
UP THROUGH UPRISING**

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BY EMBRAER

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## Still a sense of optimism – despite the political unrest of the last few months



Unquestionably, this has been a difficult few months in the MENA region with political unrest spreading across countries on a weekly basis.

The aviation industry has been at the forefront of both the action and the inaction.

With the no-fly zone implemented across Libya, carriers such as Afriqiyah Airways and Libyan Arab Airlines have been grounded.

BMI's new route linking London with Libya was suspended after the inaugural flight and Egypt Air was said to be reconsidering a number of lease options to reduce its fleet as people simply stopped visiting the country.

On the other side of the coin, aircraft charter operators have been busy with business jet operators repatriating employees of the multinationals from the hotspots and carriers like Bahrain Air have been running charters to take others away from the troubled island state.

Thankfully there is still a sense of optimism in our industry.

History tells us that tourists will return, that businesses will recover and that the demand for air travel will be back on its growth pattern before we know it.

Airport projects will continue – and those damaged or destroyed in the uprisings will need to be rebuilt or developed.

In May the airport industry converges on Dubai for the Airport Show. In this issue we look at projects under way across MENA. No doubt the future of airport plans will be high on the agenda for all delegates.

Safe landings.

**ALAN PEAFORD**  
EDITOR-IN-CHIEF

COVER: Libyans on the streets to support No Fly Zone.

PICTURE: PRESS ASSOCIATION

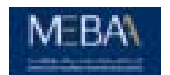
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## Etihad picks Engine Alliance for A380s

Etihad has confirmed the selection of Engine Alliance to supply the powerplant for the UAE airline's fleet of ten Airbus A380 aircraft on order and also agreed an MRO deal into the bargain.

The Abu Dhabi airline said it had signed agreements for the purchase of the GP7200 engines and for a long-term fleet management agreement for the maintenance, repair and overhaul of the engines.

"Under this programme, we will help Etihad keep its GP7200 engines in optimum condition to enable them to operate reliably at the lowest cost possible," said Engine Alliance president Mary Ellen Jones.

James Hogan, Etihad Airways' chief executive officer, said: "The GP7200 engines will offer significant fuel efficiencies and cost optimisation for Etihad's first Airbus A380s when they enter our fleet from 2014".

## Qatar may cool World Cup with UAV

Researchers at Qatar University's engineering school have come up with a novel way to cool the stadiums ahead of the 2022 World Cup... giant flying saucers.

The university is reportedly developing a UAV that is effectively a giant artificial remotely-controlled 'cloud' made up of high-tech materials that will be positioned between the blistering sun and the still-to-be-built football stadiums.

Dr Saud Ghani, head of a mechanical and industrial engineering group at Qatar University, said the artificial robotic cloud could potentially drop the temperatures on the pitch



## A330 MRTT for RSAF completes maiden flight

The first Airbus Military A330 MRTT for the Royal Saudi Air Force (RSAF) has successfully completed its maiden flight lasting 4hr 15min.

The crew reported that the aircraft, its systems and two General Electric CF6 engines, performed entirely satisfactorily.

Following the March 15 flight the aircraft now enters the final certification and qualification phase for this version, leading to contractual delivery later this year.

The second RSAF aircraft is already in conversion at the company's Getafe site close to Madrid, Spain, and the third will begin the process in mid-year.

by 10 degrees Fahrenheit.

Ghani also said that the technology could also be useful in security and communications. Radio and camera transmitters could help facilitate wireless communication and provide an eye-in-the-sky for broadcasters or security forces.

## Intensive care ambulance in the air

Two Dubai-based organisations have joined forces to launch a new intensive care air ambulance service.

Under the agreement Empire Aviation Group (EAG), will manage and operate a Hawker 800XP business jet, which has been specially converted to an air ambulance configuration, on behalf of emergency medical services and clinical services specialist RMSI.

The air ambulance is based in Dubai and will serve RMSI clients in the region.

## Lebanese details



## Camp rolls out tower

A second Host Systems mobile ATC tower (also known as MVCR – mobile visual control room) has been delivered via a C-17 to Camp Bastion, Afghanistan and will be used for ground control.

Camp Bastion is the fifth busiest UK-operated airport handling 450-500 movements a day including fixed-wing, rotaries and UAVs. A Host Systems MVCR has provided 100 per cent capability since January 2009.

The second system will be used to assist with air traffic management and ease congestion by taking over the ground control movements from the main ATC tower.

## on Ethiopian crash

The Lebanese Civil Aviation Authority (LCAA) has released its preliminary report into the January 2010 crash of an Ethiopian Airlines Boeing 737 into the sea off of Beirut.

The full report is expected in July but the preliminary study has detailed an erratic course steered by the aircraft after departing from Runway 21 at Rafic Hariri International Airport, Beirut. The investigators also disclosed that the captain and co-pilot each had relatively little experience for their roles on the aircraft.

The LCAA did not find any anomalies in the aircraft documentation, including maintenance logs.

Only about eight per cent of the aircraft was recovered from the sea. As a result of many examinations, the airworthiness group recommended further analysis of a number of parts including the

stabiliser trim tab control mechanism bearings.

The Lebanese transport ministry says that bank-angle warnings sounded 10 times during the flight, the first coming shortly after take-off.

There were no survivors among the 82 passengers and eight crew.

## JorAMCo takes on Air Arabia service

Jordanian MRO specialist JorAMCo was selected by Air Arabia for heavy maintenance services, to be provided nose-to-tail on seven A320 aircraft, following the MRO Middle East conference in Dubai.

The contract with the Sharjah-based low-cost carrier includes heavy C-checks, engine swaps, relevant SBs and Ads, modifications and upgrades.

Air Arabia has launched a Jordanian joint venture company to begin low-cost services from Amman and, as a result, will be operating more aircraft from its base there.

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## ExecuJet expands aircraft completions

ExecuJet Aviation Group is expanding the reach of its aircraft Completions Management Division with newly-won business from South Africa, the Middle East and Australia.

The division, headed by ExecuJet's completions manager Lukas Weiss, oversaw five aircraft completions in 2010, primarily on larger cabin aircraft including Global Express and Challenger 605s. It has been working with completions centres in the USA, Canada and Europe.

## \$200m Trent 700 order from Turkish

Rolls-Royce has won a \$200m order from Turkish Airlines for Trent 700 engines to power three Airbus A330 freighter aircraft. The contract includes a TotalCare long-term service agreement.

## Emirates third in brands listing

Emirates is officially now one of the top airline brands in the world with a value of \$3.62bn according to the Brand Finance Global 5000 listing.

Emirates sits just behind Singapore Airlines (\$3.75bn) and the most valuable airline brand, Lufthansa (\$3.8bn).

## Turkey puts 100 F-35s order on hold

Turkey has announced that it is putting the planned purchase of 100 F-35 fighter jets from the US on hold because the Pentagon is not sharing the source code used in the software designed for the aircraft or codes that might be used externally to activate the planes.

Turkish Defence Minister Vecdi Gönül said the negotiations over the F-35 procurement tender had not yielded "satisfactory results". He said: "We will evaluate the order in the next meeting, in light of the progress made in the talks by then."



## Dubai named Best Middle East Airport

Dubai International has been named the Best Airport in the Middle East at the Skytrax World Airport Awards 2011 in Copenhagen.

Dubai International beat second placed Abu Dhabi International Airport and third placed Bahrain International Airport thanks to the results of unsolicited customer survey responses.

## Gulfstream flagship in fatal crash

Gulfstream's new flagship aircraft The G650, which will be the world's fastest civil aircraft, was involved in a fatal crash on April 2.

The aircraft was on a test programme in New Mexico, USA when it left

the runway and burst into flames.

Two Gulfstream pilots and two test engineers were killed.

The G650 is due to enter service next year.

## Fly Aviation teams with Quicken Trust

An initiative by Dubai-based Fly Aviation Services will see an African charity benefit every time a delegate at the EBACE show in Geneva visits the trip support provider at its stand.

Fly Aviation Services has teamed up with Uganda-based charity Quicken Trust.

"A substantial sum of money is practically thrown away every year through unutilised marketing merchandise," said George Kinj, general manager of

Fly Aviation Services. "Our aim is to put that budget to much better use.

"We will donate US\$20 on behalf of every business contact made during the three-day event and, accordingly, no donations will be collected from the visitors themselves."

## Gulf Air installs defibrillators

Bahrain's national carrier, Gulf Air, has installed automated external defibrillators on its fleet.

The new portable device will be used for emergency treatment in the event of a passenger suffering sudden cardiac arrest during flight. All cabin crew have been trained to use the machine.

Samer Majali, Gulf Air's chief executive said: "Passenger health and safety is top priority, more

particularly during the flight. The installation of defibrillators on board is one more demonstration of our continuous improvement towards passengers' health and safety amenities."

## TNT Express brings B767 to Middle East

TNT Express announced that it has made a six-figure investment in a Boeing 767 freighter to boost logistics services in Saudi Arabia (KSA).

The freighter will service the KSA through the connection between Europe and the UAE.

The aircraft provides a daily connection between Dubai and the European air hub in Liege, Belgium.

## Hawker holds top spot in turbo sales

Hawker Beechcraft has retained its long-standing mantle as leader in turboprop aircraft sales by recording nearly 25 per cent of the general aviation industry's total deliveries in the segment, according to 2010 statistics released by the General Aviation Manufacturers Association (GAMA).

The company also delivered another 24 military turboprops in 2010, which were not reflected in GAMA's statistics.

## Empire strikes back with Vigiplane

Dubai-based Empire Aviation is taking security on its business jets seriously by installing new surveillance systems from Blue Green Technology on two of its aircraft.

"Business jets can be subject to a variety of risks, usually when parked, where security can be rudimentary," said Blue Green Technology MD Bruno Petit. "This includes theft and vandalism or damage caused by unidentified traffic movements on the airfield.

"The Vigiplane system is completely autonomous. It installs in less than two minutes on the front of the aircraft's landing gear. The system, once locked on, cannot be

released or removed. It provides intrusion detection, shooting real-time pictures, backing up of all received information and transmitting alarms via cellular networks and satellite to the Vigiplane monitor centre."

The French company, which started business in 2007, already has one very well-known VIP customer – President Nicolas Sarkozy, who has it installed on his A330. Dassault is another customer.

"We are excited to work with Empire Aviation," said Petit. "The Middle East is a thriving market in business aviation. We make sure we work closely with our agent, AGI, in this region."



Bruno Petit with his Vigiplane.

## Yanbu gets 'international' boost

Prince Abdul Mohsen Airport in Yanbu has been upgraded to international airport status and has begun receiving regional and international flights.

The step was taken to boost the region's economic development and strengthen the Kingdom's air transport industry, said the General Authority of Civil Aviation (GACA).

A statement added: "We have also taken this decision considering the growing passenger traffic to Yanbu."

The new airport building has two levels, each with an area of 10,000sqm, and has jetways to facilitate boarding of passengers. It also features an advanced control tower and a weather forecast centre.

Other facilities at the 600,000 passenger capacity airport include a royal lounge, a separate building for air cargo, a power station and a desalination plant.

The runway has been extended and The Yanbu airport will receive Haj flights during the season.

## Alpha's star shines with Sikorsky JV

Riyadh-based Alpha Star has signed a letter of intent with Sikorsky Aerospace Services to begin discussions to form a joint venture dedicated to providing comprehensive military and commercial aviation support and maintenance services in Saudi Arabia.

## Jordan increases surveillance with Schiebel UAS



Jordan has taken delivery of two unmanned air systems (UAS) helicopters to be used on reconnaissance, intelligence and surveillance missions.

The two Camcopter S-100 aircraft were delivered by Austrian firm Schiebel to the King Abdullah Design and Development Bureau (KADDB) in Amman.

The UAS will form a key part of the Jordanian Armed Forces (JAF) reconnaissance squadron, with KADDB as the independent Governmental military-civilian agency tasked with operating to best commercial practices and predetermined performance targets.

The Camcopter S-100 was chosen following a comprehensive evaluation process by KADDB on behalf of the JAF to ensure it could meet all of its demanding mission requirements.

## Jet Aviation's dedicated AOG team

Jet Aviation has launched a dedicated aircraft on ground (AOG) hotline service for the EMEA & Asia regions to assist aircraft operators with any and all emergency situations.

Calls to the hotline number +41 58 158 4848 are answered 24/7 by a qualified member of Jet Aviation's EMEA & Asia MRO division.

## Medevac AW139s set for Qatar

Qatar Air Force has signed an order for three additional AW 139 helicopters from Agusta Westland for emergency medical services duties.

Qatar ordered 18 AW 319 multi-role aircraft

just over two years ago.

So far nine have been delivered with the remainder due by this time next year.

## Iran bans Tu-154 and uses IRAN-140

The first eight IRAN-140 turboprop aircraft are entering service in Iran as a ban on the ageing Tupelev Tu-154 comes into effect across the country.

Reza Nakhjavani, head of Iran's civil aviation authority, said all operations of the Tu-154 had to end by February 19.

Iranian Defence Minister Brigadier General Ahmad Vahidi said late last year that his ministry was ready to mass-produce the IRAN-140 passenger and cargo aircraft that is said to be capable of carrying 52 passengers more than 1,800nm.

The first IRAN-140 aircraft was introduced in 2003.

Five domestically-manufactured IRAN-140 planes were finally completed in October 2008 to increase the air force's transportation capacity and upgrade the marine surveillance capabilities.

Now the first eight are believed to be ready to enter service with Iran's domestic airlines.

The number of fatal crashes of the former Soviet workhorse Tu-154 passenger jet led to the demand for the domestically-built aircraft to replace the Russian plane.

Sanctions prohibit Iran from purchasing western-built aircraft.

■ See Story Page 19



## Afghan air cargo's new horizons

East Horizon Airlines, Afghanistan's newest cargo airline and the first certified under the new internationally-compliant Afghan aviation standards, has taken delivery of its first aircraft.

The airline acquired four CASA 212-100 ramp-loading cargo planes from EADS CASA. The aircraft will make stops in Malta and the United Arab Emirates for final inspection, maintenance and pilot training before proceeding to Afghanistan.

Fawad Sultani (pictured) chairman East Horizon Airlines said: "We are a 100 per cent Afghan-owned cargo airline dedicated to supporting and accelerating the re-development of Afghanistan by moving reconstruction materials across the country more safely and quickly than is currently possible."

## First Iraqi instructor pilot flies T-6

Lt Col Hamid Hussein, the first Iraqi Air Force instructor pilot to graduate from the 52nd Expeditionary Flying Training Squadron at Tirkrit Air Base, Iraq, has flown his first official training mission with an Iraqi student pilot in a Hawker Beechcraft T-6.

There are currently 18 Iraqi students enrolled in flight training and Hussein hopes to train 30 T-6 instructor pilots. This train-the-trainer goal would enable the air force to sustain flight training long after the scheduled US transition out of Iraq in December.



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## Iran to play part in sensing satellite

The Director of the Iranian Space Agency Hamid Fazeli said that Iran will design and build a remote sensing satellite in cooperation with the Asia-Pacific Space Cooperation Organization (APSCO).

Fazeli told the Iranian Students' News Agency in mid-March, Iran successfully launched its first domestically-made bio-capsule into space by Kavoshgar 4 (Explorer 4) satellite carrier.

## West Atlantic looks east

Dubai Aerospace Enterprise (DAE) company, StandardAero, has signed an exclusive maintenance agreement with West Atlantic airline.

This long-term contract covers more than 80 Pratt & Whitney Canada PW126 and PW126A engines.

## No sale but new venture for ASM

Dubai-based flight support services provider Aviation Services Management (ASM) has denied it is in talks to sell the company and instead has outlined a growth strategy that has



## Turkish adds 15 more next-gen Boeings to fleet

Turkish Airlines has exercised options for 15 next-generation 737s. The order, comprised of ten 737-800s and five 737-900ERs, has an average list-price value of more than \$1.2bn.

All the aircraft will have the new Boeing Sky Interior, which introduces larger overhead stowage bins with a new pivoting

design providing more open space in the cabin.

The new interior also features modern, sculpted sidewalls and window reveals to draw passengers' eyes to the view outside the window, as well as cove lighting and curving architecture.

seen it launch a new branch in Mumbai.

ASM already has a joint-venture with Abu Dhabi's Royal Jet in India through its Goa operation and founder Vito Gomes said April's opening of the new Mumbai venture was aimed at increasing its Indian business.

## Approvals for EgyptAir MRO

EgyptAir Maintenance and Engineering has successfully renewed its EASA Part 145 approval. This approval accompanies

the addition of a number of new aircraft types to EgyptAir's current capabilities: B757-200/300, B767-200/300, Airbus A330-200/300 powered by GE CF6 and Embraer E190/195.

## Smoke hoods for UPS freighters

Following the crash of a Boeing 747 freighter in Dubai last year when a fire broke out onboard, cargo operator UPS has said it will equip its air fleet with the Emergency Vision

Assurance System (EVAS), becoming the first international air carrier to take such a step. Installation of the smoke hoods comes at the recommendation of the Joint UPS-Independent Pilots Association (IPA) Safety Task Force.

## More Bahraini pilots in training

Bahrain-based Tamkeen has signed an agreement with the Gulf Aviation Academy (GAA) to train and qualify 65 Bahraini pilots seeking jobs as part of Tamkeen's initiatives and programmes for Human Capital Development.

## Air Partner division rebranded

Air Partner's global flight support division Air Planner has been rebranded and renamed Air Partner Ops 24.

At the same time Air Partner's ACMI wet lease service has now been incorporated into the Ops24 function. Wet leases generally last from one month to two years and involve the provision of an aircraft, its crew, maintenance services and insurance.



## Embraer 175 jet delivery for Oman

Embraer has delivered the first Embraer 175 jet to Oman Air. The aircraft will serve the airline's regional routes operating from Muscat International Airport.

The deal was originally announced in November 2009 and includes firm orders for five Embraer 175s, plus options for another five.

Oman's chief executive Peter Hill, said: "The E-Jets are the ideal platform from

which we can expand our regional route network and better align frequency with demand. Having this flexibility allows us to introduce more point-to-point routes currently not

sustainable with larger aircraft, as well as upgrading our services to domestic destinations like Khasab and other new airports currently being developed within the Sultanate of Oman."



## Bell's Strong boost with Kuwaiti first

Bell Helicopter has delivered the first Bell 429 helicopter to a customer in the Middle East.

The customer, Strong Aviation, is headquartered in Kuwait City and will utilise the helicopter for VIP missions in the area.

The Bell 429 was chosen for its impressive performance capabilities, especially in the extreme climate of the Middle East.

"The Bell 429's outstanding hot-and-high performance along with its expansive cabin, were key features for us," said Capt Salem Safar, aviation manager, Strong Aviation. "The 429 is, quite simply, the newest generation of helicopter. It is so advanced it does the pilot's work for him. And when it came to customer care, Bell Helicopter surpassed our expectations."





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**A**cross the Middle East and North Africa (MENA) airlines are suffering from the unprecedented political instability that continues to rumble around the region.

The International Air Transport Association (IATA) announced that the political unrest in MENA during February is estimated to have cut international traffic by about one per cent, making it responsible almost entirely for the slippage in passenger demand growth in the month.

One of the hardest hit has been Egyptair, whose operations were reduced to around 35 per cent during the revolution, with load factors of between 50 to 60 per cent in departures and 40 to 50 per cent in arrivals.

January and February saw the company constantly merging and rescheduling flights to cope with curfew changes and decreased demand.

With the support of its fellow Star Alliance members, the airline restored its operations in time for the launch of the summer schedule, with increased capacity to Saudi Arabia, Qatar, Kuwait, London and new flights from London to Sharm El Sheikh. Airline representatives say that planned route launches to Toronto, Washington, Abidjan and Kigali have been postponed to the winter timetable.

During the slowdown, Egyptair stepped in to repatriate Egyptian nationals fleeing Libya. The airline operated about 337 flights, flying 80,219 Egyptians back to Egypt.

The revolution and demonstrations in Egypt, Syria, Bahrain and Jordan have negatively affected Kuwait Airways (KU) with 20,000 fewer passengers carried in January and February compared to 2010.

#### Severely affect summer traffic

Abdulla Alqaisi, marketing director, expects the situation to continue for the next few months and to severely affect their summer traffic. He said: "KU expects much of the summer season traffic to be diverted to European countries, mainly London, Frankfurt, Rome and Paris. As KU's network is limited to a few destinations in Europe, the management is planning to increase seasonal flights to Istanbul to twice weekly and may introduce a third frequency."

The KU management will try to compensate for the losses expected for summer 2011 by focusing on other destinations that are expected to boom, including flights to Jeddah and Medina in Saudi.

Alqaisi added: "KU is optimistic that all the currently unstable destinations will recover in the short term. So we will make preparations to return to previous frequencies and even have additional flights to Egypt, Lebanon and Damascus when the situation is back to normal."

The demise in March of Kuwait-based premium airline Watania Airways, after two years of operations, was blamed partly on the difficult political and security situation in the region, but

# Losers – and some winners – as uprisings spread across MENA region

*Numbers are down for regional carriers but business aviation sees demand grow.*

**Jill Stockbridge reports**

the board of directors stated that they ceased trading due to the financial situation of the company and the lack of fair trade requirements in the local market.

Load levels are down at Emirates, which flies to the hotspots Libya, Tunisia, Bahrain, Oman, Yemen and Syria.

Emirates Airline president Tim Clark said that the passenger load factor had fallen to 75 per cent, with business travel dropping away in the region and tourist travel from China disappearing.

However, he added that the airline had the financial reserves to absorb the hit and expects to return to the 82 per cent load factor it would have expected by the end of April. An Emirates spokesperson said: "Our excellent half-year results have held us in good stead to weather this crisis. However, the on-going conflict will undoubtedly have an impact on our full-year results."

The group remains in full recruitment mode, with both pilots and cabin crew actively being sought globally.

Ethihad has also seen some reduction in passenger volumes and a change in passenger profile, but has continued to operate without interruption. A spokesman said: "Ethihad has retained its schedule integrity throughout the unrest across the region. No services were

suspended. In fact, extra capacity was provided on certain routes, which did much to instil confidence in passengers. As the position stabilises across the region, we are seeing passenger volumes return."

The airline waived all rebooking fees for a certain period, which helped to sustain passenger numbers, and worked with other regional airlines that, due to the exceptional circumstances, had reduced capacity, by easing ticketing acceptance procedures and accommodating their passengers.

#### Benefited from disruption

Both Emirates and Ethihad may well have benefited from the disruption in the region, as the UAE is seen as politically stable and economically strong. Ethihad said: "The strategic geographical positioning of the UAE continues to be popular with passengers who see the Abu Dhabi hub as a safe and convenient way to travel between east and west."

There were others that have seen improvement. Bahrain Air was one carrier that has successfully been able to charter out its aircraft to fly repatriation flights from Bahrain and other regional hotspots.

The business aviation community has also seen greater take-up of charter services.

"During the peak of the Egypt unrest, we were



flooded with calls,” said Shane O’Hare, president and chief executive of Royal Jet, based in Abu Dhabi.

“We had corporate customers, individuals, families, diplomats and others calling for our service,” he said.

The company got about 20 calls a day, with up to seven trips every couple of days – compared to just two flights normally in the same period in the last two years.

“People were desperate to leave,” Paras Dhamecha, executive director of Dubai-based operator Empire Aviation Group, said of Egypt, where his firm ran six to seven flights a week transporting groups and large families.

“The crisis is very unfortunate but it has boosted business for us,” said Mark J Pierotti, chief operating officer of Al Jaber Aviation. “We are not back to the levels we saw in 2007 but it seems like we can get there soon.”

The business jet market fell hard in 2009 after five consecutive years of growth as companies cut spending and tighter credit made purchases difficult, but business is up by at least 15 per cent since December and the company is inundated with rescue calls, Pierotti said.

“There have been repeated demands for the best business jets. The Airbus A318 is very popular and so is the Embraer Lineage,” he said.

Pierotti said the operator had at least three

flights going to Tunisia each week during its crisis and about two flights a day to Cairo. The massive earthquake and tsunami in Japan brought yet more passengers, as Arab businessmen and diplomats stuck in Japan called on operators to get them home.

“When the situation in Libya escalated into violence, we received many inquiries for urgent emergency evacuations,” said Claire Brugirard, charter sales manager at Air Charter International. Air Charter successfully evacuated 3,000 people from Libya to various destinations such as India, Bangladesh, Afghanistan, the United Kingdom and Sri Lanka, to name a few.

#### Round the clock

“Our team worked around the clock with different operators to ensure that all persons were evacuated safely to their destinations,” Brugirard said.

The world’s largest aircraft charter specialist, Chapman Freeborn, has been extensively involved in high-profile evacuation operations – flying more than 18,000 passengers to safety in recent weeks mainly through rapid response to crisis situations in Egypt, Libya, Tunisia, Bahrain and Japan.

Corporate groups and oil and gas industry workers were swiftly evacuated from Tripoli to airports in Turkey and Malta with Chapman Freeborn teams in Turkey and the UAE utilising

aircraft types including B737s and Fokker 100s for evacuation flights.

Large groups of economic migrants, who passed across the Libyan border into Tunisia, have been flown from Djerba to locations such as Cairo, Accra and Bamako on chartered A320, A321, B737-800 and MD-83 aircraft.

Hundreds of tons of humanitarian cargo, including temporary shelter, nets and vehicles, was also delivered to the region on IL-76, A300 and B747-400 freighters arranged by Chapman Freeborn’s cargo team.

Dubai-based Ocean Sky issued a warning to brokers saying that choosing the right local operator for an evacuation flight will be important if civil unrest continues to spread further across the Middle East.

Neil Backhouse, Ocean Sky’s Dubai office manager, said: “The unrest in some Middle East countries has led to a number of evacuation flights. We can expect that demand to continue if protests escalate or spread to other countries. A critical factor in arranging such flights is securing the necessary landing permits, which can be difficult at short notice unless you know the national aviation authorities. As personal relationships continue to have great importance in the Middle East, we would advise anyone booking an evacuation flight to choose an operator who can call on existing links throughout the region.”

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Boeing 727s are still operating in Iran but are struggling. Inset: The Fokker 100 is popular with Iran Air and Iran Aseman because its Rolls-Royce engines are outside of sanctions rules.



# Iran fleet hits the crash barrier

*January's decision by Iran's Civil Aviation Organisation (CAO) to ban the use of Tupolev Tu-154s by the country's airlines following a series of crashes, closes off yet another equipment avenue to the country's hard-pressed airline industry. Alan Dron reports.*

**A**ffected by a generation of sanctions imposed by the United States that has prevented the sale of US airliners – and many European models – to Iran, its situation has been worsened in recent months by UN-mandated sanctions against Tehran's nuclear ambitions.

These have made it difficult for Iranian aircraft to refuel in several European nations.

The poor condition of the Iranian aviation industry is reflected in its accident rate. Over the past decade, Iran has suffered one of the world's worst aviation records for crashes. Almost 20 military and civil transport aircraft have met with fatal accidents and the country's civil air fleet is increasingly elderly and difficult to maintain.

It is a sad fall for a country whose national airline in the late 1970s was the world's fastest-growing and was a customer for the Anglo-French supersonic Concorde. Indeed, the Iran Air offices in London's Piccadilly still have a Concorde model in the company's colours in the window, a poignant reminder of faded ambitions.

With its poor accident record – in autumn 2009 the Los Angeles Times cited an aircraft accident investigator who noted that 10 per cent of the entire global total of aircraft hull losses were Iranian – the country is increasingly mired in aviation problems.

Much of the blame for this poor record is placed – particularly by the Iranian authorities – on a generation of US sanctions that has crippled sales of new aircraft and spares to the Islamic Republic.

Imposed after the fall of the Shah and the hostage-taking of US embassy personnel by the new Islamic government in 1979, they have been rigorously enforced by the US. Their effect has been felt not only by US airline manufacturers and spares companies, but also on non-US airframers whose aircraft contain more than 10 per cent US content by value. This effectively means that any aircraft powered by US-built engines cannot be sold to Iran.

Continued  
on Page 20

**Kish Air is getting around the sanctions by utilising MD-83s from third-parties.**



**CONTINUED FROM PAGE 19**

This explains why Iran has become one of the last strongholds of the Dutch-built Fokker F100, whose Rolls-Royce Tay powerplants fall outside the terms of the embargo. Iran Air, for example, has a fleet of 16, while Iran Aseman Airlines has 20 and Iranian Air Transport, four.

The Fokker 50 is popular for the same reason, but otherwise, Iranian airlines' fleets tend to be composed of a heterogeneous mix of elderly, pre-sanction era Airbuses or Boeings.

As a result of their deteriorating condition, the European Union (EU) has imposed steadily tougher restrictions on Iranian aircraft entering EU airspace; in July last year the European Commission, the EU's executive arm, expanded restrictions on Iran Air, excluding its Boeing 727s and 747s, as well as its Airbus A320s, from the air lanes over Europe.

It described Iran Air as suffering "significant deficiencies" in managing airworthiness and maintenance issues, adding: "The company is failing to address the basics in terms of the continued airworthiness of its aircraft.

"In particular," it added, "basic errors have been made in the maintenance programmes leading to significant omissions from the programmes for safety-related equipment on the Airbus A320 fleet and the Boeing 747-200 freighter." The A320s were rated as particularly poor after a series of ramp checks at European airports.

The Commission acknowledged that Iran's CAO had a strong commitment to adopting modern safety management techniques and that it had demonstrated an "open, co-operative and constructive approach" to addressing problems. However, these good intentions were insufficient to prevent increasing restrictions being imposed on Iranian aircraft operating to the EU.

In 2005, a report prepared for the International Civil Aviation Organisation (ICAO) said that by imposing the sanctions the US government and major US companies were ignoring international treaties and putting passengers on Iranian aircraft at risk. It added that some deaths and injuries in Iranian airliners could be at least partly attributed to the sanctions' effects. ICAO checked the report for technical accuracy and bias, but neither endorsed nor rejected it.

In a statement it noted that its then president,

Assad Kotaite, "always recognised the commitment of the US to ensure the safety of airline operations. When the US was convinced that safety was in jeopardy, they allowed spare parts to be delivered."

However, at the time both Boeing and General Electric said they had been seeking permission from the US Government to export safety-related spares to Iran, but had heard nothing for more than a year.

In Iran, meanwhile, several airlines such as Kish Air are getting around the sanctions by sourcing elderly MD82 and MD83 jets from third-parties. Iran Air Tours is also buying MD80s, in preference to earlier plans to buy Russian Tupolev Tu-204s. Although the Tupolevs would have been some 25 years younger than the MD80s, the Perm/Aviadvigatel PS-90 turboprops were deemed uneconomic to operate.

Iran has also sought to remedy the shortage of new aircraft by trying to build up an indigenous civil aerospace industry. The Ukrainian-designed Antonov An-140 is due to be built under licence as the IrAn-140, although after several years of preparation, just 14 have been completed, according to the Iranian transport minister in November 2010.

An initial batch of eight is reported to have been brought into service to help replace the banned Tupolev Tu-154s, although the two types are scarcely in the same class. The Tu-154 tri-jet has a typical capacity of 164 passengers in single-class configuration, whereas the turboprop IrAn-140 can carry just 52.

According to some foreign observers, however,

at least as much a problem as the US sanctions is the attitude of Iran's CAO. Several have argued that modern precepts of air safety – openness, reporting and sharing of information – are badly lacking at the CAO.

There have also been complaints from aviation professionals within Iran that unsafe airlines or incompetent pilots have been allowed to continue operating by exercising influence with senior government or CAO officials.

And, according to Mehdi Aliyari, the head of Iran's professional association of air transport companies, regulators have also created pressure on the country's airlines to cut corners.

Speaking to the Iranian newspaper Jomhuri Eslami last summer, he said that government regulators kept domestic airfares artificially low and insisted airlines operated money-losing flights to small regional airports to keep local members of the Iranian parliament happy.

Pleas from airlines to be allowed to raise prices had gone unheeded, meaning carriers were short of cash. This eventually filtered down to areas such as maintenance, leading to corners being cut in an attempt to meet the unrealistic schedules.

"When the government artificially keeps the price of air tickets fixed and airline companies' warnings on raising ticket prices are ignored, air accidents are not implausible," he told the newspaper.

Whatever the extent to which sanctions are responsible for the deteriorating state of Iran's airlines, the situation seems certain to get worse before it gets better.



**The IrAn 140 is now coming off the production line to replace the banned Tupolev Tu-154.**

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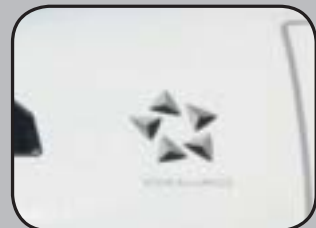
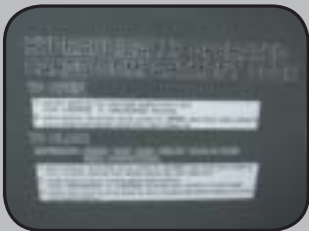
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*Mitsubishi Aircraft Corporation, a new entrant to the regional jet market, has high hopes of beating off rivals in the crowded marketplace and sees the Middle East as an important market. But can it overcome the competition?*  
**Alan Dron reports.**

# MRJ set to muscle in on crowded jet marketplace

**T**he regional jet market is likely to become one of the most hotly-contested sectors of the airliner industry within the next two to three years as several new aircraft reach the marketplace.

The Sukhoi Superjet, Bombardier CSeries, Comac ARJ21 and Mitsubishi Regional Jet (MRJ) will all be contesting orders along with the highly-successful Embraer 'E-Jet', of which almost 1,000 examples have already been delivered or are on firm order.

It will be a tough marketplace, especially for newcomer Comac (unproven) and Sukhoi (better-known for military aircraft). MRJ will also be carefully scrutinised by potential purchasers, as it last produced a large commercial aircraft – as part of the Nihon Aircraft Manufacturing Corporation consortium – in 1974 when the last NAMC YS-11 twin turboprop rolled off the production line.

Since then Mitsubishi Heavy Industries (which has a 64 per cent stake in Mitsubishi Aircraft, set up in 2008 to develop the MRJ) has been heavily

involved in producing major sub-assemblies as a Tier 1 supplier for Boeing, but producing a complete airliner takes it into new territory. First metal for the MRJ was cut last September.

Mitsubishi Aircraft initially plans two versions of the aircraft – the 78-seat MRJ70 and the 92-seat MRJ90. A 100-seat MRJ100 is further in the future.

The company believes the MRJ has a strong future ahead of it in the Middle East, despite the current lack of orders from the region.

#### **Very important market**

"Our estimate is that over the next 20 years there will be 5,000 new regional jets needed in the world and probably five per cent of them will be in the Middle East," said Hitoshi Iwasa, Mitsubishi Aircraft's vice-president, sales and marketing. "At this point it's not easy for us to answer what share of that we can take...but we will try to win more than one-third. The region is will be a very important market for us in future."

Mitsubishi Aircraft does not deny that it held

talks earlier this year with Etihad, although it is careful to note that the Abu Dhabi airline is just one of many with which it has been in contact. It was in "very deep" discussions with several airlines, most of whose names he could not reveal. However, he did suggest Syrian Arab Airlines as one of the potential customers.

The major players in the Middle East, such as Emirates, Qatar Airways and Etihad, have made their reputations from long-haul operations, transferring passengers between Europe and the Far East via their Gulf hubs. However, Iwasa said he believed they were starting to give thought to using regional jets.

Not only would these cover the Middle East region and could thus feed passengers in to their hubs for transfer to onward long-haul routes, but they would have sufficient range to cover the western half of India, from where so many of the Gulf's expatriate workers come.

Typically, major airlines in the region have used aircraft in the Airbus A320 family for shorter-haul services, but some routes, particularly to





secondary airports, would be more economically served by smaller aircraft. Iwasa saw the MRJ being used to develop and grow these new routes.

One carrier, Gulf Air, has already moved towards greater emphasis on regional routes and is trialling four Embraer aircraft – two E-170s and two E-190LR/ARs, while both Egyptair Express and Royal Jordanian have also adopted the Brazilian aircraft.

Does Embraer’s foothold thus mean that the MRJ has arrived too late in the Middle East marketplace? Iwasa said he believed not.

Although the marketplace is set to become crowded, with the Sukhoi Superjet now starting to reach airlines and Bombardier’s CSeries due to follow in 2013, Iwasa was confident that airlines would be prepared to wait until the MRJ’s in-service date of early 2014 in order to gain the advantages, including financial benefits of the aircraft’s low operating costs.

Compared to its competitors, its fuel burn would be “more than 20 per cent better. That’s a big advantage for us.” Emissions would also be

better than those of competitors, he claimed. At last year’s Singapore Air Show, Mitsubishi said that this 20 per cent saving was achieved through the combination of its new Pratt & Whitney ‘PurePower’PW1000G geared turbofan engines and efficiencies in its advanced airframe technology.

Apart from these cash savings, a major factor in helping sell the aircraft would be the cabin, which would be the most spacious in its class, said Iwasa. Helping to create that vital space would be a new design of seat currently under development.

**Greater leg room**

A new-generation, slim seat developed by Japanese manufacturer Delta Kogyo would give greater leg room for passengers. Although this would be the first airline seat developed by Delta Kogyo, a car seat manufacturer, its experience in high-tech seat construction techniques such as those found in racing cars, would ensure a high-comfort solution, he believed.

At the time of writing, MRJ had orders from

just two airlines, launch customer All Nippon Airways (15, plus 10 options) and Trans States Holdings (TSH), which late last year firmed up its earlier letter of intent by firmly ordering 50 examples and taking a further 50 on option.

TSH’s order is important not only because of its size. If the MRJ can successfully break into the US market, its prospects are good.

St Louis, Missouri-based TSH is a holding company that owns three airlines, Trans States Airlines, GoJet Airlines, and Compass Airlines, which operate feeder services for United Airlines, Delta Air Lines, and US Airways.

Mitsubishi Aircraft’s efforts to promote the MRJ are made more difficult by not having a real aircraft to show potential buyers, accepted Iwasa. But once the MRJ has made its maiden flight next year and moved into its test programme, the ability to release hard data with potential customers would ease the task of promoting it, he believed. “We can say ‘OK, we’ve done it; we have an aircraft and it’s a good one’.

“That will make the aircraft much easier to sell.”



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# RED NOSE DAY

*Boeing's answer to the A380 took to the skies in March.*

**Marcelle**

**Nethersole** visits Seattle and looks at the impact that the B747-8 Intercontinental could make.

**B**oeing made a large and colourful impact as it rolled out its latest aircraft – the B747-8 Intercontinental – at its huge hangar in Everett, Seattle.

Moving away from its traditional blue and white, the 10,000-strong crowd at the launch were dazzled by a sunrise livery of red-orange, which Boeing chose to symbolize good luck and prosperity.

Within weeks the US airframer's new giant had taken to the skies. Already the aircraft has orders from the MENA region – not yet in airline configuration but set for a place in the Royal Fleet in Kuwait.

The Intercontinental is the latest version of the iconic jumbo-jet that was first inaugurated in 1969.

"The 747-8 started with the legacy of the 747," said Elizabeth Lund, 747-8 vice president and deputy programme manager. "We then added a brand new wing, a sharper nose, new tail, state-of-the-art engines, brand new interior and a new cockpit, and what you have is the iconic cross-section and shape of the 747 with all the features passengers love.

"But it will be more economical than before, carry more people and carry more cargo. We have basically taken all of the good and replaced it with brand new elements so it's better than ever."

The 747-8 will serve the 400-500-seat market, putting some stiff competition on the Airbus A380.

"We needed an airplane in the 400-500 seat market. This is the next spot in the market," said Lund. "This luxury long-haul airplane has around 467 seats in a tri-class with first and business.

"The 747 has always dominated the skies as the largest commercial airplane until the A380 came along. We have a very strong competitor with the A380 but I feel this provides stiff competition for it."

While the 747-8 carries fewer passengers than the Airbus A380, it will be the world's longest airliner. At 250 feet it is almost 20 feet longer than a normal 747 and also longer than the Airbus A340.

The Boeing 747-8 Intercontinental also boasts technological advancements that make it extremely productive for its customers. It has a unique and spacious interior. It will also function at around 12 per cent lower operating costs, 16 per cent better fuel economy, 16 per cent lesser carbon emissions per passenger and 30 per cent smaller noise footprint than its oldest predecessor, with more room for passenger belongings and a curved, un-swept architecture.

"We are confident that this airplane will set a new standard in economic and eco-efficient performance and also provide a world-class experience to its customers," said Lund.

Boeing so far has won just 33 orders for the passenger version of the plane – from Lufthansa, which has ordered 20, and Korean Air Lines. It has also sold 74 of the cargo versions.

"It has not been a great time for big airplanes in the last period of the economic downturn in the sector but we are in an up-cycle again and we believe this airplane will sell very well," said Lund. "Once we enter service later this year, we expect many more orders to come in."

While Boeing hopes that President Obama's Air Force One jet will be replaced with 747-8s, the first delivery of the airplane is for the "unnamed" VIP customer from Kuwait.

Lund stressed the importance of the airplane to the Middle East market: "The Middle East is a very important region for us as it is one of the biggest markets for big airplanes. We launched this airplane as a passenger and freighter airplane with the potential of a Boeing business jet, or VIP airplane. The response from the Middle East for the VIP is incredible and I will say when you look at this airplane in a VIP configuration you can get high ceilings with the transition between the upper deck and lower deck, as well as lighting schemes. It can be transformed into anything the passenger desires really. Basically it is a fabulous head-of-state VIP airplane."

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# Arab League reinforces Libya's UN no-fly zone

*Arab air forces work with European counterparts to enforce the UN no-fly zone in Libya.* **Jon Lake reports.**

**A**s Colonel Gaddafi continued to prosecute attacks against rebels and opposition groups, the Arab League voted to ask the UN Security Council to impose a no-fly zone over Libya.

Of the 22 members of the League, only Syria and Algeria opposed the vote, which was held at a special meeting in Cairo on March 12. The strength of Arab League support proved compelling, and the no-fly zone, previously strongly supported by France and the UK, but without firm backing from the EU or NATO, gained traction.

On March 16, the UN Security Council voted to take "all necessary measures" to protect Libyan civilians, voting on a draft resolution, presented by Lebanon, Britain and France. This resolution called for the authorisation of the no-fly zone over Libya as a means of protecting civilians and ending or inhibiting military action by the Gaddafi regime against its own citizens.

The Arab League soon endorsed this policy and, on March 17, its representative to the United Nations, Yahya Mahmassani, said that the United Arab Emirates and Qatar had already indicated their willingness to take part in operations aimed at imposing a no-fly zone over Libya.

#### **Air-to-air sorties**

It was clear from an early stage that any commitment by Qatar and the United Arab Emirates would be limited to air-to-air sorties mounted in support of establishing and enforcing the no-fly zone and that the Arab countries would not participate in air-to-ground operations against Libyan military targets, especially after senior Arab League figures criticized some of the heavy air attacks and missile barrages mounted against Libyan air defences, military airfields, aircraft, tanks and other military targets by US and European forces.

Qatar was the first Arab country to join the mostly Western coalition, the first to recognise the transitional National Libyan Council set up by the rebel opposition, and the first Arab nation to deploy aircraft to support the operations (known as Operation Odyssey Dawn to the US, and as Operation Ellamy to the UK).

On March 22, two Qatar Emiri Air Force Dassault Mirage 2000-5EDA fighters, accompanied by a Qatari C-17, diverted to Larnaca International Airport on the island of

Cyprus after encountering headwinds. They were en route to Soudha, on Crete. Their pilots subsequently declared a fuel emergency as required under international regulations. Before the fuel emergency was declared, the Cypriot authorities initially refused the request to land. Cyprus has enjoyed some links with Libya and its president, Dimitris Christofias, expressed disapproval of the military action and refused to participate, though was unable to prevent the UK from using its Sovereign Bases on Cyprus for the operation.

The two Qatari Mirages represented the first wave of Qatar's planned commitment to the no-fly zone operation, and were subsequently followed by four further fighter aircraft and a transport type.

#### **Operational frontline**

The six Mirage 2000s represented half of the small nation's operational frontline fast jets. When committed to the operation (operating alongside Armée de l'Air Mirage 2000s), the Qatari fighters were armed with Matra Super 530 medium-range missiles and AIM-9 Sidewinders.

The aircraft joined the operation on March 24 and tended to fly in pairs, with a pair of Qatari Mirages operating alongside a French pair.

French Defence Minister Gerard Longuet described Qatar's role in the Libyan operations as "essential", and stated: "This is the first time that there is such a level of understanding between Europe and the Arab world."

The next Arab nation to contribute aircraft to the operation was the UAE, though officially, it stated that it was providing only humanitarian aid. In fact, this humanitarian assistance comprised 12 fighter jets (six Mirage 2000-9s and six Block 60 F-16E/Fs), which were committed to the operation in a speech by UAE Foreign Affairs Minister Sheikh Abdullah bin Zayed al-Nahayan.

Al Jazeera referred to this as "an extension of the UAE's humanitarian operations". The fighters (including both single-seat F-16Es and two-seat F-16Fs from No.1 Squadron) deployed to Decimomannu, near Cagliari, on the island of Sardinia, landing there on March 27.

Finally, six Royal Jordanian Air Force F-16s were deployed to Aviano AB on the Italian mainland on March 31.

*Jordan takes the CASA transporter and gives it bite. Jon Lake looks at the conversion plan.*

## Jordan's KADDB confirms gunship conversion programme with ATK

**U**S company Alliant Techsystems (ATK) has formally announced that it had been contracted by Jordan's King Abdullah II Design and Development Bureau (KADDB) to convert two CASA/Airbus Military CN-235 twin-engine transport aircraft into light gunships for the Royal Jordanian Air Force.

The programme, revealed at the International Defence Exhibition and Conference (IDEX) in Abu Dhabi on February 20, will see ATK converting a pair of ex-Spanish Air Force CN-235s to an armed configuration.

The two aircraft will be fitted with ATK's new light gunship special mission aircraft capabilities package. This has been developed from the company's existing special mission aircraft modification programmes, which have seen ATK incrementally integrating a range of sophisticated intelligence, surveillance and reconnaissance (ISR) capabilities – and later sometimes armament – on to some 60 aircraft, including a wide range of platforms.

These platforms have included Iraqi and Afghan Cessna Combat Caravans (which have ISR capabilities and Hellfire missiles), the US Department of Homeland Security's Bombardier Dash-8s, and a number of Hawker Beechcraft King Airs and Lockheed Martin C-130s.

### Building block approach

The company's 'building block' approach ensures low technical and programme risk.

ATK will install and integrate its M230LF link-fed 30mm chain gun (used on the Apache attack helicopter) on to the CN-235s, and will also fit new weapons hardpoints on stub wings mounted adjacent to the main landing gear sponsons. These pylons will allow the aircraft to carry a range of armament, including AGM-114 Hellfire laser-guided missiles, and guided or unguided 2.75-inch rockets.

The M230LF cannon will be fitted in the rear fuselage, firing out through an aperture just in front of the port para-

door, aping the broad configuration of the USAF's AC-130 Hercules gunships.

The M230 is a tried and tested weapon and offers extremely low recoil. "This is not like installing a Bushmaster," ATK said at IDEX. It also offers a high degree of combat and cost-effectiveness. "Ten rounds from the cannon can be as effective as a Hellfire missile – and very much cheaper," Jed Holzapfel, ATK's group vice president for International Business told *Arabian Aerospace*.

The aircraft will also be fitted with ATK's STAR mission system, which consists of a package of electro-optical ISR and targeting sensors, including a chin-mounted Wescam/L-3 MX-15D imaging turret.

### Colour daylight video camera

The MX-15 incorporates a colour daylight video camera with zoom lens, a mono daylight camera with 'spotter' lens, a high-magnification IR sensor with a four-step zoom, an eye-safe laser rangefinder, a laser illuminator and a laser designator with LRF. The aircraft will also be fitted with comprehensive self-protection equipment.

The two CN-235s being converted to light gunship special mission aircraft configuration have been refurbished and 'zero-timed' by EADS-CASA, before being flown to ATK's Fort Worth facility for conversion and 'missionisation'.

They are expected to be modified, delivered and tested by spring 2013, subject to US government export licensing approval.

The aircraft will become dedicated gunships, since the armament and sensor package is permanently installed and is not 'roll-on/roll-off', though there is some cabin space to allow them to undertake limited transport tasks, or to carry personnel and equipment for self-deployment.

ATK sees some potential for converting further aircraft for Jordan, in which case the KADDB would play an enhanced role.

The new armed CN-235 is not aimed at the US forces though, if the requirement that resulted in the AC-27 light gunship comes back, the company would probably offer the type (or a similar modification on a different aircraft platform) to the US Air Force.

The type is also attracting great interest in the Middle Eastern region and ATK acknowledged that it was having top-level discussions with a number of potential customer nations during the IDEX show.

The company sees market opportunities in the Middle and Far East and in Africa, where this class of aircraft's efficiency, small airfield operating capabilities and low cost give it a powerful edge.

This class of aircraft offers a compelling alternative to armed UAVs, providing a similar blend of offensive and ISR capabilities and high endurance, but with the advantage of putting the human into the platform, thereby providing greatly enhanced situational awareness and flexibility.

**Jed Holzapfel - Cannon can be as effective as a Hellfire.**





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*Claims that the decision on the UAE fighters may not yet be final have been given credence as UAE takes a closer look at Typhoon.*

## Building block missions cement RAF/UAE relations

The RAF's Typhoon force deployed to the UAE again for further bilateral exercises with the UAE Air Force and Air Defence (UAE AF&AD). This followed up earlier deployments to the UAE to participate in ATLC exercises and to Oman for Exercise Magic Carpet.

The most recent exercise also involved HMS Cumberland, operating in the Gulf, and an E-3D Sentry Airborne Warning And Control aircraft from No.8 Squadron.

The Typhoons, drawn from all of the RAF's squadrons but flown by No.XI Squadron pilots, flew directly to Al Dhafra after participating in Exercise Indra Danush in India.

This was an intensive three-week air defence exercise which saw the Typhoons operating in an oppressive 35-degree heat and 100 per cent humidity, while the UAE's Air Khanjar exercise was intended to provide valuable experience of operating in more arid, and equally challenging, desert conditions, putting the Typhoon into a dry, warm environment.

For the exercise, the Typhoons operated as part of an Expeditionary Air Wing, with the combined force of both Typhoons and Sentry, deploying as a single unit, with a

common force headquarters and with the engineers and administrators acting together.

The main aim of the exercise was to develop the bi-lateral relationship between the RAF and the UAE AF&AD, outside of the ATLC structure, reinforcing the bilateral defence co-operation accord between the UK and UAE and building on previous exercises.

In ten days of operations, the two air forces developed their co-operation, drawing up common standard operating procedures (SOPs), and developing compatible work practises.

The exercise had been planned around a gradual and incremental 'building block' approach, gradually increasing the complexity of missions and training objectives. But the plan was modified and accelerated into more complex areas as it rapidly became apparent that the skill levels at both individual and squadron levels were already closely aligned, and that the UAE AF&AD was very flexible in its operations and was rapidly able to adapt to working with the RAF.

The Typhoon pilots were able to practice 'dissimilar air combat training' against Block 60 F-16s and Mirage 2000-9s – both representing new and challenging adversaries for the RAF pilots, and allowing the Emirati pilots to experience going up against a 'later generation' threat.

Wing Commander Jez Attridge, the officer commanding No.XI Squadron and also officer commanding 906 Expeditionary Air Wing for the duration of Air Khanjar, highlighted the value of the exercise. "The UK has long-standing close co-operation with UAE and complementary weapons systems which, given the current political and military realities of most military operations worldwide being coalitions, means it is always good to rehearse operations with other proficient partner nations."

The Typhoons also participated in a royal fly-past for Her Majesty the Queen during her state visit to Abu Dhabi. The fly-past involved an RAF Sentry and four Typhoons, as well as about 16 UAE AF&AD aircraft. This provided a very obvious and very public demonstration of the seamless co-operation and levels of precision that were achieved between the RAF and their UAE counterparts.

The Typhoons achieved virtually 100 per cent serviceability during the deployment, proving the sustainability of the aircraft in a hot and dusty environment.

The deployment of RAF Typhoons to the UAE was seen in some circles as further evidence of a growing campaign to sell the aircraft to the UAE AF&AD in the face of what many see as a dramatic loosening of the UAE's commitment to buy the French Dassault Rafale. The opportunity was taken to fly Colonel Mubarak, the base commander at Al Dhafra, in the Typhoon, allowing him to experience the aircraft's power, agility and capabilities at first hand.

Al Dhafra's base commander Colonel Mubarak got first-hand experience of the Typhoon.



## Police cop their final > copter from AW

The Abu Dhabi Police's Air Wing Division is going from strength-to-strength, having now received the last of its order for eight AgustaWestland AW139s.

These were acquired to boost and update the Air Wing's capabilities as part of a wider Abu Dhabi Police effort to become a more effective force in the field, responding to the needs of society with the highest levels of effectiveness integrity and training, and to take on wider, multiple roles.

The AW139s augment a fleet of two MBB BK117s and five Bell 412s, and operate from three bases – Al Bateen, Al Ain and Liwa – built at the order of Lt Gen Sheikh Saif bin Zayed, the Minister of Interior.

The central base is at Al Bateen, where Abu Dhabi Aviation provides maintenance and support to the fleet.

In particular, the AW139 has allowed the Air Wing to boost its EMS and SAR capabilities, though the type is also used for VIP, VVIP and transport missions and, of course, for law enforcement support – though the General Directorate of Abu Dhabi Police in Abu Dhabi Emirate sees its role as being wider than merely providing security and law enforcement and operates proactively with other agencies to try to achieve a safer society.

The selection of the AW139 (also used by the Air Force), will promote collaboration between the police, the Air Force and armed forces, and the health services – an aspiration that has been emphasised at the highest level in recent years.

The new AW139 aircraft are equipped with single winches in the starboard door and two have a high-performance Star SAFIRE III multi-sensor thermal imaging turret under-nose.

The Air Wing has been eager to co-operate with and learn from other law enforcement agencies internationally and a delegation led by Brigadier (S) Pilot, Ali Al Mazroui, director of the Air Wing Department, visited the Air Wing Department in Los Angeles City and Orange County, and more recently played host to Commander Phil Whitelaw, the commander of the British Metropolitan Police's own air support unit.



## < Adcom unveils new target drone and glide bomb

UAE company Adcom Systems used the latest IDEX exhibition to formally announce the launch of its latest unmanned aerial target – the Yabhon-GRN – and also unveiled a new glide bomb package.

The new Yabhon-GRN was designed as a high-speed target drone and represents the latest generation of aerial targets from the company.

Built after a five-year development programme, the Yabhon-GRN incorporates an innovative forward swept wing configuration, leading the company to claim it is the world's first high-altitude high-speed forward swept wing aerial target.

It certainly ushers in a new generation for the Mussafah-based company, offering greater speed and altitude capability to better simulate potential enemy missile targets.

The Yabhon-GRN has already undertaken a successful series of initial flight trials and the vehicle has already exceeded its expected designed performance capabilities, according to Ali Al Dhaheri, the company's general designer and CEO.

The vehicle has already reached 486kt (560mph 900km/h) and a maximum altitude of 36,000ft (11,000m) displaying "high stability and excellent performance", and climbing to 35,000ft in just two minutes. The Yabhon-GRN

has a maximum take-off weight of 220kg (485-lb) and a variety of payloads can be carried. An ISR variant may later emerge.

The Yabhon-GRN's turbine engine is buried inside the rear fuselage and fed through a dorsal intake.

The company also unveiled its first weapons programme, in the shape of the Yabhon Xtrem, development of which began during the second half of 2008. This is a guidance/wing kit designed to turn standard Mk 80 series bombs into glide bombs, with greater stand-off range and real precision attack capabilities.

The Xtrem kit is intended to be modular and scaleable and, though the weapon displayed at IDEX was based on a 500-lb (250 kg) Mk 82 'dumb' bomb, the company is already working on 1,000-lb and 2,000-lb (500 kg and 1000 kg) variants, and on versions using cluster bomb and penetrator warheads.

The Xtrem system has pop-out wings giving a claimed range of up to 140km when launched from high altitude (40,000ft). The weapon uses INS/GPS guidance, with imaging infrared or laser terminal guidance.

The Yabhon Xtrem has already been tested by the company from one of its UAVs, and has been ordered by the UAE's armed forces "and others", said Ali Al Dhaheri.



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**S**audi Arabia, Oman, the UAE and Jordan are all in the 'top ten' of countries when ranked in order of defence spending as a proportion of GDP and analyst Frost & Sullivan has predicted that the six Gulf Cooperation Council countries (together with Jordan) will spend \$68bn on defence in 2011, rising to \$80bn by 2015.

This makes the Gulf region of huge importance to the world's arms makers and confirms the International Defence Exhibition and Conference (IDEX) as a vital platform for reaching that market.

Moreover, as Gulf nations have increasingly diversified their economies, many have established their own defence industries, and IDEX serves as a shop window for their products and services.

The tenth IDEX at Abu Dhabi's National Exhibition Centre in February 2011 was attended by 1,060 exhibitors from 52 countries and attracted more than 60,000 visitors, including more than 100 official delegations.

Exhibitor numbers grew and although the number of delegations was down from the last show in 2009, 49 participants exhibited in the new First-Time Exhibitor Zone.

Four naval ships from the UAE, UK and France took part in the adjacent NAVDEX exhibition, mounted for the first time.

#### Keynote address

As has become usual, IDEX was preceded by the one-day Gulf Defence Conference (GDC) on Saturday February 19, organised by the Institute for Near East and Gulf Military Analysis (INEGMA). During his keynote address, Major General Essa Saif Mohammed Al Mazrouei, deputy chief of staff of the UAE Armed Forces, highlighted the industrial importance and diplomatic significance of the GDC and IDEX, while Gerald Howarth, the British Minister for International Security Strategy, delivered the second keynote speech, outlining his vision for greater international co-operation and highlighting what he called "the enduring connection between Britain and the UAE".

The UAE Armed Forces announced deals worth more than AED14.5bn over the course of

# IDEX defends its position as a premier shop window

the five-day show, down from AED18.4bn in 2009. Most of these were for military vehicles, hardware and support services for the land forces, and for the UAE's naval forces, though there were some aerospace orders.

AgustaWestland announced an AED110.2m technical support contract for the Chinook and AW139, while Alenia Aermacchi sold four more MB339 aircraft at a cost of AED108.0m.

Goodrich Corporation sold the UAE AF&AD reconnaissance pods for its F-16s for AED297.3m, and Lockheed Martin received an AED67.7m contract for linking and integrating these reconnaissance pods.

Finally Vision Systems International announced an AED118.6m contract for flying helmets.

It was also announced that the Advanced Military Maintenance Repair and Overhaul Centre (AMMROC), in Al Ain, a Mubadala subsidiary, may gain a new contract to provide repair and maintenance services for the UAE Armed Forces' fighters, trainer aircraft and helicopters, operating in collaboration with Lockheed Martin and Sikorsky. But there were

none of the widely expected announcements of selections or orders to meet the long-standing (and in some cases overdue) requirements of the UAE Air Force and Air Defence (UAE AF&AD).

There are a number of outstanding UAE AF&AD requirements where the provisional selection of a winning aircraft type has been announced, and many hoped that IDEX might see some of these selections being finalised.

#### Changing its mind

But the UAE has a history of changing its mind after such announcements, as it did after selecting the CN-235MPA to meet a maritime patrol requirement. The CN-235 purchase was soon abandoned in favour of maritime-configured DHC Dash 8s. In the event none of the major UAE AF&AD pending procurements were finalised, and no contracts were signed.

The Alenia Aermacchi M-346 was provisionally selected as the UAE's future advanced lead-in fighter trainer in 2009, and an announcement to this effect was made on February 25 that year with Alenia confirming that



**Eyes to the sky at the opening of IDEX 2011 with above The UAE's display team and some of the other eye-catching moments.**



negotiations had begun for the acquisition of 48 M-346s (including some 20 aircraft in ground attack configuration and eight to equip a dedicated aerobatic display team) for an undisclosed sum.

Mubadala Development was to have established a local final assembly line for the type and to manufacture composite aero-structures for the aircraft and for the wider aerospace sector. M-346 deliveries were scheduled to begin in 2012.

At IDEX, industry sources suggested that negotiations covering the sale of the M-346 to the UAE had been stopped due to "a misunderstanding over specifications" and due to a high level focus on "higher-priority" acquisitions, such as the C-17 and C-130J, and the A330 MRTT tanker.

Acquiring a definitive AEW/AWACS aircraft remains an urgent priority for the UAE, and the Saab 2000, Grumman's E-2 Hawkeye and Boeing's 737 AEW&C all remain in contention.

The UAE has been negotiating the acquisition of the terminal high altitude area defense (THAAD) advanced missile defence system since late 2008. THAAD is fully integrated, with

interceptor missiles, launchers, and a dedicated radar, as well as fire control and communications equipment. It forms a key element in the USA's planned ballistic missile defense system (BMDS), and is designed to defend troops and population centres and critical infrastructure against missile attack. But there was no announcement of a contract for the THAAD system, which is expected to be worth in the region of \$7bn.

**Vital aerospace event**

Though IDEX is a general defence show, dominated by equipment for land forces and for the burgeoning internal security and counter terrorism market, it is also a vital aerospace event in its own right, and was attended by the industry's key players in the region, including Bell, Boeing, Dassault, Eurofighter, Lockheed Martin and Saab.

IDEX is, by its nature, primarily an indoor event, with 12 inter-linked indoor exhibition halls arranged in a 'horseshoe' around a central outdoor area.

The facilities have been expanded and improved and there is now a fully operational Abu Dhabi International Airport check-in facility,

though not all airlines had made the necessary arrangements to allow their passengers to use it. Two hotels adjacent to ADNEC offered 600 effectively on-site hotel rooms/suites and there were new catering and retail outlets.

But though hall-based, there were live daily demonstrations of land vehicles, aircraft, UAVs and even marine craft, as the impressive opening ceremony was re-run each day.

The opening ceremony included fly-pasts and joint force role demonstrations and was attended by His Highness Sheikh Khalifa Bin Zayed Al Nahyan, president of the UAE, and His Highness Sheikh Mohammed Bin Rashid Al Maktoum, vice president of the UAE, and prime minister and ruler of Dubai.

**Reviewing stand**

Five-ship formations of the UAE's F-16E/F Desert Falcons and Mirage 2000-9s flew past the reviewing stand, following a formation of helicopters, including Chinooks that towed huge IDEX and UAE flags, AH-64 Apaches and UH-60Ms.

The UAE's new Al Fursan (The Knights) national formation display team flew past with four of their newly upgraded and recently repainted Alenia Aermacchi MB-339A (NAT) aircraft.

An unmanned Schiebel Camcopter S-100 hovered within yards of the VIPs throughout, filming the events as they unfolded.

In front of the stand was a specially constructed set of ramps and obstacles across which a wide range of military vehicles 'drove past', before special forces personnel assaulted a building and took prisoners, to the accompaniment of pyrotechnics and a pounding hip-hop soundtrack.

More special forces soldiers abseiled from a Chinook on to the deck of a ship, and then motorcyclists and quad bike riders provided further entertainment, performing a series of impressive stunts.

The event provided an impressive demonstration of the UAE armed forces' professionalism and flair, and provided a clear exhibition of the generous funding which they have received.



*It is one of the best flying displays in the world and Arab Air Forces play their part.*



# Tattoo is still making its mark after 40 years

**W**hat began as a small airshow just north of London back in 1971 has grown into one of the world's largest and most respected events of its kind – the Royal International Air Tattoo.

Since 1985, the Air Tattoo has been staged at the US Air Force Base at RAF Fairford in Gloucestershire, and in July the idyllic, tranquil surroundings of the picturesque Cotswold hills will reverberate to the sound of many of the world's most exciting aircraft as the airshow marks its 40th anniversary.

Tim Prince, chief executive and one of the Air Tattoo founders is keen to highlight how Middle Eastern and North African nations have played a role in the development and success of the event.

He said: "In our first 10 years, nations from the Middle East started to participate – the first were the Royal Saudi Air Force in 1979 and the Royal Jordanian Air Force in 1981 – and since then the region has been well represented, bringing an impressive and colourful range of aircraft and also adding an extra-special dimension to the Air Tattoo."

That extra dimension comes in part from the individuals involved – notably HM King Hussein of Jordan who, with Tim Prince and another Air Tattoo founder, the late Paul Bowen, was one of the driving forces behind the establishment of the Royal International Air Tattoo Flying Scholarships for the Disabled (FSD) charity in memory of Group Captain Sir Douglas Bader.

Following his death, HM King Hussein's work was carried on by his widow, HM Queen Noor, and his son HRH Prince Feisal, who is also an honorary vice patron of the Air Tattoo.

The 'extra dimension' also stems from the traditional Arab values that participants bring to the event – the family traditions, exemplified by HM King Hussein and HM Queen Noor,

regularly attending with his family and close friends and the spirit of warm hospitality, as evidenced by the traditional tented pavilions erected alongside their aircraft by participating aircrew and open to all-comers.

Alongside Saudi Arabia and Jordan, the Royal International Air Tattoo has welcomed participants from the United Arab Emirates, Oman and Kuwait as well as Algeria, Morocco and Turkey.

In particular, Prince recalls the very welcome arrival of the Kuwait Air Force in 1993.

He said: "The Kuwaiti delegation came over in strength specifically to show their thanks for Great Britain's support during the First Gulf War. That spirit of co-operation and gratitude – on both sides – really exemplifies what the Air Tattoo is all about."

## Senior military figures

It's not only aircraft but also senior military figures from the Middle East who attend each year. In 2010, guests included Maj Gen Malek Habashneh, commander of the Royal Jordanian Air Force; Lt Gen Anwar Hamad Amen Ahmed Al-Mam Sini, commander of the Iraqi Air Force and Air Vice Marshal Yahya Bin Rasheed Al-Juma, commander of the Royal Air Force of Oman.

They joined many other senior military figures from around the globe including General Norton Schwartz, chief of staff, US Air Force; Air Chief Marshal Sir Stephen Dalton, chief of the air staff RAF and General Xu Qiliang, commander of the PLA Chinese Air Force, at the tattoo and at an informal air chiefs' forum held on the first day of the show. AVM Al-Juma has already confirmed he will be making a return visit this year.

Looking to the future, deputy director aircraft operations Rob Windsor, said: "This summer we are expecting to welcome back our friends, the Royal Jordanian Falcons, who have been great

supporters for many years, and the Royal Air Force of Oman will also be here, probably with an A-320 or a C-130 Hercules. We're also delighted that a Turkish Air Force F-16 Fighting Falcon will be making its Air Tattoo debut in the flying display.

"We continue to work closely with Middle Eastern and North African nations to maintain our tradition of sharing with them the international exposure that is offered at the largest military airshow in the world."

Prince added: "I would like to offer my thanks to all the nations who've supported us in our first 40 years, and to extend an invitation to them and to those who've not yet visited us to come along and take part during the next 40 years."

This summer's Air Tattoo takes place on July 15-17 at RAF Fairford in Gloucestershire. As well as marking the airshow's 40th anniversary, it will host a gathering of specially-decorated 'Tiger' aircraft from the NATO Tiger Association.

'Tiger' aircraft come from NATO squadrons that have a Tiger or Big Cat in their emblem and their association marks its 50th anniversary in 2011. The 'operational' theme STAR 11 will focus on aircraft and equipment involved in the roles of Strike and Reconnaissance, with an emphasis on I-STAR capabilities.

The Air Tattoo is sponsored by BAE Systems and is held in support of the Royal Air Force Charitable Trust, whose patron is His Royal Highness the Duke of Kent. For more details, visit [www.airtattoo.com](http://www.airtattoo.com).

**The Air Tattoo looks magnificent from the air as well as the ground (Picture by Tom Gibbons)**

**Insets. Top: From left, Jordan's Queen Noor, Prince Feisal, Prince Hamzah bin al Hussein, and King Hussein with the UK's Duke of Edinburgh at the Air Tattoo in 1993.**

**Bottom: A C-130H Hercules from the Omani Air Force arrives at last year's event.**



*Torrential rain, gale force winds and sand storms hit the ninth Al Ain Aerobatic Show, which resulted in the first two days being cancelled. But the show carried on and was voted a huge success with 15 aerobatic and display teams from four continents wowing the crowd.*

**Marcella Nethersole** and photographer **Paul Merritt** were there.



Keep on trucking! The warm up act.

# Ain drops keep falling on my head....

**...but the show still goes on**

**A**round 71,000 people were treated to a variety of displays and daredevil stunts at the Al Ain International Airport-based show, which was organised by Abu Dhabi Tourism Authority (ADTA) and the UAE Armed Forces.

Acts included a fly-past by some of the UAE Air Force's advanced fighter jets, including the French-made Mirage 2000-9 fighter jet – the most advanced version in the Mirage 2000 family. And there was a spectacular formation flying display from The Saudi Hawks, the national air force squadrons from Saudi Arabia.

The six BAE Hawk 65 trainer jets showed off some of their latest routines, including their famous 'emblem move', consisting of two swords crossed over a palm tree – the Saudi flag insignia – which earned the team a place in the 2010 Guinness Book of World Records for the largest ever aerial drawing.

"The Al Ain Show is dear to the hearts of all the members of the Saudi Hawks team, as we have participated since its inception in 2003," said Colonel Abdulla Al Ghamdi, Saudi Hawks manager.

"We have shown excellence and professionalism throughout the years and we attend to demonstrate just what the Saudi Air Force is capable of."

Turkey's national air force display team, the Turkish Stars, also took to the skies.

The squadron's formation of eight F-5 fighter jets, piloted by the Turkish Air Force's 134th Acroteam Squadron Command, has performed in hundreds of displays around the world. Their

flying display included delta and diamond formations as well as an impressive corkscrew manoeuvre.

Team Viper, the world's only Hawker Hunter supersonic fighter jet display squadron, put on an impressive mock ground formation attack. As a British designed aircraft, the Hunter was a significant export success, flown by many air forces around the world including Kuwait, Kenya, New Zealand, Oman, Saudi Arabia and Singapore.

Just to add to the internationalism of the aerobatics, the Baltic Bees, based in Latvia, put on a perfect display of lightning-quick precision flying.

One of the highlights over the two-day event was the first ever staging of the Fédération



Desert challenge a winning formula.

Aéronautique Internationale (FAI)-sanctioned Desert Challenge.

Six of the world's top aerobatic pilots battled it out with Spaniard Castor Fantoba finally claiming the title.

Mariusz Adamski, FAI Desert Challenge media manager, said: "As show newcomers, we felt that the organisation and traffic directions were very well-prepared, making it easier for us to concentrate on our flying."

Something new to the show and that impressed the crowd was Paul Stender and his Jet Truck – a fully modified 18-wheeler with a supersonic jet-powered engine capable of hitting speeds of 350kph – which roared down the Al Ain International Airport runway in a plume of smoke and flames.

The show also included an array of aerobatics, Otto the Helicopter's comedy act and many of the world's best solo pilots, skydiving from the Fazza Sky Team, and a performance from flying ace Hannes Arch, which combined aerobatics, music and dance.

"After having to postpone the show for the first two days due to highly unusual weather, we did worry how the show will do," said Faisal Al Sheikh, events manager, Abu Dhabi Tourism Authority (ADTA). "But it turned out to be a huge success and we've had great feedback. More than 25 aircraft took to the skies in the daily flying display each day."

He added: "We are also investigating the feasibility of shortening the show next year by a day as this year's enforced cancellation suggests we could be as equally successful with a three-day event as a four-day event."



First class flying displays led by the Saudi Hawks saw jets and props defy gravity.



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# LORE OF THE LETTER

*9H. M. P4. VP-C. Aircraft operators will be aware of the significance of these nations' registration prefixes. They spurn the term 'flags of convenience', preferring to be known as offshore registers (some even favour descriptions such as 'onshore but favourable') but all offer the possibility of unusually fast and efficient registration of aircraft. And increasingly, reports Alan Dron, they want to attract customers from the Middle East.*

**T**he Cayman Islands are three specks in the Caribbean totalling just over 200sqkm in area – yet around 20 per cent of the aircraft on the islands' register are based several thousand miles away in the Middle East while other, Cayman-registered but Europe-based, aircraft also have Middle Eastern owners.

It was only in the late 1990s that the Cayman register started to promote itself by attending trade shows, said the islands' director-general of civil aviation Richard Smith, who joined the islands' Civil Aviation Department in 1976 as a trainee air traffic controller. Even in the 1980s, there were only 50-60 aircraft on the books.

The growth to today's level of just under 200 has been driven by several factors, he said, primarily the growth of the islands as a financial and legal jurisdiction: "People of wealth and corporations were drawn to the islands and brought their assets such as yachts and aircraft to be registered and domiciled here.

"We don't use the phrase 'register of convenience' because it has negative connotations. We are a 'register of choice'."

Owners made that choice to register their aircraft in the tiny British Overseas Territory

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because of high regulatory standards based on those of the UK, he said. Its regulatory code is also International Civil Aviation Organisation (ICAO)-compliant. In addition: "We are quite selective about who we allow on to the register." Indeed, on the day on which he talked to *Arabian Aerospace*, he had turned down one applicant.

What might disqualify an owner from gaining a VP-C registration? "Our application process calls for quite a stringent due diligence process for the applicant; if there are questionable circumstances of finance or issues of that nature, we will not accept them."

Aircraft under 5700kg are also barred, he said, because some of the costs involved in registering a small aircraft would be disproportionately high: "It's not in the operator's interests."

Did the Caymans see their aircraft registers as a money-earner? It's "a reasonably useful source of revenue," said Smith, both in terms of direct benefits to the government and in spin-offs to lawyers and financiers involved in the registration process.

Other reasons to register there? "Operators want their aircraft flying, not stuck on the ground. In a large regulatory authority you wait for



**Richard Smith: "The Middle East is very important to the Caymans."**

somebody to get back to you. That's no good to an operator who wants go flying." The Cayman Island register operates on a much faster basis. Flexibility is also a strong suit. If an operator can demonstrate that his alternative solution to a problem – for example, using a component other than that normally specified – provides acceptable levels of safety, the Cayman register is prepared to accommodate him.

However, some things are non-negotiable. Some jurisdictions would allow crew members who were not type-qualified to fly as second pilots. That would meet with a swift 'No' from the Cayman authorities, said Smith, a former Boeing 737-200 pilot.

The register is geared up for "continued conservative growth", he added. He described the Middle East as "very important" to the Caymans "as we see a lot of very credible clients in that area and think they would fit well in our registry".

Indeed, the Cayman register has an arrangement with the Saudi authorities for Cayman-registered aircraft operating there. "We retain responsibility for the airworthiness of the aircraft itself and the Saudis oversee aspects such as pilots' licences and flight

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CONTINUED FROM PAGE 42

operations. We're looking at extending that arrangement to other Middle East countries and are in discussions with two others right now."

Rather faster expansion is under way at the Isle of Man, an island the size of Bahrain lying in the Irish Sea. It only established its aircraft register in 2007 and already has more than 340 'on the books'.

"When we set it up, we thought we'd get one aircraft a month in the first year," said director of civil aviation Brian Johnson. "We added 119 aircraft in 2010 and have another 50 being processed."

The register followed in the footsteps of the island's successful ship and super-yacht registers: "The idea of the latter was that it would attract people to the Isle of Man to do business here and an obvious follow-up was an aircraft register." It is Europe's only dedicated corporate aircraft register.

Lengthy negotiations were required with the UK before the Manx registry could be set up, said Johnson, a former head of the UK Civil Aviation Authority's Flight Operations Inspectorate, who had a shock during one such meeting with a UK civil servant.

#### British dependency

As a British dependency he assumed the island would receive a VP- prefix. During the meeting the UK official casually remarked: "I suppose you'll be wanting 'M', then?" Johnson admitted he looked disbelievingly at the official, who revealed that the UK had received 'M' when ICAO was created in the late 1940s in the belief that the then-British Empire would require considerable reserves of registrations. "I suppose Malta or Madagascar would have quite liked it," smiled Johnson, who added that he believed the UK still had other, undeclared prefixes available to it.

'M' had the advantage of being a 'neutral' registration, he added. "In some ways it's like Switzerland. You could put a Swiss-registered aircraft anywhere in the world and nobody would take any exception to it. We're exactly the same."

As an ICAO-registered state, the regulations governing aircraft registration were the same as every other ICAO-compliant location, "so the only advantage we offer is we do it in a very professional way. Most registers are run by bureaucracies; they don't have to be service-oriented. They work civil service hours.

"We deal with corporations across the world; we work at nights and weekends. We ask them when THEY want it registered. We've blown a lot of people's minds who've said they can't believe how quickly we can do it."

As in the Caymans, this has led to a lot of word-of-mouth recommendations: "Typically, the first telephone call we get is: 'Mr X, the chairman of So-and-So, has told us you've done a good job for him and we would like to bring our aircraft to the Isle of Man as well.'"

Johnson said he was aware of the pitfalls of offshore status. "If you run a registry at a profit



## How the system works

### ■ CAYMAN ISLANDS

**Register originated:** 1960s, registration prefix VP-C

**Current number of aircraft registered:** 'Fluctuates between 175-190'

**Restrictions:** No aircraft below 5700kg

**Selling points:** Personalised service, flexibility, UK-drafted regulations

**Source of revenue for state?** 'Reasonably useful'

### ■ ISLE OF MAN

**Register originated:** 2007, registration prefix M

**Current number of aircraft registered:** 330-plus

**Restrictions:** No commercial airliners, no fixed-wing aircraft below 5700kg (apart from IoM residents)

**Selling points:** Speed, round-the-clock working hours

**Source of revenue for state?** No

### ■ ARUBA

**Register originated:** 1995, registration prefix P4

**Current number of aircraft registered:** around 140

**Restrictions:** No aircraft below 5700kg

**Selling points:** Speed, tax advantages

**Source of revenue for state?** Profits to be ploughed back into aviation services

### ■ MALTA

**Register originated:** 1963, registration prefix

originally VP-M, 9H from 1969 onwards

**Current number of aircraft registered:** 98

**Restrictions:** Maltese licensed aircraft operators must have principal place of business in Malta. No requirement for Maltese-registered private jets to be based in Malta.

**Selling points:** Quick access to register's decision-makers, European Union standards, advanced legal infrastructure

**Source of revenue for state?** Hopes to raise money by making island an aviation-friendly location

you're seen as a flag of convenience. The government asked me to set it up to make a loss."

Around 20 aircraft on the Manx register are from the Middle East "and it's a growing number", said Johnson. "The Kuwait ruling family have an Embraer ERJ-190 registered here, and a Middle East prince has an Airbus with us."

Again like the Caymans, Johnson said he does not hesitate to refuse certain applicants: "I'm turning somebody down today. He's been in court for operating [the aircraft] outside its

certificate of airworthiness. It was unsafe to fly, basically, and they knew that."

Protecting the integrity of the register is vital, he said. One 'bad' aircraft could spoil its high-quality reputation, as authorities around the world could start to look at the whole register with suspicion.

The head of Aruba's register said it has never had to reject an applicant, but only because it runs extensive checks on applicants first. It takes a close look at the funding behind applicants, "but most of our clients are big figures such as [Russian billionaire and Chelsea Football Club owner] Roman Abramovich," said the register's chairman and CEO Jorge Colindres. Aruba will not accept any application that refuses to identify the beneficial owner of an aircraft.

Actors, heads of state, royalty and major CEOs all feature on the registry of the small island off the coast of Venezuela, which is classed as an overseas territory of the Kingdom of the Netherlands.

Aruba also trades on a reputation for getting things done quickly: "We're extremely customer service-focused. We concentrate on safety, but also on the way we handle the client." The register had a private sector mentality, he said: "Things happen faster."

Tax advantages are another factor promoted by Aruba. Virtually all taxes on aircraft are zero-rated. Payments would only be required if an aircraft was domiciled in Aruba. Any profits made by the register must be ploughed back into improving local aviation facilities.

#### Shift in clientele

Aruba had a lot of Middle East clients, said Colindres, although over the past decade he had seen a shift in clientele towards countries such as Russia, Ukraine and Kazakhstan. To remedy this drift, the register is refocusing its attention on the Middle East this year. It is a member of the Middle East Business Aviation Association and has a target of signing up an extra 10-30 clients from the region.

Malta's register differs in several respects from the others. Many of the aircraft there are commercial airliners registered to operators holding Maltese AOCs. Following Malta's accession to the European Union it is also no longer an offshore registry. "We are an 'onshore, yet favourable' registry," said Dr Michelle Grima, legal advisor at the Mediterranean island's Civil Aviation Directorate. Bureaucracy was cut to the minimum and register members have the comfort of EU regulations.

The Malta register has plans to actively attract more Middle East members, she said. "We're very keen to welcome business from that region and attended MEBA in Dubai."

The Maltese authorities want to see the register grow and to develop ancillary businesses on the island such as maintenance, repair and overhaul facilities, financing, insurance, brokerage services and aircraft management, that would make it an attractive place for owners and operators.

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# The P is for Power and Performance

*Captain Ken Strickland steps away from his regular ride on an Emirates 777 and puts the Abu-Dhabi-based Piaggio Avanti through its paces.*



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**ISAGO**  
PROVIDER



Piaggio Avanti – jet-like speed on turboprop fuel flows with the comfort of a wide-body.



**M**y first look at the Avanti occurred in the early 1990s at what was then Toronto Island Airport as it shared the ramp, fortuitously, with a Beech Starship.

The future look of aviation! Both machines attracted a lot of attention that day but, for me, the stylish and sleek looking Avanti stole the limelight.

Every once in a while fate smiles on you and, with the UAE's Mubadala now owning a major share in the Italian manufacturer, I was invited to fly the P 180 Avanti II as it toured the UAE on demo flights.

Sitting there on the apron, the unusual configuration with forward nose-mounted wing and aft-facing wing-mounted Pratt and Whitney PT6 turboprops, the Avanti II still attracts plenty of attention. It's routine for the flight crew to remove the static wicks normally fixed to the forward wing to avoid damage from curious onlookers as they strain to see into the flight deck from the front of the aircraft.

While waiting for flight clearance from the authorities, I had a chance to discuss the Avanti and its design features with pilot Lorenzo Villi and sales director for Piaggio, Fabio Sciacca.

The design objective for optimum performance and efficiency began by calling for a mid fuselage-mounted wing and, in order to have a reasonable cabin size, the wing needed to be located as far aft as possible. The clever team at Piaggio then added the forward wing for lift and to balance the aircraft laterally, which allowed for a lift generating tail-plane in opposition to the normal down-force required from the stabiliser on conventional aircraft.

The resulting three lifting surface design allows the main wing to be smaller by 34 per cent, with inherent savings in weight and drag penalties.



Fabio pointed out that the forward wing is not a canard, as it does not move to control the pitch of the aircraft – this being accomplished conventionally by the elevator on the aft horizontal stabiliser. The forward wing is, however, set at a pitch angle that achieves stalled condition prior to the main wing and results in the required pitch down for stability. It is also equipped with flaps that extend in conjunction with the main wing flaps to retain optimum balance and the stall first ability. Proper function of the flaps and indicators is an important part of the pre-flight process.

Aiding in the sleek design is the novel manufacturing process of the fuselage, made 'from the outside in!' Piaggio's innovative process utilises a vacuum pressure rig to hold the outer fuselage panels in place while the internal structures are then riveted to the panels. The result is an almost seamless finish best suited for efficient airflow.

Gates Learjet was involved in the initial design work for the P 180 and some recognisable

features are evident as we walk out to the aircraft and begin conducting the pre-flight checks.

Externally, the large ventral fins below the tail-plane for yaw stability appear Lear influenced. In the cockpit the same entry technique as the Learjet, using the step-over the centre console method, the barrel trim switch on the control column and the cherry picker back-up manual outflow valve switch, look very familiar. Also present is the flexible side-mounted map light that is so useful for chart reading but results in that burning feeling on the forearms if left on!

The nose wheel steering through the rudder pedals is sensitive like the Lear and requires small inputs to result in smooth taxiing of the aircraft. However, the good people at Piaggio thoughtfully provided for electrically-heated windows, so there's no race against time taxiing into the FBO as your windows fog up in humid climates that Lear pilots will remember so well!

What most of us appreciated about the Learjet was lots of power and performance and the Avanti has this in abundance. The power comes from two Pratt and Whitney Canada PT6A-66B using Hartzell five-bladed, constant-speed, fully-feathering rear-facing propellers that are more than adequate for the job.

Fabio pointed out that the pusher configuration allows for undisturbed airflow over the wing, allowing for laminar flow over 50 per cent of the wing chord.

According to manufacturer information, this compares to only a maximum of 20 per cent for tractor propeller configurations and as an added bonus the propellers on the Avanti do not require anti-ice equipment as they are naturally heated by the exhaust flow from the engines! Clever.

Continued  
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SALES AGREEMENT



GREEN AIRCRAFT



EXTERIOR RENDERING



INTERIOR AIRCRAFT DESIGNING

CONTINUED FROM PAGE 47

The engines produce 850SHP de-rated from 1630 Thermodynamic HP, which translates into full thrust available until about 20,000ft before you must manage the power to respect the ITT temperature limits.

There's no FADEC, of course, but setting the thrust manually and using the propeller synchrophase system is easy and achieves a harmonious result. The engine/propeller noise in the cockpit is muted although, in fairness, my last turboprop experience was on the MU-2 for comparison. But lightweight headsets are worn and a normal conversation level between the pilots is used.

Stepping back into the cabin where the owners and clients will be, the noise level is less than that up front on the flight deck and very comparable to current business jets.

After a spirited take-off, we are cleared out over the Gulf and I get a chance to try out the Avanti. The controls are light, well balanced and responsive, making the aircraft a pleasure to fly. In fact, manual control is used for most of the flight and is neither tiresome nor tedious in the least.

After getting comfortable, Lorenzo wishes to highlight the excellent stall and recovery capabilities of the aircraft. Thrust off and speed decreasing, the typical pre-stall buffet gives plenty of warning before the nose pitches down docilely. Recovery is made easy with plenty of thrust instantly available from the turboprop engines and the aircraft accelerates smoothly away with minimal altitude loss.

#### Maintain airflow

Lorenzo then points out that the outer portions of the main wing still maintain airflow and the ailerons are still effective throughout the stall, this being achieved with the forward wing stalling first and achieving the pitch down. He then demonstrates a second stall manoeuvre and rolls the aircraft to the left and right while maintaining the stalled condition. This remarkable feature is a big boost for the safety of the design and should give the pilot a lot of confidence in the aircraft. In fact, the stall characteristics are benign enough that the aircraft does not need either a stick pusher or stick shaker.

There is a protection in the automatic flight mode built in as well. We establish the aircraft in descent and use the vertical speed mode to keep accelerating. As the airspeed starts to exceed V<sub>mo</sub> of 260 KIAS, the autopilot mode changes to FLCH OVRD and the override function pitches the nose up to limit the exceedance. This is an excellent feature to have given the performance of the Avanti.

The aircraft is faster at typical turboprop altitudes of between 25,000 through 31,000ft, where speeds of 400 KTAS at average weights are achievable with fuel flows of 360kg/h and maximum continuous thrust, but more efficient and quiet at the higher altitude end of its performance envelope. Using recommended cruise power settings at 37,000ft the Avanti achieves a very respectable 360 KTAS at a meagre

## Piaggio spreads its wings

**Mubadala Development-backed Italian business aviation manufacturer Piaggio Aero is aggressively pushing for a rise in international sales and has taken its P.180 Avanti II on the road in the Middle East and Asia.**

**Last September the P.180 Avanti and Avanti II aircraft fleet passed 500,000 flight hours. The world fleet is composed of 203 aircraft (plus four prototypes). With its two versions, the 'Avanti', certified in 1990, and the Avanti II, certified in 2005, the P.180s had flown more than half-a-million flight hours as of September 2010.**

**Alberto Galassi, Piaggio Aero's CEO said: "The total flying hours is not just a number; it marks a milestone of steadily accumulated experience in building, operating and maintaining the most innovative, fast and environmentally green, multi utility aircraft."**

**All this makes for a compelling case for Mubadala Development, the strategic investment arm of the Abu Dhabi Government, to have ambitions to build a new jet. The financial giant has said in the past that it aims to use its stake in Piaggio to build a new business aircraft in the emirate, although it has said that the plan is not due to be rolled out until the second half of the next decade.**

**Should this take place, it would make the Emirates the first Arab country to design and build an aircraft from scratch.**

**Mubadala's aerospace business represents about 10 per cent of the company's asset base and the company owns 31.5 per cent of Piaggio Aero Industries, based in Genoa, Italy.**

**Mubadala also owns stakes in aviation entities, including manufacturing, maintenance and flight training. Its Strata Manufacturing business in Al Ain already produces composite aircraft parts for various European aerospace firms.**

**Mubadala has said that it aims to increase its role in the industry and become a Tier 1 supplier. Strata comprises 21,600sqm of manufacturing space and is due to expand to 60,000sqm in later phases, representing an investment of about \$500m.**

**Strata is the key tenant in the aerospace cluster that Abu Dhabi Airports Company is developing at Al Ain International Airport. Other Piaggio shareholders include the Tata Group of India (which also owns Taj Air) and a private investor group led by the Ferrari and Di Mase families.**

**Piaggio, too, has been planning a new aircraft for several years, likely to be a jet version of its Avanti II turboprop, in a project that could cost a reported \$1bn. However, according to past statements by Galassi the new aircraft would most probably be made in Genoa. The company remains tight-lipped over timelines, but may have a new announcement at EBACE.**

**Galassi is bullish about the prospects for Piaggio. He said: "Over the years, our unique product has allowed Piaggio Aero to become one of the most authoritative ambassadors of Italian high technology worldwide. We owe this success mainly to the extraordinary product we build, which, delivers, superior performance and an outstanding level of reliability and safety. It really represents a new frontier in executive flying."**

250kg/h. The aircraft is faster than many VLJs entering the market with a much roomier nine-place cabin. It boasts turboprop fuel flows and is at least 80 knots faster than comparable turboprops.

The flight deck is equipped with Collins ProLine 21 EFIS, and the three liquid crystal adaptive flight displays prove easy for instrument scan and intuitive to use.

The outer AFDs serve as primary flight displays with the centre unit set for multi-function use with engine indication system on the upper portion and the lower portion offering a range of options from checklists through navigation data, systems page and enhanced maps.

Weather avoidance is made easy through the use of turbulence detection radar and the aircraft is well equipped for icing conditions. Engine inlets have pneumatic boots and the venerable PT6s have their inertial particle separators. The main wing leading edge utilises engine bleed air while the forward wing has electric blankets in the leading edge.

#### No ice protection

Fabio said no ice protection is required for the rear horizontal stabiliser of vertical tail, as ice accretion does not adversely affect the tail plane to any extent. The pilot is alerted to the presence of ice by an ice detector probe that will illuminate a warning on the instrument panel.

Avanti is RVSM-capable, approved for CAT II low visibility operations, steep approaches like London City Airport and is P-RNAV-certified. All of the capability that you would expect for a corporate jet is available.

Back to hand flying the Avanti and we return for landing in Dubai. The view from the large forward windows is fantastic and I am truly enjoying the responsiveness of the flight controls and turboprop engines.

For the pilot the aircraft has a lot to offer. Firstly there is jet-like climb and cruise performance with turboprop capability for shorter take-off and landing runs at smaller airports.

The systems are easy to use; the airframe is robust and forgiving and there is a high level of confidence in the P 180 with its excellent stall characteristics and controllability. Overall there are many positives to the aircraft and the only cautions are to go easy with the nose wheel steering and turn off the map light!

Piaggio's stated goal for the Avanti is to provide jet-like speed on turboprop fuel flows while providing the spaciousness and comfort of a wide-body, stand-up cabin. For shorter-range profiles of up to two hours there is very little time advantage in the use of a jet and all the cost advantage that the fuel sipping and price conscious Avanti offers. As the cost of fuel once again climbs higher and becomes more of an operating factor, the argument for the P 180 will only strengthen. Piaggio's innovative, clever and eye-catching design should become more and more appealing with time. It certainly deserves to.



# Al Bateen makes an impact

*Airport development is the next key to business aviation growth in the Middle East. All over the region, players are moving into the market to stake a claim on the tarmac and assist local operators.*

**Liz Moscrop**  
*reports.*

**M**ost people think of Dubai International Airport as the jewel in the crown for business aviation in the Middle East.

It is true that the airport offers impressive private aviation facilities in the form of the Executive Flight Terminal. Opened in 2008, the facility is run by Executive Flight Services (EFS) and located close to Terminal 2. It includes a 5,500sqm two-storey main building, a 3,700sqm hangar, a 3,700sqm ramp area and a special VIP car park for long-term parking.

There are also dedicated customs, immigration and quarantine (CIQ) areas on site, as well as a duty-free outlet, a conference centre, and eight luxury private lounges.

EFS also provides a limousine service between the aircraft and the terminal building.

However, Dubai International Airport is getting busier and busier, so neighbouring fields are taking advantage of the situation to create their own executive aviation terminals and facilities.

Al Bateen Executive Airport in Abu Dhabi, for example, is a former military airbase that turned into an executive aviation field in 2008. Subsequently, the airport has seen unprecedented growth in traffic from locally-based operators and visiting aircraft alike. There were almost 8,000 movements in 2010, representing an increase of more

than 30 per cent compared with the previous year.

The airport has ambitions to become the Middle East's major business aviation terminal over the next five years. It is owned by Abu Dhabi Airports Company (ADAC), which has so far invested US\$50m to transform the 50-year-old airport into a luxury business aviation hub.

The field now boasts an impressive VVIP passenger terminal and an instrument landing system (ILS).

According to general manager Stephen Jones, the majority of private aircraft landing at Al Bateen are either VVIP airliners or large business jet types. He believes that within a year or two the airport will be a serious competitor to Dubai International, which is increasingly busy. He said: "We are an hour and 20 minutes by road from Dubai. We are also a great stop between Asia and Europe or the US and Asia and can take aircraft up to a Boeing 767 size."

There are developments, too, over in Sharjah International Airport where a British company is opening a multimillion-dollar facility for business travel.

GAMA Aviation is to invest USD (US\$) 15m in a hangar facility to operate charter flights and run an aircraft maintenance business. The hangar will be the first dedicated facility for business jets at Sharjah, according to Marwan Khalek, GAMA's CEO. GAMA also has a UAE air operator's certificate.

Saudi Arabia is also investing heavily in private aviation. King Khalid International Airport is set to add a new business aircraft facility to its offering. The government of Saudi Arabia is spending \$2.6bn in its development. Swiss MRO services provider Jet Aviation also has stakes in the country.

Meanwhile, in Bahrain, MENA Aerospace is developing a dedicated GA complex at Bahrain International Airport at Muharraq, which will provide maintenance and support services to private and corporate aircraft.

Development has already begun and the facility is located at the North West end of the airport. Once complete, the first phase's 26,362sqm footprint will include a hangar, private taxiway and apron in addition to office and workshop areas, making it one of the largest facilities in the region.

There is no doubt that the major business aviation MRO providers will be hungrily eyeing these key infrastructure developments, so it will be well worth watching their movements, too, over the coming months.

Companies like Jet Aviation and Execujet have a presence in the region. Jet Aviation has bases in Dubai, Riyadh and Jeddah, while Execujet has an FBO in Dubai.



Al Bateen Executive Airport in Abu Dhabi.

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*The business aviation industry is recovering and meets in May at Geneva for EBACE, the annual European business aviation event.*

*Liz Moscrop looks at the MENA involvement in the show.*

## Middle East shows its strength at EBACE

It is difficult enough to develop a business in a fledgling market but, even with the current extra challenges to contend with in the Gulf, several companies are proving they are strong enough to weather the storm and exhibit at EBACE.

Airport operations seem to be the biggest area of growth this year as the Middle East gradually develops its private aviation market.

Dubai-based JetEx Flight Support (booth 7090) is now a show fixture with a large booth in Hall 7. The company has operations centres in Africa, Eastern Europe and the UAE and an FBO in Le Bourget. JetEx has also recently been assisting with diplomatic and evacuation flights in Japan and Libya.

Fellow flight planners Hadid International Aviation Services (booth 7050) has been in business for 30 years this year and will be celebrating its anniversary at the show. Hadid's core offering to the private sector is obtaining over-flight and landing permits worldwide.

Moonjet Flight Support (booth 1557) is also at the show promoting its global flight services, incorporating ground handling, fuelling and charter.

### Two largest markets

According to the Middle East Business Aviation Association (MEBAA), the two largest markets in the region are Saudi Arabia and the United Arab Emirates. MEBAA (booth 1751) will be at EBACE to help develop relationships with other international operators. Partner F&E Aerospace is sharing the stand to promote its Aircraft Interiors Middle East show, which takes place on February 1-2 2012 in Dubai – as well of course as the Dubai Air Show itself which traditionally has a large business aviation showing.

Another familiar name will be Jet Aviation (booth 7060) Dubai, which opened its maintenance and FBO operation in 2005. This complements the General Dynamics-owned company's two other bases in Riyadh and Jeddah, which opened in 1983 and provide complete FBO services and limited line maintenance to business aircraft operators of all sizes.

Newcomer to the region Gama Aviation FZC (booth 354) is

on track to obtain its UAE GCAA CAR 145 maintenance approval in the first half of 2011 and is working to complete its new 12,000sqm hangar facility at Sharjah, which will provide local hangarage and maintenance facilities for business jets.

The company recently introduced its latest aircraft, a Bombardier Challenger 850, into service, the first of the type in the UAE.

The aircraft, owned by a private individual and managed by Gama out of Dubai International Airport, joins four other business jets in Gama's Gulf stable. Managing director Dave Edwards said: "Gama Aviation FZC only obtained its UAE GCAA Air Operator's Certificate in February last year so we are pleased that this development is very much in line with our first year aims."

### Making their mark

Other regional charter operators are making their mark. At last year's MEBA show Swiss charter operator Comlux Aviation (booth 142) ordered two Global 7000s, one of Bombardier's two new aircraft due to enter service in 2016. Qatar-based Rizon Jet (booth 1143) is also in Geneva. The firm became the latest Middle Eastern operator to take on an ACJ under management. The ACJ will be delivered this year, with the completed aircraft going into service in 2012. AMAC Aerospace (booth 1079) will install the interior.

Qatar Executive (booth 843), the VIP subsidiary of Qatar Airways, operates two Bombardier Challenger 605 aircraft based at Qatar Airways' hub at Doha International Airport and has also taken a stand at the show.

Key Middle Eastern industry players with established business in the Gulf will be promoting their services. ExecuJet (booth 242) and VistaJet (booth 555 and static display) both have growing entities in the region. VistaJet's founder Thomas Flohr is looking forward to meeting existing and new clients. He said: "We have a strong brand and what happens on the ground is key to doing business."

■ EBACE2011 takes place in Geneva, Switzerland on May 17, 18 and 19.



**VistaJet's Thomas Flohr:** "What happens on the ground is key to doing business."

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*The State of Qatar has caused much debate and excitement after the announcement that it will host the 2022 soccer World Cup. But the country already had its tourism strategy set in place as **Marcelle Nethersole** found out.*

# QATAR'S TOURISM GOALS



**L**ocated halfway along the western coast of the Gulf is the State of Qatar, which benefits from its key location mid-way between Europe and Asia. The former pearl fishing centre has a history that dates back 6,000 years but today there is a clear contrast between old traditional Qatar and the modern 21st century Qatar.

In the past it has been a low-profile state – so low-profile that some people hadn't even heard of it when FIFA announced it would host the World Cup. But, even before the announcement, Qatar was on a mission to transform itself from a small desert country into a thriving regional tourism destination.

The Qatari government has put aside US\$17bn of its huge oil and gas wealth to build the facilities and infrastructure needed to develop a tourism destination – and this figure was benchmarked months before the country learnt it was to host the World Cup.

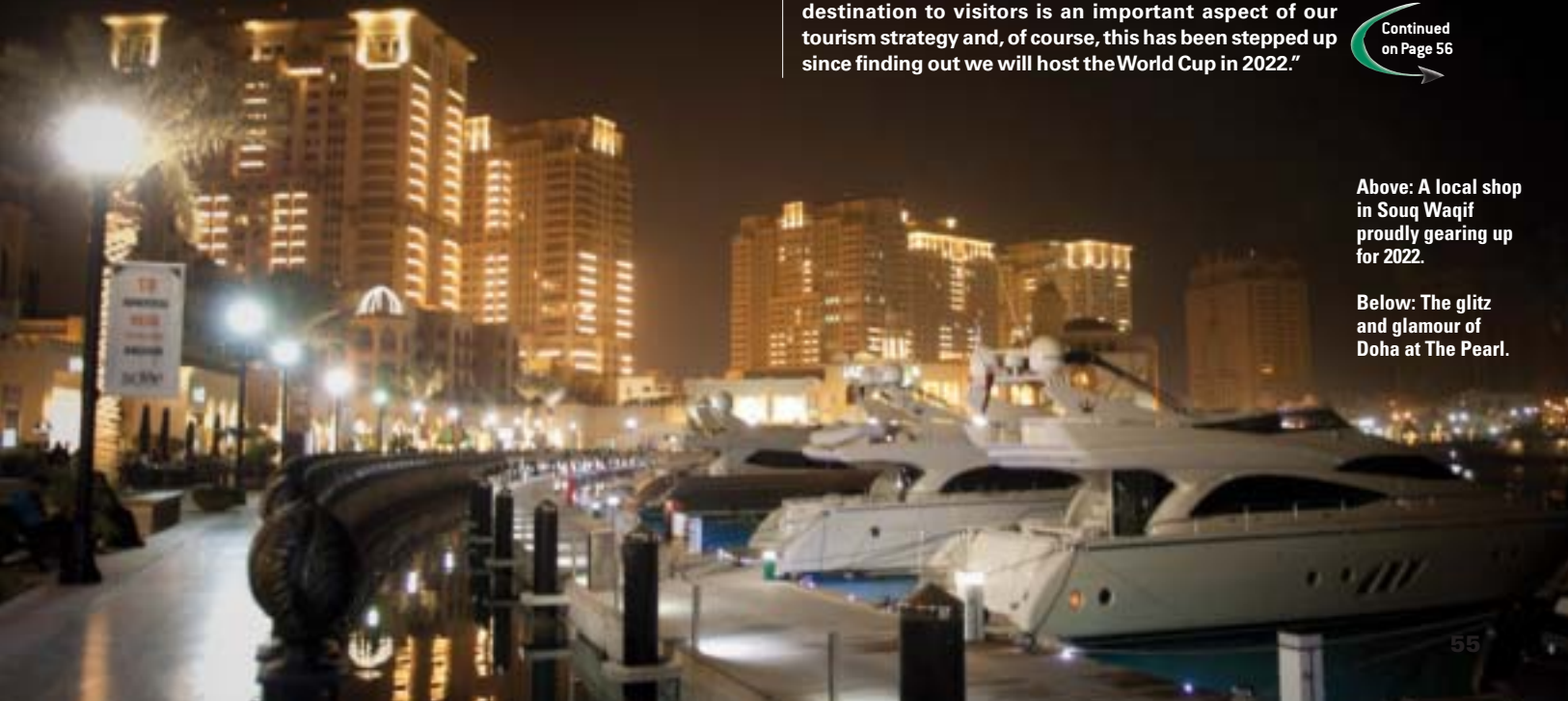
The government hopes tourism figures in 2011 top 1.5 million – quite an achievement when it is estimated only 1.7 million people actually live in Qatar.

"We promote Qatar as a business destination," said Amna G Al-Mohannadi, abroad exhibitions officer for Qatar Tourism Authority (QTA). "Currently 95 per cent of our visitors come for business and they are mainly from the GCC region. But promoting Qatar as an ideal tourist destination to visitors is an important aspect of our tourism strategy and, of course, this has been stepped up since finding out we will host the World Cup in 2022."

Continued  
on Page 56

Above: A local shop in Souq Waqif proudly gearing up for 2022.

Below: The glitz and glamour of Doha at The Pearl.



CONTINUED FROM PAGE 55

Qatar is becoming a leading sports destination and has invested \$2.8bn for sporting infrastructure. It has kilometres of beautiful coastline with watersports like scuba-diving, jet-skiing and sailing available. Golfers will enjoy the facilities on offer, such as the championship par 72 course at Doha Golf Club.

The ASPIRE Academy for Sports Excellence in Doha houses the world's largest indoor sports dome.

The country successfully hosted the 15th Asian Games in 2006 and the 2011 AFC Asian Cup football tournament in January this year in its underground football stadium, the world's first.

The World Cup tournament traditionally takes place in June and July, when temperatures in Qatar can top 40°C, but visiting fans will be pleased to hear that the stadiums will be fully chilled for the event – although there is still 11 years to argue whether or not the event should take place in winter.

The country is gearing up its infrastructure before the event and the QTA suggests fans extend their trips to experience the country.

“At the moment we suggest business travellers to Doha, the capital, stay at least another two days to see the sights and experience our culture, and then stay a further two days to experience other areas of the country. We suggest the same to tourists. We are a country rich in cultural heritage, stunning natural landscapes, and modern progressive thinking to travel and tourism professionals,” said Al-Mohannadi.

#### Stunning galleries

Visitors to Doha can visit museums to learn more about the country. “The Museum of Islamic Art is an icon for Qatar,” said Al-Mohannadi. “It contains stunning galleries with some of the world's rarest and most valuable exhibits, and the world's largest collection of Islamic art. Features include manuscripts, ceramics, jewellery, woodwork and glassworks.

“The museum is situated on its own man-made island linked to Doha's Corniche, where visitors can enjoy a stroll or sit at a café and enjoy an Arabic coffee.”

Other points of interest are the Weaponry Museum and the Al Zubarah Fort, one of the most impressive in the country.

Shopping is big business in Qatar and while it has huge shopping malls it is noted for its traditional souqs.

Al-Mohannadi said: “Souq Waqif is the oldest in Doha. It was at this site centuries ago that the Bedouin would bring their sheep, goats and wool to trade for essentials. Today it is a charming market that has recently undergone a major renovation to be transformed into an old looking marketplace with small shops that sell anything from perfumes and spices to falcons. It really is a must-see place in Doha.”

The Al Maha Sanctuary is another big tourist draw. It is one of the best sites in the country to



see Oryx, the national animal of Qatar that once verged on extinction until it was reintroduced in the 1980s and is now bred in protected herds within the sanctuary walls.

Doha was named as the Arab Culture Capital in 2010. With this accolade the capital hopes to target the niche markets of sports, culture, education and business.

Doha is already a huge business hub but this will further increase once the Qatar National Convention Centre (QNCC) opens later this year.

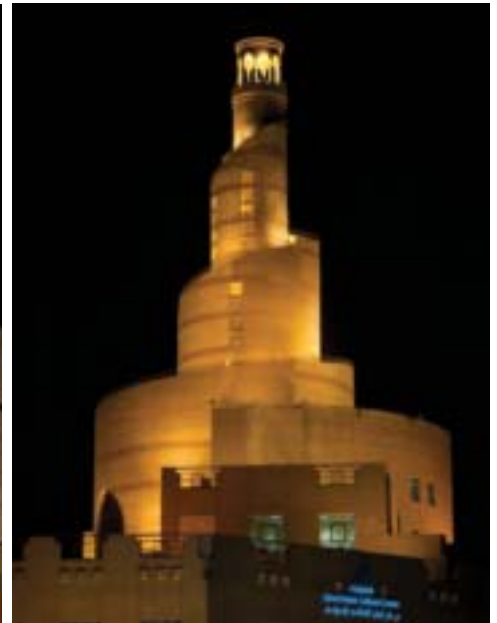
The state-of-the-art venue will be one of the biggest convention centres in the world featuring 40,000sqm of exhibition space over nine halls with a capacity to host conference galas for

10,000 guests, a 4,000 seat conference hall, 52 meeting rooms and a 2,300-seat lyric-style theatre. This alone will attract huge numbers of foreign business travellers.

To accommodate the expected business and tourism figures, Qatar's hotels inventory is expanding rapidly. Figures from the QTA show that 25 hotels opened in 2010.

“We currently have 120 hotels all over Qatar under construction, adding 22,000 rooms,” said Al-Mohannadi. “By 2015 we expect a 400 per cent increase in hotel construction and by 2015 we expect to have full capacity to host the World Cup event with the numbers expected.”

Doha visitors will also find a wide range of restaurants and be able to choose from Asian to



Left: Cafe culture in Souq Waqif. Top: Islamic Cultural Centre. Bottom: A local man selling 'bit and pieces' in Souq Waqif.

American. Of course, there are many fine restaurants serving traditional Arabic dishes too.

Located 50 kilometres from Doha is Khor Al Udaid, which is promoted as the major attraction in Qatar. This 'inland sea' is actually a huge salt-water inlet jutting into the desert and surrounded by kilometres of towering sand dunes.

Visitors can experience desert safaris, where they camp out and try out sand skiing and sand boarding, or they can enjoy the beaches and the water-sports on offer.

South of Doha lies Al Wakra, a former pearl diving harbour town. Some of the best beaches in the country are located here. The town is also known for its mosques and Arab-style houses.

At the enigmatic Al Zubarah Fort, nearby

excavations have uncovered the walls of an ancient city, now preserved as Al Zubarah Heritage Site.

Qatar's successful 2022 World Cup bid is also accelerating its large-scale infrastructure projects, including Doha's metro system, which will run for 300 kilometres and include a link to the new Doha International Airport – set to open in 2012 – and the Qatar-Bahrain causeway, which will be the longest fixed-link in the world.

While Qatar is under heavy construction, the QTA stresses that it has its own individual tourism plans that set it apart from other Gulf countries.

"Qatar is different," said Al-Mohannadi. "For example, Dubai targets mass tourism where we promote business tourism. Of course, this is

changing now we have 2022 to look forward to. We will offer a combination of culture, sports and fun with a keen view to impress visitors."

So keen are they to impress, that there are even plans to consider alcohol license laws within the state.

"While the consumption of alcohol is frowned upon, it is served in a limited number of hotels catering mainly to foreigners," said Al-Mohannadi. "There are government discussions about having controlled areas of alcohol consumption for the football fans but without it inflicting upon local people."

It is safe to predict that Qatar will soon be a country that people from all over the world will consider for a holiday – football or not.

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*Qatar's success in civil aviation is linked inexorably to one man – Alan Peaford meets Akbar Al Baker, the dynamo behind the business.*

# When this man whispers, the world listens...

**A**kbar Al Baker almost glides into the conference room. Behind him his entourage are like ducks on the water paddling furiously to keep up.

There is almost a silence in the room as delegates and guests turn to gaze at the man who, virtually single-handedly, has been credited with the tremendous change in Qatar's civil aviation reputation by developing an airline that has respect around the world.

He moves at pace – never a second to relax. There is always another challenge for him.

As he takes his seat on the stage, the boss of Qatar Airways turns to me and whispers: "You're not going to make me sound controversial are you?" Then he grins.

Anybody who has interviewed the mild-looking Al Baker before – particularly in front of an audience of several hundred industry professionals – knows that controversy is what you get as part of the package.

Executives from the major manufacturers – Airbus, Boeing and now Bombardier, develop a kind of sheepish look the second Al Baker takes to the stage.

Nothing is rehearsed. They know he could easily announce an order for aircraft that they weren't expecting or, more likely, publicly tear them to shreds over programme delays, cost projections, performance failures or political interference.

"Akbar has very high expectations and continually challenges us to deliver the best possible products for his airline and his customers," said Marty Bentrott, Boeing Commercial Airplanes vice-president of sales for the Middle East, Russia and Central Asia.

There is no individual bias – he gets them all. They take it on the chin and no wonder. He is nearly always right in what he says and his mild-mannered look hides an incredibly sharp mind. There is also his track record to take into account.

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When he took over the reins at Qatar Airways in 1997 it was a small regional carrier with just four aircraft. Now it has one of the most modern fleets in the world with more than 90 aircraft servicing more than 100 routes and earning plaudits for customer service wherever it goes.

He is also tasked with leading the development of the New Doha International Airport (NDIA), which is due to open in 2012 or early 2013.

Like his competitor and friend, Sheikh Ahmed bin Saeed al Maktoum, the chairman of Emirates Airline in Dubai, Al Baker knows that an effective and smoothly-operating airport is a key ingredient in the airline success story. Both men take hands-on leadership approach to ensure their respective airports will keep pace with the demands their airline growth strategy makes.

Critics of Al Baker will say that he is sometimes too 'hands-on' but the Doha-born economics and commerce graduate knows just how important the NDIA and the airline strategy is to his country's future. He is tough on his people – "I am a very difficult CEO," he admits. But there are no apologies.

"People who want challenge, who want future, they'll always want to work for Qatar Airways," he said.

#### Promoted on merit

He is a firm believer in equality and opposes the idea of nepotism as a means of employment. "People are promoted on merit here. There is always scope to grow. Promotions are not through knowing somebody. We do not have any differentiation in the staff. In the senior management positions we are an equal-opportunity business it doesn't matter who you are, or from where you are," he told one local newspaper reporter.

The airline was the first to employ women pilots – an early controversial move in Qatar – but now the country is proud of that achievement.

Like Emirates and Etihad Airways, Qatar is building its business on the hub system. Making use of the Gulf's geographic advantage, the airline is connecting east and west with a single stop in Doha.

The legacy carriers in Europe and North America have been amused by the aspirations of the Gulf carriers over the past decade or so. But, as the global recession hit and the Arab carriers continued to grow, they took notice and fought back, lobbying governments to halt that growth.

First on the agenda was the Gulf carriers' access to European government export finance.

Al Baker fumes about the region's airlines being "heavily criticised" for using cheaper finance to expand. "The European carrier chiefs behind such attacks do not understand the basic principles of financing to airlines," he said.

The difference between normal market financing and the "cheaper money" is "very little", asserts Al Baker, who also rejects suggestions that the Arab carriers benefit – at least unfairly – from tax breaks and lower staffing costs.



"European carriers are using their aircraft typically for eight or nine hours a day while Middle Eastern operators use ours for 13 to 14 hours a day," he said. "With Europe hesitant to expand its airports, Arab carriers need to expand to compensate."

Al Baker also condemns the "propaganda" issued against Middle Eastern airlines concerning the environment, adding that the "biggest noise" against the region's operators is being made by a major carrier that has higher emission levels than Qatar Airways.

Attributing the latest criticism of Middle Eastern operators to the problems faced by airlines during the recent recession, Al Baker said: "If you can't defeat someone, you should join them. Competition will not go away by screaming and shouting."

Al Baker also believes that the Gulf airlines have been shrewder than many European competitors in the approach to fuel hedging. "No matter what the oil price is, for the next three years Qatar Airways will pay a very attractive price for the oil we have hedged," he said.

North America has also been a challenge, with Air Canada fighting to hold back access to Canadian airports for Gulf carriers in order to protect its own routes, even though it does not fly to the region itself.

"I think this is crazy," Al Baker said. "It increases traffic both ways. Canada benefits from us being there. They [the Canadians] want me to buy the airplanes, their engines or their simulators but they don't want me to fly there."

With his government in tow – and with prospect of purchasing Bombardier C-Series aircraft at the Paris Air Show in June – he made headway and in February announced the airline will open its first Canadian route, with a service to Montreal which will kick off straight after the Paris show and will serve the city three times per week utilising Boeing 777-200LR twinjets configured with 42 business-class and 217 economy-class seats.

"Montreal is one of the most sought after destinations in the world and we hope to have

paved the way for expanded capacity into Canada and operate to additional cities in the future," Al Baker said.

Al Baker's success is unlikely to have impressed rival Emirates, which has seen a 12-year effort to persuade Canadian authorities, via intergovernmental talks, to allow additional flights from the United Arab Emirates continue to stall.

Emirates insists that it poses no threat to Air Canada and that any suggestions Star Alliance – with which Emirates has engaged in a long-running public spat – would be badly hit by its plans "lack credibility".

Qatar has also been making ground into Germany – another country that has resisted the Gulf carriers – and now operates to four cities. But it is facing a backlash as Association of European Airlines secretary general Ulrich Schulte-Strathaus has called for help from ICAO in tackling what he described as the "growing threat" from the Gulf carriers.

His remarks to the Aviation Club in Washington received short shrift from the Qatar head.

"Critics are comparing the aircraft order book of Gulf airlines with that of the US carriers in the long-haul wide-body arena as if those airlines plan to dump capacity," he said.

#### Domestic operations

"The comparison itself is extremely erroneous! The backbone of the US air transport industry is domestic operations. The portion of the capacity deployed internationally as a ratio of the total capacity deployed by the US airlines is minimal.

"Of course, geography and population spread requires such a structure. The airlines of the Gulf operate from small countries and they are operating regionally in an area that is three times the size of the US, and internationally with a network that stretches across the globe. We operate with the minimum cost per seat mile in mind. We operate with the minimum environmental footprint in mind as well.

"The average age of our fleet is around five years only. We do not keep airplanes operating for 20 to 30 years. Therefore, you will find that in order to maintain the lowest cost in seat miles, and the greatest appeal to customers, our order book is higher than elsewhere because we maintain a young fleet.

"If Europe is not investing enough in aviation infrastructure and has developed a cost base which is becoming burdensome on some of its old establishments, and if Europe is not addressing the cost of its social safety-net in a way which maintains a competitive posture for its airlines, should then the European consumer be penalised by depriving him of cost-efficient aviation services?"

Al Baker gestures furiously as he makes his points on competition, on low-cost carriers and that foreign involvement. Then he turns with another smile. "I guess I have just been controversial again."

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# SMALL TEAM WITH A BIG HEART

*Qatar's air force is small but well-equipped and is currently undergoing a major re-equipment programme.*

**Jon Lake** reports.

**Q**atar's defence expenditure has been recently estimated to be around 10 per cent of GDP (Qatar enjoyed the highest GDP per capita last year, with the fastest growth), allowing the Emirate to maintain small but professional and well-equipped military forces.

These total about 12,000 people and include an Army, Navy, and Air Force.

The country also has a public security force numbering about 8,000, including an internal security force, a coast guard, marine police and a national fire fighting force.

Qatari security is guaranteed through its own forces, through the Emirate's active participation in the Gulf Cooperation Council (GCC) together with Saudi Arabia, Kuwait, Bahrain, the UAE and Oman) and via a series of defence pacts that have been signed between Qatar and the USA, UK, and France.

Qatar has played an increasingly important and prominent role in collective defence arrangements in the area and is increasingly involved in supporting international operations.

Qatari forces formed a vital element in the 'coalition of the willing' and played an important

role in the first Gulf War, supporting US-led military operations in Iraq and Afghanistan, hosting CENTCOM's forward headquarters, and allowing the base at Al Udeid to be used by US, UK and other allied air forces.

The success of both Operation Enduring Freedom and Operation Iraqi Freedom was founded on the use of Qatari bases, and on Qatari support.

The Qatar Emiri Air Force was formed in 1974 and is commanded by Brigadier General Mubarak Mohammed Al Kumait Al Khayarin.

After expelling the Turks, Qatar's Emir signed an exclusive agreement with the British in 1916, under which Britain guaranteed Qatar's protection. The Emirate gained independence on September 3, 1971, after the UK announced its intention of ending its treaty relationships with the Gulf sheikdoms.

A confederation with the seven Trucial Sheikdoms (the present-day United Arab Emirates) and Bahrain was briefly discussed but terms for a Union could not be agreed, and Qatar declared independence as a separate entity.

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Qatar's defence forces were formed with British aid and assistance, with Westland Whirlwinds equipping the Air Wing of the Public Security forces from 1968.

The mainly helicopter-equipped Air Wing received four Hawker Hunters (three single-seater FGA.Mk 78s and a T.Mk 79 two-seat trainer) in 1971. The Hunter was the first jet aircraft and the first combat type to enter Qatari service. The Air Wing became a full air force in 1974.

The UK later delivered three Westland Commando Mk 2A transport helicopters, one Mk 2C VIP aircraft (later donated to Sierra Leone) and eight anti-ship configured, Exocet-armed Commando Mk 3 helicopters for the air force, and three Lynx Helicopters for the Police. The Lynxes had a relatively short career, but some of the Commandos remain in service to this day.

In 1979, Qatar launched a major modernisation and expansion plan, placing orders for six Dassault/Dornier Alpha Jets and 14 Mirage F1 multi-role fighters (12 F.1EDA single-seat tactical fighters and two F.1DDA two-seat trainers), which were delivered during 1980-1984. The arrival of the Alpha Jets allowed the retirement of the Hunters in 1982, though one was retained as an instructional airframe. The Alpha Jets were supplemented by the new Mirage F1s from 1983.

Qatar also received a number of Gazelle helicopters – two Westland-built machines delivered to the Police in 1974, and 14 SNIAS-built SA342 aircraft for the air force, delivered from 1978.

**Next phase of growth**

The next phase in the growth and modernization of the Qatar Emiri Air Force came in 1987 with the signing of a military co-operation agreement with France. The 1990-91 Gulf War underlined the vulnerability and inadequacy of the Air Force's facilities at Doha International Airport, and demonstrated the need for facilities to support deployments by allied aircraft. Accordingly Qatar placed infrastructure contracts worth more than \$200m in France, and began construction of a dedicated new military air base and HQ southwest of the capital at Al Udeid, with hardened aircraft shelters, an air defence radar system and Roland surface-to-air missile batteries. The US \$1.4bn base has the longest runway in the region (at 2.8 miles) and can accommodate up to 120 aircraft.

A \$1.6bn contract was also placed in 1994 for nine single-seat Dassault Mirage 2000-5EDA combat aircraft and three two-seat Mirage 2000-5DDA combat trainers, deliveries of which began in December 1997. These aircraft replaced the Mirage F1s, one of which was retained as a gate guard at Doha airport. The remaining 11 Mirage F1EDAs and two two-seat F1DDAs were returned to Dassault in part-exchange, and subsequently sold to Spain for spares recovery.

A major arms deal with Britain in late 1996 was to have included 18 BAe Hawk 100 advanced



**From transport to Search and Rescue, the Qatar Emiri Force has many capabilities.**

trainer and light attack aircraft, but this was delayed by falling oil prices and consequent budget reductions, though some still expect an order for six or eight Hawk 100s to be placed.

Though the new air base at Al Udeid has been operational for more than a decade, and though it is officially the air force's main base, most Qatar Emiri Air Force flying operations actually take place from Doha International Airport, and Al Udeid is principally used by allied air forces. It has become a key lynchpin in the ongoing operations

in Iraq and Afghanistan.

The United States and Qatar signed an agreement in December 2002, formally allowing the USAF to use Al Udeid. The base's long runway and ample ramp space made it particularly useful for supporting air-to-air refuelling operations. Al Udeid Air Base is today home to the USAF's 379th Air Expeditionary Wing, with more than 90 combat and support aircraft, sometimes including aircraft from the UK, Australia, and Singapore.

Thus the Qatar Emiri Air Force and the Qatar Amiri Flight both operate primarily from Doha International Airport, though what will happen when the New Doha International Airport opens remains to be seen. Some expect the existing runway to be retained, perhaps for military and/or business/corporate use, while others expect the air force to move out to Al Udeid, or even to the new airfield being built as part of the Aerospace City at Al Khorr.

The Qatar Emiri Air Force is currently undergoing a new phase of modernisation. With an increasingly outward-looking defence policy, underpinned by a desire to raise its public profile on the international stage, Qatar has begun to equip itself to support international operations, and especially to help with humanitarian and disaster relief missions. Accordingly, in 2008, Qatar ordered C-130J and C-17 transport aircraft, ostensibly with the primary aim of allowing Qatar to provide humanitarian aid around the world.

#### First Middle Eastern customer

Qatar was the first Middle Eastern customer for the C-17, signing up for two aircraft (with associated equipment and services, and with two options) on July 21, 2008. The first of these was delivered on August 11, 2009, and the second, wearing a Qatar Airways-type colour scheme, followed on September 10. A Qatari C-17 delivered aid to the capital of Haiti, Port-au-Prince, days after the earthquake there in January 2010, and to Chile in the wake of that nation's February 27 earthquake.

Boeing and the Qatar Emiri Air Force formally celebrated Qatar's deployment of the C-17 Globemaster III during an Air Force Day ceremony held in March 2010.

Unusually, the Qatari C-17s are effectively based at Al Udeid Air Base, where the operational support and depot maintenance support infrastructure has been established.

The C-17s are to be augmented by four stretched Lockheed C-130J-30 Super Hercules aircraft, ordered under a separate contract valued at \$393 million.

The Qatar Emiri Air Force is also revitalising its rotary-wing force and, in July 2008, signed a 260m contract for 18 long-nosed AgustaWestland AW139 medium twin helicopters to replace the ageing Westland Commandos in the utility, troop transport, search and rescue, border patrol, special forces, law enforcement and homeland security roles. The first (QA60) was delivered to Doha, in January 2010.

The Air Force is currently evaluating new fighters to replace the Mirage 2000, including the Boeing F/A-18E/F Super Hornet, the Boeing F-15E Eagle/Silent Eagle, the Dassault Rafale, the Eurofighter Typhoon and the Lockheed Martin F-35 Lightning II Joint Strike Fighter. Qatar is believed to be looking for 24-36 aircraft, and a final choice is expected to be made by the end of 2012.

# Air Order of Battle



**No. 1 Fighter Wing** consists of two front-line squadrons. **No. 7 Air Superiority Squadron** flies 12 Dassault Mirage 2000-5DAs (nine single-seat Mirage 2000-5EDAs and three two-seat Mirage 2000-5DDAs), equipped with a multi-mode Thales RDY radar and advanced avionics systems. The aircraft can be armed with Magic 2 and MICA air-air missiles, but can also carry the Thales Optronique Damocles targeting pod for air-to-ground missions.

The Wing's second constituent squadron is **No. 11 Close Support Squadron**, which operates Qatar's six Alpha Jets. These are used to provide weapon training for pilots who have undertaken advanced pilot training courses overseas, but have a secondary attack capability that would be used in times of war.

The Qatar Emiri Air Force's fast jets are augmented by two helicopter Wings. The **Second Rotary Wing** has three squadrons, operating a mix of Gazelles and Commandos.

**No. 6 Close Support Squadron** operates the survivors of the 14 Gazelles, armed with HOT anti-tank missiles. The Commandos serve with **No. 8 Anti-Surface Vessel Squadron** in the sea surveillance and anti-shipping roles (and can be armed with the Aerospatiale AM39 Exocet anti-ship missile), and with **No. 9 Multi-Role Squadron** in the support helicopter role. The new AW139s equip **No. 20 Squadron**, which forms the newly established 3rd Rotary Wing.

For government and VIP transport, the Amiri Flight operates single civil-registered examples of the Airbus A340-211, -313X and -541, Airbus A330-203 and 302, Airbus A310-308 and Boeing 747SP-27. Smaller types in the fleet include the A319-133X, the A320-232 and Global Express and an A319-115X is on order. The vast majority of the fleet is painted in standard Qatar Airways colours, though the 747SP wears a smart maroon and grey VIP scheme. Contrary to many reports, the C-17 is not part of the Amiri Flight operation.

#### QATAR EMIRI AIR FORCE

##### No. 1 Fighter Wing, Doha International Airport

**No. 7 Air Superiority Squadron** Dassault Mirage 2000-5EDA/DDA

**No. 11 Close Support Squadron** Dassault Alpha Jet

##### No. 2 Rotary Wing, Doha International Airport

**No. 6 Close Support Squadron** Aerospatiale SA342 Gazelle

**No. 8 Anti-Surface Vessel Squadron** Westland Commando Mk 3

**No. 9 Multi-Role Squadron** Westland Commando Mk 2A

##### No. 3 Rotary Wing, Doha International Airport

**No. 20 Squadron** AgustaWestland AW139

##### Transport element, Al Udeid

**Transport Squadron** Boeing C-17 Globemaster III

##### Qatar Amiri Flight

**Amiri Flight, Doha International Airport**

Airbus A310-308, Airbus A319-133X, Airbus A320-232, Airbus A330-203, Airbus A330-302, Airbus A340-211, Airbus A340-313X, Airbus A340-541, Boeing 747SP-27, Bombardier Global Express

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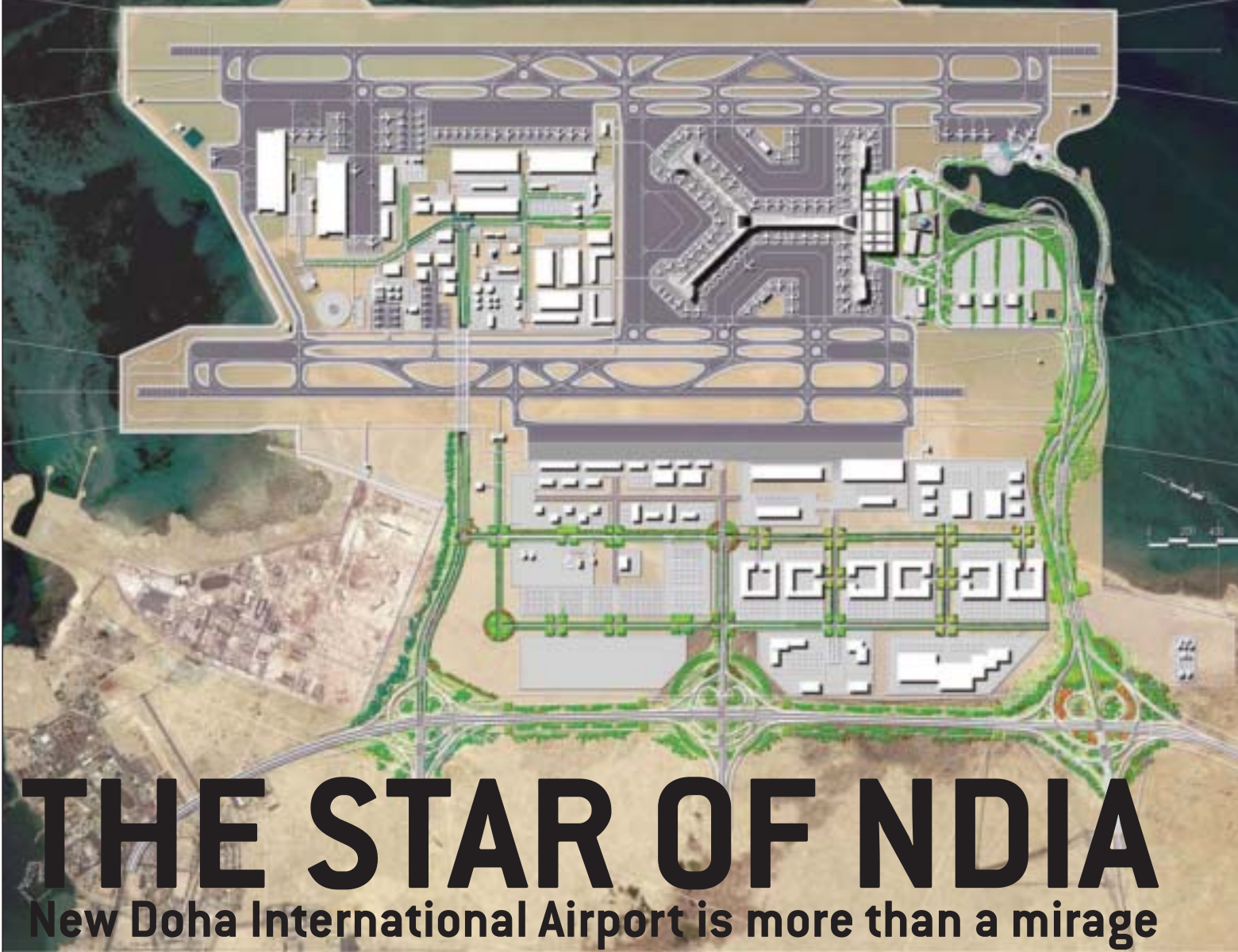


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# THE STAR OF NDIA

## New Doha International Airport is more than a mirage

**A**nyone familiar with cartoons and a certain kind of movie might associate the word mirage with an optical illusion encountered in desert conditions – a powerful image of something that isn't actually there.

The more scientifically inclined will know that the mirage is a real optical phenomenon, which can produce a displaced image of distant objects or the sky. A real world mirage is not an imaginary object, but an image of something that is much further away than it appears.

Many believe that the New Doha International Airport (NDIA) may be just such a mirage – undeniably real but rather further away than it at first appears.

The existing Doha airport has become increasingly stretched at meeting the needs of the booming economy of Qatar, which has seen a rapid growth in aircraft movements and passenger numbers (largely driven by the rapid expansion of Qatar's state airline Qatar Airways), and which has resulted in major pressures on existing airport infrastructure. A new, state-of-the-art, airport was clearly needed.

Plans for a new airport began in 2003, and a 22sqkm site, said to be one third of the size of the city of Doha itself, was

chosen east of the existing airport on the seaward side. Almost half of the new site was to be built on reclaimed land, requiring more than 62 million cubic metres of 'fill'. With an area of 2,200 hectares, the New Doha International Airport will be almost twice the size of London's Heathrow Airport.

The contract for the first phase of the airport construction and for the planning and design phase was awarded to the Bechtel Group in early 2004.

The NDIA is designed to be able to deal with growing passenger numbers and aircraft movements, and will be able to handle 24 million passengers (three times as many as the current airport) as soon as it opens, with an eventual planned capacity of 50 million or, according to some sources, as many as 93 million.

The airport will be able to accommodate 320,000 annual movements, and two million tonnes of cargo annually. Its two parallel runways will be 15,910ft long (4,850m) and 13,940ft (4,250m) long, respectively – the second, shorter runway opening as part of Phase III, along with an expansion of terminal facilities and an increase in the number of gates.

NDIA is said to be the world's first airport to

Continued  
on Page 68



be designed and built specifically for unconstrained operations by the double-decker Airbus A380 – the world’s largest passenger aircraft and planned to be a mainstay of the Qatar Airways fleet. The needs of Qatar Airways lie at the heart of the NDIA project, and the airport will be the carrier’s home base and hub. As such, the New Doha airport will include a new headquarters building for the airline and training facilities for Qatar Airways, including flight simulators.

When it opens, the NDIA will have a three-storey, 219,000sqm terminal with 40 gates, four of which will be able to cater specifically for the A380. This terminal will have a capacity of 24 million passengers a year and will include a suspended monorail ‘people mover’ that will transport passengers through the terminal.

Qatar Airways is proud to call itself the world’s fastest-growing premium airline, and premium facilities will very much be in evidence at NDIA, providing high levels of service, comfort and convenience.

The terminal will incorporate up to 25,000 square metres of retail space and comfortable lounges and there will be a 100-room hotel within the terminal for the convenience of visitors and transfer passengers, with a larger airport hotel adjacent to the terminal.

The new airport will include an aircraft maintenance centre with hangars large enough to simultaneously accommodate two A380s and three A340s, as well as a cargo facility with a capacity of 750,000 tonnes a year, and with eight of its own dedicated aircraft hard-standing parking bays.

A new Emiri Terminal complex for VIP flights is being provided at NDIA, with additional hard-stands and with separate road access, while a pipeline project to transport JET-A1 fuel from the petroleum refinery in Mesaieed to the airport is virtually complete.

Forty further contact gates will be added beyond 2015, taking the total to 80 – six of them dedicated to the A380. The terminal building itself will be expanded to 416,000sqm, handling 50 million passengers a year.

Construction work commenced in 2004 with the initial aim of opening in 2009, though this ambitious deadline has already slipped. The opening of NDIA is now expected to be ‘phased’, with a ‘light opening’, perhaps for cargo only, in late 2011. Local industry insiders and operators seem sceptical about the publicly-announced timetables relating to the opening of NDIA, and there is a great deal of uncertainty as to what will happen to the rotary-wing, business aviation, and military operations now being undertaken from Doha.

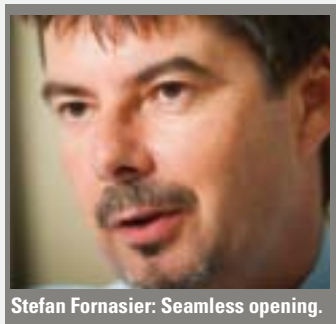
Some expect the existing Doha runway to be retained for some of these uses, while others expect to ‘migrate’ to any new airfield that may be created as part of the new ‘Aerospace City’ concept.

In the meantime, efforts have been made to improve capacity at the existing airport. A separate new arrivals terminal has been built, and the old terminal has been transformed into a new departure building. Qatar Airways is also adding another 12 gates at Doha, further improving capacity.

## Munich makes the right moves in transitioning operations

When Munich moved its airport from Riem to the new at Freising in 1992, the management gained invaluable experience in transitioning operations to a new base. Far-sightedly, Munich Airport realized that this represented something that could be sold to other airport operators, and today, the sale of operation and management expertise, airport process optimization, IT services, facility management services, and Operational Readiness & Airport Transition (ORAT) as well as staff training form a key part of the Airport’s business.

Munich Airport Consulting has completed some 15 projects from Heathrow to Changi, and has some nine ongoing projects, several of them in the Middle East. These include management support/coaching at Bahrain International Airport, the ORAT programme of the new airports at Muscat and Salalah, and, following the signature of a contract in November



Stefan Fornasier: Seamless opening.

2009, an ORAT role for Qatar’s New Doha International Airport.

Stefan Fornasier, project manager of the Munich Airport ORAT Team for the New Doha International Airport project, told *Arabian Aerospace* that he sees his task as ensuring a smooth and seamless opening of the New Doha International Airport, ensuring that all members of the airport community are ready and confident for six months of

end-user trials and then for operations. This requires detailed concepts and operational procedures to be written up for all of the airport’s core processes, from terminal services, passenger and baggage handling, security, IT, and facilities management.

The ORAT team will work with all the key stakeholders (the airport operator, the airlines, and the authorities), talking them through the new processes and procedures, leading to familiarization training for all personnel working at the new site. Initial trials will be of single processes, with relatively small numbers of passengers, progressing to integrated trials with much larger groups of passengers.

All routine airport processes and contingency scenarios will be simulated and then practiced in the NDIA facilities, with the full participation of end-users.

The ORAT team will then manage the transfer of operations from the old airport

to the new facilities, creating the necessary relocation database and inventories, and then preparing the transfer schedule and setting-up slot-management. Vitally, the ORAT team will plan for full operational functionality at both airports during the transition period.

As a result of its successes, Munich Airport Consulting today claims to be the market leader in providing Operational Readiness & Airport Transition services, and the company is now focusing greater attention on exploiting and spreading its core competencies, including airport management, IT consulting and facility management. These services, which have hitherto been offered on a fairly ad hoc basis, are now viewed as being more vital to the company’s future, and Munich Airport is energetically promoting itself as a key provider of operational airport consulting services and has great ambition to expand its activities as part of a new business development strategy.

# Partnerships key to centre of excellence



A new order for Piper Aircraft has extended the training fleet.

*Training is a vital key to Qatar's aerospace future. Mohammed Al Alia takes a look at the progress that's being made in the country.*

Qatar Aeronautical College (QAC) was one of the earliest flight training organisations in the Gulf region having been founded in 1975, with assistance from the United Nations Development Programme, as the Civil Aviation College of the Gulf States.

It is located on a purpose-built campus in Ras Abu Aboud, directly behind Doha International Airport and this year is celebrating its 15th year with its QAC name.

The name wasn't the only change – its programmes have now expanded to include training not just for airline pilots but also for aircraft maintenance engineers, air traffic controllers, meteorologists and flight dispatchers.

The main building includes administration offices, departmental offices, classrooms, workshops, an examination hall, a library, a cafeteria, and a snack bar. Behind the main building are a mosque and four residential blocks providing single-bedroom accommodation for students and some staff members. Cable TV, telephones and laundry facilities are available in shared living areas. Students and staff residing in the college are provided with three meals a day in the cafeteria.

Late last year BAE Systems, the international systems, defence and commercial aerospace company, signed a MoU with QAC to jointly establish an internationally accredited and recognised centre of excellence for aviation training in Qatar with shareholding split 50/50.

QAC has also signed a MoU with US-based Embry Riddle Aeronautical University (ERAU) – a world leader in aviation and aerospace higher education – to provide bachelor degree courses. It is hoped that

the association with ERAU will result in the establishment of a campus in Doha.

Another key partnership will be with Saudi Development and Training, a BAE Systems' joint venture company, which will be supporting QAC as it builds its accredited foundation programme.

"BAE has had a presence in Qatar for many years and this joint venture with the Qatar Aeronautical College endorses its continued support to the country and its people, as well as the wider Middle East region, and provides a platform for a long and beneficial strategic partnership," said Simon Keith, managing director Middle East, BAE Systems.

"The College will provide the highest standards of under-graduate and post-graduate vocational and academic training in aviation-related disciplines and create a regional centre of excellence such that students who graduate have the knowledge, skills and capabilities to support themselves in their chosen careers," he said.

With the demand for more pilots across the region, QAC earlier this year added to its training fleet with 14 new aircraft from Piper Aircraft. The fleet sale consisted of four Piper Seneca Vs and 10 Piper Archer IIIs to add to the existing fleet, which already consists of a number of Piper training aircraft.

"Piper is very appreciative and pleased to be selected by a prestigious institution like Qatar Aeronautical College for this important fleet order," said Chuck W Glass, the director of Piper's global flight training and fleet programmes. "This sale reinforces that Piper has a strong reputation around the world for supplying reliable and efficient training aircraft for new pilots," he added.

While neither organisation is disclosing the fleet purchase price, retail value of four new Piper Seneca Vs and 10 new Archer IIIs totals about \$6.7m. In addition, QAC ordered its new fleet with advanced Garmin avionics. The Seneca V trainers have four-screen dual G600 systems and the Archers have four-screen dual G500 systems.

The Seneca V is a twin-engine piston aircraft powered by Continental TSIO-360-RBs, each generating 220hp with a 197 KTAS, 365km/h max cruise and an 828nm, 1,533km range.

The single-engine Archer IIIs are powered by an 180hp Lycoming O-360-A4M with 128 KTAS, 237km/h cruise and 522nm, 822km range.

The college has also been benefitting from the involvement of Boeing, which has now based a regional HQ in Doha and has been introducing guest speakers to the college to stimulate interest in the industry.

In March, former space shuttle astronaut Bonnie J Dunbar spoke to a cross-functional group of students, explaining how her engineering education prepared her to fly on five space shuttle missions and for a successful career in the aerospace industry.

Director general of QAC, Ali Ibrahim Al-Malki, said the school's students benefit from such interactions.

"Our students are just beginning their careers in aviation and are mastering the knowledge and skills of flight, engineering and related disciplines," Al-Malki said. "Having a guest speaker like Dr Dunbar, who spent a combined 50 days in space, is an exciting reminder of why they are working so hard to become a part of this industry. Our female students, especially, found her message to be inspirational."

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# Helicopter heavyweight fills

*Gulf Helicopters is continuing to enjoy phenomenal growth in terms of flying hours, helicopter numbers and revenue. Captain John Toon (right) explains why to Jon Lake.*



**Q**atar's Gulf Helicopters was the first major helicopter operator in the Gulf region and it remains one of the largest and most highly regarded.

The company was established in July 1970, when Gulf Aviation, BOAC, and BEA owned it jointly. Gulf Helicopters became a wholly-owned subsidiary of Gulf Air in March 1977. In 1998, when Gulf Air decided to sell off its non-core businesses to focus on its core airline operation, Gulf Helicopters was taken over by Qatar Petroleum. Since February 2008, the company has been owned by Gulf International Services QSC (GIS), a Qatar-based public shareholding company 30 per cent owned by Qatar Petroleum.

Supporting offshore oil and gas activities currently accounts for some 95 per cent of Gulf Helicopters' activity, with only a relatively small number of short-term, ad hoc contracts onshore.

Mohammed Al Mohannadi sees little prospect of further business use of helicopters in the region

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# the oil and gas gulf

with regulations, security concerns and a lack of heliports ensuring that most flights will have to be between existing airports, except in the case of occasional head-of-state VVIP operations.

Gulf Helicopters' Air Operators' Certificate only permits offshore operations, with separate permissions being required for onshore flights. The recession had an impact on the oil and gas industry and Mohannadi acknowledged: "We won't see further increases in oil and gas."

This, Mohannadi said, has made Gulf Helicopters "work hard to look at other areas", to open up new markets, to work harder to find work for the company's helicopters and to look at other means of achieving growth.

## Ahead of the game

The company always tries to be ahead of the game and is looking at launching a seaplane operation in the next few months, using a Cessna Caravan floatplane. It is developing other activity areas to sell services to third-parties, including maintenance and training.

The company is working hard to gain international accreditation and recognition for its services. It is already sub-contracted by Sikorsky to provide some S-92 support, and is supporting the Qatar Emiri Air Force as it brings its own AW139 helicopters into service.

Already accredited as an IASA 147 training organisation, Gulf Helicopters' Training Academy has been spun off as a wholly-owned but separate entity, and trains personnel for the parent company and third-party operators. This element of the business will become progressively more important, especially once the company's new AW139 simulator is fully up and running, as it expects third-party demand for this to be heavy.

Today, Gulf Helicopters has a fleet of some 37 helicopters, comprising 12 AgustaWestland AW139s (five more remain to be delivered), 19 Bell 412s, four Bell 212s and a pair of Sikorsky S-

92s. The company manages three further aircraft, including a VVIP-configured Eurocopter EC155, based in Europe, and an MD902 Explorer used for helicopter emergency medical services (HEMS) tasks on behalf of the Hamid Hospital in Doha since 2007. The company has evaluated larger helicopters for offshore use, including the S-92 and Super Puma, as well as the EC175.

It has, however, allowed its three Bell/Agusta BA609 tilt rotor options to lapse, after a serious re-evaluation of requirements.

The company does not restrict its operations to Qatar and is currently operating in East Timor, India (in a joint venture with the United Helicopter Company), Libya, Oman, Saudi Arabia and Yemen. Until recent events Libya was especially important for Gulf Helicopters and the company was coming to consider it as a North African hub.

## Pushed forward

Once a company largely made up of expatriate European, American and Australasian personnel, Gulf Helicopters is becoming increasingly Qatari, as it follows a similar 'Qatarisation' plan to that being pushed forward by its Qatari Petroleum parent company, which demands 50 per cent local staff within five years.

Progress will naturally and inevitably be more slow when it comes to helicopter pilots and engineers, though the company already claims to have reached 25 per cent local pilots/engineers, with some 90 local co-pilots, 110 local engineers and 6-7 Qatari captains.

The company had just three local Qatari pilots as recently as 2000, yet looks set to hit the 50 per cent target within two-to-three years, according to Captain John Toon, Gulf Helicopters chief pilot. Most will be co-pilots, but also include the chief pilot responsible for special operations (VVIP flying), the deputy chief pilot for operations, and the deputy chief training pilot.

## Why simulating the AW139 makes sense

Gulf Helicopters has invested in a cueSim Full Flight Level B simulator for its new AW139s and hopes to be able to offer simulator training to other operators to help amortise the costs and eventually provide a return on the company's investment.

The AW139, which Gulf Helicopters' CEO, Mohammed Al Mohannadi calls "the latest helicopter in the industry", is in widespread use in the region and internationally.

Gulf Helicopters will be the second operator of an AW139 simulator and, therefore, expects third-party demand to be heavy.

Simulator training is of vital importance for the offshore helicopter operators, allowing the safe practise and teaching of things that simply cannot safely be achieved in the real aircraft – including engine failures at critical moments of the flight, and in the very worst conditions.

The use of simulators for training also allows a company's expensively-purchased real helicopters to be used for revenue-earning flights, and allows immediate and 'any time' access to instrument training, including ILS approaches, etc.

The cueSim Flight Simulator Level B (FS B) supplied to Gulf Helicopters employs a level B-compliant six degrees of freedom electric motion platform using electric worm gear (obviating the need for maintenance-intensive hydraulic rams, pumps and machinery), augmented by seat shakers.

It employs a high-resolution visual system incorporating 60Hz image generation with a field of view (FoV) of 210 degrees horizontally and 60 degrees vertically (+20 to -40) including 'chin' windows.

The device gives broadly 80 per cent of the capability of a full level D simulator (and indeed the visual system and collimation is to full level D standards), at a more affordable price – estimated at less than one third of the cost of a level D device. Some insist that 'zero flight time' training (the unique selling point of a level D device) is not possible in helicopters and since the training offered by an FS B is otherwise 'just as good', a level B simulator is effectively the best option for helicopter operators.

The simulator (and the 18 Dell PCs that provide processing power) is housed in a new, purpose-built building with a suspended floor, a stand-by power system, powerful air conditioning, inert gas fire suppression, and a state-of-the-art fire detection system.

The cueSim company is a spin off of Britain's QinetiQ and has specialized in providing simulators and training devices with advanced technology features, world-leading flight modelling software and very high-resolution visual systems that allow them to provide a degree of realism and fidelity previously found only in much more expensive simulators.

The simulator is of modular construction and design and is designed to be reconfigured. The cockpit can use cheaper back-engineered components (a level D device has to use real aircraft components), and is significantly cheaper to build.

The sledge-type AW139 cockpit could, if required, be easily removed and alternative cockpits could be installed (within about half a day), potentially allowing multiple type-representative cockpits to be used within a single simulator infrastructure.

Gulf Helicopters hopes to receive full UK CAA certification for its new simulator on May 24, 2011.



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# HOP AND EXPECTATION

*Al Baker is cooking up an Executive treat*

**H**aving pretty much won the travelling public over with his approach to air transport, Akbar Al Baker, the passionate and sometimes controversial head of Qatar Airways, has the business aviation world firmly in his sights.

“Business aviation is a growing business in this part of the world and so we looked at it and thought we could do something with this,” Al Baker said.

The result of Al Baker’s deliberations is Qatar Executive, which will offer a range of top-end business aircraft capable of taking high-wealth individuals on short-range trips through the region or to the far reaches of Europe or Asia in a single hop.

“We had experience managing the royal flight for the Qatar royal family,” Al Baker said. “We wanted to bring the same levels of top-quality service to our Qatar Executive brand.”

Launching the business just two years ago with a Challenger 300 aircraft from Bombardier, Al Baker’s rivals across the region were dismissive, seeing the purchase as a way of maintaining a means of trans-Gulf first class in the way Lufthansa is applying its private aviation business in Europe.

## Bigger ambitions

But Al Baker had bigger ambitions. He had already bought a Challenger 850 to add extra range and cabin size to the super mid-size jet.

At Farnborough Air Show he was fully expected to sign deals with Canadian manufacturer Bombardier for the new C-Series regional jet. Instead, he ordered two Global 5000 aircraft. And then, just as the Bombardier executives began celebrating the double sale, he interrupted them to add another Challenger 605 to the mix which, he said, would be used for medevac.

“We will look at the demand and we will buy aircraft to match that demand,” he said. “I think there is more to come.”

Asked about competition, Al Baker is bullish. “We welcome competition, whether it is for the airline or for Qatar Executive. We are judged by our standards and by our quality. Good competition leads to higher standards. We are confident that what we are offering is the best. We have been surprised by how quickly the business has grown.

“There are a lot of families and business people who want the privacy and the security of a private flight. We are able to offer them the Challenger 300 for flights around the region or the bigger aircraft that can go wherever they want to.”

Al Baker doesn’t see the executive aircraft offering competing with his multi-award-winning airline. “It adds to it,” he said. “People want different things, but they also want a name they can trust. People in Qatar are proud of Qatar Airways and it is a recognised brand for quality.”

The challenge of recruiting staff, which is affecting many other areas of the business, is not a concern to the Qatar chief. “With a lot of airlines losing staff we always have pilots applying. Qatar is seen as a good place to work and so we do not have a recruitment problem. Qatar Executive is not just rolled in with the airline, it is very different and you need a different kind of person to work in the VIP business.”

Al Baker is confident that Qatar Executive is here to stay.

“We have experienced a steady stream of bookings and have, within the short time span we have been operating, already established a strong client base,” he said.

“Private jet travel is all about convenience, saving time and money, especially in the Middle East where economic activity is at a high. Efficient time management for top executives is a priority,” he added.

Qatar Executive enables corporate travellers to book an aircraft in as little as four hours before departure and check-in 10 minutes prior to take-off.

The personal on-board attention, comfort, fine dining and speed at which the aircraft flies, ensures the experience is both rewarding and memorable. Furthermore, corporate jet travel offers privacy and confidentiality, which is a high priority for many executives.

## Sleeping compartments

The Bombardier Challenger 300 and 605 aircraft feature eight and 11 leather seats respectively, which recline into fully berthable sleeping compartments. The interiors have premium fittings with plenty of space for meetings. Being a subsidiary of a well-established five-star-ranked airline, Qatar Executive leverages on its extensive expertise and experience so VVIP travellers can be rest assured of the highest standards of comfort and reliability provided by highly trained and experienced flight and cabin crew.

Forecasts show that the corporate market in the Middle East has grown at an average of 13 per cent a year since 2000 and that this figure is expected to rise to between 15 and 20 per cent until 2012.

The trend towards using corporate jets is also fuelled through the growing number of secondary airports in less populated areas now available in the region, making travel to remote areas much easier, which is especially valuable to oil and gas companies.

“Tapping into this highly lucrative premium market segment and achieving growth is part of our long-term expansion strategy. The Middle East offers solid potential that will enable Qatar Executive to meet its ambitious targets,” said Al Baker.

Qatar Executive is operating from the airline’s premium terminal at Doha, and will be able to use a separate corporate aircraft apron and fixed-base operation when the city’s new international airport becomes operational in 2012.



It's a sunny afternoon in February and Patrick Enz is sitting in his spacious office overlooking the runway of Doha Airport. The surroundings are 21st-century, but occasionally he has to raise his voice above an old-fashioned tradesmen's clatter as work continues on the finishing touches to Rizon Jet's superb new facility on the far side of the airport from the passenger terminals.

The administration block, operations centre and 4,000sqm expanse of hangar are ready to go. Only the VIP terminal remains to be completed.

But already, with its marble floors and decor echoing the complex and beautiful mashrabiya woodwork of the region, it's delivering on the Rizon Jet tagline – The fine art of flying.

"We really strive to live up to that," said Enz, a former VP with Swiss MRO and completions giant Jet Aviation. "Top-notch service for business owners and users is the first way we differentiate ourselves from the competition. Another is our ability to offer four complementary services – FBO, management, charter and maintenance."

Privately owned by Qatari industrialist Ghanim bin Saad al Saad and headquartered in Doha, the company was founded in 2006 and sprang to prominence last year with the opening of its FBO at Biggin Hill, near London.

#### Available for charter

The two locations, developed at a cost of \$20-25m each, are home to a managed fleet of six aircraft – two Bombardier Challenger 605s, two Hawker 900XPs, a Raytheon Premier 1 light jet, and a top-of-the-range Bombardier Global Express. All but the last are available for charter.

"Right now we have a total of about 80 employees, a figure that's expected to grow to 150 once the operation in Qatar is in full swing towards the end of this year," said Enz. "We started with aircraft charter and management, introduced the FBO and maintenance with Part 145 approval at Biggin Hill last year, and are now launching the FBO and maintenance here in Doha."

In Qatar, Rizon Jet's charter trade comes mainly from locals travelling on business and taking their families on holiday. "The main destinations in the region are Beirut, Cairo, Kuwait, Dubai, Riyadh and Jeddah," explained Enz. "And there's a lot of seasonal activity – we fly people to Europe for winter sports and to the south of France. Over the last three months we averaged 70-80 hours per aircraft across all the types except the Premier 1."

Ramadan has a significant effect on the company's operations, according to Enz. "People tend to stay at home during that time, so we aim to serve other markets to take up the slack. For example, we currently have a lot of work related to Kazakhstan. There's an awareness here of the opportunities in that country and, indeed, that whole region, and companies are ready to use business aircraft to go there because the domestic transport infrastructure is still underdeveloped."

At Biggin Hill the company operates as a minority partner to Oryx Jet. "As a Qatari company we can't hold a UK air operator's

# RIZON STAR

*Doha-headquartered Rizon Jet has placed a \$50 million bet on the Middle Eastern business aviation market.*

*Patrick Enz, chief executive of one of the region's rising stars, talks to*

**Brendan Gallagher.**

certificate (AOC), which is required of legitimate charter providers," Enz explained. "So Oryx Jet runs our management and charter business in the UK, offering one of the Hawker 900s, which can reach Cairo and Beirut from London, and the Premier for short hops to places like Paris, Amsterdam and Brussels."

At the time of the *Arabian Aerospace* visit, Rizon Jet's hangar is still empty, awaiting a handful of last approvals and removal of the security fence that still seals off its company-owned 5,000sqm ramp and dedicated taxiway from the airport proper. But its functioning air-conditioning and spotless condition attest to an operation that is on the threshold and ready to go.

#### Four Global Expresses

Capable of holding up to four Global Expresses at a time, the hangar is divided into two bays by a central load-bearing wall. "Given the continuing uncertainty about the future of the present Doha Airport, it was decided to save some cost by building it that way," Enz explained.

Neatly marshalled along the walls are tool bins, ground power units, tow tractors and other support and maintenance equipment. Battery and tyre shops are in place, and the company plans to add a full interior refurbishment capability by the end of the year.

Rizon Jet's maintenance work is currently

focused on its own fleet – one of the Challengers is scheduled for an 800hr check at Biggin Hill – but Enz looks forward to the day when he can also offer a high level of service to third-party operators. "Here in Doha we will do line maintenance to start with, building up to full base checks on our own aircraft before the end of the year – we already have the tooling and licences."

He continued: "Ours is a step-by-step approach. You work on your own aircraft, then look for agreements with the OEM service centres – we're already in discussions with the manufacturers of the types we fly ourselves, and with others. We will certainly be looking for third-party business, working on other people's aircraft."

#### Biting hard

Enz started work in Doha towards the end of 2009, when the recession was still biting hard. "The high-water mark for the charter market was probably the third quarter of 2008," he recalled.

"It was a very overheated time and I'm not sure that we'll see anything like it again any time soon. But if you look at the last 12 months, then we have certainly done a lot more business than in the previous year. The market is recovering slightly and we have been much more aggressive and professional on the sales front."

It isn't all blue skies for Enz and his team, however, and two key concerns remain high on his agenda – the "grey" market in charters and the continuing uncertainty around Doha's new airport.

The opening date for New Doha Airport continues to slide, with 2013 now seen as the earliest possibility for full operation.

"I would love to see the runway and this side of the airport retained as a dedicated business airport," said Enz. "This is a perfect location for business aviation – close to the city and close to New Doha. But, so far, in spite of our constant contacts with the airport authority, I've met nobody who can tell me what will happen and whether we might have to move."

Enz has his sights fixed on further development. "We want to consolidate the facilities and the fleet and then take a next step,



Patrick Enz: "This is a perfect location for business aviation – close to the city and close to New Doha."

whether by acquisition or by organic growth," he said. "Having main hubs here and in Europe is a good starting point; how long it takes to go beyond that is largely up to us. But we won't rush, because we want to do things right."

One fixed point in the Rizon Jet plan is the addition of an Airbus ACJ to the fleet towards the end of next year.

As for new geographical markets, the Far East is a priority. "Four Chinese cities are now in the world's Top 25 for billionaires," Enz pointed out. "People like that want the sort of travel that only business aviation can offer. We're also sensing demand here in this region. There are growing business ties between the Middle East and China and we have customers who want to go there."

Wherever Rizon Jet goes over the next few years, its CEO is intent on continuing to practice the fine art of flying.

"We intend to do things better than other providers and go all the extra miles it needs," he declared.

"Everybody uses these phrases, but for us it's something we're going to live up to."



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# Greener Qatar blossoms in the Park

*Qatar is already a pioneer of natural gas-based fuel for aviation. Now, Dr Eulian Roberts of Qatar Science & Technology Park tells Brendan Gallagher, the race is on to develop CO<sub>2</sub>-busting biofuels.*

**E**ighteen months ago Qatar Airways made history by conducting the world's first commercial flight of an aircraft powered by a 50/50 blend of conventional Jet A1 kerosene and GTL - a kerosene manufactured from natural gas.

The flight was a key achievement for the GTL synthetic aviation fuel programme, in which the airline continues to work with a consortium including Shell, Qatar Petroleum several universities, Airbus, Rolls-Royce, two universities and German aerospace research establishment DLR under the co-ordination of Qatar Science & Technology Park (QSTP).

Located in a spacious, ultra-modern development on the outskirts of Doha, QSTP is the national hub for technology development, education and research. "Qatar will be intimately linked with oil and gas for decades to come," said managing director Dr Eulian Roberts. "But the current national vision for 2030 sets out a requirement to diversify the economic mix. Broadening the economy will give the country a stable base and help to reduce fluctuations. A 'knowledge economy' is one of the cornerstones of the policy and our job at QSTP is to help realise that part of the vision."

The Qatar Airways flight was a successful headline-grabbing demonstration of the ability of blended GTL/conventional kerosene to provide the energy needed to power an airliner. "We'll publish the airline's results data towards the end of this three-year programme," said Roberts. "But now we're well into examining two other aspects - the physical and combustion properties of GTL-based fuels - in an effort to determine whether we can optimise the composition of the GTL, for example by using a higher



**Dr Eulian Roberts: "A biofuel that could be dropped into today's engines without having to develop expensive changes to them would be a very attractive way of cutting carbon emissions."**

percentage of GTL in the blend, and stretch the certification boundaries in order to obtain further environmental benefits."

GTL fuels burn more cleanly than oil-based kerosene, emitting less sulphur dioxide and fewer sooty particles. "It's, therefore, immediately attractive for its ability to improve local air quality at busy airports," said Roberts. "However, GTL is a hydrocarbon product derived from natural reserves and doesn't have any significant impact in terms of cutting CO<sub>2</sub> emissions. It does offer a higher energy density, so for the same weight of fuel you can fly further. But then energy is needed to produce GTL, and one could easily offset the other."

QSTP's hopes for CO<sub>2</sub> reductions are pinned on biofuels - specifically ones derived from algae. "A biofuel that could be dropped into today's engines without having to develop

expensive changes to them would be a very attractive way of cutting carbon emissions," said Roberts. "A lot of work has been done on higher plants like jatropha, which is fine when you've got land that isn't going to be taken away from agricultural production and isn't under water stress. But in Qatar those requirements are not readily met, so we're looking at photosynthetic micro-organisms - algae."

Qatar can provide two of the things algae need to flourish, explained Roberts. "There's plenty of good-quality sunlight for photosynthesis and our industrial processes can supply CO<sub>2</sub> to enhance the growth of the algae. That's the beauty of it - instead of pushing CO<sub>2</sub> out into the environment, we would capture some of it through the photosynthetic process to produce the source oils."

Fifteen months ago QSTP announced the creation of a second consortium, dubbed the Qatar Advanced Biofuel Platform. Bringing together QSTP, Qatar Airways, Qatar Petroleum, Airbus and Qatar University, the group is working to identify suitable algae species, and to identify potential sources of biofuels for Qatar Airways further afield on its route network.

"The initial work is being done at the university, where they've got the labs to culture these materials in small quantities and then take them off the bench to pilot-scale activities," said Roberts. "They're now working to identify the most promising types of algae and the culture conditions in which they are most likely to thrive. We hope that within the next 12 months we'll be producing algae and extracting oil for processing into a fuel."

The next stage will be pilot production. "Depending on the culture process we choose, we might aim for a facility with several square kilometres of open pond for algae production and drawing on industrial CO<sub>2</sub> and seawater," said Roberts. "We're about 24 months away from a committed pilot on that kind of scale."

## Rolls-Royce software supports emissions mission

QSTP tenant OSyS (Optimized Systems and Solutions) is helping Qatar Airways to reach its environmental targets.

This Rolls-Royce Group subsidiary, with 400-plus employees and customers in more than 100 countries, opened a branch at the park in November 2009. Two months later it announced a contract to supply the airline with software and services designed to further improve fuel efficiency and support compliance with emissions trading scheme (ETS) requirements.

The mission of the OSyS facility at the park, called the Asset Optimization Centre, is to help airlines to improve their operational and environmental performance, cutting costs at the same time.

The first of its kind ever deployed in a technology park, the AOC uses the same techniques as the Rolls-Royce Operations Centre, where the engine-maker gathers and analyses data from the 10,000 powerplants that it has in daily operation around the world.

OSyS' fuel usage analysis, management and optimisation software is also providing a foundation for Qatar Airways' work with IATA and the industry-wide Aviation Global Deal Group to establish a global policy on aviation emissions, and contributing information for use in the airline's The Oryx Flies Green social responsibility programme. The aim of the latter is to identify and promote operational improvements to cut the airline's own fuel consumption and carbon footprint.

Qatar Airways is the only Middle East carrier in the Aviation Global Deal Group and has signed an agreement with IATA to spearhead a global carbon offset trading scheme, under which environmental projects would be funded through ticket purchases.



Ayman Obeissy  
(right) with Sky  
Aviation board  
member  
Mohamad Shei.

## The only way is up for Sky

*Despite the continuing turbulence, flight support provider Sky Aviation Services says the only way is up for Middle East aviation. Chief executive Ayman Obeissy shares his hopes with*  
**Brendan Gallagher.**

**A**midst the sociable hubbub of a waterside restaurant in Doha's superb new Pearl marina development, Ayman Obeissy's message comes across loud and clear. "I see this region continuing to develop rapidly," said this Syrian-born naturalised US citizen. "There's absolutely no lack of opportunity here."

Obeissy seized his own opportunity in 2007, when he set up Sky Aviation Services to provide ground-handling and other support for operators flying within the region and passing through.

Following four years of rapid growth, the company now has 40 employees, headquarters in Sharjah, and offices in Damascus, Doha, Oman and Abu Dhabi's brand-new Al-Bateen executive airport.

Shuttling among these locations, Obeissy oversees an operation that provides a wide variety of clients – scheduled and non-scheduled airlines, cargo carriers, charter companies and private owners – with all the quick-reaction administrative support they need to enter and cross national airspace, land and refuel, and go about their business at the destination.

"We create and file flight-plans, provide navigational charts, and arrange the supply of over-flight and landing

permits and crew visas," said Obeissy. "Once the aircraft is on the ground, our network of employees and trusted agents and suppliers takes care of ramp and passenger handling and security, and procures fuel at the most competitive prices. We can lay on ground transport and hotel accommodation and see to the subsequent settlement of navigation charges."

Sky Aviation also charters aircraft for VIPs and business travellers, ambulance flights and cargo operators, and supplies parts, tools and ground equipment for business jets from Bombardier, Dassault, Gulfstream and Raytheon Hawker.

Developments in Abu Dhabi mean that this part of the region looks set to become an even bigger contributor. At the beginning of the year Sky Aviation opened a four-person office at Al Bateen.

### Syrian market

The Sky Aviation chief's original home country also has its attractions. "The Syrian market has been opening up steadily for the past ten years and the process continues," he said. "We're happy to do business through an office in Damascus, where we secure flight permits and ground services for operators coming into the country. There is a high level of technical expertise in Syria – you can find the kind of qualified people that you need – and costs are lower."

Obeissy reaches beyond the Gulf and the wider Middle East via a network of partners in Europe, Africa and the Far East, and various levels of representation elsewhere. Senegal is a particular focus. "It's a good location from which to handle flights in West Africa, and we have another relationship for north and central Africa."

Obeissy expects the company to stay on an upward trajectory for some time.

"We see airports expanding, we see new airports opening, we see new FBOs, we see the CAAs raising their game to meet international standards and make it easier to work with them than ever before," he declared. "I think the future is bright for aviation in this part of the world."

## Business freedom the key to growth

"All that's needed for this industry to flourish in a lot of Middle East countries is less government control of how business is done," said Capt Ali Hadi, chief executive of Qatar Aviation.

Recently allied with Sky Aviation as a provider of charter capacity, Hadi and his associates own three business aircraft and offer quick-reaction services on a more flexible basis than conventional fractional-ownership schemes.

"Qatar and the UAE are the region's most liberal countries in that respect," he said. "You can come in and start a business. Maybe you succeed, maybe you don't. But nobody will interfere with the way you run the business, or put restrictions on how much money you can transfer in or out, or on the amount you invest. There's none of that, and it's a real strength."

The first private general aviation company ever incorporated in Qatar, Hadi's operation is designed to give customers the benefits of owning a private aircraft without the commitments and costs normally associated with full ownership or a fractional programme.



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# SEATS OF POWER

*Qatar Airways wants to be the world's first "six-star" airline. Long-time supplier Recaro of Germany is aiming for the top of the seating industry. Recaro chief executive Axel Kahsnitz talks to **Brendan Gallagher** about a relationship founded on a shared desire for excellence.*



In a region renowned for the quality and ambition of its airlines, Qatar Airways is beginning to emerge as something special. A fast-paced expansion programme is due to bring its fleet to 120 aircraft by 2013 – three times as big as five years ago. And it won't stop there: orders for the Airbus A350 and A380, the Boeing 787 and, potentially, the Bombardier CSeries mean that the carrier will have one of the most modern and fuel-efficient fleets in the world beyond the middle of the decade.

Apart from the airline's decision to offer an eight-seat first class on the A380s, details of the cabins in the new Airbuses are few and far between. But the 787 is a different story – when Qatar receives the first of an order for 30 of the new Boeing twin-jets next year the aircraft will feature ultra-lightweight CL3620 long-range economy seats from Recaro of Germany.

Designed to maximise passenger comfort on the longest flights, the seat has a space-saving single-beam structure that gives more leg-room at a given pitch. It has also been integrated with the next-generation version of Thales' TopSeries audio/video-on-demand in-flight entertainment system, featuring a screen with up to 256Gb of local storage and the iPhone-look-alike Touch Passenger Media Unit (TouchPMU).

#### Clean-sheet design

Qatar Airways famously played a major part in pushing Airbus to rework the A350 as a clean-sheet design rather than a warm-up of the A330. Less well known is the fact that it also had a strong influence on the development of the new TopSeries and on the range of seats now being delivered by Recaro.

"Qatar Airways most definitely had an input into the design of the seats," said Recaro chief executive Axel Kahsnitz. "Like many of the premium airlines that we supply, they are intent on differentiating themselves by developing unique cabin offerings. They came to us with clear guidelines about how they wanted the seats to look, and we worked with them to achieve the perfect fit between their goals and our own."

Recaro also has a substantial line of automotive products and it has borrowed a technique from that industry to ensure

that product development accurately reflects the needs of the market. "We work with key customers in quality function development (QFD) workshops," Kahsnitz explained. "We bring their engineers and ours together to talk about what is needed in the way of new products. Then, using the airline inputs, we start the development process, offering a variety of alternative designs and working towards the best possible outcome."

"We're now delivering CL3620 for the single-aisle fleet – Qatar was the launch customer – and our CL3510 standard economy product for the 777s. The airline's business classes are receiving the CL4420 short-haul product and the full-flat CL6510."

He continued: "Qatar is taking more or less everything in our current product range that is relevant to their operations and we are in more or less all of their aircraft. They see themselves as a five-star airline now and their goal is to win six-star status in the future. That's one of the reasons they chose us – for our focus on quality, ergonomics and reliability."

Under present plans, the next Qatar aircraft with Recaro seats will be the 787s. "Everyone is hoping that Boeing will finally start deliveries before the end of the year," commented Kahsnitz. "If they do, we expect to be shipping seats for the Qatar aircraft out to 2015-16."

All in-flight entertainment provision, including the next-generation Thales TopSeries that Qatar has ordered for its 787s, is installed in the seats by Recaro before they go to the airframes. "We do this in our German and US facilities; the seat designs produced at Swiebodzin have no provision for IFE."

IFE is a subject close to Kahsnitz's heart. "We put in a wide variety of systems, from leading suppliers like Panasonic and Thales, and from newcomers like Lumaxis, whose fibre-optic-based FTTS is in the BL3510 lightweight economy seats we are supplying to flydubai," he said.

The new additions to the Recaro range will centre on economy class. "We strive constantly with our partners to develop our brand and its visibility so that passengers can see the difference we make. We want them to know that Recaro stands for excellence in design, ergonomics, quality and long-term reliability."

## DFS pointing QCAA in the right direction

German air navigation service provider DFS Deutsche Flugsicherung GmbH is helping develop an Air Navigation Services (ANS) Inspectorate for the Qatar Civil Aviation Authority (QCAA).

The activities for this project were initiated by an ICAO audit that took place in Qatar in 2010. The ICAO Universal Safety Oversight Audit Programme (USOAP) promotes global aviation safety through auditing contracting states on a regular basis to determine its safety oversight capability.

As a result of the findings, both ICAO and QCAA agreed an independent ANS oversight function was needed.

DFS has been contracted to put a self-sustainable ANS Inspectorate in place to verify that the Qatar air navigation service provider complies with all ICAO regulations and requirements.

The contract win involves completing a full analysis of the requirements, completing a regulatory framework, supporting the transfer of oversight-knowhow to the personnel, and monitoring the start-up phase of the inspectorate.

The setting up of the inspectorate and initial phase of work is expected to be completed in 2012. Achim Baumann, regional manager Middle East at DFS, said comprehensive contracts for setting up such an authority are "rare occasions".

It is more common for a country to sub-contract single steps, like writing the regulations, which is what Bahrain did.

"This is not something that happens very often but we are able to use our expertise gained in establishing the Federal



Achim Baumann: Comprehensive contracts for setting up such an authority are "rare occasions".

Supervisory Authority for Air Navigation Services in Germany in 2009 to good effect," he said.

DFS is working according to a six-step-process that includes identifying customers and their respective requirements towards an oversight authority, the products and services the ANS Inspectorate will have to deliver as well as the associated tasks and working standards. This finally enables DFS to formulate job descriptions and to suggest suitable organisational and managerial structures.

"Right now we are setting up the framework for the ANS Inspectorate. We are finalising the gap analysis and completing a report that will define the future activities," explained Baumann.

"Based on our results so far we are already working on the regulations and definition of the ANS Inspectorate's products and tasks, which would be step two and three of the process."

Future tasks of the ANS Inspectorate, besides safety oversight, include the supervision of the air traffic management systems and infrastructure, the management of frequencies for communications, navigation and surveillance (CNS), and verification and approval of new procedures and airspace structures, as well as issues related to ATCO licensing.

Baumann added: "It is important to note that safety oversight or safety management is not done as an end in itself, but contributes to harmonised structures and processes for the provision of air traffic services and, in turn, improving capacity levels."

DFS, based in Langen, near Frankfurt, is one of the world's leading air navigation services providers.

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## Commercial applications at the centre of Global Space and Satellite Forum

The Global Space and Satellite Forum (GSSF) takes place at the Abu Dhabi National Exhibitions Company (ADNEC) from May 9-11.

Now in its third year, the organisers say the forum will focus this year on the commercial space applications currently making a difference to telecommunications, climate and weather forecasting, remote sensing, information sharing, commerce, security, banking, navigation and TV broadcasting.

There is a slight change to the format this time as the conference programme includes joint sessions discussing common industry issues, plus individual streams highlighting advances in earth observation and sat-com applications.

The conference sessions are being held over the first two days so that delegates can find sufficient time to set up onsite business meetings on the third day.

A detailed careers day is also planned for the Wednesday.

The forum will look at how the space and satellite industry can create new high-tech jobs, drive technological innovation and advance space and climate science research.

A co-located exhibition will also focus on commercial applications of satellite and space technology.

Sir Martin Sweeting, chairman of Surrey Satellite Technology (SSTL), professor and head of the University of Surrey Space Centre and the pioneer of some of the smallest and lightest satellites in the world – earning him a knighthood in the process – is set to address delegates.

Sir Martin said: "Small satellites are at the forefront of space innovation and I believe that there are great opportunities for the region to benefit from the high-tech commercial opportunities in this growing space sector."

Sir Martin will recall his experiences of building his own satellite as a student and how he has grown his company, which now has an order book worth \$640m with 34 satellites delivered to date.

SSTL also has five more being readied for launch, a recent contract to supply a constellation of one-metre-class satellites and is in the process of delivering 14 navigation satellite payloads for the deployment phase of Europe's Galileo navigation system.

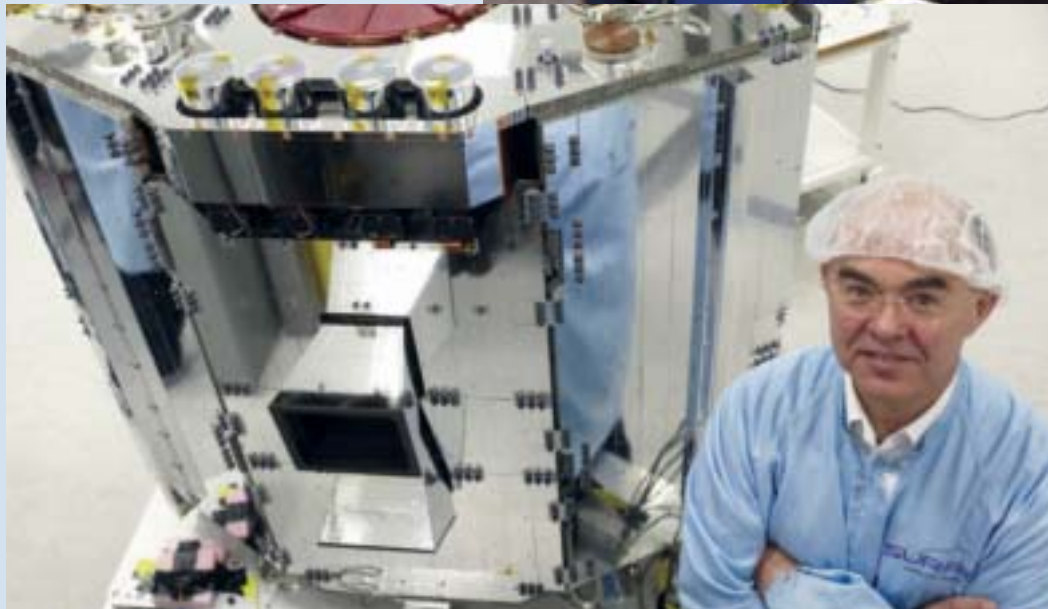
Sir Martin is a strong advocate of using this high-technology sector as a foundation to develop education, training, industry and economies.

Many emerging economies have a long-term strategy of developing their infrastructure and skill base using this approach, which then feeds other industries, grows wealth, provides education and training and gives a platform for national and international collaboration and co-operation.

"It's not just the technology but what you do with it, how you use it and what benefits you can bring to the people, the country and the region that is important," Sir Martin explained.

■ To find out more about the event and to book see [www.gssforum.com](http://www.gssforum.com)

Right: SSTL's Steve Young shows visitors a model. Below: Sir Martin Sweeting beside the NigeriaSat-2.



## UAE signs with Bigelow Aerospace to work on human spaceflight

The Emirates Institution for Advanced Science and Technology (EIAST) and Bigelow Aerospace have signed a Memorandum of Understanding (MoU) to work on a next-generation commercial human spaceflight project.

They will work to create a microgravity research and development programme, with a potential focus on advanced biotechnology applications, and a variety of other commercial space-related activities.

The MoU was signed by Ahmed Al Mansoori, director general of Dubai-based EIAST, and Robert T Bigelow, president of Bigelow Aerospace.

Although details are still sketchy, Bigelow has plans to take humans into space from as early as 2015 onwards, probably with a capsule developed at its Amer primary manufacturing facility in Nevada. It is likely to be launched atop a Dnepr rocket.

Bigelow is currently developing its first orbital space complex called the 'Alpha Station'. This will comprise modules for humans and an Emirati role in the project is now a possibility.

Ahmed Al Mansoori said: "The partnership of EIAST with Bigelow Aerospace is a critical next step forward for the organisation in exploring the potential for human spaceflight programmes.

"The MoU will not only elevate Dubai to a stronger global platform as a facilitator of commercial human spaceflight, but also create more opportunities for people anywhere in the world to take advantage of our initiatives to experience the marvels of space travel."

He added: "In addition to continuing on our focus of satellite and space research services that will significantly enhance the quality of life in the UAE, EIAST is also exploring new avenues for strengthening our footprint in the global space research industry.

"The MoU is a testament to our focused initiatives to make an imprint on all aspects of space research and its practical applications for the benefit of humanity."

Bigelow Aerospace has already launched two

pathfinder spacecraft, Genesis I in 2006 and Genesis II in 2007. These spacecraft, designed to test and validate the company's next-generation space habitat technology, were successfully flown and deployed on a Dnepr rocket – the same launch system that successfully deployed DubaiSat-1 in 2009.

Robert Bigelow said: "Robust and reliable access to microgravity will impact fields as diverse as pharmaceutical development to fuel production, representing a broad and substantial technological leap forward.

"We are thrilled to be working with the EIAST to help bring these benefits to the citizens of Dubai and the UAE."

Bigelow has further plans for inflatable "transhabs" – or blow-up space stations.

The company says it can put together a space station at a fraction of the cost and in a fraction of the time it took to construct the International Space Station.

## Virgin Galactic to send scientists into space

Virgin Galactic has signed a contract with the US-based Southwest Research Institute (SwRI) to fly scientists into space to conduct microgravity, biology, climate and astronomy research.

SwRI has made full deposits for two researchers to fly on Virgin Galactic's spacecraft, with the intent to make similar arrangements for an additional six seats for a total value of \$1.6m.

Virgin Galactic, which is backed by Abu Dhabi-based Aabar Investments, hopes that other scientific research institutes could now follow suite. The company also intends to bring its operations to Dubai some time in the future, which could open the way to MENA-based scientists taking flights.

As well as flying its own researchers, who will

carry scientific experiments developed by its in-house technical staff, SwRI also aims to assist American researchers who do not have direct spaceflight experience to develop and fly their payloads and personnel on suborbital missions.

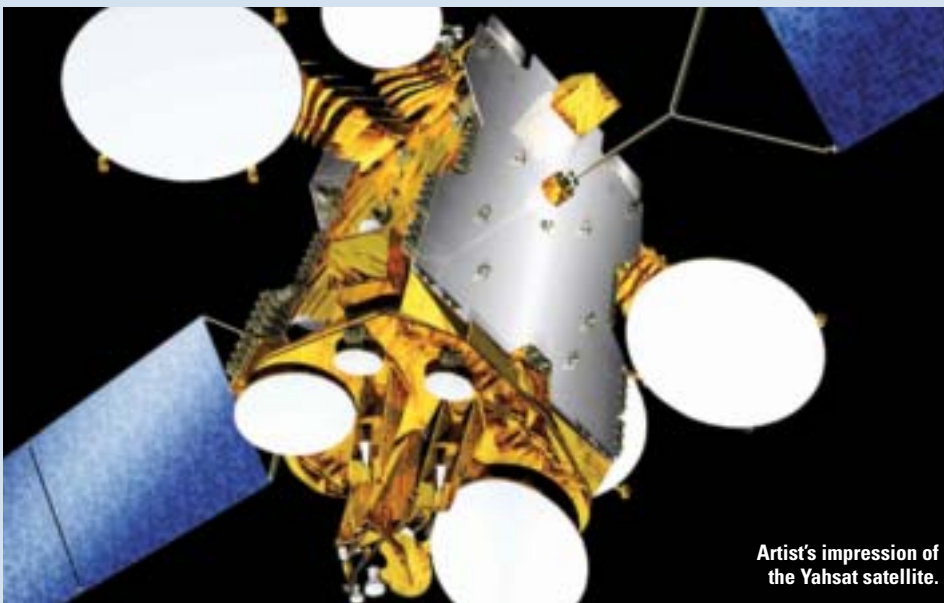
SwRI, working from San Antonio and Boulder, Colorado, leads an array of space science projects, including the development of scientific payloads for satellites and sounding rockets, and the design and management of complex hardware and data systems.

George Whitesides, president and CEO of Virgin Galactic said: "This agreement signals the enormous scientific potential of the Virgin spaceflight system. Virgin Galactic will be able to offer researchers flights to space that are unprecedented in frequency and cost.

"Science flights will be an important growth area for the company in the years to come, building on the strong commercial success already demonstrated by deposits received from more than 400 individuals for Virgin's space experience."

SwRI's Dr Alan Stern, associate vice president of SwRI's Space Division and former NASA associate administrator for science, said: "Initially, two of our payload specialists will be flying on Virgin Galactic, conducting biomedical monitoring, atmospheric imaging, and microgravity planetary regolith experiments."

Virgin Galactic is currently flight-testing its system at its Spaceport America facility in New Mexico. Testing will continue throughout 2011.



Artist's impression of the Yahsat satellite.



## EIAST signs contract for launch of DubaiSat-2

The Emirates Institution for Advanced Science and Technology (EIAST) has signed a contract with the Moscow-based Kosmotras (ISCK) for the launch of DubaiSat-2, the United Arab Emirates' second remote-sensing satellite.

The contract was signed by Ahmed Al Mansoori (above) director general of EIAST, and Dr Vladimir Andreev, director general of Kosmotras.

DubaiSat-2, which will be used for remote sensing, weighs around 300kg (a third more than its older sister) and will be placed into a 600km sun-synchronous orbit.

The project is a joint development programme between EIAST and Satrec of South Korea, and 16 UAE engineers have been working on the design, development, testing and manufacturing of the satellite.

DubaiSat-2 is based upon the SpaceEye-1 configuration, which uses a SI-300 bus and the EOS-D camera.

The EOS-D optical payload has 1m ground sampling distance (GSD) for a panchromatic band and 4m GSD for four multi-spectral bands. The swath width of the generated image is more than 12km.

A high-performance solid-state recorder will be installed to receive, process, store and transmit image data to earth at high speed. During the transmission of the stored images, using DubaiSat-2's X-band transmitter, the solid-state recorder compresses, encrypts and encodes the data in real time.

The new satellite will also orbit slightly closer to Earth than DubaiSat-1 and will be inclined at an angle aligned with the UAE's coastline to capture more pictures in one pass.

## AlYah set to celebrate comms satellite launch

United Arab Emirates-based Al Yah Satellite Communications Company (Yahsat) is still awaiting launch of the Yahsat 1A satellite.

The satellite is designed to provide internet, TV and telecommunications services for both government and commercial customers in the Middle East, Africa, Europe and Southwest Asia.

It was scheduled to be launched atop an Ariane 5 ECA launcher from the spaceport in French Guiana on March 30, but the launch was halted with just seconds to spare.

Yahsat 1A will eventually be positioned at 52.5 deg. east and, when fully commissioned, will deliver a variety of services including internet links, business data networks and television transmission services, particularly high-definition TV.

The company's second satellite, Yahsat Y1B, will be launched in the second half of 2011 by International Launch Services (ILS) on a Proton Breeze M vehicle.

Yahsat is the first company in the Middle East and Africa to offer hybrid satellite services to the region, having been granted a 10-year satellite services licence in March 2010 by the UAE Telecommunications Regulatory Authority (TRA).

The licence was only the third to be awarded in the UAE – the other two being given to state-controlled telecommunications companies Emirates

Telecommunications Company (Etisalat) and Emirates Integrated Telecommunications Company (Du).

The Yahsat project was initiated by Mubadala, Abu Dhabi government's strategic investment and development organisation, with feasibility studies beginning in 2005 and a detailed market assessment completed in March 2006.

Yahsat's main aim is to develop, procure, own and operate hybrid (government and commercial) communications satellite systems for the Middle East, Africa, Europe and South West Asia.

In August 2007 Yahsat gave the go-ahead for the consortium of EADS Astrium and Thales Alenia to construct Yahsat's hybrid satellites system in a deal worth US\$1.7bn.

Yahsat has already signed commercial deals with 25 licensed operators across the Middle East and Africa. It has also signed a 15-year agreement with the UAE Armed Forces to provide an "integrated satellite communications network and control centre".

The ground and network management segments (comprising ground terminals) in Abu Dhabi are also EADS Astrium's responsibility and are being provided in close co-ordination with Thales Alenia Space and Thales.

Mission control for the Yahsat satellites is located in Al Falah, a 30-minute drive from Abu Dhabi. A team of UAE nationals will control the satellite in space.

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# MENA ramps up airside safety

*With large-scale airport expansion taking shape in the MENA region the pressure is mounting, reports Keith Mwanalushi, to achieve ever-improving levels of airside safety.*

It is somewhat reassuring to find that a number of airports and regulators are implementing comprehensive programmes to tackle the risks involved with airside operations.

Incidents on the airport ramp, to which passengers may be oblivious, are quite common. Cases range from mundane to dangerous. A minor incident may include a wheel breaking off a baggage cart to those that can cause major damage, like a shuttle bus colliding with an aircraft that has more than 140,000 pounds of fuel in its tanks – not to mention injuries sustained by airside workers.

The result of these incidents usually leads to cancelled flights and delays adding to costs. IATA figures indicate the cost of physical damage to aircraft is estimated at more than US\$4bn a year worldwide.

With the increase in air traffic throughout the region, Dubai-based ground-handling firm Dnata is facing the challenges of providing increasing airside services on a daily basis at its global sites, including Dubai International and Al Maktoum airports.

Dnata's safety and compliance division was set up in March 2005 specifically to look into safety aspects of airport operations and cargo.

Jon Conway, divisional senior vice president for Dnata Airport Operations, said: "Ramp safety induction (RSI) is a mandatory two days' training for all new joiners who are required to carry out job functions at airside, including all outsourced or sub-contracted staff. The RSI provides staff with first-hand information on all hazards and risk associated with the airside operations."

Dnata has a total of 24 inspections carried out every month that focus on ensuring compliance across the board. "Our safety team carries out daily inspections of identified job functions at the airside and cargo areas that have more potential to create safety occurrences," explained Conway.

"The results of these daily inspections are shared with the shift management and corrective actions are put in place. To further enhance the effectiveness of the inspections a monthly summary is also prepared that is shared with our airport and cargo divisions."

Generally, most minor damage caused by airside incidents to aircraft, in particular, is reported as 'found'.

A problem that is common industry-wide is that in many cases airside staff are instantly dismissed. Some industry observers argue that instant dismissal – probable unless damage is

Continued  
on Page 88



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CONTINUED FROM PAGE 87

unreported – deprives a company from a learning opportunity to understand the root cause of the incident and does little to drive a responsible safety culture.

Conway said Dnata encourages its staff to come forward freely and report all safety-related issues without the fear of being reprimanded by the supervisor and line managers. This comes in line with the introduction of a new non-punitive culture he calls “JUST culture”. The company set up confidential reporting tools from drop boxes to an email address from September 2010.

“Any incident or accident – personal injury, equipment or aircraft damage that falls under the severity of moderate or major would be thoroughly investigated and a comprehensive accident report completed by Dnata safety, highlighting the root cause with recommendations to the respective departments involved.

He added: “Recommendations are time framed with required action plans to implement and close all agreed. It is then audited again by our safety and quality assurance team for compliance.”

A safety management system (SMS) provides a systematic, proactive approach to reducing the risk and severity of accidents and incidents on the airfield. The ICAO has adopted a standard for SMS that has been applicable to international airports since November 2005.

#### Extensive safety audits

In 2009, the ICAO introduced new tighter international rules requiring airport operators to carry out extensive safety audits approved by national regulators – a factor that was reportedly behind delays in the opening of Dubai’s new Al Maktoum airport. These strengthened rules have supposedly added pressure at MENA airports, but IATA’s regional vice president for Middle East and North Africa, Dr Majdi Sabri, insists that the new rules have been well received.

“Yes, there were strengthened ICAO provisions introduced in 2009, but for airports these were not very dramatic compared to already existing standards and recommended practices (SARPs),” he clarified. “Aerodrome certification has been an ICAO requirement for international airports since 2005 and safety management systems (SMS) have been required for certified airports since 2005. Implementation of these SARPs in the Middle East is underway in several countries and we hope that it will not be long before we see comprehensive implementation.”

Conway said Dnata has implemented a robust SMS with emphasis on safety as a paramount personal responsibility of each person working at the airport. To support this system a five-year safety strategy plan was identified, agreed and fully implemented by Dnata’s senior management providing guidelines on how and where Dnata wants safety and compliance to be, ensuring the company stays ahead of the game.



Dnata is facing the challenges of providing increasing airside services on a daily basis.

Conway said: “For any safety management system to take effect, hazard identification and risk assessment (HIRA) is the first step with every job function at the airport.

“Our safety and quality assurance team identified all possible hazards and its associated risk of all the job functions carried out at the airport. This was documented and signed by the department VPs. A review of the HIRA is conducted every six months to identify any new hazard associated with the function or if there is a change in the job function.”

#### Order backlogs

Global research and consultancy firm Frost & Sullivan estimates that the market for airside services in the Middle East is expected to grow to \$2.83bn by 2015 as a result of the order backlogs of the region. Anticipated growth in air travel, in addition to government policies to privatise infrastructural development and airport operations, has resulted in more than \$80bn being invested in the sector. This will cater for expansion activities until 2015 according to the research firm.

The extent of growth post global recession is evident. Dubai International Airport (DXB), for example, notched up 38.8 million passengers during the first ten months of 2010, an increase of 15.7 per cent corresponding to the same period in 2009, reports the Dubai Airports Company.

The first half of 2010 alone saw the addition of more than 145 new weekly flights to over 21 destinations by various carriers. Traffic forecast for 2011 is estimated to jump 13.1 per cent to reach 52 million passengers, with freight output equally increasing.

The IATA has kept a keen eye on this growth

curve in relation to airside safety as Dr Sabri explained: “For the past decade, the MENA region has witnessed exceptional traffic growth rates that are more than double the industry average.

“The growth poses many challenges, including ground safety at the airports, which I believe is being seriously dealt with by most aviation authorities in the region. The level of ground safety in most countries in the region is comparable with international standards.”

In order to help raise the bar, IATA introduced the safety audit for ground operations (ISAGO) in May 2008. “This audit aims to improve operational safety in the airport ground operations environment, reduce damage to aircraft and equipment, and improve efficiency by reducing the number of redundant audits. The MENA region has been one of the world leaders in implementing this initiative. Since the introduction of the programme, 21 audits have been conducted in MENA,” said Dr Sabri.

In fact, Dnata was the first ground-handling company in the world to be certified for ISAGO. Certification is valid for two years after every audit.

Another early certification was to Kuwaiti-based ground-handling firm National Aviation Services (NAS).

Foreign object damage (FOD) has the potential to have catastrophic results particularly on the runway; as was the case ten years ago when a titanium strip supposedly burst the tyre of an Air France Concorde.

According to the Dubai’s civil aviation authority FOD costs the aerospace industry up to \$2bn a year in direct costs.

The authority recently led a month-long campaign to increase safety awareness for the



DXB has been fitted with the state-of-the-art QinetiQ FOD detection system- Tarsier.

aviation industry at DXB to avoid incidents caused by FOD.

“There have been many incidents because of FOD. We are trying to spread the awareness to protect aircraft and passengers. We’ve had feedback from high-ranking officials who didn’t know of FOD – and now many are aware of the dangers,” confirmed a statement by the aviation authority.

Dubai has previously had near fatal runway-related incidents. In 2007, a Biman Bangladesh A310 lost its nose gear while accelerating down the runway. The incident closed the only active runway for eight hours while authorities carried out inspections.

#### Detection system

Since then, DXB has been fitted with the state-of-the-art QinetiQ FOD detection system called Tarsier. The Tarsier system is based on high-resolution millimetre wave radar coupled with automatically cued day and night cameras. Continuous monitoring by the radar quickly identifies the location of an object and directs the cameras to provide visual confirmation of any hazards on the runway. While originally designed for FOD detection, Tarsier can also inform the airport’s wider safety management system by detecting and identifying wildlife, such as birds on the runway.

Airport systems integrator Bayanat is the distributor of QinetiQ’s Tarsier detection system in the UAE. Alan Bourjeily general manager at Bayanat said a lot of research and development by QinetiQ had gone into developing this technology.

At the time of the distribution signing he said: “Tarsier helps airports detect FOD in near real time and ensures airports can guarantee the

safety of the runway in between the standard four inspections per day.”

The industry is constantly in search of new technologies that help to avoid accidents on the airport surface. Aerospace technology provider Sensis is currently installing its advanced surface movement guidance and control system (A-SMGCS) along with wide area multilateration (WAM) in Saudi Arabia. Ken Kaminski, vice president and general manager of air traffic systems at Sensis said the process of deploying this technology is on track.

“At King Fahd and King Abdulaziz International Airports, Sensis is in the process of deploying A-SMGCS systems along with wide area multilateration,” confirmed Kaminski. He said the technology includes Sensis solid-state SMRi X-band surface movement radar and vehicle locators as sources of surveillance across the airport surface.

He added: “The system also features Sensis safety logic conflict detection and alerting technology that provides audible and visual alerts to controllers in advance of potential runway incursions. All information is displayed on Sensis controller working positions and is recorded for future playback. The result is improved situational awareness of airport surface activity in all weather conditions and advanced warning of potential runway incursions for enhanced safety.”

In 2010, the National Air Navigation Services Company (NANSC) in Egypt selected to deploy a new surface surveillance solution for Cairo International Airport (CAI). The new system is being integrated into an advanced surface movement guidance and control system supplied by HITT, the prime contractor for the project. NANSC required a surveillance solution capable

of handling the complex surface layout of the airport.

CAI is Africa’s second busiest airport in terms of passenger traffic and first in terms of freight volume. The airport has seen substantial infrastructure enhancements, including a recently constructed third terminal and a nearly completed third parallel runway. As a result, NANSC sought a comprehensive and easily adaptable surface surveillance solution that could accurately and precisely locate all aircraft on the airport’s surface to enhance safety and improve efficiency – according to the developers.

Further research into new technologies has been going on for some time. The European Geostationary Navigation Overlay Service (EGNOS) – a satellite-based augmentation system under development by the European Space Agency, the European Commission and Eurocontrol, was tested to demonstrate its application in airport operations. Back in 2009, a live demonstration at Casablanca’s Mohammed V airport in Morocco using EGNOS was carried out to show how better location precision could be used to improve safety in the civil aviation sector.

#### Wireless network

A service van known as a “Follow Me” vehicle was outfitted with an EGNOS-enabled GPS navigator and sent its position via a wireless network to a ground supervision station in the control tower. As the van travelled along the test area, its route was tracked in real-time on a digital map of the airport displayed on the station’s screen using specially adapted software. The driver could also see his position on the GPS device.

When the van travelled into a designated restricted zone in the test area an alarm sounded alerting both the driver and the control tower operator of the intrusion. The operator then ordered the driver by radio to exit the restricted area. When the van left the area, the alarm stopped sounding.

The demonstrators said that EGNOS could be used to boost the safety and the efficiency of the management of vehicles in and around airport areas. The European Commission is currently investigating the cost implications of deploying the necessary ground stations in the MENA region.

Overall, IATA believes much is being done to improve airside safety in the region. Dr Sabri stated that successful runway and safety management workshops involving various stakeholders were held in 2009 and 2010 in Amman.

He concluded by explaining what plans are in the pipeline. “Overall, we are creating a second edition of the runway excursion toolkit to be released in spring 2011. We are co-hosting a global runway safety symposium with ICAO in May 2011 and directly involved with creating a global series of runway safety workshops for the 2011-14 period. The 2011-13 runway safety symposium and workshops will cover all runway safety issues.”

# Erbil creates a modern

*The new Erbil International Airport (EIA) in the Kurdistan region has become a showcase for the rebuilding process in Iraq. With a lucrative energy sector at its doorstep – EIA is maximising opportunities for growth.*  
**Keith Mwanalushi reports.**

**E**ntering the bustling new terminal at EIA brings back the stark reminder that, before 2003, there was no civil airport in Kurdistan Iraq.

Technically, the older airport is not that old in terms of civilian use. It was upgraded for civil operations in 2003 – prior to this it was used as a military base.

In terms of transportation, trade and tourism the development of EIA was crucial according to the Kurdistan Regional Government (KRG), which commissioned the construction of the new airport in the shortest possible time to accommodate rising passenger numbers.

“The increase in numbers confirms the trend established in the last quarter of 2010, when year-on-year monthly passenger gains hovered around the 40 per cent mark. By the end of 2011, we expect to see at least 550,000 passengers,” said EIA’s communications and marketing adviser Andrew Jones.

Current traffic figures seem to be aligned with

the decision for a larger capacity airport.

In 2010, 454,469 passengers were processed representing a 31 per cent increase on the previous year. In January 2011, passenger numbers increased by 44 per cent to 37, 807 compared to January 2010.

The old airport (situated next to the new airport) had a capacity for approximately 300,000 per year; it had only three gates, four check-in counters and a 2,800m runway.

In contrast, the new EIA has a 72,000sqm passenger terminal with 20 check-in positions. Two satellite wings are connected to 16 gates; six of them are fitted with passenger boarding bridges. The airport is certified for CAT II operations with an annual capacity for three million passengers. IATA accreditation was awarded in 2006 using the EBL code. The airport also features a dedicated apron for VIP business jets and a separate terminal for visiting dignitaries and diplomats.

Just prior to the opening of EIA in March 2010,



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# gateway to the new Iraq



a fully integrated trial operation was conducted involving an Atlas Jet A320. The Airbus arrived from Istanbul with a full load of mock passengers and baggage. It was intercepted by the EIA instrument landing system (ILS) at 11.4 miles out, and on landing the pilot used only 35 per cent of the 4,800m runway – which is the fifth longest in the world. At the time, the Atlas Jet pilot described the runway as if it were “landing on the ocean”.

By September 2010, the first scheduled flights using the new airport had taken off. “From the start of 2011, some 13 carriers are operating to 25 international and domestic destinations. Istanbul and Amman are the top two destinations,” confirmed Jones.

EIA indicates that total aircraft movements have increased by 60 per cent since 2006. Austrian Airlines has increased its Erbil services from two to five times a week during peak months. There are also regular arrivals by Atlas Jet and Turkish Airlines from Istanbul.

MEA operates the busy Beirut route with four weekly flights into Erbil using an A321. There is a growing Lebanese expatriate community residing in Kurdistan, which now has the alternative of a national carrier on a route that was previously operated solely by a local charter company.

After a 20-year service suspension, Star Alliance carrier Lufthansa resumed operations to Iraq last year with a four-times weekly service between Frankfurt and Erbil using A319s. This was soon followed by the launch of services to Abu Dhabi by Etihad – becoming the first UAE carrier to operate services to Northern Iraq. Etihad deploys an A320 on the route, complementing a daily service operating into Baghdad.

Etihad’s CEO James Hogan has since reported that the market response to Baghdad and Erbil has been “overwhelmingly positive”, with high traffic volumes enjoyed.

The airport authorities at Erbil are keen to



**Top: The new terminal building is designed to handle three million passengers. Above: Six of the 16 gates are fitted with boarding bridges. Picture courtesy-EIA.**

exploit EIA’s strategic location on the historic Silk Road of the airways, hoping to reclaim its former position along one of the world’s most important trade routes.

Specialists from Incheon International Airport in South Korea were contracted to develop the technical capacities of EIA’s staff. Incheon has been involved in the technical training and skill transfer over the past five years. ATC personnel are put through an annual technical and physical examination and, once passed, the Iraqi CAA in Baghdad licenses them.

The concept design and master plan for the development of EIA was conducted by the UK-based Scott Wilson Group and central to the design concept was how to tackle the issue of security. Even though security threats are limited in the Kurdistan region, it remains of significant concern to justify some of the measures in place.

All passengers, visitors and staff are screened in a purpose-built control building before accessing the terminal. Baggage belonging to departing passengers is checked and screened before entry into the terminal; once cleared they are bussed to the terminal building. On arrival at the terminal, passengers then undergo the usual screening procedures that are conducted at all international

airports. Members of the public awaiting arriving passengers are not allowed access to the terminal; they wait in a specified area several kilometres away from the building.

EIA uses Raytheon technology for much of its security applications but Jones was unable to provide exact details on the full range of systems that have yet to be installed under the multi-phased contract.

The cost of aviation fuel at EIA has had a somewhat positive impact on traffic growth. EIA has been offering the least expensive aviation fuel in Iraq. In 2010, EIA was reportedly selling \$83 cents per litre while at Baghdad International Airport a litre was pegged at \$94 cents.

Another traffic stimulating tactic by the KRG is a policy to attract Iraqi Kurds working abroad or those in exile to return home and feed the growing construction sector and other industries. Many of these people have returned, bringing with them useful connections from other countries.

“Erbil itself is in the midst of a construction boom with hotels, offices, apartments and villa developments springing up around the capital,” Jones said. “Last year the KRG’s investment board reported the commencement of projects worth around \$4.6bn. Construction took the lion’s share, with trade netting \$948m and the industrial sector, \$1.13bn. In all, the board identified projects worth \$17.3bn, of which nearly 25 per cent is supported by foreign investors.”

The event is a platform to showcase the potential of EIA with respect to cargo and logistics and provide a gateway for companies in the aviation, airports, and cargo and logistics sectors to better understand the needs of the Iraqi aviation industry as it continues its revitalisation and rehabilitation.

In April, Erbil hosted an air cargo and logistics to help operators better understand the needs of the Iraqi aviation industry as it continues its revitalisation and rehabilitation.



Sharm El Sheikh has largely been unaffected by Egypt's political unrest.

# The Sheikh of things to come

*The Red Sea area is expected to see a massive rise in civil aviation over the next few years and there is a master plan in place to cope with the numbers.*

**Keith Mwanalushi**  
*reports.*

Last year the Egyptian Ministry of Civil Aviation estimated that the capacity at airports in the country would rise to over 75 million passengers by 2012.

Regional airports in Egypt account for up to 60 per cent of the total passenger through-put. They include some outstanding performers – Sharm-El-Sheikh International Airport has a capacity of 7.5 million. This capacity has rapidly become insufficient, necessitating a new master plan.

The long term effects of Egypt's political revolution will no doubt have an impact on the number of tourists visiting the country but travel experts believe destinations such as Sharm-El-Sheikh will bounce back much quicker once the dust settles.

Sharm-El-Sheikh airport (SSH) is the prime gateway to the Sinai Red Sea resorts. The allure of sun and sand within a five-hour flight is a thrilling prospect for European sun seekers.

In 2008, the Egyptian Airports Company (EAC) announced plans to build a third new terminal at SSH as part of a master plan to deal with the saturation of the current terminal capacity. In 2009 passenger numbers reached 7.4 million and hit almost eight million in 2010. Traffic at SSH has grown a reported 900 per cent in the last 12 years. On average, that is 21 per cent growth year-on-year.

Aware of the situation, the EAC under the Egyptian Holding Company for Airports and Air Navigation (EHCAAN) has proposed to increase the airport's capacity to 18 million.

## Architectural marvel

SSH is the second busiest airport in Egypt and the third in Africa behind Cairo and Johannesburg. Terminal one (T1) was inaugurated in 2007 with a capacity for five million. The project was a US\$70m architectural marvel. The facility comprises three building components: two circular shape halls – each 100m in diameter fused together by a third intermediate area that serves as the passenger transit hub. The unique design mixes Bedouin heritage with marine life characters.

T1 was designed to address the influx of international air traffic and is equipped with 40 check-in positions. There is one domestic and six international gates, which all exit to remote stands.

T2 sees 2.5 million travellers annually

and it is actually the original terminal building; it underwent a complete overhaul in 2004. Both terminals are currently processing more than 2,900 passengers per hour.

The EAC awarded a US\$17m contract to Spanish construction designers Prointec for the third terminal (T3). The Spanish company's main responsibility is the project's integral development: design and drafting of the construction project, technical support assistance for the tender and award process as well as the management and administration of the construction works.

In a statement Prointec described the scope of work: "The project comprises the airport master plan, changes in the airspace configuration, a new runway and associated taxiways. To be commissioned is a new aircraft parking area, a new terminal building and new power station. We are also developing and interconnecting new ground access bays."

The EAC said the current runway and taxiway system is not able to cope with the traffic demand.

## Proposed solution

The proposed solution by the airport authority is the construction of T3 – with a capacity for 10 million passengers. The terminal will be able to process 4,600 people every hour, with 96 check-in counters, 12 baggage claim units and 13 boarding bridges – three of them will accommodate the A380.

The design of the new apron – almost parallel to the new T3 building – will support 40 aircraft parking positions. The EAC said the added apron space would add flexibility to operations allowing the airport to absorb peak traffic and to better deal with contingency situations.

The new apron capacity will be set at around 34 operations per hour, pushing that to a total of 68 for the entire airport.

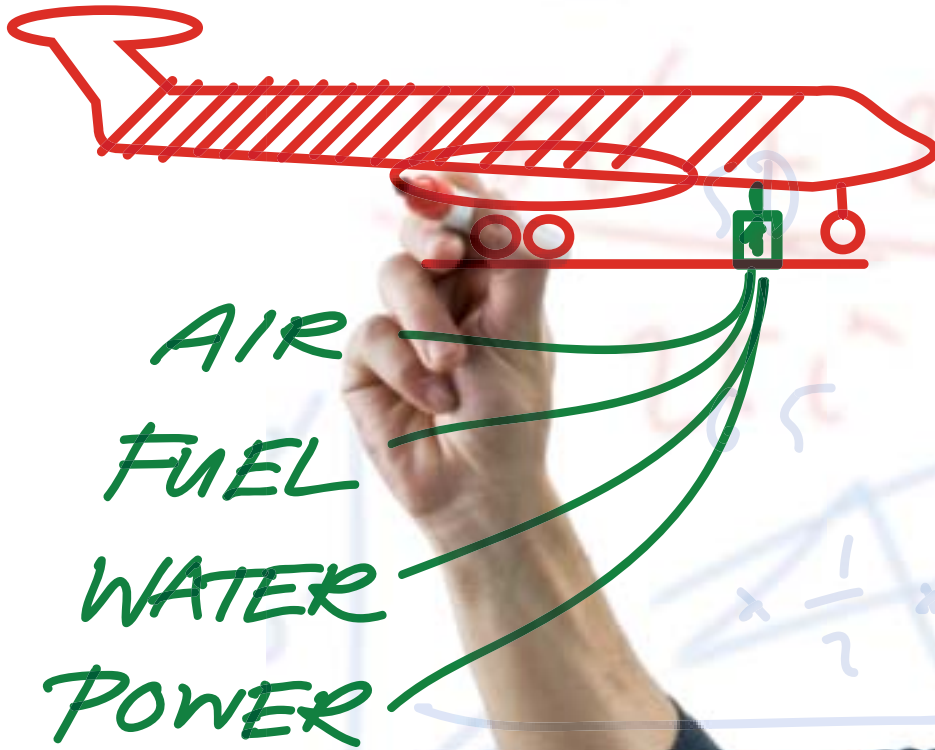
The airfield will have two rapid exit taxiways and two link taxiways connecting the new and older airfields. Key to the development is the new 3,800m runway. It will allow the airport to minimise its weight restriction and allow A380 operations.

Evaluating future capacity will largely depend on politics and the reassurance of Egypt's dynamic tourism sector. The EAC is geared to expand with additional facilities at Sharm-El-Sheikh airport in order to provide an efficient, fluid and profitable airport operation.



Almost 8 million passengers used SSH in 2010.

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# Every cloud has a green lining

*Jordan's traffic numbers increase and Queen Alia International Airport grows to meet demand.*

**Alan Peaford**  
*reports.*

**C**louds of builders' dust billow across the scrub and cranes reach out to the azure blue skies. Beneath both, the new hub for the whole Levant area is taking shape.

The work is on the \$750m development at Queen Alia International Airport (QAIA) – Amman's international airport – just 32km outside the Jordanian capital.

The airport is operated on a 25-year contract by Airport International Group (AIG), a Jordanian company formed by a consortium of international investors in 2007, with a responsibility for the expansion, rehabilitation and operation of the airport.

Work is progressing well. "The new terminals are more than 50 per cent complete and the project as a whole is almost two-thirds finished," said outgoing chief executive Curtis Grad.

Grad has been involved in the project since joining AIG more than two years ago. He is sad to be leaving before the new airport is complete. "It is a great project," he said.

He departs this month to head the Victoria Harbour Authority in his native Vancouver, Canada, but does so with confidence that the QAIA project is in good shape to be ready in time to meet the growing and dramatic increase in traffic figures.

For the first time in QAIA's history, passenger traffic in 2010 reached 5,430,000 passengers, translating to a remarkable 13.7 per cent increase compared to 4,770,000 in 2009.

Aircraft movements (ACMs) for 2010 also witnessed strong growth, closing the year at 62,900 – an 8.8 per cent increase compared to 57,800 ACMs in 2009. As for cargo, 2010 registered 90,200 tonnes, an 11.8 per cent rise over 2009.

Grad said: "As global market demand continues to recover, we are extremely pleased with our 2010 traffic results. QAIA now ranks as one of the fastest growing airports in the region in terms of passengers volumes, as well as flight activity.

"Since assuming operations of QAIA in late 2007, AIG has been extremely keen on developing new routes, services and frequencies, and our efforts have very well been rewarded."

QAIA has welcomed a multitude of new carriers, routes and additional flight frequencies over the last three years, from a broad range of scheduled air carriers.

There have been new services by Royal Jordanian, Delta, Air Arabia, Austrian, Alitalia, Vueling, FlyDubai, airBaltic, Iberia and Tarom Romanian in addition to new charter services by Air

Mediterranee, MINT Airways, XL Airways and many others.

Since 2007, QAIA passenger traffic has risen from 3.8m to 5.4m annually, while total flight frequencies have increased from around 400/week to well in excess of 650/week in the summer of 2010, and the number of carriers has grown from 28 to more than 40 in the same period, with destinations expanding from 58 to 65.

The latest airline to sign up is easyjet, the UK's largest and Europe's fourth largest airline, which announced it will be flying to Jordan with a return trip starting from as little as £106 (including taxes).

The new airport is also a triumph for the growing 'green' aspirations of the Jordanians with architects Foster + Partners including a whole host of sustainable features. Inspired by palm trees, the roof will be made up of photovoltaic canopies that shield it from the sun while generating renewable energy and allowing for natural ventilation.

With many open-air gardens and naturally ventilated courtyards, air can easily circulate underneath the canopies to cool the interiors. Light will pour through the spaces in between the canopies and pools of water will reflect incoming light on to the ceiling while providing a comfortable microclimate.

The roof canopy will act as thermal storage to both heat and cool the building and it will also collect rainwater and nighttime condensation. Lastly, a bank of photovoltaic panels will be mounted on the roof to generate electricity.

The first stage of the terminal is slated for opening in just about a year's time and will feature a more spacious duty free area, vastly improved food and beverage services, increased business and VIP lounges, as well as larger office and storage space.

The current landscape at the airport is rapidly transforming with various construction and rehabilitation works already completed.

Meanwhile, AIG is also investing into maintaining and improving the airport's existing terminals, including the renovation of public areas and the implementation of new technologies to improve customer service and operational efficiencies. These include new heating and air conditioning systems and an upgrade to the baggage handling system.

The expansion will eventually allow the airport to handle about nine million passengers a year.



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# Fujairah carves out a new future in tourism

*A tiny airport on the east coast of the UAE is on the verge of shaking up the established route planners' ideas.*

**Alan Peaford**  
*finds out why.*

**H**uge Japanese-built wheeled loaders rumble across the broken rock and gravel cut from the mighty Hajar mountains that, in years past, kept the tiny emirate of Fujairah cut off from the deserts of Sharjah and Dubai.

The land is lush with higher-than-average rainfall and cooling breezes from the nearby Indian Ocean.

The mountains have proved a valuable source of aggregate for the rapid construction projects across the UAE. On the highway between Sharjah and Fujairah City itself there is a constant stream of giant trucks coming to collect their loads.

But carving its way through the mountain is a new road that will link Fujairah with the eight-lane highways to Sharjah and Dubai and which holds the key in creating a genuine secondary airport that could change the way low-cost carriers, charter operators and even canny legacy airlines view their access to the UAE.

Fujairah Airport is a surprise.

It is small, but it has big ambitions.

Working along the principle of 'Build it and they will come', the team at Fujairah International Airport (FIA) have been quietly developing and improving the airport to the highest standards.

"Once the new road is built we will be less than 100 kilometres or 45 minutes from Dubai by road," said Charles Hajdu, the airport's strategy and business development manager. "As Dubai International becomes more congested, and Sharjah gets busier, we have a real alternative here."

The airport's general manager, Dr Khaled Almazroui, said the vision for the airport was to support the development of the emirate and it is already achieving that with a marked increase in the number of cargo movements from the airport

and the start of passenger flights – primarily charter from the former Soviet Union.

Tourism is increasing as more and more people find the attractions of the beautiful coastline with reefs for diving, fishing and beaches close by to the airport. Already there are dozens of famous brand hotels taking their place along the Indian Ocean seafront. Six Senses, le Meridien, Rotana, Hilton and JAL all have resorts with many more being built.

Visitors already find a gleaming, modern passenger terminal with a spacious departure lounge and high-quality duty free shops. A business class lounge is near completion and airline offices are being made ready for the growth.

Another great selling point for the airport is the weather.

"We are recognised as the airport of choice for airlines when they have to make a diversion because of fog or bad weather in places like Dubai or Sharjah," said Almazroui. "We have a microclimate here with much clearer days. We never suffer from fog or low-visibility conditions. We also have uncongested airspace."

Fujairah's Civil Aviation Authority is part of the Open Skies agreement and Hajdu believes that, once the road is open, more and more airlines will see the advantage of using Fujairah.

With a 3,750m runway and ILS and VOR approaches, FIA can take aircraft the size of a B747 or an Antonov 124. That has already caught the attention of the cargo operators.

Businesses are thriving around the airfield. New MRO facilities are being built with Europe Aviation, a flight academy sees a steady stream of Diamond aircraft taking to the skies while, across the runway from the terminal, there are facilities for long-term aircraft parking as well as dismantling.

Fujairah is very firmly staking its claim on the global aviation map.



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# Powerful grounds for optimism

In-ground power systems will help to reduce congestion on the apron.

Largely undetected, technologies have gradually evolved to meet the increasing demands required to achieve greater operational efficiency and environmental standards.

The supply of in-ground apron systems, in particular, is becoming an attractive option as many of the airports under development seek alternative technologies to reduce congestion and increase safety on the apron.

These systems supply aircraft with fuel, power, water and pre-conditioned air, minimising the need for service vehicles, diesel generators, cables and hoses that typically cover much of the area around parked aircraft.

Engineering and systems integrator Cavotec is a specialist in the installation of in-ground pop-up pit systems. The UAE-based company is installing 95 pop-up pits at the ongoing Muscat International Airport development in Oman as part of a US\$4m deal.

The pop-up pit system is composed of units that emerge from the tarmac when required and retract beneath the apron surface after use. It is an innovative solution that can serve aircraft requirements on the ground safely and efficiently.

When the aircraft is in the parking position or in the maintenance hangar, the pop-up system is deployed and raised to working level, and upon disconnection, the pits automatically retract to surface level. The systems are used for storing items such as 400Hz cables, potable water hoses, and technical services under the tarmac apron.

Gate management is increasingly critical in the quest to reduce costs – for both airlines and airports. Traditionally, ground power solutions for passenger boarding bridges consists of several separate systems or parts, including the ground power unit, (GPU) a cable coil or a hoist, interconnection cables and aircraft cables; often from different manufacturers, all requiring separate on-site testing and commissioning.

Combining all these systems and components into one single unit can derive significant benefits in terms of costs and efficiency. Danish firm AXA Power recently opened an office in Dubai and is installing modified power coil units at an increasing number of Middle East airports, including a recent installation in Jeddah.

The system consists of one housing unit built together

*Before the global financial meltdown a raft of orders were announced for the provision of ground power solutions at several Middle East airports.*

*While some installations are nearing completion, work on other sites continues.*

**Keith Mwanalushi**  
*reports.*

with one 90KVA solid-state converter and a frequency controlled electro-mechanical chain-driven cable drum. The drum is able to coil the aircraft cable in and out automatically without help from the operator.

Incorporating a 90KVA GPU and cable retriever in the same casing offers considerable cost savings; particularly on installation said AXA. The coil is delivered on site fully factory-tested, thereby reducing commissioning time to a minimum. Each casing unit has up to 26m of cable in the power coil, which is sufficient to service all types of aircraft including the A380.

AXA's product range includes other items, such as the compact 400Hz GPU commonly known as the AXA2300. The company has clinched orders for 100 units for the NDIA project in Doha and an additional 48 units for the remote and cargo bays at the Doha project.

AXA said there is also a cost reduction opportunity by substituting the auxiliary power units (APU) with fixed 400Hz GPUs and pre-conditioned air installation on the apron. This has a considerable fuel saving element – running the APU to power a standard narrow-bodied aircraft can consume approximately 150 litres of fuel per hour.

Industry figures reveal that a typical annual saving of US\$100,000 can be achieved for an average single-aisle aircraft by replacing the use of an APU, as well as a reduction in carbon emissions by about 80 per cent.

One of the largest projects to be undertaken in recent times is a US\$45m contract that was awarded to Cavotec by the Bahrain Airports Company (BAC). The deal involved the supply of advanced in-ground airport systems and a range of eco-friendly ground service equipment for remote aircraft aprons.

The product and technological scope of the order is especially broad. The systems included 18 of Cavotec's pre-conditioned air (PCAir) systems forming the centrepiece of the project.

Cavotec will also deliver and install pop-up units, transformer sub-stations, 400Hz power supply systems, a vacuum evacuation system, and a potable water supply system.

The installation is due for completion in spring 2011, with a subsequent operation and maintenance period of one year.



# Middle East growth has NATS buzzing

*Supplying outsourced ATC services is nothing new to the UK's air traffic services business and Geoff Thomas finds out how the Middle East is benefiting.*

**W**ith the colossal growth of commercial aviation in the Middle East and North Africa still exceeding most estimates and showing few if any signs of slowing down, it's hardly surprising that the UK's highly-regarded National Air Traffic Services (NATS) offering is finding a ready market for its consultancy in the region.

NATS provides air traffic control services to aircraft flying in UK airspace and over the eastern part of the North Atlantic.

Last year it handled some 2.1 million flights carrying around 200 million passengers.

Safety is NATS' first and foremost priority but the privatised organisation – it left the public sector around ten years ago – also aims to provide its service in an efficient and cost-effective way while taking safety, infrastructure, congestion, growth, environment and technology into consideration.

For the past five or so years now, NATS has been working in the Middle East to differing degrees with countries such as Oman, Qatar, Dubai, Bahrain and Kuwait and the organisation's transport solutions director, John Swift, explains that the various countries are making use of the UK's air traffic and airport management experience to deal with their own rapid growth.

Swift began his career in air traffic management and control at London's Heathrow airport some 20 years ago as a relatively lowly controller. Since then, he has worked extensively in the Middle East, where he eventually became the boss of Dubai's ATC for five years before returning to the UK – and NATS – in 2005.

He explained: "Outsourcing of ATC services and airport operations is nothing new for us. For instance, we have been working with our colleagues in Kuwait for some years now and as well as our on-going projects, we are currently helping them additionally with the logistics involved in a

forthcoming runway closure when, for a while, there'll only be one runway in operation at the country's major airport.

"The operation of the UK's highly-congested airspace has given us great experience in the running of both air traffic services and airports. It's not all that long since we used to measure our arrivals and departures – and aircraft separation – in minutes, whereas now it's seconds. It's this sort of experience that the countries and airports in the Middle East and North Africa find so useful and which is becoming an increasingly important offering within NATS' portfolio of expertise."

However, Swift says that NATS never uses the organisation's UK experience merely as a template. He explained: "Each situation is unique and it's the unequalled experience across a wide variety of scenarios that we have here in the UK that is valuable to our many customers in the Middle East.

"Each segment of air space in the world is different from every other one. And although our experience of managing a great deal of commercial aviation around the London area, with Heathrow, Gatwick, London City, Stansted, and Luton all experiencing growth, we can't directly translate that pattern into what's happening in the Gulf States and Arabia. But what we can do is to use our experience to advise and create added values such as efficiency and effectiveness in traffic management."

A new business development director – Andy Head – has recently joined NATS and he brings with him external commercial experience, gleaned from companies such as Lockheed Martin and Fujitsu.

Swift added: "I'm really looking forward to working with Andy over the coming months and years as I'm sure that his business knowledge will dovetail admirably with my operational experience to create a powerful tool with which to enhance the offering of our ATC and airport operation management services in the Middle East and North Africa."



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Jill Stockbridge meets the man behind the service that keeps Emirates in the air.

# Emirates plans for growth at the double



Iain Lachlan, divisional senior vice president Emirates Engineering, looks remarkably relaxed for a man whose workload is about to more than double. Over the next seven years the Emirates fleet will grow from the current 151 to more than 350 aircraft, 77 of which will be the Airbus A380.

“We have mapped out the deliveries and growth for the next five to seven years. Currently we can fit in all our maintenance requirements, but we will eventually need to build another four hangars, which will be done in phases,” he said. “By late 2013 or early 2014 we will build two bays and then wait to see when we need the next two.

“In addition, we are continually reviewing internal processes and working practices to drive further efficiencies and removing non-added value. This allows us to enhance support while working closely with manufacturers and suppliers in on-going reliability improvements for the operation.”

While categorically stating that Emirates will not be outsourcing its maintenance or moving from the Dubai hub,

Iain states that the group is flexible and will adapt to needs.

“We could sub-contract pneumatics or hydraulics, as we do not have the capabilities, or we could develop them. We built our engine test cell as it was justified by the time and money spent. Emirates Engineering will always consider the options available to ensure the operation and fleet receive the best support possible. We are continually reviewing our existing capabilities and are already planning further expansion in line with fleet growth.”

While Emirates has the space to expand physically and is willing to invest in new facilities, the group will need to find skilled labour to man the hangars. Again, Iain is unruffled.

“The combination of training and recruitment will enable us to fully staff our facilities, based on the deliveries schedules and the checks that are required,” he said.

“Two to three years ago it was difficult to find good engineers in the outside market. Many aviation engineers are nomadic and will go where the highest salaries are paid. This is not healthy for the company, so we have concentrated on organic growth

**Iain Lachlan: “We are continually reviewing our existing capabilities.”**

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and internal development.”

Emirates Engineering has its own training programme, which will produce 50 qualified staff this year, rising to 75 next year. The apprentices progressing through the training school currently are all UAE nationals, part of Emirates’ commitment to national development and Emiratisation, although the school has previously taken on expatriate trainees and may do again. Iain said: “We took on two batches of 25 expatriates as apprentice mechanics and technicians. It helps to keep a good mixture of nationalities in the workforce.”

The group is also recruiting hard with regular global recruitment drives – recently visiting Canada, Singapore and the Philippines. They are not only filling vacancies, but building talent pools that will act as feeders when new positions arise.

Iain said: “Many challenges exist in recruiting and developing staff, ranging from availability of existing qualified staff in the external market that wish to live and work in the UAE, to encouraging people to work in aviation rather than other fields of opportunity. We must never forget that to train new entrants to become fully-qualified and competent engineers, for example, can take as long as it takes to study medicine or finance, which makes the choice of a career in engineering more of a challenge.”

He added: “As well as taking on new staff and trainees, we ensure the development of existing

## Engineering by numbers

Number of employees: around 3,650.

### Facilities:

**Dubai Engineering Technical Centre consists of:**

- Seven hangar bays, each A380-capable;
- One paint facility (also A380-capable);
- Engine run-up pen;
- Nine parking bays;
- Overhaul workshops, supplies centre, training facility, administration, etc;
- Engine test cell approx 40km from airport with capability up to 150,000lbs of thrust.

staff, such as bringing the technicians up to engineers. We also support the technical side – training our staff in support, maintenance planning, supply chain and other areas to develop their skills and abilities.

“Training is essential once anyone joins Emirates, whether it be technical continuation, familiarisation, personal development of soft skills or processes. There is an on-going need for training for our staff to continue to contribute their very best in the roles they perform now and in the future. Aircraft maintenance and engineering is not a discipline that is supported by a one-off training opportunity, but by a continuous process.”

It is not just Emirates that is expanding rapidly in the region. The wider Middle East is

experiencing above average growth in passenger and cargo traffic, with around 20 per cent of the future orders for wide-bodied and narrow-bodied aircraft originating in the region. These deliveries will require MRO support.

Iain said: “Airlines in the Middle East and the sub-continent are expanding, thereby offering huge opportunities for MRO expansion. There is, and continues to be, large scale investment from companies with modern facilities being expanded and developed to accommodate the growth of MRO requirements in the region. The original equipment manufacturers (OEMs) have shown a great deal of interest in working with us and we have formed partnerships. I believe that the MRO support companies should be bringing more industry into the region.

“With ourselves, Etihad, Qatar Airways and the rising new airlines in India, the order books are full and this is where the opportunities are.”

He praised the role of Abu Dhabi-based Mubadala, with the development of both civilian and military MRO facilities.

“The Middle East is strategically placed geographically and is willing to actively pursue growth in the support of maintenance overhaul through investment in the infrastructure required to challenge existing suppliers. Opportunities to work with suppliers through partnerships and working relationships are also available for those willing to consider assisting in enhancing the capabilities that currently exist.”

## Oman signs Lufthansa Technik deal

Lufthansa Technik has signed a base maintenance contract with Oman Air for the airline’s 15 Boeing 737 NG aircraft.

The C-checks include Aircraft Communications Addressing and Reporting System (ACARS) modifications for nine of the aircraft.

The checks and modifications will take place at the Lufthansa Technik base maintenance location in Budapest, Hungary.

Speaking to *Arabian Aerospace* at MRO Middle East, Oman Air chief executive, Peter Hill, said: “We have been very satisfied with the base maintenance work Lufthansa Technik delivered to us in 2010. It is, therefore, not surprising that we would trust Lufthansa Technik to deliver the same quality and level of service once again.”

Hill said that competition for MRO in the region had seen the German-based global leaders become more competitive as far as costs were concerned but added the driving force for Oman Air was the quality of service and the long-term relationship.

Walter Heerd, senior vice president of Lufthansa Technik marketing & sales said: “This new contract is the latest milestone in the deep and long-lasting partnership between Oman Air and Lufthansa Technik. We are looking forward to further increases in co-operation between us.”

This new base maintenance contract comes on the heels of a successful completion of a similar C-check programme in 2010 for the same aircraft fleet. Besides the recurring base maintenance contract, Oman Air also receives complete component support for its entire A330 fleet.

Additionally, both companies are in talks for a much wider co-operation in the region on the back of a letter of intent (LOI) for a strategic co-operation agreement executed at the Dubai Airshow in 2009.



Peter Hill (right) with Lufthansa Technik’s Walter Heerd.

## Swiss watch MEBA with interest

An enthusiastic exhibitor at the recent MEBA show in Dubai was the large Swiss-based business and executive aircraft MRO organisation, RUAG Aviation.

RUAG’s man in the region, Dr Felix Puetz, says that the show – and RUAG’s associated customer event – were both hugely successful, to the extent that the company is now thinking hard about how to develop what is becoming a rapidly-growing marketplace for the Swiss business aircraft specialists.

Explained Dr Puetz: “The MEBA show was, for us, both an opportunity to get to know our existing customers far better (we have around ten in the region) and also to introduce ourselves to a range of important potential customers.

“We have found that business aircraft operators in the Middle East and North Africa are keen to use our facilities for their major checks when distance is really no object. Our customers regard our services as of such high quality and competitive pricing that the distance of our MRO facilities from their operating bases is relatively unimportant.”

The company’s core competences are obviously maintenance, repair and overhaul, and upgrades, as well as manufacturing and integration of sub-systems on business/commuter aircraft and helicopters.



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*Emirates' unique 'Aircraft Appearance Centre' is gearing up for full operation. Following a soft opening in August 2010, six aircraft have been completed and a full back-to-back schedule is due to start in August this year.*



# KEEPING UP APPEARANCES

**B**uilt at a cost of around \$40 million and equipped to the highest technical specs, the facility will employ 64 specialist staff drawn from around the world.

From August they will be processing two aircraft a month - and with great timing as many Emirates aircraft are due to be repainted.

The airline estimates that use of the onsite facility will cut repainting costs by up to 55 per cent compared with outsourcing the work to European suppliers.

The 12,000sqm hangar is based on the design of the Airbus A380 paint hangar in Hamburg. The difference is that the Emirates facility will handle a range of aircraft from a Boeing 737 to the vast A380.

The explosion-proof hangar is equipped with six teleplatforms, costing around \$750,000 each, scissor platforms and under-aircraft access stands for safe and efficient access to all areas.

The main challenges for the management team are environmental. The building has to maintain positive pressure to keep the dust out and be sealed to preserve the

carefully regulated temperature and humidity, despite sometimes extreme outside conditions. Martin Taylor, shift manager at the centre, explained: "There are strict parameters when using aviation paint. The humidity has to be within one or two per cent to avoid defects in the finish, such as orange peel, blooming and blisters. Emirates has incredibly high standards for the work. While the original equipment manufacturer (OEM) sets the orange peel standard at eight, Emirates ups that figure to 12. If it falls below, we have to start again."

Quality is paramount here, with thousands of dollars having been spent on testing equipment. Taylor said: "Quality is second only to safety and is constantly checked.

We have a wave-scan machine to test the orange peel effect and a gloss level tester as well as the dry film thickness gauge to ensure the paint is no more than 400 microns thick. There is no compromise."

The Appearance Centre has fully-automated environmentally-controlled systems. The air-conditioning system within the hangar is completely computerised and

• Every aircraft completing a C Check in Emirates Engineering is polished by hand.

Continued  
on Page 108

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CONTINUED FROM PAGE 106

designed to avoid dead areas, where paint may be slower to dry.

Bob Lunn, vice president engineering facilities, explained: “The system controls the lighting and airflow during each phase of the sealing, stripping and painting according to aircraft type and paint type. Specially placed vents on the walls and ceiling blow air over the fuselage and wings as if the aircraft were flying. This avoids dead spots, such as on the underside of the wings, which can remain wet longer and affect the finish.”

The new facility is also as green as possible, given the work performed. Lunn said: “We use non-toxic environmentally friendly paint strippers, but what we are removing from the aircraft contains hazardous materials – chromates in the paint, aircraft fuel, hydraulic fluids, grease. Everything is washed down into tanks below the hangar, where the solid waste is separated from the water. The water is reused and a specialist company takes the solid waste for disposal.

“We also have a solvent recovery machine in our cleaning area. When the brushes and spray guns are washed, the solvent is separated from the solid waste and reused, while the gel-like waste is disposed of safely.”

All the air blown over the aircraft is sucked into gratings, where it is filtered to remove dust and paint particles.

Each wide-bodied aircraft will take between 10 days to two weeks to complete, depending on type. Before it can be stripped and painted, the aircraft has to have all fuel removed and then it is completely sealed to ensure no paint goes into the cockpit or cabin.

While the Airbuses are only stripped to primer level, the Boeings are taken back to bare metal for a mandatory check of the entire airframe.

“We are checking for scribe marks,” said Lunn, “which can cause flaws and cracking. These marks are from engineers marking the aluminium for any reason when working on the aircraft, or they can be from the use of a knife or screwdriver to remove a decal. Once the top aluminium is scored it is an opening for corrosion.”

Once inspected and approved, each aircraft receives three coats of white paint, the solid colours and then a clear coat lacquer.

Lunn said: “The harsh climate of the Middle East means that colours fade and white paint yellows more quickly than in Europe. The clear coat extends the life of the paint. Without it we can

expect to repaint every four to five years. Clear coat protection extends that to six to seven years.”

While some paint is supplied by industry giant AkzoNobel, Taylor has been delighted to find a local supplier in Dubai.

“We have begun to use PPG, which is based in Jebel Ali in Dubai. It offers the same high quality,

• Emirates employs a full-time artist to touch up any damage to the wood finish in the cabin interiors.



The Appearance Centre is stepping up rate to meet demands as more of the EK fleet require repainting.

but whereas an order from the UK has a 45 day lead time, these are available straight away. We would normally order around four sets from a European supplier; now we can order one at a time. This cuts down the amount of capital tied up in inventory, eliminates storage issues and shelf life considerations and, of course, the cost of shipment.”

The PPG paint is also designed to suit the local climate and can be used in 20-30 per cent higher humidity conditions. “This again is a cost saving as we do not have to run the very expensive electric heaters we use to reduce humidity,” he added.

In addition to the main hangar, the Emirates Engineering Paint Shop handles around 3,000 items per month in three custom-built paint bays. The items sprayed range from internal components, such as seat shells, meal trays, toilet seats and overhead lockers to wheels, flaps and ailerons.

Taylor said: “Much of this work was done in situ previously, which required the painters to tent the part in the hangar. This was much more

challenging to maintain the temperature and quality and time consuming.”

The three booths allow swift work, faster drying and the use of specialist paints, such as the pearlised paint used on seats in the Business Class cabins.

The facility is unique in the region and Emirates has previously discussed offering MRO support to third-parties, so will we see other airlines’ aircraft rolling out of the hangar? Lunn considers it unlikely, but does not rule it out completely.

“In the short term we expect to be fully utilised with the Emirates fleet. However, should an aircraft be pulled from the paint line for any reason, a slot may become available and we have to be aware of the commercial interests.”

Lunn concluded: “The external appearance of an Emirates aircraft is an essential part of the image of the airline. There is now additional pressure on us to maintain that pristine appearance as most of the new terminals and first class lounges offer panoramic views of the runway. A tatty looking plane does not inspire confidence in the airline and we now have the facility to ensure that Emirates’ aircraft never fall short of the high standards that are set.”



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# GLOSS LEADERS

**Geoff Thomas** gets under the skin of aircraft painting to understand coatings.

**N**ext time you fly in an airliner from one of the major Middle East-based carriers, there's an 80 per cent chance that the glossy exterior paintwork will have been applied using products from Dutch-based company AkzoNobel Aerospace Coatings.

Although the company doesn't employ the people who actually apply the paints (that's all done by each airline's in-house or sub-contracted paint teams) it does take great pains to train operators, helping to ensure that each airframe looks its best and also that the potential weight-saving over previous painting techniques (only if the paint is correctly applied) is realised.

AkzoNobel Aerospace Coatings' sales manager for the Middle East is Dutchman René Bremer, who has worked in the region for more than a decade.

"Because so many of the airlines in the region are among the best in the world, they require their aircraft to have a particularly 'distinguished image'," he said. "To this end, they want them to look shinier and more glossy than the international competition and our fast-drying 'base coat/clear coat' method, using newly-developed polyurethane paints/lacquer, enables this to happen while also saving them money in several important ways over the lifetime of the airframe.

"Our method results in an ultra-shiny surface that improves the appearance and provides less dirt pick up. Extended cleaning cycles also require less water and easily keep the aircraft shiny thanks to the clear coat system. This also dovetails in with the sustainability programmes of all regional airlines.

"And, while a standard 'paint job' lasts for around four to six years in the harsh North African and Middle Eastern climate and environment, our new product gives up to eight years' service before it needs replacing, resulting in yet more cost-savings."

Dust, salt and sand being blown around during take-off and landing – especially when combined

with intense sunlight and vast temperature ranges – results in a highly abrasive and damaging cocktail of challenges for the paint on aircraft, explained Bremer.

"Our latest technology provides an even better performance in these harsh conditions.

"Despite weighing less, the new method actually gives better protection, coverage and colour depth than previous paints and it takes less time to dry (two hours instead of overnight between the application of different colours) which again means less down-time and further potential cost savings."

According to Bremer, the key to the huge success in the region of the AkzoNobel product is in the comprehensive on-site training process and local technical presence.

## Intense programme

"It's an intense programme," he explained, "and we insist on using the airline's own spraying equipment so that we can demonstrate just how the new products will look in reality, rather than on the page of a sales brochure."

Because the drying time is so much less than for conventional, classic high solid paints, it's also possible to be far more creative with the designs. And it's for this reason that so many airlines in the region are now experimenting with more ornate and eye-catching liveries like the one that featured on some of Etihad's fleet to promote Abu Dhabi's links with the exciting world of Formula 1 motor sport.

When AkzoNobel introduced the clear coat programme in 2006, it was delighted that the uptake by the airlines was so enthusiastic.

"It's a win-win situation," concluded Bremer "We provide our high-tech coatings and services that combine to allow our customers to fly beautiful, glossy aircraft. The new technology improves the appearance and reduces the coating maintenance costs to a minimum."



**René Bremer:** "Our new product gives up to eight years' service before it needs replacing, resulting in yet more cost-savings."



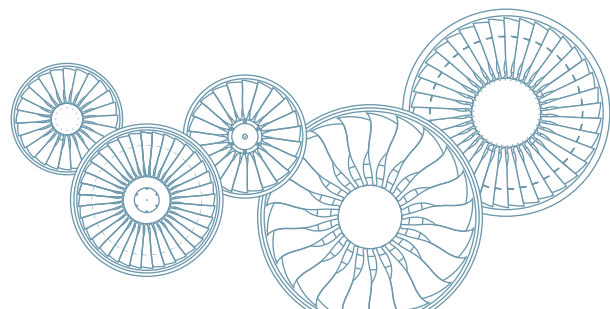


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even further in future so, over the coming decades, it will continue to be a land of opportunity for us. Now, with BA as part of our portfolio from a logistics point of view, we can cover just about any scenario and that's why we're pushing our presence in the region."

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In terms of commercial engines, the company (which has its own test cell) performs full overhauls on the CFM56-5 and -7, Rolls-Royce's RB211-535, GE's CF34-3B and P&W's JT8D-200 as well as the APUs on the A320 and the MD80.

Component overhaul and replacement is also an important part of the business, with a stock list of more than 20,000 line replaceable units (LRUs) and capability to deal with virtually any components on both the A320 and A340 airframes.

For the past three years Iberia Maintenance has exhibited at the MRO Middle East event and it intends to continue with this in future, in an enhanced fashion, in conjunction with new partners BA.

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TAP M&E acquired Brazilian airline Varig's maintenance organisation around five years ago and although the Lisbon-based MRO had been offering third-party servicing for some years, the South American acquisition enabled it to expand both its portfolio of services and its geographical spread.

With its HQ and hangars located at one of southern Europe's largest and easily accessible airports, TAP M&E is able to offer its MRO facilities to any size of aircraft and good year-round weather means that access is excellent.

Africa and the Middle East are two important target markets for future growth and airlines in the region flying all currently operational types from Airbus, Boeing and Embraer, were keen to talk to TAP M&E when it exhibited at the recent MRO Middle East show held in Dubai.

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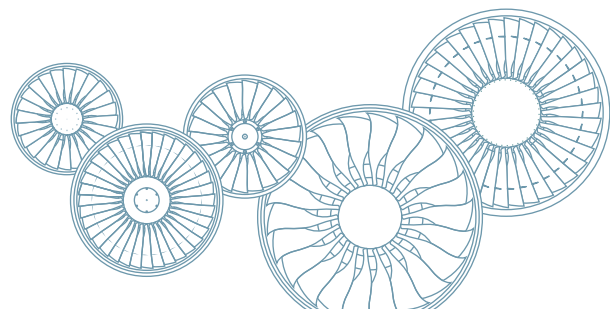


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**Alan Peaford** *meets an oil company that is anxious to help airlines save money.*

## Oil change the easy way to cut costs

**O**il prices are uppermost in the minds of executives at airlines or business jet operators as they plan their budgets for the financial year ahead.

But one of the world's oil majors believes there is a simple way to make a significant difference to the bottom line – change your lubricants.

AirBP came to the MRO Middle East event in Dubai with a clear message about its high-performance turbo oil, BPTO 2197.

There is no whizzy marketing name or flash logo, but David Zydzienski, BP's aviation lubricants technical sales manager for the Middle East and South Asia, is convinced that as the new generation of engines is adopted by the region's airlines on their expanding fleets, then a simple oil change by MRO shops will save a fortune in maintenance.

"This is a thermal stability oil with high performance capabilities – but most importantly it allows the engines to stay longer on the wing," said Zydzienski. "We are seeing the Trent 700 achieving 500-800 more hours and on the V2500 engine as much as two to three thousand hours difference."

With oil pumps costing thousands of dollars, savings on these components make a significant difference to airlines.

"We have been getting testimonials from airlines which have been testing the claims. Etihad has changed its whole fleet to BP2197 and Oman Air, Royal Jordanian and Saudi Arabian Airlines have switched. Today 22 per cent of the market is using this fuel," said Zydzienski.

"It is the high-performance engines that are making the



**BP's high performance oil keeps the Rolls-Royce Trent engine on the B787 on the wing for longer periods.**

difference. The new engines need to get higher temperatures to produce higher thrust while increasing fuel efficiency so, while standard oils perform well enough at low temperatures, performance deteriorates rapidly as critical severity is reached."

Airlines at MRO Middle East were able to see for themselves as Air BP demonstrated its new web-based software, which allows operators to check how the BPTO 2197 outperforms other turbo oils when used across a range of high-severity engines.

Drawing on customers' own operational data, the web-based 'value proven tool' allowed Air BP technical sales staff to calculate and show graphically the potential benefits of switching to the leading HPC turbo oil brand.

"Since its launch, no customer choosing BPTO 2197 has subsequently removed it from service for technical or maintenance reasons," said Air BP global sales director Rodger Harris. "At point of sale we emphasise its unsurpassed high-temperature cleanliness, its outstanding thermal stability and its superior hydrolytic stability, but what the customer most wants us to demonstrate is lower maintenance cost. This new tool is helping us to bring the message to a wider audience."

Rolls-Royce has given its backing as it has been selected as the oil for the Trent 1000 engines used on Boeing's new B787 Dreamliner during the aircraft's flight-test programme.

BPTO 2197 lubricated the inaugural Boeing 787 flight on December 15, 2009. Since then, the four Trent 1000-powered Boeing 787 flight test aircraft have accumulated way over 1,000 successful flight hours.

"BPTO 2197 costs just a few hundred dollars per aircraft. It is an unseen and essential component that performs under extreme conditions to boring predictability, day in, day out, ensuring safe operation of some of the hottest engines ever created. It is never changed per se, just topped up as needed, giving the confidence needed to operate without lubricant concerns between heavy maintenance intervals of six to eight years," Harris concluded.

## Flydubai looks inward with \$20m investment

Flydubai is investing \$20m (Dh73m) in developing in-house aircraft maintenance capabilities for its growing fleet of 16 Boeing 737-800NG aircraft.

The low-cost carrier's engineering and maintenance department will provide a dedicated round-the-clock service and will be staffed by more than 75 engineers, who have been recruited from more than 15 nationalities.

Flydubai CEO, Ghaith Al Ghaith, said: "This is a tremendous achievement for the airline. It has been a huge project and everyone involved has worked incredibly hard to pull this together in such a short space of time. The recruitment, engineering and maintenance teams have done a great job and I would like to take this opportunity to thank them for making this next stage in Flydubai's development a reality.

"I would also like to acknowledge Emirates Engineering, which had been providing our engineering and maintenance on a commercial basis. Bringing this function in house is a further example of our growing maturity as an airline."

In addition to staff, the team has had to secure premises, tools, vehicles, parts and IT systems

sufficient to provide maintenance and engineering support to Dubai's low-cost carrier.

Flydubai's head of maintenance and engineering, Mick Hills, said: "I'm so pleased that we have reached this point. Many people said we wouldn't be able to do it but once again we have proved the doubters wrong. This has been a huge investment and we've worked hard to ensure we've got it right first time. In addition to the staff, parts, tools and premises, we've also invested in new technology to control our technical records and ensure we are scheduling maintenance and ground time in the most efficient way possible. This ensures we keep our aircraft flying, which is what makes the airline money.

"This is one of the quickest implementations for a fleet of aircraft ever done using the Swiss AviationSoftware (Swiss-AS) AMOS solution and it's hats-off to all the team for managing the integration with our legacy systems so smoothly.

"I'm really excited by this new development and am confident that the future of Flydubai's engineering and maintenance is in very safe hands."

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# READY... OR NOT?

*Responding effectively to an incident where people on aircraft or on the ground are injured or killed is a huge challenge. Ian Sheppard attempts to shed light on a complex area where 'preparedness' is absolutely essential, but with the added difficulty that airlines don't really want to be scrutinised on how ready they might be.*

**A**irline survival depends on being prepared for the worst. As major air accidents have become less common, the focus on each one has become more intense.

Chris Statham from Blake Emergency Services, a UK-based organisation with international capabilities in the emergency preparedness and response arena, said: "Meeting grieving families, stressed officials, distressed airline executives and staff, as I have over the years following the loss of an aircraft, the challenge we all face is managing expectations. Matching the reality of what we face is often the greatest challenge."

Statham said passengers think the airline will be able to respond immediately with resources and information whereas, in reality, the airline will have very little of either in the early critical phases of the response.

Naturally everything in the aftermath hinges on the capability of the local resources to respond on the ground and the capability of the senior crisis management team to manage the information vacuum while assembling and dispatching its resources.

A company like Blake may not be able to address the cause of the event at the time, but Statham believes in handling the event "we must do everything possible to mitigate the human consequences that have resulted from it".

Do environment and culture matter? It is impossible to put these issues to the side entirely, said Statham, but he added: "In my experience we are all united in the struggle to save life, look after the injured, deal respectfully with the dead and care for the families. A caring and compassionate

approach to the response will offend few. But this does not translate readily to the written word."

Statham believes that writing an emergency response plan is, on the face of it, a relatively straightforward affair. There are many templates and guidelines, many examples to be adapted and modified.

However, he added: "Once the plan is written, many airlines psychologically sit back and avoid thinking too deeply about the reality of activation, setting up the senior management team, deploying individuals and or teams, preparing statements and briefings for the media.

"The tidy print on the pages, perhaps set out in International Air Transport Association Operational Safety Audit-compliant paragraphs and font sizes, do not in themselves convey the immensity of the event they seek to contain."

The compliances that are being demanded of airlines now are valuable because they make them focus on the plan and the training that goes with it. But Statham cuts to the chase: "The real trick, in my experience, is to watch the faces of the grief-stricken families, the injured survivor and the stressed executive that one sees on TV from time to time following any catastrophic event and ask yourself each time, does my plan and my training prepare me to meet that person? Have I done everything I can to make sure I am not going to add to their distress because I am not prepared at all levels to deal with them? They expect you to know what you are doing when the catastrophe hits – but do you?"

"Emergency response is not just about the plan and the training – both of which are

Continued  
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essential – but it is also about the emotional and intellectual commitment to get it right.”

Shivaji Ghosh, a former soldier with years of experience in crisis response, is emergency response planning officer at Oman Air.

Ghosh says he planned the complete emergency response strategy of the airline from scratch and also formulated the emergency response plan, family assistance programme and assisted outstations in the preparation of their local emergency response plans.

He also audits the crisis management measures in the outstations, conducts training and major emergency response exercises and establishes close liaison with regulatory and statutory authorities and with other international airlines. This gives a flavour of what such a position entails.

Ghosh has wide experience – both with IATA and response planning organisation specialist Kenyon. He took Oman Air through the relevant aspects of IATA's IOSA (IATA Operational Safety Audit) programme, which covered all aspects of the airline's emergency response system.

He said: “The issue of emergency response planning as a part of the safety management system has been given due importance by most of the major airlines in the Middle East region. Although none of the countries in this region has enacted any legislation making emergency planning or family assistance mandatory, the fact that many carriers are flying to destinations in the United States has compelled them to comply with the provisions of the US Family Assistance Laws Foreign Air Carriers 1997.”

#### Survive the aftermath

Furthermore, said Ghosh, most carriers have realised that they may not be able to survive the aftermath of a major accident if the handling is perceived to have been unsatisfactory. The introduction of the IOSA added further impetus to the implementation of crisis management plans.

Meanwhile, he added, considerable amounts of money and resources have been invested in setting up elaborate emergency planning organisations, crisis management centres and in conducting exercises and training.

He continued: “Emergency response planning does face certain challenges in this region. While it would be normal for any airline to want to handle most aspects of the crisis, it is the national law enforcement agencies that would reign supreme in dictating the way the situation is handled. This may not always turn out in the carrier's best interests, particularly where aspects like investigations and media management are concerned. It is, therefore, in the interests of the airlines that close co-operation be maintained with such agencies, and they be suitably educated regarding the peculiarities of civil aviation operations. Such co-operation should extend to joint training, workshops, seminars and regular exercises.”

## The 12 key principles

Areas to plan for/set up/be ready for (also referred to by Kenyon as “The 12 Principles of Emergency Response Planning”, which the company also uses in training courses and seminars delivered around the world):

1. Teams: Crisis Management Centre & Incident Management Centre
2. Humanitarian Assistance
3. Crisis Communications
4. Public Inquiry, Notification & Travel Centre
5. Investigations
6. Insurance, Finance & Risk Management
7. Data Management
8. Government & Community Affairs
9. Fatality Operations
10. Business Continuity
11. Personal Effects Operations
12. Leadership

The largest emergency response-planning organisation specialising in worldwide aviation is Kenyon International Emergency Services.

Kenyon's name has become synonymous with helping airlines cope in the aftermath of incidents, especially where there are many fatalities – ever since it first handled the crash of a Junkers monoplane in England in 1929.

#### Three major operations simultaneously

The company is based in Houston but also has a major set-up in the UK (these are its two main emergency operations centres), plus offices and facilities in Sydney, Hong Kong and Beirut.

It has been known to handle three major operations simultaneously; such is its network of resources on standby, and level of preparedness with its airline clients. According to Jerry Novosad, VP operations, these were a crash in Haiti, one in Libya, and then India.

Each one is complex in its own right, said Novosad. “It's very complex because of multiple nationalities on board and multiple nations want to bring resources to assist. It becomes a very daunting task for an airline to cope.”

Of course, handling the aftermath can be distressing, so having personnel who have seen previous incidents means that they are prepared for the scenes of carnage that can greet those arriving at the scene.

After the main rescue effort to ensure any survivors are cared for, which is usually handled by local resources, the airline's response team would be looking to preserve personal belongings before they deteriorate due to water or jet fuel contamination (including electronic devices). There is an increased focus on keeping families informed and doing the best possible to help them.

As Novosad pointed out: “It is important for families to take that one something back and it doesn't really matter what that item is – as it could be the last thing they have.

“The most important thing from day one is to

keep families informed. It's important to inform them early if there won't be any human remains, and to help them know how to have a memorial service in that situation.”

Such experiences continuously feed back into the planning process. Tom Garner, commercial service manager for the Eastern region, stresses the need to do pre-incident development. Kenyon has used web resources to help, with a comprehensive aviation emergency response training website. This includes material along the lines of those used in its classes with its airline and other clients – in line with its ‘12 Principles of Aviation Crisis Response’.

#### Training seminars

Kenyon is very active and often its staff, including owner Robert Jensen, deliver training seminars, such as the ‘12 Principles Workshop’ run in Jordan in December.

There is no legislation in the Middle East requiring airlines and airports to have emergency response plans in place. In Europe, however, an EU regulation has been enacted recently (it came into force in October 2010) which requires airlines to have a compliant plan in place, and introduces requirements in areas such as family assistance.

The Regulation (EU 996/2010) for the investigation and prevention of air accidents replaces the existing Directive 94/56/EC, adopted in 1994, which established the fundamental principles governing the investigation of civil aviation accidents and incidents.

It is hard to understate the importance of the new EU regulation, which will have wide-reaching implications – including in controversial areas such as the criminalisation of air accidents. These aspects are not the focus of this article but it should be said that European airlines have been observed to be slow in picking up on their new responsibilities.

It is important, too, for Middle East and other carriers in that it could ultimately set a new standard of preparation, investigation and care for those affected by accidents worldwide.

To meet this requirement for preparation, the European Regions Airline Association (ERA) is proposing airlines use the Emergency Response Preparedness Standards (ERPS) it developed in conjunction with Kenyon International.

It remains to be seen whether the European Parliament approves this, and whether it becomes a new benchmark for airline preparedness. In the meantime, ERPS may garner the support of the other airline associations and take on a life of its own. So the message to airlines in the Middle East and North Africa and elsewhere is that accidents can happen, and although they are increasingly rare they are, for that very reason, increasingly potentially devastating to the affected carrier, increasingly controversial, and increasingly likely to attract an intensive media spotlight – not to mention years of costly litigation.

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# Seven simple steps to crisis management

**Kyle Davis** from *US aerospace marketing specialist BDN* looks at how companies, both large and small, should prepare for that major crisis that WILL happen.

**W**hile your crisis may not involve the loss of lives, it still may make headlines that damage your reputation, disrupt your business and potentially cost you money.

Poorly-handled crisis communications, even when your company or products are fault-free, can result in what some call the “stink of failure” that ultimately settles on your reputation.

Careful, reasoned crisis communications planning is as important as marketing plans, operational budgets or any other element of competent business management.

What constitutes a crisis? Any actions or event that has the potential of disrupting your business or casting doubt on your company’s ability to competently provide its products or services. Examples include: delays in scheduled delivery, an industrial accident, labour unrest, major lay-

offs – particularly if nationals are involved – or an accident or grounding of an aircraft

While it is impossible to plan for every emergency, it is critical to have a basic crisis communication plan in place before it is needed. An accident involving injury or death will create breaking news that demands immediate reaction from the company. In most cases, this type of news will be off the front page in one or two days.

In contrast, an investigation into wrongdoing or lawsuit against the company will linger in the news as the investigation or trial continues (just look at the Kuwait Airlines versus Iraqi Airways).

Regardless of the type of crisis, the basic steps for successful communication during the event are similar and benefit greatly from a well-reasoned crisis communication plan.

**1 WHERE TO START**  
In addition to events beyond your control (weather, terrorist activities, etc), assemble a list of events that could create a crisis situation for your company. Gain an understanding of how your products or services are used, who uses them, and what might happen if a product you make or service fails, causing an accident, injury or death. Also, learn about the manufacturing process your company employs, including potentially hazardous chemicals and machinery. At the first sign of trouble, immediately assemble all known information and develop answers to anticipated questions and the messages you want to convey.

**2 TIME MATTERS**  
Have a plan to short-cut the internal approval process in order to distribute information as quickly as possible and as often as new information is available, which includes not just the press, but also through social media and on your company web site. There is no benefit in delaying. By releasing information first, accurately, and often, you have more control over what is published or broadcast and you have credibility. The competition between media to be first to publish or broadcast is

fierce, particularly in high-visibility events typical to aviation. And that competition extends to services like Twitter, where even the non-media denizens rush to publish, research or no, truth or fiction. You have to act quickly.

**3 MAKE SURE THEY GET ACCURATE INFORMATION – FROM YOU**  
Not all of the information distributed by unauthorised sources will be accurate because very few of those choosing to call their friend at the local paper, or those who post a comment on a blog or a video on YouTube, have access to complete story.

That’s why the first hour is so critical. One widely read blogger wrote: “Our philosophy is that it is better to get 70 per cent of a story up fast and get the basic facts right than to wait another hour or a day to get the remaining 30 per cent... More often than not, putting up partial information is what leads us to the truth.”

**4 “NO COMMENT” MEANS “I’M GUILTY”**  
It’s never a good idea to respond with “No comment” to any question. That’s the implied equivalent of saying “I’m guilty.” The preferred alternative is: “I cannot comment on that right now because my information is incomplete.

However, I will give that information to you when I have it.” Then you must follow up with the answer, or contact the person, and provide a status report on the accumulation of the information.

**5 IS “OFF THE RECORD”**  
Fully expect to see everything you say in print or broadcast over the airwaves.

**6 BE CLEAR**  
Avoid industry or technology jargon. One communications manager described a helicopter that crashed as being a “chase” aircraft. A newspaper reported the helicopter had been “playing chase” prior to the accident. (Chase is a term commonly used in aerospace for an aircraft that is following another aircraft so its occupants can monitor the performance of the other.)

**7 BE HUMAN**  
Always show sincere concern for those affected by the event, especially if there is an injury or death. Develop a rapport with the news media that reports on your company or industry. Legitimate media are committed to reporting factual information but will do everything it takes to be out first with the full story with or without your input.

*In today's modern global communications world, companies can no longer afford to respond slowly to major international incidents.*

**Geoff Thomas**  
*reports.*



# When lack of information fans the flames of a drama

**W**hen a Qantas Airways Airbus A380 airliner experienced a partial power loss in one of its Rolls-Royce Trent 900 engines during a flight on February 15 this year, the world's media was swift to report this relatively minor issue.

A second, similar incident happened the following week and the amount of coverage again increased, damaging the British company's share price and causing additional anxiety to the travelling public.

As a general rule, in-flight engine anomalies and even shut-downs do not merit air time or column inches, other than in the specialist press. But last year's grounding of the A380, following the much-publicised uncontained in-flight explosion of one of its R-R Trent 900s, was a game-changing incident, meaning that the slightest problem with airframe or engines on the 'super-jumbo' merited cries of 'hold the front page'.

This was the case even though the February 'incidents' only concerned one of each aircraft's four engines being reduced to 'flight idle' following indications of excessive oil usage within the high pressure/intermediate pressure (HP/IP) structure.

So why was this level of media interest maintained over such a long period? Partly because the A380 is the world's largest airliner and entered service relatively recently; partly because the public has become ultra-sensitive to bad news and any hint of corporate culpability; and partly because the news media – and also the internet-driven social media – is nowadays so incredibly efficient at transmitting information around the globe in the blink of an eye.

But there may also be a fourth cause – and that's a lack of information, especially from Rolls-Royce, about the incident

and the engine manufacturer's on-going investigations.

When Qantas Airbus A380 (named Spirit of Australia and registered VH-OQA) took off from Singapore en route to Sydney, Australia on November 4 2010, little did anyone, least of all those working in the corporate communications and public relations departments of Qantas, Airbus and Rolls-Royce, think that they were shortly to become embroiled in one of the most far-reaching aviation stories of the year.

While climbing out over the Indonesian island of Batam, a mere 20kms from Singapore, the super-jumbo's number 2 engine (nearest the fuselage on the port wing) experienced a major failure and subsequent explosion that resulted in large pieces of the rear portion of the engine and its associated cowling, or nacelle, falling into farmland.

Fortunately, the flight deck crew quickly decided that they had a major problem and returned to Singapore, where the airliner made a safe emergency landing with, they initially thought, nothing more serious than an engine failure and a burst tyre.

That's until Qantas and airport emergency crews discovered that there was considerable damage to the airliner's port wing from what amounted to shrapnel being projected upwards when the rear end of the R-R Trent 900 detonated.

There was considerable collateral damage, both to the internal structure and ancillary hydraulics, proving just what a robust wing Airbus designed for its super-jumbo. The aircraft had been carrying 433 passengers and 26 flight deck and cabin crew and thankfully – providentially even – there were no injuries.

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Following the incident, Qantas CEO Alan Joyce announced that all the airline's A380 flights were suspended "until we are completely confident that all Qantas safety standards are met". At the time, of course, nobody realised the enormity of the situation. And they certainly didn't know that the grounding would last for many weeks rather than a few days or that, at the time of writing, the airframe involved wasn't scheduled to re-enter service until well into 2011 after extensive repairs.

All major commercial companies around the globe should have 'crisis management' plans in their operation manuals.

In the summer of 2000, when an Air France-operated Concorde supersonic airliner crashed shortly after taking off from Paris Charles de Gaulle Airport, killing all the passengers and crew in a fiery disaster that was captured on amateur video cameras, the world's aviation consumers absorbed the story in minute detail thanks to journalists reporting the incident and then subsequently updating the reports with the latest information.

The corporate communications departments of Air France, Rolls-Royce and EADS, which had titular responsibility for the joint British/French airframe, swung into action.

The cause was proved to be a tyre failure probably following damage caused by a piece of metal on the runway. A totally freak accident.

But the Qantas/Airbus/Rolls-Royce incident late last year was different. This is at least partly because the British company chose not to communicate in the same way as it had a decade earlier, incidentally implementing a communications strategy that won it many plaudits – and awards – internationally.

Howard Wheeldon is the London-based senior strategist at US company BGC Partners, a leading global intermediary to the wholesale financial markets. He published his first commentary on the super-jumbo incident on the morning that it happened.

He said: "Ahead of an investigation that will include specialist engineers from Rolls-Royce and is likely to take many days, we should take care not to let speculation of what might have caused the incident suggest the possibility of a serious design problem in the engine. "Clearly, while there is some justification for concern, particularly for the engine maker, we do not believe that the event will cause damage to prospects for further A380 sales. However, we suspect that, given the fact that Rolls-Royce has recently suffered a separate well publicised incident on a test Boeing 787 engine (the Trent 1000 version), it is likely that sentiment will remain subdued on the shares until investors have

sight of an initial report on the incident cause."

A month after November's Singapore incident, Wheeldon was quoting the Australian Air Transport Safety Board (ATSB) that 'a misaligned oil pipe counter-boring that could lead to fatigue cracking, oil leakage and potential engine failure from an oil fire' was the most likely reason for the Trent 900 failure.

Wheeldon continued: "This statement from ATSB is, in my view, deserving of a full response from Rolls-Royce to its shareholders to put their minds at ease. Will that happen? One seriously doubts that it will.

"Nevertheless, speaking in New York yesterday, the well-respected chief financial officer of Rolls-Royce was reported as saying that the process to fix the Trent 900 involves replacing 'a small component inside the engine that is not costly [but] will take a year to have all the



## Rolls-Royce took a hit of £56m due to safety issues with the Trent 900 engine

necessary components in place'.

"We assume that this latter remark refers to existing, as opposed to the replacement, new part. Such reported comments although very welcome are, I am afraid, hardly that reassuring to investors, particularly when they hear on virtually the same day that the largest of the three customer airlines involved has also turned up the heat a little further over the past 24 hours by formally readying itself with the Australian court system. This just in case there should there be no agreement with Rolls-Royce over cost and compensation for the huge damage caused."

A week later, in mid-November, Wheeldon was praising Rolls-Royce for publishing some details of the incident – but remember this was six weeks after the initial forced landing in Singapore and many commentators and journalists suspected that the engine OEM knew far more than it was admitting to.

Said Wheeldon: "While Rolls-Royce chose not to name the specific component responsible for the Qantas A380 Trent 900 engine oil fire that, in turn, led to release of intermediate pressure turbine disc causing significant damage to the plane, there is sufficient information provided by the company today to calm the jittery market and also the nerves of airlines flying Trent 900 powered aircraft.

"In my view, the Trent 900 update statement

that accompanied a trading update provided sufficient detail of a plan for the on-going process of rectification across the Trent 900 customer base. In the meantime, further inspection of in-service aircraft that use the Trent 900 engine (comprising around 21 aircraft) will continue."

By the first half of January this year, Wheeldon was welcoming the news that Rolls-Royce had won a massive order from British Airways to power the 12 Airbus A380s and no less than 24 Boeing 787 aircraft that had been on order for more than two years. He said: "This should in reality have surprised only a very few. For a start Rolls-Royce has long been the traditional engine supplier of choice for newly acquired British Airways aircraft for which there was a choice of power plant."

He continued: "Given the recent problem that occurred with a Qantas A380 Trent 900 powered aircraft...there is certainly reason enough for any airline to question whether there might just be a deeper and maybe longer-term problem with the engine.

"However, in our view by now most, if not all, Trent 900 and 1000 users and buyers will have been fully reassured that from a design and rectification point of view the specific problem that caused the Qantas incident has now been sufficiently resolved.

"While Rolls-Royce still has a little explaining to do it must get on with the job of building Trent plus

the many other engines that the company has on order and also learn from the bad experience it suffered late last year. That specific learning curve should in future include how the company may better handle and serve freight airline customers and very worried shareholders."

In the event, Rolls-Royce took a hit of £56m due to safety issues with the Trent 900 engine.

The fall-out also impacted the group's annual net profit, which slumped 73 per cent, to £480m. Rolls-Royce was largely hit in 2010 by exceptional accounting charges, it added in an earnings statement.

Rolls-Royce said the 2010 profit figure compared with income after tax of £1.799bn in 2009 and added that the Trent 900 problem may result in "a modest level of additional costs" for the company in 2011.

In its earnings statement, R-R added: "Each time a serious incident happens, Rolls-Royce and the aviation industry learn lessons. These are embedded in the rigorous certification requirements, safety procedures and standards of regulation which make flying an extraordinarily safe form of transport."

It could also have said that it would try to do better, in communication terms, in the future but then it may feel that it did all that it could this time, although this is not a view shared by many in the industry.

## Boeing's Johnson for the Middle East

Jeffrey Johnson has been named as president of Boeing Middle East.

Johnson succeeds Paul Kinscherff, who has been appointed chief financial officer for international finance.

Johnson will be based in Dubai and be responsible for Boeing's growth and productivity plans across the Middle East region, working closely with Boeing Saudi Arabia president Ahmed Jazzar. He will also lead company-wide activities that include government affairs and the development and implementation of the Boeing Middle East strategy focused on new business and industrial partnership opportunities, corporate citizenship projects, expanding the Boeing presence and strengthening company relationships with customers and other stakeholders.

## New Horizons for Al Dhaheri

Abu Dhabi-based Horizon International Flight Academy has appointed a new chief executive officer – retired brigadier Hareb Thani Al Dhaheri.

With close to 30 years' experience in aviation, Al Dhaheri began his career as a helicopter pilot in UAE Armed Forces and went on to hold a number of senior positions in the military. Prior to joining Horizon, he spent four years in the United Kingdom managing UAE nationals in various higher education programmes.

He takes over the leadership role from the outgoing interim general manager Mansour Al Faheem, who resumes his responsibilities at the Mubadala group. Al Faheem will continue to provide strategic guidance to Horizon as a member of the Academy's board.

## UAE NATIONALS STAFF ALL-WOMEN CALL CENTRE



**Ethihad Airways has made what was described as a "milestone" move when it opened its new contact centre in Al Ain city, which is exclusively managed and operated by female UAE nationals.**

**The centre was opened by Etihad board member and chairman of the executive committee Mubarak Hamad Al Muhairi, and is staffed by more than 80 Emirati ladies trained by industry specialists as contact centre agents and contact centre team leaders, under the leadership of Contact Centre Manager, Samia Barj.**

**Al Muhairi said the opening was another milestone for the UAE and reflected the country's vision for a highly skilled workforce comprised of an increasing number of UAE nationals.**

**"Meeting the ambitions of our society will require the increasing participation of highly qualified UAE nationals – both female and male. Our job is to ensure that Emiratis are offered the right training and the right work environment to excel in their field, in turn making a strong impact on the workforce and their country's economic development," he said.**

## EAG's director of ground operations

Dubai-based Empire Aviation Group (EAG) has appointed Captain Brian Martin as director of ground operations.

Captain Martin is an aviation professional who brings almost 40 years' experience (and 15 years in the Middle East) to the company, which is embarking on a new wave of development four years after its formation in Dubai.

## Jet Aviation make senior changes

Claudio Peer, the former chief operating officer of Swiss Air's private aviation subsidiary, has joined Jet Aviation as senior director of sales for aircraft management in EMEA and Asia. Peer will be leading

the aircraft management and flight support sales teams and is responsible for growing the company's aircraft management and charter fleets throughout the Middle East and Africa.

The company has also named Stefan Benz as the new vice president MRO sales for the EMEA & Asia group.

Benz will lead all regional MRO sales directors and the sales support team.

## Emiratis take key Dubai Airport roles

As part of its strategy to develop leadership among UAE national employees in the organisation, Dubai Airports has announced the appointment of two Emiratis to executive positions within human resources & development department.

Meshari Al Bannai, who

joined the company as head of organisational design in 2010, has been appointed vice president of human resources.

And Samya Ketait, who has worked through the ranks since joining Dubai Airports in 2000 as an IT trainer, is now the vice president of learning and development.

## Knight takes Etihad strategy post

Ethihad Airways has announced the appointment of Kevin Knight as the airline's chief strategy and planning officer.

Based in Etihad's head office in Abu Dhabi, Knight will be responsible for a range of key business areas, including pricing, capacity and revenue management, route and network planning and aircraft acquisitions. He

will also lead Etihad Crystal Cargo.

Meanwhile the airline also appointed Geert Boven as senior vice president Americas.


He will be based in New York and responsible for all Etihad's current operations in the US, Canada and South America.

Boven has held senior management and board positions with KLM Royal Dutch Airlines, Martinair and Oad Group.

## DHL network ops role for Bresnahan

DHL has appointed Chris Bresnahan as head of network operations for its Middle East and Africa, Asia Pacific and Eastern Europe, region.

Bresnahan, will be based in Singapore.

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## STEVE JONES

*Marcelle Nethersole speaks to the new general manager of Al Bateen Business Aviation Airport.*

1 2 3 4 5

■ Al Bateen is the first and only dedicated executive airport in the Gulf region. It has been operating for two years. How successful is it?

It's an important airport as it's located within the city of Abu Dhabi.

We have five resident operators here who operate very successful businesses. The airport movements are growing rapidly with 20 per cent year-on-year and we see that acceleration going forward in to the future.

■ What sort of clients do you receive?

Anyone from corporate companies, wealthy individuals, royalty, and celebrities.

It was the Abu Dhabi Grand Prix last October and we were really busy. We had expected around 30 jets to come in for the weekend but it exceeded that. It brought high-profile personalities through the airport and we looked after their aircraft all weekend.

You see the motor-racing teams, the organisers, and it comes hand-in-glove with the new track at Yas Island – which is a superb circuit – and now there is a fantastic dedicated business airport. The two are really supportive in that sense.

■ What special features does Al Bateen offer?

Special features include a long runway and a new upgraded instrument landing system (ILS).

The automated system allows pilots to fly into the airport using instruments in very low visibility, therefore increasing safety. The aircraft is in communication with a landing system bringing it in safely.

We expect the system we have here to increase our capacity as we handle more aircraft. We also think it will reduce pilot workload and that's important as pilots who get in and out of an aircraft nice and easily always want to come back.

The lounge is also visually stunning with beautiful marble floors and sparkling chandeliers. Business aviation clients need to be properly treated.

■ Do you have future development plans?

First of all we need to get Al Bateen on the map. Then we need to make sure our facilities here allow us to grow properly.

We need good hangars, offices, passenger handling facilities, and more than anything we need fantastic service. And once that is put together we will grow rapidly which will, in turn, make it more self-sustaining as we expect new businesses demanding new premises and offices.

The important thing is people are discovering Al Bateen. Historically it was a military base but they are moving to a new facility giving us the opportunity to create something new and special in the region.

■ You have only been at the helm for six weeks after coming from Oxford Airport in England. How's it going for you?

I've settled in well. The challenges I face at Al Bateen are similar to when I was at Oxford really. Al Bateen is at a different stage, but it's a similar model. It's certainly very interesting work for me and very exciting. The weather here is certainly better at the moment too!



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