

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

www.arabianaerospace.aero



FLIGHT TEST SPECIAL REPORT
PAGE 46

The story behind the F-15 SE and Saudi
PAGE 19

Majali on leaving Royal Jordanian



Kuwait – getting back to business PAGE 52

FOCUS



BOEING MD-87ER VIP FOR SALE A GREAT WAY TO FLY

Are you considering a used Gulfstream-IV? Are you thinking of a "Fraction" of a BBJ?



As owner, **SG AIR LEASING LIMITED**, proudly offers for sale this spectacular MD-87ER, S/N 53041 and Registration Number N871SG. See below for some of the outstanding features:



- Stage IV Noise Compliance / Quiet Eagle Kit TAWS - 3D
- Additional 1560 Gallons Aux Fuel
- **Universal Four Tube EFIS**
- **EFB**
- WAAS



Fly further in comfort, be productive en route and reach business destinations relaxed and refreshed.

Customize your own interior now!!!

Brand New VVIP Interior to be completed for delivery by the End of 2009.

BOEING MD-87ER VIP FOR SALE FEEL AT HOME WHILE ON AIR



- Airframe and engines fresh from major checks
- Low utilization maintenance program

- Maximum Take-off Weight: 140,000 lb Total Fuel Quantity: 7,400 gal / 49,573 lbs Range: Trans-Atlantic 3,500 nm (4,000 nm available as an option)





INTERIORS

Multiple configurations available. 18 to 35 passengers at buyer's choice including customized exterior livery on base white.

SG AIR LEASING LIMITED

Contact: Balan balan@sgaero.com +6012-6295274

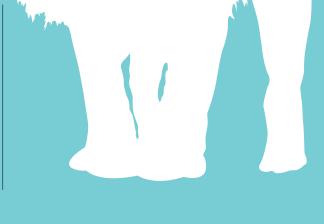
www.MD87VIP.com

Contact: Balan balan@sgaero.com +6012-6295274

LEADERSHIP

As leaders in global handling and flight support, no-one has more experience and agents in every place than we do. We offer every aspect of service, from credit handling, refuelling and permits to itinerary planning and weather reports. All of which makes flying in and out of some of the world's most remote airports hassle-free.

Palm Aviation: real leadership in Global Flight Support.



Published by



TIMES Aerospace Limited Thamesgate Business Centre Thamesgate House 37 Victoria Avenue, Southend on Sea Essex SS26DF UK Tel:+44 (0) 1702 32 2000 Fax:+44(0)1702322001 Website: www.arabianaerospace.aero

Directors:

Mark Brown & Kevin Sammon

Mark Brown

(mark.brown@arabianaerospace.aero)

Display Advertising:

Nick Hutchins

(nick.hutchins@arabianaerospace.aero)

Production Coordinator:

(claire.hutchings@arabianaerospace.aero)

Claire Hutchings **Circulation Dent:**

subscriptions@arabianaerospace.aero

FDITORIAI

Editor: Alan Peaford

Defence: Jon Lake

(alan.peaford@arabianaerospace.aero)

Air Transport: Alan Dron Business Aviation: Phil Nasskau Helicopters: Paul Derby

General Aviation: Liz Moscrop Space: Steve Nichols

Aircraft Interiors: Marcelle Nethersole

Technology: Brendan Gallagher MRO & Propulsion: Martin Johnson

Business: lan Sheppard Picture Editor: lan Billinghurst

Designer: Chris Murray Production Editor: Rick Haden

Sub-Editors: Steve Knight, Mark Bursa Contributors: Mohammed Ali Alia, Kelly Clark,

Terry Spruce, Ian Goold, Geoff Thomas

Editorial head office:

Aerocomm Ltd The Gatehouse, 104 Lodge Lane Grays, Essex, RM162UL UK. Tel: +44 (0)1375 427014

Fax + 44 (0)1375 404478

The views expressed in ARABIAN AEROSPACE magazine are The views expressed in ARABIAN AEHOSPACE magazine are not necessarily shared by, nor should they be taken as the views of TIMES Aerospace Limited (the publishers) or Aerocomm Ltd. Any views expressed are those of the individual contributors. No responsibility or liability is accepted by the editor or the publishers for any loss occasioned to any person, legal or physical, acting or refraining from action as a result of any statement, fact, figure, expression of opinion or belief contained in Arabian Aerospace.

The publication of advertisements does not in any way imply

endorsement by the editor or the publishers of the products or services referred to therein. The entire contents of this publication are protected by copyright, full details of which are available on request. All rights reserved. Tull details of wind na'e avaliable on request. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission from TiMES Aerospace Limited. Printed in the UAE by Emirates Printing Press.

comment

ne of the real advantages of this job is that I get to meet the movers and shakers of the Arab world who are leading many of the aerospace companies around the region.

There is one message that becomes almost a common theme: "Let us forget our national differences and work together to improve efficiency, and more importantly safety, across the region."

The Arab Air Carriers Organisation meets in Jeddah in October for its AGM and it is no surprise that safety is its number one priority, followed closely by cooperation.

In this issue of *Arabian Aerospace* we look at both safety and the burgeoning business aviation market. The AACO equivalent in the business aviation sector is MEBAA and Ali Al Naqbi, the charming and committed founding chairman of the Association, shares the concerns about safety and operational standards from initial training through to career development.

He believes the business aviation community has to come together in the same way that AACO did to resolve the key issues. There are four key areas:

■ Pilot training, skills monitoring and updating is a greater challenge in the MEBAA region due to the migrant nature of pilots and a greater variety in their backgrounds and experience. In the absence of any indepth regulation in this regard, there is a need to develop best business practices for pilot's entry-level qualification and experience, duty time limits, supplementary duties assignable to pilots etc.



- Latest concepts in pilot training like MPL need to be studied in depth to adapt for business aviation in the region, especially with regard to imparting basic airmanship qualities and situational awareness under unfamiliar locations and weather conditions. Business aviation, unlike commercial airlines, cannot provide such experience at short notice. Also ATC needs a greater understanding and training to recognise the differences between business and commercial aviation workloads.
- There is a need to develop a career path for pilots with business aviation as the starting point. From there they could have an opportunity to migrate to airlines. Hence, there could be a mechanism to share the cost of ab-initio training/experience imparted to pilots in business aviation with the airlines who are the beneficiaries in the end. Business associations like MEBAA can undertake such project studies for the region.
- Finally, there needs to be greater regulation with respect to the grey market of charter operators/brokers and individual pilot owners. A mandatory safety audit system on the lines of IATA operational safety audit (IOSA) is essential.

If business aviation is to continue to build on its success so far, then it is up to the industry to come together and address these issues alongside the national civil aviation authorities and ATC units before it is too late.

ALAN PEAFORD, EDITOR-IN-CHIEF

Advertisers

Abu Dhabi Airports Company	OBC
ADAC – Al Ain Aerospace Cluster	67
ADTS 2010 (F&E Aerospace)	96
AIME 2010 (F&E Aerospace)	44
Air Traffic Control Optimisation Summit	86
Airbus Corporate Jets	51
Aircraft Support Industries	76
Alsalam Aircraft Company	83
ARABASCO	39
Avisa Gulf	71
Bahrain International Airshow 2010	95
Clyde & Co	6
Dubai Airshow (F&E Aerospace)	93
Dubai International Air Chiefs Conference	13
Elite Jets	34
Fliteport	77
Gates & Partners	73
Kaman Aerospace	14
L3 Communications	99
Palm Aviation	4
Pratt & Whitney	23
Sabre Airline Solutions	29
SG Air Leasing Limited	IFC, 3
Shannon Airport	74
Spatial Composite Solutions	9
Tyrolean Jet Services	46
Wallan Aviation	37

ARABIAN AEROSPACE magazi

ARABIAN AEROSPACE magazine





ISSN 1759-7447



To guarantee you receive every issue of ARABIAN AEROSPACE magazine, visit our daily news site at

www.arabianaerospace.aero

and complete your FREE SUBSCRIPTION form.

Next issue: Dubai Airshow Special Issue 3 (November 2009-January 2010)

Clyde&Co and Dailaid

Global Aviation Law Firm of the Year (2009)¹ for the fourth consecutive year



Clyde & Co LLP is one of the major international law firms in the GCC, with a long regional history and over 150 specialist lawyers and paralegals working as a single unit across **Dubai, Abu Dhabi, Doha** and **Riyadh.**

Internationally, Clyde & Co has over 1300 staff helping clients in over 120 countries break through the trade barrier.

'[Clyde & Co] has 'unparalleled expertise' and 'practical knowledge' in the region. It houses some of the most influential lawyers in the Middle East.' - *Legal 500* EMEA (2009)

'One of the largest Gulf presences of any international law firm.' - Chambers Global - Middle East (2009)



Middle East offices **Key Aviation contact: Jim Edmunds**james.edmunds@clydeco.ae **www.clydeco.com/dxb**





ISSUE 2 | AUGUST - OCTOBER 2009

U8

business brief

DEFENCE

12 Hawkeye

Don't write off the Hawk as a serious contender for Mid East training missions.

15 Tanker update

Airbus switch could speed-up Arab tanker deliveries.

16 Helicopters

Algeria and Egypt create new opportunities for rotor craft manufacturers.

18 Russian rejects

To Russia with love? — not when it comes to Algeria's MiG returns.

19 Silent Progress

Saudi gives Boeing hope for its Silent Eagle programme.

■ AIR TRANSPORT

22 Mr Jordanian on the move

Samer Majali quits Royal Jordanian after 30 years and looks for new challenges with Gulf Air. He tells us why.

24 Green flight

Middle Eastern carriers are playing their part in the reduction of emissions. We find out who is doing what.

26 Dubai's low-cost evolution

Just what Dubai needs – another airline! But this start-up has big ideas.

28 Freedom freighters

Privatisation has brought new focus to Saudi Arabian's cargo business.

30 Mercy Missions

Abu Dhabi operator delivers care by air.

ROUTE PLANNING

32 Gateways to Oman

Investment in infrastructure offers new options for inbound tourism to the Garden of the Gulf.

FOCUS ON KUWAIT

52 Bridging the Gulf

Kuwait is putting its recent troubled past behind as it builds on elections to create a new approach to business.

54 Kuwait Airways on the up

What doesn't kill us makes us stronger! Kuwait Airways fight the battle to survive and then grow.

56 The new airline

Wataniya Airways is the new kid on the block but is very much the talk of the town.

57 The military

A look at the Kuwait air force and its support for the country.

16-PAGE SPECIAL

BUSINESS AVIATION FOCUS

While Middle East operators dominated the EBACE news so there was plenty happening at home and abroad to keep the region's business booming





58 The airport

A \$3.5 billion masterplan carves out a major role for Kuwait International.

60 The low-cost carrier

Jazeera is Kuwait's contender in the low-cost revolution – and faces challenges.

■AIRCRAFT INTERIORS

61 Taste of Italy

The most stylish of the galley supply chain demonstrate why they should be everyone's cup of tea...or coffee.

63 In-flight entertainment

Gulf carriers are leading the world in seatback entertainment and technology.

SPACE

66 UAE's first satellite

Its all systems go for the first launch of a UAE satellite.

SAFETY

8 Fatal mistakes

Is business aviation as safe as it should be? We look at a potential horror story that demands urgent attention.

70 Regulations

We may moan about them – but regulations are what keeps us safe – we find out why.

FLIGHT SUPPORT

75 Easing entry

Helping aircraft cross borders is just one role of the flight support specialists. The Middle East is home to many of the best.

TECHNOLOGY

78 Desert Pearl

A project in Qatar could revolutionise the future for aviation fuels.

81 Landing safely

Honeywell's latest safety device gets an outing in the cockpit of Emirates airlines.

82 Environment

GE adopts a new approach to noise.

TRAINING

84 Cabin challenge

Helping cabin crews get a taste of the real thing without taking to the air.

85 Egypt enterprise

Egypt Air looks to the future with investment in training and technology.

AIRPORTS

87 World Central update

Paul Griffiths, head of Dubai Airports, says don't write us off! We mean business!

88 Sharjah's history

Sharjah Airport has played a major part in the region — and there is more to come.

89 IT growth

What goes on behind the computer terminals at the terminals...

EVENTS

90 Paris airshow review

We join the 100-year celebrations.

92 The Halls are alive...

New sponsorship deal takes Dubai 09 to record heights.

94 Let the talking begin...

AACO's annual general meeting promises some table-thumping moments.

PEOPLE

97 Appointments

Who's going where in the region's top jobs.

98 All in a day

Faisal Mohamed Al Zaidi on his role in the new Abu Dhabi aerospace cluster.

business brief

daily news updates on www.arabianaerospace.aero

Qatar enters the business fray

A new business jet charter operator has entered the Middle East market – and this one has immense financial and political clout behind it – as well as thousands of premium customers already on its database.

The new player is Qatar Executive, a corporate jet subsidiary of Qatar Airways.

Initially deploying two Bombardier Challenger 605s and one Challenger 300, the airline's new division will be chartering the aircraft on routes out across the Middle East, Asia and Europe for its most premium customers.

"In the not-too-distant future we will add some more aircraft and grow this business," chief executive Akbar al Baker says. "We have seen there is demand in the Middle East. Since 2002 there is 20% growth in executive travel and we see this will continue to grow over the next three/four years. So we are positioning ourselves for this growth. There is a clear opportunity for Qatar Airways to capitalise on this trend.

Al Baker told a press conference at the Paris Air Show launch of the new service, that he is undeterred by the current economic crisis.

"Despite the current global economic climate, there remains a strong need for the corporate to conduct face-to-face business meetings in the shortest possible time, so travel is still important, as is time management," he says.

Al Baker would not give any clues about how big the new executive jet subsidiary could become. "At the moment we are small, we will want to be not too big, but in the end it



Maritime patrol option taken up by Abu Dhabi

Governments in Africa and the Middle East are being targeted for a new medium range maritime patrol SAR (Search and Rescue) and critical infrastructure surveillance and security platform, based on the new Twin Otter Series 400 aircraft

The Guardian 400 has already found a buyer in the Middle East. Global Aerospace Logistics (GAL) of Abu Dhabi, executed a purchase agreement for ten new Twin Otter Series 400 aircraft, and if all options are exercised could push the value over \$65M USD.

The agreement includes six landplane configured DHC-6 Series 400 and four Guardian 400 Twin Otters, to be used throughout the UAE for government and commercial operations. Also included in the agreement are special order options, such as upgraded PT6A-35 Hot & High performance engines, optional float landing gear installations, interchangeable VIP/high density interiors, tactical avionics and sensor packages, as well as a comprehensive initial provisioning support package of spares, ground support equipment and flight/technical ground crew training.

Candian manufacturer Viking Aircraft said the aircraft is designed for extreme operating environments. The first Abu Dhabi aircraft delivery is scheduled for early 2010, with subsequent aircraft deliveries occurring in 2011 and 2012. The first four aircraft will be delivered with Guardian 400 options, including an electro optical and infrared imaging turret equipped with a low light camera and digital recorder, NVG-compatible flight deck, air conditioning, air operable cargo door, and lavatory.

In addition to the purchase agreement, Viking has assigned GAL the exclusive contract to act as territory representative for the Middle East region and Algeria for the new DHC-6 Series 400 Twin Otter aircraft.

will depend on how successful we are in our business plan," he says.

Yemenia crash's political fall-out

Following Yemenia's fatal crash in the Indian Ocean on June 30, the carrier may withdraw it's \$2billion Airbus order because the French government is prejudging the cause of the accident, the airline's chairman warns.

"We are not receiving cooperation from Airbus

and some of the French people are really against us," chairman Abdulkalek Saleh Al-Kadi, said in a telephone interview from the Yemeni capital. "If they prejudge the result of the accident before the investigation, tell me how do we handle this?"

Yemenia, which is 51% owned by the government and 49% by Saudi Arabian Airlines, placed an order for 10 Airbus A350 planes in 2007. A final decision "will depend on the cooperation between us,

Airbus and the French", Al-Kadi says.

A Yemenia Airbus A310-300 with 153 people on board came down in the ocean just before it was due to land in the Comoros Islands, en route from Sana'a. One girl survived. The plane was built in 1990 and operated by Yemenia since 1999, according to the Toulouse, France-based manufacturer.

The French government said it's focused on the investigation and declined to comment on the Airbus contract.

"We have very good cooperation with Yemen," said a spokeswoman for Transportation Minister Dominique Bussereau. "The investigation is our priority."

Airbus believes any communication about the accident should come from investigators. "Airbus is in contact with Yemenia and these discussions are confidential," says company spokesman Justin Dubon.

French safety inspectors

found faults in 2007
with the aircraft that
crashed and it was
"excluded" from
flying in France,
Bussereau told members of
parliament on the day of
the accident. The carrier
passed European Union
inspections after the 2007
finding and avoided being

Al-Kadi has said the plane was "technically sound" and being flown by an experienced pilot, and that stormy weather was to blame for the crash.

placed on a blacklist. The

Yemenia's safety record.

EU is again reviewing

Saudi's first pair of Typhoons on station

The first two of Saudi Arabia's 72 Eurofighter Typhoons have successfully arrived in Riyadh, less than two weeks after a formal roll-out ceremony was held in the UK.

The first aircraft are among 24 Typhoons that were originally scheduled for delivery to the UK Royal Air Force but were sold to Riyadh under a government-to-government deal.

The Royal Saudi Air
Force will receive a further
48 locally-assembled
Typhoons, which are likely
to be assembled by Alsalam
Aircraft. The Riyadh based
company is already slated
to provide the in-service
support services for the
Saudi Air Force when the
aircraft begin operations.

Etihad/American codeshare deal

Etihad Airways and American Airlines have agreed a new codeshare which, if it receives regulatory approval from the US government, will pave the way for closer commercial cooperation between the two airlines.

The agreement will provide easy access between Abu Dhabi and key cities in the United States including Washington, Los Angeles, San Francisco and Houston which have previously been unavailable to Etihad customers.

Etihad will place its 'EY' code on a number of transatlantic services operated by the US carrier between Europe and the United States, as well as selected domestic services operated by American Airlines beyond New York and Chicago while American will place its own 'AA' code on services operated by Etihad Airways between Abu Dhabi and New York (JFK), Chicago (ORD), Paris (CDG), Dublin, Frankfurt, Manchester and Milan (MXP).

TAI wins F-16 upgrade role

Following its success with Jordan's F16 upgrade programme, Turkish Aerospace Industries (TAI) has won the \$75million contract to modernise 42 Pakistani Lockheed Martin F-16A/Bs at its facilities near Ankara.



Ayla is first with JAA ground school approval

Ayla Aviation academy in Jordan has become the first in the Middle East to receive JAA approval to conduct APTL theoretical knowledge training.

The training is offered in conjunction with its UK partner, Atlantic Flight Training of Coventry, and will be carried out at Ayla's ground school facility at Aqaba on the Red Sea coast.

Ayla currently offers an ICAO Jordanian CPL/IR issued by the Civil Aviation Regulatory Commission (CARC) with a Frozen ATPL, an ICAO CPL/IR with fully-approved JAA ATPL theoretical knowledge with Frozen ATPL, and a joint program with AFT, in which cadets can obtain a fully approved JAA license by completing a majority of their training at Ayla in Aqaba, Jordan and the remainder at AFT in Coventry, UK.

Ayla's CEO, Marwan Atalla says: "Using both schools, Ayla and AFT, we are able to provide cadets with a fully approved JAA license, making them more marketable and competitive in the global market.'

German engine stake in MEPC

Germany's MTU Aero Engines has taken a stake in Saudi Arabia-based Middle East Propulsion Company (MEPC). MTU's chief executive, Egon Behle said "This is a first important step for us towards building a presence in the Middle East.

Part sanctions role in Caspian crash

The Caspian Airlines Tupolev Tu-154 that crashed in north western Iran on its way to Armenia on July 15 killing all 168 people on board has thrown open the debate about maintenance and the availability of certified

spare parts in the region. Sanctions against Iran mean that the country's operators rely on former Soviet aircraft - many from the break up of Aeroflot or pre-revolutionary Boeing or MD aircraft.

The plane was travelling from Tehran to Yerevan in Armenia. It crashed after reporting a technical failure 15 minutes into the flight.

It was the third deadly crash of a Tupolev Tu-154 in Iran since 2002 and the deadliest in the Islamic Republic since 2003, when an Ilyushin Il-76, also Russian built, hit a mountain.

Embraer axed from Algerian fleet

A row has broken out between Algeria's Tassili Airlines and the Brazilian airframer Embraer that has seen Embraer disqualified from the airline's fleet renewal programme.

The Algerian operator revealed on 6 July that it had elected to buy four Boeing 737-800s and three Embraer 190 aircraft as part of its fleet restructuring. The airline is currently a Bombardier operator using Dash 8 Q200 and Q400s.

However, two days later the airline disqualified the Brazilian manufacturer from the programme. Embraer says its Algerian sales team was contacted the following day by Tassili with a request for a "change in specific conditions" of the proposal which Embraer says it "did not agree" to and, as a result, was "disqualified" from the bid.

FLIR selected by two Gulf states

Bahrain and the UAE have selected the Star SAFIRE III for their Black Hawk fleets, according to manufacturer FLIR.



Manufacturers of Training Devices for the Aviation Industry



Saudi Arabian part privatisation

Saudi Arabia's advisory Shura Council has recommended an initial public offering for part of flag carrier Saudi Arabian Airlines, instead of selling off its units piecemeal in a privatisation effort.

The council's transport and telecommunications committee made its recommendation in response to an annual report by the state-controlled firm says Abdul-Aziz Al-Tuwaijri, a Shura member who heads the committee.

"The committee includes experts in the field... It added a proposal by one Shura member, Saud Al-Shammari, who advised that Saudia should remain under the state's control," Tuwaijri says.

"So the committee's recommendation was that the state owns the firm and a stake of its capital is sold to the public instead of selling its units to private firms."

The committee's proposals were approved by the majority of the council's members, Tuwaijri says.

Shura Council members are appointed by the king. Although its decisions are not binding, it has become a forum for debate, encouraged by King Abdullah's calls for reform in the absolute monarchy.

In 2006, Saudia launched a gradual privatization of its catering, cargo, maintenance, ground services and aviation services units to pave the way for a flotation of a stake in its core transport unit.

It has already sold to private investors a 49% stake in its catering unit and 30% of its cargo unit. The council also recommended that Saudia diversify its aircraft fleet to



UAE selects Piaggio Avanti for light multi-utility role

The United Arab Emirates air force has selected the Piaggio P180 Avanti II as part of a fleet expansion programme, which includes two of the business aircraft for use as light multi-utility aircraft.

The Italian turboprop has been chosen following an extensive evaluation process that took into consideration characteristics and performance of several aircraft in the same class, as well as reliability, cost-effectiveness and operational flexibility.

Piaggio Aero – part-owned by Abu Dhabi-based Mubadala (see page 42) – will also supply a complete integrated logistics support package, including training for pilots and technicians.

Piaggio chief executive Alberto Galassi says: "The selection of the P180 by the UAE represents a huge success for the Italian high-tech industry and confirms the value of the Avanti II as an advanced multi-utility aircraft. Our company has taken the decision to invest in the development of special multipurpose configurations, and this decision provides a positive outcome for our investment."

The Avanti will support a diverse mission requirement in the Gulf, including fast transport of specialised staff, a primary necessity for tactical and technical co-ordination; and medical evacuation and fast sanitary transport of patients, with the possibility of checking on the patient's condition during the transfer as well as giving efficient first aid assistance.

To meet this requirement, the two Avanti IIs will be equipped with an ambulance kit that, through a quick reconfiguration, allows the aircraft to become an efficient air ambulance unit. The aircraft provides outstanding accessibility for patient loading, and its spacious cabin offers a work-friendly environment for medical staff.

The Avanti II has a range of more than 2,400km (1,300nm), a maximum speed of 402kt (745km/h) and a maximum operating ceiling of 41,000ft (12,500m). These performances can be compared with those of a turbojet aircraft, though the Avanti II's operating costs are at least 33% lower. It also has a large stand-up cabin that, together with its flexibility of use and multiplicity of installed equipment, satisfies the variety of the UAE air force's needs.

better serve domestic destinations, where the firm competes with private low-cost carriers.

"The committee noticed that the company's reports point to the high cost of operating long-haul aircrafts to serve domestic destinations. It suggested the purchase of short- and medium-haul aircraft so that reflects on the ticket price," says Tuwaijri.

Last year the carrier signed a firm order for eight Airbus A330s aircraft and 12 Boeing 787s after it ordered 22 Airbus A320s in 2007.

Yemeni paras learn the green way

Yemeni paratroopers are pioneering a cost-saving and environmentally sensitive training aid while learning their core parachuting skills.

Paris-based Aerophile is

marketing its Aero30NG helium-filled tethered balloon platform to paratrooper-equipped militaries in the region, following its success in the Yemen.

The system has been in operation with the Yemeni army since May. It comprises a 6,000m3 circular envelope connected to a fixed tether. A gondola connected to the envelope lifts 20 parachutists to heights of 985ft (300m) for static line jumps and is pulled back to the ground by a hydrostatic winch. Aerophile is also researching a mobile platform that holds the winch. The system can be operated in gusts of up to 12kt (13mph) when extended, the same limits put on paratroopers for training jumps, and 60kt when moored.

Jerome Giacomoni, chairman and president of Aerophile, says the Yemeni system will pay for itself in training cost savings within a year. The country's army trains several hundred parachutists every year who will use the tethered balloon, rather than a C-130, for the first seven jumps required for certification. Cost for the system, including spare parts for 10 years of operations, was €2 million (\$3 million).

NAS renews as NetJets reps

Saudi Arabia's National Air Service (NAS) has renewed its contract to remain Netjets Middle East (NJME) regional representation with NetJets USA.

The contract is for NJME to continue to offer the fractional & complete private jets ownership programme in the Middle East. In addition, it continues to sell block hours and operate and manage private jets.

Iraq puts stored fleet up for sale

Iraq is to sell four Boeing 727 and two Boeing 707s that are currently stored among a series of other out-of-service aircraft – including Yasser Arafat's Palestinian head-of-state Tristar – on a remote part of Queen Alia International Airport in Amman, Jordan.

The aircraft were flown to Amman at the start of the first Gulf War in 1990.

Plans to repatriate them at the end of the conflict faltered due to legal claims by the Kuwaitis over compensation. The aircraft have remained in Jordan ever since.

According to sources in Jordan, the Iraqis had been planning to restore the aircraft to full airworthiness but as storage fees continued to

add up and the restoration work increased, so it became increasingly unviable.

The dry heat of the desert around the Jordanian capital has made it an ideal storage location but it appears the aircraft are beyond salvage for airworthiness. It is understood that there are several other aircraft in storage in Tunisia. They are not part of this sale, which is being managed by the Iraqi Ministry of Transport.

Iraqi Airways has been leasing aircraft in order to restart operations and has been working with the Iraqi Government to secure funding guarantees for acquisition of Boeing 737 and 787 aircraft as well as Bombardier CRJ900s.



Oman buys C-130J Super Hercules

Oman has signed a contract with Lockheed Martin for a C-130J Super Hercules. The aircraft, to be delivered in mid-2012, is in the longer C-130J-30 configuration.

Oman currently operates a fleet of three C-130Hs purchased in the early 1980s. The new C-130J will be used to further support Omani operations, where its ability to operate out of remote austere airstrips will be invaluable says Lockheed Martin.

This order for Oman makes it the third C-130J operator in the region after Iraq and Qatar.

First F117 engines for Qatar delivered

Pratt & Whitney has delivered the first F117 engines for installation in Qatar's first C-17 Globemaster III transport aircraft.

Bill Gostic, vice president, Pratt & Whitney Military Programs and Customer Support says: "We are standing by ready to support Qatar as they introduce this new capability to their country."

Royal Jet positions in Saudi following alliance with Arabasco

The UAE's Royal Jet and Saudi Arabia's Arabasco have announced a commercial and operational alliance that they say could change the face of elite services within Saudi Arabia.

The agreement was signed by Royal Jet president & CEO Shane O'Hare and Arabasco president & CEO Ret. Brig. General Mohamed Al Shablan.

Royal Jet will now operate under the Arabasco AOC (Aircraft Operators Certificate) and will leverage the extensive experience and expertise of both parties in luxury private jet travel to address the regional and global executive travel needs of Saudi Arabia.

Under the terms of the agreement, Royal Jet will be positioning a Boeing Business Jet (BBJ) and a Gulfstream 300 at Arabasco's key hubs in Jeddah and Riyadh to better serve the Saudi market, together with crew, full operations team and all necessary supporting logistics.

Meanwhile the
Saudi company says
it is in the early
stages of designing a
new hangar at its
Jeddah HQ big
enough to
accommodate two
Airbus A320s. The
new hangar is just
the latest stage in
what Brig. Gen.
Mohammad Al
Shablan describes

as "expansion at every level" of the company's activities.

A new Fixed Base Operator (FBO) facility, also in Jeddah, is due to be operational by the end of this year, while new aircraft shelters are being built both there and at Riyadh to protect business jets from the harsh Saudi climate. Riyadh, in particular, is prone to sandstorms: "The aircraft get sandblasted and that is not good when you are looking at hundreds of millions of dollars-worth of aircraft," says Al Shablan.

The business aviation sector in Saudi Arabia has successfully defied the world economic dip and is continuing to expand steadily.

The Kingdom's business aviation sector is probably the largest in the region, a result of the combined factors of large numbers of businessmen who can afford to operate executive jets, the distances between Saudi

Arabia's major cities that largely rule out surface transport and the cost-effectiveness and convenience of private aircraft: "It's a way of getting business done right and on time."

Arabasco's new FBO facility will be a 4,000m² building capable of handling the passengers and crews of up to six VIP aircraft simultaneously.

Air Partner introduces Jet Card to region

Dubai and UK-based Air Partner has launched its JetCard product to the Middle East. The card gives its owner access to a fleet of light, midsize, large or global cabin jets with guaranteed availability.

The card has a 25-hour purchase minimum but aircraft availability is guaranteed. Members are promised access to a private jet anywhere in Europe or the USA at 24 hours notice. Hourly rates are guaranteed at 24 hours' notice, although aircraft can be airborne in as little as two hours.

Turkey takes the Cessna Skylane

Cessna has announced an agreement with the Turkish Ministry of National Defence for 46 new C182 Turbo Skylane single-engine piston aircraft.

The aircraft, equipped with the latest Garmin G1000 avionics, will be used by the Turkish Land Forces (TLF) and will replace the existing fleet of Cessna T41 aircraft in operation for some 30 years. The T41 is a military aircraft designation for a variant of the Cessna 172 Skyhawk.

DEFENCE



espite apparently losing out in the UAE's recent trainer competition, BAE remains cheerfully optimistic about the aircraft's prospects. The company claims to be engaged in six active export campaigns, including some in the Middle East, and with active interest in the aircraft being expressed by several more nations.

When the UAE dropped BAE's Hawk from the competition to meet the UAE Air Force and Air Defence's fast jet training requirement on 30 October 2007, some saw this as the beginning of the end of the Hawk's dominance in the trainer market. Though the UAE was an existing Hawk customer, with a mixed fleet of 36 Hawk Mk 61s, 63s and 102s, the nation announced that it had selected the rival M-346 in February 2009.

But, as time has gone by, it seems clear that early predictions of Hawk's demise were premature! Michael Christie, BAE's senior vice-president, Hawk International, points out that in the UAE, the M-346 "is not there, yet. There's still no contract, it's not clear what the numbers and the price will be".

Mixed fleet

Even if the UAE does end up purchasing the M-346, there have been suggestions that at least some of the Hawks may be retained for basic training, and the UAE is still viewed as being a potential customer for BAE's proposed Hawk upgrade. "I could see the existing Hawk and the new M-346 co-existing in a mixed fleet in Abu Dhabi, using the Hawk for BFTS and the M-346 for advanced and weapons training," Christie tells Arabian Aerospace.

Many have suggested that Hawk is at a disadvantage to the new generation trainers, which have supersonic performance and the kind of carefree and high Alpha handling endowed by fly by wire control systems and advanced aerodynamics. But Christie dismisses criticisms of

Jon Lake explains why early predictions of Hawk's demise were premature as BAE's trainer still has plenty to offer in the Middle East market.

Hawk's performance and handling characteristics.

"In advanced training you don't want completely carefree handling – you need benign handling and good performance. You need to develop basic skills that can only be experienced in an aircraft that you can actually feel.

"The RAAF had hoped to emulate the F/A-18's performance and handling, but you're never going to get there with a trainer. And even with triplex FBW flight control systems, the new trainers are never going to match Gripen or Typhoon in performance and handling. In any case, there's very little added value in highly dynamic performance and high Alpha handling in a trainer — that's best experienced at Operational Conversion Unit (OCU). We designed the Hawk to go slower, because that's where the training regime is. There's more than enough dynamic performance to stress the pilot."

Though long viewed as being an expensive aircraft, with a high up-front 'sticker price', the single-engined Hawk is becoming recognized as a very cost-effective trainer, and BAE estimates that operating costs for the type may be half those of its twin-engined or supersonic rivals, thanks to the current price of oil. The new Hawk also has a class-leading 10,000-hour airframe life, further improving the type's life-cycle costs.

Crucially, BAE is working hard to ensure that in Hawk it has a robust industrial solution that is used to 'feast and famine', and though the company is keen to stress that Brough will "continue in some form", there is potential for a Joint Venture to build

Hawk (and other aerostructures) in India. And in the Hawk, BAE has a proven solution to the requirement for advanced training for pilots destined for fourth and fifth generation fighters.

"Hawk is still the most advanced trainer in the world, the most capable and the best value for money," says Mark Kane for BAE Systems. "The RAF is using the latest Hawk to prepare pilots for the Typhoon and JSF. Customers in the Middle East have always demanded the best capability, but today they demand the best value for money as well. The Hawk's advanced avionics and Adour 951 engine provide that, giving the Hawk a very low whole-life cost."

New generation

Highly experienced instructors responsible for introducing the new Hawk T.Mk 2 into RAF service unanimously expressed their satisfaction with the new generation Hawk to Arabian Aerospace, and highlighted its suitability for training pilots destined for new fourth and fifthgeneration fighters.

They fulsomely praised the new generation Hawk's state-of-the-art and fully representative glass cockpit, modern Man Machine Interface (MMI) and full suite of representative sensors, systems, emulators and simulators. None could see any benefit in the advanced training role in having an aircraft with supersonic performance, nor with the vortex lift aerodynamics offered by the rival Alenia Aermacchi M-346 Master.



Your Link to Global Leaders of Air Power ... Be there

- Be part of the region's most established
 Air Defense conference.
- → The only event that brings you the world's Air Chiefs.

Take advantage of the early bird rate and **Register Today** at <u>www.inegma.com</u>



Silver Sponsors:



Organized by:



Official Media Partner:

Media Partner:

An Official event of









SEASPRITE BY KAMAN

MISSION PROYER. MISSION READY.

Immediate Maritime Security Solution

SH-2G(I) multi-mission maritime helicopters are backed by 1.5 million hours of service with Egypt, Poland, New Zealand and the United States.

The aircraft are fully mission-capable in extreme sea states, provide true return-to-ship single-engine performance, and may be operated by two crew members. Plus, Seasprites maintain power in hot desert environments.

Available Now for Your Multi-Mission Requirements:

anti-piracy drug interdiction surface surveillance anti-surface warfare anti-submarine warfare search and rescue and more

Powerful. Proven. Available now. Only from Kaman.

HELICOPTERS DIVISION

CONNECTICUT USA

1-860-242-4461

Mark.Tattershall@kaman.com

Kaman Aerospace

KAMAN

DEFENCE

Airbus switch could speed Arab tanker deliveries

Jon Lake tells the MRTT story that could have an unexpected twist... ith the USAF's KC-X tanker programme mired in controversy and facing a re-bid process, there are possibilities that the role of two Airbus A330s, originally intended to serve as Systems Design and Development (SDD) aircraft for the planned USAF standard KC-45, could be switched.

The suggestion is the aircraft could be completed as production A330MRTT (Multi-Role Tanker Transport) tankers to bring forward the delivery dates of aircraft ordered by the UAE or Saudi Arabia.

Boeing gained an early lead in producing a new generation tanker aircraft when its KC-767 was selected to meet a Japanese requirement in 2001, and especially after the type was selected to meet the United States Air Force's (USAF's) "Commercial Derivative Air Refueling Aircraft" requirement. Italy jumped on the Boeing tanker bandwagon, signing a contract for four 767 tankers in 2002.

But this lead evaporated with some suddenness. Amid allegations of corruption, and criticisms of the USAF's procurement process, the US tanker lease was abandoned, and a subsequent congressional investigation concluded that the rival Airbus A330-based tanker offered by Northrop-Grumman met more of the USAF's specifications than the KC-767 and at lower cost.

And while the Japanese and Italian 767 tanker programmes proceeded, both ran into problems, with the Italian aircraft failing to meet its planned 2005 in-service date, encountering flutter and drag problems with the underwing refueling pods.

By contrast, the low-key programme to convert some of Canada's and some of Germany's existing Airbus A310s to MRTT configuration progressed very much more smoothly, with the first A310 tanker making its maiden flight after conversion by Airbus Deutschland and Lufthansa Technik in December 2003, with service deliveries following in October 2004.

Since then, it has been the larger Airbus A330 that has won all recent tanker orders. Because the A330 has a common wing structure with the four-engined A340,



underwing HDUs can be fitted to the reinforced mounting locations intended for the A340's outboard engines, easing the structural design task considerably.

The A330 MRTT was selected by the UK Royal Air Force to meet its Future Strategic Tanker Aircraft (FSTA) requirement in January 2004, and the winning AirTanker consortium formally ordered 14 A330 MRTTs in March 2008.

When the RAF evaluated the competing designs, it found that while the larger A330 MRTT could lift its full, 111 tonne fuel load from a notional 10,000ft balanced field length, the KC-767 had to reduce its fuel load from 92 to 77 tonnes (equivalent to the capacity of the smaller A310) in order to be able to use the same runway.

Australia followed suit, ordering five KC-30 aircraft in April 2004. But, while the UK A330 MRTT was ordered with Cobham 905E underwing HDUs and a Cobham 805E HDU on the centerline, the Australian aircraft featured an Airbus Military Aerial Refuelling Boom System (ARBS) on the centreline, to allow the refuelling of receptacle-equipped receivers. This boom has been fully tested and de-risked on an Airbus-owned A310 testbed, and has now been used to pass fuel to the KC-30 itself, and to a number of fighter receivers. Flutter and vibration testing of the boom on the A330 MRTT has been completed.

The first of the RAAF aircraft made its maiden flight in tanker configuration on 15 June 2007, and Phase 1 flight testing was completed on 14 February 2008. The type is expected to achieve Initial Operational Capability (IOC) in mid 2010, with Full Operational Capability (FOC) following in mid 2011.

The Royal Saudi Air Force agreed to purchase three A330 MRTTs on 3 January 2008, and the United Arab Emirates announced it had signed a memorandum of understanding with Airbus to purchase three A330 MRTTs in 2007, and the order was confirmed in February 2008, for delivery in 2011.

The Saudi and UAE aircraft were ordered with Cobham 905E HDUs underwing and with a centreline boom, like the RAAF tankers. The A330 MRTT has now also been selected by the Indian Air Force, which has a requirement for six three-point hose-and-drogue tankers, like those being built for the RAF.

The A330MRTT or KC-30 was chosen to meet the USAF's KC-X requirement on 29 February 2008. This represented a massive success for the aircraft, with 179 tankers, now designated as the KC-45A, required. On 18 June 2008, however, the United States Government Accountability Office upheld a protest by Boeing, and the requirement will now have to be re-bid.

Conversion of four A330s to serve as SDD prototypes for the USAF programme was already underway when the programme was halted, two having flown. These aircraft, which will be equipped with both an ARBS and two Cobham 905E under-wing refuelling pods, may be diverted to allow earlier deliveries to Saudi Arabia or the UAE. An Algerian Desert Merlin.



Algeria prepares for Anglo-Italian invasion

lgeria's armed forces are undergoing a major helicopter re-equipment programme, with the acquisition of an initial batch of six AW101 and four Lynx helicopters, primarily for search and rescue and transport tasks. The initial batch of Algerian Merlins is expected to be delivered in the current international configuration – like those for the Japanese Maritime Self-Defense Force – powered by General Electric CT7-80 turboshafts, and with a full SAR fit including a 360 degree search radar and an undernose SELEX EOST46 FLIR turret.

But there have been reports that these SAR Merlins will be followed by a further batch of AW101 aircraft. The latter will be optionally armed and equipped for combat search and rescue.

Morocco on a high-tech mission

Morocco's Lockheed Martin F-16C/D fighters are shaping up to be highly-specified pieces of kit.

Since Lockheed Martin received a \$233m contract in June 2008 to launch production of the 24 Block 50/52 variants via the US Foreign Military Sales procedure, little has been heard of the deal. However, details of individual pieces of equipment destined for the Royal Moroccan Air Force (RMAF) aircraft have dribbled out.

As well as conformal fuel tanks to substantially increase the aircraft's range, equipment requested via the US Government has included Advanced Medium Air-to-Air Missiles (Amraam) and Joint Direct Attack Munition (JDAM) tail kits.

Additionally, Goodrich Corporation has received a contract for four of its advanced DB-110 airborne reconnaissance systems. The company describes the electro-optical/infrared DB-110 as representing "the highest reconnaissance capabilities within NATO and providing full interoperability among NATO nation operators". The pilot views imagery on his cockpit video display, enabling him to verify targets and conduct tasks such as battle damage assessment.

And the RMAF has also selected Raytheon's

newest ACES integrated electronic warfare suite, its latest offering for the F-16 and which incorporates a radar warning receiver, digital jammer and chaff-flare dispensers.

Deliveries of Morocco's F-16s are due for 2010-11. They will be stationed on a new base that the North African nation is building.

As part of a major effort involved in bringing both a new aircraft type and an airfield specifically designed to support it on-line, Morocco dispatched a fact-finding party to the US Air Force F-16 training base at Luke AFB, Arizona. Led by Colonel M'hamed Saufi, the delegation sought detailed information on the minutiae involved in the mission support and maintenance of the F-16 and the organisational aspects involved in the base operations of a fighter wing, including civil engineering, logistics readiness, communications and ancillary base services. The Moroccan delegation also toured the Arizona Air National Guard's 62nd Fighter Wing, based at Tuscon International Airport, where Moroccan F-16 pilots and crew chiefs are undergoing training.

As part of its efforts to sell the so-called AW101 'Surveillance and Intervention' (S&I) Helicopter to Algeria, Agusta Westland demonstrated a bailed back Italian Navy AW101 to the Algerian armed forces in November 2008.

AgustaWestland's own artist's impressions show the new Algerian variant with window-mounted 7.62-mm machine guns amidships, and with what appeared to be an FN Herstal RMP LC combined rocket and gun pod fitted to the main landing gear sponsons. The aircraft lacks radar, but features an undernose sensor package, and has a Nitesun searchlight on the port forward fuselage.

The Merlin's suitability for combat search and rescue operations in desert environments has been demonstrated several times, most recently during Royal Air Force operations in Iraq, and during exercises in Morocco in October 2008 and May 2009.

The RAF's Merlin detachment in Iraq has amassed more than 15,000 flying hours since 10 March 2005, and has demonstrated impressive availability figures while operating in-theatre.

With half the fuel burn rate of a Chinook, the Merlin has a range of 700 miles, or an endurance of five hours, and the RAF aircraft, therefore, self-ferried to Iraq, arriving a full day early and fully serviceable.

Soon after the Merlins arrived in Iraq, task timings allowed for support helicopter missions had to be re-written to make allowance for the Merlin's ability to get any job completed more quickly.

The Merlin's rotor downwash characteristics have proved especially well-suited to desert operations, creating a curtain of sand and dust rather than a cloud. This means that the aircraft sits in a clear column of air, in the middle of a doughnut of sand, avoiding brownout, and allowing the pilots to see the ground when taking off, landing, or sitting in a low hover.

As No.1419 Flight, the detachment's Merlins have been used in the assault, fire support, troop movement, airborne command post, reconnaissance and surveillance, convoy protection and casevac roles. The aircraft's comprehensive defensive aids systems have drawn particular praise from the RAF crews. The aircraft's speed, agility and quietness have made it significantly less vulnerable than other helicopter types.

SEASPRITE IN THE CHOP WINDOW...

s upgraded Egyptian SH-2G(E) Seasprites are returned to service following their modernisation, they are increasingly providing a highly visible 'presence' in what is a key market, just as Kaman is stepping up its efforts to sell on the 11 aircraft returned by Australia.

Egypt was the launch export customer for the Seasprite, ordering ten aircraft in 1995 to equip its Navy's two ex-USN Knox-class and four ex-USN Oliver Hazard Perry class frigates.

The helicopters were delivered to the Egyptian Air Force, which has the responsibility for providing mission aircraft and aircrew to the Navy. The Seasprites were delivered to 37 Squadron, part of the 545th Tactical Helicopter Wing at Alexandria – Borg Al Arab, together with the Sea Kings and Gazelles of Nos 7 and 11 Squadrons.

Equipped with an L-3 AN/AQS-18A dipping sonar and Litton LN-66HP radar, as well as a 600lb capacity

Egyptian upgrade provides new opportunity for Kaman's helicopters

integral hoist, and featuring a three-man crew, the Egyptian Seasprites operate in the ASW, ASuW and SAR roles, deployed on board ships and operating from land bases. And in doing so, the Egyptian Air Force has impressed many observers, including Kaman's Brad Cook, the Egyptian SeaSprite programme manager. "They operate successfully in two very challenging environments – the desert and the ocean; they have to deal with both, and they do it all themselves, with our input limited to some advisory personnel."

An upgrade programme was launched in 2006, incorporating the digital AFCS developed for the Australian SH-2G(A), and with AN/ALE-47 countermeasures dispensers replacing the original ALE-30

The aircraft also gained FLIR Systems AAQ-2

SAFIRE 2 FLIR (as fitted to New Zealand SH-2s), and are now unique among SeaSprites in being fitted with full General Electric HUMS equipment.

Following a long and troubled programme history (though headline-grabbing problems with the integrated sensor system and flight control system had been solved), the Royal Australian Navy has handed back its 11 SH-2G(A) helicopters to Kaman.

Kaman has agreed to forego unbilled payments totaling approximately \$35 million (US) in exchange for the helicopters, spare parts and equipment.

The Australian Government and Kaman will share in the profits of any subsequent sale of the helicopters, which are now known as SH-2G(I)s (I for international).

Though perceived as being 'second hand', the ex Royal Australian Navy SeaSprites have flown less than 200 hours each, and are basically "as good as new, with a 10,000 hour life", according to Brad Cook.

"And this represents a tremendous opportunity to obtain a full package, including spares, a simulator and an in-country support centre for about one third of the cost of a similar capability."



SEASPRITE IN THE CHOP WINDOW...

s upgraded Egyptian SH-2G(E) Seasprites are returned to service following their modernisation, they are increasingly providing a highly visible 'presence' in what is a key market, just as Kaman is stepping up its efforts to sell on the 11 aircraft returned by Australia.

Egypt was the launch export customer for the Seasprite, ordering ten aircraft in 1995 to equip its Navy's two ex-USN Knox-class and four ex-USN Oliver Hazard Perry class frigates.

The helicopters were delivered to the Egyptian Air Force, which has the responsibility for providing mission aircraft and aircrew to the Navy. The Seasprites were delivered to 37 Squadron, part of the 545th Tactical Helicopter Wing at Alexandria – Borg Al Arab, together with the Sea Kings and Gazelles of Nos 7 and 11 Squadrons.

Equipped with an L-3 AN/AQS-18A dipping sonar and Litton LN-66HP radar, as well as a 600lb capacity

Egyptian upgrade provides new opportunity for Kaman's helicopters

integral hoist, and featuring a three-man crew, the Egyptian Seasprites operate in the ASW, ASuW and SAR roles, deployed on board ships and operating from land bases. And in doing so, the Egyptian Air Force has impressed many observers, including Kaman's Brad Cook, the Egyptian SeaSprite programme manager. "They operate successfully in two very challenging environments – the desert and the ocean; they have to deal with both, and they do it all themselves, with our input limited to some advisory personnel."

An upgrade programme was launched in 2006, incorporating the digital AFCS developed for the Australian SH-2G(A), and with AN/ALE-47 countermeasures dispensers replacing the original ALE-39.

SAFIRE 2 FLIR (as fitted to New Zealand SH-2s), and are now unique among SeaSprites in being fitted with full General Electric HUMS equipment.

Following a long and troubled programme history (though headline-grabbing problems with the integrated sensor system and flight control system had been solved), the Royal Australian Navy has handed back its 11 SH-2G(A) helicopters to Kaman.

Kaman has agreed to forego unbilled payments totaling approximately \$35 million (US) in exchange for the helicopters, spare parts and equipment.

The Australian Government and Kaman will share in the profits of any subsequent sale of the helicopters, which are now known as SH-2G(I)s (I for international).

Though perceived as being 'second hand', the ex Royal Australian Navy SeaSprites have flown less than 200 hours each, and are basically "as good as new, with a 10,000 hour life", according to Brad Jones.

"And this represents a tremendous opportunity to obtain a full package, including spares, a simulator and an in-country support centre for about one third of the cost of a similar capability."

17



Rejected Algerian MiGs equip elite Russian unit

wenty-eight MiG-29 SMT fighters and six MiG-29 UBT fighter trainers that Algeria refused to accept are finally being delivered to the 14th 'Leningradskii' Guards Fighter Regiment at Khalino, near Kursk.

'Leningradskii', one of Russia's elite fighter units, spent much of the Cold War based in Hungary, at Kiskunlachaza.

Algeria had signed a \$1.27bn contract with Rosoboronexport for the delivery of these aircraft in March 2006, as part of a wider \$8 billion military co-operation agreement, which included 28 Su-30MKA multi-role fighters, 16 Yak-130 trainers, a PantsirS1 air defense system, eight S-300PMU-2 SAMs and 185 T-90S tanks.

Russia also wrote off \$4.7bn of Algerian debt and undertook to buy back Algeria's redundant MiG-23s and some of the air force's MiG-29s – about 70



of which served with the four squadrons of the 3rd Air Defence Wing; 113 Squadron at Tindouf, 143 Squadron at Ouarghla, 153 Squadron at Bechar and 193 Squadron at Bou Sfer.

Some Russian sources have suggested that Algeria always planned to renege on some elements of the contract – pointing to Algerian Air Force efforts in the summer of 2006 to acquire 30 new RD-33 series III engines, and 15 KSA-15

accessories gearboxes to upgrade the very MiG-29s that were supposed to be 'traded in' just a few months later under the terms of the contract as originally agreed.

Deliveries of the new MiG-29SMTs (the most advanced MiG-29s built up to that time, with advanced glass cockpits, new avionics and increased fuel tankage) began in December 2006. Almost immediately Algeria began to complain that the aircraft were not as had been promised.

In particular, the MiG-29SMTs were based on airframes that had originally been completed some ten years earlier, in 1996, and showed signs of their long outdoor storage. There were also claimed to be problems with certain onboard equipment assemblies.

Despite these problems, the fighters were delivered to Laghouat airbase 450-km south of Algiers, where they were painted in 3rd Wing markings and flown quite intensively, each amassing between 80 and 100 hours, according to Russian sources.

Algeria issued an ultimatum after the first 13 aircraft had been delivered (and, perhaps coincidentally, after Algeria had traded back its old MiG-23s – these having allegedly been in much worse condition than that specified in the trade-in contract).



The first of the Royal Saudi Air Force's upgraded E-3 AWACS aircraft takes off from Boeing Field in Seattle.

RSAF gets the missing link

Work is nearing completion on an upgrade to the Royal Saudi Air Force (RSAF) fleet of Boeing E-3 Airborne Warning and Control System (AWACS) aircraft.

The programme, a major communications update, will provide the five RSAF E-3s with Link 16, the jam-resistant, digital datalink that allows military aircraft, ships and ground units to exchange tactical pictures in near real-time.

In Saudi service, Link 16 will allow direct communication between the AWACS crews and fighter aircraft. It also allows the exchange of text messages and imagery data.

 $\label{eq:Boeing undertook the first} \textbf{Boeing undertook the first}$

aircraft's upgrade at its Military Flight Center, Seattle, last year.

The remainder of the fleet is being outfitted by Boeing's Saudi partner, Alsalam Aircraft Company, in which the US company has a 50% stake.

Boeing is providing on-site support to Alsalam and the project is scheduled to be completed in December.

Before then, however, a further upgrade to the aircraft may have taken a major step forward.

Last year, the RSAF awarded Phase 1 (design and long-lead part procurement) of a Radar System Improvement Program (RSIP).

Phase 2, the production stage, is anticipated to be awarded

imminently. The project would bring the configuration of the Saudi AWACS into line with other AWACS fleets in service with the US, NATO, UK and France.

RSIP replaces original-issue equipment with a new radar computer and radar control maintenance panel, plus electrical and mechanical hardware and software.

The effect is to increase the radar's sensitivity, allowing it to detect smaller targets.

There are also improvements to the system's electronic counter-countermeasures (ECCM) capabilities and to its overall reliability and maintainability.

Inferior quality

When, in May 2007, the next two SMT aircraft delivered were found to be in the same state as the earlier SMT/UBTs, Algeria refused further deliveries.

They demanded that Moscow take back the MiG-29s due to their "inferior quality". Algeria refused all offers by MiG to rectify the faults, or even to replace the aircraft, and in October 2007 froze all payments to Russia.

On 25 February the MiG Corporation dispatched a factory team to Algeria to disassemble the aircraft and prepare them for return, and all the SMTs and UBTs had been returned to Russia by the end of April.

In November 2008, Russia's Ministry of Finance decided to pay for the ex-Algerian MiGs to be delivered to Russia's own air force.

After the installation of some Russian air force equipment and the rectification of what MiG claimed were minor problems, the aircraft were delivered to Khalino.

Oleg Lashkevich, the commanding officer of the 14th Guards Regiment expressed his satisfaction with the ex-Algerian SMTs, and his appreciation of the new capabilities which they brought to his command, with their advanced avionics and in-flight refueling capability.



oeing has launched a new variant of the popular F-15 Eagle, squarely aiming the new aircraft at existing operators, either as an upgrade configuration, or as a new-build aircraft that can augment in-service fleets.

Having bought 170 F-15 Eagles of various types over the years, the Royal Saudi Air Force is obviously in Boeing's sights.

The new F-15SE Silent Eagle variant represents a "balanced, affordable solution to meet future survivability needs", according to Mark Bass, Boeing's vice president for F-15 programmes. It is specifically designed to "meet our international customers' anticipated need for cost-effective stealth technologies, as well as for large and diverse weapons payloads".

At the Paris Air Show this June, Boeing revealed that all existing F-15 Eagle customers, including the Royal Saudi Air Force, have requested information about the proposed Silent Eagle.

Boeing is hoping that the Royal Saudi Air Force joins the queue for the new F-15SE Silent Eagle variant – a "balanced, affordable solution to meet future survivability needs".

Jon Lake reports

After Tom Bell, the business development director for the Boeing's Military Aircraft division appeared to cast doubt as to whether internal funding would be made available to launch the flight-test programme next year, Boeing's IDS president and CEO reaffirmed the company's commitment to a prototype programme, leading to a flight demonstration during the third quarter of 2010.

Boeing unveiled the new configuration, which marks one of the most dramatic upgrades to the basic F-15 so far, in a ceremony at St Louis on 17 March.

Brad Jones, F-15 future fighters program manager, estimated the cost of a 'new-build' Silent Eagle as being "about \$100 million per aircraft, including spares and

training". Boeing outlined the company's hopes that the new variant might attract as many as 190



CONTINUED FROM PAGE 19

orders, keeping the St Louis F-15 production line open beyond the existing backlog of 38 aircraft for Singapore and South Korea. With T-45 production drawing to a close, and the end of F-15 production in sight, the St Louis plant had faced reliance on Super Hornet orders to stav

The new Silent Eagle is aimed at existing Strike Eagle users in the Asian and Middle East markets, namely South Korea, Japan, Singapore, Saudi Arabia and Israel. Boeing has briefed three agencies within the US Air Force on the F-15SE, but only as a 'courtesy'. "We're not really aiming it at the USAF," a senior Boeing source said.

There is some scope for local industrial participation, and detail design, development, and test of the new internal carriage system are available as a collaborative project with an international aerospace partner.

As well as selling new-build Silent Eagles, Boeing is planning to offer a retrofit kit to allow existing Strike Eagles to be brought to the same standard, though this remains unpriced. "We have not been looking into the cost of a retrofit kit at this time. We are mainly focused on new builds," Brad Jones told Arabian Aerospace.

Project Monty

A team of eight engineers began work on what was then known simply as 'Project Monty' in September 2008, with the aim of making the F-15E Strike Eagle more stealthy. Reducing the radar cross-section of the F-15 was explored about a decade ago in an attempt to provide an alternative to the Lockheed F-22 for the US Air Force. "The internal carriage is what is new. The stealth is not," says Jones.

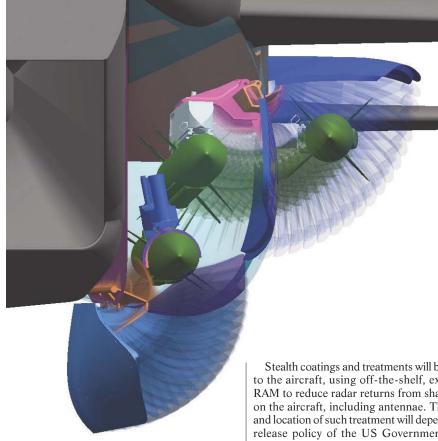
The 'ground demonstrator' unveiled at St Louis is based on the airframe of the first Strike Eagle, F-15E1, a long-term Boeing flight test aircraft.

It has mock-up components attached, with weapons bay doors powered by electric motors rather than the aircraft's hydraulic system, and with mock-ups of the planned canted tails, which would not be capable of being flown. Stealth coatings and engine intake blockers were also absent from the demonstrator.

An F-15SE prototype could fly during the first quarter of 2010, with flight tests scheduled to include a live missile launch from the new side bays. Production examples of the F-15SE would be available for delivery three years after contract signature.

The F-15SE represents the latest iteration of the Eagle - an aircraft that has undergone continuous development since it entered service as the F-15A, a single-seat air superiority fighter, in 1976. The F-15B was an operationally capable two-seat trainer, and the C and D were improved single and two-seat fighter variants.

The two-seat F-15E Strike Eagle added air-toground capabilities, and the F-15K (for Korea)



added air-to-sea capability. The F-15SG (for Singapore) introduced AESA radar and enhanced long-range stand-off weapons, bringing the Eagle into the 21st century. Though, by comparison with the latest 'fifth generation' fighters, the F-15 lacked stealth and the latest electronic warfare capabilities.

The F-15SE aims to address these shortcomings, while avoiding unnecessary changes, and while eschewing the use of exotic materials, which might hinder exportability.

What this means in practise is the incorporation of a spectrum of modifications in different areas on an airframe based on the current export standard aircraft for Singapore, with AESA radar and a fully-missionised rear cockpit.

To reduce the F-15's radar cross-section, blocking devices will be added to the intakes, and extensive use will be made of radar absorbent material (RAM). The aircraft's tailfins have been redesigned and provision will be made for new conformal fuel tanks that incorporate internal weapons bays, allowing the aircraft to operate without underwing stores.

Boeing opted not to trade off any sensor or aerodynamic performance for a reduction in RCS, however, so the antenna of the AN/APG-63(V)3 radar was optimised for radar performance, and was not tilted back to reduce radar cross section.

Stealth coatings and treatments will be applied to the aircraft, using off-the-shelf, exportable RAM to reduce radar returns from sharp edges on the aircraft, including antennae. The extent and location of such treatment will depend on the release policy of the US Government, but is expected to include a frangible cover on the gun muzzle.

Perhaps the most obvious distinguishing features of the F-15SE are the revised vertical stabilizers, which are canted by 15° to reduce side-on radar returns. Because they are slightly 'toed-in' they also generate a small amount of lift and improve the fighter's trim, eliminating the need for hundreds of pounds of ballast in the nose.

Aerodynamic shape

While conformal tanks are nothing new for the Eagle, the Silent Eagle is intended to use either conventional 750 US gallon conformal fuel tanks, or new, redesigned conformal 'side bays' that have the same aerodynamic shape as standard conformal fuel tanks (CFTs), and which use the same aircraft interfaces, but which incorporate weapons bays that allow for the internal carriage of air-to-air missiles or small bombs.

When operating as what Boeing calls a 'First Days of the War fighter' the F-15SE would carry the new internal weapon bay units, and would not be fitted with underwing pylons or stores, reducing drag and radar cross-section. A frangible cap would cover the muzzle of the 20mm M61A-1 cannon, which would be loaded with 502 rounds of ammunition.

Each side bay has two doors and two weapon mounts, the upper, side-opening door carrying a rail launcher for an AIM-120 AMRAAM or an AIM-9-type missile, or a launcher for a single

SPECIAL FEATURE



500-lb or 1,000-lb bomb or two small diameter bombs.

The lower door accommodates a trapeze-plusejector mount for an AIM-120, or for a single 500-lb or 1,000-lb bomb or two small diameter bombs.

"Our ground demonstration had only the air-to-air configuration – the goal of the final design would be able to carry a variety of weapons. Ultimately we are figuring on carrying one 1000lb bomb with an air-to-air weapon, two 500lb bombs or four SDBs on each side of the aircraft," a Boeing engineer told us.

The side bays carry little or no fuel – Boeing sources differ on this point – and though the more compact EW suite restores some 550 US gallons of internal fuel, internal weapons carriage reduces the aircraft's range from 1,000nm to 800nm in the air-to-ground role, and from 900 to 720nm in the air-to-air role, assuming the same mission profiles and F110-GE-129 engines.

Greater fuel capacity

Internal weapons carriage may limit the warload to just four AAMs, or two missiles and two bombs, or a maxium of eight SDBs, but it does also allow the aircraft to fly at up to Mach 2.5, which is not possible with external stores.

The side bays can be swapped for the standard CFTs on the flightline, in about 2-2.5 hours. Traditional CFTs give greater fuel capacity – total fuel can be increased up to 34,700lbs including internal fuel, CFTs and three external tanks – while external weapons carriage allows the use of a larger range and weight of weapons, including SLAM-ER, JASSM and Harpoon Block II missiles

Regardless of whether it is fitted with side bays or conventional CFTs, the Silent Eagle will feature a digital flight control system, improving reliability and maintainability, reducing airframe weight, and improving handling characteristics.

The F-15SE makes extensive use of systems from the F-15K and F-15SG, including a missionised rear cockpit with fused situational awareness displays, the AN/APG-63(V)3 AESA radar, and joint helmet-mounted cueing system, as well as provision for a podded IRST, a Sniper third generation targeting pod, and a third generation navigation pod.

The Silent Eagle will also incorporate a single state-of-the-art Digital EW System (DEWS), replacing the current F-15's four-legacy electronic warfare systems comprising separate radar warning receiver, internal counter measures set, counter measures dispenser system and interference blanker set.

The new DEWS has 60% fewer LRUs than the previous system, and has a 200% reserve for memory and processing growth. It leverages technology from the F-22 and F-35.

The F-15SE carries 50% more countermeasures than the 'heritage Eagle'.

The apparent promise offered by the Silent Eagle is that it offers all of the capability of the latest Strike Eagles, but with the additional ability to use its 'stealth' characteristics to win an advantage in beyond visual range air combat, making it harder for an enemy fighter to lock-on to the Silent Eagle.

The F-15SE's stealth improvements are all in the forward hemisphere, and can not entirely counter ground-based radar systems. This means that the aircraft is not suited to making offensive strikes in defended airspace, or for 'first day of the war' attack missions, where all-aspect stealth is vital for survival.

"The aircraft still can be used in the air-toground role, which is why we are putting bombs in it. It will help against ground-based radar – that is why we have enhanced the DEWS system," explains Jones.

"The F-15SE uses a multi-faceted approach to survivability which allows superior air-to-air as well as air-to-ground capability.

"Our approach to survivability includes the use of long stand-off weapons (to include weapons with ranges over 150 miles), network centric systems and long-range sensors for situational awareness."

Boeing claims that the F-15SE can match the frontal-aspect radar cross-section of any fifth generation fighter configuration cleared by the US government for export release – which is to say the export version of the F-35 Joint Strike Fighter.

"We know that we can get to the US government release level for international customers," Brad Jones insists.

Radar signature

In practise, analysts believe that this reduces radar detection distance by about three times, compared to a 'vanilla' F-15E, bringing the F-15SE's radar signature to "the same ballpark as Eurofighter's Typhoon".

By comparison with the F-35, the Silent Eagle lacks anything like the same 'all aspect' stealth or sensor performance, and promises to be a less effective air-to-ground aircraft.

But in the air-to-air arena, the F-15SE is much faster, imparting more velocity to its missiles, with a lower wing loading and a higher thrust:weight ratio giving better turn performance.

The result is an aircraft that represents a very compelling alternative to the F-35 if the primary requirement is air-to-air, and which also has a very robust 'first day of the war' air-to-ground capability, and with multi-role capabilities which equal – or perhaps even better – those of the F-35 when both aircraft are carrying external weapons.

AIR TRANSPORT

The new CEO for Gulf Air takes over this month. **Alan Peaford** went to Amman to meet the man who turned around Royal Jordanian and is now up for the challenge in Bahrain.

amer Majali IS Mr Royal Jordanian. He has worked there since graduating in the UK 30 years ago with an aeronautical engineering degree from Loughborough followed three years later by a Masters in Air Transport Management at Cranfield.

For the past nine years he has been the president and CEO of the airline and has successfully steered it through a privatisation, positioning it so its strengths were robust enough to be admitted into the One World global alliance, — the first of the Middle East carriers to be accepted. And above all, he steered the airline into profitability thanks to a clear strategy that made the Jordanian legacy carrier the market leader for the whole Levant region.

Suddenly, at the end of June, Majali told the RJ board he was resigning. A few days later it was announced he would be taking over the helm at Bahraini carrier Gulf Air.

"It's a really tough move for me. I am comfortable here. But in spite of all of the challenges now, maybe I'm too comfortable," he says. "You get to a point where you need to be driven hard. Apart from nine or ten years

studying in the UK my life has been here, my career here, but at 51 it is the right age to move on.

Time to move on

"When privatisation happened I was thinking maybe it is time to move on for the benefit of the company and to make way for a new CEO who could build on those achievements and milestones—and for me personally to look at other challenges and opportunities. I never put myself on the market. If something good came along I thought I'd look at it and if I liked it, I would move. And that is what happened."

Royal Jordanian's board was unprepared for Majali's resignation and it is a testimony to the devotion he has for the national carrier of a country that had seen his father (twice) and uncle be prime minister, a cousin be speaker of the House and another uncle as commander in chief of the armed forces, that he has put back his August 1st departure date by several weeks to help the airline select his successor.

Sitting in his penthouse office overlooking the whole of the Jordanian capital of Amman, Majali reflects on the milestones that have moved RJ to a leading regional airline.

"Of course joining the global One World alliance was a major step. At the time we were the only Middle Eastern carrier to be considered and to join. We were very chuffed.

"All this was due to the achievements since 2000-2001 with the preparation for privatisation



THE LEGACY LEAP

NAF'S SHORT GOODBYE

The change at Gulf Air came as a surprise, too, for chief executive Bjorn Näf, who had been in the job for more than two years. The day before the announcement Näf was speaker at the London-based Aviation Club, where he shared strategic thinking for the airline's future based on consolidation, collaboration and creativity.

Until Majali arrives in Bahrain Talal Al Żain, Gulf Air's chairman, is managing the business in the temporary position of executive chairman.

In an announcement, Al Zain said: "I would like to thank Björn Näf for his leadership over the last two years and we wish him well in his future endeavours. Moving forward, we have important plans for the future of Gulf Air and we believe Samer is the right leader to take the airline forward as we move into the next phase of our strategy to rebuild the business."

and the divestment and commercialisation of the airline; the financial turnaround; coping with crises of 9/11; SARS the Iraqi war; fuel costs; and yet improve the airline at the same time."

Majali's strategy to move RJ to the next level was to extend beyond Jordan and become the leading carrier of the Levant. A goal in which he has succeeded. "We now fly to more places in the Levant than all of the other carriers combined."

With flights into Baghdad and the Iraqi regions, RJ was the first foreign carrier to operate in the country once hostilities reduced. It is also the only Arab carrier to fly into Israel, a result of the 1994 peace accord.

Majali sees a need for consolidation and argues that there are too many carriers in the region.

"The main issue is the difference between the haves and the have-nots. This has hindered national cooperation, let alone airlines, because of the disparity in resources which has distorted competition and prevented commercial link ups. I believe it is way forward for RJ – success is difficult to sustain as stand alone with 50 airplanes. But it is about strategic partnerships that are more than global marketing alliances. It is about keeping a

national brand alive like the KLM- Air France or the Lufthansa-Swiss sort of thing. Brands are kept alive but there is a joint network marketing company. Joint services like airline offices, HR, finance legal etc. It's a sort of merger with two products. A merger doesn't mean one airline."

Serious competition

Majali is excited about the move to Bahrain but is not sharing his thinking yet. "Gulf Air's owners asked me not to talk about Gulf Air until I am there. But generically speaking, any airline that has serious competition and doesn't have the same access to resources must

be able to search for its strength and area of excellence and leverage that."

He gives short shrift to any suggestion that the job could be too constrained.

"When a new CEO comes in he has to have an understanding with the board how it will be run. I like the way I have run RJ and have been successful in developing it in co-operation with management, the people and with the support of the Government and His Majesty the King. The formula works. The CEO runs the airline; the Board of Directors generally oversees strategy and signs off on strategy moving forward. It looks at budgeting and maintains an overall view. When an airline is in trouble it has more views, when doing well there are fewer views. My job is to make sure the relationships are in place and we move together in the right direction and that's the end of it."



GETTINGTHE

Airlines throughout the region are responding to the environmental challenge with a series of measures as they seek to keep their emissions growth in check.

Alan Dron reports.

n recent years, environmental issues have become a stick with which pressure groups beat the airline industry. In particular, green campaigners castigate carriers for their contribution to global warming, which they say will only worsen as aviation grows.

Airlines worldwide are responding to the challenge with a variety of measures as they seek to reassure the public that their emissions are small in comparison with other sectors and that they are fighting to keep their emissions growth in check.

Of course, many environmental measures undertaken by airlines contain a degree of self-interest: they not only lessen the companies' impact on the planet, but also improve efficiency and thus the bottom line. Ulterior motives notwithstanding, however, there is no doubt that carriers today are very aware of green issues and have a genuine interest in reducing emissions and waste.

One major avenue of research in recent years has been the hunt for sustainable fuels. With global oil production generally believed to have peaked, the search for alternative fuels has become increasingly important.

Bio-fuels have attracted considerable interest, but work on this new sector had no sooner started to accelerate when environmental groups began to express concerns that many of the crops being grown for fuel, by supplanting food crops and using scarce water resources, were beginning to cause real problems for communities in developing nations.

One possible solution being touted is the exploitation of a tropical plant, *jatropha curcas*, whose seedpods yield substantial amounts of an oil that is compatible with jet engines.

Already used for bio-diesel in the Philippines and Brazil, jatropha oil shows considerable promise. It can grow in the poorest of soils and does not displace food crops. India has set aside 100 million acres to cultivate the plant, with the declared aim of using jatropha oil to meet 20% of its diesel consumption by 2011.

In September 2008, Gulf Air, together with eight other major airlines, Boeing and Honeywell UOP (a refining technology developer) established a group to accelerate the development and commercialisation of sustainable new fuels such as jatropha.

This sustainable aviation fuel users' group is being backed by the Worldwide Fund for Nature and the Natural Resources Defense Council. The group's aim is to enable commercial use of renewable fuel sources that can reduce greenhouse gas emissions while also reducing the airline sector's exposure to the price fluctuations of the oil markets. Jatropha oil costs slightly more than \$40 a barrel – at the time of writing around 35% less than a barrel of crude oil and hugely less than the oil prices reached in summer 2008.

Last December one of the group's members, Air New Zealand, successfully flight-tested a 50-50 mix of jatropha oil and Jet A1 in a Rolls-Royce RB-211 of one of its Boeing 747s and plans to use the new fuel for 10% of its requirements by 2013.

Together, the nine airlines that form the group account for more than 15% of commercial jet fuel use. Any sustainable biofuel, they say, must perform at least as well as kerosene-based fuel but have superior environmental characteristics.

"Gulf Air has always been a pioneering airline and this agreement underlines our commitment to actually tackling climate change through the introduction of clean and green technologies," says Gulf Air's outgoing CEO, Björn Näf.

"Airlines that have introduced nextgeneration sustainability programmes have already seen substantial cost savings while efficiently managing their carbon footprint," adds Gulf Air's chief strategy officer, Tero Taskila. The airline has committed itself to use bio-fuels when they are proven to be completely sustainable.

However, a report in May from Friends of the Earth dismissed jatropha, saying that the experience of farmers in Swaziland was that the crop required more water resources than anticipated and did not provide them with sufficient income. Expect more on this – and perhaps a switch to algae-based bio-fuel.

Airlines throughout the Middle East that travel to Europe are, meanwhile, bracing themselves for the next phase of the European Union's carbon emission trading scheme that starts in 2012 and which levies charges on the emissions of airlines in EU airspace.

Intercontinental carriers have protested that they face a competitive disadvantage as the levy will be charged from a flight's point of origin – Muscat, for example – even though most of the sector is outside the EU's jurisdiction. Airlines will be allocated an allowance of credits, but will have to purchase more if they exceed the limits set by the EU.

"We don't approve of this scheme but are having to comply with it because penalties for non-compliance are draconian, to put it mildly," says Linden Coppell, Etihad's manager, environmental affairs. Etihad prefers IATA's approach of cutting emissions through use of new technology, better operating techniques and other measures.

"We have to go for an approach that's the same for everyone in the industry; we need a global approach." She accepts that the

GREEN FLIGHT

problem will be finding someone to administer this, but the International Civil Aviation Organization (ICAO) is one possibility.

Etihad has formed an alliance with Abu Dhabi's Masdar Initiative, which is searching for solutions to major environmental issues such as climate change.

It is working with experts on the Masdar City project – designed to be the world's first zero-waste, zero-carbon emissions city – to improve the energy efficiency and waste management of its own HQ.

In neighbouring Dubai, Emirates Airline believes the greatest environmental difference it can make is through the selection and operation of its aircraft, according to chairman and chief executive, Sheikh Ahmed bin Saeed Al-Maktoum.

Its young fleet already betters competitors' in fuel burn and this will improve further as more Airbus A380s come on-line.

Sheikh Ahmed makes the point, however, that Emirates' environmental and conservation activities began long before these topics became fashionable.

They began with the Dubai Desert Conservation Reserve (DDCR), co-developed with the Dubai government and the first conservation area in the UAE. The DDCR is home to several protected species, such as the scimitar-horned oryx, and contains the Al Maha resort and spa, a pioneering environmental development in the region. Two similar conservation resorts – Wolgan Valley in Australia and Cap Ternay in the Seychelles – are due to open soon.

Elsewhere in the region, other carriers are exploring every avenue as they become more environmentally-conscious. Middle East Airlines is currently building an eco-friendly training centre that will make use of solar power and be as energy efficient as possible, says Captain Ousama Balaa, head of technical – not easy when it will contain several simulators, which are heavy consumers of electricity.

Elsewhere on the ground, he estimates that colleagues print only 10-15% of emails and documents compared to a decade ago. The airline also has a rapid, regular turnover of ground vehicles for the latest, most fuelefficient versions.

MEA is also taking an increasingly rigorous approach to flying more efficiently, both by reducing onboard weight – going as far as slimming down the in-flight magazine – and by estimating more accurately the quantities of fuel and luggage being carried.

Turkish Airlines, meanwhile, is also investing in younger aircraft to minimise fuel burn and is backing up the new equipment with more efficient flight-planning and execution of flight plans. Pilots and other staff are also being actively trained in fuel conservation measures.

With environmental pressures only likely to grow, taking the green route is likely to become just as important as finding the most fuel-efficient route between airports in years to come.

THE BATTLEGROUND IS HOTTING UP

Global warming has become a major battleground between aviation and environmentalists. Neither side can even agree on the scale of the problem. Airline industry representative body IATA accepts that airliner emissions contribute to 2% of current global CO_2 emissions and that this figure is likely to rise to 3% by 2050.

It notes, however, that even if all air travel stopped tomorrow, this 2% reduction in emissions would be at the cost of the global economy grinding to a halt. International tourism, for example, on which many communities and nations depend for income, would be devastated. It also argues that 80% of aviation emissions relate to flights of more than 1,500km, for which there is no alternative transport solution.

Environmentalists argue that airline CO2 emissions are already 20% higher than previous estimates and that the growth in aviation will more than offset any CO2 efficiency savings that the industry can achieve.

They also argue that measures such as bio-fuels and carbon-offsetting are being used as smokescreens by the industry and that only limiting the growth of airlines will ease the situation. If not, it believes aviation's CO2 emissions will constitute 5-6% of the global total by 2050 – around double the industry's estimate.





Low-cost airlines on a

ubai officially joined the low-cost revolution on 1 June with the inaugural flight by flydubai – the LCC owned by the Emirates group.

The flight, which took off from Dubai International Airport's Terminal 2 at 10.30 local time, was bound for Rafic Hariri International Airport, Beirut.

The new airline described the event as signifying an opening of the skies for low-cost travel to and from the Emirate but, until recently, Kuwaiti LCC Al Jazeerah had also been operating a hub at Dubai international. It moved to Bahrain citing criticism of rising charges by the Dubai authorities.

Chairman of flydubai, Sheikh Ahmed Bin Saeed Al Maktoum, was present to bid farewell to flight number FZ-157, which carried 189 passengers, including special guests H.E. Eng. Sultan Saeed AlMansoori, UAE Minister of Economy, Jamal Al Hai, SVP strategy & development, DCA and member of the Federal National Council of the UAE, and flydubai's CEO, Ghaith Al Ghaith.

Sheikh Ahmed said: "This is an historic moment. Today, we have not only witnessed flydubai's first commercial flight but we have also seen a new chapter in the history of aviation in the UAE.

"This region is highly dependant on air transport. It is a great credit to the vision and leadership of Sheikh Mohammed, Vice President and Prime Minister of the UAE and Ruler of Dubai, that this airline has now taken to the skies, thereby ensuring residents and visitors alike will be able to travel to more places more often."

Revolution takes off in Dubai

At 13:05 hrs Beirut local time, three hours and thirty-five minutes after take off, the flight arrived and was welcomed by a VIP delegation including: Rahman Hussain Al-Za'abi, UAE Ambassador to Lebanon, Elie Marouni, Lebanon's Minister of Tourism and Ghazi Aridi, Lebanon's Minister of Transport and Public Works.

Addressing a press conference in Beirut on arrival, H.E. Eng Sultan Saeed Al Mansouri said: "flydubai marks the beginning of a new era for the UAE. Now, more people than ever will be able to experience the wonders of our country, ensuring we will be visited by a greater number and wider range of people."

He also highlighted the special relationship between the UAE and Lebanon: "There is a real bond between us," he said. "The people of Lebanon and the Emirates are very similar in their outlook to life and that is one of the reasons we enjoy each other's nations so much, as friends and as visitors.

"We want to give our UAE customers the chance to experience the uniqueness of Lebanon, and to offer the opportunity to the Lebanese people to visit us in the UAE. We are very different

places, but very similar people," he added.

Mr Ghaith Al Ghaith commented on the landmark occasion: "Today will always be remembered as the day Dubai took an important step towards more accessible and more affordable travel.

"A lot of hard work has gone into ensuring our first flight was ready for take off when we promised it would be.

"From our historic order of 50 737-800 aircraft from Boeing at the Farnborough Airshow last July, through choosing cabin crew uniforms, hiring staff, selecting seat design and catering, there has been a tremendous amount of work to do. Seeing it all come together so successfully today and seeing our passengers enjoying their experience with flydubai, makes this a very proud moment."

Just one month after the inaugural flight, the airline agreed a deal to finance four of the Boeing 737-800 aircraft (worth US\$320m), with GE Capital Aviation Services (GECAS). The sale and leaseback agreement covers aircraft due to be delivered to flydubai from Boeing throughout the remainder of 2009.

Flydubai has announced flights to eight destinations across the Middle East, North Africa and India, and currently operates to four – Beirut (Lebanon), Amman (Jordan), Damascus (Syria) and Alexandria (Egypt).

The flydubai model is simple, with customers paying for the services they want.

The ticket price includes all taxes and a hand baggage allowance of 10kg. From there, customers are able to select other services at an additional charge.





high in the Middle East

Saudi's low-cost airline Sama urges its customers to "Simply Fly". Liz Moscrop discovers why.

Sama is, simply, a soar-away success

What's in a name? Many many things, according to the management team at Sama, Saudi's second low-cost airline, which set up shop in March 2007.

Sama is a strong Arabic word and its closest English translation is 'to soar'. It helps that 'Sama' is an easy roman name to type into a URL for non-native English speakers. Another happy by-product is that when read from left to right, the Arabic version looks like the English word 'low'.

This was an auspicious omen for the airline chaired by HRH Prince Bandar bin Khalid al Faisal and founded by several investors. These included Saudi's Investment Enterprises in collaboration with Mango Aviation Partners, a British firm specialising in low fare airline start-ups.

Mango is the brainchild of a number of senior executives with many years' experience in the European low fares airline industry. As such they brought the specific expertise necessary to establish and develop a new Saudi carrier. The airline received further initial start funding from 30 major Saudi private and institutional investors including Olayan Financial, Xenel Industries, Saudi Industrial Services, Sara Development Company and the Modern Investment Company for Trade and Industries.

Headquartered at King Fahad International Airport, Dammam, the airline flies a fleet of six Boeing 737-300s. Although the Saudi Kingdom conjures up images of the super wealthy ferried around in VVIP bizjets, it is also home to a burgeoning middle-class who are snapping up seats in droves.

Co-founder Andrew Cowen says: "Just because

there is only one class, that does not mean the interior, or many facets of the wider customer experience, had to be unpleasant. We wanted to demonstrate that you can travel very comfortably with Sama in single-class all-economy high-density seating."

Last December Sama moved into a new growth phase when Bruce Ashby, former president of Indian carrier IndiGo, succeeded Cowen as chief executive.

A month earlier Sama opened its first route to India, operating to Mumbai. The carrier serves the Dammam-Mumbai route three times per week.

Cowen also presided over several innovative moves, including network extensions via commercial agreements signed with Afghanistan's Safi Airways and Bahrain Air. These enabled the Saudi carrier to sell tickets directly to international destinations. Bahrain Air operates to ten destinations in Saudi Arabia, the Gulf and the Indian subcontinent while Sama's network covers 12 Saudi and 11 international cities. Safi Airways operates services to Dubai from the Afghan capital Kabul.

During his time at IndiGo Ashby brought the airline from start-up to profit and won several awards en route.

"Simply Fly" is the airline's slogan and Sama aims to do just that. The carrier fits the low-cost model perfectly with a single class of aircraft cabin on a single type of aircraft. This reduces training and servicing costs. There is also a simple fare scheme, with the cheapest fares available to passengers who book in advance.

Flights are short with fast turnaround times. There are also direct flights, with no complex transfers.

Employees work multiple roles, for instance flight attendants also clean the aircraft or work as gate agents. Sama also adopts an aggressive fuel hedging programme. There is no free in-flight catering or other complimentary services.

Ancillary revenues and partnerships form a solid component part of the airline's cash flow. A glance through its website reveals several partnerships with car hire firms, hotel chains and tour operators.

Buying a ticket is easy. Passengers can book via agents or alone.

With sector lengths of around 90 minutes, lowfare carriers deal in snacks rather than meals. This impacts both aircraft set-up and staff training costs. Cabin crew have simpler systems to deal with.

There is a one-bag restriction for the cabin, which was one of the learning curves for a culture used to travelling on widebodies and carrying lots of luggage.

This February Sama announced that it would waive fuel charges on domestic flights and cut 50% of the fuel price on international flights, which include Abu Dhabi, Sharjah, Alexandria, Assiut, Amman, Beirut, Damascus, Aleppo and Latakia.

Sama also cut its fares for domestic and international flights and the airline achieved profitability last August, reaching a milestone of 1.5m passengers carried and an international route network across the Middle East.

Ashy's Strategies are paying off. Sama is now looking to add aircraft to its fleet. He said: "we will provide further information on our specific plans later this year".

AIR TRANSPORT CARGO

Alan Dron reports on how privatisation is helping Saudi Cargo to weather the recession and square up to the commercial threat of its regional rivals.

Freedom freighters...

rivatising Saudi Arabian Airlines' cargo division has brought a new focus and dynamic to the operation, says its executive vice-president – qualities that will be needed for the fleet to hold its own in a region containing some of the world's most ambitious competitors.

But despite reflecting the global downturn in traffic experienced by the cargo sector over the past year, the newly-renamed Saudi Airlines Cargo Company (SACC) has continued to add new destinations to its route network and is close to finalising new fleet plans, says Michael Meagher.

Meagher, who has spent much of his career with Irish flag-carrier Aer Lingus and was latterly managing director of Silverjet Cargo, the freight side of the now defunct, UK-based business-class airline, moved to his current post in February.

He did so just months after Saudi Arabian Airlines' cargo operation had been privatised. Cargo was the second of what will eventually be six independent companies to emerge from the original parent company.

The others are catering, maintenance, Prince Sultan Aviation Academy, ground service and aviation services.

The airline plans eventually to transform itself into a holding company, with each of its subsidiaries operating as an independent profit centre.

"They will all be different businesses in their own right," says Meagher. "The rationale is that by privatising them and making them independent they will be able to exploit market opportunities much better because they will have a single focus on their business.

"We go about things in a much more focused way, from the point of view of how we sell and market our products. There is a new dynamic within the organisation that maybe wasn't there before," he says.

Privatisation of the cargo division has taken a somewhat different form than would be normal in Europe. Saudi Arabian Airlines retains 70% of shares in the organisation.

The continued strong link with its former parent organisation is emphasised by the fact that SACC's chairman is Khalid Al-Molhem, directorgeneral of Saudi Arabian Airlines.

Fahad Hammad is CEO. Earlier this year, Hammad was quoted as saying that privatisation of the cargo operation could pave the way for it to forge new commercial and strategic alliances.

Despite the airline group's controlling interest however, the taking up last September of the remaining 30% by Tarabut, a company of Saudi investors, has changed the whole 'feel' of the company, says Meagher.

"It has given us the freedom to go and make the changes we believe are necessary to develop the cargo business. We have our own board of directors, financial reporting and senior executive team, our own policies in areas such as sales and personnel.

"There is a service level agreement with the passenger airline covering, for example, the capacity we would use on a passenger aircraft. We pay for that capacity."

However, SACC also has five freighters of its own: one Boeing 747-200F and four McDonnell Douglas MD-11Fs. Saudi Arabian Airlines also leases two 747-400s from Iceland's Air Atlanta and sub-leases them to the cargo operation.

It has three hubs in Saudi Arabia – Jeddah, Riyadh and Dammam – as well as one at Brussels. Over the past year, it has opened new routes to Lagos, Istanbul, Cochin and Guangzhou – despite the downturn.

"We haven't dropped any destinations, although we have reduced frequencies to Europe and the US," says Meagher. Like other airlines, SACC has seen a drop in cargo originating from Asia, much of which passes through Saudi Arabia en route to Europe and North America.

The cargo operation has seen steady annual gains in freight volumes of around 5% annually for the past five years, with tonnages carried rising from 300,000 in 2004 to 364,000 in 2008.

The latter figure will not be reached this year, admits Meagher: "I can't give you a figure, but it will be less. Reduced consumer confidence has an immediate effect on our business." SACC recorded revenues of more than \$560 million last year.

SACC is looking closely at future fleet requirements, but the recession has temporarily put its plans on hold. "We need to see stronger signs of recovery in the global market before we finalise those."

On the ground, both Riyadh and Jeddah airport authorities have plans to build new cargo facilities over the next five to 10 years. "We will be core to whatever developments are going up," adds Meagher.

He sees SACC's immediate challenge as weathering the recession, then squaring up to the commercial threat posed by surrounding rivals. "We're in a very competitive market here: in Dubai, Abu Dhabi, Qatar and Bahrain we have airlines which have very progressive plans in air cargo.

"The challenge is to compete on price and service and to develop our three hubs into true international facilities."





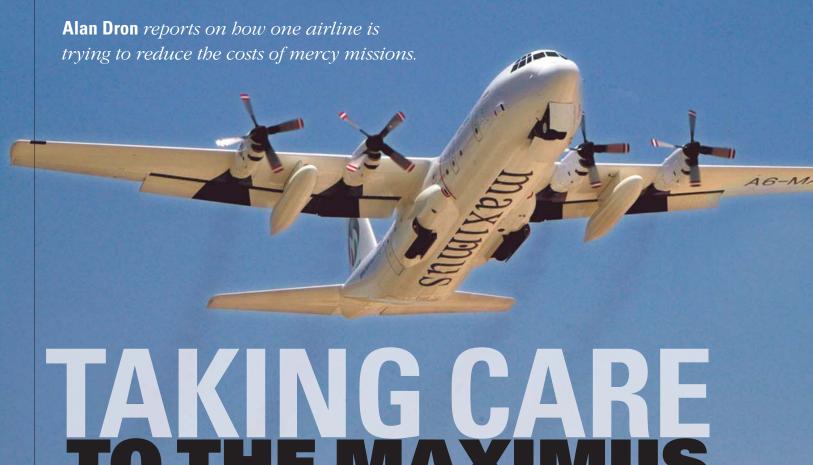
Introducing Sabre AirCentre, the industry's leading operations solution that helps deliver your promise.

Every ticket you sell is a contract. And managing the pieces that go into meeting those commitments is no easy task.

That's why you need Sabre® AirCentre™ Enterprise Operations, so you can deliver your promise across your entire airline – flight, crew, airport and maintenance – all at the lowest operating cost for your airline. Plus, its flexible technology platform adapts to your ever-changing business needs. That's our promise to you!

See the many ways *Sabre AirCentre* delivers. Visit **sabreaircentre.com** today.





assengers at Abu Dhabi International Airport who give more than a cursory glance to the white-painted freighters of Maximus Air Cargo taxiing past the terminal may notice the slogan Care By Air on their airframes.

Most, if they think about it at all, probably dismiss it as just another marketing slogan. But the phrase means a great deal more to the cargo carrier's staff.

In January 2008, the UAE Red Crescent appointed Maximus as its sole partner for air relief support, flying critically-needed supplies to areas of the globe suffering from natural disasters or conflict.

The role was not new to Abu Dhabi-based Maximus – it had previously flown emergency supplies into Sudan on behalf of the African Union's peacekeeping mission in Darfur province, as well as Lebanon after the 2006 war and Pakistan after the devastating 2005 Kashmir earthquake.

And it was after the Pakistan episode that Maximus decided to 'go the extra mile' in its humanitarian flights.

"We were heavily involved in Pakistan," says Maximus president and CEO Fathi Hilal Buhazza. "The UAE sent two field hospitals and we set up an air bridge between the UAE and Pakistan. A lot of people started to tell me 'Maximus makes money out of the misery of others'. I didn't like the sound of that. It wasn't in our values."

The result was that Maximus came to an agreement with the UAE Red Crescent and all its humanitarian flights are now operated at cost, with no profit margin. "We basically charge them Aircraft, Crew, Maintenance and Insurance (ACMI) rates and the actual operating costs," says Buhazza.

Maximus, a specialist heavy-lift cargo carrier, is trying to reduce the cost of humanitarian flights further by approaching other organisations, such as airlines, fuel suppliers or the air traffic control organisations of countries it overflies, to reduce or waive completely their charges for such missions.

Buhazza does not believe there is a danger in taking on too many of these non-profit flights. Even if not directly making money from them, the increased number of hours flown on mercy flights helps drive up efficiency, he says.

Flying into remote airfields in the middle of nowhere, with little or no ground equipment, is not easy, he admits. "But they're very rewarding operations, particularly for the crews and operations staff. There's a lot of eagerness to make things happen and overcome problems."

One example of this came in the form of a donation from the Crown Prince of Abu Dhabi,

who paid for one of Maximus's Lockheed L-382G Hercules to be stationed in the Sudanese capital of Khartoum for six-months (extendable for a further six months) to undertake relief flights to the south of the African country.

Earlier this year, Maximus was lead sponsor of the first Global Aviation Safety Conference for Humanitarian Air Operations, held in Abu Dhabi. The conference focused on aviation safety and the particular difficulties faced in transporting aid personnel and materials to sites that are often barely accessible.

"That was an eye-opener," says Buhazza. "There are a lot of good people out there. There are a lot of people working to provide information to make our flights safer, by giving us access to their databases and generally giving us information."

But Maximus tackles a lot more than humanitarian flights.

Carrying racehorses, royalty and 'hot loads' – ammunition for armed forces – is all in a day's work.

To tackle this range of missions, Maximus has a varied and specialised fleet. It operates an Antonov An-124, the world's largest aircraft, which can lift a 120-tonne payload, together with three Ilyushin Il-76TDs, known for their ruggedness. The fleet is completed by two Airbus

"They're very rewarding operations, particularly for the crews and operations staff. There's a lot of eagerness to make things happen and overcome problems."

Fathi Hilal Buhazza

A300-600RF freighters and a pair of Lockheed Martin L-382G Hercules.

The Hercules is unusual in having the capability of being fitted with a luxury passenger module, with 18 seats plus a self-contained galley and toilet and four pallets of cargo. This allows VIPs to travel with their own cars in the cargo bay, ready to drive when they reach their destination.

Moving racehorses and other livestock is one area that Maximus is currently developing. It aims to provide end-to-end transportation of valuable animals, including ground transportation at both ends and all the requisite paperwork.

More generally, Maximus intends to expand its activities in the ACMI market and is in discussions with a supplier to add a third A300-600RF to its fleet with this in mind. Further humanitarian work is also on the cards, with discussions taking place on a joint venture arrangement in this field.

One issue causing Buhazza some frustration is keeping the costs of maintaining his company's Russian and Ukrainian-built aircraft under control.

While he praises the Antonov and Ilyushin aircraft for their ruggedness and capabilities — "Second to none" — dealing with their manufacturers when it comes to spares and maintenance is not always easy, he sighs.

When you deal with a company like Boeing or Airbus, you know what your costs and your obligations will be for years into the future, so it is easy to plan, manage and make your company profitable. "With Russian aircraft, it's fire-fighting."

Whereas US or Western European suppliers would take a long-term view he says he can sum up dealing with Russian and Ukrainian managements in two words: "Me. Now. It's a case of 'What's in it for my company?' They don't look to tomorrow, when it would be a win-win situation and the business would be mature.

"If they were smart, they would recognise that a country like the UAE, with money, infrastructure and vision could really support them – possibly re-open the production line."

However, he adds: "I still have faith in them. We just have to meet the right person with the right vision."

High on his wish-list is a civilianised version of Boeing's C-17 Globemaster III military airlifter, something that has been mooted by several operators for some years now.

"I wish the C-17 would come on to the market as a commercial aircraft. I would really love Maximus to start this initiative, because at last there would be competition in the outsize [cargo] market."

SALES REVENUE CARRIES ON CLIMBING

Maximus is successfully riding out the recession that has caused problems for so many other carriers. Freight-ton kilometres flown during the year, the most important indicator of air cargo operations, grew from 135,996 in 2007 to 347,785 last year, up 156%. Total 2008 sales revenue jumped to \$110.8 million, compared to \$47.3 million in 2007.

The airline is now on target for \$130 million sales in 2009.

Has the recession had any real effect on the airline? "Not really," says president and CEO Fathi Buhazza. "We're all affected here, but at Maximus it's not that dramatic.

"The aircraft that we have operate in a very niche market and there are no alternatives for them. With clients like the United Nations and the UAE Government, cost is not really that big an issue.

"We achieved exceptional growth during 2008 and the upward trend-line is even steeper for 2009 as we continue to secure additional short and medium-term aircraft wet lease contracts."

NAVIGATING A FINE CAREER

Maximus's president and CEO, Fathi Buhazza, began life in aviation in 1983 as a navigator on C-130s of the UAE Air Force and spent nine years flying on the 'Fat Albert'.

He transferred to the service's flight safety department, took a degree at the University of Southern California and, in 1991, transferred to the Amiri Flight, where he stayed for almost 15 years, ending up as director of flight operations. Working in this VVIP organisation, he found himself involved in all types of flying, including medevac missions.

He moved to Maximus in 2005.

LAUDED BY ITS PEERS

Maximus's successes – both economic and humanitarian – have been recognised by its peers.

In 2008 it was declared Cargo Operator of the Year (Cargo Airline) in the Middle East Supply Chain and Transport Awards, while its role in bringing aid to victims of conflict and natural disaster was marked with awards to the airline as a whole and Buhazza personally.

A significant development in the airline's evolution also occurred last year, when Abu Dhabi Aviation acquired a 95% stake in the company.

Under this deal Maximus will retain its brand, operational independence and management structure. "The change will allow the company to pursue its route to increased efficiency and profitability and ensure corporate growth," says Buhazza.

But efficiency, profitability and growth pale into insignificance compared to the emotion felt by some of Maximus's 'customers' when they see one of its white freighters disgorging its vital loads of lifesaving supplies on a rough airstrip in one of the less fortunate areas of the world.

With the expansion of
Muscat International
Airport underway and
investment in the
destinations of Salalah and
Khasib, Oman is widening
its appeal to the inbound
tourist market.

Marcelle Nethersole reports.

New domestic routes help to put Oman on the map

he Sultanate of Oman is the second largest country on the Arabian Peninsula. Rich in natural resources – petroleum, natural gas, copper, fishery and agriculture – it is also a cultural hub with breathtaking scenery, beautiful beaches and a traditional approach to tourism.

Oman receives 1.4 million visitors a year and that number is soon to increase following the tourism promotion of two locations, new hotels, an increase in domestic flights and the upgrade and expansion of Muscat International Airport.

"Oman isn't just about Muscat," says Nigel Stoker, MD of Oman Holidays – a division of Oman Air that is hoping to emulate the inbound successes enjoyed by Emirates Holidays and Qatar Holidays.

"Oman has beautiful destinations that have been opened up. Oman Air operates between Muscat and Salalah, which is known for its beautiful waterfalls, soaring limestone cliffs, palm-lined beaches and world-famous heritage attractions."

A rich and fertile land, Salalah is attractive to tourists as the weather is always balmy and hardly ever exceeds 30 degrees Celsius. It is the only region in the Gulf to receive the Khareef monsoon showers, which fall from July to September. There is abundance of wildlife and some of the finest, most unspoiled diving in the Arabian Peninsula. "What more could you ask for in a vacation?" asks Stoker.

The other domestic location being promoted is Khasab, where Oman Air is the only airline to fly.

"Khasab, is the capital of the Musandum region," says Stoker. "It is surrounded by imposing and dramatic mountains that dominate the area, with some peaks above 2,000 metres. The setting against the mountain background is spectacular."



The Kumzan fort is just outside Khasab. It was built in about 1,600 AD by the Imam but little is left today.

Near to Khasab is the village of Tawi, where there are prehistoric rock carvings of warriors, boats and animals. "The biggest draw, however, is the diving opportunity in Khasab," says Stoker. "You can enjoy spectacular underwater cliffs and there is an abundance of marine life at sites just a short boat ride away. Already we have a lot of visitors to Muscat mainly from the GCC, followed by UK, Germany and then the Indian subcontinent."

Oman Air hopes that the promotion from the new subsidiary will help drive up the traffic.

Resort-style developments

New hotels and resort-style developments are already in place and Oman Air Holidays is offering packages such as a three-days and two nights in the four-star Golden Tulip hotel with a twin room and complimentary breakfast for RO 99 (just over \$250) excluding taxes.

Airports are also preparing for an increase in flights and are working with route planners to attract more international carriers to the new destinations.

"At the moment there are projects to build several new regional airports and these will be

completed over the next few years," says Stoker "Currently there are three airports – Muscat, Salalah and Khasab – with Oman Air also operating domestic flights for the Petroleum Development of the Sultanate. As an airline we have recently increased our frequencies to Khasab to daily services and this is proving popular. These are being predominantly promoted to Oman and other GCC countries flying via Muscat."

Oman's government has just signed a series of agreements for the construction of the new domestic airports as well as the modernisation of the two international gateways in Muscat and Salalah.

The contracts, totalling around \$1.5billion, will lay the groundwork for the development of a comprehensive and modern network of airports that will fuel the socio-economic growth in the different regions of the country as well as tourism.

In all, 13 contracts were signed by Dr Khamis Bin Mubarak Al Alawi, Minister of Transport and Communications, with a number of local and international firms. The biggest contract involves upgrading Muscat and Salalah international airports. At roughly \$1.16bn, the contract is the largest civil infrastructure project awarded by the Omani government so far this year. Total investment in both airport developments is estimated at well over \$3bn.

When operational by early 2013, the new Muscat International Airport will boast a new runway, several taxiways and aprons, and a state-of-the-art terminal equipped to handle 12 million passengers per year. Salalah International Airport will be modernised to cater to the city's rapid growth as a tourism destination and major transhipment hub and free zone.

The contracts will also pave the way for the



From the ancient city of Muscat (above) to the lush lands around Salalah, Oman is offering more for inbound tourism.

construction of new domestic airports aimed at business rather than tourism. These are at Sohar, Adam and Duqm and are among a total of six new domestic airports planned by the government in the different regions of the country.

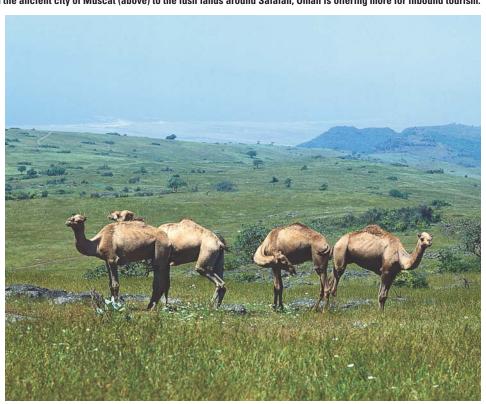
Sohar, located around 200km north of Muscat, is already a major port and industrial hub and the site of an ambitious Special Economic

Duqm, on the Sultanate's southeastern coast, is already targeted for development as the site of a world-scale port and dry dock complex, alongside a major industrial hub.

Resort-style developments

The domestic airport at Adam will serve as a gateway to the vast central desert heartland of the country. Three other airports are planned at Ras Al Hadd (Sharqiya region), Haima (Wusta region) and Shaleem (Dhofar Governorate).

"Major international airlines are adding Muscat International Airport to their routes, facilitating travel to an increasing number of worldwide destinations and the exotic destinations of Salalah and Khasab will, in the long run, further boost tourism projects and investments as well as aid in the diversification of the nation's economy, providing employment to the eligible national cadres," says Stoker.







Leaders by Definition

- Exclusive Aircraft Fleet
- Excellent Charter Solutions
- Exemplary Services

It's simply about availing yourself of the full range of business tools to do your job, maximize efficiency, increase productivity and save time - a necessity really!

Our fleet includes: Gulfstream G450, Falcon 900B, Falcon 900DX, Hawker 850XP, Cessna CJ

business aviation

EBACE REPORT



Marwan Atalla of Ayla and Nadir Dajani sign the Premier agreement.

iven the economic crisis that was truly showing its colours in May, this year's European Business Aviation Conference and Exhibition (EBACE) was an unknown quantity. Yet, undeniably, the Middle East stole the show and was again at the forefront of business aviation.

This year's event again took place on the serene shores of Lake Geneva but without the vigour and zing of previous years' order bonanzas. Undeniably, however, show-goers still did business amid a market that has high hopes for a speedy recovery.

Amman-based charter outfit RayaJet took the lead by following up on a teaming arrangement deal it signed with Aqba-based Ayla Aviation Academy at last November's MEBA, with a joint order for a Hawker Beechcraft Premier II as the two move to combine their business into a aviation full-service provider. This partnership will arguably create the only company offering pilot training, business jet maintenance, handling and aircraft charter in the Middle East.

The Premier II is slated for delivery in 2011 and will be used for both charter and training. There are also plans afoot to set up a maintenance hanger by 2011, initially specialising in Hawker Beechcraft types, and acquire at least one full flight simulator, probably for a biz jet.

"We are two young companies providing the finest qualities of service," says RayaJet Chairman Nader Dajani. "Jordan is a good place to recruit the best aviation professionals."

Middle East shows the way at EBACE



Dajani also believes that, because of Jordan's ready supply of mostly ex-air force engineers and pilots and the support of a very proactive national civil aviation regulator, it can compete on at least an equal footing with rivals in other Gulf states when offering training and maintenance.

At the other end of the scale Embraer not only displayed but also delivered the first of its Lineage 1000s that was handed over just before the show to HE Aamaer Abdul Jalil Al Fahim, chairman of Ark Angel Investments. The aircraft is to be managed by Prestige Jet.

Eurocopter used the show to announced its latest amendment to its offering by adding the EC145 Stylence to its range. On display in



business aviation

EBACE



The Eurocopter EC145 and right, the Stylence interior.

CONTINUED FROM PAGE 35

the exhibition halls marked the first time that the EC145 had been seen in the Stylence configuration.

The manufacturer says business aviation has significantly developed over recent years and has made up for 20% of its total worldwide sales.

"The introduction of the EC145 Stylence at this year's EBACE shows our confidence in business aviation and its future, despite the current economic downturn. It is also proof of Eurocopter's ability to adapt to the ever-changing needs of our demanding customers in order to provide them with maximum satisfaction," says Dominique Orbec, vice-president market development.

Latest addition

According to Eurocopter, the latest addition to the Stylence family merges ergonomics and advanced technology to provide fully equipped in-flight offices for business executives and companies. It says business executives can work in peace and quiet while having access to telecommunication such as built-in telephones, internet and emails.

Geneva also played host to Boeing's announcement of a new configuration of its 747-8 VIP being prepared for two head-of-state aircraft for a Middle Eastern customer. The customer is believed to be the Kuwaiti royal flight.

Boeing says it has partnered with Greenpoint Technologies to offer sleeper berths and lounges for 747-8 VIP operators.

As well as the two Kuwaiti head-of-state aircraft, an additional Middle Eastern client has also ordered two kits.

The Overhead Space Utilisation kit provides up to 75 square meters (807 square feet) with room for 16 sleeper berths or two lounge modules, set above the main cabin in the crown of the aircraft between doors three and five.

The concept was originally marketed by Boeing as the 'SkyLoft' but it found little interest from airline customers for additional revenue generation. But, Boeing marketers found that the VIP market would appreciate the additional sleeping areas.

Passengers will be able to access to the OSU area by way of a forward entry staircase at door three, which also accommodates 67kg (150lbs) of additional stowage on the main deck.

Each of the private 747-8 VIP berths offer lieflat 36-inch x 78-inch mattresses, equivalent to a standard single bed, as well as a privacy curtain, removable decorative panels and a passenger service unit for calling a flight attendant.

The unit will be installed post-production and



Sleeping space in the Boeing Skyloft.

is separated from the main deck by removing the main cabin centreline overhead bins. The lower surface of the OSU will be separated from the cabin using a closeout fairing, but provides an attachment point for the modified ceiling and a revised interface for the centreline passenger service units.

When installed, Greenpoint will obtain an additional FAA supplemental type certificate for zero passenger configuration for the aircraft, and later as an in-flight-only feature once the OSU is provided a passenger occupancy certificate following final completion.

Deliveries are scheduled to begin in 2011 and run through 2013.

Test programme

Boeing holds orders for a total of ten 747-8 VIP aircraft, the first of which will be delivered in the fourth quarter of 2011, following a two-aircraft flight test programme for certification.

Meanwhile Dubai-headquartered Action Aviation signed an exclusive distribution agreement for the Dornier 328 Jet for the Middle East and Indian sub-continent with Germany's 328 Support Services. The German outfit holds the Dornier 328 Type Certificate and supports the worldwide feet of more than 200 Dornier 328 aircraft.

Under the agreement Action Aviation will market the 328 Jet to the VIP market and charter companies in the region through its local offices in Dubai and India.

The Dornier 328 VIP aircraft is usually offered with the option of long-range tanks, thereby providing a range of up to 2000 nautical miles (3,700 km). With a delivered price, dependant on final specification, of roughly \$10

million including a customerspecified bespoke interior, the Dornier 328 Jet is possibly the most





WALLAN AVIATION

- Cessna Authorized Sales Representative in Middle East Countries (ASR)
- Cessna Authorized Service Facility (ASF) located in Thumamah, Riyadh, Saudi Arabia
- Bell Helicopter Authorized Representative in Saudi Arabia
- Part 135 Air Operator Certificate issued by GACA (General Authority of Civil Aviation) of Saudi Arabia

Wallan Aviation is honored with the Certification of Appreciation by US Dept. of Commerce for Achievement in trade for creating International Trade Opportunities between United Stated and Saudi Arabia.







Cessna Authorized Sales Representative Middle East Countries



الوعكان للطيران

وكيل شركة سسنا للطائرات بالشرق الأوسط

business aviation

EBACE

CONTINUED FROM PAGE 36

cost-effective 'large cabin' VIP aircraft on the market today.

EBACE also marked the launch of a new charter joint venture to be based in Beirut between Tyrolean Jet Services (TJS) and Clearsky.

It is to be called Clearsky – Tyrolean Jet Services (CST) and will offer charter through its own fleet and third-party aircraft and management services in its first phase and then add maintenance and FBO services in its second phase.

The first aircraft to be used by the JV is a Dornier 328 Jet in a 14-place executive interior, which was based in Beirut in June.

Basil Al-Rahim, founder and president of Clearsky's owners MerchantBridge International Holdings says: "The Middle East executive aircraft market is still in its infancy when compared to developed markets and, notwithstanding the current challenging global and regional environment, offers important growth opportunities in the medium term. We are pleased to have teamed up with TJS to better serve this market."

Arab Wings, which claims to be the first Middle Eastern biz jet operator, announced plans for a European acquisition as its owner embarks on an expansion strategy that includes new offshoots in Bahrain and Sharjah, as well as an aviation university.

New university

The company owns the Royal Jordanian Air Academy and the Queen Noor Civil Aviation Technical College in Amman. Both will be merged into a new university in September, offering degrees and other courses in every aspect of aviation, says CEO Ahmad Abu Ghazaleh.

Arab Wings, which has 10 aircraft under management and is adding two more this year, is also establishing Gulf Wings in Sharjah and Luxury Wings in Bahrain. Both will operate with local air operator's certificates, and Ghazaleh expects Gulf Wings to have up to 20 aircraft under management by the time of the Dubai air show in November.

Ghazaleh's business acquired all three Jordanian companies from the government between 2003 and 2008. He says prudent running of the company when the industry was on a high has left it with a strong balance sheet. "Unlike many, we didn't go wild. This is now the year when we plan to expand the most," he adds.

Spanish operator Corporate Jets XXI announced it was to target the Middle East after the economic crisis took its toll on its key domestic market – the Spanish building sector.

The company says it had relocated its Dassault Falcon 900C to Saudi Arabia in an agreement with a business owner in Riyadh. Although the aircraft will remain with Spanish registration, the company plans to offer charter on it, as the main user will only fly it 40% of the time.



"We can have clearly defined areas for work or rest. We have made sure the aircraft can have state-of-the-art entertainment and office communication capabilities," says Colin Stevens.

Lineage rewrites the book on style

The first Embraer Lineage 1000 business jet to enter service clocked up more than 180h in its first month, including 110h from the launch customer Al-Faheem of Abu Dhabi.

The aircraft – based on the Embraer 190 regional jet – is operated by Prestige Jet and has been used for frequent UAE-to-Europe missions.

The Lineage 1000 was delivered during EBACE and the Brazilian manufacturer is believed to now have 20 orders for the type, with the majority destined for the Middle East.

"The entry into service has proved to be successful," says international sales director Colin Stevens. "We are seeing direct operating costs at 15% less than the BBJ and 30% less than the ACJ. We are ironing out one or two small problems. All-in-all we think this is going to be a very successful aircraft for the Middle East region."

Arabian Aerospace had an opportunity to inspect the launch aircraft in Geneva as it began its delivery flight to Abu Dhabi. The highly-polished leading edges of wings and engine inlets immediately mark this out on the ramp from its commercial regional jet sister. Polished chrome external handrails lead upward into the cabin, where a warm reception area gives a taste of things to come for the 19 passengers.

Carpet throughout the 25.9m (85ft)-long cabin is padded below with multiple layers of sound-dampening insulation. Baggage and cargo is loaded in the rear port-side door and placed in a heated and pressurised 9.14m3 (322ft3) storage section at the aft end of the cabin, accessible during flight. Embraer is offering an option to remove some of the storage space and, instead, install a shower.

Embraer estimates it will now take six months from the time the designated aircraft is pulled from the E190 production line, fitted with auxiliary fuel tanks and had an interior fitted. The additional tanks boost fuel capacity by 69%, up to 21,867kg (48,165lb) or 27,232 litres (7,185USgal) from the standard fuel load of 12,972kg in the E-190; wing tanks providing for an intercontinental range of 8,149km (4,400nm) allowing it city pairings such as Abu Dhabi to London, Hong Kong or Johannesburg. "Because of the aircraft's heritage we can operate in places like New York's Teeterboro and even London City," Stevens says.

Inside the first Lineage, the interior is spectacular with a contemporary, white leather.

"While we welcome customers bringing in their own designers to work on the different modules, we are proud that we offer more than 700 options in fabric for the divans, panels and curtains and more than 400 choices in leather," Stevens says. The interior was designed by Priestman Goode and completed by De Crane.

"Because the Lineage is longer than both the Airbus ACJ and the Boeing Business Jet, it allows numerous possibilities.

"We can have clearly defined areas for work or rest. We have made sure the aircraft can have stateof-the-art entertainment and office communication capabilities – it is not surprising that it has already been in such demand."

It is not just the passengers that benefit. For the crew there is comfort and style as well as latest technology. There is a crew rest area and a separate crew lavatory. The cockpit is equipped with a Honeywell Primus Epic avionics suite that allows for the Rockwell Collins Flight Dynamics head-up display.

Émbraer is in the process of certificating the Kollsman EVS II system, which will give Lineage pilots an infrared forward view when it is ready next year

"The Lineage costs significantly less to fly than its competitors but has all of the comforts. I am proud that it is already delivering outstanding performance in service in Abu Dhabi," Stevens says.

YOUR PARTNER IN BUSINESS AVIATION



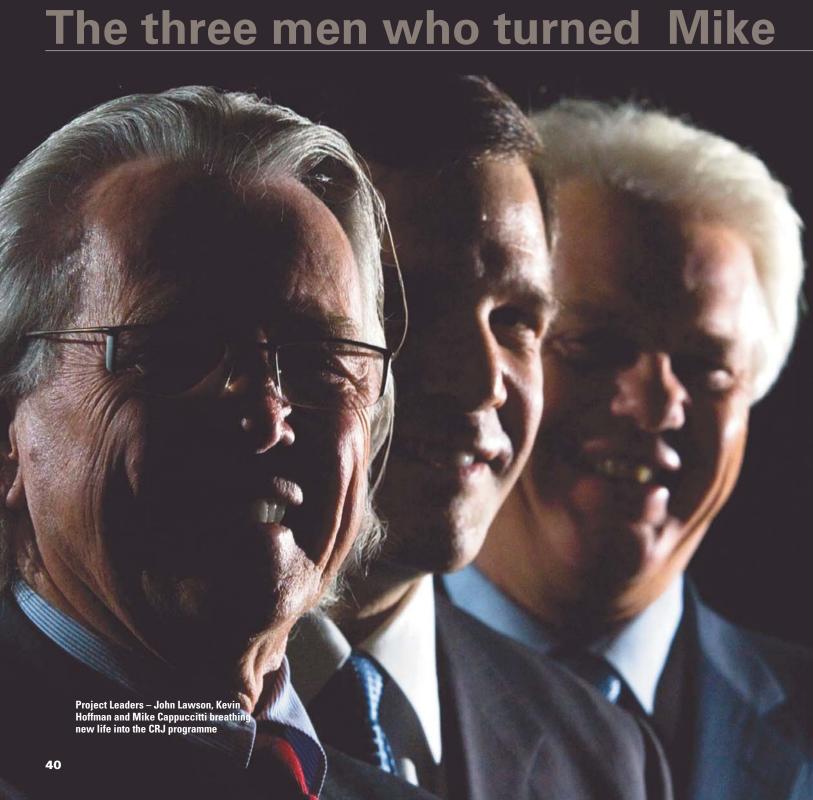
GROUND HANDLING
AIRCRAFT MANAGEMENT
AIRCRAFT MAINTENANCE
FUELING
NAVIGATIONAL AIDS



business aviation

PROFILE

PHOENIX The three men who turned Mike



KARIGHTS Cappuccitti's dream into a reality

ike Cappuccitti is a man who is prepared to follow a dream when he believes it is real. After years running the Middle East operation for business jet manufacturer

Bombardier, he had the courage of his convictions to move on from the comforts of corporate life, 'put his money where is mouth is' and launch Project Phoenix.

That was three years ago – and on 12 June Cappuccitti's dream became a reality when the first specification Phoenix CRJ (Serial No 7211) took to the air for 1 hour 10 minutes from completion centre Flying Colours' facility at Peterborough, Ontario.

With the support of former Bombardier aerospace president John Lawson as a special advisor and a partnership with design specialist Kevin Hoffman, who designed Global Express, as his co-chairman, Cappuccitti is convinced that the market in the Middle East and Asia is right for the new-look aircraft.

The aircraft's elegant, new 15-seat luxury interior includes a state-of-the-art cabin management system and IFE, with Airshow 4000, ipod stations and full internet and Satcom communications.

The aircraft, with its clean and stylish interior, has been well received by both owner Ritz Pacific and Jet Asia, which will fly it on its AOC.

"There is a big difference between other conversions and the Phoenix CRJ," says Lawson.
"During my time at Bombardier I pushed to get this aircraft into the market. It has a cabin like the Global Express, with a range that may be shorter but, actually, is ideal for most of the missions that are carried out. There is a significant cost difference. The Phoenix CRJ is built for specific owners."

Cappuccitti continues to run the Project Phoenix operation from Dubai. "We really are a global business," he says. "The completions and design work is done in Montreal but the sales operation stems from here. I am convinced that, as people in this part of the world see the standards that we are reaching, the demand will increase."

The results from the first aircraft have been pleasing with improvements in weight over the projected specifications. The Phoenix CRJ now has a payload of more than 1,200lbs with full fuel including the long range auxiliary tank — which equates to six passengers; compared to Bombardier's CL850 which has a full fuel payload of less than 200lbs (approximately one passenger) with the same high specification.

"This is extremely gratifying news and pretty much what we predicted. Well done to Flying Colours for the weight reduction program," Cappuccitti says.

Phoenix CRJ No 1 has been fitted with Flying



Colours' own long-range fuel tanks, providing a maximum range in excess of 3,000nm and giving US coast-to-coast capability

The organisation has been strengthened with the arrival of Mike Creed from Dubai-based Action Aviation to head the international sales team. "Having believed wholeheartedly in the Project Phoenix offering and actually helped draw up the business plan with Mike Cappuccitti three years ago, I am delighted to be in-house working with such a professional team," he says.

"Despite the economic gloom, we are seeing a lot of interest, especially in the Middle East where the market is becoming increasingly cost-conscious."

Phoenix is also likely to extend its offering with a second model – the Boeing 737, which could take the company head-to-head with Boeing Business Jets.

"What we have done with the CRJ is taken a very good airplane and made it even better," Cappuccitti says. "It took us a lot longer than we planned to deliver the first aircraft due to changes in the STC for the tanks on the conversion. But we are now looking at other possibilities.

"The Boeing 737-300 and 737-500 are ideal vehicles. There are plenty of them around and, provided we can get the STCs sorted out, we believe there will be demand for the quality that we are delivering on the Phoenix CJ200.

There is a lot of interest in what we are doing. This is very different from other conversion projects. We are building a brand. We don't buy the used aircraft on spec, we do it when we know what the customer needs. When we get the aircraft, the engines are sent back for a complete overhaul, we take out the gear and send that back and then we work on the interior. The interior design and finish is of a different quality. It will only be a Phoenix if it meets that quality standard.

We have the approach of an OEM. We stick with the customer after the sale. We have power-by-the-hour with Lufthansa Technik-supported eJet programme; we give the Medaire training for crew and have special rates with CAE. The real difference is quality and our CRJs are more akin to a Global than a Challenger."

The current world economic downturn has led to more interest in the model and to a weakening in the purchase price, but Cappuccitti says the underlying business model of getting an aircraft delivered in 12 months is still attractive.

"That's why we think we can succeed with other models," he says. "The 737 is an ideal platform and we are also looking at the BAe146."

Project Phoenix has also signed an agreement with Spectrum Aeromed to develop a variant of the CRJ, either a dedicated air ambulance or with a quickchange-fit option.

business aviation

PROFILE



The Piaggio Avanti II selling well in the Middle East with new options to follow.

erraris are not exactly two a fil in Abu Dhabi but they are a familiar enough sight. The Ferrari World theme park is under construction on Yas Island but connections between the Italian luxury manufacturer and the Gulf Emirate could become even closer in the next few years.

Abu Dhabi's investment company, Mubadala, has taken a major shareholding in the Piaggio aircraft company that was bought by the Ferrari family a decade ago and carries the iconic prancing horse logo on the nose of its increasingly successful turboprop the Avanti II.

India's TATA group has also taken a stake in the company and the three partners have been developing a strategy that could see a new jet being assembled in Abu Dhabi.

Piaggio chief executive Alberto Galassi is adamant that the Italian manufacturer, backed by its Indian and Emirati shareholders will "wait until the time is right".

The company is learning lessons from the automotive industry and, Galassi says, from the mistakes of others.

"We are waiting because we want to wait. Who wants to hear about a new airplane, take orders and then wait 10 years for delivery. You don't see Ferrari announcing a new model and then spending years developing it. Ferrari designs the car, builds it and then launches it. I want us to be close to first flight and with the latest technology before we tell people about it."

Stories that Piaggio has been planning a jet version of the Avanti have been rife for nearly four years, but now Galassi says the plans are in place.

"We have our shareholders in place and we have our shareholders' commitment," Galassi says. "Both the chairman of Mubadala and Mr Tata have had input and made us think again about the size, the range and the type of aircraft we need for a global market. Their involvement is about a lot more than cash. They both bring a passion for aviation and that shows in what we are doing.

Mubadala buys into the Ferrari dream

REPORT ALAN PEAFORD: GENOA



Albet Galassi – the company is learning from Ferrari.

"I promise you one thing, this is a beautiful aeroplane. You would not expect anything more from Italian style and Ferrari. It costs the same to design an ugly aircraft as it does a beautiful one. So we have the beautiful one."

Piaggio is gearing itself up for the expansion. Building work will start in the next two months on a Greenfield 130,000m2 (1.4 million ft2) engineering and subassembly facility at Villanove d'Albelga, which will replace the ancient 70,000m2 plant at Finale Ligure. An area at the main facility at the Genoa headquarters that used to house the P66 line is now empty, leaving room for primary manufacturing in Genoa but also the door open for assembly to be moved to Abu Dhahi

Until the new aircraft is unveiled, Piaggio is stepping up efforts to market the twin-pusher Avanti II and brings an aircraft fitted with the new Nordam interior to Geneva.

Sales have increased dramatically since the Ferrari family became involved in the Piaggio business. Only 32 of the Avanti I aircraft had been sold in the 14 years before the carmaker's family trust, under the leadership of Piero Ferrari, stepped in.

The upgraded Avanti II, with Rockwell Collins Pro Line 21 avionics and Pratt & Whitney Canada PT6A-66B engines, certificated in 2006, has seen demand leading to aircraft number 200 now on the line in Genoa.

Production stepped up to 30 units a year and will remain there through 2009.

Plans to increase production to 38 have been shelved during the current global financial crisis – but one thing that will not be cut back is the \$7.19 million price tag.

"Manufacturers should not be cutting price," says Galassi. "That is another thing we learned from the automotive industry. If you have a quality product you should not discount. You can never get the price back.

"This industry needs to stay firm and hold its nerve. It will come back and people will pay the



The spacious Avanti interior.

right price. It is a business tool and a necessary one. It is not just a rich person's play thing.

"Enzo Ferrari taught me one thing – always manufacture one less than the customers want. That makes them want it all the more. Business aircraft are the same."

The team at Piaggio is very confident that current market conditions play into the hands of the Avanti. "We have the right plane for the wrong times," says Galassi. "At a time when executives are nervous about being associated with jets, we can provide a jet performance at a fraction of the cost that pleases the shareholders and doesn't diminish from the levels of comfort or practicality that executives need.

"If the case for business aviation existed before, then it exists now. I don't like seeing the attacks on the jet manufacturers. It is like a witchhunt. Companies that used jets for long-haul flights say, across the Atlantic, should continue to do so."

The Avanti's cabin is similar to that of the Dassault Falcon 50 and has the feel of the midsize jet about it.

The pusher engines are so quiet that it sounds quieter than a jet, and certainly quieter than other turboprops. The fuel savings are as much as 40% over a jet aircraft of similar size.

"Our operating costs are less than for an entrylevel jet," says sales director Fabio Sciacca. "We can also operate in smaller fields and tougher runways."

The Piaggio link with the Ferrari brand has extended as a sponsor of the Formula One racing team. Indeed the drivers' championship trophy acts as a vase in the Piaggio boardroom. Former world champion Michael Schumacher was a great fan of the Avanti; Felipe Massa even more so as he has become a customer of the manufacturer. "With a range of almost 1,500 miles it is ideal for getting between race tracks." Sciacca says.

And if Galassi – backed by passionate investors – has his way, Massa and team may soon be able to travel the world from the Abu Dhabi Grand Prix and beyond, with the new Piaggio jet.

Saudis buy in to VIP Merlin

Ordered to meet a US Navy requirement for a new presidential helicopter as the VH-71, AgustaWestland's three-engined AW101 Merlin is rapidly gaining traction in the VIP helicopter market.

But while the VH-71 is grabbing all the headlines, and while India has selected the type to meet a 20-VIP helicopter requirement, Saudi Arabia looks set to become the first VIP operator of the AW101.

Though details are sparse, the bare fact that a customer in the Kingdom of Saudi Arabia had ordered two VIP AW101s was revealed in a Finmeccanica report.

Arabian Aerospace understands that this pair of VIP Merlins will be used for head-of-state type transport duties, and that they will be powered by General Electric CT7 engines, rather than the RTM322 engines used by the RAF's Merlins. They will most likely be military registered.

The Saudi order came as something as a surprise to many observers, as the Kingdom is already an operator of the rival Sikorsky S-92, which has gained some success as a VIP and head-of-state helicopter, serving with Royal and Government flights in Kuwait, Qatar, Turkey, Turkmenistan, South Korea and Thailand.

The AW101's three-engined configuration and larger cabin are powerful advantages in the VIP role, however, and were responsible for its selection ahead of the S-92 to meet the US VXX presidential helicopter requirement.

The AW101 cabin has a height of just over six feet and is estimated to be 25% wider and 29% more



voluminous than that of its closest rival. It is the same width and height as the cabin of the standard-setting Gulfstream IV bizjet, but with bigger windows that make the interior much lighter and feel more spacious.

Even more crucially, the Merlin beats its rivals hands down when it comes to noise and vibration, with its five-bladed main rotor and BERP IV main rotor blades giving a ride that is claimed to be as quiet and as smooth as that offered by class-leading fixed-wing turboprops.

AgustaWestland declined all requests to give any further information about the reported Saudi order.

Rizon to build new Doha MRO base

Doha is to be home to a brand new MRO facility from Middle Eastern biz jet operator Rizon.

The company has announced it is to build a 120,000 square feet modular maintenance and handling facility at the international airport in Qatar.

The new facility is expected to be open at the end of the first quarter next year. Chief executive Will Curtis says it represents an investment of around \$10million dollars.

Curtis explains the decision saying: "There are around 300 business jets in the Middle East and, maybe, only 270 maintenance spaces. Quite clearly there is a need for more maintenance."

The Qatari facility will apply for its EASA145 approvals probably four months or so before the facility is due to open, and follow a similar pattern to the UK facility. Curtis says the company will focus on building up its facility and work on selling the maintenance as the facility comes closer to being operational, so that contracts are in place for the first day of business.

Curtis predicts that the first year's revenues of the Qatar facility will be in the region of \$2m.

Product support is becoming a key factor when purchasing an aircraft. Curtis says he is "talking to various manufacturers" about getting Rizon to become Authorised Service Facilities, although he remained tight-lipped about which manufacturers he was speaking to.

He is happy to talk shop to all the manufacturers that have aircraft in the region, saying: "We can't rule out any of the manufacturers, but obviously in the Gulf

Hawker Beechcraft and Bombardier are the two that have sold well into the region. And these would be the logical choices to begin with.

"We are committed to our service offerings and we see that as part of our long-term relationship with the aircraft manufacturers."

Crucially, Curtis is hopeful that becoming an ASF in the Middle East can be accomplished within the first year of the facility being open.

"It's difficult to see how anybody could object to a service centre being established in Qatar. It is its own state and has no other service centres," he points out.

"The manufacturers are aware that whoever creates the best service centre network in the region will win the sales."

Curtis knows that one of the maintenance challenges surrounds the logistics of getting spares into the region because generally they are in North America.

He says the region needs to spread its support network, especially with his prediction that the growth in the next up cycle will be enormous.

Bahrain is also on the horizon for the company. "We are already in talks to set up there but it takes time in the Gulf and there are the protocols. We have to move step-by-step.

"We are also looking at co-operative projects in Dubai," he says, admitting that Rizon had been approached to set up a maintenance facility in Dubai. "We may go down that road, we may not. We have to play it a little bit by ear because we mustn't overreach ourselves."



Making connections in the Middle East



AIME 2010

CREATING CONTACTS IN THE AIRCRAFT INTERIORS MARKET

28 FEBRUARY-01 MARCH 2010
DUBAI, UNITED ARAB EMIRATES
www.aime.aero/exhibit



business aviation

PROFILE

Khader Mattar: "There's a huge gap in the Middle East that we need to fill with business aircraft"



Bombardier ready to fill the gap with Learjet 85

or Canadian manufacturer Bombardier the Middle East represents a strong market. And with 50% of the installed base for large business jets, the company is keen to keep hold of its dominance in the region.

Part of the company's appeal to Middle Eastern buyers is that it has a good support base in the region – not to mention the fact that it was the first OEM with facilities in the area. And it has a spares depot there, too, says Khader Mattar regional vice president, sales, Europe, Middle East and Africa.

While maintenance is a big deal the world over, in the Middle East it is becoming a critical aspect of selling jets into a market that has fallen considerably. Yet, manufacturers still need the right product to take to the negotiating table.

Mattar believes that the Learjet 85 is right for the region. "Considering the economic climate, and particularly the financing side, what has happened in Europe is catching up

to the Middle East. We have seen a bit of a downturn recently, but having said that we are still having inquiries and are doing deals across the board of our business jet families. There is no favouritism over price or size right now," he says.

Mattar attributes one element of the demand to the way regional investments have changed. "It has always been known that in the Middle East investments stay in your own country. But this is changing. There are a whole series of regional investments being made that mean business owners and investors need to travel around the region. Therefore, they need a jet so that they can do their business.

"We have seen a spark. There is some light at the end of the tunnel," explains Mattar. "There are people interested in our aircraft, but now doing deals takes longer. Naturally the banks aren't coming forward as much for the lending. When you add all these ingredients, you end up with a market that isn't depressed but it is certainly slower. So we are working with customers to decide what is the best way to conclude a deal. That could be through our structured financing department. But we are not only looking in the region for options but outside as well to see if we can find finance for our customers."

Certainly, the company's newest jet, the Lear 85, is showing signs of becoming a success story. Mattar says the aircraft "has been a very successful product in the region recently" and while the manufacturer doesn't give order breakdowns it lays claim to "more than 55" orders with a good proportion expected to be from Middle Eastern customers.

"The Lear 85 has been a great success because it really suits the region, hence the increase in the sales. With our order book as strong as it is, that shows you a story," says Mattar.

Continued on Page 46

The mock-up cabin of the Lear 85 is touring the world and shows just what buyers can expect.





» YOU CHOOSE THE DESTINATION. WE TAKE CARE OF EVERYTHING ELSE.

- » 30 years experience
- » fulltime employed crewmembers only
- » own long-range flight planning
- » own EASA Part-145 Maintenance Facility

WE ARE AT YOUR SERVICE - AT EVERYTIME - EVERYWHERE

Tyrolean Jet Services

Phone +43 512 22577 0 » Fax +43 512 22577 21 » tjs@tjs.at A-6026 Innsbruck Airport / Austria

» WWW.TJS.AT



business aviation

PROFILE

CONTINUED FROM PAGE 45

A possible element contributing to the aircraft's success is that, because it is Bombardier's first all-composite aircraft, it features a large reduction in part numbers. "It means the construction process is much faster," says Mattar.

But it isn't just the possibility of shorter lead times over competitors' products that seems to tantalise the buyers. "The requirements in the Middle East for a jet are that it has to have Dubai to London (or similar) range and it has to have a good luggage capacity," explains Mattar.

"We have solved that problem with the Lear 85. It has more than 100cu ft of luggage space, which is sufficient for the ten passengers the aircraft is designed to accommodate."

Another issue changing the way deals are done is that Middle Eastern customers know so much more about business aircraft.

"The Middle Eastern customers are becoming more sophisticated in terms of looking at an aircraft's range, its performance and what the operating costs are," says Mattar. "Perhaps this is why the Challenger 605 is such a success story.

"People love the 605. They know about it, they know the brand and they prefer to fly it because of the great performance and the luggage space. We are the market leader here for large aircraft."

Finances remain strong

While Mattar is not distraught with the market and the company's finances remain strong, there are whitetails (unsold aircraft). Bombardier Business Aircraft president Steve Ridolfi admits there were 19, but "we've sold few".

For Mattar it can make life easier. "Sometimes if a customer is cancelling or postponing it can make it easier for one of our other customers."

And depreciation is not something that is going to affect any unsold jets. "If you look at Bombardier's products, ours have one of the best holding prices in the market," says Mattar. "I feel there is a price for everything and our products really deserve good pricing."

Mattar is optimistic that the region will see more growth.

"What has happened recently put a stop to the growth but as soon as the wider economy comes back there will be a huge jump.

"There's a huge gap in the Middle East that we need to fill with business aircraft. We foresee us maintaining our position as market leader," he says

But keeping the number one spot requires a lot of work: "We have to be close to our customers, in both the good times and the bad. If you can maintain a relationship with clients you won't see a negative impact on your investment."

It is, of course, a buyer's market and Mattar is willing, and happy, to do deals that are "mutually beneficial".

"We can see customers wanting to stay with us as they move up the ladder, not just because of price or performance, but because of the support we've given them in the region," he says. Bombardier held its Safety Standdown Europe with attendees from the Middle East just before EBACE in Geneva. **Phil Nasskau** was there.



Bombardier served up a host of experience at safety standown.

Humans...you are the Weakest Link!

For once there was no PR spiel. The statistics show that corporate aviation suffers most from human error mistakes and this year's Standdown hoped to address some of the issues.

Speakers included aviation analyst and author John Nance on crew resource management, Sean Roberts of the US National Test Pilot School on advanced aerodynamics, Dr Tony Kern on human factors and NASA sleep expert Dr Mark Rosekind.

With modern technology, the chances of a mechanical fault or engineering error have dropped and many incidents and accidents can now be traced to someone along the line making a mistake.

Nance believes the way pilots are trained needs to be changed, saying: "We have an illusion of knowledge; we think we have safe operations. But do we know why these operations are safe?"

Nance points out that the most dangerous phrase in aviation is 'this is the way we've always done it', and that an absence of accidents is not proof of safety.

"Humans cannot be perfect all the time," he warns, calling for a cultural change in the way safety and training is approached. "It is easy to forget what we were doing 20 years ago," he says. "Presently we are failing in two ways – systematically and individually."

Avoiding failure is something in which Tony Kern specialises, especially with regard to human factors. He points out that while errors can happen, most can be controlled.

According to Kern, error control is personal. He asks: "Why do good people make mistakes after good training? The only way we can reduce the accident rate is through personal betterment. This war on error can only be won one aviator at a time.

"We are our own worst enemies... statistically," he says, adding that a single act of non-compliance can kill any safety environment.

He also calls for pilots to reflect on themselves. "Until we can be brutally honest with ourselves, then we can't look at others," he points out.

Sean Roberts explained the differences for stall testing and characteristics under FAR Part 23 and Part 25 aircraft certification but, more to the point, he critiqued the FAA's stall recovery methodology, which involves applying maximum thrust or power at the stall warning to maintain attitude and accelerate away.

He describes this method as: "Training you to die."

The dangers of adding power at a high angle of attack in a single-engine propeller aircraft include a nose pitch-up moment and yawing moment, which he describes as the classic moments required for entering a spin.

With thousands of hours of experience as a test pilot he explains that about 5-6,000ft is all that is required to recover from a stall in a business jet at 41,000ft.

Mark Rosekind reveals that sleep deprivation and fatigue play an important role in how humans operate, especially when using technology.

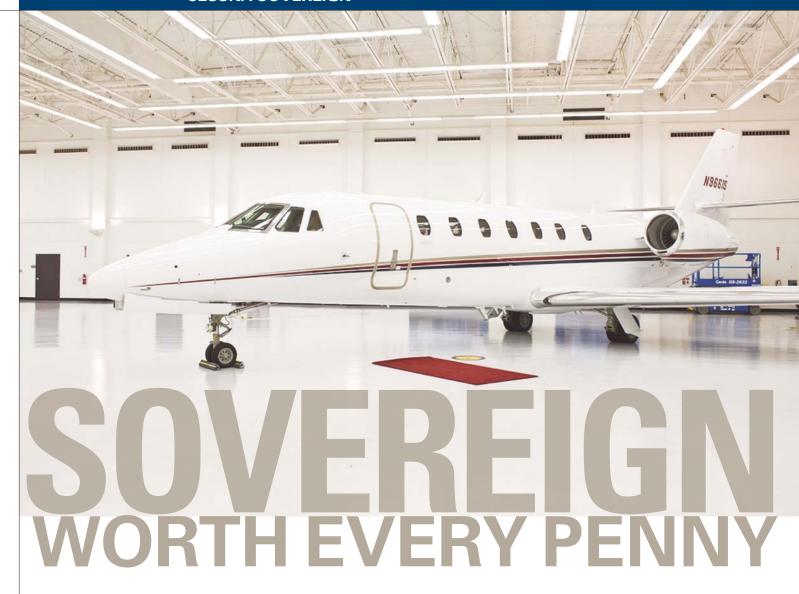
An example is the Exxon Valdez oil tanker running aground on a well-charted reef. The captain retired to his cabin and left the third mate and an able seaman on the bridge. "Head to Alaska, then turn left... Missed the left!" says Rosekind.

The accident investigation blamed fatigue for one of the worst oil spill disasters.

Sleep loss affects performance. Attention lapses increase by 500%; lethargy increases by 50%; vigilance decreases by 75% and microsleeps, lasting from a few seconds to several minutes, can occur.

Two hours of sleep loss affects performance the same as drinking a litre of beer. Six hours of sleep loss is akin to drinking 2.6 litres of beer – for most people that would be considered drunk.

flight test CESSNA SOVEREIGN



The Cessna Citation Sovereign, with its large stand-up cabin and advanced avionics, made it a popular draw when it graced the static park at the last Dubai Air Show and MEBA event. In the livery of Saudi Arabia's Wallan Aviation, the aircraft turns heads on the ramp. But what is it like to fly? Emirates Airline pilot Ken Strickland took up the challenge to switch from a 777 for the day, and get a hands-on feel for the Cessna mid-size business jet.

y first impression of the Cessna Sovereign as Captain Doug Uridel, First Officer Hanna Fares and I walk out on to the tarmac amidst the other various business jets, is one of sturdy elegance.

We begin the walk-around and Doug points out that the low set wing has a long, thick chord but is faired into the fuselage to offer nicely blended lines. Main landing gear is the hinged, trailing link design suitable for more rugged airstrips and the nose gear is equipped with dual wheels and placed well forward.

On the underside of the fuselage, below the engines, there is a large external baggage area capable of handling larger items like skis. The aircraft boasts large cockpit windows allowing good visibility in all directions. Pre-flight inspection is carried out with the aid of a small step-ladder to reach the two rear-mounted Pratt and Whitney Canada PW306C engines, and once the gear pins and covers are stowed we are ready to begin our flight.



Entering the cockpit of the Sovereign I am struck by how far design, layout and equipment have come. The Sovereign is equipped with Honeywell Epic Avionics, and a lot of thought and planning has been employed. The primary flight displays are large, easy to see and interpret. The engines have FADEC control and, as opposed to round gauges, have bar indicators and are comfortable to use.

The multi-function displays are controlled by two universal ball cursor control selectors located on the aisle side of either pilot's chair,



flight test CESSNA SOVEREIGN

CONTINUED FROM PAGE 49

and have the option to display e-charts, which makes life easier once you get used to them. Also, the aircraft has a crew alert system to warn of nonnormals or errant selections, and push-button commonality for switch selection. Overall, I find the systems and displays easy to read and use.

It's time to go flying. We obtain clearance from Dubai tower and engine start is straight forward; engage the starter, wait for the minimum rotor speed then thrust lever over the detent to idle and let the FADEC do its thing. It is an efficient start and we are ready to go with checks complete in less than five minutes.

Taxiing is easy, little thrust is required to get us moving and the nose wheel tiller makes for smooth turns. We have a two-minute wake turbulence wait behind an A330, then are cleared for take-off.

The initial acceleration with take-off thrust applied is quick, and after an impressively short run and firm rotation we are airborne. We accelerate and after flap retraction settle at 250 KIAS and notice a climb rate of near 4,000 feet per minute.

Good performance

Pilots are always happy when their aircraft has good performance and they won't be disappointed with the Sovereign. The Pratt and Whitney engines are more than adequate and we hold a good rate of climb to our cruise altitude of 35,000 feet.

Airliners are mostly operated through the automatics so, after switching seats with Hanna, I have an opportunity to fly the Sovereign. The flight controls are comfortable, although a bit heavy in roll. The aircraft is nicely stable, remaining in the attitude you put it in and is pleasant to fly.

After enjoying the handling for a while, I

Cessna Citation 606 FACTS

(Courtesy of The Pocket Guide to Business Aircraft)

Maximum Cruise Speed	458 ktas	(848 km/h)
Certified Ceiling	47,000 ft	(14,326 m)
Take-off Distance	3,640 ft	(1,109 m)
Landing Distance	2,650 ft	(808 m)
Rate of Climb at Sea Level	4,016 fpm	(1,224 mpm)
Range	2,847 nm	(5,273 km)
Seats:	2 crew + 9 passengers	

First year produced: 2004

engage the autopilot. The autopilot/flight director system is easy to use. It works well in all modes including LNAV and VNAV, although Doug points out that descending in VNAV mode the aircraft will pitch over and, as cruise speed is close to limit speed, you need to watch it. No problems today though, and ATC starts to vector us around the traffic for landing back in Dubai. Once again we enjoy manual flying and the Sovereign is comfortable, reliable and stable.

There are numerous user-friendly design options and one of these is the presentation of limit speeds automatically on the airspeed indicator, including flap limit speeds. This makes flying the Sovereign intuitive and simple to transition into, even for a first timer.

The approach and landing back into Dubai is straight-forward. The aircraft offers a stable platform and no nasty surprises or habits are evident throughout the flight.

The approach speed with the flaps extended and that big wing chord is relatively low and it's easy to see that the aircraft will be quite happy utilising smaller runways.

The manufacturers say it will take off from runways as short as 3,640 feet (1,109m), climb directly to 43,000 feet (13,106m) in just 23 minutes and cruise at speeds up to 458 knots (848 km/hr). Its capabilities are already making it popular as a medevac or air ambulance provider as the recent sales to Egypt have shown.

The trailing link main landing gear makes touch down smooth, and idle reverse is selected, although not necessary as we stop the landing roll in a very short run and exit the runway.

Taxiing the aircraft in is made easy by the tiller and the excellent view from those big windows. Push-button operation fires up the APU to provide air conditioning for ground use as Doug and Hanna are soon to be departing again.

Checklists complete and our flight in the Sovereign is done.

Specific mission profiles

I have always thought Cessna does a good job of designing its jets to meet predetermined specific mission profiles and the Sovereign is no exception.

It is economical to operate while offering a large amount of flexibility. It is not one of those aircraft that sacrifices range with payload increases, offering a 900lb-plus payload with full fuel in the tanks. Performance is a plus as the aircraft can utilize the small runways of smaller airports which can save a lot of time and money while still providing that good work or rest environment. It has more than adequate stowage externally and internally.

From the pilot's point of view the Sovereign is intuitive, stable and comfortable to operate while offering good performance. I thoroughly enjoyed my flight and would look forward to flying it on a daily basis.

Smart move in for Medevac Sovereigns

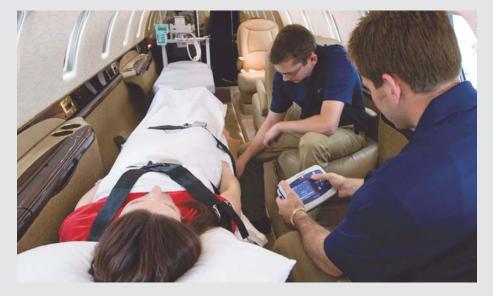
Egypt's Smart Aviation will take delivery this year of the first two Citation Sovereigns certified for medical evacuation (medevac) with a dual-patient system from LifePort.

The two medevac Sovereigns are part of a sixaircraft order from Cairo-based Smart, one of Egypt's leading charter companies with operations throughout the Middle East, Africa and Europe.

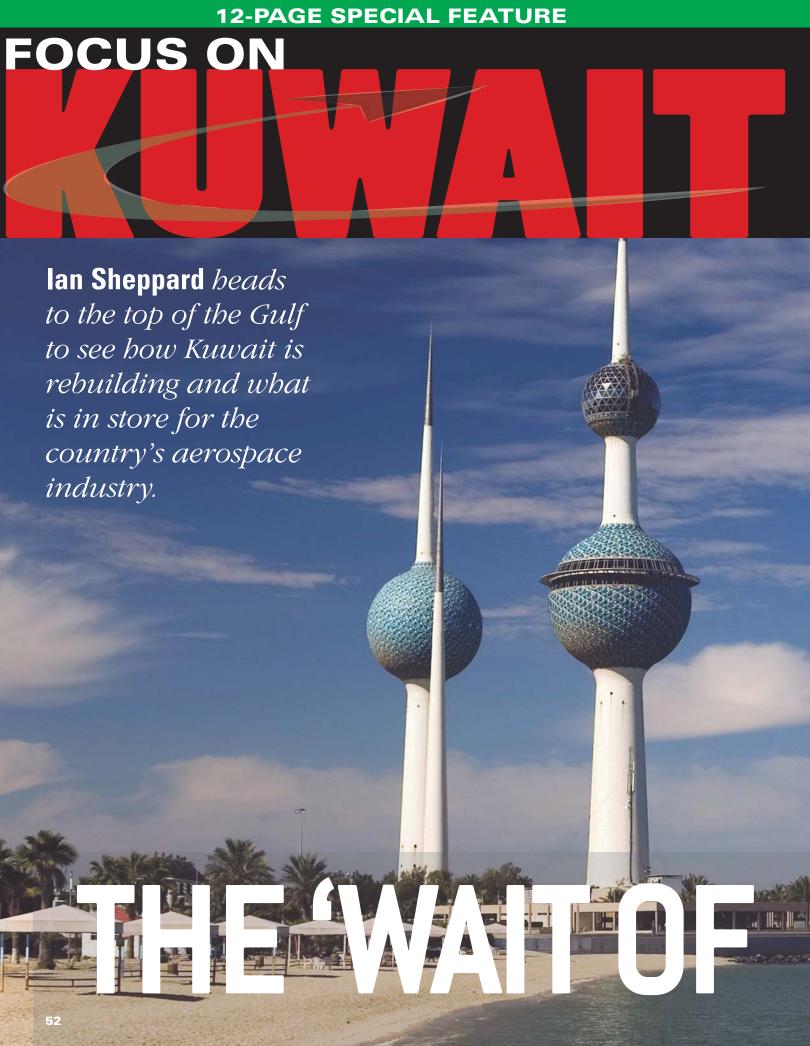
The medevac mission will be in addition to Smart's regular VIP charter service.

LifePort, a leading supplier of medical interiors for aircraft, will certify a Patient Loading Utility System (PLUS) in a single configuration for the Sovereign this month and will complete the requirements for the supplemental type certificate for the dual patient interior in the third quarter.

"The Sovereign is the perfect platform for our operations, giving us the range, cabin space and performance we need for our customers," says General Sameh Anwar (Ret.), COO for Smart. "The combination of the Sovereign cabin and the LifePort PLUS will give us an unrivalled medical evacuation capability."







aving risen like the fabled Phoenix from the ashes of the 1990 Iraqi invasion, Kuwait has gradually got itself back together. With the toppling of its tormentor, Saddam Hussein, in 2003, the small Gulf state took a huge step towards regaining its self-confidence.

But, since its long-time leader, Sheikh Jaber Al-Ahmad Al-Sabah, died in 2006 (aged 78), Kuwait has struggled to find political stability.

Sheikh Jaber, who had ruled since 1977, was replaced as Amir by Sheikh Saad Abdullah Al-Sabah, who then stepped down after only nine days due to ill-health. He became known as the Father Amir until his death in May 2008, while former prime minister Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah became the new Amir. His Highness Sheikh Al-Sabah is the latest leader in dynasty stretching back to 1752.

Kuwait has now also been hit by the effects of the 2009 economic downturn, causing the government, in Cabinet resolution 1104, to introduce a new 'ratio law' restricting the proportion of non-Kuwaiti nationals that can be employed. According to the Kuwait Times, expatriates account for 95% of the Kuwaiti private-sector workforce.

We visited in the few days preceding the third new elections in as many years. Kuwaitis went to the polls to elect the 13th National Assembly after the 12th assembly was dissolved in early 2009 by the Amir, following the resignation of the prime

minister, Sheikh Nasser Mohammed Al-Ahmad Al-Sabah, and his cabinet. A total of 210 candidates (including 16 women) stood for the 50 available electable seats (ten for each of the five constituencies).

Once the votes were counted, the National Assembly had its first ever women members – four were successful, coming four years after enfranchisement. They are all US-educated with doctorates. The elections were generally welcomed with Sunni Islamists losing their grip, bringing hope that the next cabinet will have a more harmonious relationship with Parliament.

harmonious relationship with Parliament.
Kuwait's official name is 'Dawlat al Kuwait',
meaning 'fortress build near water'. Before the
17th Century it was known as Qurain,
nominally a province of the Ottoman Empire
ruled from Constantinople – now Istanbul. Its
modern history started when Sheikh Mubarak
Al Sabah ('Mubarak the Great', who reigned
1896-1915) agreed that it would become an
autonomous British protectorate.

Kuwait started to develop wealth from oil and achieved full independence on 19 June 1961. Then on 2 August 1990, its neighbour Iraq invaded, in a move which shocked the world – Iraq said that Kuwait was damaging it by refusing to reduce oil production.

The invasion brought swift international military action with the coalition forces led by the USA, and Kuwait's liberation came on 25 February 1991 – now a national holiday known as Liberation Day.

Liberation Tower (pictured right) was built to mark the momentous occasion.





What doesn't kill us makes us stronger! The old adage could have been written for Kuwait Airways, the national carrier that has faced just about every adversity possible. lan Sheppard looks at the past, the present and the future for the airline.

How Kuwait Airways plotted its way through the political minefield

The first commercial flights to Kuwait were to Dasma Airport, a desert landing strip on the outskirts of Kuwait City. They were operated by Imperial Airways – later part of British Airways – as a refuelling stop on routes to India.

To quote from Alburaq, Kuwait Airways' in-flight magazine: "One morning in 1932, long before Kuwait had emerged as one of the world's major oil exporters, a sandy airstrip outside the walls of Kuwait City received its first aircraft – a British Handley-Page Hermes. That early flight marked the dawn of commercial aviation in the country."

The discovery of oil led to plans for a new airport but these were shelved after the outbreak of war in 1939. Then, after the war, Al-Nugra airport was developed, in the Nuzha district, followed in 1954 with the founding of Kuwait National Airways. The airline was renamed Kuwait Airways and, in 1955, the government increased its stake from 25 to 50%.

Alburaq continues the story: "In 1946, the first shipments of oil left Kuwait, and the economy boomed. Eight years later, a national air carrier was established. It was an idea conceived in February 1953 by two astute Kuwaiti businessmen. In May 1954, Kuwait National Airways Company was formed with a capital of 150,000 Kuwait Dinars. Three DC-3s were used to operate services between Beirut, Jerusalem, Damascus and Abadan."

In 1960 private interests in Kuwait established Trans Arabia Airways, and soon after Kuwaiti independence in 1961 operations started at Mugwa Airport, with other visitors including BOAC, KLM, United Arab Airlines, Saudi Arab Airlines, Air India, MEA and Lufthansa. The Kuwaiti government took full control of Kuwait Airways in 1962, and in 1964 acquired Trans Arabia Airlines and its fleet of four DC-6s. By this time Kuwait Airways had entered the jet age, leasing a Comet 4-C in 1962.

A new runway and control tower were built at Mugwa Airport in 1965 and much later, in 1986, a new control tower and eastern runway were added.

Meanwhile KAC had phased out its Comets (and Tridents) in favour of Boeing 707s, eight of which were received between 1968 and 1978. In August 1978 the carrier took delivery of its first



two Boeing 747-200s, while a third joined the fleet in 1979.

Four 727-200s were added in 1980-81, and oil price rises forced KAC to replace its 707s with twin-engined aircraft – eight Airbuses joined the fleet in 1983-4 (A310s and A300-600s) followed by three Boeing 767-200ERs in 1986.

At the time Iraq invaded in August 1990, KAC had 21 aircraft flying to 42 destinations in 35 countries worldwide. The Iraqis destroyed 15 aircraft and decimated KAC's facilities.

Following liberation, the airport gradually returned to normal operations as repair work in Kuwait proceeded. Then, between 2000 and 2002, the airport installed various new radar systems as part of the Kuwait Airspace System Plan (KASP). This included the most advanced approach radar in the Middle East.

By 2003 Kuwait had 75 bilateral air services agreements with countries around the globe and 37 airlines operated to KIA, so the country decided that the next step would be deregulation and "open skies", with new laws allowing other carriers to be established in Kuwait entering force in 2005-6.

Kuwait's national carrier has struggled to recover its pre-invasion glory, and now has to get by with a fleet of two Boeing 777-200s, five A300-600s, three A310-300s, three A320-200s and four A340-300s.

Adel Boresly, Kuwait Airways information

director, tells Arabian Aerospace that the airline owns all but one of its aircraft, a leased A320, but that it "might get an A330 on a short wet-lease". Getting a good deal for a short lease was almost impossible, he says.

The airline's board is fully aware of the pressing need to renew the fleet but it has been hampered by politics. "Last year we looked again at renewing our fleet but a contingency in Parliament stopped it and issued a decree to privatise the airline – leaving the fleet renewal to the new owner," says Boresly.

"The decree was passed and signed by His Highness the Amir. If nothing happens by the end of 2009 the decree will expire and nothing will be done – but we have now passed 50% of the process. The Kuwait public authority has brought evaluations and will make an IPO for 30%, with five% for staff, 35% for a strategic partner and the rest for the government."

Things can only move forward by the government endorsing one of the studies evaluating the proposal. "One bureau submitted their study in April and another in mid-May — now the Kuwaiti authority has to put it back to the audit authority with comments. There should be a tender for a strategic partner by September/October this year," says Boresly.

"But the present financial circumstances wouldn't bring you a good bidder, so we think that the government will delay selling for perhaps two years. So, although it is a good time for fleet renewal, we are paralysed," laments Boresly. "However if the airline is converted to a company, the Kuwaiti authorities can inject funds for the new fleet without going back to Parliament.

"Meanwhile, the government is asking us to expand our network, but we can't expand without aircraft. They gave us the green light to lease five or six aircraft, but who's going to finance the lease? It's too expensive. It took one year just to find someone to lease an A330 for six months not seven or eight years. If the government wants us to finance the leases then it should give us the budget.

"They are asking us to go to China – the Amir returned from a state visit on 12 May, having



agreed to a huge new joint venture oil refinery in China – South Africa, Singapore, Australia. They were all in our operations plan, but depend on our fleet renewal."

Boresly says the airline tried to build a leased fleet, working with Airbus, Boeing and Alafco. "We went to five or six airlines but eventually went to Alafco as it was cheaper and the aircraft were available in January. Those A320s were taken by Wataniya in the end."

Kuwait Airways is feeling the effects of the new competitive environment. "In practice liberalisation was not such a great idea," suggests Boresly. "Most passengers are in a remote part of the airport, which is not ready for such open skies." He says it is just as well Wataniya had been able to start operations from the Sheikh Saad executive terminal.

Even more frustrating for Kuwait Airways is the sudden explosion in the low-fare airline market. Boresly explains: "We thought about doing a low-cost carrier in 1996 and submitted our proposal to the government. The aim was to feed the international routes of KAC – as a sister

company. But the government refused and said that it wanted a totally private operator. So it closed the door to us and gave out four licences — to Jazeera, Wataniya, LoadAir for cargo and the fourth to us." Despite an order for 100 A320s a few years ago, LoadAir has yet to operate.

"Kuwait is a small country. Once you take off you are either over Iraq or Saudi – so where can you put all the aircraft," Boresly asks? "When we were alone it was fine but now you have Wataniya and Jazeera it has stopped us using scarce resources. We don't blame them but it has made it so tight."

On the airport itself, there is renewed interest in planning a future airport, says Boresly. "It doesn't matter where it is, we just want more gates and more space."

Having been frustrated for so long on renewing its fleet, Kuwait Airways has taken the second best option in an attempt to prop up its battered reputation. "We put in a plan to upgrade the existing fleet — leather seats, new interior etc. Every two months we have been sending two aircraft for a total nose-to-tail restoration at Joramco in Jordan. The first

aircraft is now back in operation," says Boresly.

"If we are going to stand still, we need to maintain the current aircraft properly. We are leasing the A330 because two aircraft are out at Joramco, but leasing is not an easy job. It's tiring, and you have to deal with things like leasing company policy with crews, causing difficulties in operating (such as visa problems)."

Boresly admits the airline's reputation had suffered since 2002, partly due to the ageing aircraft – the A340 from London was looking quite scruffy, although the food was good.

Another major problem for KAC came in 2002-3, when carriers such as Emirates and Etihad started hiring its staff. "They offered our mechanics two or three times their salaries and because of our bureaucracy with the Audit Bureau we took too long to respond – so they took the chance and left. That was more than 40% of our senior mechanics," admits Boresly.

"After that we were slow doing maintenance, which caused delays. We've now got new mechanics but they take time to get experience, so only now are we back to normal on the maintenance side. Our technical delays are now much less than Emirates in Dubai."

With the pilots, "a few went to Jazeera but when they saw how hard they had to work, they wanted to come back. We refused as they left us in a very bad situation. We said that if they wanted to come back, they had to repay the retirement scheme – and of course they couldn't. So we have employed expats instead," explains Boresly.

So what does the future hold for Kuwait Airways? Boresly points to MEA, which shrank after privatisation before starting to grow, while still being profitable. "They are doing very well despite a small fleet and I assume that is what will happen to us. At the moment the government wants us to fly unprofitable routes – e.g. Muscat and Abu Dhabi. They said they'd pay the losses and they are doing that, but it is using our aircraft. So there is an opportunity cost," admits Boresly.

KAC is looking forward to the possibility of joining an alliance also. "We're trying to prepare and be ready for joining an alliance by the end of this year."

NAS is gaining ever-more support

Kuwait Airways ruled the roost at KIA for many years but with deregulation the mindset has shifted and new companies have entered the fray. One of those is Kuwait-based NAS.

Barry Rodrigues, corporate marketing manager, told Arabian Aerospace that the company now has ground support contracts with around 20 airlines at KIA, including

British Airways, Emirates and Singapore Airlines. "There is only one other service provider here and that is Kuwait Airways, but we now have all the best airlines. The latest airline to defect from Kuwait Airways is Tunis Air," he says. "We also operate at 12 airports in India and at the air cargo centre in Jordan. At Kuwait we have introduced two more airport lounges and were the first to offer meet-and-assist, which we are now offering to corporates and ministers also. We are introducing a new lounge



service for the VIP market, with check-in etc in the lounge. We are a Kuwait company but our strategy is to expand rapidly in the Middle East and North Africa, and in Asia."

Rodrigues admits, however, that the current economic climate has meant a slow down, with the focus switching to improving existing services. "We hope to start expanding again next year," he says.

NAS also offers line maintenance to airlines. "We have a dedicated line maintenance building here and dedicated maintenance control. We are also in the process of designing a maintenance centre," he says.

To that end NAS has, since 2006, gained approvals – including EASA approval – to offer line maintenance Boeing 737s and 777s, and Airbus A320s, but has ambitions to take on heavier maintenance checks.

NAS has 1,100 employees in Kuwait and a further 1.900 in India and Jordan.

THE NEW AIRLINE



Kuwaiti premium carrier Wataniya Airways took off into a recessionary headwind at the beginning of this year. But, as chief executive George Cooper tells **Brendan Gallagher**, a warm welcome from top travellers is helping it to weather the storm.



eorge Cooper is a great admirer of diwaniya. The Middle Eastern mode of socialising, with people gathering informally in the evening to discuss the events of the day, has proved to be a very powerful marketing channel for his new airline.

A former British Airways captain, Cooper is now chief executive of Wataniya Airways, which opened for business in January to offer premium-only services between Kuwait and an array of Middle Eastern destinations. "It seems that we have been the talk of a certain type of *diwaniya*, attended by the kind of people who are now travelling in our first-class," he says. "We're benefiting from word-of-mouth marketing."

With its pressure-free, fast-track departures from the Royal Terminal at Kuwait International Airport, comfortable low-density seating and up-to-the minute in-flight entertainment and onboard mobile phone facility, Wataniya resembles the small but stylish five-star boutique hotels that have sprung up around the world. "I think we're unique," says Cooper. "We're a niche player, providing a completely different type of service that the big carriers in this region can't possibly emulate."

Wataniya currently operates three leased Airbus A320s, flying twice-daily to Bahrain, Beirut, Cairo and Dubai, daily to Amman, five times a week to Damascus, and twice a week to the Egyptian resort of Sharm El Sheikh. A fourth aircraft is due to arrive in October and will probably be used to increase frequency on a couple of existing routes and to add at least one more destination. A further three aircraft will join the fleet next year.

Though the original business plan for the

airline called for further expansion to a total of 10-12 aircraft, Cooper believes a pause for reflection is now in order. "It became clear to us after we committed to the first seven aircraft that the world was changing," he says. "So this summer we'll take a look at how we've done so far and what forward bookings are looking like, and then present some options to the board. There's no hurry. When we were looking for aircraft a year ago they were really hard to find — now there are plenty."

Cooper is happy with what has been achieved so far with his fledgling fleet. "Load factors are meeting our revised expectations, with first-class doing even better than we hoped," he observes. "As for routes, Kuwait-Beirut has performed particularly well, for a couple of reasons. There are something like 11,000 Kuwaiti-owned properties in the hills above Beirut and in the city itself, and during the recent strife Kuwaitis were not going there. Secondly, Beirut has always been popular with Kuwaitis for both business and leisure, and it seems that our service has captured the attention of that market."

Life for Wataniya is not without its challenges, though. "Our market positioning as a premium-service carrier may have deterred people who would normally travel in premium economy. So we've got some communication work to do there," Cooper admits. "And competing carriers are offering premium economy prices that we just can't match."

But the Wataniya boss believes that quality will tell in the end. "We're all used to airlines claiming they've got the best seats in the sky, the most tasty food, the most beautiful stewardesses – everybody says it, but in our case it happens to

be true," he declares. "So we have to get people to sample the service, and when they do they'll be hooked. In the meantime, we've got plenty to do to communicate the virtues of our premium economy in the face of some very aggressive price competition."

Just behind the beautiful face of the Wataniya service offering is some serious operational muscle. "We're now running at a utilisation rate of about 12-and-a-half hours per aircraft per day day," says Cooper. "That's probably a world record for a full-service, short-haul carrier."

Turnrounds average an hour in Kuwait, with a minimum of 45 minutes elsewhere. "We need that because we're doing round-trip catering at Kuwait, taking everything off and then putting it all back on," Cooper explains. "We also have very high standards of cleanliness and pay a lot of attention to how the cabin looks when the guests come aboard."

The job of keeping the aircraft in prime technical condition in the face of their heavy workload has been contracted to European maintenance, repair and overhaul specialist Sabena-Sogerma. "The schedule is designed to get all the aircraft back to the engineers in Kuwait every night. So they get at least six or seven hours to work on them, which is plenty," Cooper says. "Operating conditions in this region present a more interesting challenge, and we're doing a number of things to accommodate them."

Going these extra miles has so far added up to an average departure punctuality of 87% since operations began on 24 January. "And for us 'on time' really means on time – if it's one second late then it's late," comments Cooper. "We think that's pretty good for a start-up.



Air force forged out of conflict

The current Kuwait Air Force and Air Defence is a direct descendant of the Security Department of Kuwait, formed during 1961, following an attempt by Iraq to claim the nation as one of its provinces. The Air Force initially relied on British aircraft types, including the Strikemaster, Hunter and Lightning, before reequipping with 34 Mirage F1s and 36 A-4 Skyhawks ordered in 1974, together with 24 armed Gazelle helicopters. The air arm became the al-Quwwat al-Jawwiya al-Kuwaitiya (Kuwait Air Force) in 1988.

Iraq invaded Kuwait in August 1990, after accusing it of exceeding its OPEC oil production quota and of extracting oil from the Iraqi portion of an oil field that straddled the border between the two nations.

The Emir and his government escaped to Saudi Arabia – along with much of the Kuwait Air Force, after the latter had ensured that the invaders did not get away without losses.

The USA and UK secured a UN resolution which authorised the use of force to drive the Iraqis out of Kuwait if they failed to leave before 15 January 1991. The Iraqis failed to withdraw and a Western-led coalition launched Operation Desert Storm. Kuwait Air Force A-4 Skyhawks and Mirage F1s joined the air campaign, operating from bases in Saudi Arabia and Qatar, and wearing the legend 'Free Kuwait' on their fuselage sides.

Tensions with Iraq remained high after the war and the Kuwait Air Force has undergone a major modernization and reorientation. The Skyhawks and Mirages have been replaced by 32 single-seat F/A-18C Hornets and eight two-seat F/A-18Ds, while the Gazelles have been replaced by 16 Boeing AH-64D Longbow Apaches, the first of which were handed over on 3 February 2006.

The training system is equipped with Shorts Tucano T.52 turboprop trainers, ordered before the war but finally delivered in 1995, and with the survivors of 12 BAE Hawk T.Mk 64 jet trainers that were delivered before the Iraqi invasion.

The Hornets are based in the south west of Kuwait at Ahmed Al Jaber air base, equipping the former A-4 units, while the Mirage F1 squadrons (No.s 18 and 61 Squadrons) disbanded. The helicopters and training types are at Ali Al Salem, and a small transport element operates from Kuwait International Airport.

À separate Kuwait Police Helicopter Wing maintains a small fleet of two recently acquired Eurocopter EC135s and an AS365N3 Dauphin, and may still operate four ex-air force SA342K Gazelles, and possibly a single SA330H Puma.

FIGHTER WING, AHMAD AL JABER



9 (Fighter Attack) Squadron 25 (Fighter Attack) Squadron Boeing F/A-18C/D Hornet Boeing F/A-18C/D Hornet

HELICOPTER WING, ALI AL SALEM



32 Helicopter Squadron
33 Helicopter Squadron
62 Helicopter Squadron
88 Attack Helicopter Squadron

Aerospatiale SA.330H Puma Aerospatiale SA.342K Gazelle Eurocopter AS.332B, 332M Super Puma ron Boeing AH-64D Longbow Apache

FLIGHT TRAINING CENTRE, ALI AL SALEM

12 Training Squadron
19 Training Squadron

BAE Hawk T.Mk 64 Shorts Tucano T.Mk 52

TRANSPORT WING, KUWAIT IAP

41 Transport Squadron VIP Transport Flight Gulfstream G-IV and G-V Lockheed L-100-30 Hercules Airbus A300C4-620, A310-308,

42 Squadron, previously equipped with the C-9, has disbanded.



Four-stage master plan reveals a \$3.5 billion vision for airport

uwait has long wanted to update its airport facilities, but the 1990 Iraqi invasion and the cost of rebuilding the country scuppered its plans. So, in 2005, it launched the largest development project in Kuwait International Airport's 80-year history—its ambitious new \$3.5 billion master plan.

Mahdy Aldakheel, director of the projects department, says: "The Directorate General for Civil Aviation (DGCA) had a vision to upgrade but the government didn't take it seriously as it gave priority to reconstruction projects. Now demand is driving us as we have exceeded eight million passengers a year."

The new plan came despite calls for an all-new airport, thought by some to be a cheaper option. The airport was growing at 12-17% per year and fast becoming congested, struggling to cope

with its limited number of gates.

Aldakheel says the outcome of the 2005 review was four packages. The first aims to extend runway 15R/33L, the main runway, and to build a second terminal allowing KIA to increase its design throughput from seven to 20 million passengers a year.

The main runway will be upgraded to ICAO Code F, strengthening and widening it so that it can take the A380, and will be extended from 3,400m to 4755m. "It will then be the eighth longest runway in the world," says Aldakheel. "We made it this long having considered the worst case scenario, a A380 in top heat – Kuwait has 50-55C maximum temperatures – no wind and max takeoff weight."

Also in the first package is a new apron for the Kuwait Air Force, new taxiways, tunnels and



Despite the worldwide economic downturn, which has put severe strain on the Kuwaiti economy, Kuwait International Airport (KIA) still managed to post traffic growth in March 2009 for both passengers and cargo. Passenger numbers were up 6% (to 603,961), commercial aircraft movements were up 16% (to 5,918) and cargo volume rose by 1%. However non-commercial movements were down 14% – falling from 2,452 the year before to only 2,106.

bridges – and a new entry road from the south. This package will start in earnest by the end of 2009 when the runway is closed and all operations are shifted for two years to the other runway, 15L/33R. To this end, KIA will work with the UK's NATS so that it can make more efficient use of the single runway, drawing on NATS' experience at London Gatwick.

The second package consists of three items, the main one being the new DGCA headquarters. It will also include two fire stations and work on the existing runway to ensure that it meets ICAO Annex

14 Chapter 9 (emergency services) requirements.

The third package will involve upgrading and extending the Eastern runway from 3,500m to 4,000m and constructing a new 4,580m runway to the West, on clear land that the airport already owns. "The third runway will allow us to increase operations from 450,000 to 650,000 movements a year," explains Aldakheel.

The fourth and final package consists of "six or seven investment projects", says Aldakheel, including new heavy maintenance facilities — a central facility to serve the region, a new catering facility, new fuel stations airside and landside, two hotels "at least four star", and a new Cargo City between Runway 33L and the new third runway, at the northern end.

"This will be able to handle up to six million tonnes a year, up from two million in phase one of that project," says Aldakheel. Current cargo capacity is 250,000mt/year. "It's hard to beat other airports on passengers but Kuwait's vision is to become the main cargo hub for the region. There are planned public works which will extend the highway from the ports directly to the Cargo City, a distance of 15-20km," says Aldakheel.

"We are now in the tender process for Package 1 and are waiting for bids. We hope to sign contracts in the fourth quarter of 2009.

"Package 2 work has also been tendered and should be signed at the same time. With Package 3 we have to finish the existing runways before starting Runway 3. We are upgrading the airfield

Air management system gets a make-over

While Kuwait Airport is being developed, the Government is taking the opportunity to invest in the air management systems.

Captain Mukhled Al-Sawagh, DGCA director of air navigation, says: "The airport is in the process of building the Kuwait Centre for Meteorology and Communications (KCMC), a met office and air navigation centre, including new radar, on the western side of the runways."

The control tower, which is between the two parallel runways and houses a radar room, will be ATC only, with the old radar equipment being kept for back-up. An upgraded radar room, using Thales equipment, will be "up and running in the summer", says Al-Sawagh.

The new primary/secondary radar and ADS-B system will be installed and operational in two years.
The KCMC will act as a complete ATM system with



Captain Mukhled

ground radar and the work will include upgrading the ILSs on both the runways from Cat 2 to Cat 3b, says Al-Sawagh, who adds that it is very rare that visibility is so low that the airport is closed – even in sandstorms.

"Since Kuwait announced its open skies policy, traffic amount has increased so we need more ATC. We are in the process of getting someone to help us and signed an initial agreement with NATS on 12 May. We will be resurfacing the whole of the westerly runway

so it will be closed for two years, and NATS has good experience of running single runway operations at London Gatwick."

Airspace is also being reorganised, says Al-Sawagh, for example adding a new airway in co-ordination with Bahrain to ease East-West traffic flows to Europe and beyond. The region already has RVSM apart from over Iraq, where air routes are now open.

to handle Code F aircraft – that's bigger than the A380 – so we plan to accommodate the A380, the largest military aircraft and the Boeing 747-8. We will have an extra 30-40 gates, at least eight of which will cater for the A380."

The initial budget for airport development is already allocated with the first two packages expected to cost around 200 million Kuwaiti Dinars (KDs) – around US\$700 million. The third package is an additional KD100 million and the investment projects a further KD6-700 million.

Aldakheel says the master plan is updated every five years. "We are preparing to contract with an airport consultancy to update the plan – and issue a report in 2010. I don't see any changes; the area is full, although some areas are reserved for future development. The consultant will propose a 'far future' location for a new airport," reveals Aldakheel. "We will discuss it with the oil companies... it will need ten million square meters. Our assumptions will be not less than four runways and not less than 100 million passengers a year, and at least 10 million tonnes of cargo – to be on the safe side."

Aldakheel admits the development of Kuwait Airways is also a key factor. "The government's vision is to bring Kuwait Airways back to its glorious history. They used to fly everywhere."

As for Wataniya and Jazeera, Aldakheel says they are both seeking permission to have their own terminals. "The land is available and they need to go to the Cabinet with our support. Jazeera is working on it and the news is that it's almost agreed – although we are changing government."

Among other airlines requesting additional flights are Lufthansa and British Airways and Al-Zamel admits it is difficult juggling demands which sometimes conflict.

There are also capacity challenges. "Since 1980 there has been no development just some new parking, but there are still only ten gates and two remote stands. We are in the process of adding seven new remote stands – these are under construction and will be completed by December."

However Al-Zamel's main concern is security, which is absorbing most of his time. "We're receiving too many audits, for example from the TSA and the British Embassy. They're coming back and forth. We will get their reports soon. They're trying to improve the security level because of the global demand. I'm not satisfied yet that we have done enough, so it's our top priority."

He added that Griphon and SkyLink both operate to Iraq so there are additional security measures in place for those flights.

Executive terminal with the Royal touch

Kuwait's US\$40 million executive/general aviation (GA) terminal was designed by Mott McDonald in co-operation with Jet Aviation of Switzerland, which was originally contracted to operate it.

Initially referred to as the Royal Aviation terminal, as it is owned by Royal Aviation Company KSCC, it has now been renamed the Sheikh Saad terminal, after the 'Father Sheikh' who passed away in May 2008. The terminal is not to be confused with the Amiri Terminal, which is currently under construction.

The Sheikh Saad Terminal opened on 18 May 2008 and is operated by Mercury Aviation Group following the cessation of Jet Aviation's role in the project. Due to lack of space at the main airport terminal, Wataniya Airways was permitted to start operations there on a one-year renewable contract. In effect, it has taken over most of the terminal with its branding but there are still two large executive lounges and a VIP lounge.

Wataniya, which started operations in January 2009 with two aircraft leased from Alafco, is owned by Kuwait National Airways (KNA), a company established in 2005.

KNA is also the majority owner of United Projects Company for Aviation KSCC (UPAC), which holds 55.75% of the shares of Royal Aviation and also holds build-operate-transfer contracts for some of the development work at Kuwait International Airport. It manages all commercial real estate at the facility.

The leading investor in KNA is the KIPCO Group, which the Arab Times referred to as "one of the biggest diversified holding companies in the Middle East and North Africa".

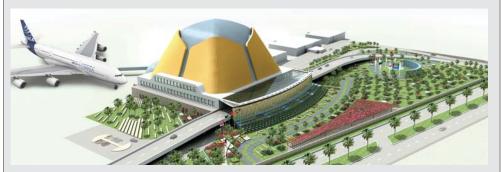


Sulaiman Al-Jaber, Royal Aviation board member and engineering & maintenance director, said work on the terminal started around four years ago with an investment of KD15 million. 'Wataniya started commercial flights in January from our terminal as it couldn't get the surfaces it needed at the main terminal," Al-Jaber told Arabian Aerospace. "Wataniya is temporary for one year and might be renewable. We're expecting that they'll have to stay for longer," which he admitted would be good for both companies.

"This terminal is also considered as a stand-by for the international (main airport) terminal, and all flights would be rerouted here if required. We are not busy – the maximum number of movements we have had is 24 a day. In a year or so Wataniya will have six or seven aircraft so about 20 flights a day, but eventually they will have to use another terminal. Wataniya is a business class airline so is much better service than normal airlines, with limos going direct to the aircraft."

In terms of his role in maintenance and engineering, Al-Jaber says: "An area has been allocated for maintenance and operators are allowed to do line and light maintenance. But most are private owners who maintain their aircraft in many different places in the world.

Al-Jaber reflected on Kuwait's role in aviation.
"Originally we were the pioneers in aviation here in
the Middle East – and even the manufacturers looked
to Kuwait Airways. We used to lead the way with new
aircraft. Now, the government is working to bring
things back."



Breathtaking new Amiri terminal designed for VIPs

The new Amiri terminal, designed by French architect Paul Andreu, is intended exclusively for the use of the Amir of Kuwait and visiting world leaders and dignatories.

Costing well in excess of its initial KD35 million estimate, it has been designed with the Airbus A380 firmly in mind and has an accompanying hangar that can house an A380 alongside a 747.

The terminal will be breathtaking when it opens in November, two months after construction is due to be completed. Workers are already lining its large central chamber with marble and hundreds of fibre optic cables hang from the ceiling. The main chamber will have stars and planets in the roof and a glass dome will be at the front with

spiral staircases reminiscent of the Louvre in Paris.

Ebrahim Ashkanani, project engineer, told Arabian Aerospace that the terminal was being built by Ahmadiah Contracting & Trading Co, with Aeroports de Paris. The project started in December 2007, and is due to have a 'soft opening' with the Amir on 20 June.



Jazeera flourishing in the low-cost revolution

azeera Airways is Kuwait's answer to the low-cost revolution and it has stormed on to the scene since launching operations in October 2005.

It is the easyJet of the Middle East, splashing its light turquoise blue corporate colour everywhere it goes, just as easyJet is unmistakeably orange.

Marwan Boodai, chairman & CEO of Jazeera, has been bullish about breaking the 50-year monopoly of Kuwait Airways. He also hopes that Jazeera will be the main operator of Airbus aircraft

in the region by 2014. To help that along he announced the creation of Saheeb Aircraft Leasing in October 2008 – a new company backed by NBK Capital and DVB Bank of Germany.

Competition in the Gulf region is hotting up. Air Arabia took the lead when it launched operations from Sharjah in 2003 and now has 17 aircraft with 43 on order. Then there is Nasair in Saudi Arabia, with seven A320s and four EMB 190/195s. Nasair added two round-trips a week between Jeddah and Kuwait to its schedule on 14 May, which is in addition to the two round-trips a week it has from Riyadh to Kuwait.

Then there is flydubai, which started operations on 1 June 2009 with a fleet of Boeing 737-800 aircraft. Jazeera has felt the effects of the new entrant to the market, with Dubai declining the Kuwaiti airline's renewal of Dubai-Beirut operations for its summer schedule – forcing it to relocate its hub to Kuwait.

Steven Greenway, Jazeera Airways chief commercial officer, told regional travel agents, gathered for its awards evening at the Crown Plaza Hotel, Kuwait: "We have a huge range of routes being launched in the space of a month, while also taking two more A320 aircraft. So we will go to 27 cities in 15 countries, with 31 nonstop routes, 386 connections and 462 flights a week. We have experienced 68% year-on-year growth in available seats and will probably be bigger than Kuwait Airways this year in terms of passenger numbers."

Greenway, speaking to Arabian Aerospace at the awards evening, said Jazeera had been forced to move its hub back from Dubai to Kuwait in time for its summer schedule after Dubai declined the renewal of its Dubai-Beirut route.

Captain Falah Al-Shammari, Jazeera vice



Steven Greenway gives a sales award to Boodai Aviation.

president – training, says:
"We're taking delivery of two
aircraft, which requires a lot of
work. This will take our fleet to
ten aircraft. The summer
schedule and network plan is
done so it is now our role to put
it into action.

"We have always been based in Kuwait but have had to move our hub back from Dubai due to regulatory restrictions."

Greenway says Kuwait International Airport is "really short of gates" and adds, when asked about airport development: "We'd rather

build our own terminal."

He says Jazeera has 30 more aircraft on order and is seeing little sign of a slow-down. "For example the Dubai route is standing up really well – it's basically a shuttle as we are going daily; up from six round-tips a week."

But Jazeera accepts that the airport will remain a bottleneck for a while at least. "We have seven or eight departures at Kuwait in the space of half-an-hour in the morning, so we are working hard to enhance check-in facilities etc," says Greenway.

Jazeera has a business class of sorts, which it calls J+ class – this involves blocking off middle seats and enhanced service. "We have launched a range of fare products over the past couple of months," says Greenway. "This includes tailoring Jazeera Plus as 'affordable luxury', and Jazeera Freedom, our new flexible product for the corporate traveller. This is especially good on the Dubai route.

"Then there is Jazeera Light. This is an everyday low fare. Finally there is Jazeera Easy—which offers unbeatable deals."

Greenway says there are further far-product enhancements to come such as seat selection for free, and dedicated check-in. He also points out that Jazeera has a "permanent happy hour", a sale from 1-2pm every day for those who had registered on its web system in May.

One of the agents given an award by Jazeera was Boodai Aviation – which teamed with the company to create an "innovative franchise operation", since trialled in Lebanon. Says Greenway: "It provides a store and high street presence and allows us to access new market segments." Greenway adds that the carrier is opening a number of stores in Kuwait over the next couple of months. Boodai is a large Kuwaiti conglomerate.



Royal Jordanian make use of Alafco finance.

Alafco enjoys a real lease of life

Aviation Lease and Finance Co (Alafco) was established in Kuwait in 1992 as a subsidiary of Kuwait Airways and initially arranged the financing of four aircraft for Kuwait-based customers: an Airbus A310, two Airbus A320s and a Boeing 747.

In 1999 it was privatised, with a majority shareholding being sold to a private consortium led by Kuwait Finance House (KFH) and AREF Investment Company. KFH bought out AREF's shares a year later and started to push its niche – leasing and finance based on Islamic Sharia law.

Imtiaz Khot, assistant VP marketing, told Arabian Aerospace that Alafco started out in leasing by purchasing aircraft with leases attached before moving on to 'sale and leaseback' transactions – the first being an A310 to Air India in 2001.

By 2003 Alafco owned an A320-200, which was on finance lease to Sharouk Air of Cairo (this was a join venture between Kuwait Airways and Egypt Air), two A310-300s leased to Air India, and an A310-300 leased to Yemen Airways. It also took on an advisory role in the purchase of four A320-200s, and to market two 747-200s for Kuwait Airways.

Khot says Alafco is leasing three A320s to Wataniya this year, and is now focussing on operating leasing. "We have a fleet of 20 aircraft which we own and manage and have 67 aircraft on order – A320s, 787s and A350s.

"We have 22 787s on order. Twelve are going to Saudi, six to Oman Air, and we have four left."

These will be for delivery "way out" in the future, says Khot. "We did sign an MoU with Kuwait Airways for 787s but their approvals didn't come through. Saudi is a big market so they won't delay deliveries.

"We like to focus on the Middle East but our customer base is global, especially China. We only do dry leases, of from six to 12 years. For example Ethiopian is a new customer and is going to lease a 737-800. It's a good airline.

"We are a listed company, owned by KFH with Kuwait Airways owning 11% – they sold the majority share to KFH in 2000. The rest is on the stock exchange. It is good to have KFH as a strong bank especially in a time of crisis. Alafco is a good credit with European banks and the ECAs, and US Exim Bank has indicated that it would do finance with us," continues Khot.

"We have financing for all this year's aircraft and good customers – with no defaults. Most of our lessees are sovereign-type risks such as Royal Jordanian, and Wataniya has strong shareholders.

"Leasing is definitely picking up in the region – because it gives you flexibility."



AIRCRAFT INTERIORS GALLEY SYSTEMS



DELIVERY

Italians are known for their class and it doesn't stop at clothes and shoes. Marcelle Nethersole speaks to Lucio Iacobucci, CEO of Iacobucci HF Electronics, which manufactures and supplies electrical galley inserts to both business aircraft and the air transport sector...

or Lucio Iacobucci it all started with a cup of coffee on an Alitalia flight from LA to Rome in 1993.

"After requesting an espresso I was served a regular cup of coffee," says Iacobucci. "I'm Italian; an espresso is a proper coffee to us. It tastes completely different to regular coffee, which is too light. It bothered me that just because I was on an aircraft I couldn't be served with something that you can get anywhere else, especially as I was on an Italian carrier. I really thought about it when I got home and decided to

when I got home and decided to set up my own branch of the family-run company."



AIRCRAFT INTERIORS

The Iacobucci Group was launched by Lucio's father. His brother Angelo runs the galley systems business and, in 1994 Iacobucci HF (High-Fly) Electronics was born, with Lucio at the helm.

With the help of Lufthansa, two technicians and a couple of professional coffee tasters, the first espresso machine made its debut on a Lufthansa flight from Frankfurt to Hong Kong.

"Until then the espresso machine was never used on board making espresso and cappuccino at the same time. It was a simple idea in a world market – except on aircraft. Straight after this development, Singapore Airlines and Alitalia believed in the project and used the machine in its first-class section. After a couple of years we grew very fast," says Iacobucci.

Today the company, which is based in Ferentino, about an hour from Rome, has a range of espresso and cappuccino makers as well as other beverage makers. "The wonderful thing besides being ahead in design, look and quality, is that they are easy for flight staff to use. With the espresso and cappuccino maker you just lightly touch a button and both start brewing at the same time, within moments you have an authentic Italian cup of coffee."

Iacobucci's team of designers cater for all aircraft and airlines, all of which have different requirements. Iacobucci explains: "In the late 90s there was no standard for aircraft galley equipment, so we were forced to develop up to 27 different models of espresso machines. Singapore had a weight problem, so we had to make it lighter and smaller. Lufthansa had to be taller and deeper. Now it is standardised quicker."

First-class product

Low-cost airlines are also installing the machines to their galleys but not at a cheaper price. "Our product is a first class product you wouldn't think would be of interest to them but, actually, low-cost airlines sell espresso and cappuccino as it's a good source of revenue. Some airlines charge up to €5 (\$7) an espresso," says Iacobucci.

Can the company foresee any problems in the current market?

"New aircraft from Airbus and Boeing have been postponed and commercial airlines have deliveries pushed back to 2010 and 2011. At the other end the market, general aviation has been growing for us quite a lot. I would say that market has been very positive and we have fulfilled quite a few orders that were pushed out in the commercial aviation business. We did not experience cancellations but we have seen a reduction in the commercial aviation business of around 10%.

"In my eyes, given the world economic crisis, I can predict we are still going to grow as a company. We are also working on changing our designs to make them more low-cost. We are introducing new materials for all our products, carbonn fibre, and light resistant materials. Plus lower cost of ownership is an important factor,





through the standardisation. We are always looking at ways to improve on cost and design. When we first started, an espresso machine weighed 17kg, today its 8kg, what a big difference."

The company has a range of Middle Eastern customers including Emirates, Qatar, Etihad and Saudi Airlines. It has repair stations all over the globe, with a major facility in Dubai working alongside Emirates.

"We have a lot of business in the Gulf; Emirates is our biggest customer in this region and we also accommodate its A380. I would say it's the most important region for Iacobuccci worldwide because the customers there want quality products. They are demanding but in a good way.

"Demands like this drives our need for innovation, research and development. Never stop innovation, research and development, because there is never an end, and there never will be in the Gulf region."

The Italian company is bringing more equipment to the airlines and the bigger business jets. For example, it has designed the trash compactor, which reduces the number of waste trolleys on board and reduces the galley space used for waste. "This can add maybe two or three more economy seats, so more passenger revenue for the airline," says Iacobucci.

Water tank

Another recent product, for installation on private jets, is a water tank that is fitted with the coffee machine and uses bottled water. "You can have the best machine and coffee but if the water isn't good you have a bad taste. Plus, of course, it is safe clean water, great for customers travelling in the poorer countries."

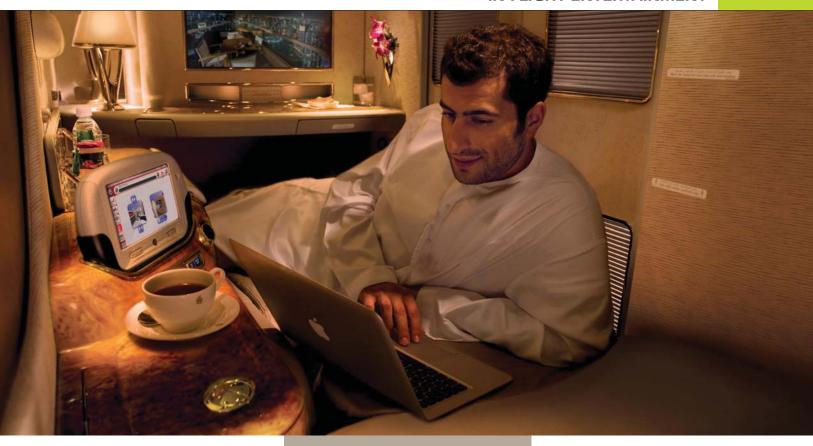
Iacobucci and his team are constantly looking for new ideas, so what is his vision for the company in five years?

"Try to move towards maximum flexibility," he says. "As of today you have many different inserts in a galley in order to offer passengers what they like and want, particularly in First Class. Passengers are looking to have what they have at any corner or high street around the world, such as fantastic coffee, fresh pasta, crispy bread, champagne at the right temperature. In the future galleys will be multifunctional. They should be able to fulfil any possible need in the shortest possible time but with the highest quality.

"We will continue to be innovative in quality, technology and design, plus we are flexible. Our products are simply made, user-friendly, lightweight and cost-effective and, importantly, the product delivered is of high quality.

"At the end of the day, we can develop the most complicated espresso machine but if the machine is not capable of delivering good quality espresso, then what is the point? Our espresso on board a flight is like any you can get at an Italian café, and I'm proud of that. It certainly makes my flights more enjoyable now."

IN-FLIGHT ENTERTAINMENT



f in-flight entertainment was a sport, Emirates could be accused of taking all the competitive fun out of it. Year in, year out, the Dubai-based carrier has walked away with the top industry awards for the technical excellence of its IFE hardware and the breadth and quality of its content.

The platform for this success is the Information, Communications, Entertainment (ICE) package of services, delivered to every seat in every aircraft by Panasonic Avionics' eX2 audio/video-ondemand (AVOD) system.

In its latest Digital Widescreen form, featuring a selection of the biggest screens in air transport and a USB port to allow passengers to view their own content, ICE offers more than a thousand channels and 1,700 hours of films, music and other entertainment.

Offered alongside the AeroMobile in-flight mobile phone service currently being rolled out across the Emirates fleet, ICE is the envy of the world's top airlines and reflects an investment that probably exceeds a billion dollars since the start of the programme. Until recently, other Middle Eastern carriers have been cautious about being drawn into a spending battle with Emirates. But now, with the success of ICE as a vital product differentiator proved beyond question, they are racing to join the game.

Typifying the trend is Oman Air. The Muscatbased carrier is ticking all the IFE and connectivity boxes on the seven new Airbus A330-200s and -300s that it is due to introduce from this summer. Like Emirates, Wataniya

CREAM

Emirates has long been the Middle East's star performer on the in-flight entertainment and connectivity stage.
But now, writes Brendan Gallagher, other airlines in the region are beginning to put on some eye-catching shows of their own.

Airways of Kuwait and Royal Jordanian, it has selected in-flight mobile phone. Alongside that will be Thales' TopSeries i-5000 AVOD in-flight entertainment hardware plus Rockwell Collins' graphics-rich Airshow 4200D moving-map and passenger information system and Tailwind 560 live in-flight television.

This exceptionally comprehensive mix of IFE and connectivity will be seen to fullest advantage in business class on the new Airbuses. The Sogerma-manufactured seats will each have a 17in screen to present the Tailwind television programming and TopSeries audio and video. Economy class will have a 10.6in screen in every seat, and passengers will have access to the OnAir phone service, which can support voice calls and text messaging, email and Internet access via mobile phones and laptops.

Launched in January of this year, premium regional carrier Wataniya hit the headlines as the first airline to offer OnAir on a full commercial basis. But the in-flight entertainment in its premium economy and first-class cabins is also noteworthy.

Wataniya currently operates three leased Airbus A320s, with a fourth to arrive before the end of the year and a further three in 2010. The IFE fit for all seven comprises a mix of Thales TopSeries broadcast and AVOD equipment. In the first-class cabin TopSeries i-4000 serves

10.6in screens in the 26 seats. Also available in every seat is laptop power and a port allowing the passengers to plug in personal iPods



AIRCRAFT INTERIORS



and other MP3 devices and play the content on the screen. In premium economy Thales i-2000 broadcast system delivers six channels of audio to each of 96 seats and video to overhead dropdown screens. There are two laptop power sockets for every three seats.

The ability to offer different levels of service to different cabins also appeals to Saudi Arabian Airlines, which is the launch customer for a new product from Thales. Called TopSeries Digital Single-Aisle (D-SA), it's designed to succeed TopSeries i-2000 and to compete with the comparable Digital MPES from Panasonic and dPAVES from Rockwell Collins.

"Up to now we've been highly competitive and have won a significant part of the market for full AVOD throughout the aircraft," says Alan Pellegrini, general manager of Thales California-based in-flight entertainment business.

"But among airlines that want something more basic for single-aisle aircraft, Panasonic and Rockwell have so far dominated. So we decided to scale our TopSeries family to meet this need, aiming at the same time not to create a me-too product."

In basic form D-SA provides broadcast

"The customer will receive a system that steps up the single-aisle broadcast formula a notch by providing interactive and on-demand capabilities at the seat."

ALAN PELLEGRINI

overhead video and distributed audio, while also being scaleable to full AVOD. It's scheduled to debut in September aboard the first of 42 new Airbus A320s belonging to Saudi Arabian.

"The customer will receive a system that steps up the single-aisle broadcast formula a notch by providing interactive and on-demand capabilities at the seat, while costing significantly less than the millions of dollars associated with AVOD," says Pellegrini.

He continues: "It's particularly suitable for airlines which want AVOD in their premium classes and overhead video in economy. But even in its most basic configuration it will have functional advantages compared with existing broadcast systems.

"For example, D-SA is inherently interactive, offering audio on demand at every seat – a hundred channels on demand compared with a typical 12 broadcast channels today."

If Saudi Arabian is taking a bold step by launching D-SA, Royal Jordanian is going where few airlines anywhere in the world have dared to tread for many years.

Conscious that IFE quality can lose as well as win customers, the carriers are very conservative



in their choice of suppliers, sticking almost without exception to the big three of Panasonic, Thales and Rockwell Collins.

Earlier this year, Royal Jordanian broke from the pack by placing the first order for the new Seat Integrated Technology (SIT) system from Sicma of France.

SIT moves much of the system's computing capacity from a central server to multiple in-seat units, each with its own processor and storage. Increasing the available local processing power and eliminating the need for high-bandwidth connections to the server, this architecture is expected to make it possible to offer brand-new forms of IFE content such as 3D games, along with animated 3D graphical user interfaces.

Royal Jordanian plans to introduce SIT on its quartet of Airbus A340-200s from next year.

These aircraft are due to be replaced by Boeing 787s some time after 2012, so it could be that the airline has been offered an advantageous deal by Sicma to prove its potentially revolutionary new product over several years of revenue service. If that turns out to be the case, a Middle Eastern airline could end up playing a key role in changing the face of the IFE equipment industry.

Several Middle Eastern states are pinning their faith on aerospace as one of the pillars of their long-term economic prosperity, writes

Brendan Gallagher. German aircraft interiors and engineering service provider CeBeNetwork shares their vision.

Seeing is almost believing for CeBeNetwork's unit

When it comes to the very finest in aircraft interiors, Middle Eastern customers have always set the standard. The region is home to many of the world's most lavishly appointed widebodies and several of these flying palaces were outfitted in the German city of Hamburg, which has developed a reputation as a cabin centre of excellence.

The biggest names on the Hamburg interiors scene include Airbus Deutschland and VIP completions and cabin systems specialist Lufthansa Technik. But the city also boasts an ecosystem of aspiring second-tier suppliers.

One such is CeBeNetwork, created in 1996 to offer high-level structural and systems engineering support to airframers and operators. Last year the company set up shop in Abu Dhabi, offering not only its original skill set but also some ingenious new ideas for the cabin.

The first of these entered the public gaze at last summer's inaugural Aircraft Interiors Middle East (AIME) show in Dubai. Designed in Hamburg, it was a

sophisticated full-scale mock-up of a cabin unit giving passengers a comfortable and convenient central point at which to work and enjoy entertainment.

The compact, lightweight IFE Unit is intended to fit close to a door or galley so that it doesn't take up valuable seat space. Features include a neat slide-out seat, a flip-up rotatable touchscreen, an iPod docking station, and memory

card slots allowing the user to upload his own data to the screen or download information acquired via the aircraft's connectivity systems.

If all goes to plan, the unit could be one of the first cabin products to be manufactured by CeBeNetwork UAE at its location near Abu Dhabi International Airport. "We're in negotiations with potential customers," says sales director Daniel Laessig. "Once we have a firm order, we'll develop the mock-up into something that can be certificated in an aircraft."

This sequence is central to CeBeNetwork's approach to the cabin market. "After starting out in the engineering support sector we're now turning our attention to becoming a developer and supplier of systems," Laessig explains. "We thought the IFE Unit was something that might be needed by airlines and VIP operators. We started with sketches, then drew it in detail and finally

we built the mock-up. Once we have a customer we'll move to industrialisation and production."

The word "mock-up" scarcely does justice to what CebeNetwork puts into product development. The company can bring its ideas to life in several different ways. Aircraft interior monuments and whole cabins can be depicted with a "virtual-reality machine" featuring a huge 3m X 2m screen. Potential products like the IFE Unit and the foldaway courier bed, shortlisted for a Crystal Cabin award at this year's Aircraft Interiors show in Hamburg, can be physically rendered at various levels of fidelity. "Our physical mock-ups range from comparatively easy ones that could never fly, via an intermediate stage in which we use off-the-shelf components and appropriate materials such as composites and honeycombs, up to very complex articles," Laessig says.

This attention to detail reflects CeBeNetwork's legacy as a supplier of sophisticated engineering solutions to the likes of Airbus. Now its Middle

Eastern operation is offering the same capabilities to customers in the UAE and beyond. "We have finished our first project, with a well known airline, and we're bidding for work with other airlines and with two leading local engineering companies," says Laessia. We're talking to the last two about supplying them with technical support.



stable, locally based workforce, "We can bring in

people from our team in Europe as necessary to get

projects started," Laessig explains. "But then we'll

local staff. We want to grow organically rather than

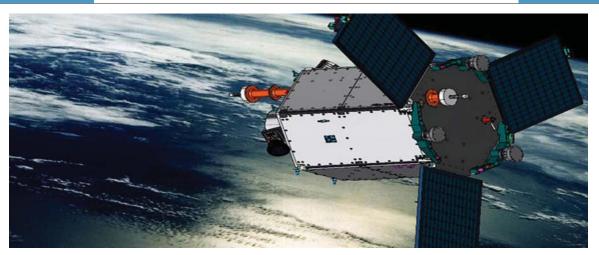
look at how they might be replaced in time with

buy in people from all over the world, only to see

them leave after a short time."



CeBe on show at AIME.



UAE's first satellite set for Russian launch

ubaiSat-1, UAE's first earth observation satellite, is being moved to Russia for a 25 July launch, according to the Emirates Institution for Advanced Science and Technology (EIAST).

In late June the UAE team shipped the craft from the factory in Korea to the launch base in Kazakstan, where it will be mated with a Dnepr rocket and launched by Moscowbased International Space Company (ISC) Kosmotras.

DubaiSat-1 will be launched into a low-earth, sunsynchronous orbit at an altitude of 680km. The craft weighs less than 200 kg, including a 50kg payload mass, and has an average power consumption of less than 150 Watts.

The remote-sensing satellite has been designed for a minimum lifetime of five years in-orbit operation and will provide the UAE with a valuable source of information to support the

country's development plans. Images from DubaiSat-1 will be used for many applications, including urban development, scientific research, telecommunications, transportation, civil engineering and constructions, mapping and surveying.

EIAST is currently looking at research in four keys areas: observation and fog forecast; the use of satellite pictures in predicting sand storms; the quality of water in the Gulf region and ways to improve the clarity of satellite pictures.

The DubaiSat-1 project, developed by SatrecI in South Korea and UAE engineers from the EIAST, consists of three segments – space, ground and actual launch. The ground segment comprises mission control station, image receiving and processing station, and antenna and RF subsystems.

His Excellency Mr Ahmed Al Mansoori, director general and vice chair of the Board of Directors, EIAST, says: "The

> successful completion of the final stages of DubaiSat-1 by the team of UAE national experts, including engineers and specialists working on the project, have underscored the reputation of the UAE as a key player in space research.

> "We are glad that our youth is part of space technology research, a testament to the tremendous talent amongst UAE youngsters.

"The development of a satellite is a very complicated process and what we have achieved so far can be attributed to the hard work and dedication of our engineers and scientists. DubaiSat-1 will undoubtedly be a sterling addition to the UAE's strategic accomplishments."

Why Algeria is not lost in space

You might not think it, but Algeria has been a major player in the space industry for many years.

AlSat 1 (Algerian Satellite), a 90kg enhanced microsatellite, was Algeria's first national satellite and was launched in 2002. It was designed and constructed by Surrey Satellite Technology Ltd (SSTL) in the UK under a collaborative programme with the Algerian Centre National des Techniques Spatiales (CNTS).

Based just a few miles away from

Farnborough in Guildford, SSTL was recently snapped up by EADS Astrium after the University of Surrey decided to sell its majority stake of 85% in the small satellite manufacturer.

AlSat 1 was part of an international collaboration to launch the first constellation of Earth observation satellites specifically designed for disaster monitoring.

The Disaster Monitoring Constellation (DMC) consists of five remote-sensing satellites constructed by SSTL and operated for the Algerian, Nigerian, Turkish, British and Chinese governments by DMC International Imaging.

The DMC provides emergency Earth imaging for disaster relief.



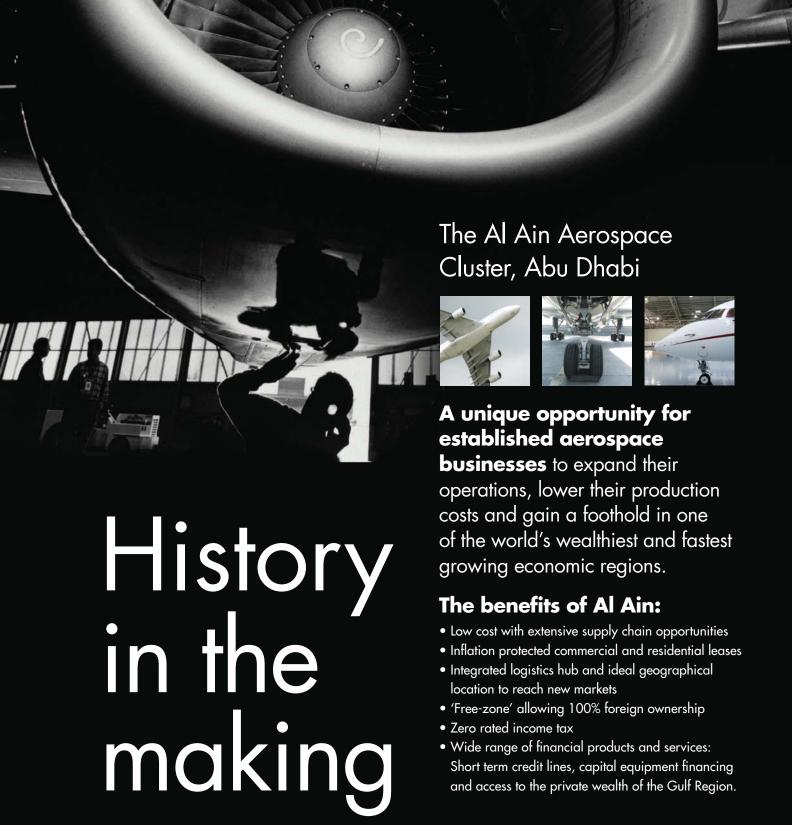
Other DMC Earth imagery is used for a variety of civil applications by a variety of governments. Spare available imaging capacity is sold under contract.

EADS Astrium also signed a contract in February 2006 with the Algerian National Space Technology Centre (CNTS) for the development of the ALSAT-2 system, which consists of two optical observation satellites. ALSAT-2 is the first Earth observation satellite system from the AstroSat100

family to be built using the Myriade platform.

The ALSAT-2 contract covers the design and development of two satellites. The first, ALSAT-2A, will be integrated and tested in France at EADS Astrium, whereas the second, ALSAT-2B, will be integrated in Algeria within the small satellite development centre (UDPS) in Oran.

The system will enable Algeria to obtain high quality images for use in a wide variety of applications, including cartography, management of agriculture, forestry, water, mineral and oil resources, crop protection, management of natural disasters and land planning.



For further details on the exceptional opportunities at the **Al Ain Aerospace Cluster** please contact the Cluster development team:

UAE Tel: **+971 2 505 3330** Europe Tel: **+44 845 111 3777** North America Tel: **+1 845 704 1777**

Email: aerospace@adac.ae Website: www.adac.ae



The fatal accident rate for all business jet civil operations is more than eight times that for large Western jets in airline operation...which is why safety is hurtling up the aviation agenda. Alan Peaford reports.

Why pilots need a crash course in safety

usiness Aviation around the world may not be as safe as the industry often boasts. While Middle Eastern accident figures remain good, a highly detailed report into global business aviation safety carried out by the UK Civil Aviation Authority in association with the International Business Aviation Council and the Business Aviation Safety Partnership says the fatal accident rate for all business jet civil operations is more than eight times that for large Western jets in airline operation.

It is also four times that for large Western-built turboprops flying commercial operations.

MEBAA – the business aviation professional body for the Middle East - is turning its sector's good reputation.

recognises the challenge. "The whole reputation of business aviation depends on it being safe and operating properly. As the industry expands, a perception of unsafe operations, brought down by a few, would have a detrimental effect on business," he warns.

According to the Business Aviation Safety Partnership report, a crisis beckons.

If the industry fails to address safety issues and the advent of very light jets expands the air taxi or charter-on-demand sector, then indicators are that safety figures would be particularly hard hit. According to safety expert David Learmount of flightglobal: "The statistical two parts of the industry whose safety performance drags the rest down are air taxis and owner-flown business jets."

potential for growth in this sector prompted further study, which included an analysis of safety data supplemented by externally contracted research that involved personal industry visits and a questionnaire sent to operators and pilots to obtain feedback on any safety-related issues."

The period under study was the eight years from 2000 to the end of 2007, in which time 59 business jets suffered fatal accidents. The fatal accident rate figures for that period show large



jets in airline operation suffered fewer than 0.2 fatal accidents per million hours flown, airline turboprops about 0.8, and business jets 1.7 fatal accidents per million hours flown on all types of civil operation.

The main recommendations emerging from the study covered action required in four arenas: pilot training, regulator interaction, operational issues like crew fatigue, and interaction with air traffic control

The report presents a breakdown of the 59 fatal accidents under study by the type of operation being performed. This shows that the highest number (21) happened on ferry or positioning flights, 17 occurred on 'private/business' flights, six carried cargo, five performed passenger operations, four were air ambulance flights, three were training, and there were three 'other' categories.

The tendency for the risk to be higher during non-revenue flights is an issue the US Federal Aviation Administration has decided to study, because it is a phenomenon that carries across all types of operation, including airlines.

Broken down by phase of flight, the CAA study shows business jet fatal accidents happen most often on approach (19), with landing second at 12. The remainder score as follows: taxi one, take-off eight, climb 11, en-route one, flight one, descent four and go-around two.

The primary causal factor in 16 of the 59 fatal accidents under study was flight handling, according to the CAA, which makes it the most common. But it was also one of several causal factors in a total of 22 of the accidents.

The causal factor that was present in more of

the mishaps than any other was "omission of action or inappropriate action", which was contributory in 25 accidents (42%), although it was the primary cause in only nine.

To summarise, the top five primary causal factors were flight handling (16 accidents/27%), lack of positional awareness (11/19%), omission of action or inappropriate action (nine/15%), poor professional judgement/airmanship (four/7%) and disorientation or visual illusion (two/3%).

As for circumstantial factors, poor visibility or lack of external visual reference was the most common, present in 21 accidents (36%).

Pilots and operators who responded to the CAA survey said that many employers did not provide their crews with sufficient training to cope with unfamiliar destinations or those with unusual characteristics, despite the fact that business jet pilots are more often exposed to new or occasionally-used destinations than airline pilots.

Also, business jet pilots, particularly those who operate single-pilot flights, say that fatigue can be a problem because their crew duty frequently includes far more pre-flight preparation and post-flight management than airline operations do, extending their crew duty time well beyond what an airline pilot would experience for a flight of a given length.

Many of the recommendations will find resonance with MEBAA's plans for the future. The key recommendations are that business aviation operators need to address "the limited ability of pilots to conduct safe flight without a serviceable flight management system".

Although they are familiar with using automation, says the CAA, business jet pilots demonstrate "incomplete understanding or variable ability in areas such as the use of autoflight modes, particularly in relation to vertical guidance, energy management and poor weather operations".

Lack of access to training in simulators particularly for recurrent training - is cited as a problem that affects a large proportion of business jet pilots in the global industry. So when training takes place it is frequently in the aircraft itself, which, for safety reasons, limits the kind of exercises that can be flown.

Despite the unique nature of business jet pilots' iobs – particularly when they are away from base at remote locations - they receive little or no company training in managing "additional duties", the CAA observes.

These include the expectation that pilots will often help clients with non-flying arrangements for the trip under the total service concept that business aviation embraces, and there is a need to liaise with airfield staff at remote locations for the care of the aircraft. If there is no preparation for any of this, says the CAA, the crew can be dangerously distracted from their primary tasks of flying the aircraft and managing the flight as a safe operation.

Another of MEBAA's goals is to improve understanding and cooperation with Air Traffic Control in the Gulf states. This is not a problem just in the region. Pilots in the study report a lack of air traffic control centre appreciation of business jet performance, particularly climb and descent rates and their relationship to speed restrictions.

UK air navigation service provider NATS data shows that business jets feature in a disproportionately large number of level busts, lateral non-compliance events and runway incursions. The report recommends the business aviation industry should work with air navigation service providers to:

- make the performance characteristics of this group of aircraft better known to controllers;
- recognise the impact on workload during single-pilot operations of changes to clearances or other instructions:
- minimise the number of radio transmissions and frequency changes during critical phases of flight.

"These are all points that we want to see implemented in our region," says Al Naqbi. "Safe operation is critical and we should all be working together to achieve it."



Safety in the skies and

othing in this world that is worth having comes easy. I didn't say that but I have found it to be true in almost all endeavours of life. Aviation is no exception.

It has a very interesting timeline in the history of mankind where each step was, in fact, a stepping stone for the next, culminating in the ancient dream of human civilization – fly like a bird!

Flying like a bird was a dream for Abbas Qasim Ibn-Firnas too. Ibn Firnas was an Arabic-speaking Berber who lived in the Umayyad Caliphate of Córdoba in al-Andalusia and in the year 875, at the age of 65, made his first attempt at a controlled flight using a rudimentary ornithopter from the Mount of the Bride in the Rusafa Area, near Córdoba, Spain. His flights were partly successful but suffered from the problem of directional control.

From Ibn Firnas to the Wright brothers, there is a long list of well-known pioneers who established basic principles of flights.

The period from 1910 to 1950 is considered the golden age of innovation for aviation. The haphazard growth of this nascent industry required the need of an over-arching authority, which could channel the strength of the industry for the benefit of general public, while addressing the weaknesses and safety concerns it posed.

From 1920-40s was the time when aviation rules started appearing in their rudimentary form in various countries.

In November 1944, an International Civil Aviation Conference was held in Chicago. The conference led to the setting up of the International

As air traffic increases in the skies of the Middle East, so does the focus on air safety. **Obaid Soomro**, airworthiness inspector of the GCAA, takes a look at the background of regulations and asks what the industry would be like without them?



Obaid Soomro.

IMAGINE A WORLD WITHOUT...

Regulators play their role silently but effectively, as pages of history tell us. In order to appreciate their contribution, imagine a world where there is no system of aircraft type certificates! It was 29 March 1927 when USA Aeronautics Branch issued the first airworthines type certificate to Buhl Airster CA-3 aircraft. Currently many type certificates, new and revised, are issued every year and there has been no turning back.

Imagine a world where there is no control over airports. It was 1926 when the first airway light beacon erected by Aeronautics Branch began operations. Every year there are new advancements.

Imagine a world where there is no control over pilots. It was 6 April 1927 when William P MacCracken Jr received Pilot Licence No 1. He was the first person to obtain a pilot license from a civilian agency of US government. Currently GCAA grants licenses to many eligible pilots every year.

Imagine a world where there is no control over technical staff. It was 1 July 1927 when Aeronautics Branch issued the first federal aircraft mechanic license to Frank Gates Gardner. Currently GCAA grants licenses every year to many eligible engineers and technicians.

Imagine a world where there is no organised regular passenger transport. It was 1936 when US domestic airlines carried one million passengers in scheduled air operations in a single year. Currently UAE major operators carry millions of international passengers every year without an accident.

Imagine a world where there is no coordination between nations. In 1944 the International Civil Aviation Organisation (ICAO) was formed. One year later, International Air Transport Administration (IATA) was created with 41 airlines from 25 nations as charter members. The UAE has been the member of ICAO since inception.

On 30 June 1956, TWA Super Constellation and United Airlines DC-7 collided over Grand Canyon Arizona, killing all 128 occupants of both the planes. On 21 April 1958 and 20 May 1958, two midair collisions result in 61 fatalities. If the trend had continued our media would have no time to cover any other topic.

In fact, 1980 was the first calendar year in USA without fatal accident for Part 121 airlines, including flag, trunk and local service categories. In the UAE we have enjoyed many such years in a row.

Civil Aviation Organization (ICAO) as a means to secure international co-operation and the highest possible degree of uniformity in regulations and standards, procedures and organisation regarding civil aviation matters. Perhaps, the most important work accomplished was in the technical field. The conference laid the foundation for a set of rules and regulations regarding air navigation as a whole, which brought safety in flying a great step forward and paved the way for the application of a common air navigation system throughout the globe.

The role as the safety regulator for a country known to be the commercial hub of the Middle East is not easy. It is multidimensional and multifaceted. It has to ensure that not only the aircraft are of a good design but also that their maintenance is completed to the highest possible standard.

How exactly does the GCAA ensure all that? Here are some of the various functions the GCAA performs day-in and day-out:

- Bilateral aviation agreements between the UAE and other countries to ensure fair competition.
- Validate Type Certificates of new aircraft models to ensure aircraft meet UAE design standards and additional national requirements.
- Approve modifications, repairs and other design changes ensuring that the aircraft still meets its type design after the change and is safe.
- Issue temporary flight permits in situations when an aircraft does not meet its type design. The GCAA ensures the safety of flight through alternate means of compliance and through additional operating limitations.
- Develop clear, concise, safety-focussed, easy-to-follow, aviation standards, which are in line with global standards but also address UAE's unique national requirements.
- Review and update the regulations as required, taking into account changes in technology, overseas developments and the needs of the local aviation industry.
- Conduct comprehensive surveillance of the aviation industry to review safety indicators and to identify safety trends and risks.

The airlines are subject to programs of formal and informal safety checks, which include audits, spot checks and operational observations. Regular audits of airlines involve looking in-depth at various aspects of organisations, such as pilot training, flight operations, aircraft maintenance, safety systems and risk management.

how GCAA contributes

- Effective enforcement so that compliance with the safety standards is amicably achieved without compromising economic growth.
- Issue various certificates to aviation organisations, like air operator certificate (AOC) certificates of aircraft registration (C of R), certificates of airworthiness (C of A), approvals for aircraft maintenance facilities (AMO) etc.
- Issue licences and approvals to individuals involved in the aviation industry like pilots, engineers and personnel at key positions.
- Maintain aircraft register.
- Encourage the aviation industry to maintain high safety standards through education, training and advice.
- Issue appropriate guidance material on how to achieve compliance.
- Investigate aircraft incidents and accidents and issue recommendations to address the causal factors; and to work with / assist other regulatory authorities investigating the accidents.
- Air Traffic Control.

- Find and isolate personnel and organisations not-abiding by the rules and expected standards. The GCAA has stopped aircraft and/or operators from operating in the past.
- Assess major defect reports and identify emerging or changing risk in UAE aviation environment.
- Help local departments of civil aviation (DCA). The UAE has seven emirates and each has a DCA responsible for managing airports, air traffic control and a few other responsibilities vested into them by the GCAA.
- Issue approvals to aviation maintenance, manufacturing and design organisations. The applicant organisations are expected to meet specified standards, to have appropriately qualified staff, required facilities and equipment for the work, quality control systems and appropriate training for staff.
- Ensure compliance with applicable airworthiness directives (AD); and issue local airworthiness directives to address unsafe

- condition noted in an aircraft type posing immediate and grave threat to the safety.
- Control and regulate carriage of dangerous goods by air.
- Ensure all aircraft and flights are safe and secure in general. The GCAA works with other enforcement agencies such as police and military if unlawful activities are suspected.

It is because of actions like these that there has been a dramatic decrease in the number of aircraft accidents over last 100 years.

Now human factors (pilot errors) and weather have emerged as the main causal factors behind aviation accidents. That is the challenge for all regulators of the world and the GCAA will not lag behind in playing its role!

The GCAA remains in touch with the other top class regulators like FAA of the USA, EASA of the European Union, Transport Canada, CASA of Australia and sees its role as an important regional authority, contributing to the global and regional safety wherever possible.





Avisa Gulf launches online aid for SMS compliance

Abu-Dhabi based airworthiness and safety consultancy Avisa Gulf has launched a free online tool on www.avisa.smsaero.com to help airline operators and aviation maintenance organisations working towards Safety Management System (SMS) compliance.

Managing director Justin Goatcher says: "This is a quick way of checking your organisation's SMS capabilities and identifies any gap that may exist. Operators urgently need to ensure that they have an effective SMS in place, to comply with new IACO and EASA regulations, due to be implemented over the next 20 months."

Avisa Gulf – a joint venture between Al Jaber Aviation and UK-headquartered Avisa Aviation Safety Systems – has made a great start since it began operations in the UAE at the beginning of the year

"We began by managing the airworthiness and maintenance requirements for two of the Al Jaber Embraer Legacy 600 aircraft but already are working with corporate and airline customers from Bahrain, Qatar, Saudi Arabia and the UAE," Goatcher says.

With Part M approvals from EASA, GCAA, Bahrain and the Cayman authorities, Avisa is able to operate as an independent body that sits between the operator and the MRO.

"Regulations have changed in EASA and subsequently the Middle East companies can see the business case of having an organisation like ours listen to what they need and then work with the MROs to ensure they deliver both what the operator and the regulators require."

Avisa already scored a major win with its consultancy service, acting for flydubai – the Dubai start-up low-cost carrier – and helping the airline gain its AOC and its certificate of airworthiness for the first aircraft to join the fleet. "We provide all the technical and regulatory support that a start-up needs and then the Continued Airworthiness and Maintenance Management (CAMO) as they go forward," Goatcher says.

Avisa is working in partnership with other local organisations to develop safety training. "Safety is at the core of everything we do," Goatcher says. "We work with the maintenance providers to really understand Part 145 and to help MROs and operators understand issues like how to manage life-limited parts or how to plan ahead.

"By understanding the regulations and understanding compliance, it makes management better and consequently saves costs.

"What cost do you put on safety? It is not just the headline costs from an event like the cost of the airframe or litigation, it is also the cost to credibility or reputation and that can put you out of business very quickly."

A history of improving air safety from 1960

- 4 April 1960: the FAA issues its first series of regulations designed to minimise aircraft noise at major airports by procedural methods. Then, in December 1969, it issues Part 36 regulations on allowable engine noise levels, followed up in March 1977 when new rules were published for three stages of aircraft noise levels.
- 9 June 1960: rules requiring installation of airborne weather radar systems on most of the airliners in passenger services, are introduced. Today's weather radars are much more advanced.
- 26 June 1960: cockpit voice recorders are initially required on certain aircraft. On 25 March 1987, new rules requiring CVR on new jets and turboprop commuter aircraft are introduced.
- 31 December 1964: codification of previous regulatory issuances into a single body of rules is completed in the USA. The new code is called Chapter 14 - Code of Federal Regulations -Aeronautics and Space. The Federal Aviation Regulations (FAR) are divided into parts. Major engineering-related parts are Part 23 - design rules for small aircraft, Part 25 - design rules for large aircraft, Part 27 – design rules for small helicopters, Part 29 - design rules for large helicopters, Part 33 design rules for aircraft engines, Part 35 - design rules for aircraft propellers and Part 43 – aircraft maintenance. Similar classifications have been adopted by regulators worldwide including GCAA.
- 7 June 1965: rules relating to the rapid evacuation of passengers for commercial carriers with more than 44 passenger-carrying capability are first released. Since then, more and more provisions for crashworthiness have been introduced; ensuring survivability of passengers even after the aircraft has crashed.
- 24 December 1974: requirements to have 'Ground Proximity Warning System (GPWS) –

capable of issuing visual and aural warnings whenever an aircraft is within 2,500 feet from the ground' are introduced. On 5 November 1976, the FAA commissions the first minimum safe altitude warning system warning Air Traffic Control if an aircraft descends dangerously close to the ground.

- 9 June 1976: the FAA implements a conflict alert system, warning Air Traffic Control of less-thanstandard separation between aircraft under their control. On 23 June 1981, the FAA decides to adopt the Threat Alert & Collision Avoidance System (later renamed as Traffic Alert & Collision avoidance system).
- 11 September 1981: the FAR Part 108 'new rule on aviation security' is introduced. Then on 5 September 1989, FAA is authorised to require airlines to install explosives detection systems to screen passengers' baggage for international flights.
- 26 October 1984: new rules calling for installation of fireresistant seat cushions and emergency escape path markings to provide evacuation guidance are introduced. Then on 21 July 1986, more rules for stricter flammability standards for materials used in cabins come into force. The rules require use of fire-resistant and slowerburning materials for cabin sidewalls, ceilings, partitions, storage bins, galleys and other interior structures. On 12 February 1998, a rule requiring fire detection and suppression systems in aircraft cargo compartments is introduced.
- 17 December 1993: Continental Express begins using for the first time GPS for non-precision airport approaches. On 10 July 2003, Wide Area Augmentation System (WAAS) is first commissioned. WAAS is the first national navigational aid comprising of many geographically dispersed subsystems, utilizing GPS. Later, on 1 January 2001, Automated

Dependent Surveillance-Broadcast (ADS-B) technology is first used to track air traffic lacking radar coverage. ADS-B is a satellite based situational awareness tool that provides the pilot with information similar to that possessed by ATC.

- 27 March 1997: Phase 1 of Reduced Vertical Separation Minima (RVSM) is introduced, reducing separation from 2000 feet to 1000 feet. It is the first reduction of separation over the Atlantic in 40 years. On 22 October 2003, a new rule reducing minimum vertical separation between aircraft from 2000ft to 1000ft for all aircraft between FL290-410 is introduced.
- 8 May 1999: the first use of Emergency Materials Arresting System (EMAS) takes place as an aircraft overruns a runway at JFK and safely stops within EMAS. Not every airport is currently equipped with EMAS but the future looks brighter.
- 29 March 2000: all USA-registered planes, carrying more than six passengers, are required to have Terrain Awareness and Warning System (also known as Enhanced GPWS).
- 16 August 2001: Enhanced Airworthiness Program (EAPAS) for Airplane Systems is issued to ensure continued safety of aircraft wiring systems from design, installation through to retirement.
- 15 June 2002: new standards to protect cockpits from intruders and effects of small arms or fragmentation devices like grenades are introduced.
- 1 September 2004: Light Sport Aircraft (LSA) Rules, encompassing manufacture, certification, operation and maintenance of aircraft with weight less than 1320 pounds, but faster and heavier than ultra-light vehicles are introduced. The LSA rule includes airplanes, gliders, balloons, powered parachutes, weight shit control aircraft and gyroplanes.

GATES AND PARTNERS **SOLICITORS**



Gates and Partners is recognised independently as one of the worlds preeminent aviation and commercial law firms.

We can assist you in all areas of aviation and commercial law including:

- Aircraft purchases and sales
- Aviation insurance and reinsurance
- Aircraft finance and leasing
- Regulatory issues and registration of aircraft
- Operational and management issues
- Offshore Structuring
- Aviation Litigation

As a niche firm, we offer the advantage of a more direct, personalised service but with the depth of expertise that you would expect a substantial international law firm. We have lawyers admitted to practice in mainland China, Hong Kong, Singapore, the United States, Russia, Greece, the Cayman Islands, the Eastern Caribbean and various jurisdictions in Australia. Our head office is based in London, UK with an office in Singapore and representatives in key locations worldwide.

For more information please contact Aoife O'Sullivan, Partner.

In London:

20 St. Mary At Hill London EC3R 8EE United Kingdom T: +44(0)20 7220 5950

F: +44(0)20 7220 5951

E: info@gatesandpartners.com

In Singapore:

Gates and Partners

9 Temasek Boulevard 42-03 Suntec Tower 2 Singapore 038989

T: +65 688 44600

F: +65 688 44655

E: info@gatesandpartners.com



You're cleared to land

Anywhere in the USA with Europe's first *Full US CBP facility*.

- Pre-clear passengers through US customs and immigration.
- Allows Business Jets to proceed directly to final US destination.
- Fly direct to any airport in the USA.

- User friendly airport at Shannon.
- Full use of domestic terminals where you land.
- Create new route opportunities.

For further details contact:

Joe Buckley

E: joe.buckley@daa.ie T: +353 (o) 61 712 295

Declan Power

E: declan.power@daa.ie T: +353 (o) 61 712 403

shannonairport.com





FLIGHT SUPPORT IMMIGRATION

There are a whole host of different flight support companies competing for business in the Middle East.

Phil Nasskau looks at what they do differently to provide the perfect services, amidst economic conditions that are constricting the world's business.

Universal passport to business growth

niversal Weather and Aviation may be a US company, but it has its sights set firmly on the Middle East—and it has an ace up its sleeve. At its Shannon, Ireland, office it is able to offer business jet travellers the ability to pre-clear US immigration. As of July this year the airport was able to offer the service for commercial operators and in September the business aviation facilities will be in full flow and operational.

This means that when the aircraft departs Shannon for the US it is considered a domestic flight. So no hassles and far less time wasted when passengers arrive.

Universal's managing director for Ireland, Brendan O'Grady, says a lot of interest is coming from the Middle East for this service both from existing and new clients alike.

The appeal also lies in the privacy that the airport offers. The US pre-clearance for biz jet travellers has its own dedicated channel.

In fact, the airport is so keen on keeping its customers' privacy a top concern that when US President Barack Obama flew through Shannon it wasn't until three or four days later that the local press got wind of it, reports the airport's cargo & technical traffic development manager Joe Buckley.

"We're certainly interested in making operators in the Middle East aware of this," says Buckley.

Space is not an issue either. The airport has a 3,200m runway and can accommodate the Space Shuttle, so Airbus's superjumbo A380 can use it too.





FLIGHT SUPPORT

Another advantage for travellers is that when arriving in the US and if connecting flights are needed, there is no need to change terminals and baggage is checked to the final destination.

The upgrade to offer the full suite of pre-clearance comes after a relationship that started in 1980 when the airport was able to offer immigration clearance. "We think this is particularly interesting for Middle Eastern operators. There's much less hassle if you are travelling to the US," Buckley adds.

In addition, Universal also offers its suite of flight and trip support in the Middle East. O'Grady explains: "We are a one-stop shop. There is nothing that cannot be arranged. We know our business and have been doing it for a long time.

As much support as they need

"All it takes is one phone call, email or fax and customers can have as much or as little support from us as they need – from weather to handling to booking hotels or cars."

For Dubai-based Palm Aviation, the key to repeat success and business is also being a one-stop shop, with exceptional and personal service, according to chief executive Samer Dabbagh.

He says flight operations staff are happy because of the personal service they receive from Palm.

"We can help our customers with remote or difficult locations such as central or western Africa.

"It's one of our strengths to provide our services there, and not use a third party like other providers do.



Samer Dabbagh: "We take care of everything when others can't."

"We take care of everything when others can't," says Dabbagh.

And, although the market may be down because of the financial crunch, Dabbagh adds Palm is still very strong in the Middle East.

"We're still busy and going as planned." For Palm Aviation the focus is very much on providing a complete package. "Operators like to use one service provider for everything — they don't like to have to expect any problems," says Dabbagh.

For that reason, Palm will always have a dispatcher on standby so that it can react to any customer requirements.

Dabbagh explains that because there are many support companies the competition is good and healthy. "It especially helps us because it distinguishes our superior service and helps us to gain a bigger market share."

He is also confident about the business. "The market is still busy and there is growth. We're always looking for new customers and operators, but there are challenges.

"For many operators now is the time to consider their expansion plans. The market will pick up and the expansions, growth and investment will come back to business aviation. But this won't be until after the consequences of this financial crisis," he warns.

Dabbagh believes that the financial turmoil will change the flight planning and support environment in the Middle East. He thinks companies will suffer from the situation and this could lead to alliances or joint ventures in a bid to remain profitable or even afloat.



Aircraft Support Industries offer specialist solutions to all areas of the aviation industry to help meet their operational needs for all types of maintenance facilities, systems and equipment. With offices across the globe we are there to support you.

For further information contact enquiries@asiglobal.net or visit www.asiglobal.net



For Dabbagh to set Palm apart from its competitors he believes the challenge is to keep high demand in the Middle East and CIS while the support providers wait for European demand to pick up.

"We have to watch the market and be careful of our future steps," he says. "You have to stay in touch with customers and understand their plans and requests. This is what makes us different."

Meanwhile, for Hadid and its CEO Mohammed Abu Libdeh, its key selling point is its credit facilities for customers.

Extensive experience

Abu Lidbeh also believes that competition is a good thing because it highlights Hadid's service ethic.

He says the company has extensive experience of Africa and that it can help customers who need to fly in to those regions.

However, he believes that opportunities in the market are changing and that with the current economic climate "only the strongest will survive".

Abu Libdeh says the company is happy to use third-parties for its customers but only when they have excellent customer service standards. "If they can match what we're looking for we'll keep using them. But, if we can't find a location that has services up to our standards, then we'll go in and open up our own offices," he says.

Abu Libdeh also reveals: "We are looking at the Far East for expansion."

JETEX BREAKS NEW GROUND IN THE WEST



For Dubai-based JetEx Flight Support, it is Europe that has caught the eye.

The company has announced a major move into the European marketplace with the opening of a new FBO facility at Le Bourget's Terminal d'Aviation d'Affaires building just outside Paris.

The development is the first stage in an ambitious international expansion plan that could see JetEx developing a network of FBOs throughout Europe and the Middle East, as locations become available.

"We took a strategic decision to build our first one at Europe's busiest business aviation airport," says JetEx general manager Holger Ostheimer.

The facility was opened during the Paris Air

Show in June by Paul Griffiths, chief executive of Dubai Airports, who was representing Dubai's Sheikh Ahmed bin Sayeed Al Maktoum.

It features a VVIP area – dubbed Le Royale – for senior government officials, royal families and other dignitaries, as well as a VIP area, Le Salon, which has a lounge and meeting rooms. There are also pilot rest and briefing areas.

JetEx provides back-up services to business aviation, freight and passenger airline operators and has the bulk of its market in the Middle East, Africa and Asia.

This is the first time a Middle East company has established permanent operations in the West.





THE MASTERPLANNERS

We plan it all - your flight plans, efficient routes, information on weather and winds, ensuring your flights are always well prepared, safe and secure.



PERMISSION GRANTED

Over-flight or landing permits - visa and security clearances - we make sure you get all your permissions on time.



HANDLE WITH CARE

We handle all ground support arrangements with the utmost care, and consult with the right handlers to always assure you the highest service levels.



FUEL YOUR IMAGINATION

No matter what your destination, we offer a wide range of solutions that make sure your aircraft fuelling needs are met.

Dubai International Airport - DAFZA

ARINC: DXBFOXH Phone: +971 4 204 5505 Fax: +971 4 204 5504

Email: ops@fliteport.aero Ops 24 Hours: +971 50 140 1187

Internet: www.fliteport.aero





FUELS





A partnership comprising Qatar Airways, Qatar Petroleum, the Qatar Fuel Company, Airbus, Rolls-Royce, Shell

and the Qatar Science and Technology Park is carrying out research into the benefits of synthetic jet fuel.

s the aerospace industry continues its search for a greener alternative to today's aviation fuel, a futuristic facility on the coast of Qatar is poised to deliver one of the answers.

Tapping into one of the world's largest reserves of natural gas, the Pearl GTL (gas to liquids) plant, with capacity to produce 12,000 barrels of new-generation synthetic kerosene per day, is on the way to completion at Ras Laffan, a vast industrial zone the size of Amsterdam, on Qatar's coast, some 90 kilometres north of Doha.

Pearl, a joint development by Qatar Petroleum and Shell, will process about three billion barrels of clean-burning, oil-equivalent products over its lifetime.

Apart from the new jet fuel, output will include GTL diesel, automotive lubricants, paraffin (used in detergent production) and naphtha, an essential catalyst in plastics production.

Shell says the project is "proceeding in line with expectations".

Construction is scheduled for completion "around 2010" with what the company describes as "project ramp-up" (the phase leading to start of production) beginning in 2011.

More than 40,000 workers from more than 50 countries are currently engaged in the construction effort, which covers an area equal to New York's Central Park.

A partnership comprising Qatar Airways, Qatar Petroleum, the Qatar Fuel Company, Airbus, Rolls-Royce, Shell and the Qatar Science and Technology Continued Park is carrying out research into

the benefits of synthetic jet fuel and

on Page 80

ONE GIANT CHEMISTRY SET

LNG (liquefied natural gas) is a clear, colourless non-toxic liquid that forms when natural gas is cooled to -160C. This shrinks the volume of the gas 600 times, making it easier to store and transport.

The two offshore production platforms sit 40 metres above the seabed. Their top sections have been built at shipyards in Dubai. Eleven wells are being drilled from each platform.

Pearl has been likened to a giant chemistry set. Using natural gas as its starting point, it first combines, then breaks up and rearranges chains of atoms. Chains of varying lengths have different properties, producing a range of GTL products. including synthetic jet fuel.

Construction at Pearl involves two million tons of prefabricated parts for the GTL plant and its equipment, including 12,000 kilometres of cables and enough steel to make 10 Eiffel Towers.

At the heart of the GTL process are 24 cylindershaped, steel reactors, each weighing 1,200 tons the equivalent of seven Boeing 747s. Built in Germany, they travel by barge to Amsterdam before being shipped to Qatar.



TECHNOLOGY

CONTINUED FROM PAGE 79

the potential for its commercial use. The collaboration believes GTL offers a "practical and viable 'drop-in' fuel for commercial aviation in the short term," emphasising its benefits for local air quality (it is virtually sulphur-free) and its potential to improve fuel-burn because of a higher energy content and lower density than today's Jet A-1.

Qatar Airways has already signalled its intent to be the world's first commercial airline to operate flights using GTL kerosene.

"There is a huge movement lobbying for the reduction in carbon emissions to make for a cleaner and safer environment," says the airline's chief executive officer Akbar Al Baker. "As industry leaders, the partners are committed to the cause, and this move highlights how seriously we take the issue."

Natural gas will be piped to the Pearl facility

from two platforms sitting 60 kilometres offshore in the North Field, which stretches from Qatar's coast out into the Gulf and accounts for around 15% of the world's reserves.

This will then be converted into a range of products including GTL kerosene, which has properties similar to standard aviation fuel, making it highly compatible when the two are combined.

A fuel mix containing 37% GTL kerosene has already been successfully flight-tested using an Airbus A380. An unmodified Rolls-Royce Trent 900 was fed with the blended fuel, while the remaining three engines used standard Jet A-1.

The three-hour exercise measured engine responses throughout the flight envelope to a maximum altitude of 43,000ft.

The trial Trent performed successful windmill starts and routinely delivered max power when commanded for a final touch-and-go.

'no-maintenance' lighting system British company STG Aerospace's Wireless

STG launches

British company STG Aerospace's Wireless Emergency Primary Power System (WEPPS) has won a prestigious Crystal Cabin Award for Innovation.

WEPPS removes costs by eliminating the emergency lighting system's entire maintenance schedule and, as the system lifespan is the life of the aircraft, there is no need to replace batteries – ever.

In addition, each WEPPS module integrates innovative wireless technologies to communicate BITE and MEL status for the whole emergency lighting system to a single-point diagnostic panel.

This FAA and EASA-approved product uses ingenious operating protocols combined with TSO-approved, "fit-for-life", non-rechargeable batteries to replace conventional NiCad battery/charger modules.

An early beneficiary is the Bahrain Defence Force on its Avro RJ fleet.

STG's CEO Peter Stokes says: "WEPPS is consistent with STG's mission to reduce aircraft operating costs and make flying safer.

"We've applied current proven technologies in an innovative package to eliminate laborious and repetitive maintenance tasks on a safety-critical system. It, therefore, reduces maintenance time and cost for operators, while also delivering exceptional safety and reliability – essential in the current economic climate."

STG has developed innovative energy-harvesting techniques to power its SecureControlTM wireless network and has a long list of future product development projects that exploit this "backbone".

Earlier this year, STG Aerospace appointed a new Middle East agent, FN Associates, covering the United Arab Emirates, Oman, Qatar, Bahrain, Jordan, Yemen, Lebanon, Syria, Kuwait and Iraq. Faten Nassar says: "I'm very pleased to represent STG Aerospace in the Middle East. We see tremendous potential with airline operators throughout the region keen to cut operating costs and enjoy a fast return on investment while increasing safety. Even in times of recession this is a message that airlines want to hear."

STG Aerospace has built a successful business in the last decade with a growing range of products that deliver increased safety and reduced operating costs through innovative design. And Middle East organisations have been strong in adopting the company's expanding range of products.

The company's market leader, SafTGlo, is a patented photoluminescent floorpath marking system that replaces conventional electrically-powered systems.

The product is certified for all major aircraft types and is standard equipment for Boeing, Embraer and many other OEMs. It is 100% reliable and is installed in thousands of aircraft for hundreds of airlines around the world.

The system's FAA and EASA approvals allow installation on all Airbus and Boeing models in addition to more than 70 other aircraft types. Reciprocal approval by all local authorities has allowed installations throughout the Arab world by many leading airlines including Royal Jordanian, Jordan Aviation, Oman Air, Sama, Saudi Arabian and Silver Air.

MORE PROGRESS IN ALTERNATIVE FUELS...

GROUND TESTS WILL PRODUCE VALUABLE FUELS SCIENCE

Rolls-Royce is continuing its broad-based approach to alternative aviation fuels, including plans to ground-test a variety of contenders in a joint initiative with British Airways.

A number of potential fuel suppliers responded to an initial invitation to bid last year, but only one fully met the required criteria, leading Rolls and BA to conclude that the position was not yet mature enough to proceed. The electronic bid process is due to be repeated towards the end of the year, or early in 2010.

Robert Nuttall, vice president, strategic marketing at Rolls-Royce, says: "We're keen to ensure as much quality science as possible sits behind fuel research. This is a global issue and the results of these trials will be made available publicly so that the whole industry, its customers and the environment itself can benefit."

BA will supply one of its RB211-524 fleet engines for the testing, which will be carried out at the Rolls-Royce civil aerospace facilities in Derby, UK. A key feature of the exercise is the plan to include a range of synthetic or bio fuels in side-by-side comparisons, both with each other, and standard Jet A-1 aviation fuel.

"We'll be looking to try and clear biofuels for commercial flying in the next two years, in conjunction with the wider industry," says Nuttall. "Of the views currently out there, the most optimistic is that 30% of aviation fuel, by volume, could be from bio stocks by 2030."

As well as its involvement in the A380/Trent 900 GTL (gas to liquid) kerosene flight-test last year, Rolls-Royce also took part in a joint exercise with Air New Zealand and Boeing using an RB211-524-powered 747. The segregated engine was fed with a 50-50 mix of Jet A-1 and biofuel derived from jatropha. Data analysis resulted in predictions that the bio drop-in would improve fuel-burn by 1.2% on long-haul flights (12 hours/5,800 n.m.) with an anticipated 1% benefit on shorter routes.

Rolls-Royce bases its outlook on three triggers: suitability, sustainability (effects on food production and land use) and scalability – the issue of commercial production.

BIO FUTURE COULD BE 'MIX AND MATCH'

Preliminary results from flight-testing earlier this year involving a Pratt & Whitney-powered Japan Air Lines Boeing 747 show that viable biojet fuels processed from a range of green raw materials can be mixed, both with each other and with standard Jet A-1 kerosene.

Fuel used in the JAL trial was refined from a variety of bio feedstocks including camelina, jatropha and almae

Alan Epstein, the company's VP technology and environment, says: "Drop-in, sustainable aviation biojet fuels will reduce aviation's CO2 while diversifying our fuel supply and promoting energy independence. Aviation no longer needs to bet on a single source of fuel."

However, to achieve significant performance improvements through the use of next generation fuels, P&W contends that future engines will need to be expressly designed to fly on biojet fuel, or a biojet/kerosene mix which includes at least 25% bio.

"There is no performance gain from biofuels burned in current engines," says Epstein.

Last year, P&W approved the use of biofuels in all its non-afterburning military engines (some of which have commercial variants) and expects to clear bio for afterburning fighter aircraft by the end of this year.

The next flight test demonstration with P&W involvement is due next year, using an IAE V2500 on a JetBlue Airbus A320 – Pratt is a senior partner in the four-nation International Aero Engines consortium alongside Rolls-Royce, MTU and the Japanese Aero Engines Corporation.

As well as marking a bio debut for the V2500, the flight is believed to be the first using fuel from third-generation feedstock.

In Epstein's view, challenges of mass production are likely to make biofuels a long-term alternative.

"It may be several decades before they are available in the tens of billions of gallons per year this (demand) implies, so we are a way off being able to exploit some superior biofuel properties in our engine designs."

Runway incursions and excursions are one of the major causes of aviation accidents. One Gulf airline is adopting the latest technology to ease the threat.

Emirates goes one step further on landing safety

mirates Airline is to be the launch customer of a new bit of kit from Honeywell. The Dubai carrier has committed to installing SmartLanding for the majority of its fleet.

This new product builds on existing Honeywell technologies to address runway incursions and excursions, and incorporates the Runway Awareness and Advisory System (RAAS).

"Emirates has performed numerous evaluations of the SmartLanding advisories in its simulator with pilots and will be the first to incorporate these new safety features in the majority of its fleet," says TK Kallenbach, vice president of product management, Honeywell Aerospace.

SmartLanding is expected to be incorporated into Emirates Boeing 777-200/300 and Airbus A330 and A340 during the remainder of this year.

SmartLanding reduces the risk of runway incidents by alerting pilots if the aircraft is approaching too high, too fast

"This technology, will ensure our flight deck crew continue to be supported by the best safety systems in the industry."

Captain Alan Stealey

Honeywell

O77 MAG 042 HDG

VIEW

O30 O60

RNG

50

TERR

PUSH ENT

WX NAV TERR TRFC AUX

SmartLanding reduces the risk of runway incidents by alerting pilots if the aircraft is approaching too high, too fast or is not configured properly for landing.

or is not configured properly for landing – common components of an unstabilised approach.

Captain Alan Stealey, Emirates' divisional senior vice president flight operations says: "Emirates is committed to invest in the latest aircraft and technology, to provide our customers with safe and comfortable journeys. We were one of the first airlines to implement the first generation RAAS two years ago; this latest initiative with Honeywell is an extension of that commitment. We are very excited to be working with Honeywell on this technology, which will ensure our flight deck crew continue to be supported by the best safety systems in the industry."

Honeywell's SmartLanding is a software enhancement to the proven Enhanced Ground Proximity Warning System (EGPWS), installed on more than 30,000 airline and business aviation aircraft. Through a simple software upgrade to EGPWS, SmartLanding improves pilot situational awareness and helps break the chain of events that can lead to a runway problem, by providing aural and visual alerts upon approach if the aircraft has not met established safety criteria.

Using Global Positioning System (GPS) data, SmartLanding alerts are based on aircraft position, speed and flight path compared to airport runway locations stored in Honeywell's worldwide terrain and runway database, which has proven itself for more than 600 million flight hours.

With both auditory alerts and visual messaging, Honeywell's system supports both heads-up and quiet cockpits.

SmartLanding complements Standard Operating Procedures and FOQA / Flight Data Monitoring programs to improve safety by encouraging compliance with stabilised approach criteria:

- Aircraft should be stable at 1000 feet above the runway
- Aircraft must be stable at 500 feet above the runway
- Aircraft is properly configured to land
- · Aircraft is on the correct vertical path to land

The SmartLanding feature includes call-outs for long landing if the aircraft extends beyond a pre-determined touch-down zone, together with call-outs of runway distance remaining during landing and rollout. Also included is a check for inadvertent barometric altimeter correction errors, which continue to be a contributing factor in Controlled Flight Into Terrain accidents and incidents.

TECHNOLOGY ENVIRONMENT

GE takes a new approach to noise sensitivity...and the programme could be accelerated by fuel prices.

Softly, softly...

eneral Electric is developing a smart engine thrust setting system that will help airlines and business jet operators avoid penalties at noise-sensitive airports, and also reduce fuel costs.

Although no target date has been set for a commercial launch of the "Variable Thrust Cutback" software, GE believes economic factors may accelerate its introduction. Mike DeJonge, the man who invented the programme while chief engineer of GE Flight Management Systems, says: "The timescale will probably be driven by fuel prices. If they remain high, we anticipate a real need for this type of capability. Both bizjets and airlines would benefit. In fact some corporate aircraft owners face more stringent noise limitations because they operate from bases very close to communities."

Details contained in GE's patent application reveal that the advanced flight management system will automatically command appropriate engine settings allowing aircraft to meet local "sound exposure levels" (SELs) based on a comprehensive range of parameters stored in the onboard computer.

In a response to tightening noise abatement regulations, the National Business Aircraft Association has already attempted to establish a standard take-off procedure. This involves aircraft initially adopting a maximum practical rate of climb to reach 1,000 feet with flaps at take-off setting. Once at that altitude, power is reduced to a quiet climb setting while maintaining a maximum climb rate of 1,000

feet per minute. At 3,000 feet, normal climb schedules are resumed, with gradual application of climb power.

GE points out that having fixed altitudes for thrust cutback and restoration results in aircraft of different weights, for example, or those operating in different temperatures, finding themselves above different ground positions at those altitudes.

"The current procedures are too generic and are certainly not optimised around fuel efficiency," says DeJonge. "They are also conservative, because they are set up to accommodate the heaviest aircraft on a hot day. Clearly, such an aircraft would climb at a lesser pitch compared with a lighter aircraft on a cold day, yet the lighter plane in cold conditions is treated in exactly the same way despite its obviously superior performance capability.

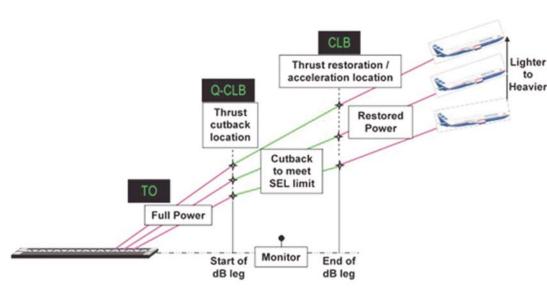
"While staying within community noise limits, ideally you want to climb with maximum available power so that your aircraft spends less time at low altitude where drag is greater."

Having been programmed in by the crew as part of the preflight routine, the GE system is triggered as the aircraft passes over a geographic waypoint, signalling the start of the "dB leg."

Recognising the appropriate SELS for that departure route, the flight management system then computes factors such as altitude, airspeed and ambient temperature while commanding engine settings for optimum fuel efficiency. The system is disengaged when the aircraft crosses a second waypoint marking the end of the noise measurement zone.

An acoustic profile, based on certification records and stored on board, means that individual aircraft will possess a unique noise signature. Characteristics such as different engine types on the same model of aircraft, for instance, can then be taken into consideration when the computer fine-tunes thrust to maintain the SEL requirements. The package's sophistication even has some margin to allow for variations in humidity that can affect how noise travels to ground monitors.

Built-in safeguards ensure that no thrust reduction is performed until the aircraft is 800 feet above runway level, and that a minimum rate of climb of 1,000 feet per minute is enforced during any pull back in thrust.



The proposed new procedure.

ALSALAM AIRCRAFT COMPANY

A CENTER FOR TECHNICAL EXPERTISE & SERVICES IN THE MIDDLE EAST

- Manufacturing of parts for military and commercial aircraft
- VIP interior design & modifications
- VIP aircraft management, maintenance, modifications & refurbishment
- Military aircraft depot level maintenance, modifications & upgrades
- Military technical support services
- Commercial aircraft heavy maintenance, modifications & upgrades
- Technical training programs

MORE

P.O. Box 8012, Riyadh 11482, King Khalid International Airport Industrial Park, Kingdom of Saudi Arabia

Tel: 966 1 220 3966 Fax: 966 1 220 3973

Email: businessdev@alsalam.aero



شركة السلام للطائرات ALSALAM AIRCRAFT CO.

It's the REAL thing

Specialists in cabin crew training equipment serve the Middle East market

or cabin crews to get the most out of training, staff need to get as realistic an understanding of the challenges as pilots get from the latest simulators.

Airlines in the Middle East are getting the benefit of the latest in training devices manufactured right on their doorstep. UAE based Spatial Composite Solutions manufactures Cabin Service trainers (CSTs), Cabin Emergency Evacuation Trainers (CEETs) and Door Trainers in current Airbus and Boeing configurations. Since 2007 the Jebel Ali business has been producing exact replicas of aircraft and is the only such specialist in the Middle East to do so.

"The devices are constructed entirely from durable composite components affixed to an aluminium super structure," says Joe McKeever, CEO. "These are similar in many ways to the assembly techniques used in the manufacture of actual aircraft. We use actual aircraft cabin interior components as a start point and from these we manufacture perfect 1:1 scale replicas which are in turn strengthened and reinforced before installation. No MDF or other timber products find their way into the build, as the end user expects the finished product to endure the rigors of day to day training over a 10 to 15 year period."

Spatial has been working with Emirates to design, build and install a total of 12 cabin service trainers including the upper and lower deck of the Airbus A380, which was built in just under six months. Although McKeever is quick to point out: "This was exceptional however as the device



CEO Joe McKeever, Henry Robinson and the spatial design team in the A380 social area.

was urgently needed to train their cabin crew prior to the arrival of their first aircraft last year. A typical lead time for an A320 or a B737 device would be 8 to 9 months".

'Spatial' is currently working on a combination A320 / B737 Emergency Evacuation Trainer which will have fully operational main and over wing exit doors for both aircraft types which will function exactly as per the actual aircraft. The device will also have a cockpit, evacuation slides, decompression and smoke simulation.

Being a newish company has it discovered any difficulties along the way?

"Our experience to date has been that the client tends to change plans at short notice," says McKeever. "Usually there are other parties involved, the construction company or consultants responsible for the building in which the training device will be located for instance. As a result we must be flexible and we must respond quickly. It is vital to be close to the client and so our Dubai location does give us a real advantage with airlines based in the Gulf."

Major trading hub

The UAE is a major trading hub within the Middle East. With its current factory located in Jebel Ali are there plans to open up new plants anywhere else within the GCC? "The Emirates is a good place to do business," says McKeever. "In the past many European and American manufacturers have viewed the Gulf as a place to make a quick buck and leave. That is simply not good enough anymore. If you are serious about your business in the Middle East you must have a presence here. Local support in absolutely vital as an interruption in training as a result of a breakdown is critical for the end user, the airline."

The company says it is in 'advanced stage negotiations" with several other airlines in the GCC which as yet can't be mentioned. "We have no plans just yet to expand but it is an option. The aviation industry has been facing new challenges recently, there are greater prospects for growth in the Gulf region than in the more matured markets in the west. The order book at Airbus and Boeing is testimony to this. In order to survive we must adapt".

The company has a staff of 25 professionals and that number is expected to increase to 40 within the next two years. McKeever says: "We are flexible, quality orientated and our pricing is competitive. We are 'open for business' and look forward to meeting new friends at the Dubai Air Show in November where we will exhibit for the first time."

EgyptAir looks to be the frontrunner in Middle East

With Horus the winged god of the sun as its logo, EgyptAir has a lot to live up to. The falcon-headed sky diety is evidently a good omen for Egypt's flag carrier, which has a knack of spotting market opportunities.

For example, while the rest of the world scales back on airliner orders, one region went on a buying bonanza at the recent Paris Air Show. The Middle East was ramping up fleets with an eye on future prosperity. This rapid growth means that finding crew to fly these aircraft will be essential.

However, there simply are not enough properly equipped training facilities in the Middle East and Africa to meet future demand, so EgyptAir is seizing the opportunity in a flaccid market to position itself as the frontrunner. Its training division, EgyptAir Training Centre (ETC), was noticeable by its presence at the recent Paris Air Show. ETC was the only training provider to take a booth at the show in a bold bid to supply freshly minted first officers to these new fleets.

So what makes EgyptAir confident it is the right training provider for the region? Experience plays a part. Eng M Gamal Said, ETC director of marketing and sales says: "We are the oldest airline in the

Middle East and Africa. We were established in 1932 and were the first in both locations. For the last 77 years we have pioneered aviation's growth here."

The carrier is a founding member of Arabesk Airline Alliance and the Arab Air Carriers Organization.

Headquartered at Cairo International Airport, EgyptAir

Holding Company (EHC) is a state-owned enterprise with special legislation permitting the management to operate as if it were a private company. The organisation wholly owns several smaller entities, including ETC, and is self-financing without any financial backing.

Said says: "EgyptAir was split into several companies in a strategic move, enabling each facility to make its own decisions. Investing in a training centre was part of that structure."

The airline division operates scheduled passenger and freight services to more than 70 destinations in the Middle East, Europe, Africa, Asia, and the Americas and is Africa's second-largest airline. The parent company posted profits of \$170 million in the 2007/2008 fiscal year and in 2008, EgyptAir's traffic increased by 6% to 8.2 million passengers.

This April EHC overhauled its operations at Cairo and created a new terminal. The airline transferred all its operations there and has more than doubled the airport's capacity.

In addition to EgyptAir, EHC shelters several domestic airlines under its umbrella, which have a

constant need for pilots. Said says: "We have invested in training and now have a new building fully equipped with 90 modern classrooms plus four JAR-approved full-flight simulators covering the Airbus A320, the A330 and A340 and the Boeing 777 and B737." Three of the simulators come from Thales, with the fourth from Flight Safety International, which covers the B737 training.

At present 49% of ETC's business comes from its parent, but it wants to push that ratio down by 6% over the next few years, so that 55% of its revenues will come from third parties.

The company is hungry for more business. Said continues: "As a business unit EgyptAir is a profit centre. We also cater for more airlines in the region including surplus training for Emirates. We intend to expand."

ETC does not conduct ab initio training; rather it focuses on professional tuition. Said says: "We are already a Type Rated Training Organisation, so pilots come with their ATPLs for transition training."

Said points out that flight training is not all the TRTO offers and says: "We run courses on cabin service training, emergency training, as well as other

aspects that cater for the expansion of all EgyptAir's fleet." The centre is ISO 9001approved and offers EASA and GAAC qualifications.

Said says: "All our courses are developed to ICAO standards." Indeed, IATA and EgyptAir have joined forces to bring a whole gamut of professional aviation training to the region. A sample



Egypt Air conducts training for pilots and cabin crew, including emergency evaculation.

of this summer's offerings includes international negotiation skills, cargo security, advanced airline sales strategies, aviation law for managers and basic passenger fares and ticketing.

According to Said, ETC is seeing a great deal of business from Europe and expects to see more. He attributes this to lower prices when compared to European training schools, as well as the fact that all the instructors are active pilots for the carrier. He says: "We have experienced personnel on site and our prices are 10-15% below European rates."

During the 2009 Paris Airshow, EgyptAir announced a new venture with US lessor Aviation Capital Group and other Egyptian shareholders to establish a leasing joint venture focusing on the Middle East and Northern Africa. The new joint venture – named Civil Aviation Finance and Operating Leases – will initially focus on narrowbody aircraft. These planes will also need crew.

It was a bold move to exhibit at Paris in the current economic climate, but without intuitive risk there is no growth. Just like its logo, EgyptAir's strategy seems divinely inspired.



R TRAFFIC MISATION

Book & pay by 20 August 2009 and save an extra 20% off the early bird prices. **Quote your priority** booking code 17511.001AA when registering.

Ensuring optimum levels of Air Traffic Control performance in the expanding Middle East market

International summit: 5 – 6 October 2009, Interactive workshops: 4 & 7 October 2009 Sheraton Dubai Creek Hotel & Towers, Dubai, UAE

Our exclusive regional and international speaker panel include:

Hassan Karam, Director of Air Navigation Services, Acting Director of Project and Planning, General Civil Aviation Authority, UAE

Ibrahim B. AlJabri, Manager, Airspace Management, General Authority of Civil Aviation, Kingdom of Saudi Arabia

Ahmad Qinawi, Manager, Safety, Operations and Infrastructure, IATA

Mohamed R.M. Khonji, Regional Director, Middle East, ICAO

Chris Youlten, Vice President Network Operations, Etihad Airways

Bob Everest, Vice President Flight Operations Support, Emirates

Mark Robert Blanchard, Manager, Air Traffic Services, Fujairah International Airports

Captain Mohammed Aziz, Chairman, Aviation Safety Committee, Arab Air Carriers Organization, Advisor to the Chairman, Middle East Airlines

Gregg A. Leone, Director, System Transformation and Security, The Mitre Corporation, Center for **Advanced Aviation System** Development

Mohammed A. Al Katheeri, Head - ANS Special Projects, ADAC - Abu Dhabi Airports Company

Bruce Heesterman, General Manager Airways International, **Airways New Zealand**

Robbie Tod, General Manager Technical Services, Dubai Air Navigation Services **Dubai International Airport**

"This is a unique event that effectively addresses the key challenges facing the aviation industry in the Middle East region. The impressive speaker faculty will guarantee ATC Optimisation Summit 2009 will be the ultimate meeting place for ATC and ATM professionals."

Captain Mohammed Aziz, Chairman, Aviation Safety Committee, Arab Air Carriers Organization, Advisor to the Chairman, Middle East Airlines

"This timely event will be an excellent tool for the aviation industry in the MENA region. ATC Optimisation Summit 2009 covers interesting and relevant topics which will no doubt facilitate great knowledge sharing at a time when increased traffic volume and security is on everyone's mind."

Hassan Karam, Director of Air Navigation Services, Acting Director of Project and Planning, GCAA, UAE

Why attend Air Traffic Control Optimisation Summit?

The aviation industry in the Middle East region has seen one of the world's most rapidly expanding international traffic growths in recent years. However, in the current economic climate the aviation market simply can't afford wasteful air traffic control systems. Industry leaders need to ensure optimum levels of air traffic control performance. IOPC's Air Traffic Control Optimisation Summit 2009 is a vital opportunity to discuss today's major challenges and issues, from airspace congestion and safety of ATC operations to the training of air traffic controllers.

By attending Air Traffic Control Optimisation Summit 2009 you will become part of an exclusive team of aviation industry leaders and be able to ensure optimum levels of air traffic control performance in the expanding Middle East market. This is a vital opportunity to discuss today's major challenges and issues, from airspace congestion and safety of ATC operations to the training of air traffic controllers..

What to expect

With four days of industry-leading presentations, interactive panel sessions, solution-finding round-tables, and exclusive workshops, this event is uniquely positioned to expand your knowledge on major challenges and issues in air traffic control and air traffic

- to expand your knowledge on major changings and issues in air trainic control and air trainic management systems.

 Top level speakers from leading international and local aviation organisations

 tinteractive conference workshops providing you with the knowledge, tools and techniques to optimise your air traffic control

 Opportunities to network with senior decision-makers and officials from airlines/aviation companies, air navigation service providers (ANSPs), government agencies, civil aviation authorities, military representatives and regulators and much more!

Silver sponsor and lunch sponsor day

Exhibito























AIRPORTS WORLD CENTRAL



ike novelist Mark Twain centuries before, Paul Griffiths is confident that tales of his demise are greatly exaggerated. Griffiths is the chief executive of Dubai Airports and, if anything, is amused at the rumours that his flagship project – the world's largest airport – is under threat of extinction.

"People who say that, or that Dubai is finished, are crazy," Griffiths says. "You only have to look at the year-on-year figures. From May to May we grew by 7.1% — and that is not based on a tiny starting figure. We are looking at 38 million passengers, so you are looking at adding two million more. That is hardly failing."

Griffiths and his colleagues have faced the rumours since announcing the planned Dubai World Central (DWC) project had been delayed. As the effect of the property market downturn and the general global economic demise began to bite, many questioned the future viability and that of the Al Maktoum airport at the heart of the Jebel Ali development.

"This is not a short-term plan," Griffiths says. "This is building for the future. We have a clear idea of what we need to do and the need for DWC has not changed. We see an eventual requirement for 160 million passenger capacity. Not this year or next year but in decades. We will add capacity as demand grows but what is important is to have the infrastructure for that growth in place and with future development in mind."

The financial security for the project has been reassured following a commitment by His Highness Sheikh Ahmed bin Saeed al Maktoum, the president of the Dubai Civil Aviation

"The need for DWC has not changed. We see an eventual requirement for 160 million passenger capacity."

Paul Griffiths

Authority and chairman of Emirates to the tune of US\$17.6 billion.

While other projects in the UAE have been halted during the downturn, work has quietly been going on at the 148 square kilometre site — an area larger than the whole of Hong Kong. Getting essential services into the site and ensuring the infrastructure is right led to the delays. These, in turn, have given Dubai Airports the opportunity to refine the plan.

One result was the reduction of parallel runways from six to five — a move that Griffiths says will actually increase the airport's productivity. "We are using the same footprint but have increased the space between the runways. This allows us to increase aircraft movements to 118 an hour, with four mixed-mode runways and one standby. It also allows us more space for terminal construction."

Griffiths says the Dubai government's support is understandable. "It is vital for the economy," he says. "Some 97% of visitors come to Dubai by air. Our unique geographic position at the crossroads of the world gives us the opportunity for growth.

"We are building a world hub. We need critical mass in sufficient volume to allow the airlines to exist and that doesn't happen overnight. We will gradually build phases as we achieve a relatively modest nine or ten million passengers."

The new airport will become operational in mid 2010 with the first passengers using the new terminal before the end of the IATA summer season – probably October of that year.

The airport also has plans for FBOs and great support for business and general aviation.

AIRPORTS



harjah International Airport is a regional force to be reckoned with. It has gone through a flurry of redevelopment activities over the last few years and is constantly changing plans for its 2015 expansion, which will grow it to four times its 2007 capacity.

Sharjah's chairman, Sheikh Abdulla Bin Mohammed Al Thani says: "Times are changing fast and we are constantly updating facilities and equipment to keep pace with the dynamic growth and market demand that we have experienced."

Chief executive Dr Ghanem Al-Hajri, told *Airport Technology News* last year: "We are already looking at further expansion for terminal capacity because our growth has been so substantial over the past two years."

The initial budget for the project was \$60m, but since the airport experienced a 35%-40% increase in traffic on a monthly basis in 2006-7, Sharjah's authorities had to revise that figure upwards. New investment to the tune of \$135m is now backing Sharjah's plan to upgrade and modernise both passenger and freight facilities in a bid to establish itself as the Middle East's most popular airport. Investors include Abu Dhabi Commercial Bank and the airport has received the full support of HH Dr Sheikh Sultan Bin Mohammed Al-Qasimi, the emirate's ruler.

Dr Al-Hajri says: "We moved to incorporate plans for building a parallel lane for emergencies on the runway, with further expansion on the cargo side also factored into the equation."

There are also four parking positions for general aviation and a new departure hall with state-of-the-art check-in facilities and wider baggage collection belts. Other improvements include new retail and F&B services and expanded duty free shops. There are ongoing plans to expand the existing aircraft bays, taxiways, aprons and car park areas so that the airport can accommodate 17 million passengers by the year 2017.

Sheikh Abdulla is also chairman of low-cost carrier Air Arabia, which is headquartered at the airport. Air Arabia broke records at the Dubai Airshow in 2007 when it ordered 34 Airbus A320

Sharjah International Airport was the first international airport in the Gulf region.

The award-winning facility has been open for more than 75 years, with a history dating back to 1932. **Liz Moscrop** explores why it is still a major player today.

Sharjah building a new history

single-aisle jets, with delivery to begin in 2012. It also took options for a further 15. "Our vision is to be one of the world's leading budget airlines in terms of profit margin, innovation, reputation and operational excellence," Sheikh Abdulla says.

Cargo is a key revenue stream at the airport, which built the first cargo terminal in the UAE. Sharjah is now the largest air-cargo hub in the Middle East and Africa and its state-of-the-art facilities have made the airport's freight services famous.

Lufthansa Cargo set up shop there in 1993 and now operates its second-largest cargo hub after Frankfurt out of Sharjah, with 360 flights and more than 48,000 tons of movement a month. Sheikh Abdulla says: "Cargo has always been a prominent force at the airport and we are proud to announce that we have reached a record level handled by any Middle East airport."

The adjacent Sharjah Airport international free

zone (SAIF) features pre-built warehouses, container parking, storage space, executive offices and leased land for unrestricted development. Sharjah's geographical position and its status as the commercial nerve centre of the UAE are additional attractions that have drawn the 2,300 companies now operating out of the SAIF zone.

There are more than 40 scheduled airlines flying to nearly 250 worldwide destinations, while 70 other airlines use the airport on seasonal longhaul routes.

There are pilot training facilities on site. Alpha Aviation Academy is to offer A320 multi-crew pilot licence (MPL) training courses this year, initially targeting Middle Eastern and Asian Airbus A320-family operators. The academy's general manager, Mustafa Ali says: "Once a cadet graduates from our MPL programme, he or she is fully competent and qualified to join an airline with no further training."

Regional A320 operators include Air Arabia, Etihad Airways and NAS Air.

In 2005, the airport won the Institute of Transport Management's best Global Airport of the Year award. Sheikh Abdulla attributes the attractiveness of the airport to its openness. He says: "Our open skies, open ground policy, which results in flexibility and competitiveness, has attracted both large and small operators, keen to take advantage of the opportunities that await them here."

Such openness is paying off. For example, last November at the Middle East Business Aviation show, Canada's Skyplan announced that it had set up shop in Sharjah. Skyplan's managing director, UAE, Muhammad Sami says: "The new office will provide valuable flight support services in the fast-growing Middle East and Asian aviation markets."

Despite competition from its neighbours, at heart, Sharjah sees itself as part of a growing regional infrastructure. Dr Hajri says: "I would like to highlight the importance of all the airports in the UAE which have led to the economic growth of the United Arab Emirates."

Most of the Middle East's airport development plans are making headway in the teeth of the recessionary hurricane, writes **Brendan Gallagher**. And where there are airports, there are big opportunities for information technology and communications providers ARINC and SITA.

Expanding contracts

e've seen no slowing of Dubai's current airport infrastructure projects, says Paul Hickox, ARINC's regional director for the Middle East. "That's underlined by the award of contracts for Dubai International's new Concourse 3 last December. Progress on development of the existing airport continues unabated."

Hickox's opposite number at prime competitor SITA is Jihad Boueri, the Geneva-based company's regional director for airport services in the Middle East and Turkey. He joins the ARINC man in exuding confidence about the prospects for airport IT systems providers, not only in Dubai but elsewhere in the Gulf and further afield.

"Work on Phase 1 of the new Al Maktoum International Airport at Dubai World Central is under way and we are bidding to supply systems for check-in and other functions," he says. "We're very active, making presentations and demonstrating the capabilities we can offer for the terminal. We believe a decision could come at any time now."

Hickox and Boueri preside over regional operations that are worth hundreds of millions of dollars to their respective companies – and which are set to go on growing. "Our Middle East airport work is a significant piece of ARINC's total worldwide business and represents about 65% of our total turnover in Europe, the Middle East and Africa," says Hickox. "We see that growing significantly in the next five years."

Continued strong growth

Boueri puts at more than \$300 million the value of current SITA contracts signed and in operation across the region. "I expect to see continued strong growth in our business here, driven generally by the wealth of new projects and particularly by the upgrading of the domestic airports," he says. "The big international airports are already equipped to a high standard, but the drive for capabilities like e-ticketing is impelling a lot of domestic airports to adopt new IT systems."

At the top end of the market, Middle East airport operators are leaders, not followers, according to Boueri. "Our Middle East clients are very interested in things like self-check-in and mobile check-in," he says. "And they don't want simply to copy Europe and the USA – they are looking for everything that is innovative. They want to lead, to be in advance of airports elsewhere."

Hickox cites ARINC's involvement in the brand-new Doha International in Oatar as an



Growing: Jihad Boueri and Paul Hickox.

example of the same way of thinking. "The client wants to continuously evolve the design in order to end up with an airport that is truly world-class when it opens next year," he explains. "If they see something new — for passenger processing or information provision, for example — they look to us to see if it works and could be added into our contract on the site."

Among the potential add-ons currently under study is the use of ARINC's GateFusion WiFibased wireless gatelink service for the delivery of large volumes of data – including fresh in-flight entertainment content – to aircraft on the ramp. "This is still very much a manual process," says Hickox. "Our client wants to do it more efficiently and has started looking at GateFusion as a possible solution."

Doha is one of three major projects that US-owned ARINC has on the go in the region, where it set up for airports business in 2003. The company has won its last three tenders for systems integration work, at Dubai and Cairo as well as Doha. "We opened Dubai Terminal 3 last October," Hickox reports. "We supported the airport operator extensively in a very successful four-week phased opening during which all of Emirates' flights were transitioned to the new facility from the existing Terminal 1."

ARINC was responsible for the provision and integration of a range of systems, including public address, computer networking, the wireless data network, flight information displays (FIDs), and

several of its own proprietary systems. Among the last were its AirPlan resource management system, AirView display engine, and airport operations database. In an indication of the scale of the project, ARINC was responsible for integrating nearly 8,000 individual devices, including more than 4,750 associated with the public address system, over a thousand for computer networking, 1,230 FIDs and more than 800 wireless units.

The new Terminal 3 at Cairo International is due to open this summer. ARINC is contributing no fewer than 14 capabilities, including the operational database, biometric immigration gates, baggage reconciliation, common-user and self-service check-in systems, flight information displays, information kiosks, IP telephony and a local area network, local departure control, and ramp management. It is also handling integration with a number of existing and new systems, and is training airport staff.

Every major airport

"SITA is present at every major airport in the Middle East," declares Boueri. "Sometimes we're in one terminal and the opposition in another, but there isn't an important airport in the region that doesn't have at least two of our products."

SITA sites include all 26 airports in Saudi Arabia, Terminal 1 at Doha, Kuwait International, Amman in Jordan, Beirut, Abu Dhabi, Sharjah, Muscat in Oman, Ataturk and Sabiha in Istanbul, and Sana'a in Yemen.

Current projects include self-check-in kiosks at Abu Dhabi, Sharjah and the three main Saudi airports – Jeddah, Riyadh and Dammam.

The two companies could be head-to-head for new business in the coming years at a dozen or more sites across the region. "There's the expansion of Queen Alia International in Amman; Saudi Arabia is going through a major upgrade of its airports, and contracts are about to be awarded for Sana'a in Yemen," says Boueri. "There's a tender out for Muscat and Salalah in Oman; Abu Dhabi is expanding and Bahrain is looking to build a new terminal."

Hickox has his target list too: "There's Tripoli in Libya, and we're pre-qualified for the new Midfield terminal in Abu Dhabi and for work at Muscat and Salalah in Oman. We have seen no slowing in preparations for these important infrastructure projects. The clients are sticking to their guns, recession or no recession."



Showstoppers! Sukhoi's debut Superjet 100 (top) while the Bleriot XI, returned 100 years after its first appearance. Etihad's James Hogan signs for engines.

Middle East helps Paris

Arabian Aerospace editor
Alan Peaford joined the
Parisians in celebrating
the centenary of the Paris
Air Show and found it
was guests from the
Middle East that were
making the headlines.

ith the aerospace industry in probably its worst recession since the Wright Brothers failed to find backers for their air-brained scheme, there were many who expected the centennial Paris Air Show to fall flat on its derriere. But with a mere passing Gallic shrug to the global economic situation, the show organisers provided a feast of aerial displays, while the exhibitors found themselves doing more business than expected.

And it was the Middle Eastern companies that were the top newsmakers, whether it was orders, alliances, strategies or controversy.

Abu Dhabi's now well-documented ambitions to be a major aerospace player were significantly reinforced when, at a packed press conference, Mubadala signed a major maintenance, repair and overhaul package with GE, having already launched plans to build an aerospace cluster at Al Ain.

The GE deal sees Mubadala become the world's first MRO provider for the GEnx engines that will power the Boeing 787 and 747-8. The engines had been unveiled to the world at the Paris show to great excitement. The GE facility will become fully operational in 2013 and support the growing fleet of GE engines in the Middle

East and North Africa region. One major customer will be Etihad, as the Abu Dhabi airline announced at the show that it has selected the GEnx for its 35 787s. It also confirmed selection of the Engine Alliance GP7200 – in which GE is a partner – for its 10 Airbus A380s. Etihad stopped short of giving GE a clean sweep as its joint venture, CFM International, lost out in the contest to power the carrier's A320s to rivals IAE.

Abu Dhabi's second city of Al Ain was hot on everyone's lips among the tier two and three manufacturers after the Abu Dhabi Airports Company (ADAC) used the show to unveil its plan to establish an aerospace cluster supported by the EADS and Mubadala plant announced last year that will design and build composite components for Airbus and other aero manufacturers.

British and German companies have been quick to sign up for places on the 25km2 industrial park, through trade bodies such as the British Trade department and Bavarian aerospace cluster BavAIRia. Swiss rotary engine manufacturer Mistral Engines also signed up.

Qatar Airways was in the headlines for announcing an order for 24 A320 family aircraft. Chief executive Akbar Al Baker also shook up the



Qatar's Akbar Al Baker gets cross about Boeing; Top: Gulf Air sign with Rolls-Royce while Mubadala's did a deal with GE. Bottom: Paris gets its first UAV display from the Camcopter.

celebrate 100 in style

business aircraft world with the announcement at the show that the Doha airline is to create a corporate jet subsidiary, Qatar Executive, initially deploying two Bombardier Challenger 605s and one Challenger 300 on routes out across the Middle East, Asia and Europe for the premium market.

But it was his views on his major supplier Boeing that drew the most attention.

Al Baker publicly warned Boeing that the airline would "walk away" from its 60-order 787 contract if the airframer does not quickly resolve major issues over delivery delays — and this just three days before Boeing announced its latest delays to the programme.

"We at Qatar Airways have some serious issues with Boeing and if they do not play ball with us they will be in for a very, very serious surprise if we do not settle the issues on the 787," says Al Baker.

Qatar has orders for some 92 aircraft, including 32 777s and 60 787s. However, the Dreamliner delays have pushed deliveries back by at least 18 months, with its first aircraft not now due to arrive until late 2011 at the earliest.

He says the airline has the right to "walk away" from the deal if "the delay is unreasonable. There are excusable delays in our contract and if these

delays get escalated, every organisation gets the right to walk away," he emphasises.

Gulf Air was also among those making order announcements, confirming it had selected Rolls-Royce to power an additional 20 Airbus A330s. It was due to start receiving in 2012 but is pushing to bring first deliveries forward to 2011.

Rolls-Royce will provide 44 Trent 700EPs, including four spares, to the airline, which already has Trents on its 10 A330-200s in service.

It will also provide its Total Care long-term support service for all the aircraft, including four leased machines, in a deal signed at the show by Gulf Air deputy chief executive Ismail Karimi and Rolls-Royce chief executive Sir John Rose.

Karimi says: "Our experience with the Trent 700 has been excellent. We went through a long process of selection for our new A330s and the main reasons we selected the Trent were technical, operational and environmental."

Elsewhere at the show there were a few other milestones. Key among these was the first major airing of Sukhoi's new regional jet, the Superjet 100. The Russian manufacturer made a major breakthrough in its bid to secure an international customer base for the aircraft by landing a

commitment from Hungarian flag carrier Malev for 30 aircraft.

The deal was disclosed at the show by new Malev chief Martin Gauss and representatives of Superjet International, a joint venture created by Sukhoi and programme partner Alenia Aeronautica to market the regional jet. At a briefing before the display, Sukhoi chief Mikhail Pogosyan confidently predicted a firm backlog of 150 by the end of this year. The company expects certification in November. A third flight-test prototype, out of a group of four, is set to join the evaluation programme in July.

Sukhoi intends to achieve a production rate of 70 aircraft a year by 2012 as it bids to secure 20% of the world regional aircraft market.

It was appropriate that history was made at the 100th anniversary show, as the first UAV to fly at Le Bourget took part in the display.

The Camcopter S-100 became the first-ever UAV to fly as part of the official flight displays. Schiebel, of Austria, developer and manufacturer of the Camcopter S-100, demonstrated its Vertical Take Off and Landing (VTOL) capabilities and sent back spectacular images from its on-board surveillance cameras.



ith just over three months before the region's biggest Aerospace event, organisers of the Dubai Airshow 2009 say this year will break all their previous records for space sold.

The show that runs from 15-19 November at the Dubai Airport Expo, is the fastest growing in the world and was given a major boost with the addition of a fourth exhibition hall, sponsored and hosted by the Dubai-based international airline, Emirates.

The new hall will feature a host of major names. Airbus, with the EADS group, will join hall sponsor Emirates, Lufthansa Technik, TAP Maintenance & Engineering, Air France Industries, KLM, E&M, Abu Dhabi Airports Company (ADAC), Dubai Airports and Dubai World Central in the new facility, which will cover 7,025sqm, with 5,000sqm for exhibition stands

New hall drives Dubai show to new heights

and 1,200sqm for the new Press Centre, bringing the total airshow area to 325,513sqm, including the static park.

The show had originally planned to move to a new permanent home at Dubai World Central, but, because of delays to the necessary infrastructure being completed, the move has been postponed until 2011.

Alison Weller, director of airshow organiser F&E Aerospace, expressed her optimism for a successful show this year, amid positive signs in

the global economic climate. "The aerospace industry has undoubtedly been affected by the economic downturn over the past few months. However, with the ambitious orders made at the recent Paris Air Show, primarily by top aviation players in the Middle East, I believe the global aerospace industry can look to this region for future indications of recovery," she says.

Regular visitors to the show will see a number of other differences. Exhibitors have been offered an additional 13 double-storey hospitality chalets with an increase in the floor space of all double-storey chalets by 40sqm (20sqm on each floor).

The chalets will now sport a blue-and-white striped roof, to reflect Dubai Airshow's blue branding. Lining the airfield, the chalets give spectators panoramic views of the enthralling aerial displays conducted daily throughout the airshow.

Maurice Flanagan, executive vice chairman, Emirates Airline and Group explained why the airline wanted to be involved through sponsoring the new hall. "The Dubai Airshow is not only a major event in the UAE's calendar, it is also growing in prominence as one of the world's foremost events for doing business and networking in the air transport industry.

"Emirates is proud to have supported the Dubai Airshow since its inception and to extend that commitment further this year with the inauguration of the new Emirates Hall, which we know will be a resounding success."

■ Further details are available at www.dubaiairshow.aero

DUBAITRAINING SHOW IS A FIRST

F&E Aerospace has joined with Halldale Media Group to launch the first-ever aerospace training show.

The show is described as the one-stop solution to the growing demand across the Middle East for civil and military aerospace training, recruitment and simulation.

The inaugural Aerospace & Defence Training Show (ADTS) will be held from 3-4 March 2010 at Dubai Airport Expo.

It is supported by the UAE Armed Forces, the Arab Air Carriers Association, Dubai Airports, Emirates Airline and Emirates Aviation College-Aerospace & Academic Studies.

LIBYAN EXPO IS EXPECTED TO GROW

The Libyan Air Force, the Libyan Civil Aviation Authority, and the Air Transportation Workers Union is working together to produce The Third Libyan Aviation Exhibition LAVEX 2009.

Lavex will run from the 5th-8th October 2009 at Mitiga Airport near Tripoli and is expecting to increase numbers on the 2007 event, at which 65 companies from 25 countries participated with 30,000 visitors per day.

LAVEX 2009 will be run alongside the 3rd Pan Arab-African Aviation Conference. It provides the opportunity to learn about the latest technologies and to meet representatives of international companies.

SYRIA TO LAUNCH ITS OWN AIR SHOW

The growth of civil aviation in Syria has led to a decision to launch its first exhibition of aerospace technology. Syria Air Show 2009 will take place from 28-30 September at Damascus International Fairgrounds and Damascus International Airport

The show organisers say the event is being held in order to spotlight the importance of the Arab and international cooperation that aims to build a developed civil aviation transportation system. Key exhibitors are expected from countries that have strategic relations with Syria, such as Iran, Russia, Cuba, Northern Korea, Venezuela and others.



850 show offs.

With 850 exhibitors at 2007, where will you be on show in 2009?

DUBAI AIRSHOW 2009
15-19 NOVEMBER
AIRPORT EXPO, DUBAI,
UNITED ARAB EMIRATES
WWW.DUBAIAIRSHOW.AERO

Alliances, consolidation and governments interference to be debated at AACO

Giovanni Bisignani, director general and CEO of IATA, is the keynote at the Arab Air Carriers Organisation (AACO)

AGM in Jeddah in October. Taking place at the Jeddah Hilton hotel on 18 October, AACO promises a busy and valuable conference and and the people that work with them.

Bisignani has been outspoken about national governments involvement in the commercial operations of the air transport sector, and has called "Basta!" ('enough!') when it comes to unnecessary taxation and intervention.

Also on the first full day of the AGM, there is a keynote speech by Mr Mohammed El Alj, Director General of Arab Civil Aviation Commission (ACAC) about common issues between AACO

The big issues about consolidation and particularly alliances are the subject of the afternoon great debate.

Airlines were hopeful, when the global alliances started to be established, that this was going to be a temporary measure which would lead to cross-borders mergers and acquisitions. Ten years have passed and the sticky question of national ownership and control in the airlines' business has proved to be a greater barrier than ever before. IATA, speaking on behalf of the industry, maintained that the airlines basically

want two freedoms: the freedom of market access and the freedom of ownership and control. Crises have always been a time for restructuring and for bold leaps forward. The Istanbul Declaration of 2008 was an attempt in that direction.

- What is the view from the alliances stand point on their future?
- Will the next decade be a decade of regionally before the international scene be ready for a truly global industry in form and substance?
- What do alliances consider as an attractive added value in the aviation industry of the Arab world?
- How do alliances manage "competition within cooperation"?
- How can global airlines with overlapping services be members of
- Would the expansion of the EU single aviation market negate the need for an Arab single aviation market and hence consolidation in the Euro Med area?
- Where do the Arab Airlines stand in the regional moves towards consolidation?
- Does the necessary road to consolidation pass through alliances

and vice versa? Further details are available on www.aaco.org



Space running out for Bahrain show

The inaugural Bahrain Air Show, which will take place from 21 - 23 January 2010 at Bahrain's Sakhir Airbase, is progressing well.

International airshow organiser, Farnborough International Limited (FIL), which is managing the event on behalf of the Bahraini government, has announced additional confirmed chalet sales for the show including: Aero Toy Store, Bexair, Hawker Beechcraft, Prestige Jet, Lockheed Martin and Sikorsky.

They join an already star-studded list of participants, many of whom signed up early this year, including Rolls-Royce, Bahrain Aerospace, BAE Systems, TAG Aeronautics Ltd, Cessna, Bell Helicopter Textron Inc and Gulfstream Aerospace Corporation.

The format of BIAS 2010's launch event will comprise a chalet complex of only 40 units and no exhibition halls.

Each unit will be fitted out in five star luxury quality and is being sold as part of all-inclusive turnkey packages in line with the concept of the show itself, which is a first class, highly-exclusive business-to-business networking event.

FIL Exhibitions & Events Director, Amanda Stainer says: "The unique appeal of this event is that it offers incredibly high-value, one-off opportunities to the 40 companies which will take part, such as private introductions in the Royal Pavilion and access to the very highest level Middle Eastern and international delegations.

"We are continuing to receive a huge amount of interest and would certainly urge companies which might be considering taking part, or which want to find out more, to contact us as soon as possible because opportunities to participate in this event are strictly limited and filling up fast."

Summit looks at ATC issues

The aviation industry in the Middle East has seen a rapid expansion of international traffic growth in recent years. However, in the current economic climate, the aviation market simply can't afford wasteful air traffic control systems and industry leaders need to ensure optimum levels of air traffic control performance.

IQPC's Air Traffic Control Optimisation Summit 2009 is billed as an opportunity to discuss current major challenges. The event takes place from 4-7 October at the Sheraton Dubai Creek Hotel & Towers, in the UAE.

Key issues to be addressed in ATC Optimisation Summit 2009 include: understanding the latest developments in ATM systems; developing an environmentally friendly atmosphere by re-aligning airspace control in the region; assessing airspace efficiency in the Gulf region; reviewing the latest challenges of air traffic controllers in the MENA region; progressively achieving improved military/civil coordination in ATM: scrutinising security concerns resulting from increased airspace congestion.

Further details are available from www.igpc.com.



presenting the

BahrainInternational Airshow 2010

Under Royal patronage, the Kingdom of Bahrain is proud to announce the launch of the Bahrain International Airshow 21 – 23 January 2010. The Civil Aviation Affairs of the Kingdom of Bahrain and Farnborough International Ltd will present a dynamic and unique high-level global aviation trade show, offering exclusive business-to-business networking opportunities in a five star environment. The 3 day event, with a focus on the VIP corporate hospitality experience, is open to invited participants from the defence, civil and business aviation sectors, enabling buyers and suppliers to meet with visiting delegations. A daily flying display will further enhance the Bahrain International Airshow, creating a truly distinctive event in an important growth market area.

For further information call +44 (0) 1252 532 800 or visit www.bahraininternationalairshow.com









ADDRESSING THE TRAINING NEEDS OF THE MIDDLE EAST'S GROWING AVIATION AND DEFENCE MARKETS

AEROSPACE & DEFENCE TRAINING SHOW

03 - 04 MARCH 2010

AIRPORT EXPO, DUBAI, UAE



Supported by







Organised by



In partnership with



PEOPLE APPOINTMENTS

Pichler's leadership role at Jazeerah

Jazeera Airways has named Stefan Pichler as the airline's new CEO. He joined the airline on June 21 following an impressive career with some of the world's most successful brands, including Lufthansa, Nike, Thomas Cook, and Virgin Blue.

The carrier says Pichler combines both extensive airline experience in major low cost carriers and in depth knowledge of global markets and brands.

Iazeera Airways Chairman Marwan Boodai said: "Stefan's joining of our team and the arrival of our 10th aircraft is no coincidence. Jazeera Airways has now entered into a new stage in its growth path and has become a major force in the airline industry in the Middle East. With this new stage we require a seasoned CEO with the right experience and leadership who will be able to take Jazeera Airways to new heights."

Pichler's mandate is to develop and drive the future growth strategy, with total responsibility and accountability for Jazeera Airways' financial performance, commercial performance, and operational performance.

For the past five years, Stefan served as Virgin Blue's Chief Commercial Officer, where he was responsible for Virgin Blue's evolution from a low cost carrier to a network airline. Stefan was also the Chairman of V Australia, the long haul division of Virgin Blue.

Bitter takes up Morocco role

Air Arabia has appointed Jason Bitter as chief executive of Air Arabia (Maroc), which launched operations from its hub in Casablanca in May.



ETIHAD'S NEW COMMUNICATIONS CHIEF

Etihad has appointed Belinda de Rome as its new senior vice president to lead its award-winning corporate communications team. de Rome, 48, previously held the position of head of corporate communications at Qantas Airways in Australia. Prior to her time with Qantas, Ms de Rome worked in public relations and corporate affairs at the Commonwealth Bank of Australia for eight years.

She will take up the role on August 16.

Bitter has worked for more than 15 years in the sector in Europe and Asia. Most recently, he served as Chief Executive Officer of Central Europe's no-frills carrier, SkyEurope Airlines, based in Slovakia. Previously, he served as Chief Operating Officer of India's, SpiceJet.

Vos leads Qatar commercial

Qatar Airways has appointed Bart Vos to the role of Executive Vice-President Commercial. He will be responsible for coordinating the day-to-day running of the Doha headquartered airline. Qatar Airways chief Akbar Al Baker welcomed Vos, saying his experience in working numerous airline roles across the globe will be beneficial to Qatar Airways.

"The airline is continuing its steep growth trajectory and we certainly welcome someone of Bart's calibre to the team. His industry knowledge is exceptional and he will add considerable value to our business," said Al Baker.

Emiratisation milestone

Etihad Airways' Emiratisiation programme has passed a major milestone according to the Abu Dhabi-based airline with 150 UAE national trainees now working for the flag carrier.

The scheme boasts 87 cadet pilots, 34 graduate managers and 29 technical engineers with 125 men and 25 women currently training in Abu Dhabi.

James Hogan the airline's chief said: "As the national airline of the UAE, it is very important that Emiratis have a key role in the development of all areas of the company. The cadet pilot, graduate manager and technical engineer programmes will help us to make this happen and ensure we have a workforce of the very highest calibre."

Abdulla Khalifa Al Braiki, a cadet pilot on the current course, said: "I am thrilled to join the Etihad Emiratisation programme which will provide me with many new skills and abilities that I'll be able to use throughout my career. I look forward to graduating from the scheme and contributing to the growth of the airline."

Saraya appoints top management team

Saraya Skies the private aviation arm of Saraya property and investment company I Jordan has appointed Bilal Yousuf as Managing Director and Ivan Tehaghapsao as Sales and Marketing Director.

Prior to joining Saraya
Skies Yousuf served as the
president/CEO of Future
Jets and as the Vice
President of Sales,
Marketing, Business
Development, and
Strategic Planning at Royal
Jet. He also held the
position of Maintenance
Director at NetJets as well
as Alsalam Aircraft
Company, after serving as
a Senior Engineer at
Continental Airlines.

Tehaghapsao served as the Marketing and Sales Director at Elite Jets and was the Sales Director at Royal Jet before joining Saraya Skies.

VistaJet appoints leadership team

Philippe Bruggisser has been appointed CEO of VistaJetwith effect from 1 August 2009. Philippe has over thirty years of aviation industry experience and was formerly COO of Swissair and latterly President of the airline's holding company.

Scott Plumb becomes Chief Commercial Officer. Following 20 years at Gulfstream Aerospace, where he headed, North American sales.



■ What's your aerospace background?

I spent nine years living and working in Japan for the Japan Aerospace **Exploration Agency. I** spent three years researching carbon fibre composites before I moved back to the UAE. When I moved back home I became the project manager for amphibian aircraft for a governmentowned investment company General Holding Corporation. After which I moved to Abu Dhabi **Airports Company.**

As the man in charge of developing a new cluster, do you have a typical day?

Typically I will be meeting people. We are still in the development stages and for me it's really important to understand the differences between businesses. It's certainly a long way from research and we have to be focused on the long-term strategy. There is no short term in aviation. I also do a lot of travel and every week I am somewhere different, be it Washington in the USA or even Japan.

■ How did you become interested in aviation?

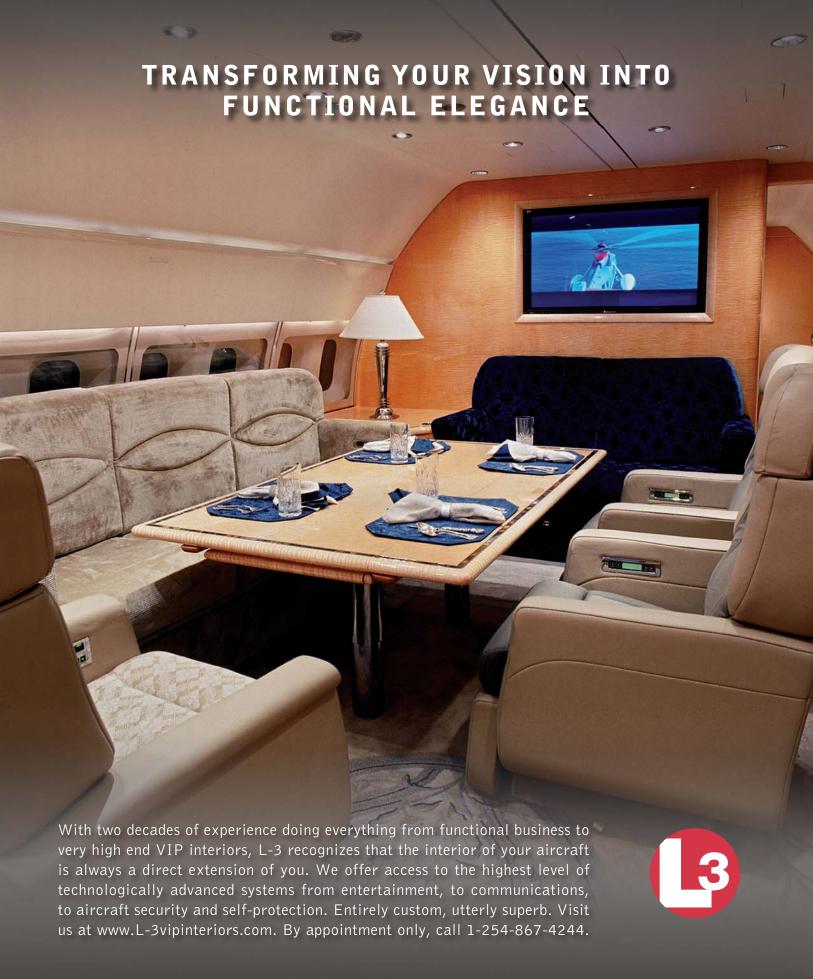
I have a passion for aviation that started as a child when I dreamt of being a pilot but my sister followed that dream. I have tried other industries but never felt the same pull and desires that I get from working in the aerospace

■ What sort of challenges do you face?

We are building a project from scratch so it's important to remember that we're not looking at the five or ten-year plan, but planning more than 15 years ahead. We are not just building a cluster we are laying the foundations for the future, a foundation for a strong aerospace industry in the UAE.

■ What do you enjoy about the job and what characteristics do you need to be successful?

I like meeting new people as well as discovering the new technologies and the intricate secrets of the aerospace industry. To be successful you cannot be short-sighted, you have to have a very clear vision. There just isn't a short term and you have to be forward





Al Bateen. Abû Dheabi

We're here to offer the most effortless way to come back to earth. With the most opulent private lounges. World-class chefs. And the kind of seamless, seven-star service designed to lift you off your feet again.

Welcome to the region's most luxurious private airport.

www.**adac**.ae

Phone: +971 (2) 505 3462 E-mail: marketing@adac.ae

