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FLIGHT

DAILY NEWS

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FARNBOROUGH DAY FOUR

**FLYING DISPLAY**

The test pilots who are quiet and loud

**DEFENCE**

Wraps come off Super Gripen at the show

**DEFENCE**

BAE Systems completes UAV's rail launch tests

AIR TRANSPORT

48 Airbus wins \$5bn worth of orders

HEADLINES

05 Boeing's hot day

ENVIRONMENT

10 European majors tackle challenge

TECHNOLOGY

28 Enhanced vision from Kollsman

MELTDOWN!

As temperatures soared to a record-shattering 40°C (104°F) in the blazing sun at Farnborough yesterday, the show's organisers grappled with failing power supplies, which left chalets and the largest hall without air conditioning and lights for a period of time, leading to a barrage of criticism from exhibitors.

And spare a thought for Airbus, which will take the A380 on display here directly to Abu Dhabi in the UAE after the show for hot weather testing. The irony is that the temperature in the emirate was identical to that at Farnborough yesterday.
■ How the show coped:
Turn to Page 2



C-17 JUMPS IN THE POOL

NATO yesterday took the first step in addressing Europe's long-standing shortage of strategic airlift capacity with the signing by Denmark of a letter of intent to set up a NATO pool of Boeing C-17s.

Signing the LoI in the fuselage of the C-17 in the Farnborough static park, Danish defence minister Soren Gade said the eventual number of aircraft in the pool was not important: "It's just important that we start doing something."

Europe has a chronic lack of strategic transport aircraft; the alliance currently has in place an interim agreement to hire guaranteed space on commercially-owned Antonov-124s to address this.

Afford

Under the new plan, countries that are individually unable to afford the highly-capable but expensive C-17 will be able both to gain access to the aircraft and also show their commitment to the alliance.

Essentially, the plan announced yesterday is akin to fractional ownership; participating nations will buy a certain number of hours on the aircraft. Denmark has already set aside the necessary funds.

Like many alliance members, said Mr Gade, Denmark was transforming its military to an expeditionary force structure, with the goal of having perhaps 2,000 soldiers overseas at any time. It has military personnel in Afghanistan at present.

He envisaged that three or four C-17s would be bought initially, but this number could rise, depending on how many nations paid to join the scheme.

Requirement

Before Farnborough, NATO foresaw a requirement for up to eight aircraft to meet its 'Minimum Military Requirement.'

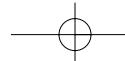
This total does not include the two aircraft reportedly required by the Swedish Air Force, nor a pair of C-17s required by the Royal Netherlands air force, which may still be conventionally procured. The initial aircraft is due to be fielded next year.

Many details have still to be hammered out, but essentially, individual nations will sign an LoI with NATO, which will deal with the US government; Washington will then order the aircraft from Boeing.

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HEADLINES

Heatwave fails to dampen spirits

Joe O'Shea

It was the day when Farnborough sweltered like never before. While the UK recorded its highest-ever July temperature, the showground suffered serious problems as power infrastructure struggled to cope with the demands of searing heat.

A power outage, which affected not only Hall 1 but also the media centre and a number of chalets, caused major disruption. The Met Office confirmed a July record shade temperature, with 36.3°C (97°F) recorded in Surrey, south-west of London. Shade temperatures on site were clocked at 35°C (95°F), but soared way beyond the 110°F mark in the sun.

Additional fans and air conditioners were deployed in chalets as exhibitors tried to keep cool, causing an electricity shortage in the chalets and other parts of the site.

Farnborough International (FIL) managing director Trevor Sidebottom said:

"Obviously we are extremely sorry for these disruptions to the electrical supply and we apologise to those who have been affected."

"When we were putting these generators in position, we were not getting any forecasts to indicate the freak weather conditions we are experiencing at the moment."

The outage disrupted an announcement by UK defence procurement minister Lord Drayson, who completed his presentation by torchlight.

Inside the halls temperatures reached 33°C (91°F) as the air conditioning system struggled to cope, causing considerable discomfort. The ferocity of the heat was such that the glass doors on the MBDA pavilion shattered because of the temperature differential between the outside air and the air-conditioned interior.

One major exhibitor, who asked to remain anonymous, said that due to a power outage on Monday, which lasted most of the afternoon,

Stay safe in the heat

The extreme heat has put extra strain on the on-site emergency services. More than 80 people have been treated for heat-related illness, so visitors are being advised to drink lots of water, cover up in the sun, use sunscreen and take breaks in the shade. Hampshire fire and rescue service has had to move generators, strip cosmetic screenings and extinguish several grass fires.

Their message is:

- Discarded smoking materials will cause grass fires
- Portable barbeques are not permitted and will be extinguished
- Car engines and exhausts can cause fires when cars are parked in the long grass
- Children and animals will overheat quickly if left in cars

his entire team packed up and left the showground because chalet conditions were unbearable. He added: "There should have been some contingency planning. People invest a lot of money to be here and it's unacceptable that this is allowed to happen."

Sidebottom said the show control office had been working flat out to minimise disruption. Six additional generators were installed

around the site to cope with extra demand for electricity.

Two generators were moved further away from their positions close to the halls to allow better airflow and cosmetic screening was also taken down.

With almost 60,000 visitors through the gates on the first two days, the heat has not dampened spirits among most of those doing business. Steve Hannah, vice-president Lynx Radar Group,



General Atomics (Hall 3) said: "It's been uncomfortable certainly and people haven't been very happy with the temperature and environment in here. But people still come up and talk to us."

Sidebottom added: "We have been trying to cope with the situation and while I can't guarantee that it's not going to happen again this week, we have got the power situation under control."

"Throughout the last two days, our contractors DEI have been balancing the system and transferring the load to the mains. We have also given some chalets their own generator to help spread the load."

"Notwithstanding the problems with the power supply, everyone we speak to is absolutely delighted with the show. It is looking magnificent and should prove a big success."



Learjet sold to Sindh govt

From left: Scott Terry, Simon Jackson and Derek Gilmour. Bombardier yesterday announced the sale of a Learjet 45 XR business jet to the government of Sindh Province, Pakistan, with delivery later this year. The aircraft will be based in Karachi and used for the transport of government delegations and logistics support. The aircraft's performance in hot and high conditions was a factor in its selection. The aircraft will be used for both internal and international flights and will be fitted out to carry the maximum load of nine passengers.

Will it be an Indian summer for Snecma?

Snecma Services (Hall 4, B12) sees India as the next major growth area for maintenance, repair and overhaul (MRO) service providers.

Jean-Lin Fournereaux, chairman and chief executive of Snecma Services, says India's burgeoning economic growth puts it where the Chinese Dragon was a few years ago. The French firm, part of the Safran Group, is likely to be looking for a partner to establish an MRO joint venture very soon.

"We have started discussions with an Indian airline because the market there is growing – booming, in fact," says Fournereaux. "More and more

airlines are appearing: private airlines and low-cost carriers. It is the same as the situation we had some years ago in China."

"Time has come to think very deeply about the need for an engine shop in India. The fleets are increasing and I believe we will be able to make an announcement of a presence there very soon."

Formula

Any future aero-shops, he says, would follow the joint-venture formula Snecma currently has in place with Royal Air Maroc (RAM) in Casablanca and Air China in

Chengdu. Fournereaux wouldn't comment if the talks were with flag carrier Air India or domestic carrier Indian.

Fournereaux adds that the firm is very close to announcing a presence in North America – possibly during the show – and an extension of MRO capacity for CFM56-7B engines at its Morocco workshop will further develop the African and Eastern European business. "In Africa we are capturing 85% of the market. Casablanca also is able to catch some of the East European market, which is also a growing market."

ACAS 3 launched at Farnborough

ACAS, the leading aviation market information system, has been reborn as ACAS 3.

ACAS is used by OEMs, maintenance and finance companies worldwide for fleet and orders analysis and for details of aircraft and maintenance.

The new system is designed for easier use and boasts an enhanced data structure. Customers are reportedly impressed by the Data Browser which enables them to sort, graph or export information. The Drill Down function displays specific airline or tail number information in seconds.

ACAS 3 is updated monthly by CD and will shortly have nightly updates

available via the Internet. New data includes fleet plans, airline profiles and current details of parked aircraft, including location and reason.

Forecasting

Unique forecasting tools are designed to enable the user to predict retirements, conversions, fleet sizes and deliveries.

To learn more about ACAS 3, visit the Flight chalet (A14) where the system is being previewed daily at 3:00pm. No invitation is required. Alternatively, visit Flight in Hall 1 (Stand A1), or go to the Expert area on www.flighthglobal.com.

Thales to supply Supersim for Superjet

Sukhoi has selected Thales UK to provide supply and support training equipment for the Superjet100 (former RRJ) in a \$33 million deal. Three training suites, each consisting of a full flight simulator (FFS) and one Thales formation system trainer will be installed at a training facility in Moscow. The first FFS with interim level C status will enter service in August 2008, with level D status to follow. The deal brings Thales UK's orders for the year up to \$840 million, including a deal from Boeing.

HEADLINES

IN BRIEF



Safety issues at London City with Airbus, Embraer?

BAE Systems has cast doubt on the ability of the Airbus A318 and Embraer E-190 to operate safely into London City Airport.

Steve Doughty, BAE Systems Regional Aircraft vice-president for sales, says that the likes of the A318 and E-190 would be operating "at the margins" if they flew into London City.

"Put it this way. They might have to do some interesting things to get in," he says.

He contrasts this with BAE's own RJ85. "This aircraft works at London City with plenty of margin. It is what the aircraft is good at."

He adds that the A318 is a "mainline trunk aircraft".

London City expects Airbus A318 steep approach certification by spring 2007 and the E-190 by the end of 2008.

Aviation Partners scoops \$48m winglets order

Southwest Airlines, the world's largest operator of 737-300 aircraft, has placed a firm fleet order for Aviation Partners' Boeing (APB) blended winglets.

The airline has placed a firm order for 59 kits and options for a further 31, which APB says is worth around \$48 million. Installations are to start in early 2007.

An even larger fleet order, possibly for American Airlines, may come later this week.

"This is a monumental order for our 737-300 winglet programme and a real testament to the value of our technology," says APB chief executive John Reimers.

Leading

"When the world's leading low-cost airline invests in our technology, other 737-300 operators take notice"

APB's winglets are optimised for stage lengths typical to the 737-300, rather than at the aircraft's maximum range. They also improve speed and take-off performance and reduce noise and engine maintenance costs.

Patrick LaMoria, APB vice-president of sales, says: "This is the order we've been waiting for."

"By the time Southwest completes its 737-300 installations, it will have more than 400 aircraft equipped with blended winglets."

Over 85% of new Boeing 737-700/800 aircraft delivered this year will go into service with APB winglets and 55% of the in-service fleet is currently flying with the technology, which is now the industry standard for 737NG.

Indian start-up opts for Boeing freighters

Geoff Thomas

Farnborough blew hot for Boeing yesterday with announcements of orders and options for 14 aircraft, worth more than \$2 billion at list prices.

Indian start-up freight airline Flyington Freighters – the first international cargo airline to operate widebody aircraft in the subcontinent – has signed an agreement to buy four Boeing 777 freighters, with deliveries starting in 2009.

In the second major order of the day for Boeing – valued at around \$1.2 billion – leasing company ILFC confirmed options for a mix of 10 aircraft.

Flyington, based at the new international airport in Hyderabad, has

earmarked an initial capital investment of \$50 million in its first year of operations, including the lease costs of three widebody freighters (probably A300s and/or MD-11s) that the airline needs to bridge the gap before the first of the new 777s is delivered.

Destinations

Flyington chairman Venkatram Reddy said the airline eventually intended to have a fleet of around 20 – mainly Boeing – aircraft with the ambition to be the largest cargo airline in Asia.

Managing director Deepak Parasuraman says the new airline is interested in all freight destinations in Europe, the USA and the Middle East – but with a particular emphasis on the growing market between India and China.

He says: "We have deep inroads into these markets and have a very experienced and efficient core team to make this a very successful airline. The 777 brings unsurpassed efficiency to long-haul cargo markets, flying further and providing more capacity than any other twin-engined freighter."

Meanwhile, ILFC confirmed options for six Boeing 737-800s; two 777-300ERs; and two 787 Dreamliners, either -8 or -9 specification, depending on airline demand.

Deliveries of the 737s and 777s begin in the first quarter of 2009, with the 787 deliveries scheduled for early 2012.

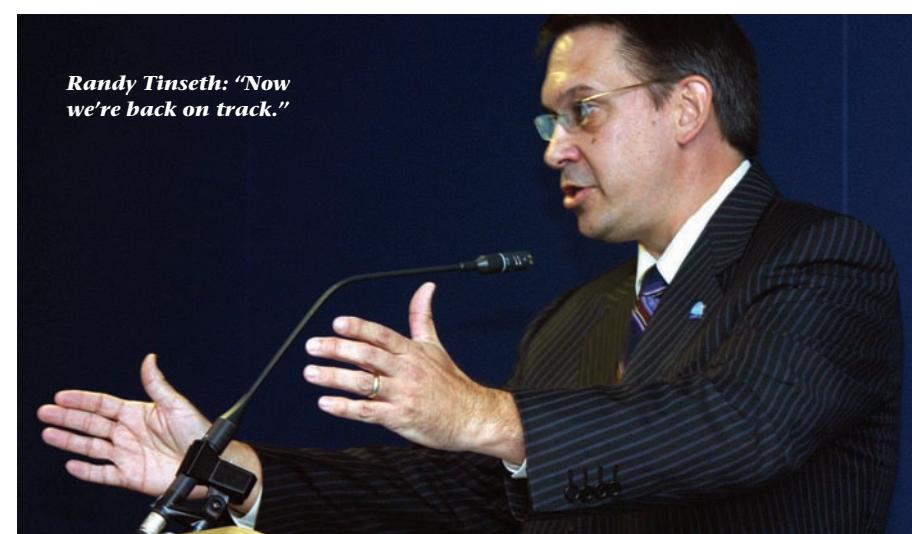
With today's announcement, ILFC has ordered 706 Boeing jets since 1977 and currently has more than 300 widebody aircraft in its fleet.

'Paper planes' did not help 747-8 launch

Customer acceptance of the Boeing 747-8 was not as fast as had been hoped because Boeing had previously floated plans for new versions of the type that never left the drawing board, Randy Tinseth, vice president sales, marketing and in-service support said at Farnborough yesterday.

However, a group of 25 airlines are currently helping Boeing finalise the design, which has a deadline of April next year. The final design is currently the subject of debate around range versus capacity as well as features, he said.

"Once we launched the freighter we captured the attention of the marketplace and we are probably now where we should have been a year ago,"



said Tinseth. "We lost a bit of credibility by previously talking about six or seven airplanes, but now we're back on track."

The design team is currently looking at a total stretch of 3.5m on the 787-8 Intercontinental passenger version, while the freighter will be stretched by 5.6m. Tinseth said that the

final stretch length of the Intercontinental would depend on the outcome of the debate over range against capacity.

"In our group of 25 airlines about 15 say the range and capacity are about right and the rest are split between those saying they want range and others who want capacity," he said.

Tinseth said that the 747-8 was "sized perfectly" for the market that Boeing sees at the large capacity end of the market. "If you are a 777 customer or a 747 customer this aircraft is sized to fit your route structure," he said. "There are 600 747s flying today and we are ideally placed to replace those aircraft."

Kingfisher nets simulators

Thales UK has agreed a \$24 million deal with Indian low-cost Kingfisher Airlines for three new full flight simulators (FFS).

Thales UK will provide two A320 FFSs and one ATR FFS.

The contract also includes provision of a Thales A320 maintenance/flight training device and a turnkey maintenance support package.

All the equipment supplied will be from the Thales Formation family, a product range that covers all civil aviation crew training from desktop to FFS.

GKN renews Chinook links

GKN Aerospace company FPT Industries has won a contract with Boeing Military Aircraft to supply fuel pods and assemblies for the CH-47 Chinook helicopter, 45 years after work began on this airframe.

FPT will supply a combination of fuel pods and side panels for both the CH47-F and -G for the US National Guard and the Egyptian air force.

The work, together with existing spares activity, will bring the value of business on the Chinook in 2006 to \$6.2 million.

Airbus notches ACJ sale

An undisclosed European customer has ordered the Airbus corporate jetliner (ACJ), it was announced at Farnborough yesterday.

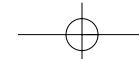
The order brings the tally for ACJs to 14 for the year, close to the 15 which was the total sales for 2005.

The aircraft sold this year are nine ACJs, four A318 Elites and a VIP A330-200.

Train chaos averted

A rail strike which would have caused chaos for people travelling to the show from Friday has been averted following talks between Network Rail, the organisation that runs the UK's railways and the Rail Maritime and Transport Union.

A new pay deal has been agreed.



IN BRIEF

HEADLINES

API opens new 'gateway to China'

Aerospace Products International (API) has announced a major expansion into the burgeoning China market. This month, API will open its newest distribution and logistics centre in Shanghai, China. Aerospace Products International (Shanghai) will enhance the product distribution services that API has provided in China since 2000 and allow API to serve as a major third-party logistics (3PL) provider in Asia.

CAE sells A320 sim into India

Canadian simulation specialist CAE has signed a £10 million deal with Air Deccan, the low-cost Indian airline, to supply it with an A320 full-flight simulator and a range of support services over five years. The A320 simulator will be delivered in summer 2007 to Air Deccan's new Bangalore training centre, scheduled to open next year. As well as the A320 simulator, the centre will contain a CAE-built ATR 72-500 simulator, provided by ATR.

Air France joins RAAS users

Air France has selected Honeywell's (Hall 1, A9) Runway Awareness and Advisory System (RAAS) to improve pilots' situational awareness during airport operations. Installations of the system, which should also help reduce runway incursions, are expected to begin later this year. RAAS works by comparing the aircraft's locations using GPS technology against a database of airport runways to pinpoint its location.

Thales chooses CMC for Russian RJ
CMC Electronics (Hall 4, C16A) has signed a contract with Thales to supply its CMA-9000 Flight Management System (FMS) for the Thales avionics suite on the Russian Regional Jet programme. The CMA-9000 will give the aircraft multi-sensor based navigation and enhanced operational capability. The single unit CMA-9000 has civil-certified multi-sensor (GPS, INS, DME and EGI) navigation capabilities and conforms to the ARINC-739 multi-function control display unit standard.

**ROTOR CITY**

This spectacular image of the Bell Boeing V-22 Osprey swooping over central London was captured during the show by Bell Helicopter photographer Ed Garza.

Bigger is better in Finncomm ATR order

Finncomm Airlines has ordered three ATR 72-500s, worth \$54 million, and is converting part of a previous ATR 42-500 deal into ATR 72-500s. The deal firms up options from an order announced at last year's Paris airshow, when the Finnish regional signed up for eight ATR 42-500s plus an option for eight -500 series aircraft.

In addition to the order announced at Farnborough, Finncomm is also converting half of the ATR 42-500s on order to the larger ATR 72-500 variant. The three new aircraft will be fitted with the new Elegance cabin. Finncomm managing director Juhani Pakari says that good passenger figures had allowed the airline to go over to the larger aircraft type.

Passenger UAVs may be the future, predicts Athena**Mike McGrath**

Unmanned aircraft may be flying passengers within the next 10-20 years, says the head of UAV technology provider Athena Technologies.

Dr David Vos made the prediction while introducing the company's two new superlight navigation and sensor systems at the show.

The Micro INS and the Micro GuideStar include GPS Inertial Navigational Systems (INS), and air

data sensor system (ADAHSRS). The Micro GuideStar also includes full flight control capability.

He said that technology similar to that provided in the cell phone-sized guidance systems, which weigh only 4oz (110g), will mean that in 10 years time, UAVs will be common in commercial airspace.

The affordability and compact weight of the systems enables UAV manufacturers to use multiple identical systems in each UAV, so that in the event of damage or malfunction to one part of the system, identical auxiliary cells

can take over to maintain the same functionality. Micro systems already offer reliability at the level of triple and quadruple redundancy protection. "Distributed high levels of extra redundancy on aircraft enable it to maintain functionality if damaged, adding dramatically to safety," Vos says.

Navigate

The Micros are able to navigate and autonomously control drones, missiles and general aviation aircraft, but it is in the UAV field that they will offer the biggest

developments, Vos says. "Anything you can think of that a manned aircraft will do today; UAVs will do in the future."

"In years to come, unmanned passenger aircraft may be viewed in a similar way to that which unmanned airport shuttle trains are viewed today," he says.

"The rate at which culture adopts new technology today is faster than ever. The young generation today are willing to adopt new developments at an incredibly fast rate, and this will speed up the rate at which this technology develops."

BAE considers Jetstream 41 freighter to rival Saab 340

BAE Systems Regional Aircraft is looking into the feasibility of a freighter conversion programme for the Jetstream 41.

The company's vice-president for sales, Steve Doughty, said at Farnborough the market for conversions of this size appears to be growing. "It is something we are actually looking at."

Saab Aircraft Leasing president Michael Magnusson said on Tuesday at Farnborough that the market for Saab 340 freighters could double in the next few years. There are currently 16 in operation.

Doughty notes the J41 is a similar size to the Saab 340, and said Magnusson's prediction "tends to confirm our view that there is potential there." He adds the possibility of a BAE 146 conversion programme is still being looked at. "It is a long business case

that we are still going through. We have to get it right."

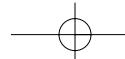
BAE also announced recent orders, including two ATPs to Enimex Airlines of Estonia, a wet lease/charter operator. The carrier is modernising its fleet, which has been based around the Antonov An-72 fleet.

Elsewhere, K-Tractor (the Komatsu distributor for the US) has taken a J41 for executive use, while 14 J32s have been sold and three J32 leases extended. New J32 customers include QuikAir of Canada and Trasmandu and Kavok of Canada.

BAE recently concluded a deal with CityJet that will see 23 ex-Mesaba RJ85s go to the Irish regional carrier – 10 of them owned by BAE and the rest by US investment company MBIA. BAE is supplying modification kits for all 23.

**Ton-up for chopper partners**

Sikorsky and Aero Vodochody marked delivery of the 100th S-76 helicopter airframe produced by the Czech company during a ceremony at Farnborough. The milestone comes five years after Aero Vodochody delivered the first S-76 airframe. "Aero's quality and schedule performance have been superlative," says Eric Hansen, S-76 programme manager for Sikorsky. "We look forward to extending this partnership and the strength it provides to the continued success of the S-76 programme."



IN BRIEF

Raytheon test success on sat nav system

Raytheon (Outside OE21) has successfully completed the preliminary system acceptance test for the GPS-aided GEO Augmented Navigation Technology Demonstration System (GAGAN-TDS). The GAGAN-TDS network monitors GPS signals for errors and then generates correction messages, so helping the accuracy of the satellite navigation system. During the test the average accuracy was better than 1m (3.3ft) horizontally and slightly more than 1m vertically.

Goodrich hoists for Hafei

Goodrich Corporation will provide externally mounted rescue hoist systems for the Chinese Hafei Z-9 rescue helicopter, it announced just before Farnborough opened. The first contracted installations will begin this year, with Goodrich delivering 30 units through 2008.

HEADLINES

Revealed: UK govt weapons strategy

Charles Williams

UK defence procurement minister Lord Drayson announced details of the future arrangements for the UK's complex weapons industry yesterday at Farnborough, including several MoD contract awards.

Drayson revealed yesterday that a consortium led by MBDA and comprising Qinetiq, Thales and Roxel, to be known as 'Team CW', has been formed. The MoD and the consortium will sign a strategic partnering agreement by the end of the year.

In advance of that signing, a number of key enabling contracts have been agreed – the most significant is the announcement to change to a sole source procurement policy for the Loitering Munition Development & Manufacture Programme to

Team CW. Drayson says: "This is a clear catalyst to drive the formation of Team CW and demonstrates to the industry our commitment to put the DIS into practice." He estimates the total value of the programme at £500m.

Research

Other contract awards announced include a research, testing and risk reduction package given to MBDA for a full capability enhancement programme on the Storm Shadow Missile System. As

part of the MoD's defence industrial strategy (DIS), published in September 2005, the UK government stated its intention to engage in long-term strategic partnering agreements with companies in various sectors, to help retain technological and manufacturing capability on-shore. The complex weapons sector was identified in December as one where the fragility of the industry, in the face of 50% reduction in the MoD's

complex weapons funding over the next five years, was such that it was unclear whether a sustainable industry going forward was realistic.

On the conspicuous absence of Raytheon from Team CW consortium, Drayson said: "Raytheon wasn't prepared to enter Team CW at this time. We want to see the greatest possible participation in these agreements, but we are not prepared to wait for everyone to get on the bus."



Jeff Frisby of Chemfab Corporation.

Chemfab scoops top GKN prize

GKN Aerospace (Chalet G1-3) recognised its global suppliers at Farnborough yesterday, with the third bi-annual global supplier awards, with Chemfab Manufacturing, a provider of chemical resistant solutions and coating services, receiving the best overall supplier award for exceptional service across the board. "Chemfab has performed at an exceptional level throughout last year," says Marcus Bryson, chief executive of GKN Aerospace. The six individual awards recognise high levels of commitment and service in terms of quality, delivery, cost and innovation through its lower tier suppliers.



Defence procurement minister Lord Drayson at Farnborough.

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ILFC selects GE90/GEnx engines to power its Boeing 787/777s

International Lease Finance Corporation (ILFC) has selected the GEnx and GE90 engines to power its new Boeing 787 and 777 fleets. The value of the engines ordered is more than \$750 million.

The aircraft leasing company has ordered GEnx engines for up to 24 Boeing 787 aircraft, including firm orders and options. Orders for the GEnx now exceed 600 engines.

In addition, ILFC has ordered six GE90-115B-powered Boeing 777-300ER

aircraft and two GE90-94B-powered 777-200ER aircraft.

Delivery of the 777s is scheduled to begin this year, with the 787 deliveries to start in 2010.

The GEnx is based on the GE90 architecture and will succeed GE's CF6 engine family. It provides significantly better specific fuel consumption and payload performance than GE's CF6 engines. GEnx testing began earlier this year, with certification scheduled for 2007.

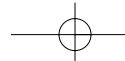
The GEnx engine is the world's only jet engine with

both a front fan case and fan blades made of composites, which provide for greater engine durability, weight reduction and lower operating costs. The fan blades will GE90 composite technology that has performed well, with no routine on-wing maintenance required and no in-service issue for more than a decade.

The GEnx will operate with 18 fan blades (50% fewer than the CF6) at noise levels lower than any other large GE commercial engine.

The Nordam Group signs support deal

The Nordam Group (Hall 2, B5) has signed a long-term agreement with Quest, a dedicated engineering product development and solutions provider, for engineering services support. Steve Pack, vice-president and general manager of nacelle/thrust reverse systems, says: "We selected Quest because they are a purely engineering focused solutions provider with proven capabilities in high-end engineering technologies."



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Airbus wins \$5.1bn orders

Mike Martin

Airbus yesterday landed \$5.1 billion worth of orders and commitments for its A320 and A330-200 aircraft in four separate deals.

The biggest order, worth \$2.7 billion, was for 40 A320s, with options on a further 30, from AirAsia, the fast-growing low-cost carrier with three bases in Asia.

Grupo Marsans, the largest tourism and transport group in Spain, signed a Memorandum of

Understanding (MoU) to take 12 A330-200 aircraft with 10 options. The aircraft would be worth \$1.9 billion.

Earlier orders came from leasing major International Lease Finance Corporation (ILFC) which took a further six A320s, and from Aegean Airlines which took three A320s. The combined orders were worth some \$500 million.

AirAsia now has 100 A320s on order plus the 30 options. It is phasing out its Boeing 737s and migrating to an all-Airbus fleet.

No engine has been chosen yet.

Deliveries will begin in April, 2009 and run through to 2011.

Conor McCarthy, director and co-founder of AirAsia, said yesterday he expected the aircraft delivered would be the more fuel-efficient variants being developed under the Airbus A320 Enhanced programme.

"We encouraged Airbus to do that and we expect to benefit from the work," he said.

The Grupo Marsans MoU is for aircraft to be delivered in 2008-9. The new aircraft will be used by Grupo Marsans subsidiaries to

replace ageing fleets of 747-200s and to expand long-haul networks. An engine selection has not been made yet.

The ILFC order brings the firm's A320 fleet to more than 430 aircraft.

"Worldwide, demand for airliners and especially the Airbus A320 family, remains strong, so it makes sense to top up our orders from time to time to maintain aircraft availability for our customers," said Steven Udvar-Hazy, ILFC chairman and chief executive.

"The Airbus A320 family has

been a real winner for us and, with improvements such as the new and improved cabin, it continues to get better and better."

Fast-growing Greek carrier Aegean Airlines ordered three more A320s in a \$180 million deal.

In total - including three additional A320s leased from ILFC - the airline has committed to 14 A320 family aircraft and has a further nine options, according to the initial agreement signed in December 2005.

Deliveries are scheduled to take place between January 2007 and April 2009.

AgustaWestland forecasts major market for AW149 medium twin

AgustaWestland enjoyed a great day at Farnborough yesterday, revealing full details of its plans for the new AW149 medium twin and announcing the sale of six helicopters plus 56 options in Brazil.

The 7.8t AW149, optimised for military operations, will fly by 2009, with initial operating capability planned for 2011. AgustaWestland believes there is a market for several hundred aircraft in the next few years.

"We will unveil a full-scale mock-up at Paris next year," says AgustaWestland chief executive Giuseppe Orsi. "We know that there are several thousand of this class of helicopter operating around the world and a large majority of them will need replacing over the next few years."

Orsi says the aircraft will be configured for a range of roles including search and rescue,



The AW149 will fly by 2009, according to AgustaWestland.

command and control, medical evacuation and external load lifting. AgustaWestland has secured some funding from the Italian department of trade and industry and is in discussions with the UK DTI to win additional support.

"We will focus not only on launch funding but also identifying launch customers,"

says Alan Johnston, managing director of military business. "We see the AW149 as a potential solution in the UK for its medium lift helicopter replacement, which is in line with our proposed in service date.

"In the shorter term we are talking about a number of options for the UK including

upgrades to the existing fleet and leasing."

The AW149 will feature a five-blade main rotor, with power delivered by two 2,000shp (1,500kW) class engines. The cabin will be configured to carry up to 15 troops.

Meanwhile, AgustaWestland has penned a purchase and distribution agreement with Synergy Aerospace to take a mix of A119 Koala, A109 Power, AW139 and Grand helicopters to be delivered over the next three years.

The aircraft will be used, sold and leased by OceanAir Taxi Aero, a Synergy subsidiary, for VIP/corporate and offshore transport. The helicopters will be produced at AgustaWestland plants in Philadelphia, USA and Vergiate, Italy. The contract marks the first entry into service in South America for the AW139.



Skunk works reveals secrets of stealth UAV

Lockheed Martin's Advanced Development Programmes division used Farnborough yesterday to reveal details of the all-composite long-range high altitude P-175 unmanned air vehicle (UAV) programme. The aircraft is named Polecat, referencing the 'Lonesome Polecat' character in the cartoon that gave the Advanced Development Programmes division its Skunk Works nickname.

The division released a photograph of the Polecat high altitude unmanned aerial vehicle demonstrator flying over "a remote desert location", almost certainly near the top secret base at Groom Lake, traditionally used for testing 'black' programme hardware.

The Polecat UAV is a blended wing/body aircraft that appears to be a miniaturised version of the B-2 Spirit stealth bomber. It will be developed for sustained, autonomous high altitude operations, and may also incorporate the low-boom technologies necessary to permit covert supersonic flights overland and to give the Polecat global reach.

The tailless P-175 UAV started development 18 months ago and used internal funding to demonstrate the company's ability to develop prototypes cheaper and quicker than previously.



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