

# AEROSPACE INSIDER

THE CONFIDENTIAL BI-MONTHLY LETTER ANALYSING KEY ISSUES WORLDWIDE

## BEHIND THE NEWS . BEHIND THE NEWS . BEHIND THE NEWS

➤ **Accused of pushing** Rand Corp into a rushed analysis of alternatives to the 767 for the USAF tanker programme, the Pentagon has asked the Institute for Defense Analyses to study the study to make sure it is complete enough. No word yet on who's going to study the study of the study ...

for Boeing's mooted A321 competitor, the 737-900X (220 pax, 2770nm), is gaining momentum again. Alaska, Qantas and Virgin Blue are seen as potential launch customers for the new version, designed to plug the gap left by the 757 in the Boeing product line-up.

combined. A spokeswoman said the higher complaints showed that the Agency had done a good job in telling the public how to contact it.

➤ **Upswing ahead.** Watch for a new boost in 737 production rates in January, probably to 20 aircraft per month, from the current 17. Also, some observers think the business case

➤ **The prize for spin** goes to the US Transportation Security Administration, which received more complaints about poor service in October than it had in the previous six months

➤ **Even the B-52 is net-centric.** For those of you who thought that network centric operations involved only state-of-the-art platforms and the computerised warfighter of the future, be advised that the venerable B-52 (first flight 1954) is being upgraded to meet Boeing criteria for networked combat readiness.

### ASIA-PACIFIC

#### DEFENCE SPENDING

Pacific Rim and Far East defence spending will rise by 11.5%, to \$157.3 billion, during the 2005-2009 period, according to Forecast International. The increase is seen as an inevitable result of the deep cuts resulting from the 1997 economic crisis, when funding for maintenance and modernization was slashed, and urgently needed upgrades delayed or discarded. The result is a bow wave of urgently needed operations and support programmes. Another significant factor is the spread of terrorism across the region. The top spender is **Japan**, with a five-year defence budget projection of \$209.6 billion (27.9% of projected regional defence spending), followed by **China** (\$147b, 19.6%), **South Korea** (\$95.5b, 12.7%), **India** (\$77.2b, 10.2%) and **Australia** (\$68.2b, 9.1%).

### EUROPE • USA • RUSSIA • ASIA

**Toulouse:** Unsurprisingly, **Airbus** has received a green light from its shareholders to start offering the A350 to airline customers. As we predicted (*Aerospace Insider* N° 28), initial A350s will be powered by **GE engines**. The new Airbus widebody will be offered in two versions, both of which are due to enter service in the first half of 2010. .... p. 2

**Arlington:** **US Airways** has concluded what could be a life-saving agreement with GE Capital Aviation Services (GECAS) and GE Engine Services (GEES) to provide the airline with \$140 million in short-term liquidity, plus reduced debt, while preserving the vast majority of its GECAS-owned mainline fleet. .... p. 3

**Kuala Lumpur:** **Malaysia Airlines System** has taken delivery of its first Boeing 777-200ER incorporating the Class 3 Boeing Electronic Flight Bag (EFB), making the airline the first in the Asia/Pacific region to use the EFB. The aircraft also has provisions for Terminal Wireless LAN systems ..... p. 3

**Brussels:** Europe needs to significantly increase the level of resources it invests in space, says **Günter Verheugen**, the new European Commission Vice-President and Commissioner for Enterprise and Industry and also the commissioner with responsibility for competitiveness and space matters. .... p. 4

**New Delhi:** **India** and **Russia** are to increase investment in the joint development of the **Brahmos** cruise missile, with Russia boosting its stake in the programme from 50% to 60%. A naval version of the missile has already been tested, while an air-launched variant is under development for the Su-30MKI.

## INSIDER ALERT

Despite the re-election of George Bush, the continuing war on terror and robust defence spending, there is increasing nervousness in the **US Air Force** about the upcoming **Quadrennial Defense Review** (QDR). Faced with the growing challenge from guerilla warfare, terrorism and other unconventional threats, the DoD is under pressure to shift spending away from conventional large platforms towards **smaller, more specialised forces**, whose effectiveness depends on mobility, communications and intelligence. That is likely to translate into continued scrutiny of the **F/A-22 Raptor** and the **F-35**. Results of the QDR will emerge in about nine months' time.

## People in the news

**Larry Lawson** has been named executive vice-president, general manager of the F/A-22 Raptor programme at Lockheed Martin. He replaces Ralph Heath, who has been appointed Lockheed Martin executive vice-president, following the retirement of Dain Hancock. Lawson, an 18-year veteran of the company, was previously vice-president, F/A-22 deputy.

**Scott Carson** is the new head of commercial airplane sales at Boeing. He takes over from Toby Bright, who is moving to "other responsibilities". Carson was CFO of Boeing Commercial Airplanes before being appointed to run Connexion by Boeing in 2000.

**Ashok K. Baweja** has been appointed chairman of Hindustan Aeronautics Limited, following the retirement of his predecessor, N. R. Mohanty. Baweja, who has been with HAL since 1972, was most recently director (design and development).

**Pierre-Yves Morvan** becomes vice-president production at Turbomeca. The appointment follows the company's creation of a new Production Division. Morvan was formerly deputy vice-president operations.

**Jeff Smisek** has been elected to the board of directors of Continental Airlines, filling the vacancy left by the retirement of Gordon Bethune. Smisek is currently executive vice-president and president-elect.

## Galileo go-ahead

The **European Union** has given a green light for the deployment and operational phases of the Galileo satellite navigation programme. The technical characteristics of the system have been finalised, and EU funding for both phases is confirmed. This deployment phase will last from 2006 until 2008, when the system will become operational. Estimated cost of the deployment phase is €2.1 billion (1/3 public sector, 2/3 private sector). Exploitation costs are estimated at €220 million a year with an exceptional contribution of the public sector for the first few years of €500 million. Thereafter, these costs will be entirely covered by the private sector. In the next stage of the programme, the Galileo Joint Undertaking must select one of the two applicants competing to operate the system before the end of February 2005.

## A350 green light

Unsurprisingly, **Airbus** has received a green light from its shareholders (EADS and BAE Systems) to start offering the A350. As we predicted (*Aerospace Insider* N° 28), initial A350s will be powered by **GE engines** (GENx 72A1), although the aircraft remains "eligible for a choice of engines". The new Airbus widebody will be offered in two versions, both of which are due to enter service in the first half of 2010. The **A350-800** will typically seat 245 passengers in a long-range three class configuration and have a range in excess of 8,600nm (15,900km), offering the lowest seat mile costs for this less-dense long-range market. Seating 285 passengers in a similar configuration, the **A350-900** will have a range of more than 7,500nm (13,900km), allowing operators to benefit from low unit costs in the most competitive mainstream markets. The A350 models will benefit from technologies, materials and manufacturing processes used on the A380, and will feature a composite wing design. The company sees a market for 3,100 new aircraft in the 250-300 seat category over the next 20 years, of which it expects to capture "at least 50 per cent".

## Think of a number...

# 7%

the decrease in average unit rates of Eurocontrol member states for air traffic control facilities and services for 2005. The average rate will drop from €62.28 to €58.



## CALENDAR

- **10-13 January 2005:** 43rd AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada  
Contact: [www.aiaa.org](http://www.aiaa.org)
- **6-8 February:** HAI HELI-EXPO 2005, Anaheim, California.  
Contact: [www.heliexpo.com](http://www.heliexpo.com)
- **12-17 February:** IDEX 2005 7th International Defence Exhibition and Conference, Abu Dhabi, UAE.  
Contact: [www.idex-uae.com/2005/](http://www.idex-uae.com/2005/)
- **16-18 February:** Airport Industry 2005, Moscow, Russia.  
Contact: [sharipova@ite-expo.ru](mailto:sharipova@ite-expo.ru)
- **28 Feb-1 March:** APTS 2005 Airport, Port & Terminal Security Exhibition, Dubai, UAE.  
Contact: [dwoods@ibeltd.com](mailto:dwoods@ibeltd.com)
- **15-20 March:** Australian International Airshow 2005, Avalon Airport, Victoria, Australia.  
Contact: [expo@airshow.net.au](mailto:expo@airshow.net.au)

## Confidential

### ANALYST'S CORNER

#### > Boeing outlook positive

Paul Nisbet and Peter Arment of JSA Research comment that — despite being "awash in controversy while losing key competitions" — Boeing and its stock are still performing well.

This stock price has doubled over the past 18 months, and the analysts see it moving into the high 50s if the company reaches its 200-order 7E7 goal in the coming months. They think it will take maybe twice as long to double again, reaching the \$100 level by 2008.

They also note that recent divestitures are reducing the company's debt load. Debt net of cash at the end of 04Q3 was \$8 billion, down from \$13.1 billion a year earlier. They project that by 2008, absent any significant investment banking actions, Boeing should be able to convert its net debt position to one of net cash — to the tune of \$2.6 billion.

By 2008, says JSA, on top of a robust IDS operation and a strong demand for 737s and 777s, Boeing should be readying for delivery of 36 7E7s, followed by another 56 in 2009, with prospects for further production increases thereafter.

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### Airlines - Americas

- **US Airways** has concluded what could be a life-saving agreement with GE Capital Aviation Services (GECAS) and GE Engine Services (GEES) to provide the airline with short-term liquidity, reduced debt, lower aircraft ownership costs, enhanced engine maintenance services and leases for new regional jets, while preserving the vast majority of its GECAS-owned mainline fleet. If approved by the US Bankruptcy Court and if all conditions are met — big IFs — the transaction will provide US Airways with **\$140 million in interim liquidity** through a new bridge facility and the deferral of aircraft debt and lease payments coming due over the next six months. For the deal to work, however, the airline has to — among other things — secure another \$500 million in concessions from the unions (on top of \$300 million obtained in October) and exit Chapter 11 by 30 June 2005.
- **Delta Air Lines** has completed agreements with GE Commercial Finance and American Express Travel Related Services Company, Inc. (Amex) to obtain approximately **\$1.1 billion in financing**. Concurrent with entering into these definitive agreements, Delta borrowed a total of \$830 million. The two financing agreements contain covenants which require Delta to maintain specified levels of unrestricted cash and cash equivalents, to achieve certain levels of EBITDAR and to not exceed specified levels of capital expenditures.



### Airlines - Europe

- In its preliminary traffic report for November 2004, the **Association of European Airlines** states that passenger traffic on international routes was 5.5% higher than in the corresponding period in 2003, a figure slightly lower than in the previous month. The growth was constrained by a minus 2.0% in North Atlantic traffic, reflecting a 1.5% decrease in seat capacity in this market. In contrast, Far Eastern traffic grew 10.9%, accommodated within a 13.7% capacity increase. Traffic in Europe was 4.7% up on last year. Said AEA Secretary General Ulrich Schulte-Strathaus: "It appears that our **US competitors** are increasing their Transatlantic presence. Some are operating under protection from their creditors, others have avoided bankruptcy by massive payroll concessions, all have benefited from the financial intervention of their government during this period of financial hardship. If overcapacity in these circumstances provokes a fare war, the European airlines will find themselves at a substantial competitive disadvantage".
- Responding to a **European Commission** study showing that in 2002 alone, European airlines and airports paid €3 billion for additional anti-terrorist security measures imposed by European governments, European aviation industry leaders called for the transfer of what they call "a clear public responsibility" back into the hands of governments. Noting that the US government has provided an estimated \$32 billion financial aid to the US aviation industry since 9/11, they claim that a disjointed approach towards the **funding of aviation security** in Europe is creating distortions of competition which adds to the distortion with non-EU countries like the United States.



### Airlines - Asia-Pacific

- **Malaysia Airlines System** has taken delivery of its first Boeing 777-200ER incorporating the Class 3 Boeing Electronic Flight Bag (EFB), making the airline the first in the Asia/Pacific region to use the EFB. The new airplane delivered is the 14th of 15 Boeing 777-200ERs the Kuala Lumpur-based carrier will receive. Malaysia Airlines is equipping two 777-200ERs with the EFB, which offers a variety of applications from Boeing subsidiary Jeppesen, including electronic terminal charts and the Taxi Position Awareness tool, which shows pilots exactly where they are at the airport. Malaysia Airlines' new 777s will also be the first commercial airplanes delivered with provisions for Terminal Wireless LAN systems, designed to interface on the ground with airport systems at high speeds and high bandwidth.

## Off the record

☛ There's growing nervousness at Paris airport operator ADP ... and the reason is only partly related to the current furore over inflated charges. Of even greater concern are the conclusions of a new French report into competition between the airlines and the growing TGV high-speed train network. According to the report, the TGV has already poached 10 million passengers per year from the airlines on around 30 routes departing from Paris. Future expansion of the TGV network is likely to affect another 50 routes, raising the airline-passenger deficit to around 17 million per year-by 2030.

☛ With series production of the A400M poised to get under way, the hunt for export customers for the European airlifter is intensifying. Canada and Australia are seen as good prospects ... but not in the short term. South Africa recently announced that it was coming on board with an order for 8-14 aircraft, and that local industry would become a partner in the programme. A new addition to the list is Malaysia, which has announced an ambitious procurement plan and is keen to find offset deals in the aerospace composites domain.

☛ Notwithstanding German press releases announcing that Spain has selected the Taurus cruise missile, it now transpires that no contract has been signed. The absence of any official statement from the Spanish side is enough to convince MDBA that the Scalp/Storm Shadow is still in with a chance.



## Partnerships in focus

Keeping track of strategic international teaming agreements

- **Saab Aviocomp** and **Embraer** have signed an agreement whereby the Swedish firm will support Embraer with rotatable component maintenance for a designated component package that is included in Embraer's Pool Programme. Saab Aviocomp, a specialist in the maintenance and repair of components for regional aircraft, is already an authorised Service Centre for Embraer.
- **BAE Systems** is reducing its 35% shareholding in **Saab**, though it will retain at least 20% of voting rights and capital "as a long-term investment". At the same time, Saab will take over responsibility for Gripen marketing activities – until now performed by a 50/50 JV between the two companies, Gripen International.
- **BAE Systems North America** has signed a Memorandum of Agreement with **Mikrodalga Elektronik Sistemler Sanayi ve Ticaret (MiKES)** of Ankara, Turkey – an electronic warfare specialist – covering the assembly of electronic components and the machining of sub-modules and components for the F-35 Joint Strike Fighter.
- **Rolls-Royce** and **Lufthansa Technik** have selected a site near Erfurt in Thuringia, Germany as the location for their future aero-engine overhaul joint venture, N3 Engine Overhaul Services. Completion of the facility is expected by the end of 2006.

## European space vision

**Brussels:** Europe needs to significantly increase the level of resources it invests in space, says **Günter Verheugen**, the new European Commission Vice-President and Commissioner for Enterprise and Industry and also the commissioner with responsibility for competitiveness and space matters. He describes the current level of investment as "quite limited, certainly when compared to the US." He says that the EU, as the main beneficiary and user of space-based services and solutions, should help to increase investment in order to further strengthen its scientific and technological base and adequately exploit the commercial opportunities offered by space.

The precise level of the Union's contribution, he declares, will obviously depend upon ongoing discussions on the financial perspectives and the work that will need to be carried out to develop the **European Space Programme**. However, Verheugen believes that, in addition to continuing and further extending the type of research activities already seen under the Sixth Framework Programme for Research and Technological Development, European space activities should also be extended to cover non-research activities, e.g. with respect to Galileo and GMES. He also calls on the

EU to broaden its scope beyond the current relatively narrow focus on applications, in order to maintain and further develop its capability to act independently in the space sector.

Describing space as "a relatively untapped resource for Europe", he says that Europe will have to ensure that the industrial space sector emerges strengthened from the next phase of restructuring and consolidation, adding: "This is likely to require a new and more comprehensive **industrial policy**."

For Verheugen, the European Space Policy to be drawn up by the Union will constitute a new step forward, where the main public demand for space solutions will be generated by Union policies like Transport, Environment, Information Society and Common Foreign and Security Policy (CFSP), as demonstrated by **Galileo and GMES**.

In order to make this policy work, he notes, Europe will need an implementing tool, and this is one of the major roles he sees for the new European Space Programme, which "should set a coherent framework for European space activities and bring new synergies and added value to the efforts already underway at a national and ESA level".

## TECHNOLOGY BREAKTHROUGH

### Engine for future Mars rover

Aerojet has test-fired a Viking flight spare rocket engine assembly in order to help design a new engine which will deliver the next rover to the surface of Mars in 2009. The rocket engine used in the test was originally built, tested and delivered in 1973 for the Viking programme.

Under contract with NASA's Jet Propulsion Laboratory (JPL), Aerojet received the engine for five hot fire tests that were conducted to evaluate engine capabilities as well as general "health checks." The hot fire tests determined that the key elements and features within the Viking engine are relevant to and meet the requirements of NASA's Mars Science Laboratory mission.

The company is building three new 700 pound thrust monopropellant rocket engine assemblies to further evaluate design changes made to increase mission flexibility and life capability. The most significant feature of the monopropellant engine is its ability to **throttle from 15-100 percent thrust** with a fixed propellant inlet pressure.

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