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THE RFID REVOLUTION

Tracking the spare parts market

THE PAINS AND PLEASURES OF NEW TECHNOLOGY

Welcome to the March 2013 edition of AVITrader MRO, as Boeing receives the glad tidings that its battery fix for the 787 Dreamliner has been approved and it can expect the aircraft back in the skies shortly.

Nailing this particular problem has been tricky for Boeing, for the regulators and for the aviation industry as a whole, since it was such an indistinct problem. There remain fears that the issue could return, since Boeing does not claim to have solved it entirely, just ensured that any malfunction in the Dreamliner's battery would not spread to the whole unit, and that any smoke would be directed outside the aircraft.

With the increasing sophistication of aircraft parts, such phenomena are likely to recur. Just as the financial crisis of 2008 was partly caused by highly complex products which few people understood (but which many thousands

of people traded), aircraft parts today may comprise hundreds or thousands of elements, assembled from many disparate sources, ending up in a unit which relatively few people fully understand. Tracing these individual elements back to their source is the devil's own job.

Luckily, tracking systems have increased in sophistication and ingenuity alongside the increasing complexity of aircraft parts, as we learn in Keith Mwanalushi's cover story this month, where he traces the history of RFID tags in the industry and how leading companies are adopting the latest iteration of the technology.

Along similar lines, our contribution from IBA this month looks at the issue of spare parts and the evolving market for them. As this feature explains, there remains a vibrant market for spare parts, satisfying the dual drives for cost effective solutions and speedy operational efficiency.

New technology commonly presents both opportunities and threats in equal measure, with the opportunities sometimes dominated by fixes to problems caused by new technology in the first place! At least with a technology such as RFID, the overall impact has been to improve standards of safety and accountability and to reduce costs, which can only be positive.

Enjoy the publication and have a happy Easter.

David Nicholson

Editor



LHT RFID reader

Photo - Lufthansa



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AviTrader Publications Corp.
9500 Aquila Road
Richmond, BC
Canada V7A 3P9

Email: peter.jorssen@avitrader.com
Tel: +1 (604) 448 0970
www.avitrader.com

Editorial

David Nicholson, Editor
Email: editor@avitrader.com
Tel: +44 (0) 20 7359 1200
Mobile: +44 (0) 7802 834477

Alex Ward, Deputy Editor
Email: alex.ward2106@gmail.com

James Thurman, Designer
Email: james.thurman@hotmail.co.uk
Mobile: +44 (0) 7944 486447
Web: snaresandsymbols.daportfolio.com

Advertising inquiries

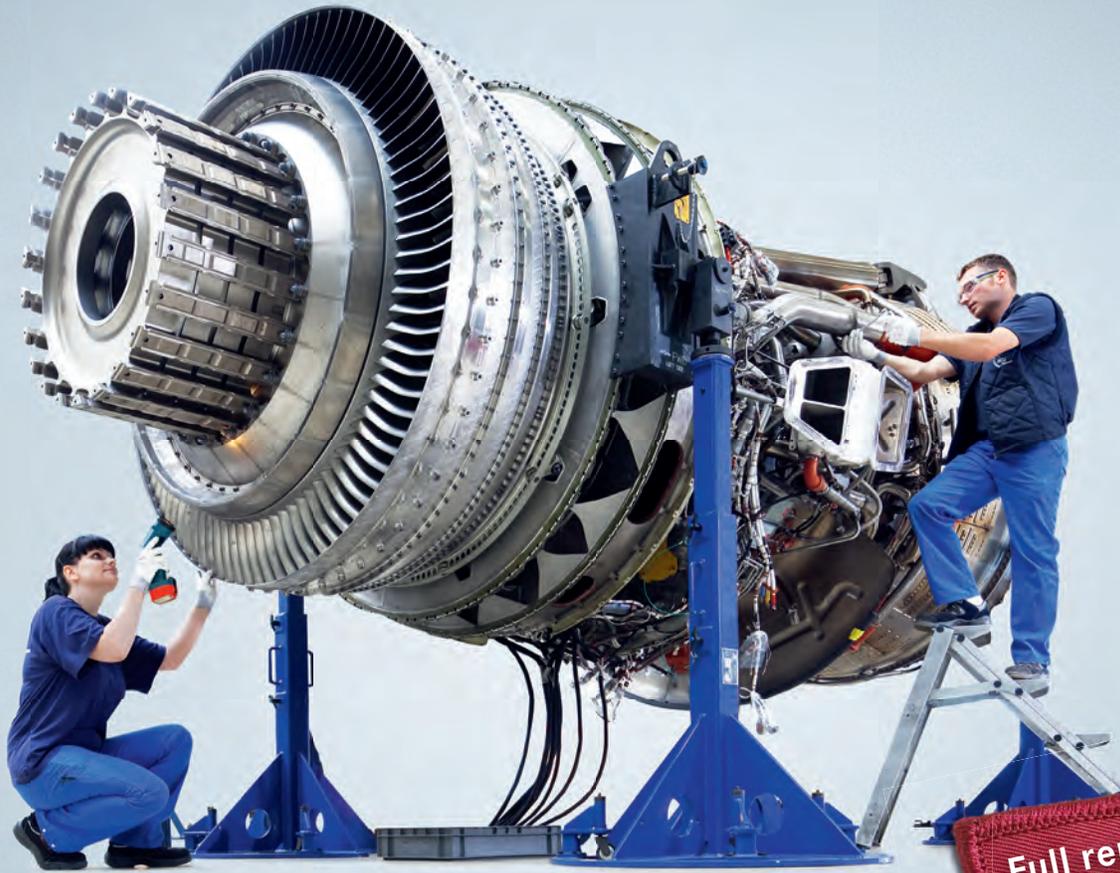
Jenny Falk
Head of Sales & Marketing
Email: jenny.falk@avitrader.com
Tel: +49 (0) 8761 346007

Registration

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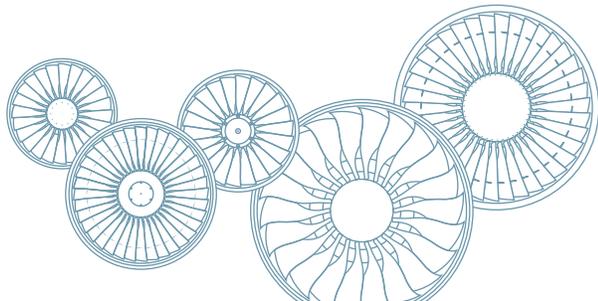


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Airbus Beluga transports assemblies between Airbus sites

Photo - AirTeamImages

GE Aviation delivers first production wing components for Airbus A350 XWB

GE Aviation, Hamble has achieved a major program milestone with the delivery of its initial production wing fixed trailing edge components for the first A350 XWB to fly – 'MSN-001'. The first A350 XWB-MSN001 is now structurally complete and is currently undergoing ground testing in Toulouse. The A350 XWB wing fixed trailing edge package is the largest production contract awarded in GE Aviation, Hamble's 75-year history, comprising more than 3,000 components that include structural composite panels and complex machined assemblies.

The A350 XWB has a total wingspan of more than 64 meters. GE Aviation will provide the wing fixed trailing edge for all three A350 XWB family members: the A350-800, -900 and -1000. The company began its work on the wing components in October 2008, progressing from a very basic conceptual design while enhancing its management to address the project's magnitude. In addition to increasing the scope of GE Aviation's own technical capabilities, the company involved a global design team that included GE Aviation resources in Poland and India.

British Airways awards MacCarthy Aviation galley refurbishment contract

MacCarthy Aviation has been awarded another significant contract with British Airways to refurbish three more ship sets of galleys for B767 aircraft. British Airways is currently carrying out a refresh of the majority of its B767 fleet and the contract awarded to MacCarthy consists of galley refurbishments on long haul aircraft.

The work package consists of: deep cleaning, replacement of damaged and missing parts, a change of décor, repainting of the entire units and continuity checks and bonding, all within a ten day turnaround time. The contract will commence in April 2013 with the refurbishment work being carried out at MacCarthy Aviation's facility near Gatwick Airport.

Etihad Airways and airberlin align maintenance operations in Chicago

Etihad Airways has opened a line maintenance base at Chicago's O'Hare International Airport, the UAE flag carrier's seventh outside Abu Dhabi and its first in the United States. The new facility is equipped with the latest technology and will perform all scheduled and non-scheduled line maintenance for Etihad Airways' daily Boeing 777 aircraft flying into Chicago from the UAE capital. In addition, and as a result of growing synergies between partners, the new base will also provide line maintenance services for

Airbus selects Sabena technics for base maintenance of its Beluga fleet

Airbus has selected Sabena technics for a five-year maintenance agreement for the performance of C-checks on its A300-600ST Beluga fleet. The work will be performed at Sabena technics facility in Bordeaux, France which has five separate hangar positions large enough to accommodate the Beluga aircraft.

The fleet of five Beluga aircraft is operated by Airbus Transport International (ATI), a division dedicated to the logistics between Airbus and its partners' European production sites. The outsourcing of the Beluga base maintenance is part of ATI's "Fly 10000" project which aims at increasing aircraft availability and doubling the annual flying hours of the fleet before 2017. ATI's own maintenance division will still ensure light maintenance at the main base and in the outstations.

Turbomeca and Phoenix Heli-Flight sign support by the hour contract

Turbomeca signed a Support By the Hour (SBH) contract with Phoenix Heli-Flight regarding its fleet of Arriel 1D1 following delivery of the two new AS350B2. This contract will cover all the Turbomeca engines in the Phoenix Heli-Flight fleet. By signing this contract, Phoenix Heli-Flight becomes the largest Canadian operator under Turbomeca SBH program.

Phoenix Heli-Flight and Turbomeca have an agreement to add two Arrius 2B2 under SBH contract. Those engines will be installed on the first EC135T2e in Canada planned to be

delivered in 2013.

Vector Aerospace approved as Eurocopter service center for Super Puma AS332 helicopters

Vector Aerospace Helicopter Services - North America received the certificate with full approval as a Eurocopter-qualified service center for the AS332 helicopter family. Presented at the Heli-Expo 2013 industry show in Las Vegas, Nevada, the certification includes O&I and I+ level airframe servicing, and allows Vector to perform major inspections, upgrades and retrofits on all AS332 Super Puma models.

The primary focus will be on helicopters based in North America and registered by the Federal Aviation Administration. This approval was achieved less than one year after the certification process start-up, and was performed with the full support of Eurocopter – which is Vector Aerospace's sister company. It was presented at HELI-EXPO 2013 by Eurocopter President and CEO Lutz Bertling to Declan O'Shea, the President and CEO of Vector Aerospace.

LOT Aircraft Maintenance Services receives update of PART-145 certification

LOT Aircraft Maintenance Services (LOTAMS) has received an update of PART-145 certification. The update authorizes LOTAMS to extend the scope of work with: Embraer EMB-135 with Allison AE3007 engines, Boeing B737 600-900 with CFM56 engines. Currently, LOTAMS supports in line maintenance for all four models of B737 NG aircraft with CFM56 engines. Part-145 was given to LOTAMS by the Civil Aviation Office of Poland.

airberlin's new Airbus A330-operated Chicago flights. airberlin begins its three-weekly nonstop Berlin-Chicago services on March 23, rising to five a week in summer 2013.

USA Jet delivers first MD80 for conversion

Aeronautical Engineers, Inc. (AEI), has been selected by USA Jet of Belleville Michigan to provide one MD83SF 12 Pallet Passenger to Freighter Conversion. The aircraft, an MD-83, MSN 49791 was built in 1989 and is currently undergoing freighter modification at AEI's Authorized Conversion Center, Commercial Jet, which is located in Miami, Florida. This is the first production MD80SF to be inducted for conversion, currently AEI has orders for 20 units.

P&W transforms Middletown assembly area for new PurePower PW1100G-JM and F135 engines

Pratt & Whitney completed the first phase of an assembly-floor transformation project at its Middletown, Conn., facility that prepares the Engine Center to produce its portion of PurePower PW1100G-JM engines for the Airbus A320neo and increases production capacity for the F135 engine powering the F-35 Lightning II for the U.S. Military. The PurePower PW1100G-JM engines deliver benefits including double-digit reductions in fuel burn, environmental emissions, engine noise and operating costs compared with today's jet engines. The F135 engine powers the F-35 Lightning II – a stealthy, supersonic, multirole 5th Generation fighter designed for U.S. and international partner requirements.



Cebu Pacific and HAECO sign services contract for 8 Airbus A330-300 aircraft

Photo - HAECO

program for Bombardier's CRJ100 and CRJ200 aircraft. The program has been studied for over a year and the aircraft will be marketed as CRJ100 and CRJ200 Special Freighter (SF) aircraft. The program development costs are being fully funded by AEI.

The modification touch labor will be performed at AEI's leading Authorized Conversion Center, Commercial Jet, which is located at the Miami International Airport. In connection with the launch of the CRJ100 and CRJ200 SF aircraft

the FAA. AEI expects the initial certification to take two years and plans to certify the program with the FAA, Transport Canada, EASA, CAAC and Russian authorities.

Cebu Pacific selects HAECO for A330 maintenance

Cebu Pacific Air, the Philippines' largest carrier, has appointed Hong Kong Aircraft Engineering Company (HAECO) as the provider of engineering services for its fleet of up to eight Airbus A330-300 aircraft. The HAECO group will provide Inventory Technical Management (ITM) and Fleet Technical Management (FTM) services for Cebu Pacific's wide-body fleet of A330-300 aircraft.

The services include detailed planning of regular comprehensive maintenance checks, pool management of components, management of component repairs and overhauls, as well as 24/7 AOG support. Cebu Pacific will use the Airbus A330s to launch long-haul operations in the second half of 2013. It recently announced it will commence daily services to its first long-haul destination: Dubai.

Ameco Beijing performs cabin Mod for Boeing 738s of Air China

On February 27, Ameco Beijing completed the first Boeing 737-800 cabin modification for Air China. The cabin modification of Air China Boeing 737-800 fleet aims at elevating cabin service quality and leading China aviation market, mainly including the work scope of the first class cabin layout modification and PC power system installation. Starting from April 1,



Opening ceremony of new assembly line

Photo - Pratt & Whitney

AEI launches conversion program for Bombardier CRJ100 and CRJ200 aircraft

Aeronautical Engineers, Inc. (AEI) has formally launched a Passenger to Freighter conversion

program, AEI has become a Bombardier licensed Third Party Supplemental Type Certificate (STC) Provider and plans to make the conversion available to its worldwide network of Authorized Conversion Centers upon issuance of the STC by

Ameco Beijing will perform another ten Boeing 737-800 aircraft cabin modifications for Air China. The Boeing 737-800s cabin modifications come as one of Air China's cabin upgrade projects just after the Airbus A321s, Airbus A330s, Boeing 777-200s cabin modifications in the last two years.

JetBlue Airways and Airbus reach agreement to retrofit A320 fleet with Sharklets

JetBlue Airways has signed a letter of intent with Airbus to acquire 110 ship-sets of retrofit Sharklets for the airline's in-service A320 aircraft. Deliveries are scheduled to start in 2014. Just last week, JetBlue Airways unveiled the first of its A320 aircraft to be outfitted with Sharklets.

Sharklets are newly designed wing tip devices that are expected to improve the aerodynamics of Airbus aircraft and significantly cut fuel burn and emissions by up to 4%.

Singapore Airlines selects UTC Aerospace to provide wheels and carbon brakes

UTC Aerospace Systems has been selected by Singapore Airlines to supply the wheels and carbon brakes for its fleet of eight new Boeing 777LR aircraft. The company will provide the equipment through its Wheels & Brakes business in Troy, Ohio. The first aircraft is scheduled for delivery in August 2013.

Embraers 190. The first-time collaboration between the two companies is set to take place in March and June of this year, and with JorAMCo's experience and expertise in delivering high-quality maintenance services, JorAMCo aims to establish long-standing ties with Air Astana for the E190 and support additional fleet types within its network. Air Astana is Kazakhstan's national carrier and provides scheduled flights to domestic and international destinations in Asia, the CIS, Europe, the Middle and Far East.

Honeywell supports China Eastern Airlines in increasing safety and efficiency of its fleet

Honeywell Aerospace has extended its strategic partnership with China Eastern Airlines, signing several agreements to increase the safety, efficiency and performance of its growing fleet of aircraft. Through these agreements, Honeywell will provide a range of avionics products for 58 new Boeing 737NG aircraft, scheduled to be delivered over the next five years.

Honeywell will also provide wheels and brakes for 15 new Airbus A330 aircraft. This would bring the total number of Airbus A330 aircraft in China Eastern Airlines' fleet equipped with Honeywell wheels and brakes to 51 by 2015.

STS Component Solutions expands support to Rotorcraft and Business Jet markets

Skurka Aerospace and Esterline Mason in addition to increasing the current portfolio support in these markets for MarathonNorco and Avionic Instruments. OEM support and service offerings by STS in the rotorcraft market which will be primarily focused on the following: Bell Helicopter 200 and 400 series; AugustaWestland models AW101, AW109, AW119, AW139, AW169 and AW189; Sikorsky S76 and S92; Eurocopter EC120, EC135, EC145, Ecureuil AS 350 and the Dauphin AS 365.

In support of the business jet market, OEM support and service offerings will be primarily focused on the following: PT6 Engine, PW100 and PW300 Engine; Cessna Citation and Caravan; Pilatus PC12; Learjet 30, 50, 60 and 80 Series; Gulfstream; Falcon Jet; Beechcraft King Air and 1900; DeHaviland DHC-7 and DHC-8.

Rockwell Collins wins more content on Airbus A350 XWB with rudder/brake pedal assembly award

Rockwell Collins has been selected by Airbus to provide the rudder/brake pedal assembly for the A350 XWB family of aircraft. The previously announced Rockwell Collins-supplied products and solutions for the A350 XWB, including the aircraft's communications, information management, landing and navigation systems, are valued at \$2.5bn over the life of the program. More than 600 A350 XWBs have been ordered by airlines throughout the world.

GA Telesis celebrates in China

GA Innovation China ("GAIC") a subsidiary of Air China and GA Telesis, had its grand opening ceremony on March 5, 2013 at the Qin Han Ballroom at the Beijing Hilton. In this very well attended ceremony in Beijing, the companies celebrated the receipt of their formal government license to do business as GA Innovation China, a 50/50 joint venture that will be based in Beijing. The joint venture will be the only China-based integrated aircraft trader/lessor of mid-aged, used aircraft and will also include a full-scale aircraft disassembly and redistribution business covering the entire Asian market. GAIC will immediately create many well-paying skilled jobs in China.

The new world class operations will commence operations from Beijing Capital International Airport. GAIC will focus on providing financial solutions for airlines in China and Asia that have an increasing need for fleet decommissioning strategies. The company will also provide top-quality, used-serviceable components to the Asian market, while also acting as China's first integrated asset management company that maximizes aircraft and jet engine values by using asset disassembly strategies.



Grand Opening Ceremony in Beijing

Photo - GA Telesis

Air Astana selects JorAMCo to provide C-checks

JorAMCo won its first maintenance service contract with the Kazakhstan based airline Air Astana. JorAMCo will, among other things, perform C-checks on three of Air Astana's

STS Component Solutions announced the expansion of their service and support offerings into the helicopter and business jet markets. This growth is a result of the development of some new OEM partnerships that have been established with the Donaldson Company,

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[Jet Aviation Dubai receives FAA approval for new Gulfstream G650](#)

Jet Aviation Dubai received approval from the Federal Aviation Administration to provide line and base maintenance to Gulfstream G650 aircraft. Jet Aviation Dubai was recently authorized to provide maintenance, alterations and repair services to the new ultra-long-range, ultra-large-cabin Gulfstream G650. This approval was highly anticipated by customers and the company is currently supporting G650 aircraft.

[Turkish Technic signs C Check maintenance agreement with Nordwind Airlines](#)

Nordwind Airlines signed C Check maintenance contracts for its two Airbus A321 Aircraft with Turkish Technic. The services will be carried out at Turkish Technic Istanbul facilities in March 2013. Nordwind Airlines, LLC is a charter airline from Russia. The company is headquartered in Moscow, with the city's Sheremetyevo International Airport being the most important base for its flight operations. Nordwind Airlines links a multitude of airports in Russia with holiday destinations around the Mediterranean Sea, and at the Indian Ocean.

[Turkish Technic and Astra Airlines sign Landing Gear Services contract for A320 Aircraft](#)

Astra Airlines chooses Turkish Technic as the Landing Gear Maintenance Services Provider for its Airbus A320 Aircraft. The newly signed contract is the first business agreement between the parties. The services will be carried out at Turkish Technic Istanbul Facilities in February 2013.

[Fokker Services provides Dash-8 100 aircraft interior upgrade](#)

Fokker Services has contracted with a Dash-8 100 aircraft operator in the Asia Pacific region for the provision of a comprehensive passenger cabin upgrade package. The upgrade will consist of full refurbishment of the existing passenger cabin sidewall panels, luggage bins and lavatory linings, a noise suppression kit, which will reduce passenger cabin noise levels by up to 3dB using passive measures, photo luminescent escape path markings and LED lighting for both the passenger cabin and lavatories.

The upgrade program will cover three aircraft, with Fokker Services responsible for overseeing the engineering, certification, and supply of the relevant kits, as well as the refurbishment of the cabin and lavatory linings at its facilities in the Netherlands. The actual installation shall be done by the customer at their own heavy maintenance facilities during a scheduled

check. The first aircraft is scheduled to undergo the upgrade in the middle of 2013 with the other two to follow thereafter.

[FL Technics, SCAC and SuperJet International sign M.o.U for MRO Services on SSJ100 fleet](#)

FL Technics, a global provider of integrated aircraft maintenance, repair and overhaul services, and Sukhoi Civil Aircraft Company (SCAC), the Russian civil aviation manufacturer and the developer of the Sukhoi Superjet 100 project, along with SuperJet International, a joint venture between Alenia Aermacchi, a Finmeccanica Company (51%), and Sukhoi Holding (49%), managing SSJ100 sales and support in the Western markets, announced the execution of a Memorandum of Understanding (M.o.U) for Sukhoi Superjet 100 technical support in Europe and Asia.

According to the agreement FL Technics will become a partner of the SuperJet International Airframe Authorized Service Centers Network and will provide SSJ100 operators with line and base airframe maintenance services. In the nearest future FL Technics will be dedicated to provide line maintenance support to SSJ100 operators located in South-East Asia.

[FL Technics acquires ten landing gear sets for tear down](#)

FL Technics, a global provider of integrated aircraft maintenance, repair and overhaul services, successfully expands its landing gear and spare parts capabilities, having recently purchased ten Bombardier CRJ 100/200 and Boeing 737-300/400/500 landing gear sets to be dismantled for parts and components. The escalating demand for regional aircraft and ongoing popularity of Boeing 737 CL aircraft around the world has prompted FL Technics to acquire four Bombardier CRJ 200 and six Boeing 737 CL landing gear sets.

The dismantled components and parts of main and nose landing gear (MLG/NLG) will be used to supplement the FL Technics aircraft spare parts stockpiles at the company's warehouses across Europe, the CIS and Asia. Some of the components have already been overhauled and are available both as individual units as well as complete landing gear sets to clients from Europe, Russia and the CIS.

[UTC Aerospace Systems to provide nacelle systems for Second Generation Embraer E-Jets](#)

UTC Aerospace Systems has been chosen by Pratt & Whitney as the exclusive nacelle provider for both engine models for Embraer's new Second Generation E-Jet aircraft. The nacelle systems will be provided by the Aerostructures business unit headquartered in Chula Vista,

Calif. The Embraer Second Generation E-Jets will be equipped with Pratt & Whitney's PurePower Geared Turbofan PW1700G and PW1900G engines. Designed and manufactured to leverage the latest in composite technology, the nacelle systems will directly contribute to the significant reductions in fuel burn, emissions, noise and operating costs that Pratt & Whitney's PurePower engines will provide compared to today's aircraft. The PurePower engine uses an advanced gear system and an all-new advanced core that delivers double-digit improvements in fuel efficiency and environmental emissions, as well as a 50% reduction in noise.

[UTC Aerospace Systems selected by Thai Airways for wheels and carbon brakes](#)

UTC Aerospace Systems has been selected by Thai Airways International to supply the wheels and carbon brakes for its new fleet of 14 Boeing 777-300ER aircraft. UTC Aerospace Systems will provide the equipment through its Wheels & Brakes business in Troy, Ohio. The first aircraft was delivered in August 2012. The 777-300ER carbon brakes, delivered under the Goodrich brand, use proprietary DURACARB carbon heat sink material. The DURACARB carbon provides exceptional brake performance and a 35% brake life advantage over competitive products, producing significant cost savings for operators.

[Maldivian and Lufthansa Technik sign component support contract](#)

Maldivian, the national carrier of the Republic of the Maldives, owned and operated by Island Aviation Private Limited, and Lufthansa Technik, have signed a 3-year contract for comprehensive component support for the airline's first Airbus A320 aircraft which entered into service in November 2012. It is the first time that Lufthansa Technik supports a customer from this region. The services comprise spare parts supply and pooling for 465 part numbers, component repair and overhaul. Lufthansa Technik's global network will deliver the technical support. Components will come from Frankfurt and Hamburg. Overhaul and repair work of the components will be executed at the Lufthansa Technik sites in Hamburg. The customer service is provided by Lufthansa Technik Services India, located in Bangalore.

[Nordwind Airlines entrusts CF6-80C2 engines to AFI KLM E&M](#)

Russian charter carrier Nordwind Airlines has signed an engine support contract with AFI KLM E&M covering the CF6-80C2 power plants equipping the carrier's six Boeing 767-300ERs.

The agreement covers engine repair and overhaul services as well as availability and lease support.

MTU Maintenance wins contract to maintain Southwest's CFM56-3 engines

MTU Maintenance Canada and Southwest Airlines have signed an exclusive long term agreement for the maintenance of Southwest's CFM56-3 engines. With its exclusive Boeing 737 fleet, Southwest Airlines is one of the largest CFM56 operators in the world and an important customer for MTU Maintenance. Under the agreement, MTU Maintenance will provide Southwest Airlines with a Total Engine Care (TEC) program in order to generate additional value for the airline's CFM56-3 engines. "MTU Maintenance will collaborate with Southwest on the management of technical, material and commercial challenges related to the CFM56-3 engines for our Boeing 737 Classic fleet," said Bill Tiffany, Senior Director Supply Chain Management at Southwest. "Together we have designed and executed a closed loop material solution and anticipate significant cost savings over the life of the agreement compared to a traditional maintenance program."

RUAG Aviation named GE authorized service center for CF34-3 Engines

GE Aviation has named RUAG Aviation as an authorized service center for GE's CF34-3 engines that power the Bombardier Challenger series. Under this agreement, RUAG Aviation can



Southwest Airlines 737-300 landing in Las Vegas

Photo - AirTeamImages

perform engine line maintenance, as well as provide OnPoint solution agreement and warranty support and facilitate access to both GE parts and technical support. RUAG Aviation offers a wide range of services, including aircraft maintenance, individual cabin designs up to a complete refurbishment of aircraft interiors, in-flight entertainment systems and Satcom installations as well as complete system upgrades. In addition, RUAG's one-stop service also includes VIP aircraft painting

capabilities and FBO services. RUAG Aviation has four service centers in Europe: in Munich, Germany, and Berne, Geneva and Lugano, Switzerland.

AMES and DHL sign 3-year heavy maintenance agreement for 767 C checks

Airborne Maintenance and Engineering Services (AMES) signed an agreement with DHL to provide heavy maintenance services for

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at least 28 C checks over three years on DHL-owned and leased Boeing 767-200F aircraft currently operating in the U.S. network. The agreement, which runs from April 2013 through March 2016, covers 767 freighters operated for DHL by ABX Air, another subsidiary of AMES' parent company, Air Transport Services Group. AMES has provided scheduled maintenance for these aircraft under a different arrangement since May 2009.

[Ducommun receives multiple contracts from AgustaWestland to support AW139 helicopter](#)

Ducommun Incorporated has received a series of contracts from AgustaWestland Philadelphia Corporation to produce specialized, complex wiring harnesses for the new AW139 multi-mission helicopter. Ducommun LaBarge Technologies will produce the wiring harnesses through December 2014 at the Company's Joplin, Mo., facility.

[AJW partners with Engineering of Russia to set up consignment stock base](#)

A J Walter Aviation and Engineering – The Aviation Maintenance Holding – have signed an agreement aimed at enhancing spare parts support and provision in Russia through the establishment of an exclusive consignment stock pool of Airbus A320 and Boeing B737 parts. These components will be housed centrally at Engineering's facility at Domodedovo Airport, Moscow, allowing for quick and easy distribution across Russia and CIS, as well as the surrounding areas. The consignment stock agreement is considered the first venture of its type in Russia between a leading Western independent parts specialist and an independent Russian MRO provider. The set-up of the pooling facility is the result of a positive and long-standing relationship between the two companies and clearly fills a gap in the market for a fast, reliable and cost effective parts provision service within Russia. Both AJW and Engineering expect to see a high level of demand for the new service from local operators of Airbus A320 Family and Boeing 737 aircraft across Russia and CIS.

[Flying Colours strengthens European connections as it completes second project for German operator FairJets](#)

Flying Colours, the global aviation services company specialising in business aircraft maintenance, completions and refurbishments, has delivered the latest of its Challenger 300 aircraft projects to German air charter operator, FairJets GmbH. Maintenance work on the aircraft began in September 2012 and included a full 96-month heavy maintenance inspection. In addition, the aircraft was given a full make-over including new exterior paint and interior refurbishment. The project was

jointly completed by both Flying Colours Corp. in Peterborough, Ontario and sister company JetCorp Tech Services in St Louis, Missouri. The aircraft has already re-entered the FairJets' fleet and is one of the many aircraft available for charter via the German operator.

[Aircelle opens new parts distribution center in China for airline operators](#)

The global services network of Aircelle (Safran) marked a strategic expansion on February 19, with the opening of a new parts distribution center in China, which will serve the country's airlines that operate aircraft with the company's jet engine nacelle and thrust reverser products. Located at Beijing Capital International Airport in its free trade zone, this 400m² warehouse facility is open around the clock to provide spare parts and inventory management with rapid response capability for urgent aircraft-on-ground services requirements. This distribution facility builds on Aircelle's already well-established presence in China, which includes an office in Beijing, along with a network of customer support managers and field service representatives, the majority of whom are Chinese.

[REVIMA APU repairs 4,000th TSCP700 APU](#)

Revima APU, a leading independent APU repair provider, received the 4,000th TSCP700 APU to be repaired at its facilities in Normandy, France. The APU type is installed on the Airbus A300B, Boeing DC-10 and Boeing MD-11 aircraft. Revima APU has been servicing APUs for over 41 years, and has now repaired almost 12,000 APUs throughout its history. The TSCP700 was one of the very first APU models in Revima APU's capability, when the company started supporting DC-10 APU's for UTA in 1972. From that time onwards, Revima APU has built a solid experience and a deep knowledge of this APU and of its different variants, which progressively positioned the company as the world's leader on this product.

[American Airlines selects special effect coatings for fleet rebrand](#)

American Airlines is undertaking a modernisation and complete rebrand of their aircraft fleet. AkzoNobel Aerospace Coatings, with a dedication to providing innovative and reliable solutions to customers worldwide, is providing the paint system and technical expertise to assist with the new look. The fleet makeover shall incorporate the painting of over 600 aircraft with Aerodur 3001/3002 Basecoat/Clearcoat, widely recognised for an impressive high gloss finish with easy coverage and fast turnaround capabilities. American Airlines partnered with FutureBrand to create the modern look and livery for the airline. Built on a multi-year successful partnership, they engaged

AkzoNobel Aerospace Coatings to work on color development, advice on the chosen paint system and to provide technical support.

[Eurocopter inaugurates production center for high-technology aircraft components in Mexico](#)

Eurocopter expanded its global industrial footprint and enhanced the company's presence in Mexico with the inauguration of a new manufacturing center of excellence at Querétaro, which is to produce high-technology aircraft structural metallic components. Located at the Aerotech Industrial Park adjacent to Querétaro Intercontinental Airport, this 12,000m² facility will be the single-source production site for structures used in jetliner doors that the company manufactures for Airbus, along with tail booms to equip Eurocopter Ecureuil helicopters. The site is also home to a recently opened 1,000m² maintenance center specialized in the Ecureuil family of helicopters, which serves the region's Eurocopter clients operating the popular lightweight rotorcraft.

[BAE Systems wins another airline spares support deal](#)

BAE Systems Regional Aircraft has won another contract for its rate-per-flying-hour aircraft spares support service to bring the total value of business from this service to £35m over the past twelve months from seven airlines. The latest contract is with Eastern Airways of the UK and covers a three-year support deal for the airline's fleet of 16 Prestwick-built Jetstream 41 turboprop airliners. Eastern Airways operates over 800 flights in a week on a comprehensive network of scheduled domestic and international services and private charter services. BAE Systems has provided support for Eastern Airways' Jetstream 41 operation for the past 11 years. The Eastern Airways contract comes only three weeks after BAE Systems won a similar three-year extension to its support contract from Braathens Technical AB of Sweden. The Braathens deal covers support for its subsidiary airline Malmö Aviation's fleet of 12 Avro RJ regional jetliners. BAE Systems has been providing this type of service to Braathens Technical/Malmö Aviation for 14 years.

[Trade Air signs FLYFokker ABACUS agreement with Fokker Services](#)

Fokker Services released that Trade Air, a privately owned company established in 1994 in Zagreb Croatia, operating under the brand name SunAdria, has decided to enter into a FLYFokker ABACUS program for its Fokker 100 aircraft. Under this program Fokker Services will provide component support, including forward exchange and reconditioning services, covering the major line replaceable units of the Trade Air fleet.

Harnessing RFID and GPS technologies

By Keith Mwanalushi

RFID and GPS tracking are now relatively mature technologies where industry wide implantation is becoming ever more critical in the race to ensure increased process reliability and reduced labour costs.

RFID (Radio Frequency Identification) technology provides real time location and status information of physical assets in manufacturing, logistics and field service operations. Some years ago OEMs and other major players such as the MRO providers started to use RFID in their inner processes as they soon realised it had tremendous potential.

There are numerous benefits: this is a contactless technology. Data can be stored, data acquisition is quick and efficient, stored data is reliable, data is processed in real time, and there is a reduction in errors which has a positive impact on quality.

Lufthansa Technik (LHT) began working on RFID in 2006, having identified it as a future technology which could be used throughout the Group. "The basic approach is to find RFID-based solutions to reduce manual work, gain efficiency and accelerate processes as well as raising quality," Tom Burian, from Lufthansa Technik Logistik Services, declared. "Our first application focused on our line replaceable units (LRU) repair cycle, where we introduced RFID to speed up logistics processes. As a result, we reduced lead times by 75%, for example from aircraft to workshop within one day instead of up to six."



Tom Burian, Lufthansa Technik Logistik Services Photo - Lufthansa Technik

The long-term goal at LHT is to equip every LRU on an aircraft permanently with an RFID tag to be used for identification, "but back in 2006 there was no suitable hardware available and missing standardization blocked industry wide adoption," Burian said. "So parallel, we worked with Airbus, Boeing, SITA and Fujitsu to establish common data standards, as well as Fraunhofer Institute for Integrated Circuits and the Harting Technology Group for the development of our own tag known as avio.tag"



RFID part-marking is already intergrated in the A350 systems and rolling out on the entire Airbus line this year.

Photo - Airbus

James Elliott, product marketing manager at Mxi Technologies, adds that for years the industry has touted the concept of the "drive-thru hangar," wherein an MRO organisation would gain immediate access to critical maintenance history attached to every component found on the aircraft as it gradually worked through the heavy or line check. He says in reality RFID market adoption has been slow due to the limitations of the technology and in certain restrictions of use.

"That isn't to say that RFID does not offer tangible benefits for MRO today. Just that today they are quite niche and limited in

scope. As this technology evolves, we can see it playing a role in helping aviation organisations drive greater value out of their core MRO processes, streamlining the supply chain, expediting maintenance which in turn reduces AOGs, thus increasing aircraft availability and so on," Elliott said.

Airbus claims to be the first commercial aircraft manufacturer to deploy RFID part marking to aircraft components on all its aircraft families. The innovation is being progressively rolled out through 2013 to all seats and life vests for the A320, A330 and A380 aircraft families. According to Airbus, the annual volume of this RFID part marking extension is estimated to reach 160,000 RFID tags, roughly split across 120,000 life vests and 40,000 seats, for these aircraft families. This complements the existing RFID part marking initiative on the A350 which is already underway.

Airbus says the scope of efficiency savings with permanent RFID part marking is substantial. For example, in the past each one of several hundred life jackets and seats in the cabin would need to be manually checked and noted, necessitating lengthy manual data entry. But as each Airbus aircraft will soon come pre-equipped with RFID tags on these parts, just one person can read the RFID tags within a few minutes using a lightweight handheld RFID reader.

Anurag Nagpal, director of systems engineering at OAT Systems says many deployments mix and match multiple auto-

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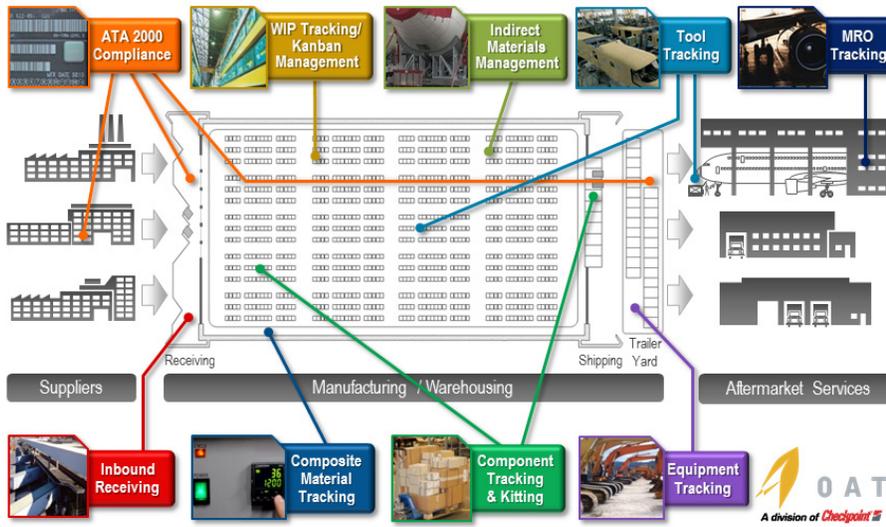


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Image - OAT Systems

As to the question of better efficiencies between RFID and barcode, Elliott does not see the industry being at that point quite yet. "We see evidence today of aviation MROs using RFID technology for niche requirements. For instance scanning RFID tags on all life jackets currently aboard an aircraft to help quickly understand which ones need to be replaced. That is helpful, but far from supporting what is more fundamental for most aviation executives, namely how to optimise MRO processes that drive significant business returns," Elliott said.

At AFI KLM E&M the main RFID solutions developed are currently life jackets, some tools, textiles, and on-board components. The company is still working on extending the range of products using RFID technology particularly for the tracking of items, packages and some industrial mobile equipment. An AFI KLM spokesman told AviTrader MRO that for several years, their R&D department has been following up on the development

of the RFID technology and now that it has matured, it offers real opportunities for industrial activities.

Jon Andresen says Technology Solutions LLC has available solutions that allow airlines to check for the presence and expiration dates of all the emergency equipment on the aircraft. This technology has been available and in production at major airlines for over three years and provides, as Andersen puts it, "a powerful, flexible way to begin using the technology on a given set of aircraft to save check time and maximise the life of the asset, and then expand to other items on the aircraft as the airline is ready".

"Solutions are available for OEMs tagging new items in their factory, whether they are vests, or oxygen generators using low memory tags or more expensive rotatables tagged with high memory tags to meet the aircraft manufacturer's requirements. Solutions are both available and deployed in

a number of companies," Andersen stated.

For Mxi Technologies, Elliott says what is most important is the ability to properly identify the aircraft asset so the system can track its full maintenance lifecycle. "Barcode technology more than adequately fulfils this need, and is a far more widely used technology today. In the event that a customer uses RFID as part of their barcode strategy, our solution can support this out of the box today.

"That said, as with any new technology, we would be remiss if we didn't keep a close watch on the evolution of RFID and participate in industry wide efforts to establishing the necessary data interchange standards to make RFID a more pervasive and influential technology for aviation MRO," Elliott said.

Lufthansa Technik say what is still challenging is the industry wide adoption (for OEMs and airlines have different intentions in the usage), which will take several years and is clearly led by the aircraft manufacturers Airbus and Boeing.

Ultimately several MRO providers are successfully using RFID to track spares and work orders. But Nagpal from OAT Systems says MRO is also the last mile of the aircraft value chain because "putting RFID tags on components once they are in service is more labour intensive, since tagging is not integrated into the initial manufacturing process and provides less valuable information".

"Tagging serialised components as they are manufactured provides critical information such as the batch number, bill of materials, and date of manufacture to MRO providers at the time of service, letting them know if a component is subject to recall, and needs to be repaired or replaced," he said.

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IBA Analysis - Being a Parts Company

By Ben Jacques

In theory being an original equipment manufacturer (OEM) is quite simple. You make 'stuff', which could be an airframe or some engines or something equally worthy of being deemed as 'stuff'. But it gets a bit more complicated when it comes to keeping control of what happens to the stuff your OEM has made, especially when an aircraft is constructed from literally millions of smaller bits of stuff.

stock in a bid to meet efficiency and cash position targets. Over the years, airlines have found that overstocking parts can lead to problems. This is especially true with high value parts which have a low turnover, particularly when those high value parts are sold for a relatively meagre value in years to come.

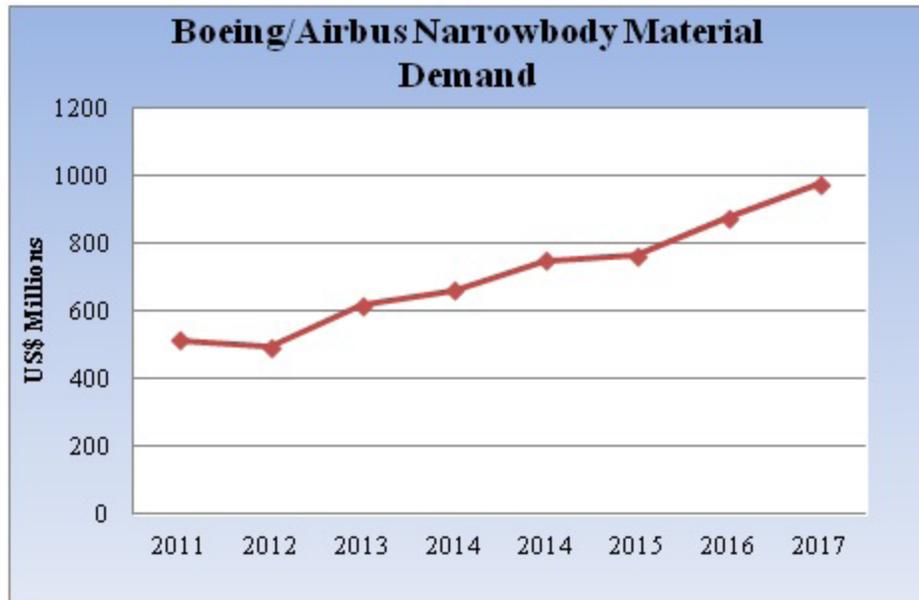
As parts companies have become a

recognised cog in the aviation wheel, more international brands have shown an interest in supporting or investing in parts companies. At IBA, we have been involved in several parts company valuations and inventory appraisals, and recently we worked for banks, arrangers and, in some cases, on behalf of the parts companies or MROs themselves.

As you can imagine, IBA holds data on hundreds of thousands of common rotables and consumables and manage these within our in-house spare parts database. We sort and analyse the data according to our views of the market in order for the applicable host aircraft to produce the relevant values.

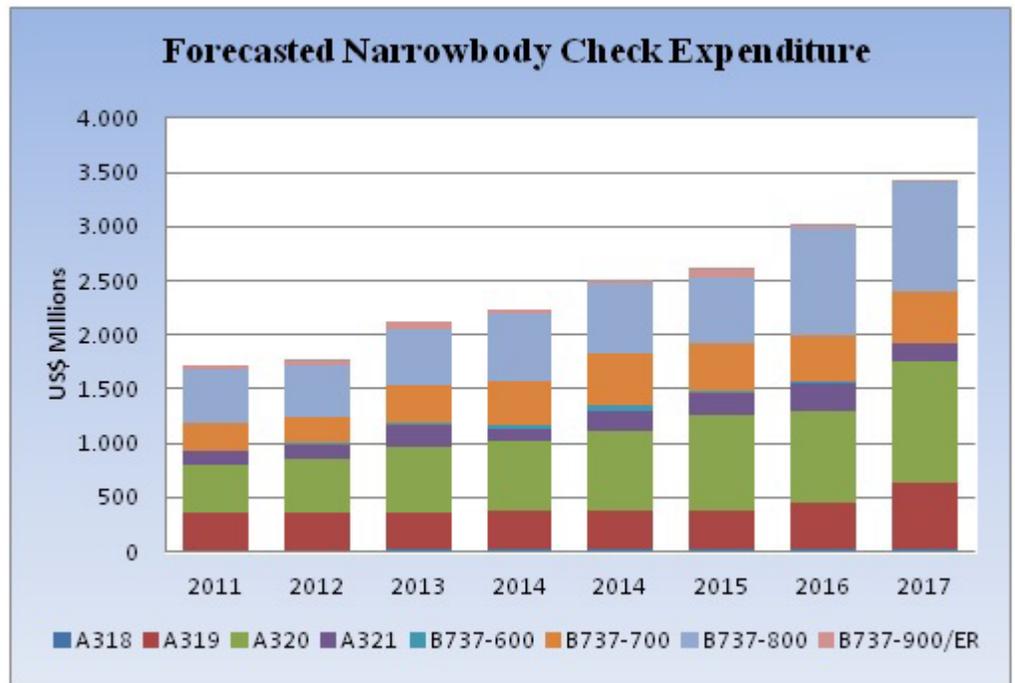
The spares market, although heavily influenced by the commercial aircraft market and the MRO market, has its own ebbs and flows to contend with such as supply and demand issues, turn times and the like. However, as we discussed last month, the economic downturn has provided new opportunities for part out specialists and those providing end-of-life services. During the downturn, the models most likely to decrease in value were the out-of-production narrow bodies and wide bodies.

These aircraft, in particular, had seen buoyancy on the back of an unusually high demand for capacity, which quickly turned into a desperate race to remove oversupply of capacity. MRO mergers and alliances have spelled trouble for parts companies who relied on certain MRO business, as these MROs have learned to be more efficient and now use leaner purchasing strategies.



Parts companies come in many shapes and sizes from the huge globe conquering multinationals to the small, single person staffed companies trying to carve out a niche for themselves. Becoming a parts reseller is relatively easy to get into because the entry barriers are reasonably low. You can start selling if you have enough money to get a reasonable storage space and some parts to advertise, or better still you can sell someone else's items on a consignment basis.

Don't get me wrong, parts companies with a strong international reputation are not just made up of one guy with a handful of cash and some aircraft parts. They have built robust infrastructures to support international operations. Without these international parts supply operations, modern airlines would not last long because most airlines have cut back their own parts



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To summarise the spare parts market outlook, despite the increased levels of storage across a wide range of older and out-of-production aircraft types from which large numbers of extracted parts are entering the market, demand for spare parts across the market remains strong.

Newer, in-production aircraft with large backlogs are seeing a rise in demand for spare parts due to increased MRO throughput, a growing operator base and predicted bottlenecks in airframe and engine maintenance in the next few years due to high production levels in the mid to late 2000s.

Trading activity is less buoyant for older aircraft such as the MD80 family and older Airbus and Boeing wide bodies. However, operators and MROs are keen to keep maintenance costs down for these aircraft types, given the ages and higher operating costs.

This is keeping demand for cheaper, second-hand spare parts high and will hopefully keep any supply and demand imbalance at a level manageable by market forces.

These market forces, the key determinants of spare part spend, lie in how the world's fleet evolves. Current order books are dominated by new technology aircraft types such as the A320 (CEO and NEO), the 737 (NG and MAX), A330, 777, A380, 787 and A350. Each aircraft brings new challenges to the table. With each aircraft intervals are increased, check costs are reduced and technology is more advanced.

Looking at a simplistic scenario, the 777 has become a replacement for 747 Classic and older -400 series aircraft. The newer aircraft has two engines instead of the 747's four. Engine man-hour expenditure is therefore greatly reduced. The 777 has composite structures on its wings and fuselage, thus reducing structural care and maintenance input. Maintenance check intervals have also been greatly increased. These trends are reflected across other aircraft families including the 737NG and A320s versus the 737 Classics/MD80s, the 787 versus the 767/ A330 and the A350 versus the A340.

It is easy to see that the future looks bright for well-placed parts sellers able to maintain a level of dynamism, as well as the ability



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to react to changes in the market and turn opportunities in their favour. Avoiding an owned stock of obsolete aircraft parts, learning more about how new aircraft work, and what strategies will be popular amongst the airlines and MROs, will be key to robust growth while their investors will see a worthwhile return. Forward planning by parts companies will now be critical to their success.

Finance News

HAECO increases shareholding in Shanghai line maintenance services provider

Hong Kong Aircraft Engineering Company ("HAECO") has acquired an additional 26% shareholding in Shanghai Taikoo Aircraft Engineering Services Company (STA), increasing the HAECO Group's equity interest to 75%. The remaining 25% shareholding in STA, a provider of line maintenance services in Shanghai, continues to be held by Shanghai Foreign Aviation Service Corporation. STA currently provides line maintenance services for about 40 customers and handles an average of 1,300 flights a month at Shanghai Pudong International Airport and Shanghai Hongqiao International Airport, as well as the nearby Nanjing Lukou International Airport. The company's range of services includes transit check, overnight check, daily check, weekly check, defect rectification and technical log certification for a large number of commercial aircraft including the latest Boeing 747-8 and Airbus A380.

DVB posts consolidated net income before taxes and IAS 39 of €157.2m

DVB increased total income before allowance for credit losses by 5.1%, to €411.9m

(previous year: €391.9m). Total income after allowance for credit losses amounted to €341.2m, which corresponds to a rise of 2.6%. Net interest income after allowance for credit losses declined by 20.0%, to €159.3m (2011: €199.1m) in spite of successful new business origination, the decline was attributable to higher risk costs. Allowance for credit losses amounted to -€70.7m (2011: -€59.2m). Net fee and commission income, which largely consists of commissions from lending business, asset management and advisory services, grew by 12.5%, from €116.2m to a record high of €130.7m. Net other operating income/expenses increased from €17.3m to €42.7m.

In June 2012, DVB sold a 60% stake in TES Holdings Ltd, the British aero engine specialist, to two renowned Japanese investors. The two new partners – Mitsubishi Corporation, and Development Bank of Japan, Inc. – acquired 35% and 25%, respectively. DVB remains the largest shareholder, with a 40% share. General administrative expenses were down 2.9%, to €184m, mainly due to the deconsolidation of TES. Staff expenses of €101.5m were down 6.9% year-on-year (2011: €109.0m), whilst at €77.9m, non-staff expenses were up 3.0% (2011: €75.6m). Consolidated net

income before IAS 39 and taxes rose by 9.7%, from €143.3m to €157.2m. Burdened by still volatile net result from financial instruments in accordance with IAS 39 (down from €4.4m to -€15.8m), consolidated net income before taxes decreased by 4.3% to €141.4m (2011: €147.7m). Consolidated net income after taxes totalled €124.9m, an increase of 13.1% (2011: €110.4m).

Marshall Aerospace and Defence Group acquires Oxford-based FlairJet

Marshall Aerospace and Defence Group announced the acquisition of 100% of the share capital of FlairJet Ltd, the London Oxford Airport-based aircraft management and charter company. Effective immediately, FlairJet will become part of the group's newly formed Aviation Services business unit and will continue to be led by Managing Director and founder, David Fletcher, who now has the backing of one of Europe's largest privately owned aerospace and defense groups. Newly acquired FlairJet, which recently marked its third anniversary, will run alongside Cambridge Airport-based operator Marshall Executive Aviation (MEA).

The acquisition further extends the service

offering of the recently formed JETability brand, offering a 'one call' business aviation solution. FlairJet's Embraer Phenom aircraft also complement MEA's Cessna Citation XLS, Citation Bravo and Bombardier Challenger 300 charter fleet. FlairJet brings a solid relationship with Embraer to the mix. As launch operator for the Phenom 100 and 300, the company pioneered Phenom operations in Europe and has managed the acceptance and delivery of a total of 22 Embraer business jets to date.

[Air Lease Corporation reports fourth quarter 2012 results](#)

Air Lease Corporation reported another consecutive quarter of fleet, revenue, profitability and financing growth: revenues increased 95% to \$656m for the year ended December 31, 2012 compared to \$337m for the year ended December 31, 2011. Revenues increased 65% to \$190m in the fourth quarter of 2012 compared to \$115m in the fourth quarter of 2011. Income before taxes increased 146% to \$204m for the year ended December 31, 2012 compared to \$83 million for the year ended December 31, 2011.

Income before taxes increased 58% to \$61m in the fourth quarter of 2012 compared to \$39m in the fourth quarter of 2011. ALC added 14 aircraft (including 11 aircraft from its order book and three opportunistic/incremental aircraft) and sold one aircraft from its fleet, growing the fleet to 155 aircraft spread across a diverse and balanced customer base of 69 airlines in 40 countries.

[Exchange Income to acquire Regional One for \\$80m](#)

Exchange Income Corporation has signed a stock purchase agreement to acquire all of the shares of Regional One, a privately owned U.S. company that is a leading provider of aircraft and engine aftermarket parts to regional airline operators around the world.

The acquisition is valued at approximately \$80m, subject to adjustments for taxes and will be funded through the issuance of the Corporation's common shares and debt financing. The acquisition is expected to be immediately accretive to the Corporation's earnings per share and free cash flow per share.

The closing of the transaction is subject to receipt of regulatory approvals and other standard conditions. The transaction is expected to close by April 1, 2013. Regional One was founded in 2004 and has three main revenue streams being direct sales of parts, aircraft, engines and other related equipment

to regional airlines, consignment sales of customers' surplus parts inventory and leasing of aircraft, engines and equipment to regional airlines. Regional One operates out of a 60,000 ft² office and warehouse facility in Miami, Florida.

[Airbus reports strong full year results 2012](#)

Airbus' consolidated revenues increased by 17% to €38,592m (FY 2011: €33,103m), reflecting strong commercial aircraft deliveries. The Airbus consolidated EBIT more than doubled to €1,230m (FY 2011: €584m). Airbus Commercial revenues amounted to €36,943m (FY 2011: €31,159m), driven by a record commercial deliveries of 588 (FY 2011: 534), including 30 A380s. A total of 585 deliveries were booked with revenue recognition with the remaining three placed on operating lease. Revenues also benefitted from favourable U.S. dollar rates. Airbus Commercial's reported EBIT amounted to €1,125m (FY 2011: €543m).

The Airbus Commercial EBIT before a one-off of €1,647m (FY 2011: €485m) benefited from an improved operational performance including favourable volume and pricing, and net of escalation. It also reflected the hedge rate improvement. The Division's self-financed R&D expenses fell slightly to €2,442m. During 2012, Airbus Commercial registered 914 gross orders (FY 2011: 1,608 gross orders). Net orders totalled 833 (FY 2011: 1,419). These net orders comprised 739 A320 Family aircraft (CEO and NEO), 85 A330/A350XWBs and nine A380s.

[Top global banks selected to fund new Air Pacific aircraft](#)

Air Pacific, Fiji's national carrier soon to be flying as 'Fiji Airways', announced that it had selected two major international aviation banks for European export credit financing for its three new A330-200 aircraft. The two banks are German-based KfW IPEX-Bank and Helaba.

The selection of these two well-known international banking partners is the result of a RFP process overseen by a leading financial advisory consultancy in the aviation sector, SkyWorks Capital. SkyWorks Capital issued the Air Pacific RFP in late 2012 to a number of major international aviation banks, and thereafter received 7 firm proposals involving 11 separate banks, including five of the top global Export Credit banking groups.

[AerCap reports fourth quarter and full year 2012 financial results](#)

AerCap reported fourth quarter 2012 net

income was \$11.2m, compared with \$76.4m for the same period in 2011. Fourth quarter 2012 included a \$54.6m charge, net of tax, relating to the sale of AerCap's ALS portfolio which is essentially offset by expected future servicing fees and interest income.

Fourth quarter 2012 adjusted net income was \$67.5m, compared with \$79.8m for the same period in 2011. For the full year 2012 AerCap reported income of \$163.7m, compared with \$172.2m for full year 2011. Full year 2012 adjusted net income was \$258.0m, compared with \$303.1m for full year 2011.

Net interest margin earned on lease assets, or net spread, was \$684.2m for the full year 2012 compared with \$718.1m for full year 2011. Net interest margin as a percent to average lease assets was 8.70% for full year 2012 as compared with 9.05% for full year 2011. The decrease is attributable primarily to the sale of the ALS portfolio. Repurchases of 26.5 million shares were completed in 2012 with a total cost of \$320m (the average price per share of \$12.06).

[Safran posts record 2012 results](#)

Safran reported that full year 2012 adjusted revenue was €13,560m, up 15.5% year-on-year (8.6% organic). Adjusted recurring operating income of €1,471m (10.8% of revenue), rose 23.7% year-on-year. After a net charge of €50m for one-off items, mainly related to M&A transaction and integration costs, adjusted profit from operations was €1,421m. Adjusted net income – group share up 55% from FY 2011 at €999m. Consolidated (non-adjusted) net income – group share at €1,302m.

Net debt position of €932m as of December 31, 2012, with free cash flow generation of €564m (38% of recurring operating income). Full year 2013 guidance: Safran expects adjusted revenue to increase by around 5% and adjusted recurring operating income to grow again by a percentage in the mid-teens. Free cash flow is expected to represent about 40% of adjusted recurring operating income.

[Aircastle announces fourth quarter and full year 2012 results](#)

Aircastle Limited reported fourth quarter 2012 net income of \$29.8m and adjusted net income of \$36.4m. Net income for the year ended December 31, 2012 was \$32.9m and adjusted net income was \$57.0m. The fourth quarter results included total revenues of \$176.6m, an increase of 13%, versus \$156.9m in the fourth quarter of 2011. For the full year, 2012 total revenues were \$686.6m, up 13% versus \$605.2m in 2011.

Bombardier's profit falls

Bombardier Aerospace's revenues amounted to \$2.6bn for the three-month period ended December 31, 2012, compared to \$2.0bn for the corresponding period last fiscal year. For the year, revenues totalled \$8.6bn, the same level as last fiscal year. EBIT before special items totalled \$382m, or 4.4% of revenues, for the year ended December 31, 2012, compared to \$502m, or 5.8%, last fiscal year.

For the fourth quarter ended December 31, 2012, EBIT totalled \$89m, or 3.4% of revenues, compared to \$127m, or 6.3%, for the corresponding last fiscal year. For the year, EBIT was \$405m, or 4.7% of revenues, compared to \$502m, or 5.8%, last fiscal year. Free cash flow totalled \$277m for the fourth quarter ended December 31, 2012, compared to \$110m for the corresponding period last fiscal year. For the year ended

December 31, 2012, free cash flow usage totalled \$867m compared to a free cash flow usage of \$453m for the last fiscal year. A total of 233 aircraft were delivered during the year ended December 31, 2012, compared to 245 for the last fiscal year.

BAE Systems report 2012 preliminary results

For the full year 2012 BAE Systems sales reduced by 7%, underlying EBITA reduced by 6% to £1,895m. Deferred recognition of sales and profit related to the formalisation of price escalation on the Salam Typhoon programme. Underlying earnings per share down by 2% (excluding the benefit in 2011 of the UK tax settlement). Order backlog increased by 8% to £42.4bn. Non-U.S. and UK order intake increased to £11.2bn from £4.8bn in 2011. Total dividend increased by 4% to 19.5p. Operating business cash flow increased to £2.7bn. BAE Systems reported

net cash balance of £387m.

MTU Maintenance posts record revenues for 2012

2012 was the most successful financial year in the history of MTU Aero Engines Holding AG, as the company announced during the presentation of its provisional financial statements on February 19, 2013. MTU's revenues reached the record level of €3,378.6m (2011: €2,932.1m), thus exceeding the company's forecast of €3.3bn.

The group also clearly met its target of around €370m in operating profit, posting an increase of 14% to €374.3m (2011: €329.6m). Return on sales amounted to 11.1%, compared with 11.2% in 2011. MTU's earnings after tax improved by 18% from €197.7m to a new peak of €233.4m, better than the company's forecast of around €225m.

Other News

Swiss-AS, in cooperation with Lufthansa Systems, released that the airlines in the AviancaTaca Holding have selected AMOS as their single maintenance software platform to help position them as the leading force in the Latin American airline market. As a result, Avianca, TACA, Tampa Cargo, and Aerogal will be implementing a unified maintenance software solution through AMOS. The airlines in the AviancaTaca Holding have some very advanced requirements for this software as they intend to introduce it as a multi Air Operator Certificate (multi AOC) organizational single maintenance platform that will provide services to the different operators and thereby substitute the separately acting maintenance systems currently in place. The model is being

designed to standardize company policies and procedures affecting the maintenance organization according to industry standards, regulatory requirements, and best practices (organization, processes, etc.)

Liebherr-Aerospace Toulouse SAS in France, is expanding its facilities by building a two-storey logistics center. Construction started in mid-November 2012, with the new logistics center being scheduled to commence operations at the end of 2013. On a surface of 6,300m², the building will house all logistic-related activities – goods receiving, incoming quality inspection, warehousing, finished goods warehousing and shipping – as well as office areas for administration, purchasing, supplier quality assurance and other support

functions for logistics. The two buildings currently accommodating logistics will then be used to house the assembly shop, the production and the repair shop for heat exchangers. Liebherr-Aerospace will thus be able to optimize the industrial processes at its Toulouse site. All in all, the investment will allow the company to further enhance its performance regarding quality and on-time deliveries and to support its air frame and operator customers even better.

Airbus and Thai Airways International (THAI) have signed an agreement for Maintenance Training Collaboration to develop a long term strategic partnership. As part of this, THAI would become Airbus' local maintenance training centre in the region and will initially provide maintenance type-training capabilities for A320 and A330. This partnership, based in Bangkok, is aimed at developing the training capabilities locally, based on respective strengths and assets of THAI and Airbus.

PPG Industries' aerospace business has qualified nine coatings systems to SAE International's Aerospace Material Specification 3095A for airline exterior paint. According to Scott Cavin, PPG Aerospace global coatings marketing manager for airlines and aftermarket, having systems on the AMS 3095A Qualified Products Listing simplifies paint selection for airlines and third-party maintenance operators. "Coatings in a qualified system have undergone



Liebherr-Aerospace logistic center in Toulouse

Image - Liebherr-Aerospace

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independent testing that shows they work together to provide optimum performance across aircraft platforms," Cavin said. "Airlines can use PPG's qualified systems across their fleets to achieve the application and performance benefits the testing has proven." Cavin added that PPG chromate-free systems offer exceptional corrosion resistance; PPG basecoat/clearcoat systems demonstrate improved color and gloss retention with reduced weight and application time; and DESOTHANE(R) HS/CA 8800 and 8000 series topcoat systems continue to offer excellent gloss and durability with flexible cure times to meet production requirements.

Airbus is confident that the lithium ion (Li-ion) main battery architecture it has been developing with Saft and qualifying for the A350 XWB aircraft is robust and safe. The A350 XWB flight test program will continue as planned with the qualified Li-ion main batteries. However, to date, the root causes of the two recent industry Li-ion main batteries incidents remain unexplained. In this context, and with a view to ensuring the highest level of programme certainty, Airbus has decided to activate its "Plan B" and therefore to revert back to the proven and mastered nickel cadmium main batteries for its A350 XWB programme at Entry into Service (EIS). Airbus

considers this to be the most appropriate way forward in the interest of programme execution and A350 XWB reliability. In parallel, Airbus has also launched additional maturity studies on Li-ion main batteries behavior in aerospace operations and will naturally take on board the findings of the ongoing official investigation. As a result of making this decision now, Airbus does not expect it to impact the A350 XWB Entry Into Service schedule.

The [International Civil Aviation Organization](#) (ICAO) Committee on Aviation Environmental Protection (CAEP) has adopted a new noise stringency level for commercial airplanes. The milestone achieved at the CAEP meeting last week lowers the current standard by seven decibels. Having now been agreed by the ICAO CAEP, the new stringent noise standard will be presented for final review and approval by the ICAO Council later in 2013.

This new standard will come into force on the December 31, 2017. At Airbus, innovation and technology are key to provide aircraft that generate fewer emissions and less noise while carrying a maximum payload over the mission range. All Airbus development aircraft (NEO and A350 XWB) are designed to

be compliant with the new noise standard. In addition, Airbus continues developing new solutions to further reduce the operational noise. Several functionalities are available such as the Automatic Noise Abatement Departure Procedure (NADP) that optimises the thrust and flight path to reduce noise over populated areas. In the UK, which has the strictest noise regulations in the world, the A380 was given an award for its quiet operations by the UK Noise Abatement Society in 2012.

[Honeywell's SmartPath](#) has been selected by Airservices Australia as the country's first Ground-Based Augmentation System (GBAS) to improve operational efficiency and decrease air traffic noise at Sydney Airport. Designed to overcome the limitations of traditional Instrument Landing Systems (ILS), a ground-based instrument approach system that relies on radio signals and lighting, GBAS augments Global Navigation Satellite Systems (GNSS) to make them accurate and safe enough to use during aircraft approaches and landings at airports experiencing high traffic volumes. Honeywell's SmartPath is the only certified GBAS, with certifications from the Federal Aviation Administration and Germany's BAF, and replaces older ILS technology.

Information Technology News

[Pentagon 2000 Software](#), a leading provider of MRO and ERP software solutions for the aerospace and defense industry, announced that HELI-Nevada, a Boulder City, NV based FAA Part 145 Repair Station, has implemented the Pentagon 2000SQL system to run their operations. Business functions including complex Component Repair and Overhaul, Teardown, Rent/Lease, Spare Parts Procurement and Sales, and Accounting and Financials are all centrally managed using Pentagon 2000SQL.

[Ramco Systems](#), the global Aviation Software provider on cloud, mobile and tablets announced a new order win from Hevilift Group, one of the leading aviation charter service provider of fixed and rotary wing aircraft in the Asia-Pacific Region. Under the agreement, Ramco will provide its web-based Series 5 M&E and MRO solution, including Maintenance and Engineering (M&E), Supply Chain Management (SCM), Maintenance, Repair and Overhaul (MRO), Reliability, Aviation Finance, and Work Force Administration, with integrated Multi-Country Payroll across numerous countries and legal entities of the Group.

[Lufthansa Technical Training](#) has been cleared by the National Aviation Authority

of Germany (LBA) to offer online exams for officially approved courses at the LTT training sites in Hamburg and Frankfurt. Holger Beck, Chief Commercial Officer at LTT said: "We're very happy about the successful introduction of electronically supported examination procedures. The new process is highly efficient, reduces the expense involved in setting up and post-processing the exam, largely eliminates human error and is at the same time extremely user-friendly. It's a very good example of how modern media can be deployed to reduce costs, boost quality and promote acceptance." This project was characterized by a high degree of complexity, as the requirements on the execution of the exam and, in particular, its validation to the LBA, are stringent.

In this connection, issues like "systems failure during an exam" or "validation in the case of possible incorrect entries" had to be considered in comprehensive detail. Having examined this concept and its technical implementation, the LBA had granted Lufthansa Technical Training clearance to conduct this form of exam. The feedback from the first candidates was very positive. They assessed this form of exam as modern and professional. Singled out for particular praise were the improved presentation and

legibility of the exam questions and the technical ease of use.

[ADSOFTWARE](#), one of the leading international aviation software firms, released that Air Cote d'Ivoire, the national carrier of Ivory Coast has signed with ADSOFTWARE to implement AIRPACK Fleet Management System and Logistics Solutions. AIRPACK is comprised of AirTime (fleet management – CAMO), AirStock (inventory control – logistics), AirDoc (documentation management), AirUser (security management). In February 2013 ADSOFTWARE welcomed Air Cote d'Ivoire as the latest customer to join the AIRPACK community.

The young airline becomes the 13th African based operator to implement the system. ADSOFTWARE is now the leader in the African market with clients in Algeria, Morocco, Ivory Coast, Burkina Faso, Mali, Botswana, Mauritania and Sudan.

Considered by the French government as an Innovative Company, ADSOFTWARE has created a great business model by investing in client support and relying on a network of recognized ground-breaking experts with vast experience on similar aviation projects around the world.



“You need to be flexible and responsive,” says Lufthansa Technik.

Photo - Lufthansa Technik

says. As a result, Lufthansa Technik’s market share and business have been stable also over the past crisis years, says Reinert, while the company invests heavily in developing tailor-made products for its customers. In recent years Lufthansa Technik has significantly strengthened its research and development activities, amongst others in the fields of repair methods, fuel saving technologies and environmental protection technologies.

For example, the company has joined forces with Airbus and the Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM) to investigate the durability of shark-skin surfaces in real-life flying operations in order to reduce turbulence and thereby increase fuel efficiency. To obtain reliable measurement results, eight patches each 10 by 10 centimeters in size were attached to the fuselage and wings of two Lufthansa Airbus A340’s. Tiny riblet structures, similar to that found on shark skin (and which help the animals to swim faster) have been painted with the help of a new lacquer system on the patches, with positive results already noted.

Other collaborations have included alternative taxiing technologies, helping to move aircraft around terminals without using expensive jet fuel. Such developments are just a part of Lufthansa Technik’s engineering and R&D programme, which includes its own ‘engine wash’ to further improve fuel efficiency. “We can work with almost any type of aircraft or engine,” says Reinert, “not only for maintenance, but as an approved design and production organization, certified by more than 40 airworthiness authorities we can develop our own technologies and processes to reduce costs for customers.”

As one of the world’s largest MRO services providers, Lufthansa Technik has a host of advantages over its smaller rivals, as director of international media relations Wolfgang Reinert explains: “We have one of the broadest portfolios in the MRO industry, which means that there’s almost nothing that we’ve not seen before. We maintain the highest standards in all our operations, whether in Germany or anywhere else, and we bring the experience of working with Lufthansa to our service for other customers.”

With operations everywhere from Australia to Argentina, from Germany to Dubai, Lufthansa Technik has an enviable global presence and the ability to keep close links with its customers, wherever in the world they are. Are they looking for spare parts in the Middle East? There is a Component Shop right there waiting for their call. Do they have MRO queries in Budapest?

Lufthansa Technik has a strong presence in Hungary and other Central and Eastern states, based on many years’ experience working with local partners. Its breadth of operations means that Lufthansa Technik can concentrate work such as sophisticated engine overhaul in Western Europe and manhour-intensive heavy aircraft checks performed in the Far East or Eastern Europe, taking advantage of lower labour costs. The company has sites in Sofia, Budapest, Malta, besides a range of locations in Asia and North America. As a worldwide business, the

company takes care to adopt lean working methods and processes, keeping its costs competitive and reducing turnaround times. Stressing that the company pays attention to fine details, Reinert points out that Lufthansa Technik has embraced customization, providing individual services to clients rather than adopting a ‘one size fits all’ approach. “Pre-packaged services don’t work anymore,” says Reinert. “You need to be more flexible and responsive.” This trend has been accelerated by the diversity of carriers now operating, from low-cost to classic, from start-up companies to VIP guest services. “You have to be ready to cater to all needs,” he



Lufthansa Technik has adopted lean working methods and processes

Photo - Lufthansa Technik



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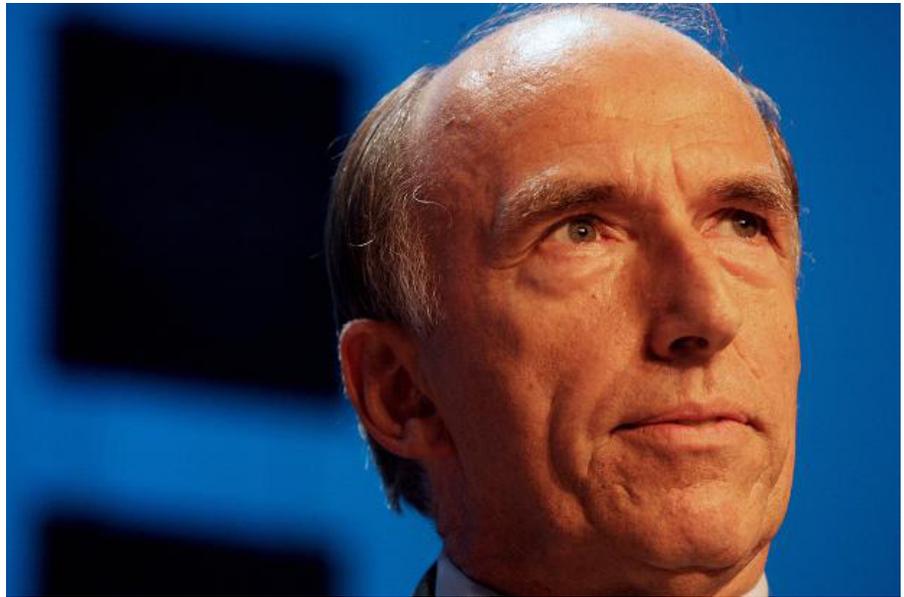
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IBA Group Ltd IBA House 7 The Crescent
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SkyWorks appointed **Mathis Shinnick** to serve as Managing Director of SkyWorks and eventual head for Asia Pacific Region. Shinnick will be based in Hong Kong where he will focus on further development of the SkyWorks Capital Asia platform. Shinnick has spent his career in aviation and aerospace leadership roles managing leasing, merchant banking and investment banking entities.

His experience includes corporate finance advisory buy- and sell-side assignments, debt and equity placements, structured asset finance, transportation asset equity funds and lease finance. Prior to joining SkyWorks, Shinnick was the CEO of Hong Kong Aviation Capital (HKAC) and President of HNA Group International Headquarter (Hong Kong), a transportation investment and leasing entity based in Hong Kong.

Willis Lease Finance Corporation, a leading lessor of commercial jet engines, reported that **Tom Nord**, Senior Vice President and General Counsel, will be retiring on March 31, 2013. **Dean Poulakidas**, currently Senior Counsel for Willis Lease, will succeed Nord as General Counsel.



Ian Davis will succeed Sir Simon Robertson as Chairman of Rolls-Royce in May

Photo - Rolls-Royce

Atlanta-based Precision Aviation Group (PAG), a provider of products and value-added services to the Worldwide Aerospace and Defense industries, named **Adrienne Robinson** President of subsidiary Gardner Aviation Services (GAS). Robinson is also currently the VP Business Development at PAG, a role she has been in since October, 2012.

effective immediately. Mahoney joined Rockwell Collins in 1987. A native of the United Kingdom, he previously served as Vice President of Sales, Marketing and Support in Commercial Systems, and has held numerous leadership and business development positions in the U.S., as well as in Europe and Asia.

Rolls-Royce reported that **Ian Davis** will succeed **Sir Simon Robertson** as Chairman. He joined the Board as a non-executive Director on March 1, 2013 and will take over from Sir Simon at the conclusion of the Annual General Meeting on May 2, 2013.

She will continue to serve in this role in addition to her new position with GAS. Prior to joining PAG, Robinson was the Director of Sales at Vector Aerospace and the former President of Van Isle Avionics. She has also served on the Board of Directors for AEA and BCIT Aviation Advisory Board.

Rockwell Collins released that **Greg Churchill**, Executive Vice President of International and Service Solutions, will retire at the end of March after more than 30 years of service with the company. **Colin Mahoney** will succeed Churchill as Senior Vice President of International and Service Solutions,



Colin Mahoney will be replacing Greg Churchill as Senior Vice President of International and Service Solutions at Rockwell Collins



Greg Churchill will retire after 30 years at Rockwell Collins