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CLOUDY SKIES AND CLEAR CONTRACTS

At the Paris Airshow

Profile of VAS Aero Services

BUNFIGHT AT LE BOURGET

Welcome to the June 2013 edition of MRO!

Judging by the hectic dealmaking and new announcements that crowded the aisles at the 2013 Paris Air Show at Le Bourget, this is a vintage year for the industry. Billions of dollars of business agreements were reached encompassing firms from every corner of the world, buying selling and leasing just about every conceivable make and model of aircraft.

There were no clear winners to the vent, because the goodies were spread around so liberally: Airbus and Boeing each registered more than \$60 billion worth of new orders, giving them plenty to smile about for the rest of the summer; for the engine makers, things were looking good too: Pratt & Whitney announced more than 1,000 new orders for their high power, low fuel

technology, celebrating their 50th year just as the Air Show celebrates its 50th outing; MTU Aero Engines also reasons to be cheerful, with their \$1.3 billion worth of new orders.

Of the MRO specialists in the French capital for the week, AFI KLM E&M had a confident story to tell, particularly in their new linkups with African carriers such as Air Zimbabwe and EgyptAir. Read all the details in our special Paris feature, bringing you up to date with the latest news and announcements from the biggest air show on earth.

Elsewhere in this edition, we feature IBA's thoughtful take on the ageing aircraft debate, one which concerns the whole industry: if we are to expect much longer life spans for aircraft, how will this effect MRO providers? If shorter, the

effects will be very different. As an organisation that monitors this situation closely, it's great to have IBA's thoughts on the likely direction that the industry will take.

Enjoy the summer and thanks for reading!

David Nicholson

Editor

MRO



Paris Airshow

Photo - Airbus



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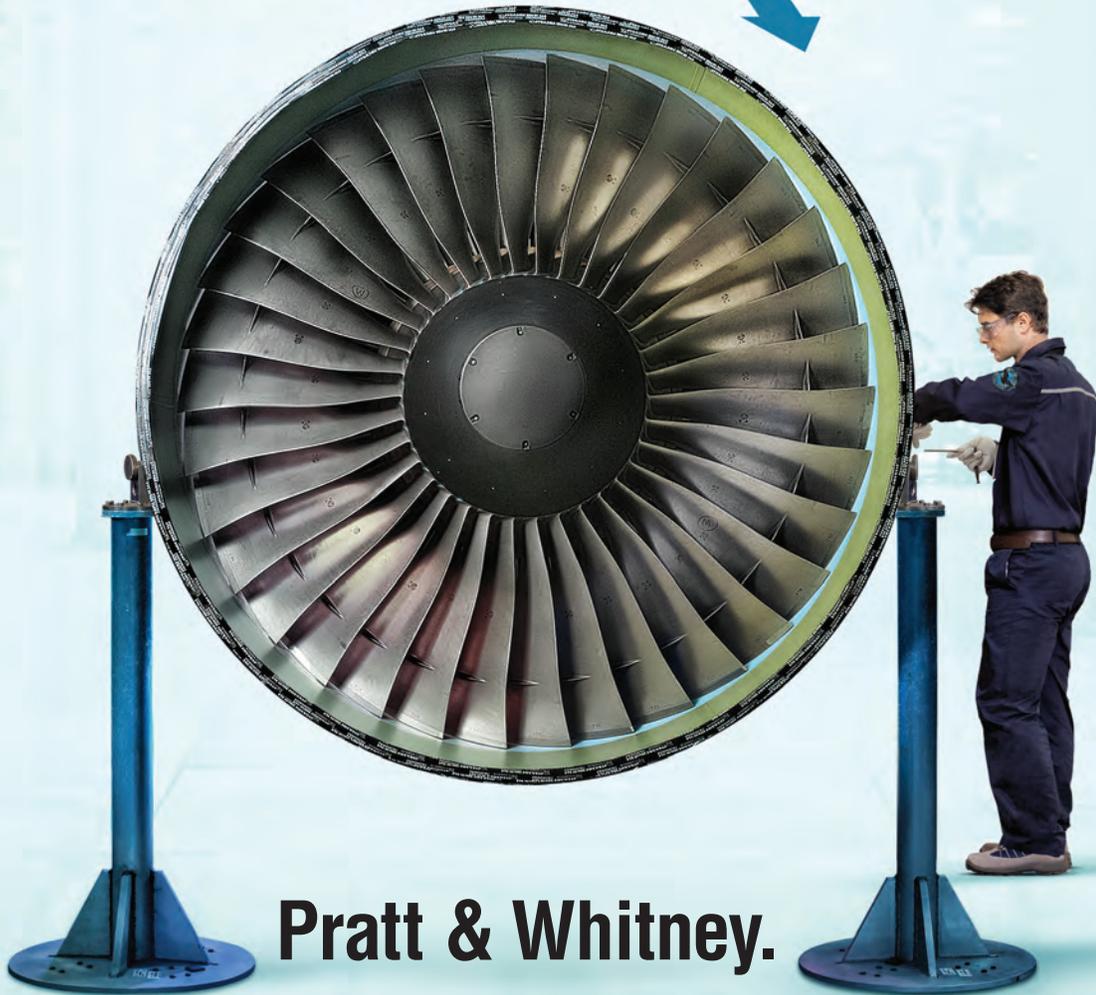
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Contents

Cover Story: Paris Airshow	4-7
MRO and Production News	8-13
IBA Analysis	15-17
Company Profile: VAS Aero Services	19

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It's show time again

By Keith Mwanalushi

The rain poured down heavy on the world's biggest air show but the downpour did little to dampen the mood as various OEMs, systems integrators, engine suppliers and MROs got soaked in multi-billion dollar deals. AviTrader was there to capture the moment.

The usual excitement and enthusiasm at the 50th edition of the Paris Air Show was slightly marred by the summer rains that showered over Paris but show goers soon adapted and quickly realised that the show must go on.

The show was full of the usual hype including static displays and aircraft demonstration flights that included a new British Airways' A380 and billions of dollars' worth of aircraft orders. The show ran with the theme 'quality and innovation,' and there was certainly an abundance in both departments.

Order stand off

Boeing enjoyed a productive presence and used the platform to launch its newest model, the 787-10, with 102 orders and commitments from five customers. The US manufacturer announced orders and commitments for 442 aircraft, valued at more than US\$66 billion. In addition, Boeing posted orders for 20 737NGs and 20 737 MAX aircraft from unidentified customer(s) on the last day of trade.



The show must go on.

Photo - Airbus

Airbus performed slightly better, winning business worth US\$68.7 billion for a total of 466 aircraft during the show period. According to a statement from Airbus, the A320 Family spearheaded by the A320neo, was the trailblazer in the single-aisle market with 371 orders and commitments from six customers announced at the show. Of these, 88 were for the A320ceo.

A stand-out commitment during the show for the A320 Family was the announcement from easyJet for 100 A320neos plus 35 A320ceos – the winning result of a very intense competition. Another major

endorsement for the A320 Family came from Lufthansa with the firming-up of 100 more aircraft. Additional A320 Family orders and commitments came from Hong Kong Aviation Capital for 60, ILFC for 50, Spirit for 20, and Tunisia's Syphax Airlines for three – the first ever A320neo commitment from Africa.

The new A350 XWB, which flew for the first time on June 14, gained 69 more orders and commitments worth US\$21.4 billion from four customers on different continents. These included Air France-KLM that placed a firm order for 25 A350-900s. Meanwhile, Singapore Airlines – already a large customer for the type – returned to order 30 more A350-900s.

Regional aircraft manufacturer ATR propelled itself to achieving its best Paris Air Show performance in the company's history. Orders reached 173 planes, including 83 firm orders. The total value for these contracts exceeds US\$4.1 billion. Interestingly when speaking to reporters at the show, ATR CEO Filippo Bagnato hinted that ATR is aiming at bringing an all-new 90-seat turboprop aircraft to market by 2018 or 2019. Without divulging much detail, he said it would be a new aircraft with new engines and new systems.

Engine contracts

Pratt & Whitney (P&W) announced new orders for more than 1,000 engines, including options. '2013 has been a tremendous year for the PurePower engine and we're very pleased with the amount of confidence customers are



A colourful display from LATAM and British Airways.

Photo - Airbus

showing in it,' said Pratt & Whitney President David Hess. 'The engine continues to achieve major milestones including last month's first test flight of the PW1100G-JM engine that will power the Airbus A320neo.'

Meanwhile at P&W Canada, marketing advisor Michael Johnson pointed out that the 50th Paris Air show coincidentally ran alongside the 50th anniversary of the P&W's first PT6 engine. 'It's fitting that innovation is among the themes at the 50th show because we're shining a similar spotlight on the PT6,' Johnson said in an exclusive interview with AviTrader.

'This is an engine that is up to four times more powerful than it was 50 years ago. It's also more efficient, 40 per cent better power-to-weight ratio and up to 20 per cent better specific fuel consumption. Having accumulated over 380 million flying hours between 90 different engine models – producing over 51,000 engines for some 130 different applications – the PT6 is an engine whose success is founded as much on innovation as it is experience,' Johnson explained.

From a maintenance perspective, Johnson said P&W showcased the latest in its aftermarket systems. 'Our new Flight Data Storage and Transmission (FAST) system, for example, provides operators with a unique, integrated solution for acquiring, downloading and analysing key aircraft and engine performance data.'

He added that this helped the operator move towards a more planned and predictive maintenance environment, 'adding object operational, trending and data to the decision making process. All this is possible with no operator intervention required; no laptops or data-handling required. All is automatic.'

For MTU Aero Engines, the PurePower PW1000G family of engines for the Airbus A320neo and the newly announced Embraer E-Jets E2 were the bestselling products at this year's show. Interestingly, before the



A BA A380 performing a flyby prior to entry into service in July.

Photo - Airbus



It was all smiles at AFI KLM as component contracts poured in.

Photo - AFI KLM E&M
- Patrick Delapierre

Pure Power PW1000G engine series with Geared Turbofan (GTF) technology was launched, the industry had a great deal of concern about geared turbofans which they felt would make engines more complicated, however the resounding success at the show has so far proved otherwise.

MTU contributes key components to the geared turbofan, for instance the high-speed low-pressure turbine, as well as overseeing the responsibility for the final assembly of 30 per cent of all PW1100G-JM engines.

MTU recorded orders worth more than US\$1.3 billion at the event in Le Bourget. Over three-quarters of the more than 1,300 engines ordered are of the PW1000G family. 'This is an impressive proof that the eco-efficiency of flying is increasingly becoming a major priority and that the geared turbofan engine has firmly established itself as the new propulsion concept in the marketplace,' commented MTU CEO Egon Behle.

FADEC International, a joint venture between a subsidiary of BAE Systems Controls and Sagem (Safran Group) also announced that it is developing, manufacturing and servicing full authority digital engine controls for commercial jet engine applications.

The FADEC solution is a redundant, multi-channel digital computer which governs engine fuel flow, controls variable engine geometries, interfaces with the engine thrust reverser and performs advanced functions such as electronic engine over speed protection and extensive engine monitoring.

Component support

In terms of component maintenance and support, AFI KLM E&M swept up a considerable number of contracts beginning with the renewal of a component support contract covering three 747s and four A330s operated by Corsair.

Indian low-cost airline IndiGo modified an agreement with AFI KLM E&M in the framework of an A320 component support contract that has linked the two groups since 2007. The agreement was extended for several years and it still covers access to the spares pool, repair services and dedicated logistics support. Staying with Indian carriers, Jet Airways and AFI KLM E&M signed an exclusive long-term contract covering component support. The French/Dutch MRO provider will supply closed-loop repair solutions for the Indian carrier's fleet of 59 737NGs.

AFI KLM E&M also used the Paris platform to strengthen its ties with African customers. Back in 2004, the MRO company signed an agreement to cover component support for some of EgyptAir's Airbus fleet. A renewed contract signed during the show now includes the carrier's A320s, A330s and Boeing 777 fleets.

Abou Taleb, EgyptAir Maintenance and Engineering Chairman said during the show: 'We are happy to be prolonging and broadening our partnership with AFI KLM E&M, whose high level know-how and great adaptability to our operational needs we

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WHEN RESULTS MATTER



SriLankan Airlines signed for six A330-300s and four A350-900s.

Photo - Airbus

production facilities. On the other hand, the participation in this programme will contribute to Liebherr-Aerospace producing at full capacity in the future and related aftermarket activities,' said Thoyer-Rozat.

Homing in on the theme of quality and innovation, Thoyer-Rozat said among other research and development innovations, the company exhibited a model of an electric air management system, which is being currently developed within the framework of a research project called 'Clean Sky'.

He concluded: 'From our product area flight control and actuation systems, we are also showcasing power electronics and an electro-mechanical actuator, on which our development activities for the next generation aircraft will be based.'



Mr Thoyer-Rozat - investing considerably in R & D.

Photo: Liebherr - Aerospace

have appreciated for a number of years.'

After resuming flight operations and acquiring two A320s, Air Zimbabwe has signed a contract with AFI KLM E&M covering component support for these two aircraft. The contract includes pool access and per flight hour repairs, together with the provision of a main base kit, initially positioned at Johannesburg, and subsequently at Harare Airport in Zimbabwe. In parallel with this contract, Air Zimbabwe has decided to entrust the maintenance and repair of the CFM56-5A and -5B engines powering the two A320s.

With regards the 787, Royal Brunei Airlines and AFI KLM E&M inked a long-term engineering partnership agreement to support the entry into service of Royal Brunei's fleet of five 787s.

Under the partnership agreement, AFI KLM

E&M will provide Royal Brunei with a wide range of engineering services including fleet technical support, component spares and repair services.

Aircraft systems

Among the big names that attended the Paris Air Show was Liebherr-Aerospace. With the new A350 being a major talking point amongst many show goers, Charles Thoyer-Rozat, Executive VP for Customer Services Aerospace at Liebherr explained to AviTrader what opportunities the A350 brings.

'We are developing and manufacturing, among other things, the nose landing gear, the slat actuation system and components for the flap actuation system for the A350. Having been selected for the A350 means that we need to invest considerably in R&D (research and development) and in our

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The PERT thrust reverser

Photo: Safran

Aircelle to supply PERT thrust reverser for Cessna's Longitude business jet

Cessna's new Citation Longitude business jet will utilize the patented PERT (Planar Exit Rear Target) thrust reverser from Aircelle (part of the Safran Group), which will equip the aircraft's two Silvercrest jet engines built by Snecma, which also is part of Safran. The PERT agreement includes supply of the thrust reversers and product support to Cessna. The patented PERT thrust reverser is a proven design with two blocker doors that serve as the engine's exhaust exit during flight, and are deployed on landing for the reverse thrust function. This concept provides and combines thrust reverser effectiveness with an optimized weight. For its application on Cessna's Citation Longitude, Aircelle will increase the use of composite materials and apply additional advanced acoustic treatment.

Turbomeca and SFK Aerospace sign contract

Turbomeca (Safran) and SKF Aerospace have signed a 10-year contract worth approximately €90 million. This contract concerns the supply of bearings, in particular for Turbomeca's newest engine, the Arrano.

StandardAero becomes independent TRUEngine authorized MRO provider for CFM56 and CF34 engines

In its continued partnership with GE, StandardAero signed two license agreements to become an independent TRUEngine authorized maintenance, repair and overhaul (MRO) provider for CF34 and CFM56 engines, demonstrating a further commitment to OEM quality engine maintenance. By signing this agreement, StandardAero will be the

first independent TRUEngine authorized MRO provider for CF34 engines and the second for CFM56 engines.

As an authorized TRUEngine MRO provider, CFM56 or CF34 engines overhauled by StandardAero are eligible for TRUEngine status, allowing the engine serial numbers to be included in the TRUEngine database made available to industry appraisers and potential buyers.

CIT Aerospace receives CF6 TRUEngine designation

CIT Aerospace has been awarded TRUEngine designation for its CF6 engine fleet, which powers its 13 Airbus CF6-80E-powered A330-200 aircraft. To qualify for TRUEngine status, the engine configuration, overhaul practices, spare parts and repairs used to service an engine must be consistent with GE requirements. In addition, all maintenance must comply with GE-issued engine manuals and other maintenance recommendations. The qualification data is obtained through customer submittal of maintenance records. The TRUEngine designation is available to the 4,000 CF6 engines in service if they meet the TRUENGINE criteria.

CF34 TRUEngine program launches with Azul, Flybe, GoJet, Jetscape, LOT and GECAS

GE Aviation launched the TRUEngine program on its CF34 engines with Azul, Flybe, GoJet, Jetscape, LOT and GE Capital Aviation Services (GECAS). The CF34 TRUEngine launch expands the TRUEngine designation from CFM56, CF6 and GEnx engines. To qualify for TRUEngine status, the engine configuration, overhaul practices, spare parts and repairs used to service an engine must comply with GE-issued engine manuals and other maintenance recommendations.

The qualification is obtained through the customer's declaration of compliance and GE's verification of customer submitted maintenance records since back to birth. The TRUEngine designation is available to all CF34 engines in service if they meet the TRUENGINE qualification criteria.

GECAS, CFM finalize PML maintenance product for lessors

GE Capital Aviation Services (GECAS) has reached agreement to participate

in CFM International's unique Portable Maintenance for Lessors (PML) program. The product is the first of its kind in the industry and enables lessors and operators to optimize engine maintenance costs throughout the life of an aircraft.

Under the terms of the agreement, CFM will provide engine MRO services for leased aircraft at a fixed rate per flight hour with features to accommodate a change in either operator or owner. The PML program includes performance and non-performance restoration shop visits and provides additional support elements including comprehensive remote diagnostics and the TRUEngine TM program benefits.

Qatar Airways signs maintenance cost per hour agreement for CF6 engines

Qatar Airways has signed a 10-year maintenance cost per hour agreement for the continued MRO of its Airbus A330 aircraft powered by CF6-80E engines.

Hainan Airlines and CFM sign Long Term Service agreement

HNA Aviation Holding Company signed a long-term rate per flight hour (RPFH) agreement with CFM International to support its fleet of CFM56-5B engines. Under the 15-year service agreement, CFM will provide MRO service and support for 84 CFM56-5B engines powering 42 Airbus A320s, along with eight spare engines. CFM will guarantee the maintenance cost on a dollar per engine flight hour basis over the life of the agreement.

HOP!-REGIONAL selects Spairliners for E-Jet after-sales component services

Spairliners GmbH has announced its new contract with the regional airline HOP! which includes the long-term support of 26 E-170 and E-190 aircraft. Spairliners, a leader for Airbus A380 Integrated Component Care, also provides an equal spectrum to the E-Jet family of the



Hop! rotables to be managed by Spairliners

Photo: AirTeamImages

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WHAT IT TAKES TO FLY.



Signing ceremony in Paris

Photo: AFI / KLM E&M

Brazilian manufacturer Embraer. With the latest contract the company now has 10 regional airlines under contract.

AFI KLM E&M signs multiple new agreements at this year's Paris Air Show

EgyptAir Group, represented by EgyptAir Maintenance and Engineering is taking advantage of the renewal of its existing

component support contract to extend its trust in AFI KLM E&M services. Initially signed in 2004 to cover component support for EgyptAir's Airbus, the renewed contract now includes the carrier's A320s, A330s and Boeing 777 fleets.

After resuming flight operations and acquiring two Airbus A320s, Air Zimbabwe has signed a contract with AFI KLM E&M covering component support for these two aircraft. The contract includes pool access and per flight hour repairs, together with the provision of a Main Base Kit, initially positioned at Johannesburg, and subsequently at Harare Airport. Along with this contract, Air Zimbabwe has decided to entrust the maintenance and repair of the CFM56-5A and -5B engines powering the two A320s.

Royal Brunei Airlines and AFI KLM E&M have

inked a long-term engineering partnership agreement to support the entry into service of RB's fleet of five Boeing 787 Dreamliners. Under the partnership agreement, AFI KLM E&M will provide RB with a wide range of engineering services including fleet technical support, component spares and repair services. AFI KLM E&M has demonstrated its ability to adapt in delivering a tailor made maintenance and support solution to meet the unique requirements of RB. Under the agreement, 787 components will be located by AFI KLM E&M at multiple locations to support RB operations and ensure continuity of service.

AFI KLM E&M and Indian low-cost airline IndiGo are to step up their cooperation in the framework of the A320 component support contract linking the two groups since 2007. The scope of the agreement has been modified and has now been extended for several years. It still covers access to the spares pool, repair services and dedicated logistics support. The agreement, which initially concerned a total of 52 A320s, now covers over 60 aircraft and this is set to be further extended with the new A320 deliveries to IndiGo scheduled for late 2013 and 2014. The two partners have also agreed that



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the Indian carrier's future A320 NEO passenger aircraft, whose first deliveries are scheduled for 2016, could be included within the scope of the component support agreement at a later stage, at IndiGo's option.

HOP! Airlinair has signed a long-term component support contract with AFI KLM E&M covering a total 23 aircraft: 17 ATR 42s and 6 ATR 72s. The per flight hour contract includes repairs and access to a spares pool. The contract renews a previous agreement between AFI KLM E&M and Airlinair signed in 2009. In early 2013, Airlinair formed an alliance with Brit Air and Regional, to create HOP!, the new European regional carrier.

[Sabena technics to perform A380 wing rib retrofits for Airbus](#)

Sabena technics was selected by Airbus to perform wing rib retrofits on thirteen A380s. The first retrofits were performed earlier this year in Airbus's facilities in Toulouse, France and the work will be continued in the MRO's Bordeaux facility in France until the last quarter of 2014. The working party of the first A380 to be retrofitted in Bordeaux started on June 20. Sabena technics acquired the A380 base maintenance rating for its Bordeaux facility last year, which makes it possible for the company to perform this work, involving the replacement of structural parts in the wings of the aircraft.

[Sabena technics extends Maintenance, Repair and Overhaul partnership with Honeywell](#)

Sabena technics has extended its 20-year global repair and overhaul affiliation with Honeywell by becoming a Honeywell MRO network partner for the company's air transport customers. As an authorized Honeywell MRO network partner, Sabena technics will benefit from Honeywell's support and training and can provide customers with Honeywell-approved MRO services around the world.

The authorized repair contract builds on Sabena technics' existing accreditation with Honeywell as a parts and repair supplier, following recent contract renewal by Honeywell. Under this agreement, customers requiring servicing of Honeywell products have access to original Honeywell spares through Sabena technics, ensuring the highest quality of servicing.

[OEMs select Crane Aerospace Group](#)

Crane Aerospace & Electronics has been selected to provide the lube and scavenge pump for the Pratt & Whitney PurePower PW1100G-JM and PW1400G engines, which will power the Airbus A320neo and Irkut MC-21, respectively. Crane Aerospace & Electronics has also been selected

by Embraer to supply both the brake control and landing gear control systems for Embraer's future, second-generation of E-Jets. The new aircraft is scheduled to enter service in 2018.

[SAS signs LOI for long-term LEAP services agreement](#)

SAS has signed a letter of intent (LOI) with CFM International for the long-term support of its advanced LEAP-1A engines. In 2011, the airline selected the engine to power 30 firm Airbus A320neo aircraft and hold options on 11 additional airplanes. Under the terms of the 12-year rate per flight hour agreement (RPFH) – valued at US\$180 million – CFM will guarantee maintenance costs on a dollar per engine flight hour basis.

[Air Canada, JetBlue Airways, JAL, Air India, Azul and LATAM Airlines Group select GE's OnPoint solution agreement](#)

Air Canada has committed to a 15-year OnPoint solution agreement for the MRO of its GENx-1B engines that power its Boeing 787 aircraft. Air Canada also committed to a five-year OnPoint solution agreement for a firm fixed price on time and material to repair and overhaul its CF34-8E engines that power its Embraer 175 aircraft.

JetBlue Airways signed a 10-year OnPoint solution agreement with GE Aviation for the MRO of its CF34-10E engine fleet that powers its 58 Embraer E190 aircraft.

Japan Airlines (JAL) inked an OnPoint solution agreement with GE Aviation for material solutions, worth nearly US\$500 million, for its GE90 engine fleet. Under this agreement, JAL will perform the overhaul and certain repairs at its engine maintenance center located in Narita, Japan, and GE will provide material and repair management services. JAL operates 24 GE90-powered Boeing 777 aircraft.

India's national carrier, Air India, also signed an OnPoint overhaul engine services agreement with GE Aviation for the time and material related to the MRO of its 96 CFM56-5B engines that power its Airbus A320 aircraft fleet.

Azul added 43 CF34-10E engines to its existing 15-year OnPointSM solution services agreement with GE Aviation covering the MRO of 190 CF34 engines powering its EMBRAER E190 aircraft.

LATAM Airlines Group and GE Aviation signed a memorandum of understanding for a 10-year OnPoint solution agreement for the MRO of 120 CF6-80C2 engines that power its Boeing 767 aircraft. The OnPoint solution agreement is valued at more than \$500m over the life of the contract.

[Travel Service Airlines sign five year extension contract with AJW Aviation](#)

Travel Service Airlines has chosen A J Walter Aviation (AJW) to provide power-by-the-hour support for another five years. This five year extension will now provide support for its fleet of 27 aircraft comprising B737-700 and B737-800. The contract will also continue to include free access to AJW parts, held at the airline's Central European support and logistics centre in Prague, allowing for quick and easy distribution of spares, as well as providing 'C' checks and comprehensive Boeing spares inventory. The value of the on-site stock will also gradually be increased to US\$15 million over time, to accommodate the growing fleet and save on AOG logistical costs.

[Alcoa completes U.K. aluminium lithium expansion](#)

Alcoa has completed the expansion of aluminium lithium capacity at its Kitts Green facility in Britain to serve the growing demand for the company's third generation aluminium lithium alloys. Alcoa projects its aluminium lithium revenues will quadruple over the next six years to nearly US\$200 million. The Kitts Green expansion was the second phase of the three-part expansion program by the company to satisfy customer demand for advanced aerospace products and patented alloys, which allow airframers to build more fuel efficient and lower cost airplanes compared to composite alternatives.

[UTC Aerospace Systems has been selected by Airbus for single-aisle aircraft common fuel gauging system](#)

UTC Aerospace Systems has been selected by Airbus to supply a common fuel gauging system for its single-aisle aircraft. UTC Aerospace Systems currently provides the full fuel gauging system for the Airbus A321 aircraft. This selection adds the A319, A320 and A320neo platforms. Initial production hardware deliveries will begin in the first quarter of 2014. The system was designed, and will be produced by the Sensors & Integrated Systems team in Vergennes, America.

[All Nippon Airways selects UTC Aerospace Systems for aspirator MRO-services](#)

All Nippon Airways (ANA) has selected UTC Aerospace Systems for a long-term agreement to provide MRO of aspirators on selected Boeing aircraft operated by the airline. The exclusive agreement covers aspirators on Boeing's B737, B47, B767 and B777 airplanes, and the work will be performed at the UTC Aerospace Systems MRO facility in Singapore.

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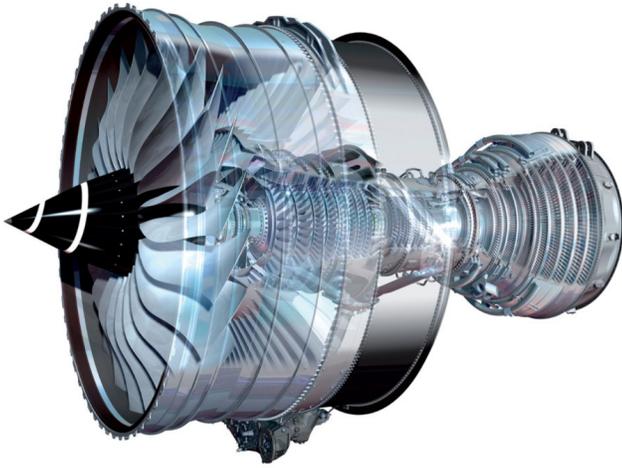
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The Trent XWB-97 engine

Photo: Rolls-Royce

All Nippon Airways extends part repair agreement with P&W

All Nippon Airways has signed an eight-year extension to its exclusive part repair agreement with Pratt & Whitney, to continue support of the airline's fleet of Boeing 777 aircraft powered by Pratt & Whitney PW4000 engines. The repair work will be performed throughout Pratt & Whitney's worldwide network of part repair facilities in support of ANA's fleet of PW4074 and PW4090 engines.

Sikorsky Aerospace Services signs agreement for Customer Service Center in United Kingdom

Sikorsky Aerospace Services announced the signing of an agreement with Vector Aerospace that appoints Vector's British facilities as authorized Customer Service Centers (CSC) to support Sikorsky S-76 helicopters. The CSCs will offer Sikorsky S-76 helicopter operators complete aftermarket support, including Sikorsky-trained local maintenance personnel for onsite comprehensive maintenance management, inspections and spare parts procurement.

GE Aviation to create new composites facility at its Hamble aerostructures manufacturing site

GE Aviation's aerostructures business has begun the development of a 9,000m² composites production facility at its site in Hamble, U.K. as part of a five-year, US\$50 million-plus investment at the site to support the company's manufacture of wing components for the Airbus A350 XWB jetliner family. This facility will enable GE Aviation in Hamble to ramp up the output of wing fixed trailing edge components for the A350-800, A350-900 and A350-1000 aircraft, reaching the capacity to deliver up to 13 shipsets per month. The A350 XWB 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.

Danish Air Transport extends component services agreement with Sabena technics for ATR fleet

In order to ensure optimal support to its ATR 42/72 airline operations, Danish Air Transport, the Denmark-based company which provides passenger charters as well as freight

services, has increased its collaboration with Sabena technics, a key player in component repair and overhaul, by signing a three-year extension to the initial component services agreement. Within the scope of this contract, Sabena technics will perform the repair and overhaul of components, as well as structural repairs for the ATR fleet of Danish Air Transport.

Saint-Gobain signs long-term contract for Bell Helicopter

Saint-Gobain Aerospace has signed a long-term contract with Bell Helicopter of Fort Worth, Texas, to supply nose radomes for the new Bell 525 Relentless helicopter program. The radomes will be manufactured with advanced Norton armor materials from Saint-Gobain that provide superior radar transparency and in-flight durability. Saint-Gobain Aerospace specializes in the design, manufacture, repair and certification of high-performance aerospace composites and radomes. The Norton Armor paint system reduces maintenance costs and extends service life, and is available for new products and for repairs.

ATK agrees to produce composite aft fan cases for Rolls-Royce Trent XWB-97

ATK announced a contract valued at more than US\$50 million with Rolls-Royce, to produce aft fan composite cases for the new Trent XWB-97 engine. The contract has the potential to grow to more than US\$200 million. This Rolls-Royce engine is the sole engine now available to power the Airbus A350-1000 aircraft variant. The life of type contract with Rolls-Royce further highlights ATK's key role as a provider of large scale composite components for commercial aircraft and engines. ATK has been producing aft fan cases for the Rolls-Royce Trent XWB-84 engines since 2009.

GA Telesis Engine Services Oy wins Transaero

Airlines 10-year heavy maintenance contract

International Russian airline, Transaero Airlines, has awarded GA Telesis Engine Services Oy (GATES) an exclusive 10-year contract valued at up to US\$500 million to provide engine repair and overhaul services for Transaero's 62 GE CF6-80C2 engines for their Boeing 767 and Boeing 747 fleets. Transaero will be GATES' largest customer and the maintenance will be performed at the GATES MRO facilities in Helsinki, Finland. The first Transaero engine was inducted in June this year. The scope of the contract includes core performance restoration and overhaul, life limited parts replacement, maintenance procedures between overhauls along with on-wing maintenance.

GE Aviation pursuing advanced manufacturing in North Carolina

GE Aviation has plans to break ground this year on an advanced composite component factory near Asheville in Western North Carolina. The new 125,000ft² facility (next to an existing GE Aviation machining plant) would produce engine components made of advanced ceramic matrix composite (CMC) materials. GE could begin hiring at the new CMC components plant as early as 2014. Within five years, the workforce at the plant would be expected to grow to more than 340 people. The new facility would be part of a larger commitment by GE Aviation to invest US\$195 million across its North Carolina operations through 2017. GE Aviation has more than 1,300 employees in North Carolina at sites in Durham, West Jefferson, Wilmington, and Asheville. Overall, the new CMC facility, combined with plant and equipment upgrades at existing sites across North Carolina, could create 240 additional GE jobs by 2017. The workforce (290 employees) at GE Aviation's current machining operation in Asheville would gradually transition to the CMC components plant. Over the next decade, the current machining work at the Asheville shop could be transitioned to other GE facilities. The new CMC factory in Asheville, which would be unique in the jet propulsion industry, is subject to final approvals of incentives from the State of North Carolina.

Sabena technics and Air Kasai sign five-year full support contract for ATR 72-200

Air Kasai, the airline based in the Democratic Republic of the Congo, has selected Sabena technics for the component support of its first ATR72-200. Within the scope of this contract, Sabena technics will provide Air Kasai with component support, pool access, implementation of a main base kit as well as continuous airworthiness management. In the coming months, Air Kasai plans on adding an additional ATR to its fleet.



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Ageing Aircraft Maintenance: The costs and challenges

By Ben Jacques



Lufthansa workhorse for decades - the aging 737 classic

Photo: AirTeamImages

Approaches to maintenance differ across the industry. There are those who are fastidious in their planning and execution, leaving nothing to chance, whilst at the other end of the spectrum there are those who understand a safe operation, what it means to them and their team but see proactivity as a luxury, or perhaps a chore.

However, in a modern world where cost management is one of the single biggest challenges for an airline, those without the most proactive cost-aware maintenance strategies can represent something quite scary with regard to the balance sheet.

Flying a new, robust, modern airliner is reasonably straightforward as the OEMs have routine maintenance down to a fine art. A fleet of modern narrowbody or widebody jets fresh from the OEM factory will be perfectly manageable for most maintenance programs and most airline management structures.

Then when the time comes to replace the fleet, the operator has a similar cost structure for the next eight to 10 years depending on their replacement policy. The finance team are happy as everything is visible and costs are virtually fixed throughout the

programme.

An identical fleet of aircraft however, with the sole difference of being 10 to 15-years-old and having accumulated the industry average number of hours and cycles, adds complexities for many airlines, not only from a maintenance perspective, but from an operational perspective as well.

“...many airlines have had to rethink their aircraft replacement policies.”

Over the last four to six years, many airlines have had to rethink their aircraft replacement policies. They have looked at air show orders with envy, wishing it was their operation ordering three figures worth of brand new aircraft, but alas their operation is persevering with a mature fleet.

Aircraft maintenance can represent somewhere between 10 to 25 per cent of an airline's direct operating costs. The reason this range is so large is as diverse as the global fleet itself. For example, it can be

variable due to the flying environment, the particular maintenance regime or where the fleet happens to be in its life cycle.

There is much discussion of aircraft economic life shortening, although this can be difficult to prove and sweeping generalisations are often made. The reality for an airline looking at particular tail numbers on a case by case basis often hinges on the expected maintenance costs to keep an aircraft in revenue service. An aircraft needs to prove its ability to pay its way into the future. The key words in that sentence are the expected maintenance costs. Expecting and anticipating something failing is proactive.

To be successful this often needs to be combined with a positive attitude to not only anticipate due items, but to manage those not yet due or those with increasing probability to fail before they are due, to further extend the in-service period

for the aircraft before the next significant step, which by now would be disposal.

Taking a decision to operate older aircraft will create challenges and it is not a decision taken lightly. The time needs to be right for all parties. An airline might well be fretting about maintenance costs going forward, but a lessor might well be equally fretting about where the next placement might be and how much investment is required to achieve a sensible rental during the next placement. This poses an interesting question – can a lessor make an attractive lease deal without harming themselves and prolonging the useful economic life of the aircraft for the airline? In many cases the answer is yes.

For line maintenance there are some specific considerations if the policy of operating older aircraft is to be seriously considered.

Line mechanics require more detailed training on troubleshooting defects and their system knowledge may need to be more detailed in order to keep downtime to a minimum. This is especially relevant to older aircraft as when numerous service bulletins and airworthiness directives are incorporated, they can significantly change system operations and

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part numbers. Recurrent training regimes need to reflect these changes for efficient and safe maintenance to continue.

For airlines operating an equalised maintenance programme, where the line teams are expected to perform slightly heavier checks to reduce the heavy check downtime, these checks may increase as the aircraft ages. Therefore, more detailed training to identify the inspection criteria will be required and this may need line mechanics to become acquainted with heavy maintenance checks to gain practical experience of the more detailed inspection requirements. This will add more costs as training time often means the line team need to cover the missing members, usually with overtime.

Access equipment and tooling on the line will need to be reviewed, perhaps requiring more equipment for access to the aircraft systems and structure, both for troubleshooting and increased routine maintenance that are not usually seen during a 'standard' line maintenance operation.

Similarly, the spares holding will require review to ensure adequate supplies of rotatable and consumable spares are at hand for the increased maintenance requirements. There will be more equipment failures and the stock will need increasing at each line station. Therefore the interaction between the planning and line maintenance teams will be an important aspect. Clearly there will be no point embarking on the exercise until it is clear the additional equipment and parts can be procured at reasonable prices, and the

increased demands upon the workforce can be suitably managed. For example, if the expectation is that more line maintenance work will be required there may be labour matters to deal with, such as changes to working hours and shift patterns.

In some cases the line maintenance is supplemented by working parties from



Ben Jacques Commercial Manager IBA 2

the base maintenance facility to ease the pressure during the nightstop '1/2 A' check, plus all the deferred items.

Maintenance of older aircraft does have benefits. The aftermarket for spare parts is more mature and options such as exchange, pooling, used parts purchases or discounted new pricing will be more likely than when an aircraft is new to service. The MRO options are also likely to be greater as facilities expand their capabilities as more aircraft require maintenance and a profit can be made from third party maintenance.

This has to be balanced with the fact that if you continue to operate the aircraft for longer than the rest of the world, the spares will start to become scarcer, so you have to find the right balance of age and availability to continue to operate efficiently and profitably.

Many operators will also look closely at parts manufacturer approval (PMA) parts usage. There will be some checking of any leasing or financing contract to see if they are allowed under

the maintenance covenants. At IBA we are finding that lessors are seemingly more relaxed and some allow the use of certain PMA parts, apart from those used in the core engine/gas path areas. Of course if you own the aircraft, the choice is up to you and significant savings can be made if the PMA alternatives are regularly reviewed to ensure the parts are safe and readily available. This will incur more costs as the quality aspect will need to be verified by onsite visits to factories and suppliers to authenticate their operation is above board, but on balance it is a significant saving in parts purchasing costs.

An area that will require further thought and training is 'culture'. Aircraft maintenance engineers tend to be very focussed on the airworthiness aspects (as we would expect) but in IBA's experience there can be an aversion to the cabin interior issues. However, these areas are what the passengers see and feel so attention to detail is vital to prevent the passengers perceiving that they are flying in an older aircraft. Seat arm caps, carpets, window blinds and washroom facilities may not be significant items of airworthiness or reliability, but it is what the passengers are sat looking at for many hours.

Therefore line maintenance may need to have a dedicated interiors crew, especially where complex, interactive in-flight entertainment (IFE) systems are involved. These issues may already be addressed for the operation of new aircraft but for the more mature fleets there is more often a greater need for rapidly fixing the cabin defects. This usually requires a dedicated cabin appearance manager, who keeps an eye on all the fleet and arranges for the cabin services team to regularly inspect and repair all cabin defects. An interior refurbish is always good practice and although costly, it does make the appearance look like new, enhancing passenger comfort and perception of the operator.

In summary, if you are an operator used to flying new aircraft do not be afraid of operating aircraft that are in the 14 to 25 year range. The issues are complex but we suspect that the balance between financing and maintenance/operational costs will produce a result that may well suit the CFO, the CTO, shareholders and passengers alike. If this idea sounds daunting, IBA is on hand to outline the likely issues for your operation and we would be pleased to offer advice on how you might consider implementing this into your fleet planning while still keep passengers flying comfortably.



The International Bureau of Aviation is an independent aviation consulting firm based in Leatherhead, UK, with representation worldwide

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VAS' Program Management strategy is unmatched in the aviation industry. We deliver knowledgeable and dedicated Program Managers as the point of contact to serve each partner. Based on our partner's diverse goals and requirements, a customized plan is created. Utilizing expert Asset, Sales, and Repair specialists, as well as industry data, specific actions are deployed at part number levels.

Program Managers monitor the results and reports on success rates. VAS remains

attentive if the aftermarket fluctuates or your goals change. VAS has an extensive history with managing the disassembly of whole aircraft and engines. Our teardown experience includes over 100 aircraft ranging from regional to wide body and over 500 aircraft engines.

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VAS' partnership with The Boeing Company is very unique to the industry. This relationship started with re-marketing and teardown services of aircraft traded-in to Boeing. Since then, the relationship grew substantially to include several exclusive distribution agreements.

The first consignment agreement began in 1999 for the marketing, sales, and logistics of Boeing's spares surplus, new production excess, proprietary parts, vendor parts, and other inventories. The Boeing Aftermarket

Parts Solution service in 2001 began our aftermarket parts support of Boeing's customer orders. VAS also serves Boeing's Military and Defense division with sales and logistics Programs.

In 2010, VAS launched to the industry an advantage to browse, research, and procure inventory through our new web page Aviation Parts Outlet (APO). This internally developed ecommerce portal stream-lines the material procurement process. All priced inventory is discounted to be competitive with the market. Non-priced inventory will offer a "Make Offer" or "Get Quote" option. The Make Offer option allows you to suggest a competitive purchase price.

VAS provides high quality parts to worldwide customers and maintains excellent customer satisfaction. Our industry-leading quality requirements are a key element to our success. Our standards are established by our customer's requirements to ensure compliance of every order.

We continually evaluate our processes to ensure we are always providing the best, and most up-to-date, quality assurance services for our customers. We perform annual audits of all suppliers and repair vendors to maintain the highest quality of service for our customer. Our aviation accreditations, internal principles, and devotion to quality assurance standards are critical for maintaining our industry leading position.



VAS Timeline

Image: VAS