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MRO

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Opinion

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Its an increasingly crowded market

Growth in the regional jet market has created multiple opportunities for new aircraft manufacturers from countries such as Russia, China and Japan.

Speaking to analysts from ICF International recently, it was interesting to learn how these new OEMs will shape the aircraft manufacturing industry in the years to come. The main impact, particularly for Russia's Superjet and China's ARJ21, will be in their domestic markets where there will likely be more national and political encouragement for airlines to buy "local". As regional jets, these aircraft are not part of the much larger churn of fleet replacement and growth that happens in the narrow body sector, so they will not be significant in terms of overall global fleet renewal.

In the regional segment, the big driver of demand has historically been North America. With Bombardier and Embraer as the primary incumbent jet suppliers to this market, these three "non-Americas" OEMs will find it harder to establish scale here. The obvious current exception is the win by

Mitsubishi's MRJ. With so many different airframe OEMs chasing the regional market, each will need to seek out its particular niche and target strategic customers to ensure a build-up of orders and operators. Meantime, for the operators, this represents a great variety of choice and plenty of opportunity to use competition to drive a good deal.

Russia just rolled out its new MC-21 aircraft in a glitzy Siberian ceremony attended by the Prime Minister, Dmitry Medvedev. Squeezed by western sanctions over its role in the Ukraine crisis, the Russian government is trying to rejuvenate domestic industrial production to make the country less dependent on foreign firms.

Finally, readers will notice that this edition of AviTrader MRO comes with a new fresher design, and we hope that you will find it more appealing and easier to read. Any feedback is greatly appreciated.

Happy reading!

Keith Mwanalushi
Editor



New arrivals. The MC-21 Roll out.
Photo: Irkut

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Garuda Indonesia and MTU Maintenance sign 5-year service agreement for CF34-8C5 engines
Photo: MTU Maintenance

MTU Maintenance and Garuda Indonesia sign exclusive CF34 maintenance agreement

MTU Maintenance, one of the leading providers of maintenance services for commercial aero engines, has won a new airline customer in Asia: Garuda Indonesia will send its CF34-8C5 engines to MTU Maintenance for repair according to an exclusive five-year agreement. The contract covers 30 to 40 shop visits and services also include the provision of lease engines. The CF34-8C5 engines from Garuda Indonesia's fleet power 18 Bombardier CRJ1000 aircraft. The MRO work will be carried out at MTU Maintenance Berlin-Brandenburg. MTU Maintenance supports all current engine models of the CF34 family (CF34-1/-3, -8C/E, -10E) and has about 13 years of experience in providing MRO services for this engine type. Garuda Indonesia, the national flag carrier, and its low-cost arm Citilink currently operate a combined fleet of approximately 190 aircraft. The group serves more than 70 destinations worldwide, making around 600 flights a day.

Dassault Systèmes and Airbus Group extend collaboration to additive manufacturing

Dassault Systèmes reported that Airbus Group, after a two-year comprehensive benchmarking process, is extending its use of Dassault Systèmes' 3DEXPERIENCE platform to its additive manufacturing programs integrating design, simulation and production. Airbus Group will deploy Dassault Systèmes' collaborative design and simulation applications as part of the "Co-Design to Target" industry solution experience, for the additive manufacturing of tooling, prototyping and parts for test flights and for production use on commercial aircraft. This provides Airbus

Group with digital continuity to optimize its conceptual designs by virtually validating each phase of the additive manufacturing process. Leveraging Dassault Systèmes' applications and its own leadership and engineering expertise in additive manufacturing, Airbus Group can explore greater design and manufacturing possibilities to meet engineering and manufacturing requirements for the additive manufacturing of tools and parts. Additive manufacturing, also known as 3-D printing, is an alternative to production processes such as milling, melting, casting and precision forging. Already adopted by the aerospace industry for creative product design and prototyping, the use of additive manufacturing is gradually extending to large-scale production. The "Co-Design to Target" industry solution experience leverages applications for additive manufacturing to offer high flexibility in part design, production and testing. This helps reduce waste and costs associated with the manufacturing of complex aircraft parts, without sacrificing strength or performance.

MHI and Shinwa Industry establish JV for surface treatment and painting of commercial aircraft parts

Shinwa Industry and Mitsubishi Heavy Industries jointly established Matsusaka Aircraft Parts Manufacturing Corporation (Matsusaka APM) in Matsusaka City, Mie Prefecture, to perform surface treatment and painting of commercial aircraft parts. The new entity is to become a member of the Aircraft Parts Manufacturing Cooperative, an industrial cluster based in Matsusaka. Plans call for Matsusaka APM to launch production in the fiscal year ending March 2018, to respond to mass production of the Mitsubishi Regional Jet (MRJ), the next-generation regional jet under development by the MHI Group, and

to increased production of commercial aircraft parts for The Boeing Company. Shinwa Industry, which is headquartered in Toyota City, Aichi Prefecture, is a group company of Kojima Industries Corporation, a business partner of Toyota Motor Corporation that produces interior and exterior automotive parts. Shinwa Industry handles the development, design, manufacture and logistics management of metallic and resin auto parts. Matsusaka APM has been capitalized in the amount of 100 million yen, with Shinwa Industry and MHI holding equity stakes of 51% and 49%, respectively. The company's head office and factory are located within the premises of the Matsusaka cluster. Takashi Kojima of Shinwa Industries has been selected to serve as inaugural president.

STS Component Solutions partners with Aerospace Accessory Service

STS Component Solutions has been named as an exclusive distributor for Aerospace Accessory Service, an Original Equipment Manufacturer (OEM) of emergency medical equipment for the aerospace industry. Aerospace Accessory Service is a certified Federal Aviation Administration (FAA) Part 145 repair station that has been serving the commercial aviation industry for more than 30 years. The company is presently based out of Doral, Florida. Aerospace Accessory Service's Emergency Medical Division was established in 2006 with the goal of providing the aviation industry with high-quality, low-cost emergency medical equipment specifically designed to meet customer specifications, while exceeding regulatory standards.

Ameco Beijing starts maintenance on first Boeing 787-9 aircraft from Air China

Ameco Beijing has started maintenance on the first Boeing 787-9 aircraft from Air China. Ameco has CAAC approval on Boeing 787-9's line maintenance, scheduled check, modification, engine change and auxiliary power unit change, as well as EASA and FAA approval on Boeing 787 line maintenance service. As a strong MRO arm of Air China, Ameco will shoulder Air China's Boeing 787-9 fleet maintenance services. Air China plans to introduce a total of seven 787-9s this year. Ameco has been providing maintenance service on Boeing 787 since 2014. Up until now, five customers have selected Ameco for maintenance service on their Dreamliner aircraft in China, four of which from the international market.

Chromalloy further expands and invests in component manufacturing support and repair services

Chromalloy, a leader in gas turbine engine component repair, advanced coatings, manufacturing support and asset management, has completed a major investment and further expansion of its component manufacturing support and repair capabilities in Tilburg, the Netherlands. "Chromalloy's Tilburg facility has opened a new state-of-the-art coating line to provide gas turbine engine manufacturers and operators with our A-12 aluminum diffusion coating for steel and other turbine components," said Carlo Luzzatto, President. "When applied to metal components during manufacturing and repair the A-12 protective coating inhibits corrosion and oxidation, effectively extending the life of the components and lowering operators' maintenance costs." Chromalloy's expansion and investment in Europe further serves customers' manufacturing, production and repair needs in the region, Luzzatto said. In addition to the newly opened A-12 coating line, Chromalloy added complementary new component machining capabilities at its Tilburg gas turbine engine center. The facility is now equipped to provide detail machining after coating applications on all sizes of turbine components. New machining capabilities include laser drilling and Electrical Discharge Machining (EDM) for components up to and including those in the largest land-based turbines. The 125,000 ft² facility in Tilburg provides OEM new production support and certified component repairs.

Jet Aviation Basel renders ACJ350 cabin interior for Airbus to display at EBACE

Jet Aviation Basel was appointed by Airbus Corporate Jets to design and render a VIP cabin interior for an Airbus ACJ350, the new generation composite aircraft by Airbus, that visited Geneva during EBACE 2016. Airbus brought a flight-test A350 to Geneva during EBACE 2016 to show selected visitors, and presented a gallery of cabin interior centers inside the aircraft. Jet Aviation Basel's Design Studio created a cabin interior with renderings by ACA Advanced Computer Art GmbH for display onboard the green aircraft. The design takes on a new approach to VVIP aviation interior design, with a focus on how completions clients might appreciate the future of flying in a next-generation aircraft. Additional renderings presented alongside a 3-D printed model of the cabin were also available to be viewed during EBACE. Director of Design at the Jet Aviation Basel Completions Center,



A350 dining aft Photo: Jet Aviation Basel

Elisabeth Harvey explains, "Our design takes inspiration from both high-end hotel and residential design philosophies, balanced with the most innovative new technology available in private aviation."

Jet Aviation Basel signs parts consignment agreement with Custom Control Concepts

Jet Aviation Basel has signed a parts consignment agreement with Seattle-based Custom Control Concepts (CCC), a leading provider of custom in-flight entertainment equipment, lighting and cabin management systems (CMS) for VIP aircraft. As an Authorized Service Center for Customer Control Concepts (CCC), Jet Aviation Basel regularly supports CCC equipment. This parts consignment agreement extends the companies collaboration to help reduce aircraft downtime and increase aircraft utilization. "Maintaining an inventory of spare parts supports faster maintenance turnarounds, particularly in AOG circumstances," says Arjen Boone, senior director of SCM and Strategic Business Development at the Jet Aviation Basel Maintenance Center. "It also helps customers take advantage of our comprehensive in-house capabilities, should they decide, for example, to combine maintenance with an IFE upgrade."

Satair Group and Flybe sign five-year battery contract

Satair Group UK and Flybe have signed a five-year contract under which Satair Group will assume responsibility for the supply of aircraft battery servicing and associated battery supply to the airline. The contract, which will

be carried out at Satair Group's UK battery facility near London Heathrow Airport, will support Flybe's mixed fleet of Bombardier Dash 8 Q400 turboprops and Embraer E175/195 regional jetliners, along with other aircraft types operated by Flybe under wet-lease arrangements across mainland Europe. Some 2,000 battery services a year are expected as a result of this contract, ensuring that Satair UK remains the world's largest commercial aircraft battery servicing operation.

Boeing 737 NG aircraft fitted with AerSafe exempted from pending airworthiness directive

AerSale, a global supplier of aircraft, engine, and OEM (Original Equipment Manufacturer) used serviceable material, has reported that Boeing 737 NG series aircraft equipped with its product, AerSafe, are exempted from compliance with the Federal Aviation Administration's (FAA) Notice of Proposed Rule Making (NPRM) No. FAA-2016-6139, released on May 3, 2016, requiring modification of the fuel quantity indicating system (FQIS). "If the proposed amendment to the Airworthiness Directive (AD) 14 CFR part 39.13 is approved later this year, it will mandate all operators of Boeing 737-600, -700, 700C, -800, -900 and -900ER worldwide to find a viable solution to the FTFR rule," said Nicolas Finazzo, Chief Executive Officer of AerSale. "Currently we have a Supplemental Type Certificate (STC) approving AerSafe for the Boeing 737 NG series, and are working on the 737 Classic and 767 with expected approvals by mid-June. We are studying other Boeing and Airbus models and by the time this AD becomes effective, we expect to have an AerSafe solution for virtually all of the commercial models affected by the AD."



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Antonov AN-132D aircraft assembly hall
Photo: Antonov

Liebherr-Aerospace supplies integrated air management system for Antonov's AN-132D

Liebherr-Aerospace Toulouse SAS, Toulouse (France) will supply the integrated air management system for Antonov's new aircraft, the AN-132D. Representatives from Liebherr-Aerospace and the Ukrainian aircraft manufacturer signed the contract on June 1, 2016, at the ILA Berlin Airshow. Liebherr-Aerospace Toulouse SAS center of excellence for air management systems will design, supply and service the air management system, including the bleed air system, cabin pressure control and anti-ice system, for the first aircraft demonstrator AN-132D. The contract covers the delivery of the systems for four aircraft used for flight tests to Antonov Company's facility in Kiev (Ukraine). The AN-132D airplane will be the first prototype of the new AN-132 turboprop light transport aircraft to replace the regional aircraft AN-32 and AN-26. The AN-132 program is realized by the Antonov Company in close cooperation with the companies King Abdulaziz City for Science and Technology (KACST) and Taqnia Aeronautics Co., which are based in Riyadh (KSA).

Vector Aerospace to conduct AS355 12-year inspection for Aero Asahi

Vector Aerospace, a global independent provider of aviation maintenance, repair and overhaul (MRO) services, has secured a contract from Aero Asahi to perform an Airbus Helicopters AS355 F2 12-year major inspection, including wiring, refurbishment and exterior paint. This will be the latest of several AS355 refurbishments that Vector has performed for Aero Asahi over the past two years.

GA Telesis announces A300 disassembly

GA Telesis has announced the commencement of disassembly operations on one Airbus A300-600 aircraft. GA Telesis will utilize selected removed inventory to support its customer base via its global sales teams and Live AOG centers. The disassembly will also provide rotables for the company's exclusive iGEAR (Intelligent Global Engine & Airframe Replenishment) flight hour program offerings. The A300-600 program is one of over 20 aircraft scheduled to be disassembled by the company in 2016 to further drive growth in all areas of GA Telesis' business.

Monarch Aircraft Engineering adds A380 to line maintenance capability

Monarch Aircraft Engineering (MAEL) has been approved to add the Airbus A380 aircraft to its wide-ranging MRO capabilities. The additional aircraft has been added to the EASA and GCAA Part 145 approvals, allowing MAEL to provide line maintenance support for Airbus A380 operators at Birmingham airport. Derek Gibson, Commercial Director at Monarch Aircraft Engineering, said: "Adding the Airbus A380 aircraft to our Part 145 certificate gives us a wider scope of airframe capabilities. The investment made provides further evidence of our commitment to expand and support customers operating the next generation of aircraft."

MAEL also reported that it has completed back-to-back airframe maintenance on eight Boeing 787 Dreamliner aircraft at its aircraft maintenance facility at Birmingham Airport. During March, April and May this year, the nose-to-tail inputs were successfully com-

pleted for one of the company's third-party customers, which included phase 12 checks, service bulletins, engine changes and defect rectification. Monarch Aircraft Engineering's maintenance facility covers 110,000ff² and has the capacity to hold two Boeing 787 Dreamliner aircraft side by side, plus other wide- and narrow-body aircraft. In September 2015 MAEL was the first UK MRO to carry out a phase 12 check on the Boeing 787-8 Dreamliner.

Airbus Corporate Jets adds Jet Aviation to Service Centre network

Airbus has added Jet Aviation and its MRO facilities to its ACJ Service Centre network, enhancing choice and geographical reach for its corporate jet customers and operators around the world. The expanded network comprises companies that are owned or controlled by Airbus, as well as independent ones that it has approved. Its capabilities include line and heavy maintenance, cabin-refurbishing, and cabin and system upgrades. The ACJ Service Centre network now comprises the Airbus Corporate Jet Centre (ACJC) in Toulouse, Comlux America in Indianapolis, HAE-CO Private Jet Solutions in Xiamen, Jet Aviation in Basle, Dubai and Singapore, Sepang Aircraft Engineering (SAE) in Kuala Lumpur and ST Aerospace in Singapore. It will expand to include others over time. The network provides dedicated support to ACJ customers around the world, and includes the provision of turnkey services, enabling customers to benefit from Airbus quality and standards – as well as peace of mind. It complements Airbus' leadership in turnkey cabin-outfitting of large business jets, where it is uniquely well qualified with some 70 completions to its credit.

Marshall gains EASA approvals to support Cessna

Marshall Aviation Services has increased its EASA Part 145 approvals with the addition of the Cessna Citation 560, Citation XL and Citation XLS at its MRO facility in Broughton, North Wales. The first maintenance input of a Citation XLS was successfully completed on May 20. The additional types complement the Broughton facility's long-standing Hawker and Beechcraft work. Clive Prentice, Managing Director, Marshall Aviation Services (TS), commented: "We are very pleased to be fulfilling our strategy of widening the portfolio of aircraft to which we can lend technical services and MRO at Broughton and we plan to introduce further types in the near future."



RUAG Aviation and Rolls-Royce sign ASC agreement
Photo: RUAG

RUAG named Authorized Rolls-Royce Service Centre

RUAG Aviation and Rolls-Royce have signed an Authorized Service Center (ASC) agreement for the BR710A2-20 turbofan. This latest Authorized Service Centre agreement re-confirms RUAG Aviation's participation in the Rolls-Royce global network and marks an important milestone for the aviation company. It allows RUAG Aviation to further expand the services offered for the Bombardier Global aircraft family, which includes the Global 5000, Global XRS, Global Express, Global 6000 and Global Vision.

Lufthansa Technik news



EasyJet hangar at London Gatwick
Photo: Luca di Fonza

Maintenance partnership with easyJet at London Gatwick airport

Lufthansa Technik Maintenance International (LTMI) and easyJet have signed a contract for extensive collaboration at London Gatwick Airport (LGW). With a fleet of 55 aircraft, Gatwick is the largest base for the low-cost airline. As part of this five-year collaboration, Lufthansa Technik (as the Part 145 maintenance organization) will handle Light Base Maintenance (LBM) inputs and AOG hangar support for the Airbus A319 and A320 aircraft fleet as well as the A320neo in the future. Work for easyJet under the new contract has already begun. Lufthansa Technik has a staff of about 60 mechanics on-site who executes two checks per night, seven days a week. Photo: Luca di Fonza, Text: EasyJet hangar at London Gatwick

Lufthansa Technik and DC Aviation Group sign cooperation agreement

Lufthansa Technik has concluded a cooperation agreement with DC Aviation Group, a leading operator of business jets in Europe. As part of the agreement signed on May 25, 2016, the two companies plan to offer their VIP customers a first-class package of services

at Al Maktoum International Airport (Dubai World Central Airport). An experienced, highly qualified team of engineers and mechanics will ensure cost efficiency and quality that are "Made in Germany". Just like Lufthansa Technik, DC Aviation Group is headquartered in Germany, in this case in Stuttgart. The contract services will be provided in the hangars and VIP facilities of DC Aviation Al-Futtaim LLC, a joint venture of DC Aviation and the Al-Futtaim Group. They will consist of regular checks as well as maintenance services, including unplanned repairs, for example in the case of an AOG (Aircraft on Ground). The portfolio also features services for aircraft cabins, including small modifications. Moreover, plans call for a mobile aircraft and cabin service to serve the region.

Lufthansa Technik and Malaysia Airlines plan cooperation on maintenance, repair and overhaul facility

Lufthansa Technik AG and Malaysia Aviation Group Berhad have signed a Terms of Reference in Kuala Lumpur, on a strategic partnership framework for a joint venture (JV) to establish a regional maintenance, repair and overhaul (MRO) facility. The MRO facility, planned for 2017, would be based at

Malaysia Airlines' existing facilities at Kuala Lumpur International Airport and service the Boeing 737 and Airbus A320 family of aircraft. The JV is expected to introduce state-of-the-art technical capabilities for base maintenance services and best practices in operations, creating a centre of excellence for the region. "Once this new joint venture becomes true, we will extend significantly our MRO capabilities in one of the most emerging markets worldwide," explained Dr. Johannes Bussmann, Chief Executive Officer of Lufthansa Technik AG. "With Malaysia Airlines at our side we will have a strong regional partner to create a real success story with this new business." The formation of the JV will be subject to, inter alia, approvals from the competent regulatory authorities and the signing of definitive agreements.

Lufthansa Technik to start comprehensive cabin modification on BBJ 787-8

In the next weeks Lufthansa Technik will start a comprehensive cabin modification program on a Boeing BBJ 787-8 for an undisclosed customer. The planned lay-over will last about two months. The green aircraft will arrive in early autumn at Lufthansa Technik's completion center in Hamburg, Germany. The cabin modification is based on a service bulletin from the aircraft manufacturer and is adapted to the specific customer needs. It comprises a special cabin layout and the adjustment of both the inflight entertainment system and the communication system. Moreover, the crew rest compartments and the galley areas will be modified to the extended needs. Subsequent to the modification Lufthansa Technik will further support the aircraft with technical services.

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Tatami Zen
Photo: HAECO

HAECO Private Jet Solutions launches new cabin design concept "Zen"

HAECO Group's cabin completion specialist and cabin completion center approved by Airbus and licensed by Boeing, has launched "Zen", a new concept in cabin design for narrow-body aircraft. The unveiling took place at the European Business Aviation Convention & Exhibition in Geneva. The design takes its inspiration from the Buddhist practice of "Zen", encompassing harmony, relaxation and balanced living. In modern Mandarin, the word also stands for wisdom and tranquility. The elegant, contemporary and timeless "Zen" design was achieved through the use of a symmetrical layout and stylish hues. The "Zen" design embodies HAECO PJS's response to private jet owners seeking a new level of comfort. One of the most unique features is the multi-purpose table in the tatami area, which can be used as a mahjong table, a tea table and a tatami bed. Another stunning aspect is the natural, free-flowing layout in all sections of the cabin, which creates an open feeling throughout the aircraft.

JETS Bournemouth becomes a 'Limited Service Centre' to support Embraer Phenom 300

JETS, the independently owned UK business aviation MRO, has been selected by NetJets to provide full base and line maintenance support for their newly introduced Embraer Phenom 300 aircraft operating in Europe. JETS' Bournemouth, South Coast facility will duly hold 'Limited Service Centre' status for the Phenom 300, with the full endorsement of Embraer. A further innovation, which is extended to all Embraer Phenom 300 operators worldwide, is the introduction of a dedicated Aircraft on Ground (AOG)/Line Maintenance

Support Unit, launched in response to JETS' ever-developing customer base. Equipped with a state-of-the-art fully equipped response vehicle, JETS can provide experienced licensed engineers at short notice and around the clock to return an aircraft to service, or if necessary, have it ferried to a maintenance base.

Safran and AFI KLM E&M to create joint venture for aircraft engine parts repair

Safran Aircraft Engines and Air France Industries KLM Engineering & Maintenance have signed a Memorandum of Understanding concerning the creation of a joint company dedicated to the repair of aircraft engine compressor blades. The new company's business will specifically concern CFM56 engines from CFM International (Airbus A320 and Boeing 737 families), the GE90 from General Electric (powering the Boeing 777) and the GP7200 from the Engine Alliance (for the Airbus A380). The two partners will invest over €20.0m (US\$22.5m) in the new company, which will be owned 51% by Safran Aircraft

Engines and 49% by AIR FRANCE KLM; it is scheduled to start operations in late 2017. The company will be based in France, at the Sars et Rosière business park in the community of La Porte du Hainaut (northern France). The new plant will cover 15,000 m², and offer all the machinery and equipment needed to repair engine parts, including high-tech metallurgical processes. After reaching full production capacity in 2020, the company should have a total of 200 to 250 employees. It will apply innovative management methods, largely based on team creativity and employee empowerment.

Comlux America signs 12th VIP interior completion

Comlux America, the Completion and Service Center based in Indianapolis, IN, signed their 12th VIP interior completion for a BBJ 737-700IGW aircraft. The aircraft was officially input into the Indianapolis facility in January and is scheduled to take approximately 14 months to complete, including exterior paint. This Boeing Business Jet completion is for a private customer based in the Far East.

328 Design GmbH wins EASA certification contract for Honeywell DU-875 ELITE cockpit display upgrade on Embraer Legacy 600/650s

328 Design GmbH has been awarded a contract from ALAMO Engineering GmbH to upgrade the EMBRAER 135 jet variants, including the Legacy 600 and 650 aircraft family, with the latest Honeywell DU-875 ELITE Cockpit Displays. Work will be carried out under a form and fit and function replacement strategy. 328 Design will work towards obtaining EASA certification on the project for an undisclosed end customer. The STC will be made available to all parties of interest.



328 Design wins avionics upgrade contract on Legacy 600 and 650
Photo: 328 Design GmbH



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PPG expands Shildon facility to enhance capabilities with streamlined new-product launches and more-exact color matches *Photo: PPG*

PPG expands aerospace coatings development, color capabilities at UK facility

PPG has expanded development and technical-service capabilities for aerospace and military coatings at its Shildon, England, facility with a US\$2m investment supporting installation of advanced-technology equipment for evaluating paint characteristics. Environmentally controlled spray booths and a suite of complementary rooms now enable the PPG site to streamline new-product launches and produce more-exact color matches. One paint spray booth, which can house an aircraft section or small military vehicle, provides variable temperature and humidity settings for product development and training. A second paint spray booth, which maintains constant temperature and relative humidity settings, is designed for applying coatings to panels for customer color-match requests. An expanded testing laboratory has a dedicated color-mixing area and constant temperature and humidity settings. New sanding, drying and oven rooms afford the full range of application processing from preparation to drying in controlled environments.

Avtrade and Evelop Airlines sign inventory consignment agreement

Avtrade, a leading specialist in aircraft spare parts solutions, has signed an exclusive consignment program with Spanish charter company Evelop Airlines. Avtrade will market and offer Evelop-owned Airbus A320 and A330 inventory, immediately available on an exchange basis. Located at Evelop's facility in Spain, this stock enables Avtrade to deliver local enhanced support to its customers across Europe, providing increased stock

options and reduced lead times. Committed to providing cutting-edge aircraft support programs, this consignment agreement demonstrates Avtrade's continued dedication to offering flexible, tailor-made solutions to aircraft support. Avtrade's network of regional offices in Dubai, Singapore, Moscow, Miami, China and its London based Headquarters, will promote and supply these parts to customers 24 hours a day, 365 days a year.

Acropolis Aviation appoints Marshall as prime MRO provider for Airbus ACJ

Acropolis Aviation, one of Europe's leading luxury air charter companies, has contracted Marshall Civil Aerospace, part of the Marshall Aerospace and Defence Group, as its

prime maintenance contractor. It is Marshall Civil Aerospace's first ACJ contract, and it will follow through to Acropolis' new ACJ320neo which enters service in late 2019. The move follows Marshall's recent performance on a major six-year check on G-NOAH, Acropolis' flagship Airbus ACJ319 at Marshall Cambridge HQ. Marshall engineers conducted significant airframe inspections and removed the entire interior for inspection and overhaul, refitting it in a period of just five weeks.

West Star Aviation to perform first 96-month inspection on Embraer Legacy 600

West Star Aviation has reported that they are performing their first 96-calendar month Embraer Legacy 600 heavy inspection. The 96-month inspection is a very invasive process that includes removal of the interior down to fuselage skins and frames; all large exterior fairings, landing gear, flight controls, wing leading edges, and, flaps are also removed. The inspection requires West Star to conduct various system function tests and NDT inspections, all done in house. In addition, this inspection will include an interior and corrosion inspection, and fuel tank inspections. West Star Aviation's state-of-the-art Grand Junction, Colorado facility is an authorized Embraer Service Center for base maintenance and this inspection is one of the two most extensive inspections on the Embraer Legacy aircraft. On average, to perform the inspection, it can require over 3,000 labor hours and also involve specialized equipment, as well as particular knowledge of the airframe and tooling.



West Star Aviation to perform first 96-month inspection on Embraer Legacy 600 *Photo: West Star Aviation*

Satair Group and Cobham Aerospace Communications sign distribution agreement

Satair Group has signed a new distribution agreement with Cobham Aerospace Communications across the Asia-Pacific region, including China. The agreement covers a range of aircraft intercommunications equipment including radio management panels, audio control panels, audio management units and related spares that are fitted to Airbus and ATR airliners. Satair Group's role will be to continue its close partnership with Cobham and to provide a high level of delivery performance and service from its Singapore and Beijing facilities to ensure strong customer satisfaction.



Cobham Aerospace Communications signs a distribution agreement with Satair Group *Photo: Satair Group*

Boeing opens new 777X Composite Wing Center

Boeing has announced the grand opening of its new 777X Composite Wing Center (CWC)

in Everett, Wash. The facility, located on the north side of the main final assembly building, will manufacture the world's largest composite wings for the 777X, the company's newest commercial jetliner, and will sustain

thousands of Puget Sound area jobs. Boeing has invested more than US\$1bn in the Everett site for construction and outfitting of the new building.

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69%
of all appropriate
global fleet Airbus
& Boeing operators
supported

20,000,000
flight hours of
component
reliability data

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Joint-Venture signing ceremony for Aerospace Industrial Base
Photo: PART

PART signs joint-venture agreement to build Aerospace Industrial Base in Yinchuan, China

Pacific Aerospace Resources and Technologies signed a joint venture agreement with a state owned company, Yinchuan Free Trade Zone Universal Airline Industry Investment and Development in Yinchuan, China. The Aerospace Industrial Base will be built in three phases with an estimated total investment of US\$1.5bn. It will have aircraft repair and maintenance, leasing, manufacture, component trading and repair, engineering and certification as well as a training academy and an FBO. The first phase's focus will be on the Aviation Park, component trading platform and engineering. "Our goal for the Aviation Park is to create a gateway for western aviation companies to enter the Chinese market. Using the 'Built to Suite' approach, we will not only build the facilities each company needs, but assist in negotiations with the government, obtaining business permits and providing all the back office support including legal, finance, and human resources. We believe our services will save tremendous time and resources for Western Companies to enter the Chinese market; hence reduce their risk." Says, PART Chairman of the Board, David Green. Photo: PART, Text: Joint-Venture signing ceremony for Aerospace Industrial Base

Nordic Aviation Capital completes closing of first turbo-prop JOLCO financing for a lessor

Nordic Aviation Capital has completed the closing of the first ever turboprop JOLCO financing for a lessor. The aircraft, an ATR72-600, was delivered to the world's largest turboprop lessor in May, and financed with a JOLCO arranged by FPG AIM, with the equity arranged and underwritten by FPG. The senior loan was arranged by DVB Bank and Korean Development Bank, who are also the lenders together with the Development Bank of Japan in this landmark transaction. Clifford Chance acted as advisers for Nordic Aviation Capital and Nishimura & Asahi for FPG, whilst Allen & Overy represented the banks.

Norsk Titanium announces US\$10m investment from Harbert European Growth Capital Fund

Norsk Titanium AS, a supplier of aerospace-grade, additive-manufactured, structural titanium components, has closed a US\$10m growth debt facility with Harbert European Growth Capital Fund I (HEGCF) as part of the company's current aerospace production

financing round. The funds will be used to further strengthen Norsk Titanium's leadership team and operations worldwide in support of aerospace qualification and production orders for precision structural components produced by the company's patented Rapid Plasma Deposition (RPD) technology. The investment was led by Fahad Khan at HEGCF. Norsk Titanium will be putting its RPD technology on display at the 2016 Farnborough International Airshow, allowing a global audience to witness unprecedented manufacturing efficiencies from the company's MERKE IV line of production machines.

HEICO reports 2nd quarter net income up 17%

HEICO CORPORATION reported that net income increased 17% to US\$38.7m in the second quarter of fiscal 2016, up from US\$33.1m in the second quarter of fiscal 2015. In the first six months of fiscal 2016, net income increased 15% to US\$69.9m (after a US\$.03 reduction related to nonrecurring acquisition costs incurred in the first quarter of fiscal 2016), up from US\$60.7m in the first six months of fiscal 2015. Operating income increased 20% to US\$66.8m in the second quarter of fiscal 2016, up from US\$55.8m in the second quarter of fiscal 2015. In the first six months of fiscal 2016, operating income increased 17% to US\$119.4m, up from US\$102.2m in the first six months of fiscal 2015. The Company's consolidated operating income and consolidated operating margin in the first six months of fiscal 2016 reflect a US\$3.1m and 0.5% reduction, respectively, for nonrecurring expenses related to a first quarter 2016 acquisition.

AviaAM Leasing and China's HNCA to establish a US\$1bn aircraft leasing joint venture

AviaAM Leasing, a Warsaw Stock Exchange-listed aircraft leasing company, and the Henan Civil Aviation Development and Investment Company (HNCA) have signed a joint-venture agreement, according to which the enterprises will establish a joint-venture aircraft leasing company. It is planned that the Henan-based JV will build and manage a fleet of narrow-body aircraft worth of up to US\$900m. "At the moment China and other thriving economies of Asia serve as the engine of global aviation. With double-digit air traffic growth, local carriers will require thousands of new airplanes over the following 15-20 years. Being one of the world's leading aircraft leasing companies, we are bringing our experience and market expertise to support fleet expansion in the region. In the meantime, our partners at HNCA will provide access to favourable financing terms required for the JV's fleet development," commented Tadas Goberis, the Chairman of the Board and CEO at AviaAM Leasing.

FedEx acquires TNT Express

FedEx has acquired TNT Express. The €4.4bn (US\$4.9bn) acquisition combines the strengths of the companies – the world's largest air express network and an unparalleled European road network, which will expand the existing FedEx portfolio and reshape the global transportation and logistics industry. "This acquisition is a significant accomplishment and marks the beginning of a new era, filled with promise for our people, customers and shareowners," said Frederick W. Smith, Chairman and CEO of FedEx. "We

are proud to celebrate the joining of two iconic companies and the approximately 400,000 team members who are committed to serving customers around the world." "The timing of this historic event is important, particularly in the current market environment where global e-commerce is growing at double-digit rates," Smith added. "Adding TNT's capabilities to our existing world-class suite of services, including GENCO and the recently relaunched FedEx CrossBorder, will further expand the ability of FedEx to support business connections around the world." Now that FedEx has ac-

quired TNT Express, the integration process will begin immediately. The FedEx track record of successful acquisition integrations in the U.S. and globally will serve the combined companies well to leverage investments in technology, infrastructure, facilities and operational capabilities to position the combined companies for long-term growth and success.

Other News



EngineStands24 Photo: Magnetic MRO

Magnetic MRO and its newly launched project EngineStands24 has signed an exclusive distribution agreement with Turkish engine stands and tooling manufacturer **Rotafilo**. The newly signed distribution agreement will enable Magnetic MRO to service its customers with quality engine stands and tools within short lead-times and at a good price. Engine stands trading and leasing will be conducted through the EngineStands24.com e-store platform, to be launched by Magnetic MRO by the end of this month. The improved customer service comes with a 2-year warranty-period and expanded service capabilities. Rotafilo has more than 25 years of experience in the aviation business along with ample technical expertise. The company specializes in aircraft engine MRO tooling, ground support equipment like engine stands, slings, engine washing machines and shipping / storage containers.

Lufthansa Technik's innovative VIP seating solution "chair" has received its ETSO (European Technical Standard Order) certification. The **European Aviation Safety Agency (EASA)** granted two ETSO's for the 9g certified and 16g certified "chair" family. This ETSO designation can also be used for FAA TSO certification. With this approval production of "chair" can start. The certification process will allow Lufthansa Technik to validate changes to the "chair" without intensive re-testing. EASA testing was designed and passed to maximum dynamic load cases. This enables changes to be classified as minor deviations under the umbrella the granted ETSO.

ExxonMobil has released that Mobil Jet Oil 387, a synthetic High Performance Capability (HPC) turbine engine oil, is approved for use in **Rolls-Royce's** Trent 700, Trent 800, RB211-524 (B, C, D, G, and H series), and RB211-535 (C and E4 series) engines. These engines power some of the world's most widely used aircraft, including a number of **Boeing** and **Airbus** variants. Building on previous approvals for the Rolls-Royce Trent 1000, Trent 900 and Trent XWB engines, Mobil Jet Oil 387 is now approved for use in the majority of Rolls-Royce's large civil aircraft engines.

The **Federal Aviation Administration (FAA)** has granted Technical Standard Order (TSO) authorization for **Universal Avionics** AHS-525 Attitude Heading Reference System (AHRS). This long-awaited approval allows the company to manufacture and bring to market a new addition to its product line. The AHS-525 is positioned as a low-cost option for replacing legacy mechanical VGs and DGs in Part 23 and Part 25 Fixed-Wing aircraft, and Part 27 and Part 29 Rotorcraft. The AHS-525 contains multiple rate gyros to measure angular aircraft motion in the pitch, roll and yaw axes, and several accelerometers to measure aircraft linear motion along the longitudinal, lateral and vertical axes of the aircraft. It is a cost-effective solution for replacement of fragile mechanical "spinning" gyroscopes.

IDAIR has delivered its Inflight Entertainment and Cabin Management System on its first B787-8 Head of State aircraft, which was completed at the **Associated Air Center (AAC)** in Dallas, TX, USA. IDAIR's first B787-8 delivery and first project with AAC, this major milestone was achieved seamlessly enjoying the cooperation of many teams. IDAIR provided a bespoke, high-end IFE, CMS and connectivity solution, including Audio/Video on Demand, an interactive moving map application, cockpit cameras, cabin controls via wireless devices for lighting, dynamic lighting scenarios, window shades, wireless printer and more, all highlighted by IDAIR's intuitive graphical user interface. Established in April 2011, IDAIR is a joint-venture between **Lufthansa Technik AG** and **Panasonic Avionics Corporation**, headquartered in Hamburg, Germany. IDAIR develops, manufactures and supplies Inflight Entertainment, Communications and Cabin Management Systems for VIP aircraft as well as custom products for commercial airlines.

**CONGRATULATIONS
TO CTS ENGINES,
2015 BOEING
“SUPPLIER OF THE
YEAR” FOR ITS
SUPPORT OF THE
USAF’S E-4B FLEET**



IBM has signed a ten-year technology services agreement with **Emirates Airline** worth approximately US\$300m. IBM will provide IT Infrastructure delivered as a service, allowing the airline to improve efficiency on its passenger support systems and functions. The agreement provides fully managed services for the IBM mainframe and storage that will help Emirates encrypt data in near real-time. Additionally, the platform allows the airline to build new apps that will support the API Economy – a commercial exchange of business functions, capabilities, or competencies as services packaged in APIs. Emirates also collaborated with IBM earlier this year to enhance its Passenger Service System (PSS). IBM technology and services will allow Emirates to re-design its business processes and streamline airport operations. By moving its IT Infrastructure delivery into a managed services model, the airline will benefit from improved business application performance, resilience, scalability, an agile service delivery model, and significant operational savings. Emirates has run its ticketing and reservations system on the IBM mainframe for more than 30 years. IBM's z Systems is the foundation for all of the airline's mission critical data and transactions

Delta Air Lines has become the launch customer for **Airbus'** "Prognostics and Risk Management" solution following a successful year-long collaboration between Airbus and the airline. The web-based application is part of the Smarter Fleet 'big data' solutions platform developed by Airbus in partnership with IBM. Jim Jackson, Manager of Predictive Maintenance Engineering at Delta Air Lines, said: "With Prognostics and Risk Management, we will leverage the strong expertise of Airbus' design office to provide us with the most effective way to monitor our aircraft systems." He added: "Prognostic alerting will allow our Engineering and Maintenance teams to detect in advance failures on our components and systems to mitigate possible operational interruptions. PRM will also help us maximize our A330 aircraft turnaround and systems' reliability

and efficiency and move maintenance events from unscheduled to scheduled."

Gogo (GOGO), a global leader in providing broadband connectivity solutions and wireless entertainment to the aviation industry, has partnered with aerospace software specialist **PACE** to connect PACE's Pacelab Flight Profile Optimizer, a flight optimization application. Pacelab Flight Profile Optimizer is a unique decision support tool developed for a pilot's electronic flight bag (EFB) that's designed to continuously evaluate numerous flight data metrics, thus optimizing flight paths for maximum efficiency. Under this partnership, the Pacelab Flight Profile Optimizer application will be connected in real time so a pilot will be able to adapt to changing conditions while in flight to reduce fuel burn and to improve on-time performance.

Satcom Direct has announced its latest innovation, SD Pro: the first fully integrated flight operations management platform. SD Pro brings together patented Satcom Direct (SD) products and services with best-in-class integration partners to deliver real-time data about the aircraft via a single interface. SD Pro lets you view and manage flight logs, performance data, scheduling, trip planning, maintenance information, operating history, and more. SD Pro aggregates information from multiple sources the flight department is already using, into a web-based display, so that every member of the team can access it from their desktop, tablet or mobile device. Designed to be a single point of access, the SD Pro interface displays the information via modules on its customizable dashboard that can be tailored to meet the varying needs of flight departments and individual team members. Operators can choose which modules to add to the SD Pro dashboard based on their operational requirements.



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# Playing the part

Spare engine forecasting and usage is driven by several factors.  
Photo: Pratt & Whitney

Leasing and pooling solutions for engine parts supply requires a strategic plan. **Keith Mwanalushi** looks at the adoption of best practices for parts planning.

**B**ack in 2011, a report by Pratt & Whitney Canada (P&WC) found that successful spares planning and forecasting needs more effective collaboration and sharing of information (fleet data, engineering change orders, part reliability, service bulletins, etc.) across the supply chain.

The global demand for parts is directly correlated with the number of engines in the field. For instance with over 10,000 operators operating more than 50,000 engines in more than 200 countries [2014 P&WC statistics] it still shows the magnitude of the international demand. Every year new engines enter the market place both on existing and new applications which increases demand year over year.

In terms of engine leasing, Carl Glover, Americas VP, AAR Parts Supply says there is a continual demand for leasing with the larger population of narrow-body engines on A320 and B737NG. "The demand for parts also remains strong with used material supply requirements being driven by engine shop visit events (ESV)." Glover observes that there is an increase for shorter term "green time" engines as operators and lessors alike await fleet renewals or look to defer some ESV activities.

Cliff Topham, SVP Sales and Business Development at Werner Aero Services sees the demand for engines to be very strong - as an efficient mechanism for providing assets without the necessity for major capital expenditure. "The demand of course varies by programme," he notes.

Pooling solutions are constantly monitored and reviewed by most of the key players in the field to allow engine owners to improve their inventory flow. Parts pooling is typical amongst non- 'core' inventory types such as LRU's, engine accessories, and fan blades. Glover agrees that pooling can play a strong role in inventory support.

AAR offers a number of solutions including both closed pooling and tailored partner pooling programmes that meet a customer's specific requirements. "We accomplish these support programmes through repair management, as well as hourly operational solutions. These programmes are offered across most commercial engine types."

Glover further explains that inventory flow is managed alongside component reliability via AAR's internal processes and repair solutions tailored for each client's shop activities. "Whole engine pooling is a different approach that requires technical understanding of the pooling partners, lease obligations, build standards, PMA, DER and scheduled fleet maintenance programmes. More recently we have seen operators looking for exchanges options from a pool of engines to support their demands for fleet sustainment. In this scenario, AAR works with engine MRO shops to ensure we have engines available to 'seed' the pool," Glover states.

Topham also stresses that engine owners have to be cognizant of modification standards of engines and to a large degree the designated thrust ratings of engines to ensure the ability of the asset to be marketable in bigger markets.

It's clearly necessary for engine parts suppliers to forecast demand and possibly, for engine owners to predict their own needs. "Spare engine forecasting and usage is primarily driven by flying hours, harshness of operating environment and thrust rating," comments Topham.

The P&WC 2011 report highlighted the advantage of being able to forecast spare demand accurately, and that the process was more of an operational advantage putting emphasis on being able to have the correct parts in the correct quantities in the correct location with the need



It's necessary for engine parts suppliers to forecast demand.  
Photo: Pratt & Whitney

for more effective sharing of information and greater collaboration.

As stated, forecasting spares demand involves a great deal of information. Spares forecasting requires various types of internal and external data collection prior to using manual and/or statistical-based forecasting tools.

But this data is hugely confidential and each OEM and parts supplier guards this information carefully. Therefore organisations are unlikely to share detailed models and forecasts with the market, that said, suppliers and MROs will often share information under non-disclosure type agreements to develop mutually beneficial supply agreements.

Engine parts suppliers use various data points, either historical or proactively to ensure they have the right level of surplus spares available to satisfy the markets requirements.

Some companies have a complex algorithm that forecasts spares demand on an aggregate as well as on an engine model by engine model basis.

Glover adds that spares forecasting must be tailored to a customer's unique requirements. He says whole engine spares forecasting is strategic in nature to ensure engine availability for fleet usage and thrust availability. "It becomes more tactical when considering the impacts of seasonality, flight hour peaks, network changes, and other impacting factors such as AD and SB compliance. AAR's spares forecasting model



Parts pooling is typical for engine accessories.  
Photo: FL Technics

looks at both long-term [strategic] and short-term [tactical] horizons to ensure we have both whole engine and inventory spares available to support fleet demand."

Software enabling capabilities that aid to forecast demand for engine parts already exists, but some experts believe there are too many variables to manage the wholesale supply properly.

These days the global demand for spare parts is driven almost exclusively by the OEM and its level of participation in the MRO aftermarket. Usually, where the OEM has complete control of the aftermarket there is no material supply because of the control exerted by the OEM.

Analysts observe that when an OEM is very active in the aftermarket such as Rolls Royce, the engagement of the surplus material providers is inverse to the OEM's involvement.

Engine owners will ultimately want to improve their inventory flow. Industry experts recommend that engine owners could improve their inventory flow by working closely with the industry to reduce costs taking advantage of the surplus equipment coming available to reduce total MRO costs for ESV's.

AAR looks at global trends in fleet demand and some of the volatility patterns on certain engine types to ensure it has engines available. "We



Glover says there is a continual demand for leasing especially for narrow-body engines

maintain a 'close-to-the-customer' business model that verifies market intelligence and helps effectively plan for proper support," says Glover.

AAR also works alongside a number of its key customers (operators and owners) to forecast their ESV demand schedules with consideration of shop capacities to ensure AAR can support engine spares and material demands when required. This information sharing looks at engine trends monitoring, EGT, on condition items alongside hard time LLP removals. "In an ideal world, there will always be spares available for the operators; this is where communication is key and AAR can help," Glover states.

Topham from Werner stresses that engine parts suppliers basically need to understand the demand for engine shop visits (performance restoration and full overhauls) which drive the main consumption of parts.

Demand forecasting information and the resulting inventory, manufacturing, and MRO capacity to meet the predictable and unexpected needs of the commercial aviation market are critical as growth expands.

**A**JW Aviation has remained at the forefront of the aircraft component supply industry for over eighty years. The company was founded in 1932 by Anthony James Walter and started as a surplus parts redistribution business supporting the Piper Cub light aircraft. Building upon this unique heritage, the AJW Group now leads the world not only in the supply and repair of Airbus and Boeing spare parts, but also through the provision of specialised aviation-centric support services that are chosen by airlines around the world.

A new purpose-built headquarters was constructed in 2012 close to Gatwick airport, which marked a decade of exponential business growth and diversification. AJW companies are now based out of London, Montreal, China, Dubai, Singapore and North America with strategic aircraft spares stock held in these locations and across the UK, Europe and US. Additionally AJW provides sales and service support from a network of local offices globally, conducting business with more than 1,000 airlines in 117 countries.

The acquisition of AJW Technique in 2012, has established a global hub for AJW repair activities in Montreal and this complements a network of more than eighty preferred component repair vendors where quality, reliability and delivery underpin competitive pricing.

Today, AJW Group companies employ over 600 staff globally with extensive multi-lingual capabilities and a wealth of previous direct experience from airlines, OEMs, logistics and MRO organisations. The AJW management team comprises highly experienced professionals, all of whom are united in their ambitions to drive change and spearhead new initiatives that focus on continuous improvement, transforming aviation efficiency worldwide.

#### Group of Companies

AJW is highly regarded for its 24/7/365 AOG and critical response service excellence and its ability to provide guaranteed delivery from a significant core inventory of Airbus and Boeing aircraft spares, comprising over 450,000 line items valued at nearly US\$500m.

**AJW Aviation's** services include: parts sales, loans and exchanges; power-by-the-hour and pool access; consignment stock; aircraft engines; consumable supplies; global 24/7/365 AOG; repair and inventory management; parting-out; logistics and door-to-door freight management.

**AJW Technique** utilises one of the best industry-specific engineering skill bases in the world to provide a broad range of component repair and overhaul services for the AJW repair supply chain. This is focused on delivering world class reliability, first class turn times, minimised AOG costs and superior warranties.



AJW Techniques facility. Photo: AJW



There are a broad range of component repair and overhaul services. Photo: AJW

**AJW Engines'** significant aircraft engine portfolio offers integrated management solutions providing engineering services, aircraft engines for lease, and quality overhauled condition engine material can assist operators to minimise engine maintenance costs.

**AJW Leasing** and **AJW Capital** provide complementary and sophisticated financial solutions for a wide range of aviation projects on a global scale.

By accessing these highly professional services, airlines and operators can benefit from a unique perspective, and access the commercial wisdom that draws on the Group's capabilities and expertise which has been honed across decades of aviation experience.

#### Award winning

AJW is an award winning organisation, past notable achievements include:

- Aviation 100 'Parts Supplier of the Year' 2013, 2014, 2015 and 2016
- ATE&M 'Best Spare Parts Provider' 2012, 2013, 2014 and 2015

#### A pioneering vision

AJW is renowned for its innovative thinking and can-do attitude. As a privately owned and independent organisation it is not constrained by internal bureaucracy so opportunities are pursued, decisions are taken quickly, and solutions to customers' problems are delivered fast. The aviation industry is constantly evolving: new airlines, expanded fleets, new routes taking advantage of developments in infrastructure, and operators are continually seeking new business models to improve dispatch reliability and profitability. AJW is always at the heart of these changes, adapting, growing, forging strategic partnerships with OEMs, manufacturers and operators to set new levels of service and support.

The future will see AJW's global footprint expand across new markets and new platforms, as the organisation aligns itself to meet whatever challenges are ahead, sustained by the knowledge that it has the heritage, expertise and spirit to succeed.

# In the hot seat.....

Co-President, Eric Mendelson, HEICO Aerospace Corporation.

**AviTrader MRO:** What attracted you to this business?

**Mendelson:** The same as most people – technical challenge, high quality people and products, ability to make a difference, combined with good economics.

**AviTrader MRO:** What does a typical day's work entail in your job?

**Mendelson:** I wake up around 5am, review my emails and read the Wall Street Journal. After exercising, if I'm in town I get into my office around 8am, or if I'm travelling (two days a week on average), I either visit our operations, customers, investors, or companies we may want to partner with or acquire. When in the office, I review operating reports, meet with members of our operating team, work on strategy and acquisitions with our strategy and acquisitions team, and discuss major issues with our CEO, CFO, General Counsel, and other Co-President. I visit each of our worldwide operating units at least annually, and we do a detailed business review which covers all aspects of each of the businesses, including sales, engineering/new product development, operations, quality, on-time delivery, finance, people, as well as their growth plans. I typically leave the office around 6:30pm to go home, or if I'm travelling, then I to go to a dinner with our team members,

partners, or customers.

**AviTrader MRO:** What is the most challenging part of your job?

**Mendelson:** HEICO has grown from two operations when my dad, brother, and I joined the company in 1990 to over 50 today. While all of this growth occurred over the last 19 years, it requires much time and focus to stay current in all of the business areas in which we operate. Fortunately, we have an incredible team where we have grown together over the past two decades, and where we trust one another's vision, judgement, and effort. By having a culture where we watch one another's backs, we can focus on growth and expansion.

**AviTrader MRO:** In your view, what is the current state of the aviation components and parts repair business?

**Mendelson:** It's an extremely competitive and technically challenging business. I'm somewhat amazed at how people look at our results and think this comes easily, as it's one of the hardest businesses I've seen. Manufacturers are very aggressive on pricing, and it's critical to develop a technical edge and quality mindset in both products and people in order to succeed.

**AviTrader MRO:** How can airlines save by using HEICO parts and repairs?

**Mendelson:** HEICO is the world's largest independent supplier of aircraft component and engine parts, as well as one of the largest independent component overhaul companies. We offer over 10,000 PMA parts and have capability to repair over 26,000 LRUs. We save our customers over \$150 million annually on PMA parts alone, with total savings over the last 20 years of over \$2 billion. We develop over 500 new parts and DER repairs annually and count nearly every airline in the world as a customer.

HEICO recently made its biggest acquisition with Robertson Fuel Systems.

**AviTrader MRO:** Why was it necessary to acquire this particular company?

**Mendelson:** Robertson is the pioneer and world leader in the design, manufacture, and repair of crashworthy fuel systems for rotorcraft. The Robertson team and HEICO shared similar behavioral values and operating philosophy. Although product integrity and economics are essential in our acquisitions, so are



Mendelson - It's an extremely competitive and technically challenging business.

our keys to success which require our team members to exhibit or possess the following behavior: Passion/will-to win, dedication/commitment, progressive, resourceful, and trustworthy/respectful.

**AviTrader MRO:** HEICO reported a record net income of \$133.4 million for the fiscal year 2015. What are the growth projections for 2016?

**Mendelson:** Sales increase of 15-17% over 2015 and net income growth of 12-14% over 2015.

**AviTrader MRO:** What's your opinion on the use of PMA parts and DER repairs?

**Mendelson:** It's an essential cost containment and quality-enhancing strategy for any airline or MRO.

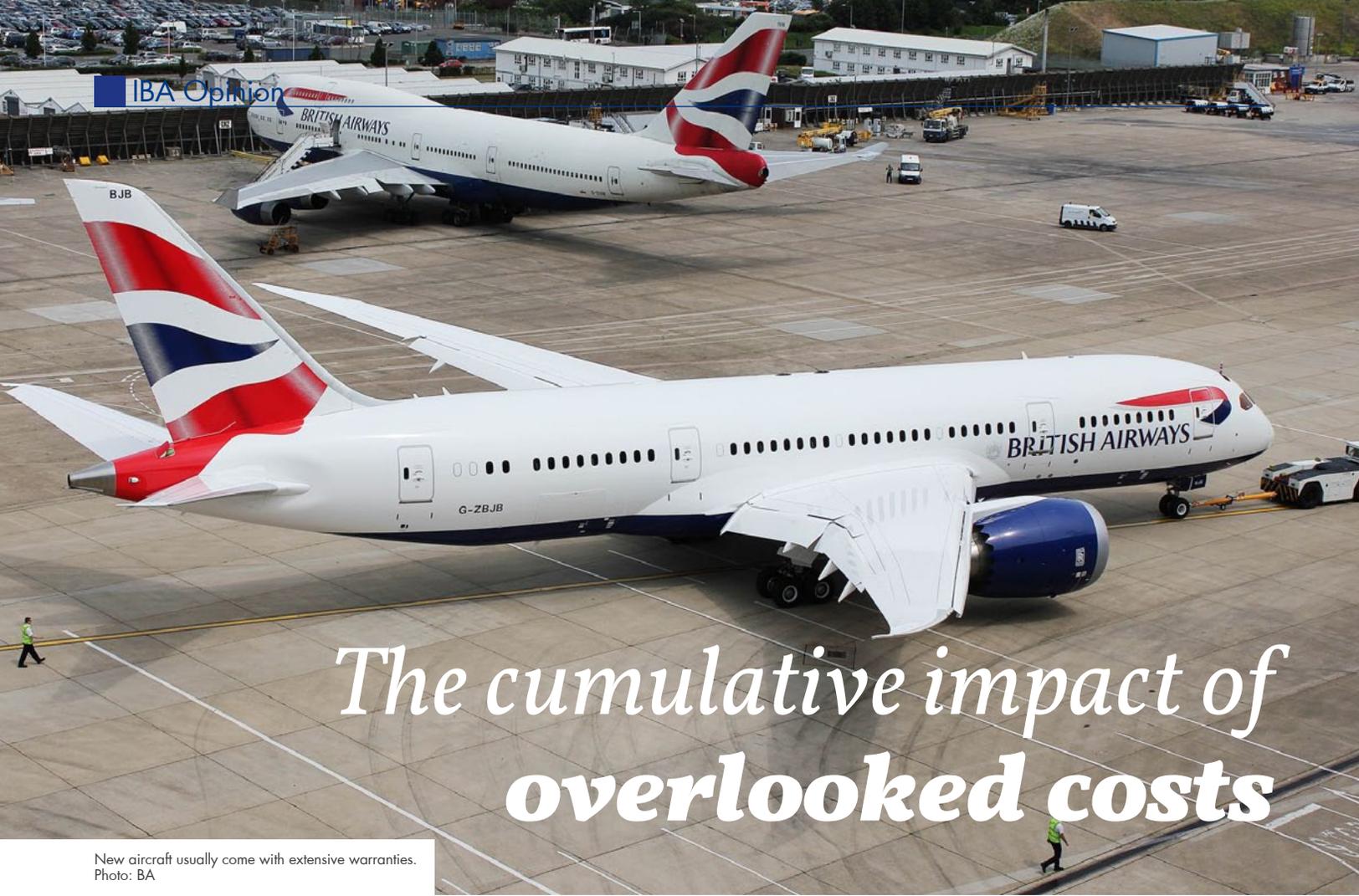
**AviTrader MRO:** What's next in the pipeline at HEICO Corporation?

**Mendelson:** We've grown sales from \$26 million in 1990 to nearly \$1.4 billion based on analyst expectations for 2016. Our annual corporate growth goal remains 20%, although we've grown at about 17% compounded annually for 26 years. We plan our continued growth through both product line expansion and corporate acquisitions of like-minded businesses which possess excellent leadership and product quality.

Thank you for the opportunity to tell our story and readers with any questions should feel free to contact me for additional clarification.



PMA parts are an essential cost containment. Photo: HEICO



# The cumulative impact of overlooked costs

New aircraft usually come with extensive warranties.  
Photo: BA

## Analysis by Paul Lyons, Strategy Director at International Bureau of Aviation

At IBA we have focused on significant savings across maintenance for a number of years as airlines and MROs adapt to the shifting dynamics of operations and ownership. More recently we looked at “missed opportunities” as part of a costs review for an operator. The results were surprising as we found that, across a variety of departments, the cumulative impact of overlooked claims was many millions of dollars.

There are differences to consider depending upon the age of the aircraft and whether they are owned by the operator or leased:

One of the unsung benefits of leasing is that where the airline does not own the aircraft then it may be able to benefit from lessor contributions towards longer term modifications required by Airworthiness Directives or other mandatory requirements.

New aircraft usually come with extensive warranties and service agreements from the airframe and engine OEM plus the huge number of vendors of other parts and systems. Warranties are not universal, there are a few cases of airlines who have decided to waive such rights for a reduced price (this may impact the remarketing value if such aircraft do enter the market at less than 10 years old).

New aircraft which are leased from major lessors MAY have additional lessor contributions however these are highly negotiable.

The airframe warranties are usually extensive for the first 18 months or so and taper on a pro rata basis. We would usually expect to see

structural items carrying a 12 year warranty.

Therefore used aircraft which are leased may also carry the balance of OEM and vendor warranties PLUS the potential for lessor contributions towards other mandated requirements.

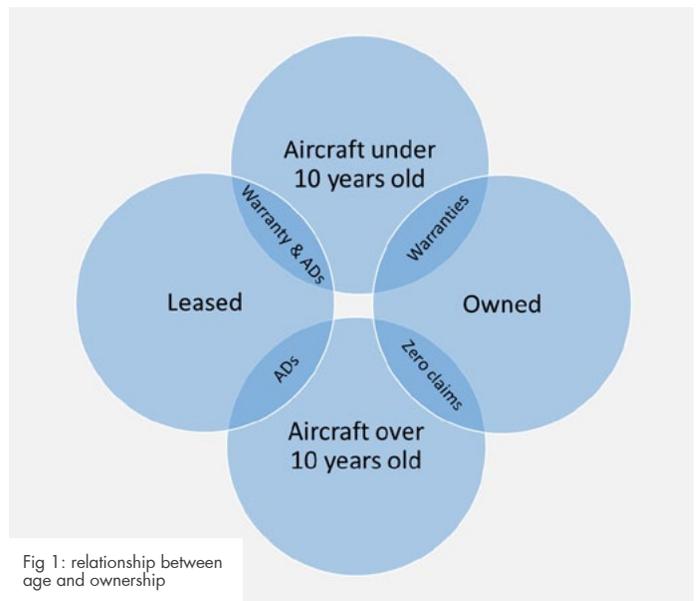


Fig 1: relationship between age and ownership

Ultimately, it is the older aircraft which are not leased that carry the largest risk of high cost AD exposure.

A separate but related topic is that of performance guarantees such as fuel burn and payload/range, which are very keenly negotiated when new aircraft types are introduced. On one hand launch airline customers will get the best pricing from the OEM partly because there is always an entry into service risk but this will be balanced with certain guarantees, subsidies and in some cases, walk away options. The recent press surrounding the A320neo is a good example of performance guarantees being exercised.

The three key areas we have subsequently identified across numerous projects are:

- Warranty claims: clawing back cash or credit from the OEM
- The management of ADs: sharing the cost where applicable
- Maintenance reserves.

In all cases, when identified quickly, all three cost claims can be swiftly negotiated.

Taking the case of a mature aircraft type, for example a B737NG or A320ceo, entering service, it is expected that there are ten claims at a value of US\$25,000 in the first two years. In the longer term there will be ADs issued and other improvements which can result in additional claims. Typically, these are engine related or structural matters that may need to be addressed at shop visits or longer downtime airframe checks. If, as a guide, we say that 1% of the purchase price equals the average warranty cost (for smaller aircraft it can be more, for larger aircraft less), it is easy to understand how millions can lay unclaimed, either in credits or hard cash.

When conducting audits of operators, the following three areas are where issues typically arise:

- Claiming: when an aircraft goes tech, the primary goal of the team (either the airline in-house or contracted MRO) is to fix the issue safely and quickly. Where warranty work is fitted into scheduled or unscheduled maintenance, it is rarely engineering's primary focus to account for the cost of components, the time taken to fix the aircraft and any business interruption
- Processing: most warranty claims have fixed periods in which claims can be made. Managing successful claims and rejections is, again, a task that sits across various departments at an airline and can be overlooked as a result
- Lease documentation: problems can arise irrespective of the carrier size. A small operator might be constrained by a lease with very rigid or unclear terms, making warranty claims time-consuming and expensive. For large operators, staying on top of the volume of data across aircraft types, a mix of lessors and, frequently, a mix of digital and paper records is a key challenge.

IBA's approach with airlines is twofold:

Firstly, training and education. We bring together the airline engineering, maintenance, operations and finance teams to discuss the specific

process and agreements, and to explore ways in which each department can better understand the requirements in order to create a robust claim.

Secondly, IBA can create and implement procedures. Since each airline set up is different, from the large legacy carrier with in house resource to the new low cost airline that outsources warranty management to its MRO, these are bespoke. Typically we spend two weeks onsite with the engineering, operations and finance teams collating a directory of possible warranty claims and actions. In many cases, we are able to benchmark the volume and value of claims made to help a client understand where they rank and we can also highlight where other operators may have had more success.

The warranties available to airlines are plentiful but potentially complex given the large number of vendors associated with the aircraft and its systems.

We have seen wide variations in how airlines handle the warranty process. For some, there are detailed procedures for the line maintenance teams and technical records teams to review the log pages diligently and raise claims within the defined period. Most however, do not have processes and leave millions of dollars unclaimed.

For operators on top of claims, we have seen both in house and outsourced solutions work well. In house solutions can have clear benefits once the procedures are established and explained to all. However, both staff turnover and expansion can lead to warranty claim monitoring lapses. At IBA, we have found that an outsourced solution recovers more funds, the likely reasons as below:

- An outsourced solution will have a broader view of the approaches of other operators and aircraft types
- In IBA's experience, it is difficult for employees to remain focused on claims across departments. As the role of monitoring claims naturally ebbs and flows, the team is often subsumed into other projects during quiet periods and then struggles to refocus
- IBA's remuneration being related to the successful claims.

IBA was established in 1988 to provide independent expert business analysis and advice to the aviation industry.

IBA advises commercial and business aviation clients, aircraft or engine manufacturers and operators. Services include asset valuations, technical and engine management, consulting and commercial services, industry and sector research and analysis. Paul.Lyons@ibagroup.com





Glamour, mysteries and secrets and plenty of fun are just some of the words to describe Avtrade's 30<sup>th</sup> anniversary celebrations on the 3<sup>rd</sup> and 4<sup>th</sup> of June 2016. **AviTrader MRO** was there to savour the moment.

**T**o commemorate this milestone anniversary; on the first day of celebrations, founder and CEO Mr Graeme Brooks hosted customers, suppliers and friends of Avtrade to a "Secret Garden Party" held at the company's new global headquarters.

Guests joined in the celebrations from all around the world with Avtrade entertaining more than 350 visitors, representing over 80 different companies. From Airline CEO's to buyers, OEM's to independent suppliers, lawyers, journalists, bankers and associates, provided an interesting diversity to the evening.

VIP guests included The Rt. Hon. Sir Nicholas Soames MP and Executive Vice President of Air France KLM, Engineering and Maintenance, Franck Ternier, both of whom made very complimentary speeches on Graeme Brook's achievements and the success of Avtrade globally and in the local community. Compared by the owner's son and Commercial Director Jamie Brooks, highlights of the night included an incredibly talented band and break dancers performing. There was also the unveiling and presentation of surprise gifts.

The evening had commenced with the greeting of guests by hedge men followed by Rickshaw tours of Avtrade's HQ, allowing guests the opportunity to see the day to day workings and extraordinary scale of the business, ending with a "Mission Impossible" style video featuring Avtrade staff. A fantastic evening was had by all who attended and the party was a fitting tribute to Avtrade's 30 years of quality, integrity and progress in aviation.

This was followed by a staff and family day, which celebrated the most integral part of Avtrade's success – Its staff! Avtrade would not be the

company it is today without the hard work, commitment and loyalty of over 250+ employees worldwide. Over 400 staff and family were welcomed on the Saturday following the garden party, allowing staff the opportunity to show their families their place of work, whilst taking the time to enjoy the fabulous sunshine and scenery. Caricaturists, bouncy castles, inflatable sumo fighting, photo booths and even a magician kept everyone entertained, whilst a variety of refreshments and excellent food, including a hog roast kept everyone sustained.

Located in the beautiful West Sussex countryside, Avtrade's headquarters is a perfect representation of the company's phenomenal growth and success since its humble beginnings in 1985.





### Our Story

Over the last 30 years, Avtrade has been through a remarkable journey.

Commitment to customers, inventory investment, introduction of new services and aircraft fleet types, plus customer/supplier partnerships have all contributed to Avtrade's growth and success.

### Key Milestones:

- Independent and privately owned; Founded by CEO, Mr Graeme Brooks in 1985, business was based on solely trading aircraft rotables for early Boeing fleet types including 737.
- In **1990**, with investment and a small team, Avtrade purchased the world's first B737 to be acquired for spare parts increasing the ability to provide serviceable components immediately from stock.
- Sales and growth continued; in **1995** Avtrade moved in to Aviation House in Poynings and formed a new company Avtrade Leasing. Sister company to Avtrade, Avtrade Leasing is one of the foremost aviation component leasing companies in the world. Offering flexible, specifically designed lease programmes to all aerospace customers, however big or small.
- The next five years saw significant investment in aircraft and aircraft spares packages for several additional fleet types. By the **2000** millennium, Avtrade could also offer inventory for Boeing 747, 757 and 767, Airbus 320/321 and 330 plus BAe 146.



- Growth in inventory, sales and revenue continued resulting in **2002** Avtrade being voted Dunn & Bradstreet Hot 100 fastest growing company in the UK.

- By **2005**, Avtrade's portfolio of services had extended to include Power by the Hour (PBH) support, a popular concept where customers pay a pre-determined rate for every hour their aircraft fly for a guaranteed level of component supply and support. With the workforce now at over 20 people and increasing, Avtrade moved in to Concorde House, a new purpose built contemporary headquarters and Logistics centre and commenced opening overseas offices to access and support a wider range of global customers.

- Over the next five years Avtrade focused on expanding its portfolio of services including inventory to support the B737NG market, extension of component leasing in to the A340 market and additional services through partnerships and alliances. Record sales followed. To build relationships, develop business and provide local customer service throughout the Middle East region, in **2009** the office in Dubai was opened by the then Regional Sales Director, Jamie Brooks.

- With an experienced team of over 50 staff, a 260% increase in sales over the last five years, voted best Materials Support and Supply Chain by Singapore Airlines Engineering Co. **2010** saw Avtrade celebrate a very successful 25 years.



- The pace of momentum has continued since then; first in **2011** with the formation of a joint venture partnership with AFI KLM E&M – AAF Spares Ltd. Designed to offer a range of innovative global aircraft component services solutions to airlines and fleet operators worldwide utilising the best component support skills on the market.

- This was followed by strategic growth; the opening and expansion of the offices in Dubai, Moscow, Singapore, Miami, and China providing customers with local, dedicated, high quality support and service, plus the location of component inventory across the Americas, Europe, Middle East, Africa, Asia and China. Additional B777, ATR and Embraer fleet types was added to the inventory pool.

- The introduction of Avnet was a new communication innovation. An aviation integrated IT solution using Avtrade website, Avnet is a bespoke platform that provides real time data and connectivity for



Avtrade’s aviation customers and suppliers. It allows users to streamline processes and administration through the utilisation of intelligent systems and schematics ensuring service levels and data continuity are kept to a high standard while at the same time minimising update and response timescales.

- **2014** saw the launch of AAF Spares LLC in Miami, Florida specialising in the trading of components for Airbus A320 family, A330, A340, Boeing 737 CL/NG, 767 and 777 and providing access to Avtrade’s large inventory pool and AFI KLM E&M’S MRO expertise to customers throughout the Americas.



- By **2015** Avtrade achieved a further 280% increase in Sales
- Avtrade now has over 250 employees with over 300 additional employees in future growth plans. Overseen by an experienced senior management team consisting of the CEO and eight Directors, Avtrade’s expert, multilingual, multicultural staff provide local dedicated high quality customer service and support across the globe.
- The company has invested in and developed its stock portfolio to now service the majority of Airbus and Boeing type aircraft, as well as the more elusive Embraer and ATR inventory.
- Multimillion dollar investment allows Avtrade to push the boundaries and provide customers with bespoke aircraft spare parts solutions 24 hours a day, 365 days of the year. High quality serviceable inventory



and reliable 24/7 AOG, operations and logistics committed to providing fast and efficient response ensure on time delivery worldwide.

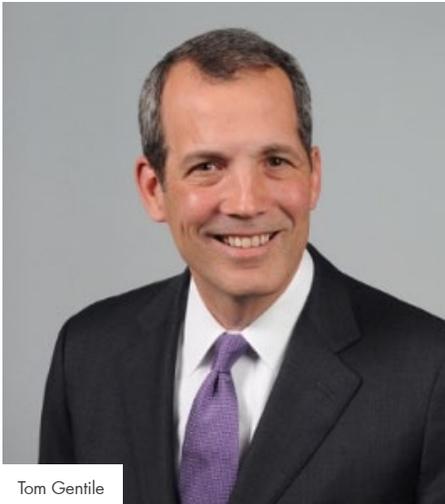
- High quality component repairs and enhanced component reliability programmes have provided customers with reduction in unexpected component failures, optimised costs and achieved aircraft Technical dispatch reliability average of 98.5%.
- 30 years of quality, reliability and integrity have resulted in an extensive range of services and support to a growing customer base of more than 3000 customers including over 500 airlines.
- Services now include: PBH, leasing, trading, consumables, MRO repair management, engineering support and technical services, global logistics, 24/7 AOG support and Avnet
- **2015** saw the completion of phase two of Avtrade’s new 300,000 sq. ft. UK global headquarters in Sayers Common, West Sussex and the move from Concorde House.
- Celebrating 30 years of growth, development and success.

Avtrade’s 30<sup>th</sup> anniversary celebrations are a fitting tribute to three decades of quality in global aviation and the beginning of a new era in the Avtrade success story.

Visit [www.avtrade.com](http://www.avtrade.com)

Source: Avtrade





Tom Gentile

**Larry Lawson**, Spirit AeroSystems' President and CEO, has informed the Board of Directors of his decision to retire on July 31, 2016. Lawson joined Spirit in 2013 and is credited with transforming the company's performance through operational excellence, organizational realignment, talent development and business fundamentals. Chief Operating Officer **Tom Gentile** will take over as Spirit President and CEO following Lawson's retirement, and will transition into the new role over the next several weeks.

AeroVision International (Muskegon, Michigan) has appointed **Tim McGettigan** as Director – Engine Services. "We welcome Tim to the AeroVision team and look forward to his leadership in this important business segment. Tim and his team will be responsible for the procurement, sales, exchange and leasing of Pratt & Whitney Canada PT6, PW100 & PW150 turboprops, JT15D & PW300/500 turbofans as well as Honeywell TFE turbofans and the Rolls-Royce AE3007 family of regional jet engines" said AeroVision President **Jeff Barnes**.

Willis Lease Finance Corporation has reported that **Scott B. Flaherty** is joining the company as its Senior Vice President and Chief Financial Officer beginning June 6, 2016. Prior to joining Willis Lease, Scott held the position of Senior Vice President of Finance and Chief Financial Officer at Colt Defense LLC, where he was employed from May 2009 to March 2016. Prior to joining Colt Defense LLC, Mr. Flaherty was a Managing Director at Banc of America Securities LLC where he ran the origination effort, within the equity capital markets group, for various industries.

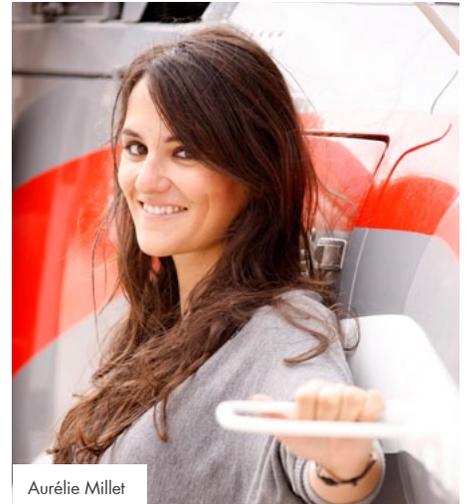
Associated Aircraft Manufacturing and Sales (AAMSI) announced the appointment of **Dennis Zalupski** to the position of President and CEO. Concurrently, Mr. Zalupski will also join the Board of Directors of AAMSI. Mr. Zalupski most-recently served as Senior Vice President & General Manager – Materials Group for AerSale. In this position he was responsible for expanding AerSale's global reach in both the airframe and engine parts sales markets.

Aircraft and Engine asset management specialists AerFin Ltd, has appointed **James Bennett** as its new Director Sales – Engine Services with immediate effect. James will be responsible for the overall engine and component sales and leasing strategy and product offerings to both existing and new clients, overseeing marketing, strategic business partnerships and sales, and will report to AerFin CEO, **Bob James**. James joins AerFin from Chromalloy Thailand, where he has had various roles since 2007, latterly as Director Sales & Customer Support.

Avinco has launched its US subsidiary, Avinco Americas Corporation (AAC), located in New York City. Avinco Americas Corp has been set up to support the expansion of the company's helicopter and commercial aircraft activities in North America. Avinco's Commercial Director, **Aurélie Millet**, will be moving to the US to develop helicopter commercial activity alongside **Kris DeSoto** who joined Avinco Americas this month as Commercial Director North America. Aurélie Millet has been with Avinco's helicopter commercial team for seven years, based in the



Kris DeSoto



Aurélie Millet

Monaco office, and has extensive experience in the American markets. Kris DeSoto was responsible for Airbus Helicopters' Private and Corporate Aviation segment for the US market and Northeast Region for all other segments. Kris previously worked for Bell Helicopters Latin America.

IDAIR, a joint-venture between Lufthansa Technik AG and Panasonic Avionics Corporation headquartered in Hamburg, Germany, reported that its Advisory Board has appointed **Wassef Ayadi** and Alan Cumming to the Executive Board. After five years of successful service, **Andrew Muirhead** and **Craig Depner** will be succeeded by Wassef Ayadi as Chief Executive Officer and Alan Cumming as Chief Financial Officer respectively. In addition, **Ann-Marie Alvarez** will join the management team, replacing Alan Cumming in a new expanded role as Chief Operating Officer.

**Tom de Geysere** has taken up the position of Managing Director at A J Walter Aviation Singapore. His primary task will be to develop the organization's regional presence from a responsive sales unit to a highly skilled business operation with autonomous responsibility for customer liaison and the development of unique solutions to suit the creative and diverse business models of airlines operating across a wide region.