

MRO

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A showstopper Singapore review

Company profile
AAR Corp

Industry interview
C&L Aviation Group

MRO News
from around the world

People on the Move
latest appointments

AVITRADER MRO

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Opinion

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Thailand - the next growth opportunity?

Frost & Sullivan and Suranaree University in Thailand recently organised an Aerospace Industry Seminar in association with The Civil Aviation Authority of Thailand (CAAT). The Seminar discussed the current market scenario in commercial aerospace MRO and manufacturing, followed by the trends and future projections of the industry. The Seminar also highlighted the existing gaps in the industry, which could be potential opportunities for Thailand.

In his presentation on the Growth Prospects of Aerospace Manufacturing & MRO Industry in Thailand, Mr. Amartya De, Associate Director of Aerospace & Defence, Frost & Sullivan mentioned, "The Thailand aerospace sector is expected to grow rapidly due to expansion in airline fleet size in Thailand and neighbouring countries. This coupled with the rising trend of the migration of commercial MRO activities to the APAC region is creating new job opportunities in ASEAN". He also compared government initiatives and policies in emerging countries with those of Thailand, which need to be further improved to compete with the global markets in the region.

Frost & Sullivan stresses on the US\$ 6.3 billion gap that will exist in the Thailand MRO market in the next 20 years thus creating significant business opportunities for the aerospace MRO companies. A total of 7,700 new technician and engineering jobs are expected to be created in the commercial MRO space over the next 20-year period from 2017 to 2037. The market gap of US\$ 6.3 billion over the 20 years is enough to accommodate almost three new full-fledged MRO companies similar to Thai Airways Technical Department that can serve the MRO services demand locally in Thailand.

Thailand supports a very modern and sophisticated transportation structure and by being centrally located in the region, it possesses all the ingredients to become an aviation and aerospace hub if the government establishes a coherent and professional managing structure with a focused aerospace development policy.

Keith Mwanalushi
Editor



Static ambience on day 3.
Photo: Airbus

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Iberia Maintenance and DHL sign engine service contract
Photo: Iberia Maintenance

Iberia Maintenance to service DHL's RB211 535-E4 engines

Iberia Maintenance has been awarded the contract for inspection and repair of the Rolls-Royce RB211 535-E4 engines on the B757 fleets of DHL Air UK and Blue Dart, both subsidiaries of DHL Express. The contract covers maintenance of 40 engines over a 10-year period. Iberia Maintenance already services the RB-211-535C engines belonging to the transport and logistic group's Deutsche Post DHL unit. The British DHL Air UK is a freight carrier with a fleet of 20 B757-200SFs and four B767-300Fs.

BAE Systems Regional Aircraft wins fleet support contract from Braathens Regional Airlines

BAE Systems Regional Aircraft has secured a three-year Fleet Support Services contract from Swedish carrier Braathens Regional Airlines (BRA) covering a total of 12 Avro RJs operated by the airline.

The scope of the contract includes a renewal of the long-standing JetSpares customized rotatable spares rate-per-flying-hour support agreement, for which BRA is the longest-standing customer, having been enrolled on this service since 1996. The new agreement covers 640 parts per aircraft over the 12 aircraft fleet (10 RJ100s and two RJ85s) and is for a minimum of 38,000 fleet flying hours across the three-year period.

Also signed was an agreement for rate-per-flying-hour coverage for the Honeywell GTCP36-150M Auxiliary Power Unit (APU)

that is fitted to eight Avro RJ100s in the BRA fleet.

Working with an established overhaul supplier, Regional Aircraft provides BRA with a guaranteed service level on the APUs for a fixed monthly cost over the three-year period.

BRA has also extended its long-term Tech 21 agreement with BAE Systems. Tech 21 is a priority technical support service which nominates a dedicated engineer to handle and ensure timely responses to technical issues.

GE and Tata celebrate ground-breaking of Aero-engine Centre of Excellence in Telangana

GE and Tata group, India's leading global enterprise, have held a ground-breaking ceremony for the world class Structural Center of Excellence (COE) focused on aero-engine components. The manufacturing facility will be located in Adibatla, Hyderabad.

The COE will incorporate latest technologies from GE and best manufacturing practices to deliver complex high precision aero-engine components to the world's fastest-selling jet engine, the CFM LEAP engine.

This is part of the strategic partnership signed in November 2017 between GE Aviation and Tata Advanced Systems Limited (TASL) to join forces for manufacturing, assembling, integration and testing of aircraft components.

The agreement for manufacturing of LEAP components and establishment of TASL as a COE provides the opportunity for TASL to expand into other GE product lines in both commercial and military engines in the future.

CTT Systems announces first Cair™ VIP order for BBJ MAX 8

CTT SYSTEMS AB (CTT), a leader of aircraft humidity control systems, has announced a launch customer order for its Cair™ VIP Inflight Humidification system from Jet Aviation for one Boeing BBJ MAX 8. This completion will feature increased humidity in the entire aircraft cabin which requires support from three humidifiers. This award is CTT Systems' 86th VIP order for Airbus ACJs/Boeing BBJs. CTT's humidifier maintains air humidity in the human comfort zone of approx. 20 percent Relative Humidity. A higher humidity on long-haul flights reduces dry air-related problems (e.g. fatigue, jet-lag, red eyes, dry skin, spread of viral diseases) and improves wellbeing and sleep. The humidifier is based on evaporative cooling technology and uses a method that effectively precludes the transfer of bacteria. The Cair™ VIP IFH system offers total anti-condensation protection.

Orolia signs 20-year agreement to provide ELTs and support to Airbus Helicopters

Orolia, a leader in resilient position, navigation and timing (PNT) technology, has signed a 20-year agreement with Airbus Helicopters to continue its role as the supplier of emergency locator transmitter beacons, as well as technical support for all civil and military Airbus helicopters.

"This new, long-term contract shows a great deal of continued trust in us from Airbus," said Christian Belleux, Director, Aviation Product Line at Orolia. "We've been so pleased with the reliability of the INTEGRA ELT, the primary product for Airbus helicopters, and its unique operating features have also been proven through the years to be a strong point for operators around the world."

SWISS selects Pratt & Whitney Geared Turbofan™ engines to power new fleet of Airbus A320neo and A321neo aircraft

Swiss International Air Lines (SWISS) has selected Pratt & Whitney Geared Turbofan™ (GTF) engines to power 15 total Airbus A320neo and A321neo aircraft. Deliveries are scheduled to begin in 2019. SWISS currently operates a fleet of 15 GTF-powered Bombardier C Series aircraft, including both the CS100 and CS300 models, with another 15 aircraft on order.



Liebherr-Aerospace to supply heating valves for Airbus Helicopters H160 helicopter program.
Photo: © A. Pecchi

Liebherr-Aerospace receives order for Airbus Helicopters' H160 heating valves

Liebherr-Aerospace Toulouse SAS, has been selected by Airbus Helicopters to supply the heating valves for its H160 helicopter program. Liebherr-Aerospace will not only develop, qualify and manufacture the environmental control system components, but the company will also service them.

Liebherr will supply two valves of the heating system that will be installed in the helicopter in order to provide hot air to the cabin, allowing temperature adjustment inside the cabin and demisting of the window panes of the helicopter. Liebherr-Aerospace has incorporated its latest innovations from the field of high-precision electro-mechanical controls into the design of the highly reliable heating valves. Made of lightweight aluminum, they contribute to the optimization of the helicopter's operating costs.

The contract for the heating valves is the second order Liebherr-Aerospace received for the H160 program; in September 2012, the company was selected to supply the main rotor actuator for the medium twin-engine aircraft designed as the successor to the Dauphin helicopter. Moreover, Liebherr supplies flight control, landing gear and air management systems or components for almost all of Airbus Helicopters' rotor wing families.

Lufthansa Technik Shenzhen is expanding its service portfolio

Lufthansa Technik Shenzhen is developing into a comprehensive MRO services provider by significantly expanding its service portfolio. The German-Chinese company is strengthening its capabilities in the fields of component

repair and composite repair (Airframe Related Components, ARC®) as well as engine part repair. Extending its Logistics Services, mobile engine services, the Airline Support Team (AST®), Lufthansa Technik Shenzhen is reinforcing its position as a trusted partner in the Asia Pacific region. Lufthansa Technik Shenzhen with its 600 employees recently built facilities to support the latest aircraft types – Airbus A350, Boeing 777 and Boeing 787. For 2018, A350 capability will include components such as thrust reverser actuator, hydraulic pumps, and batteries.

Detlev Jeske, CEO and President of Lufthansa Technik Shenzhen commented: "Lufthansa Technik Shenzhen follows the path of a continuous expansion of its range of products by adjusting accurately to the requirements of the customers in the region. This way we are offering the profound know-how and up-to-date technology of the Lufthansa Technik Group in the Asia Pacific region."

GE seeks to narrow manufacturing skills gap in Lafayette

After creating eight factories across the U.S. over the past decade, GE Aviation is working to narrow the "skills gap" facing many young Americans seeking jobs in today's advanced manufacturing plants.

More than ever, GE Aviation collaborates with universities, technical colleges and public schools on job training programs in communities where it operates plants. Nowhere is it more critical than at GE's jet engine assembly plant in Lafayette, Indiana, in the shadow of storied Purdue University. This is because GE's Lafayette operation, which opened in 2015, is in the throes of the fastest production ramp-up for a commercial jet engine since

jetliners were first introduced in the 1950s. Also, Lafayette needs shop-floor technicians holding a Federal Aviation Administration (FAA) airframe and powerplant license to perform the diverse technical tasks on sophisticated equipment inside the new facility. GE's Lafayette factory produces the "LEAP" engine for CFM International, a 50/50 joint company between GE and Safran Aircraft Engines of France. More than 14,000 LEAP engines are on back order to power three popular twin-engine airplanes: the Airbus A320neo, Boeing 737 MAX, and China's COMAC C919.

REVIMA APU enhances accessory services with new Bauer test stand

Revima APU, a major APU (Auxiliary Power Unit) maintenance services provider headquartered in France, has acquired and started operating a new APU starter motor test stand delivered by Bauer. This investment in high-quality, latest-technology test equipment increases Revima APU's in-house capacity to support APU LRU's (Line Replaceable Units). Philippe Follin, LRU Business Unit Manager at Revima APU, commented: "This investment is, motivated by our goal to give our customers the best service in the industry, on the widest range of APU LRU's. Our new Bauer test stand's high throughput and reliability will ensure the fastest possible turn time on LRU repairs. It is also allowing us to expand our in-house LRU repair capabilities on new products such as the GTC131 and PW980."

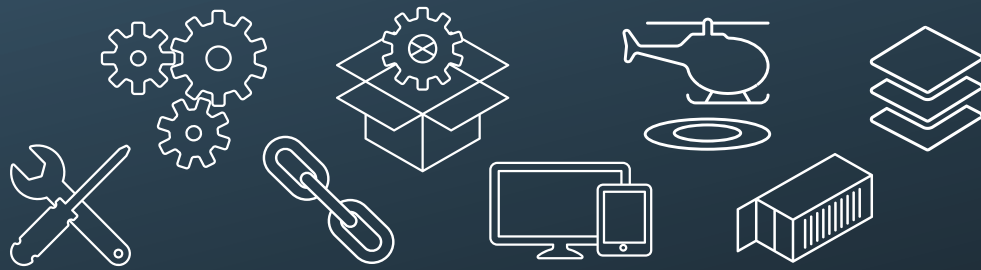
Bauer is one of the world's longest-serving manufacturer of high-quality test and support equipment for the commercial and military aviation industries.

SIA Engineering Company to form joint venture with GE Aviation

Mainboard-listed SIA Engineering Company (SIAEC) and GE Aviation (GE) will be signing a joint venture agreement to form an engine overhaul joint venture based in Singapore. This follows the first announcement of the proposed partnership on June 20, 2017. Under the agreement, GE will hold a 51% equity stake in the joint venture, with SIAEC holding the remaining 49%. The agreement is subject to regulatory approvals being obtained in the relevant jurisdictions. The GE90 engine exclusively powers the Boeing 777-300ER and 777-200LR, and the GE9X engine is the sole engine selection for the Boeing 777X aircraft. The joint venture will leverage best practices from GE's "Brilliant Factory" concepts, combining advanced technologies and lean practices with digitization and data analytics to enhance productivity.

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Lufthansa Technik Philippines and Asiana Airlines sign 5-year, A380 base maintenance contract
Photo: LHT

Asiana Airlines signs agreement with Lufthansa Technik Philippines for A380 base maintenance

On February 7, Lufthansa Technik Philippines and Asiana Airlines signed a five-year agreement for base maintenance. From 2018 to 2022, Lufthansa Technik Philippines will be carrying out a total of 14 checks on the South Korean airline's A380s. Asiana Airlines first took delivery of its A380s in 2014 and has six A380s at present. Over the next five years, they are scheduled to undergo light to heavy maintenance checks. In addition to these checks, Lufthansa Technik Philippines is also commissioned to carry out modifications on the doors, flap tracks, wing tips, engine feed fuel pump system, and other structural modifications.

AAR and Indamer sign joint venture agreement for new MRO facility in India

Aviation services provider AAR has announced a joint venture with Indamer Aviation, a leading aviation company in India, for the development of a new airframe maintenance, repair and overhaul (MRO) facility in Nagpur, India. The new MRO facility, which is already under construction, will initially be comprised of six narrow-body bays, including one bay for paint. Additional phases are planned for a total of 16 bays, as well as component repair shops. The MRO will serve India's fast-growing commercial aviation market and is scheduled to open in the fall with FAA, EASA and DGCA certifications. Fully aligned with the 'Make in India' initiative, the facility will

employ Indian nationals, including some of the existing Indamer workforce. A training school under Indamer's CAR 147 certification and the Government of India's Skill Development Program will allow hundreds of students to gain skill sets and employment in Nagpur. The initial group of students will receive practical training at one of AAR's MRO facilities in the United States.

TS&S and Atlas Copco partner to revolutionize MRO assembly processes

Turbine Services & Solutions (TS&S), a leading maintenance, repair and overhaul (MRO) provider for gas turbines and driven equipment wholly owned by Mubadala Investment Company, and Atlas Copco, a world-leading provider of sustainable productivity solutions, are set to collaborate on an extensive digital optimization process, it was announced during the Singapore Airshow. The partnership will enable TS&S to be the first MRO outside of the United States and Europe to embrace the smart connected assembly technology. The framework will enable TS&S to enhance its processes through data generated solutions that regulate and recognize improvements throughout its aerospace assembly process. Also referred to as the Smart Connected Assembly, the process will support optimization by reducing the time spent on assembling engines. This is achieved using the technology to support the technician to improve productivity, reduce the risk of error and provide total data traceability.

The new technology will further support TS&S' expanding service line and capabilities, headquartered from a state-of-the-art

facility in Abu Dhabi International Airport. The company has plans to digitize its operations to improve efficiency across its MRO operations. To this end, TS&S signed an agreement with Honeywell in January 2018 to implement a "Maintenance and Inspection" (M&I) voice system.

EFW signs LoI with Guangdong Aerocity for A320P2F conversion

Elbe Flugzeugwerke (EFW) has entered into a Letter of Intent (LOI) with Guangdong Aerocity (GDA) for a potential order of 10 A320 Passenger-to-Freighter (P2F) conversions to be carried out by EFW for the latter. The LOI has a validity period till the end of 2018. It was signed just a day after EFW announced it has secured a launch contract for an order of 10 A321P2F conversions at Singapore Airshow 2018. Dr Andreas Sperl, CEO of EFW said, "Similar to the A321P2F solution, A320P2F offers unique features such as both upper- and lower-deck containerized loading which make them an attractive option in the narrow-body freighter segment. We hope to secure a firm order before long from Guangdong Aerocity, whom we look forward to supporting together with our parent company, ST Aerospace and its global network of maintenance facilities."

AJW Group signs supply chain management contract with Bombardier Business Aircraft

AJW Group has signed a long-term agreement with Bombardier, undertaking all repair management for Bombardier's rotatable inventory in a major strategic win for the company. The contract with the airframe OEM, Bombardier, represents a substantial expansion of AJW's portfolio with the introduction of a new platform. The families of Bombardier business aircraft covered include the Learjet, Challenger and Global series.

A key feature of the contract is the strategic sourcing of repairs from OEMs and MROs, including AJW's maintenance hub for component repair and overhaul service, AJW Technique. AJW will manage the repair process back-shop, optimizing performance, and efficiency of the services, while reducing operating and total life cycle costs for Bombardier business aircraft. As part of the agreement, AJW is providing dedicated repair specialists, utilizing its world-class portal and predictive analysis to support Bombardier in improving customer service, component reliability and time on-wing.

Lufthansa Technik in partnership with Crane Aerospace & Electronics

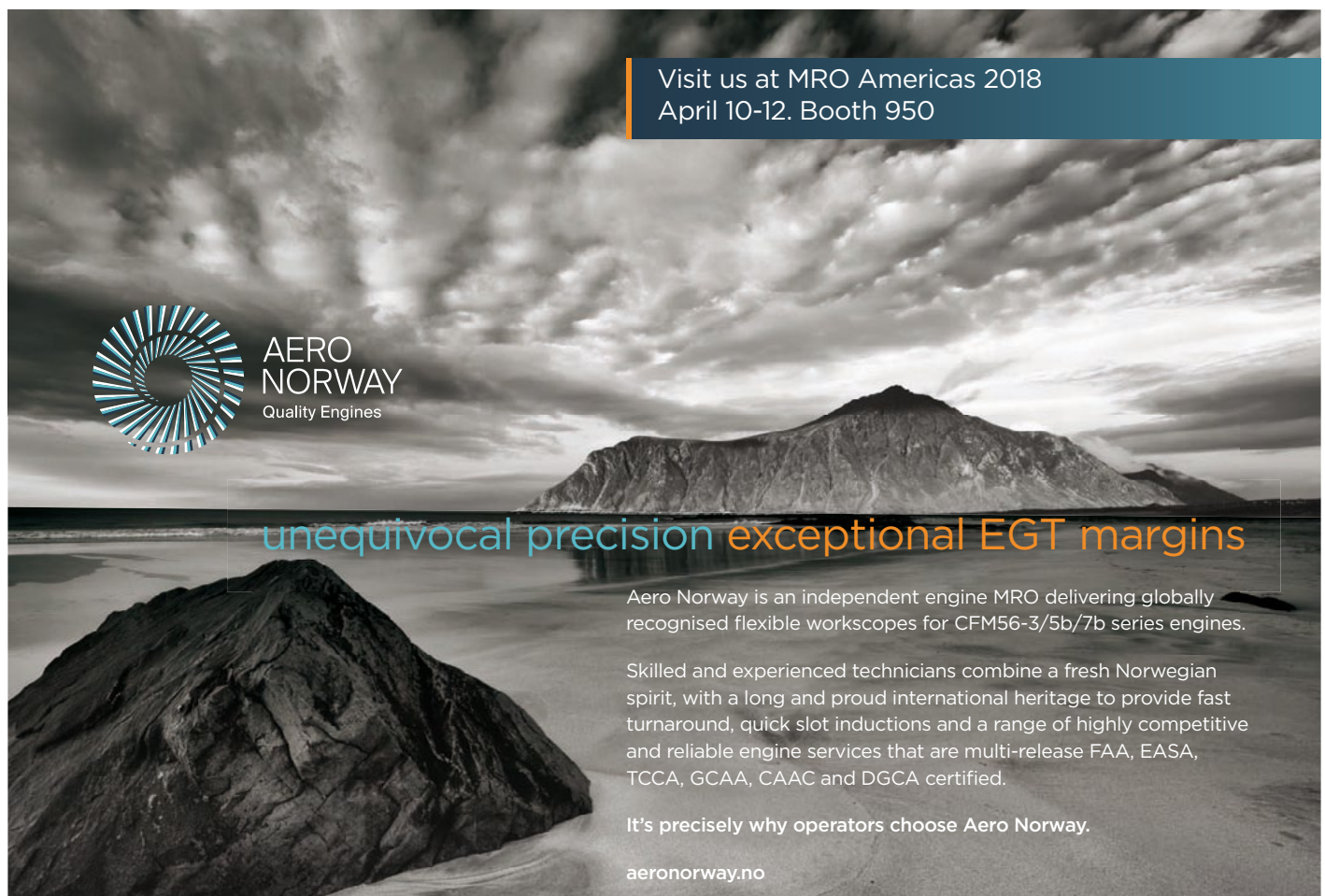
Lufthansa Technik AG and the American component manufacturer Crane Aerospace & Electronics have agreed on a cooperation covering component supply for Europe, the Near and Middle East and Africa (EUMEA), as well as Asia Pacific (APAC). Lufthansa Technik will support the urgent supply of a number of components to all customers in these regions on Crane's behalf. The cooperation was initially concluded for a term of five years and covers, in particular, all the components and systems for the strongly growing fleets of the Boeing 737 (NG and MAX) and Airbus A320 (ceo/neo) aircraft families, including, for instance, pumps, valves and wheel speed transducers. In the event of unplanned technical problems such as Aircraft on Ground (AOG) or work stoppage, where Crane is unable to meet the customer's timeline, Lufthansa Technik supports the customer using their worldwide logistic network and stocking locations to supply Crane components as fast as possible on-site. In the EUMEA or APAC region, customers can contact either Crane or Lufthansa Technik directly for support.

EASA issues single Production Organisation Approval to Airbus Helicopters

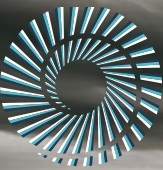
The European Aviation Safety Agency (EASA) and Airbus Helicopters have implemented a new single Production Organisation Approval (POA). This replaces previous national approvals from France, Germany and Spain by a single, integrated framework allowing for simplified industrial exchanges between Airbus Helicopters' manufacturing facilities and supporting the company's industrial strategy of site specialization across Europe. "The implementation of the single POA allows us to work as a truly integrated company, and ensures that our various sites are no longer considered as each other's suppliers from a regulatory perspective", said Christian Cornille, Airbus Helicopters Executive Vice-President Industry. Since June 2016, Airbus Helicopters is also operating under a single Design Organisation Approval (DOA) from EASA which has simplified and harmonized development processes and facilitated the implementation of an increased transnational approach to certification, including through the establishment of a unified airworthiness office within Airbus Helicopters.

AirAsia X and AFI KLM E&M extend A330 component support contract

Long-standing partners AirAsia X and AFI KLM E&M have extended the Malaysian budget carrier's A330-300 component support contract, originally signed in 2007. The new agreement involves extending the exclusive component support provided by AFI KLM E&M until the A330s are retired from the Air Asia X fleet, with an option to include additional aircraft in the scope of the agreement, as and when required by the airline. The services provided include repair, pool access, and related logistic services. Extended previously to include a number of additional aircraft, this latest agreement testifies to the strength of AirAsia X's relationship with AFI KLM E&M, which has supported the low-cost carrier since it began operations in 2007. Since that time, this pioneering partnership has extended to the AirAsia Group, with AFI KLM E&M now also providing component support services for the AirAsia fleet of A320neos.



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Comlux performs its first Digital Maintenance on Hyundai Motor Company BBJ
Photo: Comlux

Comlux performs first Digital Maintenance on Hyundai Motor Company BBJ

Comlux Completion, Comlux's completion and service center in Indianapolis and approved by Airbus, Boeing and Bombardier, has successfully performed its first Digital Maintenance inspection on the BBJ of Hyundai Motor Company. The Digital Maintenance process allows that all task cards and part tracking efforts are performed electronically using wireless tablets and bar code scanners, instead of using paper task cards and boards. Documentation can now be directly entered into the system via hand-held devices rather than at an off-aircraft computer workstation, thus allowing technicians to stay on task at the aircraft. The supervisors can assign tasks electronically and have a real-time live view of work progression. On the project management side, the purchase orders for parts and services can also be viewed real time against the specific maintenance tasks that required them for instantaneous reporting. This enhances the client experience during the event, as real time digital reporting enables seamless oversight throughout the maintenance event.

Boeing announces close to US\$1 bn in services orders at Singapore Airshow

Boeing has reported services orders valued at more than US\$900m at the first day of the Singapore Airshow. The agreements stretch across Global Services' four capability areas, including parts; engineering, modifications and maintenance; digital aviation and analytics; and training and professional services. Regional agreements include, in part: All Nippon Airways signed a contract for 36 landing gear exchanges for the 787. China Southern Airlines and Guangzhou

Aircraft Maintenance Engineering Company (GAMECO) signed an agreement to develop service capabilities for the Boeing Global Fleet Care portfolio, as well as enhanced component and composite repair capabilities.

Malaysia Airlines signed an agreement for 48 landing gear exchanges for the Next-Generation 737. Through the program, operators receive an overhauled and certified landing gear from an exchange pool maintained by Boeing, with stocked components and supporting parts shipping within 24 hours.

Nippon Cargo Airlines signed a five-year agreement to renew Jeppesen charting and electronic flight bag services to optimize navigation and flight operations across their 747 fleet.

Royal Brunei Airlines signed an agreement for five 787-8 overhead flight crew rest retrofits. The modifications, to be completed at Boeing Shanghai, will allow the carrier to fly the 787-8 airplanes on long-haul routes, providing increased operations' flexibility to the fleet and operator.

SilkAir signed an agreement to receive fleet material services for 54 of its 737 MAX and Next-Generation aircraft. Fleet material services include Component Services Program, Integrated Material Management and Customer Furnished Parts, providing the customer with a centralized supplier of parts.

Singapore Airlines signed a contract to use the Electronic Logbook on its 777 and 787 fleet. As a Boeing electronic flight bag app, the Electronic Logbook replaces paper logbooks with digital records that improve operational efficiency and reliability, reducing schedule interruptions.

Singapore's Defense Science and Technology Agency signed an agreement to engage in collaborative research and experimentation activities, powered by Boeing AnalytX.

Worldwide agreements announced include: Alaska Airlines signed an agreement to renew

Jeppesen Flight Planning for its 737 fleet.

Biman Bangladesh Airlines has expanded its use of Boeing's Component Services Program by adding the service to support induction of new 787 aircraft that will enter its fleet in August this year, in addition to expanding and extending current component service coverage of its existing 737 and 777 fleets. With this service extension, Biman is on CSP support for all three of its airplane models.

DHL has ordered one 767-300ER Boeing converted freighter. Boeing converted freighters carry high-density cargo on long-range routes, as well as e-commerce cargo on domestic and regional routes.

Honeywell Aerospace signed a contract extending Aviall's product support agreement as the exclusive distributor for Honeywell Aerospace through 2022, covering interior and exterior lighting equipment for all commercial aftermarket product sales. Products covered include indicators, annunciators and other components used on commercial aircraft.

Lufthansa Group signed an agreement for 25 landing gear exchange and overhauls across its 777-200F and 777-300ER fleets for AeroLogic, Lufthansa Cargo and Swiss International Airlines. The service eliminates the need for operators to contract, schedule and manage the overhaul process.

Parker Aerospace's Aircraft Wheel & Brake Division signed a five-year master distributor agreement with Aviall for its Cleveland Wheels & Brakes product line. Aviall will forecast, warehouse and market through its network, including Parker AWB's former network of direct distributors.

Tianjin Air Capital signed a contract with AerData for Secure Technical Records for Electronic Asset Management, a tool that transforms operations by replacing paper documents with digital ones, for a fleet of more than 50 aircraft.

Tunisair signed a contract to integrate Jeppesen Aviator services on iPad into its flight operations, reducing pilot time spent on data entry and accessing individual apps.

AEI delivers 100th B737-400SF freighter conversion

Aeronautical Engineers (AEI) has delivered the 100th B737-400SF freighter conversion. The re-delivery honor goes to Dublin, Ireland-based ASL Aviation with the 11-pallet position B737-400SF (MSN 25097). This aircraft represents the 13th AEI B737-400 converted freighter that has been re-delivered to ASL over the last few years. ASL has an additional four AEI B737-400SF freighters either currently undergoing conversion or scheduled for modification in 2018 at Commercial Jet's Dothan, Alabama facility.



GECAS will offer Telair's new Flexible Loading System to GECAS' 737-800 freighter conversion customers
Photo: GECAS

GECAS to introduce Telair's new Flexible Loading System™ with Boeing 737-800 converted freighter operators

Telair International AB has received certification for its new Flexible Loading System™ (FLS) for all current production and in-service Boeing 737 aircraft. The system allows 737 operators to carry containerized cargo (baggage, mail, and parcel freight) in the lower hold of the aircraft, along with bulk-loaded bags. Commercial aviation lessor GECAS will offer the new Flexible Loading System to GECAS' 737-800 freighter conversion customers on aircraft entering service this year. As announced at last year's Paris Airshow, GECAS plans to convert 30 737-800s to freighters, with deliveries beginning in 2018.

AERIA Luxury Interiors secures VIP completion contract

AERIA Luxury Interiors (AERIA), a specialist in VIP completion and refurbishment, has secured a contract for the completion of the Boeing Business Jet BBJ 737-700. This will be the third Boeing Business Jet that AERIA is contracted for since it started operating in 2014. The aircraft is due for arrival in 1Q 2018 at its facility in San Antonio, Texas, USA which is part of ST Aerospace's global Maintenance, Repair and Overhaul (MRO) network. The interior, fully designed by AERIA, will feature a VIP stateroom complemented by an on-suite lavatory with showers, separate crew and passenger galleys, an office/meeting room, staff seating, additional lavatories and large 4K monitors throughout. The aircraft interior design will also feature gold plating, ornate details, and a balance of wood and luxurious fabrics in a light, refreshing color scheme.

StandardAero to provide PW127M engine MRO services for Far Eastern Air Transport Corporation

StandardAero has been awarded an exclusive, eight-year agreement to provide Pratt & Whitney Canada (P&WC) PW127M engine maintenance repair and overhaul (MRO) services for Far Eastern Air Transport Corporation's (FAT) fleet of ATR72-600 aircraft. FAT is an airline with its head office in Taipei, Republic of China. FAT operates to 21 scheduled international and domestic destinations. Its international destinations include China, Japan, South Korea, Vietnam and Cambodia. StandardAero is a Pratt & Whitney Canada Designated Overhaul Facility (DOF).

GE Aviation invests S\$42m in new aircraft engine component facility in Singapore

GE Aviation will invest S\$42m in a new facility located in Singapore to manufacture components for its GE9X engine that will power Boeing's 777X aircraft. This facility will expand GE Aviation's presence in the country where the company operates a sizable aircraft engine component repair facility. The new 50,000 ft² facility will be located at the Seletar Aerospace Park and produce high-pressure compressor (HPC) vanes. The facility is expected to open in late 2018 with an initial workforce of 20 employees and could grow to employ about 100 skilled technicians and engineers by 2020. This facility will grow GE Aviation's workforce in Singapore beyond the 1,800 employees currently employed at the engine component repair facilities located at Loyang Industrial Park.

StandardAero authorized as maintenance partner for Honeywell TFE731 turbofan engines in the EMEA Region

StandardAero has been authorized by Honeywell Aerospace as the exclusive provider in the Europe, Middle East, Africa and India (EMEA) region for major maintenance repair and overhaul services (MRO) for the Honeywell TFE731 family of turbofan engines. The new agreement authorizes StandardAero as the only maintenance facility, located in the EMEA region, licensed to perform both Core Zone Inspections (CZIs) and MSP covered Major Periodic Inspections (MPIs). The authorization includes non-MSP covered engine maintenance as well. Additionally, StandardAero is authorized to perform line level maintenance on the 36-series APUs for business aviation aircraft operators in the EMEA region. The authorization, effective January 1, 2018, is a long-term agreement whereby StandardAero anticipates supporting more than 1,500 MPI & CZI engine events over the life of the contract. The establishment of a Europe-based TFE731 shop allows StandardAero to expand on its strong US-based network of MRO facilities. After a thorough program evaluation, StandardAero will perform TFE731 MPI and CZI engine events for EMEA operators at the company's Fleetlands, U.K. facility. As part of the agreement, StandardAero will also stand up Europe-based Mobile Service Teams to provide on-site service to support approximately 600 operators in the region.

GA Telesis and Aero Engine Solutions enter into CFM56-5B and CFM56-7B material agreement

GA Telesis (GAT) has entered into a supply chain agreement with Aero Engine Solutions (AES) to provide CFM56-5B and CFM56-7B materials for GAT's Helsinki-based engine overhaul shop, GA Telesis Engine Services (GATES). This agreement provides an expanded pipeline of OEM repaired and serviceable material for GATES customers which can offer additional cost savings and secure a large volume commitment for AES.

"As our CFM56 engine repair and overhaul programs continue to grow at GATES, adding a strong partner like AES is essential to ensure a steady pipeline of materials," said Alex Tuttle, Vice President of GA Telesis Engine Solutions Group. "My team and I are excited for this opportunity and confident that this program will benefit both AES and GAT. Over the next two years, we plan to significantly ramp up our teardown and partnerships on the CFM56 product line as a whole," Mr. Tuttle added.



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AMES radomes repairs
Photo: AMES

Fourteen radomes already repaired by Aerostructures Middle-East Services

Aerostructures Middle East Services (AMES) is now supporting five airlines with its radome repair solutions, providing services at competitive rates with quick turnaround times for operators throughout the Middle East and Indian Peninsula. To date, AMES has repaired nine radomes for Airbus A320 Family aircraft and five for Boeing 737s, demonstrating its capability as the only maintenance, repair and overhaul (MRO) operator in the coverage area to develop and market full repair services for these airframe components. The radome repair work was made possible by AMES' investment in a large-scale, three-meter diameter autoclave – which expands its ability to handle a wide range of aerostructure components. This resource is backed by the expertise of AMES' two parent companies: Air France Industries KLM Engineering & Maintenance (AFI KLM E&M), and Safran Nacelles. AMES' repair capacity enables it to expand its services for Airbus A320 and Boeing 737 and Boeing Next-Generation 737 radome repairs to additional customers, while also expanding to other radomes on other aircraft types in the future.

Turkish Technic and Atlasglobal sign component repair and supply contract

Turkish Technic and Atlasglobal have signed an agreement for the repair and supply of components for Atlasglobal's Airbus A320 aircraft fleet. The agreement will be effective until 2023. The contract comprises component repair and supply on ATA Chapter basis. Access to components will be available from

Turkish Technic's Istanbul main base and worldwide pooling stations. Repair work of the components will be carried out at Turkish Technic's Sabiha Gokcen facilities.

Lufthansa Technik Shenzhen approved service provider for COMAC

Chinese aircraft manufacturer COMAC (Commercial Aircraft Corporation of China) has officially approved Lufthansa Technik Shenzhen as their first MRO service provider in China for ARJ21 engine nacelles and components. Prior to the approval, the Lufthansa Technik subsidiary had successfully performed an on-site audit in December 2017. Located in the Chinese province of Guangdong, Luf-

thansa Technik Shenzhen had added the COMAC ARJ21 regional jet to its service portfolio in 2016. Since then, the company has carried out modifications to several shipsets of the regional jet's engine fan cowl and thrust reversers. Lufthansa Technik Shenzhen is authorized by Middle River Aircraft Systems (MRAS), a subsidiary of General Electric, to carry out maintenance, repair and overhaul for ARJ21 engine nacelles.

SR Technics selects dentCHECK from 8tree to improve maintenance operation

MRO service provider SR Technics has reached an agreement with 8tree to use the tool company's dentCHECK solution to enhance its maintenance operations in Switzerland and Malta. The handheld portable and completely wireless 3-D scanner analyzes the surfaces of metallic aero-structures and composite cabin flooring, drastically reducing inspection and reporting times. As such, it helps to empower aircraft maintenance operations with its objective and consistent dent inspection and blend-out. Jakob Straub, Head of Aircraft Services & Line Maintenance at SR Technics, stated about the new tool: "The main reason we have selected dentCHECK is because we were confident that this innovative solution proves to be a great benefit to our maintenance operation allowing us to send accurate dent assessment reports to our customers more rapidly than ever we experienced before. As a result, true value is added to our customer having his aircraft returned back to service more quickly and efficiently."



SRTechnics 3-Dscan dentCheck from 8tree
Photo: SR Technics



LHT Budapest to start connectivity modifications on several Boeing 737 MAX aircraft
Photo: LHT

Lufthansa Technik extends Boeing 737 MAX capabilities

Starting mid-2018, Lufthansa Technik will start connectivity modifications on several Boeing 737 MAX aircraft of an undisclosed airline customer at its overhaul facility Lufthansa Technik Budapest. The five-day modification includes the installation of a broadband antenna on the aircraft's external structure, together with cabling, hardware and software installation in the aircraft cabin. Following the modification program, full base maintenance capability will be built up for Boeing 737 MAX at Lufthansa Technik Budapest in the next months in a first step. Capability extension at further locations of the Lufthansa Technik network will follow. Lufthansa Technik already supports Boeing 737 MAX operators with component services.

ST Aerospace secures interior reconfiguration contract from Air Canada for its 787 fleet

ST Aerospace, through its US affiliate company, VT San Antonio Aerospace (VT SAA), has secured a contract from Air Canada to perform interior reconfiguration services on part of the airline's Boeing 787 Dreamliner fleet. This cabin reconfiguration contract follows a long-term agreement with Air Canada, announced in June 2017, for heavy maintenance services on the Canadian operator's 787 fleet. Marketed as part of ST Aerospace's global network, VT SAA is one of the leading providers of maintenance and modification services for mainline and regional aircraft in North America, having more than 3,000 aircraft in its redelivery track record.

SR Technics and Ural Airlines sign a long-term contract

SR Technics is extending the engine maintenance partnership with Ural Airlines for another six years, covering the airline's CFM56-5B fleet. The new contract was signed in December 2017, and services on the carrier's engines are set to begin in the second quarter of 2018. All work will be done at the SR Technics facilities in Zurich. "SR Technics' expertise, high-quality services and efficient approach for our CFM56-5B fleet is much appreciated and we are pleased to expand our Engine Service business further," said Andrey Melnikov, Head of Budget Planning and Ma-

terial Support at Ural Airlines.

AAR signs long-term component repair contract with Russia's Utair

AAR, a worldwide provider of aviation services to commercial airlines and governments, has announced a long-term agreement between AAR Aircraft Component Repair – Amsterdam and the Russian airline, Utair Aviation. Under the eight-year deal, AAR provides component repair and exchange for Utair's B737 and ATR fleets, as well as reliability engineering support to improve on-wing component reliability.

AerSale to provide MRO services for Orbis Flying Eye Hospital

AerSale, a global supplier of mid-life aircraft, engines, used serviceable material (USM), and MRO services, has reported that it is servicing the Orbis Flying Eye Hospital at its Goodyear, Arizona, MRO facility. The aircraft will undergo a routine maintenance C check, which requires a large majority of an aircraft's components to be inspected. The Orbis Flying Eye Hospital, a high-profile aircraft housing a state-of-the-art teaching facility, complete with operating room, classroom, and recovery room, travels the world in a global effort to end avoidable blindness. The working hospital flies to low- and middle-income countries, provides specialist training for local doctors and nurses, and performs sight-saving surgeries.



Orbis Flying Eye Hospital
Photo: AerSale



Aero Contractors becomes the first carrier to conduct an aircraft C-Check in West and Central Africa
Photo: AJW Group

Aero Contractors partners with AJW Group to conduct first airline C-Check in West and Central Africa

AJW Group, a market leader in the global management of aircraft spares, has reported the successful partnership with Aero Contractors, that has seen the Nigerian airline become the first carrier to conduct an aircraft C-Check in West and Central Africa. The C-Check, which was carried out on a Boeing 737-500 aircraft, was marked by an event at the airline's company headquarters on Friday, January 12, attended by the Nigerian Minister for Aviation and other key stakeholders. AJW has been supporting Aero Contractors as its technical partner since July 2017, restructuring and upgrading all of the airline's MRO support services to C-Check capabilities for Boeing 737 Classic aircraft – the 300, 400 and 500 series.

LHT engine overhaul facility in Hamburg invests in future technologies and growth

The Engine Services division of Lufthansa Technik AG in Hamburg is gearing up for the future. With the simultaneous opening of a new competence center for engine case repair and an X-ray center for engine components of all different sizes, Lufthansa Technik is preparing for future engine types and a growing business in engine maintenance. The company invested around €7 million (US\$8.4 million). State-of-the-art tools and equipment are the basis for the introduction of new repair procedures. At the same time, the variety of engine types overhauled at the facility can be increased significantly, and

turnaround time can be reduced to just three weeks. The division assumes that orders for this product will double over the coming three years. The new X-ray center with its two systems can screen components flexibly, from the smallest engine blade up to future engine cases with a diameter of 3.5 meters – and do so digitally as well as in analog mode. Recurring inspection requirements can be stored and the inspections automated in the future. Planning for a second stage of construction in 2019 is already underway; it will extend capacity yet again.

Airinmar signs repair cycle management agreement with Kenya Airways

Airinmar, a leader in the provision of intelligent component repair cycle management and aircraft warranty solutions for commercial and defense customers, has signed a two-year agreement with Kenya Airways, one of the leading airlines in Africa, to assist in enhancing its supply chain management and performance, and maximizing its new aircraft warranty entitlement recovery.

Safran signs contract with Egyptair

Safran Nacelles has signed a contract with Egyptair for maintenance services on thrust reversers that equip its Airbus A330 jetliner fleet powered by Rolls-Royce Trent 700 engines. The agreement involves scheduled soft-time maintenance, the preventive primary maintenance performed at specific operator-chosen intervals, which can be adjusted to fit the airline's operational schedule, along with cover-

age for unscheduled repair services and asset management. Safran Nacelles is the Original Equipment Manufacturer (OEM) for the Trent 700 thrust reversers. The maintenance coverage for Egyptair is part of Safran Nacelles' wider services offering, which ensures controlled maintenance budgets through customized refurbishment work scopes at the proper times, depending on an aircraft fleet's age and utilization – thereby preventing major disruptive and costly unscheduled events.

The long-term agreement – announced during the MRO Middle East conference at Dubai – will be backed by Safran Nacelles' global Maintenance, Repair and Overhaul (MRO) network. These resources include the component repair center-of-excellence at Aerostructures Middle East Services (AMES) – a joint venture of Safran Nacelles and AFI KLM E&M (Air France KLM Group), based in Dubai's Jebel Ali Free Zone, Jafza.

Top marks for AJW Technique in Transport Canada audit

AJW Technique, the Montreal-based maintenance hub of AJW Group's component repair and overhaul capability, has passed the Transport Canada Civil Aviation (TCCA) Approved Maintenance Organisation (AMO) evaluation, with zero findings and zero observations. This highly successful audit means that the 160,000 ft², state-of-the-art facility has again secured approval from the TCCA – a pre-requisite for any organization in Canada to perform maintenance services on aircraft components and to issue airworthiness certificates for them. AJW Technique first received TCCA approval in January 2013, when it was authorized to perform maintenance services on galley equipment. Since then, it has rapidly expanded its range of component capabilities to include avionics, hydraulics, pneumatics, fuel, power generation, safety equipment, electromechanical, lighting and instruments.

Safran signs thrust reverser services agreement for Kuwait Airways' Airbus A330 jetliner fleet

Safran Nacelles has been selected by Kuwait Airways to provide unscheduled maintenance services coverage and asset management for thrust reversers on the airline's Airbus A330 jetliner fleet powered by Rolls-Royce Trent 700 engines. The agreement with Kuwait Airways includes a guaranteed service level with access to a Middle East pool of thrust reversers. This agreement with Kuwait's flag carrier will be backed by Safran Nacelles' global Maintenance, Repair and Overhaul (MRO) network.



Smart data glove
Photo: Lufthansa Technik

Lufthansa Technik Logistik Services on the way to digital warehouse

Lufthansa Technik Logistik Services (LTLS) is driving digitalization forward by purposefully using Internet of Things (IoT) technologies. The aim is to improve the efficiency of operational processes and lay the foundation for reducing the workload of employees. For this purpose, the wholly owned subsidiary of Lufthansa Technik AG has launched a targeted warehousing program as part of its digitalization strategy. Within the framework of this program, fundamental processes in all areas will be automated, digitalized and interconnected. The pilot location for the digital warehouse is Munich Airport, which is particularly suitable due to its strong growth and modern infrastructure, as well as the fact that new aircraft types such as the Airbus A350 are stationed there. "We are currently testing and starting to implement digital assistance systems, localization technologies and driverless transport systems in selected areas of activity. We cooperate with specific start-ups. For instance, we are introducing the smart data glove of Proglove as well as an automated guided vehicle of Agilox" said Dr. Harald Kolbe, Head of Digital Innovation at LTLS.

Core logistics processes are not only being digitalized in Munich, but also at other locations, such as Frankfurt and Hamburg. The ultimate goal is to implement efficient processes at all locations.

To keep realizing new ideas at short intervals and with great speed, LTLS relies on agile project management. But cooperation with start-ups and the implementation of a group-wide innovation culture at all hierarchical levels are also important elements on the way to a digital warehouse.

StandardAero to provide Pratt & Whitney Canada's APS2300 APU MRO services for S7 Airlines

StandardAero has been awarded a four-year contract to support the Pratt & Whitney Canada (P&WC) APS2300 auxiliary power unit (APU) maintenance, repair and overhaul (MRO) services for Russian-based S7 Airlines' fleet of Embraer E-Jet E170 aircraft. All services will be provided at StandardAero's Maryville, TN, facility. S7 is one of the largest Airlines in Russia, with a total fleet of 80 aircraft, and will be the biggest Embraer operator in the country as they expand their fleet of E-Jet E170s to 17 aircraft by the end of 2018.

Magnetic MRO becomes SAS' heavy maintenance partner for fleet of A320Neos

Magnetic MRO, a Total Technical Care maintenance and asset management organization, has signed a contract with Scandinavian Airlines (SAS) to become its heavy maintenance partner for A320Neo aircraft – which is accepted as the future backbone of the SAS narrow-body fleet. Under the new agreement, Magnetic MRO will take care of SAS' fleet of A320Neo with Leap-1A engines program from Autumn 2018 to Winter 2020, covering 23 checks in total.

Turkish Technic and Onur Air sign component repair and access (pool) contract

Onur Air has signed component repair and access (pool) contract with Turkish Technic

for its Airbus A330 aircraft. The contract will be effective until 2023. The contract comprises component repair and access on an ATA (The Air Transportation Association) Chapter basis. Access to components will be available from Turkish Technic's Istanbul main base and worldwide pooling stations. Repair work of the components will be carried out at the Turkish Technic Sabiha Gokcen facility, the biggest MRO facility in the region. The contract has enhanced the existing strong business partnership between the parties, and will be contributing to the development of the Turkish global aviation industry.

Roll-Royce selects StandardAero for RB211-535E4 engine MRO services partnership

StandardAero has signed a Letter of Intent with Rolls-Royce to provide engine MRO services for the RB211-535E4 program for the life of the engine type. This award designates StandardAero as the Rolls-Royce end-of-life engine maintenance service partner. Rolls-Royce RB211-535E4 engines are anticipated to remain in commercial airline service until the year 2040. StandardAero will service these engines at its San Antonio, Texas facility, where the company recently acquired a long-term lease for its existing facilities, previously leased by Kelly Air Center, and expanded space to provide more capacity for engine MRO growth. Moreover, the expanded lease space also includes four additional engine test cells to support higher thrust class and afterburning turbofan engines.

"The RB211-535E4 engine will be the highest thrust engine in StandardAero's commercial MRO portfolio," said Peter Turner, President of StandardAero's Airlines and Fleets division. RB211-535E4 engines are capable of generating 40,100 to 43,100 pounds thrust, and power the Boeing 757 aircraft, which is flown by many of the world's major airlines, with half of the fleet in-service in North America.

ST Engineering's aerospace arm adds about \$510m contract wins in 4Q2017

Singapore Technologies Engineering has reported that its aerospace arm, Singapore Technologies Aerospace secured new contracts worth about \$510m in the fourth quarter (4Q) of 2017 for services ranging from airframe maintenance and landing gears repair to pilot training.

The airframe maintenance contracts include multi-year agreements to provide A- and C-checks for Boeing aircraft, including the 777

and 747, as well as support for other platforms, including the MD-11 and A320. Other Maintenance, Repair & Overhaul (MRO) contracts clinched in 4Q2017 include agreements for ATR72-500 shipsets, landing gear repair for military planes, extension of engine wash services for existing customers, and Boeing 787 component support over 15 years for Gulf Air and which was announced last November. In the non-MRO related business, contracts won during the quarter include a three-year pilot training agreement from a new customer.

The aerospace sector redelivered a total of 1,206 aircraft for airframe maintenance and modification work in 4Q2017. Additionally, a total of 11,852 components, 58 landing gears and 40 engines were processed, while 2,494 engine washes were conducted.

During the quarter, Elbe Flugzeugwerke, the joint venture between ST Aerospace and Airbus, redelivered the first A330-300 Passenger-to-Freighter converted aircraft to launch customer DHL Express after the successful completion of test flights in October and awarding of the Supplemental Type Certifi-

cate by the European Aviation Safety Agency in November.

For its aircraft seats business, ST Aerospace continues to build up its capabilities by meeting stringent performance standards when it achieved the European Technical Standards Order (ETSO) for the lightweight economy class seat for the A320 platform.

SR Technics inaugurates new line station at Manchester Airport

MRO service provider SR Technics has opened its new Manchester Line Station. The new operations, which are part of a larger growth strategy in Line Maintenance, started operating in November 2017 and is fully EASA approved. The station's initial capability covers the Airbus A330 and the Boeing 787. The new SR Technics line station is the first to offer Boeing 787 services in the UK and is expected to add other aircraft types, like the Airbus A350 and other standard Airbus and Boeing aircraft types, in the near future.

Airbus selects Sabena technics for construction and operation of fourth painting facility

Only six months after the opening announcement of their third paint shop, Sabena technics has been selected by Airbus for the construction and operation of a fourth painting facility dedicated to Airbus wide-body aircraft in Toulouse Blagnac airport. This new facility reinforces Sabena technics' footprint in Toulouse and comes in addition to two facilities in operation since 2015, as well as a third that will be operational by the end of the year. The construction of the 7,000 m² paint shop will start on October 2018 and will represent over €23m (US\$27.7m) of investment. The company is looking to hire and train more than 70 people for an operation start-up scheduled by the end of 2019. By the start of 2020, there will be a total of four painting rooms, representing approximately 15,000 m² of surface area, able to accommodate ATR to the Airbus A350 aircraft.



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GA Telesis MRO Services signs long-term agreements with Honeywell

GA Telesis MRO Services has signed a long-term repair and overhaul license agreement and parts supply agreement with Honeywell. With this announcement, GA Telesis will be providing repairs of over 175 base part number and line replacement unit (LRU) repair items, and will be sourcing over 1,200 material supply line items from Honeywell Aerospace. Products include electro-mechanical, pneumatic and mechanical LRU's covering a variety of Airbus, Boeing, Bombardier and Embraer fleet applications. These products have been an integral part of the company's MRO Services capabilities for many years and are currently being serviced from the Miami, Florida facility. Aligning with Honeywell through these agreements further strengthens GA Telesis MRO Services focus to sup-

port its airline customers by providing OEM-approved repairs and using OEM-approved materials at competitive rates.

Rolls-Royce secures new jet engine test facility in Fort Worth, Texas

Rolls-Royce will operate a jet engine testbed at the Alliance Airport in Fort Worth, Texas. Rolls-Royce has signed a lease to take over the entire 440,000 ft² former Texas Aero Engine Services (TAESL) facility, of which the testbed is a part. The testbed will be used to carry out endurance test runs for Rolls-Royce Trent engines, allowing the company to continue to support its growing fleet at a time of unprecedented activity. Rolls-Royce is currently introducing three new large civil aero engines into service. The Trent 1000 TEN entered service

in November last year, powering the Boeing 787 Dreamliner, and the Trent XWB-97 and Trent 7000 will enter service this year on the Airbus A350-1000 and Airbus A330neo respectively. By the early 2020s, one in two modern wide-body passenger aircraft will be powered by Trent engines. Until its closure in early 2016, TAESL was a maintenance repair and overhaul (MRO) facility run as a 50-50 joint venture between American Airlines and Rolls-Royce. Having signed a lease with property owner, the City of Fort Worth, Rolls-Royce expects the testbed to be operational in a few months with approximately a dozen employees.

Rolls-Royce also recently announced the development of a new testbed facility at its site in Derby, U.K., as part of an ongoing commitment to support the growth in delivery of engines expected over the coming years.

Finance News

Bombardier reports fourth-quarter and full-year 2017 results

Bombardier has reported its fourth-quarter and full-year 2017 results, highlighting solid financial and operational performance across the company. In 2017, Bombardier's full-year EBIT before special items grew 57% year-over-year, from \$427m to US\$672m, while EBITDA before special items reached close to US\$1bn. Full year EBIT margins exceeded guidance for Transportation, Business Aircraft and Aerostructures. Before special items, EBIT margins were 8.4% at Transportation and Business Aircraft; and 10.0% at Aerostructures. Consolidated revenues for the year were US\$16.2bn, in line with its guidance.

Free cash flow performance for 2017 was better than guidance by more than US\$200m, with a usage of US\$786m. This over-performance allowed Bombardier to end the year with a US\$3.1bn cash balance and well positioned to achieve cash flow breakeven in 2018, a key objective of the Company's turnaround plan.

Business Aircraft's 2017 financial performance met or exceeded guidance, delivering 140 aircraft. Revenues were US\$5.0bn with EBIT margins before special items of 8.4%.

For the fourth quarter, deliveries reached 44 units, including a strong mix of Challenger and Global family aircraft, representing 29 and 13 deliveries respectively.

Commercial Aircraft's financial performance for 2017 was marked by the continued production ramp-up of the C Series aircraft program. As announced in the third-quarter financial results, engine delivery delays from Pratt & Whitney impacted the C Series aircraft deliveries, particularly in the fourth quarter. While revenues reached US\$2.4bn, in line with its guidance, the EBIT loss before special items at US\$377m compared favorably

relative to expectations.

Airbus posts full year 2017 results

Airbus has reported 2017 revenues of €66.8bn (2016: €66.6bn) with higher aircraft deliveries offset by a reduction in revenues of around €2bn from the perimeter changes. Commercial Aircraft revenues rose by 3.5% with record deliveries of 718 aircraft (2016: 688 aircraft) comprising 558 A320 Family aircraft, 78 A350 XWBs, 67 A330s and 15 A380s. Helicopters' revenues were slightly lower with deliveries of 409 units (2016: 418 units). Revenues at Defense and Space reflected the division's perimeter changes of around €1.7bn but were 7% higher on a comparable basis driven mainly by military aircraft.

EBIT Adjusted increased to €4,253m (2016: €3,955m).

Commercial Aircraft's EBIT Adjusted of €3,554m (2016: €2,811m) reflected the strong delivery performance supported by improved foreign exchange rates.

Helicopters' EBIT Adjusted declined to €337m (2016: €350m) but was broadly stable on a comparable basis. Lower deliveries, an unfavorable mix, and lower commercial flight hours in services were compensated by transformation efforts which have globally supported the division's competitiveness in a challenging market. The sale of the maintenance, repair and overhaul business Vector Aerospace was closed in November.

Defense and Space's EBIT Adjusted amounted to €872m (2016: €1,002m), reflecting the perimeter changes but was broadly stable on a comparable basis.

A total of 181 A320neo Family aircraft were delivered, up from 68 during 2016.

Supplier Pratt & Whitney introduced new engine fixes in the fourth quarter which have been certified. A new issue has arisen recently, the impact of which is under assessment with respect to 2018 deliveries. CFM International meanwhile experienced some maturity issues in 2017 on some batches of the LEAP-1A engine. The A320neo ramp-up remains challenging and requires that the engine suppliers deliver in line with commitments. On the A350, good progress was made with the industrial ramp-up, recurring cost convergence and the reduction of outstanding work in the Final Assembly Line, which has been significantly reduced. The A350 program is preparing to reach the targeted monthly production rate of 10 by the end of 2018. Meanwhile, Emirates Airline's latest order provides increased visibility on the A380 program for the next ten years to come.

Net income increased to €2,873m (2016: €995m) after the EBIT Adjustments, with earnings per share of €3.71 (2016: €1.29). (€1.00 = US\$1.25 at time of publication.)

AerCap reports financial results for full year 2017

AerCap has posted fourth-quarter 2017 net income of US\$266.3m compared to US\$364.7m for the same period in 2016. The decrease in net income was primarily due to the fact that during the fourth quarter of 2016, AerCap recognized income from lease terminations and a gain related to the repayment of a note receivable earlier than expected. Full year 2017 net income was US\$1.0762bn compared to US\$1.0466bn for 2016.

AerCap executed 402 aircraft transactions in 2017, including 119 wide-body transactions and ordered 30 Boeing 787 aircraft and 50 Airbus A320neo Family aircraft. AerCap's Board of Directors approved a new share repurchase program authorizing total repurchases of up to US\$200m of AerCap ordinary shares through June 30, 2018.

LCI partners with CIT and Prudential Group on inaugural capital markets financing

Lease Corporation International (LCI), a leading helicopter lessor and aviation division of the Libra Group, has closed its inaugural capital markets term loan financing, with a value in excess of US\$55m.

The private, senior secured tranches have a maturity of five years, and were offered to a range of US financial institutions. CIT Group and Prudential Capital Group, the private capital investment arm of PGIM, the US\$1 trillion global investment management businesses of Prudential Financial, jointly funded the financing.

LCI is using the proceeds from the financing to fund the continuing expansion of its fleet with the acquisition of six new Leonardo AW139 and AW169 helicopters. All of the aircraft have confirmed placements with lessees in Emergency Medical Services (EMS) and Search and Rescue (SAR) roles.

LCI's fleet, which comprises approximately US\$750 million of assets in service and on order, is focused on the latest-technology-medium and super-medium helicopters manufactured by the leading helicopter OEMs, including Leonardo, Airbus and Sikorsky.

Boeing HorizonX invests in advanced battery technology startup Cuberg

Boeing has reported its investment in Berkeley, Calif.-based Cuberg, a startup founded by former Stanford University researchers developing next-generation battery technology for potential aerospace and industrial applications. Cuberg developed an advanced battery cell that is designed to be a drop-in solution to existing large-scale battery manufacturing processes. It combines a lithium metal anode, proprietary electrolyte and high-voltage cathode to achieve high energy density and thermal durability.

"Cuberg's battery technology has some of the highest energy density we've seen in the marketplace, and its unique chemistries could prove to be a safe, stable solution for future electric air transportation," said Steve Nordlund, vice president of Boeing HorizonX.

Since it was established in April 2015, Cuberg has grown with several rounds of financing and grant funding, and signed a multimillion-dollar joint development agreement with an industrial battery manufacturer. Cuberg CEO Richard Wang is currently a member of the Cyclotron Road entrepreneurial research fellowship program located at Lawrence Berkeley National Laboratory. Cuberg previously participated in the TomKat Center for Sustainable Energy's Innovation Transfer Program at Stanford University and was named one of the top seven startups in the U.S. Department of Energy's 2016 National Cleantech University Prize competition.

Rockwell Collins reports FY'18 first-quarter financial results

Rockwell Collins has reported sales for the first quarter of fiscal year 2018 of US\$2.011bn, a 69% increase from the same period in fiscal year 2017, or 9% organic growth excluding US\$716m of revenue from the acquisition of B/E Aerospace. First-quarter fiscal year 2018 earnings per share was US\$1.69 compared to US\$1.10 in the prior year's first quarter. Earnings per share for the first quarter of fiscal year 2018 included a 37-cent discrete income tax benefit from the enactment of the Tax Cuts and Jobs Act. Adjusted earnings per share for the first quarter of fiscal year 2018 was US\$1.59 compared to US\$1.22 in the prior year's first quarter. Cash used for operating activities was US\$259m for the first quarter of fiscal year 2018, compared to a use of cash of US\$101m in the first quarter of fiscal year 2017. The increase in cash used for operating activities was due primarily to higher payments for production inventory and other operating costs, as well as higher employee incentive payments, partially offset by higher cash receipts from customers.

Natixis Investment Managers acquires minority stake in air finance business

Natixis Investment Managers, the asset management arm of French bank Group BPCE, has acquired a minority stake in specialist aircraft lease and asset management firm Airborne Capital. The stake was acquired for an undisclosed sum from the existing shareholders, comprising Airborne's founding management team and FEXCO, Ireland's largest privately owned financial services company. The deal provides Airborne with access to a worldwide asset management platform which will



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help to accelerate its plans to grow the business to have aircraft assets under management of over US\$5bn within the first five years of operations. The transaction enables Natixis Investment Managers to continue to expand its expertise in alternative investments, specifically real assets. Airborne was launched in November 2017 by a management team with over 100 years of combined experience in aviation finance including, with Natixis, one of the leading banks in aviation financing, where Ramki Sundaram, CEO of Airborne Capital, was previously Global Head of Aviation.

DAE Capital launches third-party aviation asset management unit

DAE Capital, Dubai Aerospace Enterprise's leasing division, has reported the creation of DAE Aircraft Investor Services (DAE-AIS), a separate unit dedicated to servicing the needs of debt and equity investors in aviation assets.

DAE-AIS will leverage DAE's full-service, global platform to provide bespoke asset management solutions to investors in aviation assets, provide investors a single point of contact dedicated to championing their interests within the wider DAE platform and ensure a best-in-class standard of care for investors' assets. Commenting on the creation of DAE-AIS, Firoz Tarapore, Chief Executive Officer of DAE said: "DAE-AIS will provide a unique offering blending our full platform capabilities with a dedicated service unit led by industry veteran Dan Stone. Dan will be responsible for growing the assets under management of approximately US\$850m to US\$5bn to address the growing needs of investors in this sector."

STS Component Solutions acquires aircraft interiors specialists, UJet Group

STS Component Solutions grows its aviation aftermarket portfolio by strategically acquiring UJet Group, an aircraft interior modification and refurbishment company based out of Shannon,

Ireland. Through this acquisition, STS Component Solutions will now offer its growing customer base robust aircraft interior refurbishment and parts services under the newly formed brand, STS UJet. STS UJet will continue to operate out of Shannon, Ireland and is expected to remain the region's premier FAA/EASA 145-approved aircraft interior repair shop. STS UJet's current offerings include complete aircraft interior refurbishment and modification, cabin reconfiguration, seats and support services.

Boeing reports record 2017 results

Boeing has reported fourth-quarter revenue of US\$25.4bn with GAAP earnings per share of US\$5.18 and core earnings per share (non-GAAP) of US\$4.80, reflecting record deliveries and strong performance, as well as favorable tax reform of US\$1.74 per share. Revenue was US\$93.4bn for the full year, reflecting deliveries mix with GAAP earnings per share of US\$13.43 and core earnings per share (non-GAAP) of US\$12.04 reflecting, strong execution and favorable tax reform.

Operating cash flow in the quarter of US\$2.9bn was driven by strong operating performance. During the quarter, the company repurchased 6.7 million shares for US\$1.7bn and paid US\$0.8bn in dividends. For the full year, the company repurchased 46.1 million shares for US\$9.2bn and paid US\$3.4bn in dividends.

Commercial Airplanes fourth-quarter revenue increased to US\$15.5bn on higher planned delivery volume and mix. Fourth-quarter operating margin increased to 11.5%, reflecting strong execution. During the quarter, Commercial Airplanes delivered a record 209 airplanes and the 787 program rolled out the first 787-10 airplane expected to deliver to launch customer Singapore Airlines. The 737 program delivered 44 MAX airplanes during the quarter and has captured over 4,300 orders since launch for the 737 MAX, including a recent order from flydubai for 175 airplanes. Development on the 777X is on track as production began on the first 777X flight test airplane this quarter. Commercial Airplanes booked 414 net orders during the quarter. Backlog remains robust with over 5,800 airplanes valued at US\$421bn.

Information Technology

IFS, the global enterprise applications company, has reported that **Air Transport Services Group (ATSG)**, a provider of medium wide-body aircraft leasing, air cargo transportation and related services, has selected IFS Maintenix to deliver comprehensive fleet maintenance management across its two cargo airline subsidiaries – **ABX Air** and **Air Transport International** – and its aircraft leasing subsidiary, **Cargo Aircraft Management**.

As one of the largest owners and operators of converted Boeing 767 freighter aircraft, ATSG has experienced strong growth in recent years. To meet evolving operational demands, ATSG's airline subsidiaries – ABX Air and Air Transport International (ATI) – and its aircraft leasing subsidiary – Cargo Aircraft Management (CAM) – sought a modern, scalable software solution that could drive

greater standardization and maintenance management process efficiencies.

Following a market review, ATSG's subsidiaries selected IFS Maintenix to deliver a full suite of engineering, planning and line maintenance functionality, helping ATSG optimize the maintenance management for its combined fleet.

SIA Engineering Company has signed a Memorandum of Understanding (MOU) with **CaseBank Technologies (CaseBank)** – a division of **Aircraft Technical Publishers (ATP)** and the leading provider of integrated diagnostic and troubleshooting software solutions – to collaborate in the field of data analytics. Under the

MOU, the parties will explore collaborating in the areas of research, development and commercialization of advanced diagnostic software, for use in the aviation industry. The deployment of advanced diagnostic software during aircraft maintenance will streamline the troubleshooting process and reduce aircraft maintenance downtime and component removal costs. This collaboration combines CaseBank's experience in developing and providing software and services, with SIAEC's engineering and maintenance, repair and overhaul (MRO) expertise, to provide airline customers worldwide with enhanced aircraft maintenance solutions.

MTU Maintenance, one of the world's leading providers of services for commercial aero engines, has started an augmented reality pilot project at its facility in Berlin-Brandenburg. The project goes by the name "Inspection 4.0" and aims to improve knowledge management in the shop. Inspection 4.0 has two main goals:

the first is to centralize all data regarding a specific part into one system. This has the benefit of reducing the amount of time mechanics spent switching between documents and enabling them to focus on inspecting the part in question. Secondly, the real and virtual world of maintenance will merge – data will be transferred to tablets or smart glasses so that the mechanic has a complete overview at all times. MTU Maintenance is collaborating with the **Brandenburg University of Technology Cottbus-Senftenberg** on the project, with key development taking place in Berlin. The project is supported by **Brandenburg Invest (WFBF)** and the **Investitionsbank des Landes Brandenburg (business promotion bank of the federal state of Brandenburg)**. Development of the project will continue until July 2019, after which results will be analyzed and once applicable, presented to the Federal Aviation Office of Germany for the relevant approvals. MTU Maintenance Berlin-Brandenburg is the center of excellence for small aero engines and industrial gas turbines within the MTU Maintenance global network.

Other News

Commsoft, developers of one of the world's leading MRO IT systems, has announced that **Corendon Dutch Airlines** has become the latest member of the fast-growing global OASES user community.

Part of the international Corendon group of companies, Corendon Dutch Airlines started operations under its own AOC in April 2011 and currently operates charter flights to a number of destinations around the Mediterranean – including Spain, Portugal, Greece, Turkey, Egypt and Morocco – from Amsterdam Airport Schiphol and Maastricht Aachen Airport.

Under the terms of the new contract, the airline will be using OASES to support its fleet of three Boeing 737-800s.

All Nippon Airways (ANA) of Japan has signed a multi-year IMS contract with **Satair**, an **Airbus** services company, for a long-term, fully integrated end-to-end supply chain package, covering expendable material for the airline's continuously growing 18-strong A320 family fleet, comprising A320CEO and NEO, and A321CEO and NEO aircraft. The service from Satair commenced in December 2017 and includes planning, sourcing, purchasing, logistics and inventory management covering some 15,000 part numbers, with a possible increase in the part number scope to follow. The coverage includes all expendable materials needs of ANA. A collaborative on-site team consisting of both Airbus/Satair and ANA staff working in one office is creating a truly integrated and seamless operation to deliver the service.

The International Air Transport Association (IATA) and the **Civil Aviation Authority of Singapore (CAAS)** announced the signing of a Memorandum of Collaboration (MoC) to estab-

lish a **Global Safety Predictive Analytics Research Center (SPARC)** in Singapore. The MoC was signed by Alexandre de Juniac, IATA's Director General and CEO, and Kevin Shum, Director-General of CAAS. SPARC will utilize predictive analytics to identify potential aviation safety hazards and assess related risks by leveraging the research capabilities in Singapore, and operational flight data and safety information that are available under IATA's Global Aviation Data Management (GADM) initiative. End users across the aviation community can then work collaboratively at the system level to address and implement appropriate safety measures to mitigate the risks, or even to prevent the occurrences of safety hazards. The first area of focus for SPARC will be runway safety, such as runway excursions, which is the category of the most frequent accidents in recent years, according to IATA's analysis. "Safety is aviation's highest priority and all stakeholders are committed to making flying even safer. The accident investigation process will continue to be a fundamental tool in improving safety. However, as the number of accidents declines, we need to take a system-based, data-driven, predictive approach to preventing accidents, including analyzing the more than 10,000 flights that operate safely every day. The Singapore Government and the CAAS have been strong partners of IATA and we look forward to working with them through SPARC to help to take aviation safety to an even higher level," said de Juniac.

Panasonic Avionics and **Kenya Airways** have signed an agreement to provide inflight entertainment (IFE) services and passenger technical solutions for 24 of the carrier's narrow-body and wide-body aircraft. The agreement includes ten Embraer 190 aircraft line-fitted with Panasonic Avionics' eFX IFE system,

five Boeing 737-800 aircraft fitted with eX1, and nine Boeing 787-8 aircraft equipped with eX3. Kenya Airways is a leading African airline flying to 53 destinations worldwide, 42 of which are in Africa. It carries over three million passengers annually. Kenya Airways continues to modernize its fleet with its 36 aircraft being some of the youngest in Africa, including its flagship Boeing 787 Dreamliner aircraft. eFX delivers entertainment and productivity tools including music, movies, games, TV series, destination presentations and a moving map in a single-aisle package.

Magnetic MRO, a global Total Technical Care maintenance and asset management organization, is launching a dedicated training facility in Tallinn to serve a variety of industry needs. Magnetic MRO has been providing a wide range of training courses from specialized engine training to advanced type training since 2016. Magnetic MRO CEO Risto Mäeots stated: "The demand for the high-quality training has been growing and this triggered Magnetic MRO to continue increasing its course portfolio. It was a natural step for us to move into dedicated and bigger premises. Well-trained specialists are the backbone of our industry." The new location is structured based on the EASA Part-147 requirements; rooms are spacious, exposed to natural light, tailored to each course's necessities, and equipped with all required theoretical training materials. The classroom is in the close vicinity to the maintenance facilities, enabling first-class hands-on and practical experience.

MRO service provider **SR Technics**, has joined the **Latin American and Caribbean Air Transport Association (ALTA)** as an Affiliate Member, effective January 16, 2018. ALTA safeguards the interests of the region's industry by facilitating the development of safer, more cost-efficient and environmentally friendly air transport in the Latin America and Caribbean region. The membership will provide SR Technics with a seat at the association's Technical Committee meetings and allow the MRO to present its products directly to member airlines. In addition, SR Technics will have access to the information and statistics the association collects on trends in LATAM. Michael Sattler, Chief Commercial Officer at SR Technics, said about the new membership: "We are very pleased to be joining ALTA and we look forward to becoming a part of the association's network with the opportunity to exchange knowledge and best practices with industry experts. Additionally, the membership will provide us with further insight into the Latin American and Caribbean aviation community to better serve our customers and to explore new market opportunities in the region."

The two German companies, **Lufthansa Technik AG** of Hamburg and **Pepperl+Fuchs GmbH** of Mannheim, have founded an equally owned joint venture called 3D.aero GmbH. The aim of this new company is to research, develop and sell innovative automation solutions for the aviation industry. Furthermore, it will work on solutions for the digitalization of workshops. Its

headquarters are at the ZAL TechCenter in Hamburg-Finkenwerder, one of the largest and most modern aviation research centers in the world. This location will enable 3D.aero to network with other aviation companies. Besides industrial workshop and factory automation solutions, 3D.aero will also offer the application of optical measuring devices, digital inspection, and image processing applications and related consulting services. The company will operate as a modern start-up and have flat hierarchies, with the young team consisting mainly of Pepperl+Fuchs employees and graduates of the Institute for Aircraft Production Technology at Hamburg University of Technology.

AAR will provide in-flight connectivity logistics, repair and after-market management services to Viasat, a global communications company. Through this partnership, AAR's OEM Aftermarket Solutions group will manage the aftermarket inventory pool of Viasat components including modems, antennas, radomes, wireless access points (WAPs) and power supply units (PSUs). These components will be deployed on a forward-exchange basis to support Viasat's current and future airline customers.

Air Astana has completed the installation of **Rockwell Collins'** cabin system, which supports Inmarsat's GX Aviation in-flight connectivity (IFC) service, across its fleet of three Boeing 767 aircraft. The IFC service is available to both Business and Economy class passengers, who can now connect to the Internet, use various applications for instant messaging and social networks, listen to audio and check their mail using personal computers, tablets or smartphones. Air Astana's passengers can choose from three connectivity packages. The airline's Light option covers 15 MB; the Regular option covers 50 MB; and the Super option offers 100 MB. All services are estimated to operate at an average speed of 2 to 5 Mbps. In September 2017, Air Astana became the first airline in the world to offer Inmarsat's GX Aviation onboard a wide-body aircraft when the installation on its first Boeing 767 was completed. Its Boeing 767 aircraft are operated on domestic trunk routes and high-density, long-haul routes out of Almaty and Astana.

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Sealing the deal

Singapore was the platform for many services contracts.
Photo: Airbus

The Singapore Airshow is Asia's largest aerospace and defence event. **Keith Mwanalushi** reports back on the significance of the platform and some of the developments from exhibitors.

Asia Pacific is on its way to become the world's largest aviation market, accounting for nearly 40% of the global fleet in 20 years, while the region is expected to account for US\$34.8b of total global MRO spending, representing about 35% of total MRO spend.

The Singapore Airshow has an impressive track record of attendance from high-level military and government delegations, leading industry players, airlines and airport operators from Asia and around the world. Some 600 companies from 50 countries showcased their latest innovations to close to 50,000 trade visitors from 150 countries and regions.

One of those notable companies is Air France Industries KLM Engineering & Maintenance (AFI KLM E&M), the main highlight of the 2018 Singapore Air Show was the opening of a new components repair and overhaul facility called Singapore Components Services (SCS), a joint venture company with Sabena Technics, located at Seletar Aerospace Park, and focusing on Airbus A320 and ATR components for Asian operators.

The opening of SCS marks another significant milestone in the development of a regional footprint in Asia, following the establishment of a repair and overhaul facility AFKLCSS in Shanghai (AFI KLM E&M Components China, a 100% subsidiary) focusing on the Chinese market, as well as MMS (Max MRO Services, a repair and overhaul joint venture based in Mumbai) addressing the needs of the Indian market.

SCS is in the heart of the Southeast Asian aviation market and will support AFI KLM E&M customers throughout the region. "The repair and overhaul facility will also strengthen the existing components ser-

vice center at Singapore Changi Airport managing an extensive inventory as well as related logistics supporting the operations of various regional customers," declares Dominik Wiener-Silva, Vice President Sales Asia Pacific at AFI KLM E&M.

In addition, AFI KLM E&M continues to invest in innovation with its dedicated programme "The MRO Lab" and their initiative in Singapore. "During the show, the innovation team showcased some innovations from The MRO Lab Singapore and Prognos - our industry-leading predictive maintenance platform developed by AFI KLM E&M," Wiener-Silva adds.

ST Aerospace was participating in the airshow as the aerospace sector of global defence and engineering group, ST Engineering. "We presented our wide range of solutions and aftermarket services for commercial airlines, airfreight and military operators," reports Lim Serh Ghee, President of ST Aerospace.

In the commercial aviation segment, the company showcased solutions covering airframe, engine and component MRO, cabin interior retrofit and modification. "Among the avia-



Wiener-Silva says Asia is a great opportunity.
Photo: AFI KLM E&M Patrick Delapierre



AFI KLM E&M Singapore Component Solutions.
Photo: AFI KLM E&M, Patrick Delapierre

tion displays are our in-house designed aircraft seats, passenger-to-freighter conversion offerings and C130 pilot training programmes," Mr Ghee continues.

"Our engineering and technological expertise was also demonstrated through presentations of our smart MRO initiatives on three broad fronts – digitisation and data analytics, automation and additive manufacturing – as well as proof-of-concept unmanned aerial solutions.

"Being featured for the first time at an airshow will be an end-to-end drone-agnostic solution that is capable of integrating highly autonomous and multi-function networks of unmanned aerial systems. Optimised for operating in the urban environment, it can be employed by users such as the police force and large-scale facilities management to enhance urban living, security and convenience." Ghee further explains.



Chaanine - We are proud of our Singapore customer service centre.
Photo: KLX Aerospace

Many in the industry are aware that KLX Aerospace Solutions are a key distributor of aerospace hardware, consumables, chemicals and specialty materials. "What we gain most from presenting at the Singapore Air Show is the opportunity to share and discuss our comprehensive supply chain services and logistics solutions with our customers and suppliers in attendance," states Marc Chaanine, Asia Pacific - Sales & Global Business Development

at KLX Aerospace.

The KLX Aerospace Solutions Asia-Pacific footprint continues to grow. "We are proud of our Singapore customer service centre which supports the southeast Asia market and stocks a full breadth of consumable products, specifically chemicals and fasteners. We are fusing the best of the traditional aerospace distribution model with the best of the third-party logistics model to create an enhanced service model to serve both the OEMs and aftermarket," adds Michael Constantino also from KLX Aerospace.

Satair Group unveiled a new logo and brand plus visual identity to the market. The brand change marks the first step into integrating the two brands in the market: Satair Distribution and Airbus Material and Supply Chain Services. "The full integration will be ready by end of 2018 states CEO," Bart Reijnen.



Bart-Reijnen, CEO at Satair

"The world is changing – and so are we as a company," Reijnen indicates. "We are now finally ready to launch the new Satair to the market. The new Satair brand truly marks the beginning of something new – building on the old legacy of both channels."

At its Singapore stand, Satair showcased its capabilities in the format of a virtual reality solution where visitors could follow the Satair story and the celebration of their 60-year anniversary which was marked at the event.



Kent - StandardAero has grown into a company with 40 primary sites.

StandardAero was showing the combined capabilities of the industry's largest independent MRO services company. Since acquiring Vector Aerospace in November of 2017, StandardAero has grown into a company with 40 primary sites across five continents and more than 6,000 employees, with near \$3 billion annual revenue.

"The newly combined organisation is better positioned to provide the industry with more global services, expanded MRO capabilities some opera-

tional benefits to deliver faster, higher quality solutions to customers worldwide," says Clinton Kent, Vice President of Sales and Customer Service at StandardAero Components.

At the show, StandardAero promoted it's one stop shop capabilities for comprehensive component repairs and service partnerships for engine MRO customers. "In addition, the company will continue to bring its OEM authorised custom solutions to the market place."

The Singapore show focused heavily on emerging technologies such as next generation MRO technology. More aircraft are coming into fleets in the Asia Pacific region and operating in areas where, at present, there are no or few qualified MRO facilities.

Mike Cazaz, President and CEO at Werner Aero Services hopes these emerging technologies will result in locally based, cutting edge MRO's that can overhaul/ repair, and certify components in the region, saving both time and cost in shipping parts out of the region which is what is currently happening.

"Further, the next generation MRO technologies will result in new materials being used in aircraft construction. Werner Aero Services constantly monitors new developments in aircraft components to take advantage of the new materials and their usage in Asia Pacific," says Cazaz.



Werner Aero CEO Mike Cazaz

In terms of new technologies, Universal Avionics Systems Corporation's flight deck upgrade display technology features highly advanced synthetic vision and a simplified user interface through centraliser control, at a lower cost to competing systems, according to the company.

Universal Avionics Systems was also promoting [at the show] its recently certified AHS-525 Attitude Heading Reference System (AHRS), SBAS-Flight Management

System (FMS), UniLink® UL-80X featuring embedded FANS/ATN, and digital Cockpit Voice/Flight Data Recorders (CVR/FDR).

"Our opportunities tend to centre around addressing the NextGen retrofit market," says Scott Campbell, Director of Airline and Military Sales at Universal Avionics Systems. Michael Choo, Universal Avionics Regional Sales Manager for Asia and Australia adds that the SBAS-Flight Management System (FMS) and InSight Display System offer great value and opportunity for the south east Asian civil and military retrofit and avionics upgrade market.



Campbell says Universal Avionics opportunities tend to center around addressing the NextGen retrofit market.

Emerging technologies, both in terms of product and repair processes, have always been at the heart of AFI KLM E&M market strategy, says Wiener-Silva. "As a leading airline-MRO, AFI KLM E&M has always been one of the first in adopting new technologies with the objective of providing comprehensive support to customers as well as offering an alternative to OEM solutions while benefiting from the experience of the Air France KLM fleet operations."

Today AFI KLM E&M is ushering in many new generation aircraft including the 787, A350, NEO or MAX. "Following the successful development of the GenX engine MRO capability, the AF KLM E&M Group has recently announced the development of comprehensive services for LEAP engines, including EIS support, on-wing services, as well as long-term support solutions," Wiener-Silva announces.

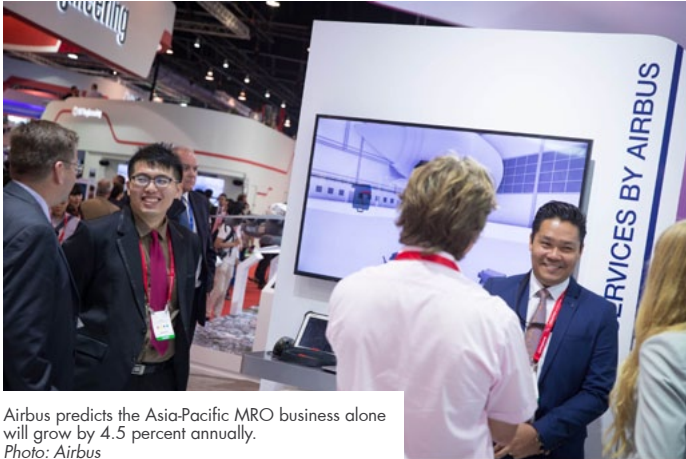
ST Aerospace has been investing in Smart MRO initiatives on three broad fronts – digitisation and data analytics, automation and additive manufacturing. A number of these SMART MRO capabilities are developed by partnering research institutes in Singapore such as the Agency for Science, Technology and Research (A*STAR).

AeroBook3 (AB3) for instance is ST Aerospace's solution in digitising its processes. It is an innovative, mechanic-centric platform that offers a full suite of applications to assist in MRO work via mobile devices. By combining multiple web-based applications that push essential maintenance information to the workforce, AB3 allows maintenance tasks to be performed on the move. The application of data analytics on all information inputted into AB3 from the MRO work performed will help facilitate prediction, forecasting as well as resource planning and optimisation, the company says.

As for emerging technologies, Satair has a newly appointed Head of Digital and Business Transformation onboard, Christian Agger. Mr Agger joined just last summer, and his task is to take Satair to the next level in terms of digitalisation.

"Digitalisation is one of our three main corporate strategic initiatives and hence, this has the utmost attention," confirms Reijnen.

The introduction of new technology aircraft and engines creates new challenges across the supply chain, not just from a capacity perspec-



Airbus predicts the Asia-Pacific MRO business alone will grow by 4.5 percent annually.
Photo: Airbus

tive but also a more competitive landscape as manufacturers compete for material content on the aircraft and maintenance rights thereafter. KLX has more than four decades of experience implementing new technologies as well as integrating into the operator's systems within the aerospace arena.

"We stock products that support legacy aircraft (like the MD80s) to next generational A350 and B787. We welcome and look forward to the ushering in of new and next generation technologies and aircraft," says Constantino.

The next generation of MRO technology will enable the use of data streams to better predict maintenance requirements. "This data coupled with the KLX proprietary aftermarket parts planning tool translates to KLX being able to stock more accurately, as well as plan and anticipate the needs of the market in a more efficient and mutually beneficial manner," adds Chaanine.

StandardAero brings a broad certification authority through its various civil certifications, including STC authority to help field new technologies and developments in the aerospace industry. In addition, Kent says the company provides a wide variety of component repair development and engineering to help OEMs solve problems and modification programmes for operators to optimise engine maintenance and lower operating costs.

In terms of opportunities and prospects in southeast Asia, StandardAero sees the region as a growing and vibrant region for commercial fixed wing and rotary aircraft/aviation and the company continues to grow its services in the region.

Over the last few years, Southeast Asian airline operators have placed significant aircraft orders with a majority belonging to new generation aircraft. "This is posing new challenges for the airline operators as they strive for more higher cost efficiency and increased reliability. This is a great opportunity for AFI KLM E&M as an airline-MRO to further develop our support footprint by setting up repair facilities, intelligently positioning local parts inventory, streamlining logistics operations, and creating a community of operators who benefit from the significant fleet growth in the region," divulges Wiener-Silva.

He further states predictive maintenance continues to create opportunities. "Also for APU maintenance, our subsidiary EPCOR is in front of many challenges in Asia."

Cazaz from Werner Aero is seeing the emergence of second and third tier operators utilising fleets composed of aircraft in fairly new

condition. "Our focus is on fleets of between 5 and 20 aircraft which are presently being operated in the 10 ASEAN countries as well as the Pacific island nations and Australia/New Zealand.

"These operators are mainly private and fill a much-needed niche as far as regional reach and low fare carriers are concerned. The aircraft that Werner Aero Services specialises in are a perfect fit for internal service as well as regional and medium haul. Also, they are not in a PBH or GMA programmes," Cazaz stipulates.

Considering growth in the region is bound to attract new MRO players to enter the market including airlines and OEMs, ST Aerospace is confident that, given its strong track record, global network and broad customer base, they are in a strong position to partake in the growing global MRO spend. "Our investments in smart technologies will further help enhance our capabilities, and lead to more value-add such as higher cost efficiency for our clients.

Apart from air travel, air cargo demand is expected to also continue enjoying a robust growth in the region. "We have decades of experience in Passenger-to-Freighter (P2F) conversions and have developed new conversion programmes for the Airbus platforms, A330 and A320/A321 in collaboration with the OEM. We are confident that our A330 and A320/A321P2F solutions will meet the needs of operators in the narrowbody and mid-sized freighter segments well, which will enable us to capture even greater market share in freighter conversions," Ghee says.

The show in Singapore also focused on the plight of start-up carriers. The barriers of entry are high in the airline market, and attention to costs and efficiency are paramount for any start-up carrier. "When looking at how KLX can support this effort, we must start at our roots: KLX's earliest mission and initial core competency was managing and simplifying the broad supply chain for commercial airlines and MROs to repair and overhaul aircrafts. Today, KLX sells product into every platform and nearly every airline in the world," states Chaanine.

Intelligent supply chains help start-up carriers efficiently manage their aircraft and ensure the right parts and components are at the right place at the right time. "With supply chain automation and collaboration technology, operators' aircraft can continue earning revenue by maintaining optimal inventory and service levels. Aeroexchange brings intelligent supply chain solutions that drive these transformations to the industry," tells Albert Koszarek



Albert Koszarek, CEO at Aeroexchange

Southeast Asia will continue to grow as a transport market year over year. The increase in trade attendance and new exhibitors at the Singapore Airshow certainly demonstrated that.

Doing it right

Headquartered near Chicago's O'Hare Airport, AAR Corp. is a leading provider of aviation services to commercial and government customers in more than 100 countries. With more than 60 years of aftermarket expertise, AAR's history of anticipating and fulfilling customers' unique needs have made it a trusted partner to the U.S. military, major airlines and OEMs.

Because of its breadth of services, AAR is uniquely positioned to deliver nose-to-tail solutions individually tailored to its customers. AAR's solutions for the commercial market, which can be contracted individually or bundled, include Parts Supply, MRO Services, OEM Aftermarket Services, Integrated Solutions and Composites.

New MRO in India

With locations in 20 countries, AAR has a global presence including reach into emerging markets. In fact, AAR just announced a joint venture with Indamer Aviation for a new MRO that is already under construction in central India and scheduled to open this Autumn. This is just the latest example of AAR joining with local partners in emerging markets to merge its supply chain and MRO expertise with their market knowledge.

1 600 aircraft under component support contract

AAR is probably best known for its award-winning airframe MRO network, which is the largest in the Americas and now includes two facilities in Canada. But the company's recent growth has been in its supply chain services. Building on its parts trading history and inventory of over 1 million new and used parts, AAR is now #3 in flight-hour (aka PBH) component support programmes with over 1,600 aircraft under contract around the world. And, because AAR is independent, not part of an airline or OEM, it is able to make

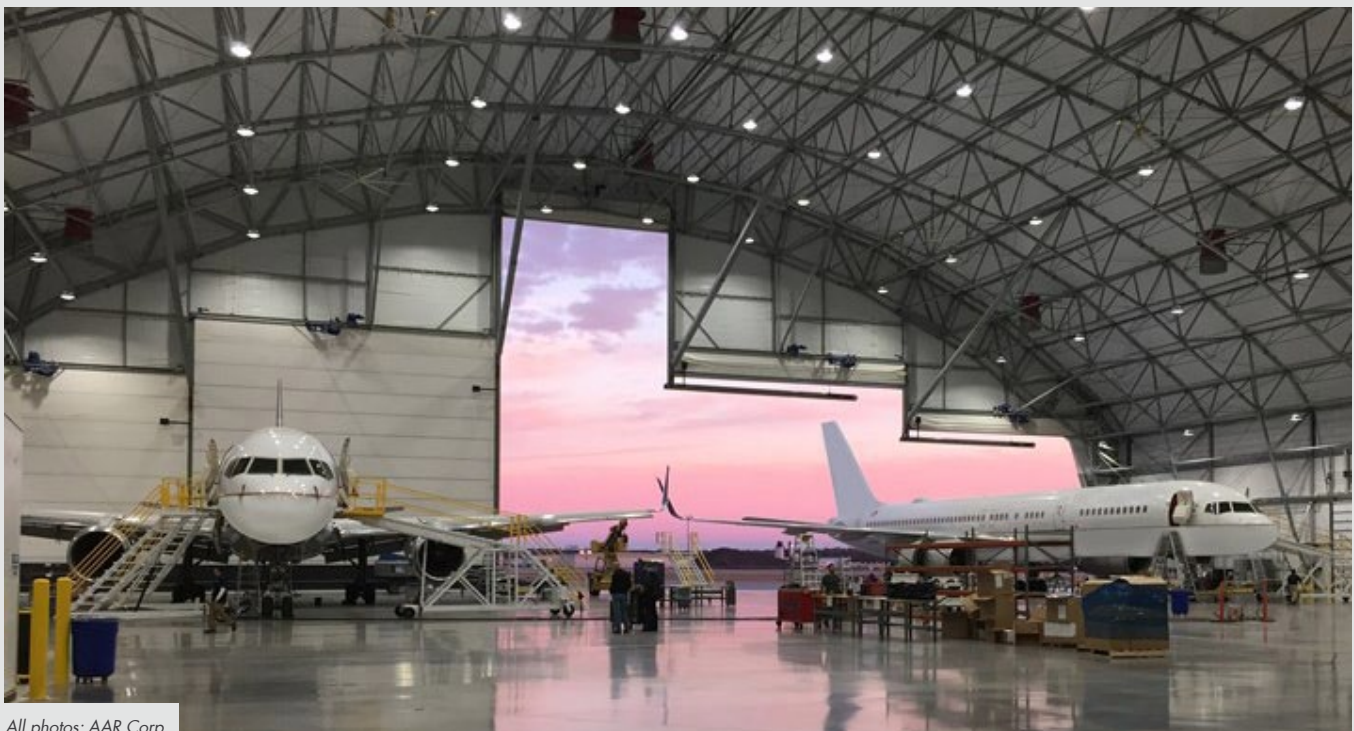


customer-focused sourcing decisions and act quickly.

OEM aftermarket solutions

Some of the aviation industry's biggest component OEMs have recently signed exclusive partnerships with AAR to leverage the company's aftermarket expertise. AAR serves as an extension of OEMs' salesforce and warehouse network worldwide. AAR focuses on its core competencies to provide best-in-class solutions, providing a single source to for almost any operator's needs. The company is nimble enough to leverage market opportunities to help its customers increase efficiency and reduce costs while maintaining high levels of quality, service and safety. And it has the financial stability to invest on behalf of its customers thereby reducing capital costs.

AAR recently rallied its more than 5,500 employees in over 60 countries around its purpose - Doing It Right to better connect the world. This purpose and the values that guide how to do it right, are at the core of all it does—from its products and services to giving back to the communities where it operates.



All photos: AAR Corp

In the hot seat.....

Chris Kilgour, CEO C&L Aviation Group

AviTrader MRO: Tell us a bit about how C&L Aerospace Group came about.

Kilgour: C&L Aerospace started in 1994, in my basement in Australia, where I was selling wheels for F1-11 Fighter Bombers to the Australian Air Force. Later, I moved into an office warehouse in Brisbane Australia as I expanded into other military aircraft. Eventually, I expanded into the regional aircraft parts markets and a new location in California. C&L soon became known as a global leader in parts, parts support and aircraft sales and leasing for the Saab 340 aircraft, followed by other regional aircraft.

In 2010, I came to Bangor, Maine, in the United States to complete the purchase of an aircraft, and I discovered that an aviation maintenance company here was for sale. At the time, they performed maintenance on the same aircraft I was selling parts for, and I thought it was a great opportunity to build a business that was a one-stop solution, meaning that it provides parts and maintenance in one location.

Since that day, we have expanded from a few dozen employees to a group of companies called C&L Aviation Group, with over 200 employees, many working out of our Bangor, Maine, office. We now offer parts, component

repairs, maintenance, avionics upgrades, interior refurbishments, and aircraft painting for many regional aircraft types including the Bombardier CRJ, Embraer ERJ, Dash-8, ART and many other regional airframe types

AviTrader MRO: What role do you play within the C&L Aviation Group?

Kilgour: I am the owner and CEO and of C&L Aviation Group. I'm responsible for our 200+ employees, day-to-day operations, and future growth plans for the company. But I also have a strong management team that I depend on every day, as they are some of the most knowledgeable and experienced in the industry.

AviTrader MRO: Who are your key clients?

Kilgour: C&L supports both large airlines and small operators with our global spare parts sales, service and component repair. We also perform maintenance services in our Bangor facility on many aircraft such as the CRJ, ERJ, ATR, Saab, and Dash-8, to name a few.

AviTrader MRO: How do you rate the market for line items for regional aircraft and which types are you seeing demand?



Chris Kilgour, CEO C&L Aviation Group

Kilgour: We see a constant demand for turbo-prop aircraft and regional jets. Our market reach includes the Americas, Europe and Asia. These geographic areas have a diverse aircraft requirement that we have the capability to address. Currently we stock over 132,000-line items for ERJ 145, Saab 340, ATR, Dash-8, Dornier, Beech 1900D, and a



C&L offers heavy maintenance, inspection services, and unscheduled repairs.
Photo: C&L



The ERJs are part of the portfolio of aircraft.
Photo: C&L

small handful of other aircraft types. In total, we have over 1 million parts in stock across our warehouses in the United States, Europe and Australia.

AviTrader MRO: The ATRs are a popular aircraft. What plans do you have for this aircraft type?

Kilgour: We have recently decided to expand

our services further into the ATR market by providing parts—rotables, engines, landing gear, and props—to the market. Previously, we were only providing light maintenance and aircraft painting services. As recently as late 2017, we purchased 5 ATR 72 aircraft, and we are actively tearing down 2 for spare parts sales. In conjunction with that, we are growing in our capabilities to perform heavy maintenance on the aircraft type through training and additional specific tooling requirements. We also have an aircraft trading arm of the company to re-market and lease ATR 72 aircraft. We currently have 4 aircraft available.

AviTrader MRO: What is the current MRO landscape for regional commercial aircraft, particularly in the United States?

Kilgour: There is a high demand for heavy maintenance and increased requirements for interior refurbishment as many aircraft are moving from one carrier to another. We're also seeing an increase in ATR usage among the carriers, leading to a growth in the need for ATR parts and services. We have started, and will continue to see, a growth in Embraer ERJ 145 maintenance, as many of these aircraft come up for scheduled maintenance and have moved from the larger carriers that do most of their own maintenance to the smaller operators who partner with Part 145 MROs like us.

AviTrader MRO: What MRO services do you offer?

Kilgour: C&L offers heavy maintenance, inspection services, and unscheduled repairs. We also offer complete aircraft interior refurbishment and aircraft painting in our two-bay aircraft painting facility, which is one of the largest and most modern on the East coast. As part of our aircraft interior refurbishment, we offer aircraft interior sidewall repairs using our own proven method, which has been approved by major US airlines and is very popular with a lot of regional feeders. Our process results in a modern, cost-effective, durable product that is easy to clean and looks great.

AviTrader MRO: What's next in the pipeline?

Kilgour: First, we are currently committed to our ATR marketplace expansion. We are also excited to offer the marketplace a new product. We have recently purchased an aerospace engineering company that will allow us to offer our own in-house STC capability. Our initial focus will be to provide ADSB solutions on the aircraft we sell and service, while also providing modifications and engineering services to third parties. We are expanding our component shop to increase our capabilities in the regional aircraft space, too. Last, but not least, we have strengthened our aircraft sales and leasing capabilities. Our market direction is to continue to be the one-stop solution for aircraft acquisition, service, and support for the regional marketplace and our corporate customers.



There are over 200 employees in the Group.
Photo: C&L



Several 767-300ERs with lease ends expected over the next two years.
Photo: Air Canada Rouge

MROs can plan future workloads with certainty based on lease end projections says IBA

A viation consultancy IBA has revealed its lease end projections for a range of aircraft types over the course of the next ten years. This incontrovertible data provides MRO providers worldwide with the insight necessary to plan upcoming workscopes with lessors and ensure smooth, cost-managed, transitions.

With the use of IBA.iQ, its new fleets and values data platform, IBA has identified a total of 1,300 lease returns and extensions which are to take place in 2018. The A320ceo and 737-800 aircraft are expected to account for the majority of lease ends in 2018, whilst the 767-300ER and A330-200 lead the pack for the widebodies.

With regards to narrowbody lease end projections, the data from IBA.iQ indicates that a combined 200 A319s and 737-700s have lease ends forecast in 2018, of which only 58 are for the 737-700 compared with 128 for the A319. A320-200 lease end dates are expected to exceed those of the 737-800 in both 2018 and 2019, and extensions and re-leases are expected to fill the shortfall from 2023.

Elsewhere, the projections for widebodies reveal that there are over 160 767-300ERs with lease ends expected over the next two years which are likely to be snapped up for freight conversion if suitable. A330s and 777s are expected to account for over half of lease ends in 2018 and the first 787-8s are expected to come back from their initial leases in 2022. Based on IBA's projections there is a high

concentration of lease ends to come in 2026, which could prove to be a testing year for the secondary market.

IBA's lease end forecast for the 777-200ER shows lower volumes than for the competing A330ceo family, however storage levels have been increasing. IBA.iQ records 52 Boeing 777-200ER aircraft currently parked. First with the failure of Transaero and now VIM, it appears that placement opportunities for the aircraft are becoming scarcer and with the prospect of increased numbers of



60 to 70 A330ceo lease ends are projected per year over the next four years.
Photo: LEVEL



The 777-200ER shows lower volumes.
Photo: British Airways

aircraft coming to market, the future for values and lease rates is gloomy.

The outlook for the 777-300ER is relatively promising. IBA has identified a spike in lease ends in 2019, many of which will be extended. IBA expects the likes of Air France/KLM will extend their leases while some of the Emirates, Cathay and LATAM aircraft are likely to be handed back to lessors. So far, aircraft appear to be

firmly placed so there are no immediate concerns, however the next couple of years will put 777-300ER liquidity to the test.

Although approximately 60 to 70 A330ceo lease ends are projected per year over the next four years, the majority of these will be the smaller A330-200 model. Peak A330-200 lease ends are expected in 2020. This coincides with the peak deliveries phase in 2008 and those aircraft coming back off their first leases. While there will undoubtedly be extensions, IBA's projection points to increased pressure on the A330-200 as we enter the '20s.

As illustrated by the data from IBA.iQ, the majority of extensions and returns will come from mid-life aircraft. Only around 200 aircraft below 10 years old will be available and a number of the older aircraft will head for retirement. Extracting maximum value from these aircraft in terms of tear-downs, refurbishments, conversions or re-leases will be the real challenge for MROs seeking to offer compelling services to lessors.

Overall, IBA predicts that 2018 will be characterised by extensions rather than returns, assuming that oil pricing, interest rates and other market forces remain constant. Lessors should plan ahead to meet the transitions head on, and work with MROs to meet burgeoning operator demand in the majority of global markets.



737-700s have lease ends forecast in 2018.



Jean-Paul Alary

Vincent Mascré has been appointed Chairman of the Executive Board of Zodiac Aerospace, and Chief Executive Officer of the company's Seats business. Following this appointment, **Jean-Paul Alary** replaces him as CEO of Safran Landing Systems, and **Cédric Goubet** will succeed Jean-Paul Alary as CEO of Safran Nacelles.



Cédric Goubet



Bruno Even

Airbus has appointed **Bruno Even** Chief Executive Officer (CEO) of Airbus Helicopters, effective April 1, 2018. He will report to Airbus CEO **Tom Enders** and join the company's Executive Committee. Bruno Even comes to Airbus from Safran where he was CEO of the Helicopter Engines business since 2015. He succeeds **Guillaume Faury** who will assume his duties as President Airbus Commercial Aircraft next week.



Thomas Kennedy



Dirk Peteret

SR Technics, a Swiss-based MRO service provider, has appointed **Thomas Kennedy** as Vice President Component Maintenance and Managing Director for SR Technics in Malaysia, and **Dirk Peteret** as Vice President Sales APAC. Thomas Kennedy, previously Vice President Sales APAC, reports directly to **Oliver Grassmann**, Head of Component Services. Dirk Peteret has been appointed as Vice President Sales APAC, leading the regional sales team out of Singapore. He joined SR Technics as of January 1, 2018, and reports directly to **Michael Sattler**, Chief Commercial Officer.

Specialist aviation component support provider, Bii, has appointed a new Technical Director, **Michael Dancey**, as the organization continues to establish a team of highly experienced professionals. Dancey joined the expanding line-up in February 2018. His primary responsibilities include technical oversight of the stores and customer requirements, KPI monitoring and technical oversight for all trace and technical records, as well as offering technical assistance to the sales and repair teams and training new starters for stores and human factors.

Boeing has appointed **Linda Mills** as vice president of Communications for Boeing Commercial Airplanes. Mills, an award-winning executive with 20 years of strategic communications experience, joins Boeing from Seattle-based Starbucks, where she served as vice president of Global Communications. In her new role, Mills will work with a team of communications and marketing professionals responsible for global media relations, employee and executive communications, social media engagement, advertising, and other communications disciplines. Mills will report to **Phil Musser**, senior vice president of Communications, and **Kevin McAllister**, president & CEO of Boeing Commercial Airplanes.

Dubai Aerospace Enterprise (DAE) has released that its engineering division Joramco has appointed **Abdelmalek Murad** as Chief Operating Officer. Mr. Murad has occupied various positions in aircraft maintenance, quality assurance, development engineering and airworthiness positions, most notably with Royal Jordanian Air Force, Parker Hannifin Corporation, Royal Jordanian, Etihad Airways and Gulf Air.

Daniel Tautges, Jr. has joined Component Control as Senior Vice President of World-Wide Sales and Marketing. Mr. Tautges has over 20 years of leadership experience in driving corporate growth in the Software, Services and Infrastructure space. His proven ability to build high-performance teams will be a key element in growing Component Control's customer base and to providing continued value to the company's current 1,500 aviation partners.

L3 Commercial Training Solutions (L3 CTS) has appointed **Robin Glover-Faure** as its new president. Mr. Glover-Faure succeeds **Alan Crawford**, who will now lead the newly established L3 Commercial Aviation Solutions (CAS) sector, which includes CTS and L3's Aviation Products businesses. Mr. Glover-Faure joined L3 CTS in 2016 as Vice President of Airline Training. Prior to this, he had 20 years of experience at British Airways, where he was latterly Head of Short-haul business.



Robin Glover-Faure

Mike Harris has been named Vice President and General Manager for TurbineAero Engines Technics' (TET) business unit. TET is the component and coatings division of TurbineAero, offering repair and coating services to APU and gas turbine engine derivative customers across the world. Most recently, Harris was the General Manager for Chromalloy Gas Turbine's Eastern U.S. Region where he led the organization to achieve significant improvements in operational and growth program performance.

Brian Sartain has joined global aftermarket solutions company AAR in the new position of Senior Vice President, Repair and Engineering Services, reporting to President and Chief Operating Officer **John M. Holmes**. In this senior leadership role, Sartain will oversee AAR's MRO Services, Component Repair, Engineering Services, Landing Gear Services and Composites market solutions. Sartain has more than 25 years of aerospace experience, most recently as Executive Vice President, Aerospace, with Chromalloy Gas Turbine, a global technology company providing integrated solutions for OEMs, commercial airlines, militaries and energy companies.



Geert Van Damme

TurbineAero has hired **Geert Van Damme** as its new Vice President, Sales and Marketing for Europe, Middle East and Africa (EMEA) for TurbineAero Repair USA (TAR) and TurbineAero Repair Thailand (TASA). In this commercial leadership role, Van Damme is responsible for leading all Sales, Marketing & Services activities for APU systems MRO, APU lease and exchange, Line Replaceable Units (LRUs), and machined components within the EMEA region. He joins TurbineAero from CFM International (CFMi), where he most recently served as Middle East Sales Director reporting into the SAFRAN/CFMi Sales head office in Villaroche, France.



Ian V. Nicholson

TrueAero, a diversified aftermarket commercial aviation company that focuses on asset management and leasing, with a solid aftermarket materials distribution division, has named **Ian V. Nicholson** to the newly created position of Vice President of Technical Operations, effective January 2, 2018. Mr. Nicholson, an aviation engineer with 35+ years of gas turbine and aircraft maintenance experience, will be responsible for leading and expanding the engineering and technical records platform to further support TrueAero and its international asset management strategies and third-party customers.

Aero Controls has welcomed **Shaffiq Shamsen** as their new Director of Quality Assurance and who will be responsible for all aspects of Aero Controls' quality management system. Shamsen comes with extensive experience in the aviation industry, working for companies such as Emirates Airlines and HAECO in their aircraft maintenance divisions.

Aergo Capital (Aergo) has released that its Chief Commercial Officer, **Gerry Power**, will depart Aergo on February 28, 2018. Power was seconded to Aergo to undertake the role of Chief Commercial Officer and he will now return to Power Aviation Support after successfully completing his contract.

International Aircraft Associates (IAA), in its 40th year of business, has promoted **Al Vorhauer** to Senior Vice President. In his new position, Mr. Vorhauer will continue to be an integral part of IAA's executive team responsible for the company's strategic growth and continued excellence in quality. His expertise, coupled with a strong aviation background, will fortify IAA's business operations and growth.

Frédéric Torrea has been appointed Corporate Secretary and General Counsel of ATR. In addition to his duties as General Counsel of ATR (since 2009) and Chief Compliance Officer (since 2015), he will now be responsible for Corporate Affairs, Institutional Relations and Environment, Communications, Facility Management and IT systems. As a member of the ATR Executive Committee, he will be reporting to the CEO, **Christian Scherer**.



Frédéric Torrea

Avant Aerospace has appointed **Donald (Don) Snodgrass** as its new president. In this role, he will oversee the Avant teams in Texas, Illinois, and Colorado, in addition to his current responsibilities as president of Dallas Aeronautical Services (DAS). Don Snodgrass is a seasoned and well-regarded business leader in the aviation industry; throughout his career, his determination and keen business insights have driven the growth of numerous companies. In addition, his broad and extensive knowledge of military, commercial, and corporate aircraft is particularly valuable as it aligns with Avant's endeavors to expand stock lines beyond Dassault Falcon-specific spares and rotables.

GA Telesis has announced the addition of its newest support team, the Government Solutions Group (GSG), to begin supporting all U.S. Government procurement activities. The GSG team will begin offering various aviation- and non-aviation-based materials to multiple agencies, including the Defense Logistics Agency (DLA) and Foreign Military Sales (FMS). The team will be led by military sales veteran, **Lee Levinstein**.