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# MRO

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## Focus on Africa

Company profile  
Aero Norway

MRO News  
from around the world

People on the Move  
latest appointments

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**MRO**

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**Opinion**

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# Africa needs to push open skies

Over the next five years the African economy as a whole is forecast to grow at 4.7% per year, well above the global average rate. For the continent to realise its full economic potential, aviation – particularly commercial air transport – must be prioritised.

For decades African governments have circled around the much talked about Yamoussoukro Declaration – an initiative agreed decades ago aimed at opening up Africa's skies. But sadly, many African countries still restrict their air services markets to protect the share held by state-owned air carriers.

This practice originated in the early 1960s when many newly-independent African states created national airlines, in part, to assert their status as nations. Now, however, most have recognised that the strict regulatory protection that sustains such carriers, has detrimental effects of air safety records, while also inflating air fares and dampening air traffic growth.

African aviation desperately needs to grow capacity, in particular the intra-regional routes. The Yamoussoukro Decision committed 44 signatory countries to deregulating air services and to opening regional air markets to transnational competition. The implementation of this agreement, however, has been slow, and the benefits have not been realised.

There is some progress being made between individual countries for instance Zambia and South Africa but a far more continental effort is required.

A liberated environment stimulates the market, lowers costs, increases traffic and this translates to demand for additional aircraft which will bode well for the continent's MRO industry.

As things stand, only Africans can let Africa fly.

Keith Mwanalushi  
Editor



ATI provides A320 and 737NG overhaul services in Morocco  
Photo: AFI KLM E&M - Patrick Delapierre

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COOPESA has started operations of a seventh bay  
Photo: COOPESA

### COOPESA starts operations of seventh bay

As of, July 2017, COOPESA, Costa Rica started operations of a seventh bay. The new portable bay will allow Coopesa to increase the capacity of its actual six operating bays. Currently, Coopesa has a workforce of 625 employees and capabilities include heavy maintenance and paint works for A320 FAM, Boeing 737CL/NG, Boeing 757 and E190 aircraft.

### AAR opens new supply chain hub in China

AAR has opened a parts warehouse in Shanghai. The new supply chain hub was established to expedite the delivery of crucial aircraft components to operators and MROs in China. AAR's Shanghai warehouse will stock factory-new airframe and engine components from OEMs including Eaton, Unison, UTAS, Meggitt and Lord, fulfilling the needs of just about every type of aircraft operating in China today. This new China facility follows the recent opening of AAR's Dubai warehouse. These two new additions to the Company's global supply-chain network are a reflection of AAR's focus on serving OEM partners' aftermarket needs and goals.

### Vector Aerospace completes first P&WC PT6A-140 engine overhaul at South African facility

Vector Aerospace, a global independent provider of aviation maintenance, repair and overhaul (MRO) services, has successfully completed its first full engine overhaul on the Pratt & Whitney Canada (P&WC) PT6A-140 turboprop engine at its facility in South Africa. The PT6A-140 engine powers the Cessna 208B Grand Caravan EX, and is also offered as an upgrade for earlier models of the 208 Caravan family. Vector's South African facility, located at the Lanseria International Airport, Johannesburg, was appointed a Designated Overhaul Facility (DOF) for the PT6A-140 engine in July 2014, and is currently the only independent DOF for this engine model. This location is also a P&WC Distributor and Designated Overhaul Facility (DDOF) for other models in the PT6A engine family, including the PT6A-114/114A variants used on previous versions of the Caravan.

### Delta TechOps signs US\$750m engine maintenance contract with ATSG

Delta TechOps — Delta Air Lines' maintenance division and its maintenance, repair and overhaul (MRO) provider business,

has entered into a new 12-year, US\$750m CF6-80 A/C2 engine maintenance contract with Air Transport Services Group, subsidiaries ABX Air, Air Transport International and Cargo Aircraft Management. The new exclusive deal will support ATSG's growing fleet of Boeing 767 freighter aircraft, supporting both CF6-80A and CF6-80C2 engine types.

### ATR obtains EASA certification for new Standard 3 avionics for the ATR -600 series

The European Aviation Safety Agency (EASA) has granted certification to the latest innovations, co-developed by ATR and Thales, which further enhance the avionics of the ATR 42-600 and ATR 72-600. The "Standard 3" version of the ATR -600's avionics will improve situational awareness and approach capabilities while offering pilots a more user-friendly interface, along with tools to optimize airlines' operations. Standard 3 is notably comprised of the RNP-AR 0.3/0.3 capability, a synthetic vision system, additional high- and low-speed protections, and customizable checklists and databases. Standard 3 will be installed in new ATR -600s starting from the end of 2017.

### Lufthansa Technik to provide component support for Royal Jordanian Airlines

Lufthansa Technik AG and Alia — The Royal Jordanian Airlines (Royal Jordanian) have signed a comprehensive agreement about extensive component maintenance services. Within the framework of this Total Component Support (TCS) contract, which is already in effect, Lufthansa Technik supplies components for Royal Jordanian's twelve A320 aircraft. Spare parts are provided through access to Lufthansa Technik's component pool and through a home base lease at Royal Jordanian's headquarters in Amman.

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Sutton Tools  
Photo: ANCA

### Sutton Tools achieves 10% improvement on surface finish using ANCA's linear technology

Australia's largest manufacturer of rotary shank cutting tools, Sutton Tools, has gained market share in the highly competitive aerospace industry by producing superior tools using the linear motor technology on ANCA's MX7. To gain traction in the aerospace market Sutton Tools needed to push the boundaries of what could be expected from a tool machining materials in the aviation industry. "With our new MX Linear machine, we have seen dramatic improvements in the surface finish of the cutting tools. This change has been achieved by moving away from the traditional ball-screw movement on machines to a linear motor. We conducted a direct comparison as we have ANCA ball-screw grinders and have also experimented with different grinding wheel grades and grinding parameters to ensure we are achieving the best possible finish." said Jeff Boyd, Export Manager at Sutton Tools. ANCA is well known in the industry for its rigid grinding machines and has combined this with its sister company, ANCA Motion's, LinX linear motor technology. Tools ground using the linear motor have a consistently high-quality cutting edge and surface finish.

### Spirit AeroSystems creates 3- and 4-axis fabrication center of excellence at McAlester, Okla., facility

Spirit AeroSystems has reported the creation of a 3- and 4-axis machining center of excellence at its McAlester, Okla. facility. The center will accommodate new detailed parts fabrication work in the global aerostructures market, while also supporting current customer contracts. The purchase and installa-

tion of new equipment in McAlester includes 18 new machines purchased from a fabrication shop in Juarez, Mexico. Spirit acquired the machines to create soft metal machining capacity as part of a U.S.-based center of excellence. This is in addition to the creation of a 5-axis center of excellence in Wichita and the planned expansion of operations in Malaysia to help Spirit grow its global fabrication business. Spirit is already one of the largest aircraft part fabricators for the aerospace industry, machining parts that primarily support Spirit's statement of work.

### SR Technics and UIA sign long-term Integrated Component Services Agreement

SR Technics has signed a long-term Integrated Component Services Agreement with Ukraine International Airlines (UIA). The new contract covers the carrier's growing fleet of B737NG, providing component services, pool access, and a main base kit to ensure optimal support of the airline's operations. When selecting a new supplier for these critical services, UIA prioritized SR Technics' expertise and high-quality services.

### Boeing partners with China Airlines to enhance maintenance, engineering and training capabilities

Boeing and China Airlines have signed a Memorandum of Understanding (MOU) to explore the development of the airline's capabilities to serve the growing maintenance, repair and overhaul market in Asia. Boeing anticipates providing technical support and maintenance training to China Airlines to enhance its ability to service Boeing products. In

addition, Boeing intends to work closely with China Airlines to qualify it as an approved Boeing supplier, which will enable the airline to bid for work on Boeing's wide-ranging products and services. With a growing number of airlines in the Asia-Pacific region selecting Boeing airplanes, China Airlines will have the opportunity to become a qualified Boeing Global Fleet Care service provider in Asia. In addition, Boeing aims to aid China Airlines' qualification as a potential Boeing Converted Freighter (BCF) conversion site, as well as explore training opportunities to develop the airline's capability as an airframe modification supplier for Boeing's airplanes.

### PEMCO names GAMECO as new Passenger-to-Freighter aircraft conversion provider

PEMCO World Air Services (PEMCO), a division of Airborne Maintenance and Engineering Services (AMES) and wholly owned subsidiary of Air Transport Services Group, has announced an agreement with China-based MRO Guangzhou Aircraft Maintenance Engineering (GAMECO) to perform B737-700, -400 and -300 passenger-to-freighter conversions in the Asia-Pacific region. The agreement follows the launch of PEMCO's B737-700 FlexCombi and Full-Freighter conversion programs announced April 25, 2017. GAMECO, the fifth PEMCO conversion partner and third in China, will join China-based STAECO and TAEACO, Costa Rica-based Coopesa, and Canada-based KF Aerospace in providing conversion services for PEMCO's customers.

### Joramco supports Tunisair A330s with C checks

Joramco has supported Tunis flag carrier, Tunisair, with two heavy checks for its A330 aircraft. The aircraft were delivered back to the airline after successfully accomplishing C-check tasks in addition to several ADs and SBs. The two layovers took place during May of this year. Tunisair operates scheduled services from its Tunis Carthage International Airport main base to destinations throughout the Middle East and North Africa, West Africa and Europe. A solitary transatlantic route serves Montreal using Airbus A330-200 aircraft. Tunisair Express is a subsidiary domestic and regional short-haul carrier within the group. Other subsidiaries include Catering Tunisia, an airline catering company, ground handling concern Tunisair Handling, and MRO services provider Tunisair Technics, EASA Part 145-certified which services the needs of Tunisair and Tunisair Express, as well as third parties.

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Israel Aerospace Industries and Wipro Enterprises sign strategic teaming agreement  
Photo: IAI

### Israel Aerospace Industries signs strategic teaming agreement

Israel Aerospace Industries and Wipro Enterprises have entered into an agreement to collaborate in the manufacturing of composite aero structures in India, including establishing a facility for this purpose. Among others, the agreement stipulates that IAI will transfer technology and assist Wipro in building a plant for manufacturing and assembly of aero structures for the civilian aerospace sector. The agreement forms the foundation for broader future collaboration between the two companies in India and is expected to support IAI's leadership in this arena while supporting the implementation of future projects. The agreement cements the close relationship between IAI and the Indian industry, which started 25 years ago and is naturally developing now into the aerospace field. To date, the collaboration found its expression in ongoing support by IAI to local companies in India. The establishment of a composite aero structure manufacturing plant will allow India to act on its decision to expand its activity in the aerospace market and offer a range of aerospace structures.

### GGB Bearing Technology's EP 43 passes FAA compliance requirements

GGB Bearing Technology, a global leader in high-performance bearing solutions, recently added EP43 self-lubricating engineered plastic bearings to its growing list of Federal Aviation Administration (FAA)-approved products. GGB's EP43 passed FAA compliance requirements in a variety of flammability and toxicity tests for interior aircraft certification, making it suitable for interior aircraft applications

such as seats, hinges, latches and passenger bins. GGB's EP63 passed these compliance requirements in March 2017.

### OGMA provides maintenance services to Air Astana

Indústria Aeronáutica de Portugal, S.A. has been awarded a contract for maintenance services and periodic inspections for Kazakhstan's carrier, Air Astana's Embraer E-190 aircraft fleet. One year after its kick-off, OGMA makes a positive assessment of this business relationship, with five of the 15 contracted shop visits already completed. OGMA is also providing an IFE (Inflight Entertainment System) modification, which will allow passengers to watch movies and access flight information through Wi-Fi. Since March 2016, the Portuguese company has provided a series of planned maintenance services and inspections, the so-called C-Checks, for nine Embraer E-190 aircraft, which includes airframe, components, avionics' systems, and engines.

### MTU Maintenance completes 1,000th CF34 engine shop visit

MTU Maintenance has completed its 1,000th CF34 engine repair and overhaul shop visit. The engine belongs to BA CityFlyer, who has been a customer of MTU Maintenance since 2010. The engine was returned to the airline, whose headquarters are in Manchester, on Friday, June 30. MTU Maintenance has been maintaining engines from the CF34 family (CF34-3, -8C/E, -10E) for 15 years and has provided MRO services to over 90 customers

across the globe. The maintenance division of MTU Aero engines is a GE-authorized service provider and services are performed at MTU Maintenance Berlin-Brandenburg.

### Lufthansa Technik to extend base maintenance capabilities by adding Boeing 787 Dreamliner

Lufthansa Technik Shannon has announced a multi-million Euro investment that opens the doors for the Boeing 787 later this year. The Shannon-based aircraft maintenance, repair and overhaul (MRO) provider will modify existing aircraft hangars to accommodate the Dreamliner. Lufthansa Technik Shannon will also be able to offer modifications, cabin and interior refurbishment, interior repair and paint, external paint repairs, specialized inspections, airworthiness directives, compliance checks and a full range of maintenance services for Boeing 787, on site in Shannon. Staff at Lufthansa Technik Shannon are currently undergoing specialist training for this particular aircraft type and its state-of-the-art technology all over the world. "The big focus for the company is on up-skilling our teams so that we are not only Dreamliner-ready, but that we have the most up-to-date resources and competencies available in the aviation market place," CEO Pat Shine said. Within its global network Lufthansa Technik is already offering comprehensive technical services for the 787, such as maintenance, component support or cabin completions.

### Vector Aerospace achieves CAA Part M approval

Vector Aerospace Corporation, a global independent provider of aviation maintenance, repair and overhaul (MRO) services, has reported that its Fleetlands facility in Gosport, United Kingdom, has achieved Civil Aviation Authority (CAA) Part M approval. As such, Vector's UK team is now a Continued Airworthiness Management Organisation, capable of supporting aircraft operators and owners with CAMO services. Vector's Fleetlands facility is an Airbus Helicopter Maintenance Center for the AS332 and H225 family, and a Sikorsky Customer Support Center (CSC) for the S-76. Vector Fleetlands has extensive aircraft MRO capabilities, including major structural and composite repairs, and the facility also offers world-class completions, modifications and paint services. Vector's UK team also provides engine MRO services, including mobile repair team (MRT) support, and customers are additionally able to benefit from the convenience of Vector's dedicated component services capabilities.



Singapore Airlines and OEMServices Teams  
Photo: OEMServices

### OEMServices extends partnership with Singapore Airlines by supporting its fleet of A350-900 aircraft

As a leading provider of integrated OEM component solutions to airlines, OEMServices, combining strengths of over 40 OEMs through its Original Integrated Services (OIS) offering, has started providing a global integrated component solution to Singapore Airlines. This contract includes repair services, pool access, and 24/7 component support from OEMServices' main A350 regional pool based at Singapore's Changi Airport.

### Singapore becomes largest repair activities hub for Thales worldwide

Thales' newly expanded facility in Changi consolidates all avionics production and Maintenance, Repair and Overhaul (MRO) activities under one roof for better synergies and process optimization. Thales has also invested in equipment and human capital, as it builds for future growth. Thales started its commercial avionics operations in Singapore over forty years ago and now produces key systems for the Airbus A320, A350 and Boeing 787 fleets. Singapore houses one of three avionics repair sites for the Group, with the other two located in Chatellerault, France and Piscataway, USA. In the past year, Thales in Singapore has grown its repair volume by over 30%. In addition to providing repair operations, Thales is also providing a Customer Support Centre (CSC) for Diehl Aerospace's Singaporean subsidiary, set up in November last year to better serve its regional customers. The CSC has been operational since January 1, 2017 at the expanded Thales facility in Changi North Rise. The widened scope of the extended partnership increases Thales' repair volume in Singapore to an estimated 40,000 pieces of equipment per year, making Singapore the Group's largest centre for avionics maintenance and repair services worldwide.

The aerospace industry in Singapore has seen robust growth over the last two decades, and Singapore is home to one of the most advanced MRO clusters in the world. Singapore accounts for a quarter of the region's MRO output and Thales has worked closely with the Singapore Economic Development Board in bringing the project to fruition.

### FL Technics Indonesia signs first base maintenance deal with Tri-M.G.

Directorate General of Civil Aviation in Indonesia has recently granted FL Technics Indonesian branch, a global provider of integrated aircraft maintenance, repair and overhaul services, with base maintenance approval AMO-145. Immediately after the approval, FL Technics Indonesia signed a C-check agreement for Tri-M.G.'s Boeing 737 CL. The AMO-145 base maintenance approval allows FL Technics to provide a full base maintenance service package for all Indonesia-registered clients owning Boeing-type aircraft.

### Embraer appoints SIA Engineering as E-Jets Authorized Service Center in the Philippines

Embraer has appointed SIA Engineering (Philippines) Corporation (SIAEP), a subsidiary of SIA Engineering Company Limited (SIAEC), as an E-Jets authorized service center. Embraer's E-Jets family of commercial jets consists of the E170, E175, E190 and E195 aircraft. "The appointment of SIAEP as an authorized E-Jets service center in the region is a result of our commitment to enhance our services and support solutions to E-Jets operators in Asia Pacific," said Mr. Johann Bordais, President & CEO, Embraer Services & Support. "SIAEP has demonstrated their capability and expertise in aircraft maintenance. Given their experience, we believe that E-Jets operators will see value in their proposition."

### STTS appoints Aircraft Support Industries to take on building works of wide-body painting hangar

In order to respond to the growing needs of the aerospace industry in terms of painting facilities, and to offer customers in the Middle East greater proximity, STTS has appointed Aircraft Support Industries (ASI) to take on the building works of its wide-body painting hangar at the new Al Maktoum International airport. Delivery is finally expected early 2019. The state-of-the-art facility will mainly target MRO painting needs for all types of commercial wide-bodies (A380, B777, A350, B787 etc.). The facility will provide approximately 6,000 m<sup>2</sup> of hangar space and 1600 m<sup>2</sup> of offices and workshops. This will be STTS's first hangar in the region. The masterplan for the development includes for the future provision of a narrow-bodied painting hangar adjacent to the A380 capable hangar on the same land plot.

### AAR signs component support agreement with Wataniya Airways

AAR has reported the latest expansion of its commercial business in the Middle East: a multi-year contract to provide power-by-the-hour component support for Wataniya Airways, one of the national carriers for the state of Kuwait. AAR will support Wataniya's fleet of Airbus A320 aircraft through its extensive inventory network, including parts warehouses in Dubai and Europe, and position local stock in Kuwait. Based in Kuwait, Wataniya Airways will operate flights from Kuwait throughout the Middle East, Asia, North Africa and Europe.

### Safran and Maini Precision Products sign supply contract for LEAP engine guide vanes

Safran Aircraft Engines has taken a significant step forward in its commitment to the Indian government's "Make-in-India" initiative by choosing Maini Precision Products (MPP) to manufacture the low-pressure turbine (LPT) guide vanes for LEAP engines. Safran Aircraft Engines signed a contract with Bengaluru-based MPP at the Paris Air Show. These sophisticated guide vanes will be manufactured at a new MPP plant now under construction in the Bommasandra Industrial Area in Bengaluru, Southern India. This contract represents a significant rise up the technology value chain for the Indian aerospace industry, and will also pave the way for Safran and Maini to examine other opportunities for the manufacture of critical aero-engine parts in India. At the same time, this project significantly expands Safran's presence in India. Maini's relationship



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with Safran Aircraft Engines started 12 years ago with the supply of parts for the best-selling CFM56 commercial engine. Since 2015, MPP has also become a supplier on Safran's LEAP engine, successor to the CFM56, and the Silvercrest business jet engine. With this contract Maini expands its contribution to the new LEAP engine, which has gotten off to a very successful start, with more than 14 000 orders.

### Spirit AeroSystems expanding manufacturing facilities in Malaysia

Spirit AeroSystems has announced plans to expand its manufacturing operations in Subang, Malaysia, to accommodate increasing volumes of assembly work on aerostructure components for commercial airliners. The company is in the architectural and engineering planning stages to add a 50,000 ft<sup>2</sup> manufacturing facility adjacent to other buildings on its campus in the Malaysia International Aerospace Centre near Kuala Lumpur. Construction is set to begin in October with a target for operations to begin in mid-2018. Spirit expects to eventually add about 300 workers to the current site population of 700. Spirit employs about 15,000 people worldwide

designing and building complex aerostructures for the world's most recognizable airplanes.

### Sunwing signs GE TrueChoice agreement for CFM56-7B engines

Sunwing Airlines has signed an eight-year TrueChoice Overhaul agreement with GE Aviation for the maintenance, repair and overhaul of its CFM56-7B engines that power its nineteen Boeing 737-8 aircraft. The agreement is valued at more than US\$60m over the life of the contract.

### Jet East Aviation receives Dassault approval for Non-Destructive Testing on Falcon aircraft

Jet East Aviation has secured approval from Dassault for Non-Destructive Testing (NDT) at its on-site facility and mobile unit based in Trenton, NJ on all Falcon aircraft. Jet East Aviation developed extensive NDT capabilities in 2016 as part of their maintenance portfolio. Jet East offers in-house NDT services as well as a mobile NDT unit that conducts on-site testing. With the approval from Dassault Falcon,

Jet East is authorized to provide full-service NDT testing including Dye Penetrate, Magnetic Particle, Eddy Current and Ultrasound and Radiographic testing. In addition to receiving approval on Dassault Falcon, Jet East Aviation had previously obtained NDT approval for Cessna Citation and Gulfstream aircraft.

### LORD adds Fly-by-Wire products to U.S. repair capabilities in support of Airbus

LORD Corporation has added Fly-by-Wire (FbW) aftermarket repair capabilities at its Cambridge Springs, Pa. facility, in an effort to expand aftermarket support for long-time client Airbus. LORD has supported Airbus since 1984 out of their repair center in Saint-Vallier, France. The addition of this new repair station will ensure faster service, reducing an average return from 40 to approximately 15 days. The repair station, ready to operate, is equipped to handle cockpit equipment used on the Airbus fleet. Starting with three part numbers this summer, the station will expand to support more than 50 part numbers in 2019. FAA Certification is expected June 23.

## Finance News

### Environmental Tectonics Corporation reports fiscal 2018 first-quarter results

Environmental Tectonics Corporation (ETC) has reported its financial results for the thirteen-week period ended May 26, 2017 (the fiscal 2018 first quarter). Net income attributable to ETC was US\$0.1m in the 2018 first quarter, compared to a net loss attributable to ETC of US\$0.5m during the 2017 first quarter. The US\$0.6m variance is due to the combined effect of a US\$0.7m increase in gross profit, a US\$0.2m favorable variance in other (income) expense, net, and a US\$41,000 decrease in interest expense, offset, in part, by a \$0.4 million increase in operating expenses. Net sales in the 2018 first quarter were US\$11.5m, an increase of US\$0.8m, or 7.1%, compared to 2017 first-quarter net sales of US\$10.7m.

### Rolls-Royce announces £150m (US\$195m) investment in UK aerospace facilities

Rolls-Royce has announced a £150m (US\$195m) investment in new and existing civil aerospace facilities in the UK to support the planned doubling of engine production and to deliver on its record civil aerospace order book. The investment, which will be made over the next few years, is part of Rolls-Royce's ongoing industrial transformation and will provide additional capacity as it develops and tests the next generation of aero engines. The majority of the investment, which is in-line with the group's ongoing planned expenditure, will provide a new facility for the

testing of large civil aero engines in Derby, the home of Rolls-Royce's civil aerospace division. The new testbed will be capable of testing a range of engines including the Trent XWB, which powers the Airbus A350 XWB. There will also be investment in Rolls-Royce's large engine Maintenance Repair & Overhaul (MRO) facility in Derby, as well as in its manufacturing facilities in Derby and Hucknall, Nottinghamshire. Rolls-Royce has also committed to retaining the Precision Machining Facility (PMF) in Derby, which the company previously announced would be closed. A constructive dialog with its senior union representatives in the UK has underpinned the decision to invest in Derby, helping to sustain more than 7,000 Rolls-Royce jobs across the East Midlands and facilitating the ramp-up in engine production.

### StandardAero and Airbus enter into exclusive negotiations for acquisition by StandardAero of Vector Aerospace Holding

StandardAero Aviation Holdings and Airbus have entered into exclusive negotiations with respect to an acquisition by StandardAero of Vector Aerospace Holding SAS from Airbus. Vector is a global aerospace maintenance, repair and overhaul company, providing responsive, quality support for turbine engines, components, fixed- and rotary-wing aircraft. A truly international company, it generated revenues of US\$ 704.8m in 2016 and employs approximately 2,200 people in 22 locations across Canada, the United States, the United Kingdom, France, Kenya, South Africa, Australia and Singapore. The proposed transaction is subject to workers' council consultation, signing of definitive

agreements, and customary approvals such as regulatory clearances.

### HEICO acquires innovative composites manufacturer

HEICO Corporation has announced that its Flight Support Group has acquired 100% of Carbon by Design, a growing manufacturer of composite components for UAVs, rockets, spacecraft and other specialized applications. The purchase price and financial details were not disclosed. HEICO stated that it expects the acquisition to be accretive to its earnings within the first year following the acquisition. Carbon by Design is led by Dominick Consalvi, who co-founded the company in 2003. The company engineers and manufactures hard-to-design and produce complex carbon composites for commercial launch vehicles and spacecraft, as well as multiple UAV manufacturers. Mr. Consalvi will continue to head Carbon by Design, which will join HEICO's Specialty Products Group, a leader in composites for commercial aviation and defense applications. Carbon by Design's 75 team members and the entire management team is expected to remain with the company in their existing roles. HEICO stated that it does not expect any employee turnover to result from the acquisition.

### Kellstrom Aerospace Group acquires Vortex Aviation

Kellstrom Aerospace Group has reported the acquisition of Vortex Aviation, a specialist in worldwide AOG on-wing engine maintenance services and quick-turn engine repairs across all major commercial aircraft engine platforms. With repair facilities located in Fort Lauderdale, Florida; Shannon, Ireland, and Singapore, Vortex Aviation provides global support and turnkey solutions for many of the world's aircraft lessors and airlines. The acquisition strengthens Kellstrom Aerospace Group as the global leader in aircraft lifecycle solutions and builds upon the Company's diverse services aimed at reducing aircraft operational costs and maximizing residual values. "The addition of Vortex Aviation, in collaboration with Kellstrom Aerospace and The Aircraft Group (TAG), will provide great value to our customers and the commercial aerospace industry," said Jeff Lund, CEO, Kellstrom Aerospace Group. "With Vortex Aviation joining Kellstrom Aerospace Group, our range of technical services is greatly enhanced. Whether servicing on-wing support, minor in-house repairs, managing engines through full performance restoration, or technical consultancy projects, we can provide unbiased cost-saving solutions across all major engine platforms."

## Other News

**Panasonic Avionics' (Panasonic)** subsidiary, **AeroMobile**, has added the 100<sup>th</sup> aircraft to its 3.5G mobile network. With 60% of airlines now offering 3.5G inflight connectivity, users of the AeroMobile service grew by 57% between 4Q16 and 1Q17. The inflight 3.5G network is complementary to Panasonic's global inflight connectivity service. It offers passengers a simple and elegant way to stay in touch with friends, family, co-workers and current events while in the air. It gives passengers the same connectivity options as they have on the ground, and when combined with inflight Wi-Fi, enables data speeds that are comparable to a terrestrial service.

**Boeing** launched its third major business unit on July 1, when **Boeing Global Services** began operating alongside Commercial Airplanes and Defense, Space & Security. This new dedicated services business focuses on the needs of government, space and commercial customers worldwide. Boeing Chairman, President and CEO Dennis Muilenburg announced the formation of Global Services in November 2016 to expand Boeing's share of a global—and growing—commercial and government services market worth an estimated US\$2.6 trillion over the next decade. Boeing has been working since November to fully define and structure the integrated new business, which combines key capabilities of the company's former Commercial Aviation Services and Global Services & Support groups. Led by President and CEO Stan Deal, Global Services will bring innovative service solutions to customers in four key capability areas: Supply Chain, Engineering, Modifications & Maintenance, Digital Aviation & Analytics, and Training & Professional Services. Global Services, headquartered in the Dallas area, was formed by integrating the services capabilities of the government, space and commercial sectors into a single, customer-focused business. Operating as a third business unit of Boeing, Global Services provides agile, cost-competitive services to commercial and government customers worldwide.

**Concept Laser** (a GE Additive company) and **LAUAK** (a French aeronautical company) have signed a Letter of Intent (LOI) to launch an alliance between the two entities. Lauak will invest in Concept Laser's additive machines to be a reference customer for Concept Laser technology and Concept Laser will work closely with Lauak to implement additive processes and design new products. Concept Laser will support Lauak during the implementation phase of the equipment into their manufacturing process. Lauak will also present the Concept Laser machine to reference customers in their showroom, including the presentation of test objects for demonstration purposes. Concept Laser and Lauak will collaborate to redesign components from the Lauak portfolio.

As planned, on July 1 **Airbus SE**, integrated its group structure with its largest division, **Commercial Aircraft**. Following a reorganization announced in September 2016, Airbus will benefit from a simpler structure that enables faster decision-making, less bureaucracy, greater collaboration and increased efficiency. This structure will also facilitate the digitalization program currently under implementation. The newly merged Airbus together with the two divisions, Helicopters and Defence and Space, are served by fully integrated support teams in key functions such as finance, human resources, legal, ethics and compliance, strategy & international and communications. The Airbus' executive management team is integrated under Chief Executive Officer Tom Enders. Fabrice Brégier is now the first-ever company-wide COO and President Commercial Aircraft. Dirk Hoke and Guillaume Faury continue as Chief Executive Officers of Defence & Space and Helicopters respectively. Harald Wilhelm remains Chief Financial Officer, Thierry Baril as Chief Human Resources Officer and John Harrison continues as General Counsel. Airbus now has one single corporate headquarters in Toulouse, home to the company's single largest industrial site.



# The sleeping giant?

Kenya Airways is one of just a handful of MRO specialists in Africa.  
Photo: Kenya Airways

IATA predicts that by 2035 Africa will see an extra 192 million passengers a year for a total market of 303 million. Despite this massive potential significant challenges persist.

**Keith Mwanalushi** looks closer at the maintenance landscape.

Africa's potential in the aviation industry has been widely understood for decades now, even though the continent has the world's smallest aviation market, its potential, once fully unleashed is enormous agrees Jean-Michel Picard, AFI KLM E&M VP Sales Africa and the Middle East. "Africa is not a major player in the MRO market, but it has great potential for growth due to its relatively young aviation market and increasing population."

Air traffic to, from, and within Africa is expected to grow by about 6.1% annually over the next 20 years, so Picard affirms that for AFI KLM E&M, Africa will remain an important market. "We have contracts in West Africa with Air Cote d'Ivoire and Congo Airways for instance and also in East Africa with carriers such as Ethiopian Airlines and Kenya Airways. We also have contracts in Reunion, Mauritius and Madagascar, which for us are part of Africa."

Africa has home grown competent internationally recognised MRO providers, but these are generally limited to South African Airways Technical (SAAT) Kenya Airways, Ethiopian Airlines and Egyptair.

The limited number of MROs means many African airlines need to outsource these services to Europe, Asia or Australia. Outsourcing from Africa is challenging from a cost and time perspective due to the sheer distance the aircraft have to travel for maintenance.

"It's very costly to outsource your airframe maintenance if you're an African airline," comments Cheryl Jackson, President, AAR Africa and SVP for Global Business Development, AAR.

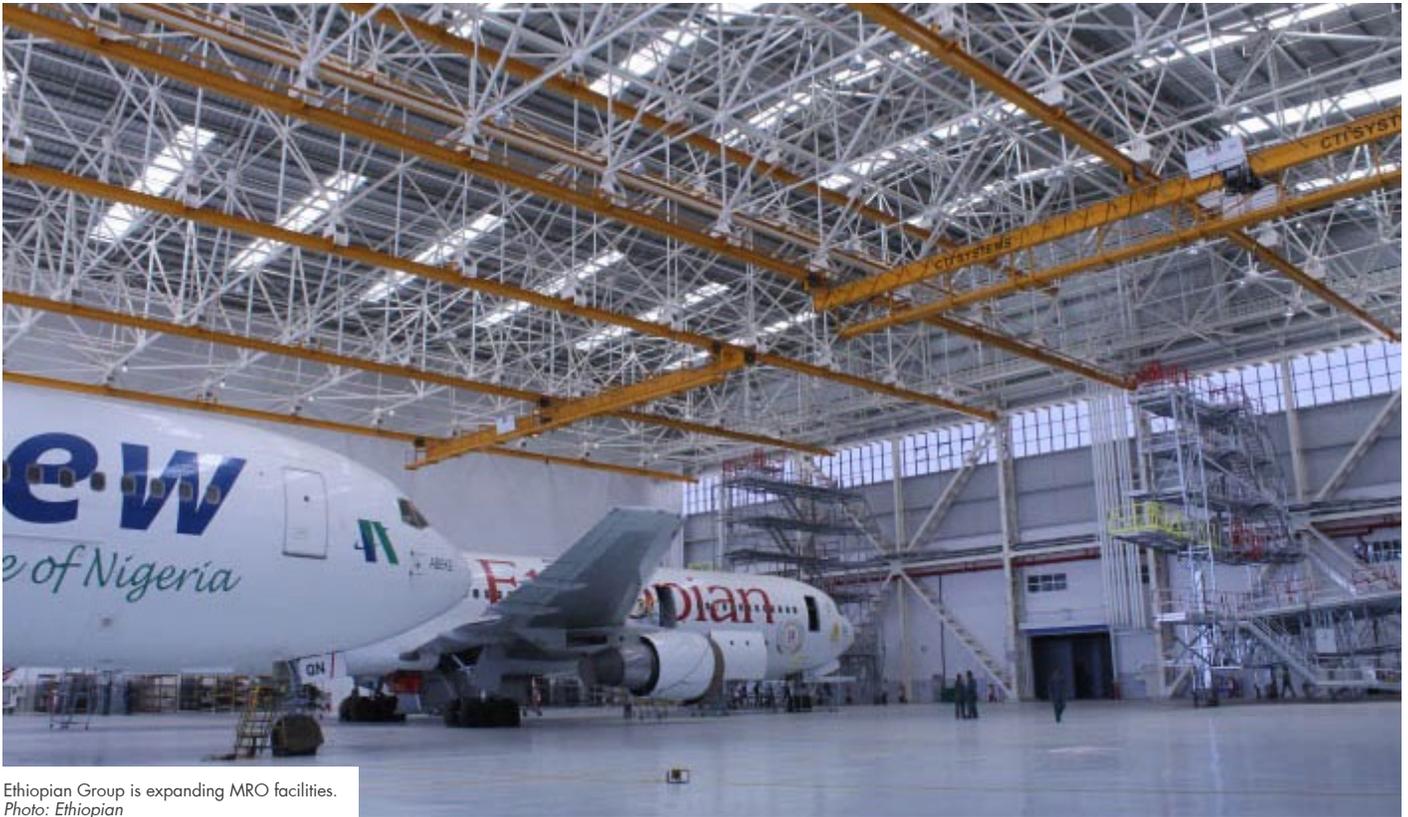
Jackson says African currencies such as the Naira [Nigeria] are weak compared to the currencies in Europe and Asia. "If a Nigerian airline outsources to Europe, they have to pay in Euro, not Naira. Many of these countries are struggling with their economies. It's onerous, but foreign exchange makes it that much more onerous."

From an economic development perspective, Africa's ability to grow its aircraft maintenance capacity is key to better connecting countries within the continent which is a big challenge now. Increasing interconnectivity also is critical to increasing tourism and trade, building and sustaining a middle class, particularly in Africa, which lacks the traditional infrastructure such as roads and railways that connect people to goods and services.

For its part, AAR became the first aviation services company to land a multi-



Jackson feels MRO growth in Africa will require a public-private solution.  
Photo: AAR



Ethiopian Group is expanding MRO facilities.  
Photo: Ethiopian

year deal under the Obama administration's "Doing Business in Africa" initiative. "In 2014, we signed a five-year multi-million dollar agreement with Kenya Airways to provide power-by-the-hour (PBH) component support for its fleet of 737NG aircraft. In May 2016, we extended our reach in Africa, signing a contract to provide cost-per-flight-hour component inventory management and repair services to regional carrier fastjet. And late last year, we announced a five-year agreement to provide PBH component inventory management and repair services to South African Airways Technical – SAAT," Jackson adds.

In terms of MRO trends to watch in Africa, Jackson sees a lot of interest, activity and planning around building additional maintenance capacity from government leaders, as well as OEMs and independent maintenance providers. "There is a particular void in places such as Sub-Saharan and Central Africa to support aircraft travelling to West and East Africa."

In addition, she says Africa's aviation industry professionals are reaching out to providers abroad. "Leaders in Central and West Africa, in particular, understand there is a real need to support the airlines. They understand that increasing aircraft maintenance capacity is a potential game-changer in terms of creating jobs and economic opportunities in the region."

Nigeria, for instance, has very ambitious plans to upgrade its airport, to set up an MRO facility and a possible new flagship carrier. "Rwanda Air, a small but strong, very well run airline, is also looking at MRO opportunities to support customers. The same for SAAT and Kenya Airways. SAAT, which was at one time a powerhouse in providing MRO services to third party customers, is working toward recapturing their pre-eminence in that space.

"The aviation and transportation ministries are doing a lot of visioning, planning and reaching out to companies like AAR to partner with them to set up an MRO operation."

Picard, acknowledges that local MRO capacities in Africa are still limited but growing and that MRO activities are often subcontracted. AFI KLM E&M is present in the continent with a wide customer base ranging from Morocco to South Africa, and from Ethiopia to Ivory Coast.

Picard says AFI KLM E&M is always looking out to develop and expand its MRO support, but it is often a challenge to consider setting up an MRO locally. "Unrest can impact the aftermarket, supply chain and spare parts can become unavailable. Every time a new airline starts operating, AFI KLM E&M proposes a variety of support types. Sometimes we acquire equity stakes in an airline, as Air France-KLM has done with Kenya Airways, Air Cote d'Ivoire and others."

There are a number of key pressing challenges to developing appropriate aircraft maintenance capabilities in Africa. Capital to invest, infrastructure, political support are among them and MRO opportunities are limited due to the economic and geopolitical issues that some countries face and the fact that local traffic growth has remained mostly flat.

Picard advises that setting up partnerships and joint ventures could be the solution to many of Africa's aviation and MRO problems. AFI KLM E&M has a



Jason Gallant, GM at Vector Aerospace Africa

joint venture - Aerotechnic Industries (ATI) together with Royal Air Maroc which has become an important addition to the business. ATI operates at Casablanca's International Mohammed V airport in Morocco, and provides A320 and 737NG overhauls services from A-Checks to D-Checks. "We are continuing to develop ATI, and our clients (i.e. Air Arabia Morocco) appreciate our quality, flexibility and performances."

The challenge for potential MRO providers has to do with the number of aircraft growing to a scale that can support successful independent MRO operations.

"It becomes a catch-22 of which comes first. Do you build it and they will come? Or do you wait until the numbers are there and then build more capacity?" Jackson questions.

In order to overcoming these challenges, Jackson feels it will require a public-private solution. Countries like Nigeria, for instance, are looking at a hybrid of the two. "From the government's view, MRO is an important economic engine to create jobs and grow cottage industries around the MRO and increase connectivity by supporting the safety of aircraft. As the public sector looks at making a long-term investment in MRO, teaming with the private sector to provide the technical expertise, I think, is an important approach to consider in the short term until there are enough aircraft to truly support an independent MRO operation."

She also notes there are opportunities to team with these countries to help them problem solve. "The private sector may look at it purely by the numbers. But a pure private sector play won't move the needle in the short term. Providers, too, must see it as an important investment to transform Africa's economy and expand the aviation sector by investing long-term. From that view, a public-private partnership is really ripe for an MRO operational facility and investment," Jackson suggests.

There are some exciting advancements taking place in several African airlines today with many modernising or expanding their fleets and this should present some opportunities for technical procurement and supply chain management.

In July, AJW Group, specialist in the global management of aircraft spares, signed an agreement with Aero Contractors, the Nigerian-based airline, to assist in the restructuring and upgrading of their MRO support services.

AJW Group will be supporting Aero Contractors with the upgrade of its MRO services to C check capabilities for Boeing 737 Classic aircraft – 300,400 and 500. The enhancement of its MRO capabilities will ensure that maintenance is carried out to a very high standard, thus providing added quality assurance to their customers. In addition to their own fleet, Aero Contractors will be able to extend these services to third party operators both in-country and within the region.

Furthermore, AJW Group will also be focusing on the management of Aero Contractors' assets to deliver an effective return on investment, disposal of Aero Contractors' PW150 engines and to provide support with engine shop visit management.

AJW Capital, the Group's principal investing division responsible for the purchase, sale and lease of large aviation-related capital assets, will facilitate the acquisition of two new Bombardier Q400 aircraft for Aero Contractors.

Captain Ado Sanusi, CEO of Aero Contractors, said: "We are very excited to work with AJW Group on this project and feel that it will have a marked effect on our operations going forward. Having been in the business for 58 years, I am confident we have found the right partner to work with."



MRO capacities in Africa are still limited but growing.  
Photo: Proflight Zambia

In other news, Ethiopian Airlines, inaugurated three more wide body hangars earlier this year. Each hangar is equipped with state of the art tele-platforms and tail docks: a full paint and general maintenance hangar along with 15,000 Sq.m backside offices and 105,000sq.m hangar apron area.

Ethiopian Group CEO, Mr. Tewolde GebreMariam, said, "Foundational infrastructure development is one of the four pillars of our fast, profitable and sustainable growth strategic roadmap, Vision 2025. Hence, to further complement our steady growth and attain our goal in remaining to be the leading MRO service provider in Africa, we have been making massive infrastructure development projects to modernise and expand existing MRO facilities at a total cost of US\$115 million. Beyond ensuring self-sufficiency, completion of these maintenance hangars will surely enhance our capability to cope up with the 21st century new aviation developments and offer third party services."

Currently, Ethiopian Group provides complete total care maintenance services for ASKY, Malawian, RwandAir, Congo Airways, Ceiba Intercontinental, CamAir-Co. and Jambojet Airlines. Beyond that the Group has also extended its services to a number of operators based in the Middle East, Far East and Central Asia.

Jason Gallant, General Manager at Vector Aerospace Africa (Pty) notes that aircraft maintenance in Africa has two major hubs - one in Nairobi, Kenya where Vector has a service centre to fulfil customer's engine requirements and the second in Johannesburg, South Africa – the location for the PT6A designated overhaul facility.

In conclusion, the projected growth of the aviation industry in Africa hasn't materialised at the rate once forecast, but it's still growing, and the potential for future growth is significant. As Jackson from AAR observes, the challenge in Africa in terms of growth is interconnectivity and increasing the number of regional routes.

There's a huge need for intra-regional routes but some of the policies and regulations in Africa are stymieing that growth. "Increasing the number of liberalisation of the skies agreements between African countries would be significant to increasing the number of routes along with investment capital and funding. That's where the growth is: regional versus long haul. You see a lot of low-cost carriers like fastjet cropping up. fastjet flies domestically and internationally, with some flights costing as little as \$10 one way.

"That's a real game-changer for passengers."

## Delivering Power

**A**ero Norway is an independent CFM56 engine MRO specialist located at Stavanger airport on the west coast of Norway. Aero Norway is an authorised CFM repair station and is multi-release FAA, EASA, TCCA, CAAC, GCAA and DGCA certified.

The modern and well-equipped 14,500 sq.m. facility has the capacity to deliver 120 engines a year with streamlined workflow processes to repair 16 engines consecutively at any one time. Production, test and storage areas cover a further 12,500 sq.m, with the headquarters and training centre adding another 2,700 sq.m.

The company employs over 80 highly trained technicians and engineers within the engine shop who work a continuous shift pattern to sustain optimum TATs, alongside their successful apprentice scheme, currently with eight trainee engineers, all of whom are undertaking a two year programme. A further 45 personnel are responsible for the sales, customer support and administration.

Around the world, Aero Norway has strategic partnerships with more than 20 key suppliers and OEMs. These relationships are rigorously reviewed to maintain quality and cost-savings which are passed on to customers.

Aero Norway's value proposition for the supply of independent engine MRO services is centred on key lynchpins: exceptional and proven industry-recognised EGT margins, which are 15% higher than industry standards; flexibility and personalised programmes for each individual customer that embody Aero Norway's approach; and competitive turn-around-times supported by collaborative work practices.

Aero Norway's expertise is recognised by their diversified global customer base of CFM56 series engine operators. The organisation has increased its repair coverage by more than 20% over the last 2 years and undertakes 90% of all repairs in-house. Repair programmes cover: single engine MRO to on-site support; post-lease inspections; or multiple engine repair contracts; work scope consulting; material procurement; engine test cell runs; full restoration; engine parts repair; engine investigation; and non-destructive testing and diagnostics.

### Celebrating 25 years as an authorised CFM engine repair station

In 2017, Aero Norway reached a significant milestone: twenty five years of repair services for CFM56-3, CFM56-5B and CFM-7B engines. With a growing number of approvals and accreditations, Aero Norway continues to meet international standards and continually seeks to increase their global scope. Remaining true to their guiding principles and delivering industry -recognised superior EGT margins, and competitive TATs that help customers achieve dispatch reliability and commercial success.

Precision, quality, speed and efficiency are combined with a flexible 'can-do' attitude at Aero Norway. The team harnesses the special characteristics of strength, focus and independence that embody the company's approach to business and customer service and are synonymous with the Norwegian way of life. Totally reliable, operators are reassured that the trust they place in Aero Norway to deliver the very best engine MRO is fully justified. Tools are regularly



Aero Norway is a specialist in the CFM65 engine range.  
Photo: Aero Norway

updated and undergo rigorous safety and quality checks to ensure consistent service excellence across all precision repair processes.

### Balancing cost, efficiency and engine performance

Aero Norway's success can be attributed 100% to the spirit and precision of the dedicated technicians and engineers. Its unequivocal pursuit of industry-recognised EGT margins reduces costs and improves reliability - the greater the EGT margin achieved, the healthier the engine. So from a commercial perspective Aero Norway's customers' engines will last longer on wing, and the engine components, especially in the hot section, will remain in better condition.

Such measurable performance, up to 15% higher than industry standard, has been the catalyst behind Aero Norway's decision to move to a shift work programme to increase its engineering capacity as the rate of engine inductions at the facility continues to grow.

Please visit [www.aeronorway.no](http://www.aeronorway.no)



Jianfeng (Jeff) Hu



Yujie (Jessy) Zheng

SR Technics has appointed **Jianfeng (Jeff) Hu** as Deputy CEO and **Yujie (Jessy) Zheng** as Deputy CFO. Both will join the SR Technics Leadership Team, with the Deputy CEO reporting directly to the CEO and the Deputy CFO to the CFO. Jianfeng Hu has extensive experience in aviation maintenance and aircraft engineering, and he previously served as Vice President of Tianjin Airlines. Yujie Zheng joins SR Technics from the Grand China Aviation Maintenance Corporation, where she was the company's CFO.



Brian Ruben Pedersen

Nordic Aviation Capital (NAC), the regional aircraft leasing and trading company, has reported that **Brian Ruben Pedersen** has joined NAC as Chief Financial Officer, effective July 1, 2017. Having held several senior executive positions at Maersk, Brian Ruben Pedersen's most recent position was as CFO for Maersk Global Shared Services in Mumbai.

Dubai Aerospace Enterprise (DAE) has released that **Mr. Osama Fataleh**, Chief Executive Officer of Joramco has submitted his resignation to pursue his interests outside the industry. His permanent replacement will be announced in due course. **Mr. Amjad Korshlow**, Chief Financial Officer of Joramco, will serve as Acting Chief Executive Officer until a permanent replacement is named.



Barney Wyld

Rolls-Royce has reported the appointment of **Barney Wyld** as Director, Corporate Affairs. Wyld will join Rolls-Royce later this year in a new enhanced role. The appointment follows the decision of **Peter Morgan**, the current Director of Corporate Affairs, to leave the Group after eight years.

**Scott Fancher**, senior vice-president of program management, integration and development programs, has announced his intention to retire in September 2017, culminating a 40-year Boeing career that spans executive leadership roles across the company's signature commercial, defense and space programs. In his current role, Fancher

led the company-wide deployment of Boeing's development program management system, and he structured and launched the company's first integrated corporate function for identifying, developing and deploying program management talent.

GE Aviation has named **John Mansfield** Chief Digital Officer. In this role, he will be responsible for the technology and business growth of the aviation digital portfolio. Mr. Mansfield joins GE following a successful career at Hitachi Limited, where he most recently served as President, General Manager and Chief Technology Officer of the Product Platform Division.



Rick Armstrong

Dallas Aeronautical Services has appointed **Rick Armstrong** as Director of Technical Sales. Rick Armstrong joins the DAS team with over 30 years of aviation experience ranging from composite/sheet metal repair and manufacturing to component overhaul. Mr. Armstrong began his career in 1986 as a technician and has since held leadership roles at Aerocell Structures and Aero Fabricators.

BOC Aviation is pleased to announce the opening of a new office in New York City, its latest overseas office after Dublin, London and Tianjin. The New York office is to be co-located with the Bank of China offices and will be led by **Matt Baumgarth**, Executive Vice-President for Airline Leasing and Sales (Americas). Mr. Baumgarth was previously based in London as Senior Vice-President for Capital Markets.

DVB Bank SE, the specialist in international transport finance, has appointed **Eelco van de Stadt**, DVB's Head of Aviation Finance North & South America, as Global Head of Aviation with effect from August 1, 2017, replacing **David Goring-Thomas** who was recently appointed to join DVB's Board of Managing Directors. Eelco van de Stadt will relocate to DVB London Branch to assume his new position, from New York where, for the past eleven years, he has been leading DVB's Aviation activities in the Americas.

Aero Capital Solutions reported that **Daniel Watson** joined the company as Executive Vice President, Asset Management and Managing Director of its Dublin-based subsidiary ACS Aero Management. With the continued success and growth of the ACS platform, Watson will have the primary responsibility of executing on the future growth strategies of the company's global asset trading and engine leasing businesses which focus on narrow and wide-body commercial aircraft and engines. He will also provide key strategic leadership within ACS' senior executive team.