

Reaching new heights: unlocking new approaches to more effective commercial aviation maintenance planning



efficient or to enable more strategic planning.

Fleet planning easily overwhelmed

Manually collecting and maintaining up-to-date aircraft usage data and performing useful and effective planning work within a spreadsheet becomes a time-consuming and daunting task. Add the complexity of aligning plans to accommodate constantly shifting labour and parts availability and other station constraints, and soon it becomes clear that planning by spreadsheets is not an optimised process.

At the highest-level, fleet maintenance planning must span all the aircraft carrying passengers across a sprawling network of routes. Any changes to the plan can have huge knock-on effects further down the line – with schedules being torn apart in minutes when an aircraft becomes unavailable at short notice, or when parts and labour availability change.

This is simply a day-to-day challenge. Looking forward, week-to-week or month-to-month, spreadsheets cannot provide accurate answers to strategic business questions such as: How many new aircraft can we support? What will it look like if we add a new aircraft type in four years? What happens if we use external MROs for this fleet?

Long range fleet maintenance planning – what you need, and what it should do

Managing a fleet of next-generation aircraft requires next-generation tools. Automated solutions must come to the fore to help decision-makers choose the best plan to support their business. Any supporting solution must be able to

Amidst the boom in the commercial aviation industry, maintenance remains a major cost area for all airlines. They now spend more on maintenance than they do on fuel or crew, making maintenance costs a prime target for reduction. Yet many operators are still using manual planning processes, building an executable long-range plan which often depends largely on the tribal knowledge built up in the planning organisation over many years. Here, Mark Martin, Director, Commercial Aviation Product Line, Aerospace & Defence Business Unit, IFS, explains how new cloud-based solutions are enabling maintenance and operational availability to work together – making manual, time-consuming and error-prone maintenance planning a thing of the past.

Airline operators are witnessing an unabated pace of change in the commercial aviation industry. Oliver Wyman figures show 58 percent of aircraft in service will be new-generation by 2027, alongside a continued growth in air travel demand, and a maintenance, repair and overhaul (MRO) market set to grow over 25 percent in under a decade from \$77.4 billion to just over \$114 billion.

Yet with the next-generation of technologically advanced aircraft entering service and fleet sizes growing larger than ever before, maintenance scheduling, planning and execution has not advanced at the same pace. In the highly competitive commercial aviation market

– where margins are small and expenditure is high – effective maintenance planning has the potential to increase profit.

By introducing better planning capabilities, operators can make the most of the resources they have, with the end goal of being able to cost effectively service more aircraft with the same number of maintenance staff – and generate the most revenue out of each aircraft.

Unfortunately, many planners are still generating their maintenance plans in spreadsheets. That might be fine for a plan created solely by calculating start and end dates, but it does nothing to make the planning process more



pinpoint the most efficient maintenance plan tailored to an organisation's unique requirements. The result should be improved aircraft availability, check yield, and hangar utilisation.

Whether for single-base operations or globally distributed maintenance organisations, the automation should enable faster and more efficient planning. Because even the best of fleet plans can unravel in the blink of an eye, any modern fleet planning solution should enable multiple planners to quickly and easily modify, merge, and share plan updates.

The devil is in the line maintenance detail

Similarly, in line maintenance planning, there are fundamental challenges that need to be addressed, but on a shorter planning horizon. Efficient line maintenance means supporting a growing number of daily flights and shorter maintenance windows without onboarding additional maintenance staff. But when committed maintenance activities slip, it can impact operations on the day of scheduled maintenance. There is less time to take corrective action and, as this responsibility is corrected by manual inputs, this introduces the opportunity for human error and differing courses of action depending on the planner in-charge.

This is easier said than done. On the rapidly changeable day of operations, line maintenance organisations struggle to ensure that maintenance resources are being properly allocated to the most important tasks, in complete alignment with the company's operational objectives. Ensuring aircraft availability

in quantities sufficient to support the flight schedule is a given. Beyond that, planners are often on their own to figure out which tasks are performed first. The decisions planners make about which aircraft to prioritise may differ depending on the objective: to maximise



revenues, maximise seat availability or maintain schedule.

Granular view? Easy

Line maintenance planning solutions must dynamically react to schedule changes, as the solution continuously monitors the maintenance plan for individual aircraft and identifies changes as they arise. Maintenance priorities must be contextualised against corporate goals to drive business value from maintenance processes. Planners must be able to view all relevant information in a single screen, allowing them to use the software to create executable plans quickly.

SaaS tools put maintenance planners on cloud nine

As planners become responsible for

more aircraft and more maintenance visits, there has to be a new approach. Stretched spreadsheets just can't hack it. There are generic planning tools, developed to fit general scheduling needs of multiple industries. But the lack of industry specificity in these solutions typically leads to failure when they are deployed in a commercial aviation setting. Some vendors offer planning tools more suited to purpose but with rigid architecture and on-premise hardware. This makes them unaffordable to small planning departments. And for carriers with larger fleets, it signals the start of a major IT project with all the associated cost, risk and overheads.

Fortunately, Software-as-a-Service (SaaS) solutions are now emerging in commercial aviation and bring new efficiencies for both IT and business. SaaS solutions – such as two new solutions recently introduced by IFS for fleet and line planning -- are helping to address the high capital expenditures airlines and MROs typically face for hardware, software and ongoing services and support. It is also becoming a vital tool in the new aviation IT landscape as a means to speed up delivery of new capabilities and eliminate the cost of purchasing and managing on-premise technology.

Maintenance and operational availability glued together

In a recent IFS Digital Change survey, almost 60 percent of commercial aviation respondents cited "operational availability" as a significant industry challenge. Managing operational availability and avoiding schedule delays begins in the maintenance planning process.

Legacy maintenance planning and scheduling tools can no longer offer competitive levels of availability. Automation in the planning process must now be a prerequisite in any supporting solution. SaaS delivery provides the flexibility and scalability to cover fleets as small as ten aircraft, and as large as 1,000+.

The ripple effect of effectively planned maintenance is far reaching – aircraft are turned around quickly, airworthiness is assured, and maintenance costs can be kept in check.

Aerospace industry leader Brendan Curran selected as President of Boeing AvionX

Boeing has named Brendan Curran president of Boeing AvionX, an organisation formed last year to pursue the development and production of avionics and electronics systems. Curran will report to Stan Deal, president and CEO of Boeing Global Services.



The newly-created position will further mature the company's after-market strategy.

Curran, who has more than 20 years of aerospace industry leadership, joins

Brendan Curran
Boeing AvionX

Boeing from Crane Co., an American industrial products company based in Stamford, Connecticut where he served as president of the Aerospace & Electronics Group.

In this newly-created position, Curran will work across Boeing's commercial, defence and services businesses to further mature the company's after-market strategy. He will help advance overall capabilities of the Boeing AvionX organisation to provide greater value to customers while driving long-term services growth.

"The success of Boeing AvionX depends on aftermarket technologies and innovations that exceed our customers' needs, as well as developing avionics products that add value to our commer-

cial and government platforms," said Deal. "Brendan's extensive expertise, especially as it relates to aftermarket strategies, will enable us to harness incredible opportunities so we can provide our customers more value throughout the lifecycle of their investments."

Prior to Crane Co., Curran was vice president of Business Development, Strategy and Partnerships for commercial engines at Pratt & Whitney, a United Technologies Company. Before that, Curran was vice president and general manager of Repair and Supply Chain for Hamilton Sundstrand, a United Technologies Company.

Curran will be based in Plano, Texas, home to Boeing Global Services headquarters.

Boeing to launch New Aerospace & Autonomy Centre in Cambridge, Massachusetts



Boeing has decided to open the new Boeing Aerospace & Autonomy Centre in Cambridge, Massachusetts, becoming the first major tenant of the Massachusetts Institute of Technology's (MIT) new mixed-use district in Kendall Square.

Under the agreement, Boeing will lease 100,000 square feet of research and lab space inside a new 17-floor building at 314 Main Street in Cambridge. The new centre will house employees from Boeing and Aurora Flight Sciences, a subsidiary of Boeing which will focus on designing, building and flying autonomous aircraft

and developing enabling technologies.

The investment in the new centre follows the recent creation of Boeing NeXt. This new organisation unites researchers and projects across the company to shape the future of travel and transport, including the development of a next-generation airspace management system to enable the safe coexistence of piloted and autonomous vehicles. Employees at the centre will help develop innovative technologies in support of Boeing NeXt programmes.

The construction of the new research facility is part of MIT's broad strategy

to promote vibrancy and diversity in Kendall Square, which is often referred to as the most innovative square mile globally. Through its Kendall Square Initiative, the university will develop six buildings to house a blend of lab and research, office, housing and retail space.

Employees from Aurora Flight Sciences' existing research and development centre in Kendall Square will move into the new centre and operate it on behalf of Boeing once complete.

"Aurora's Kendall Square team is already building innovative autonomous systems," said John Langford, Aurora Flight Sciences founder, chief executive officer and MIT alumnus. "By expanding Aurora's 30-year relationship with MIT, and working with Boeing, we are creating a collaborative space where engineers, students and researchers can work together to create technologies that will define the next-century of air mobility."

The new agreement builds on a century-long relationship between Boeing and MIT to develop aerospace innovation. Last year, the company announced its role as lead sponsor of an \$18 million project to replace MIT's Wright Brothers Wind Tunnel.

SR Technics expands its presence at Malta International Airport with new hangar



SR Technics has signed a contract with Malta Enterprise and Malta Industrial Parks Limited to expand its aircraft maintenance facility in Malta, following last year's Memorandum of Understanding (MoU). Joseph Muscat, Prime Minister of Malta, welcomed SR Technics in Valletta together with Christian Cardona, Minister for the Economy, Investment and Small Business of Malta, and Mario Galea, Chief Executive Officer of Malta Enterprise. Present at the signing ceremony were Frank Walschot, Chief Executive Officer at SR Technics, Jianfeng (Jeff) Hu, Deputy Chief Executive Officer, Jakob Straub, Head of Aircraft Services and Line Maintenance and Arthur Magri, General Manager for SR Technics Malta.

The agreement includes the construction of a modern multi-bay hangar facility for narrow- and wide-body aircraft at Malta International Airport. With a size of 30,000 sqm, including workshop space, the new infrastructure will allow SR Technics to increase its capacity for heavy maintenance, C-checks and any cabin modifications or retrofits to up to six narrow-body aircraft at a time. Construction will begin this year, with a scheduled completion date of November 2019 for the first four bays. Operations will initially focus on the Airbus A320 family and the Boeing 737NG. To handle

demand while the new hangar is being built, SR Technics will incorporate a third bay as of November 2018 in a temporary hangar next to the existing facility.

Since the opening of the Malta operation in October 2010, the SR Technics Maltese employees have serviced over 250 aircraft. With the support of the Malta government, SR Technics will hire and train approximately 350 new employees including B1 and B2 engineers, structure mechanics and technicians to join its highly skilled and motivated workforce. The Malta facility will continue to support both SR Technics' strategic operations in Europe and the overall aerospace strategy of its shareholders.

"Malta is ideally located to further grow our aircraft maintenance business in the region," explained Frank Walschot. "The state-of-the-art hangar enables us to continue providing efficient and high-performance maintenance services based on safety, quality and reliability, and to deliver aircraft on schedule."

Joseph Muscat, Prime Minister of Malta commented, "With the conclusion of this agreement today, we are showing that we can take the aviation industry to the next level. The aviation industry is indeed an important one for our economy. But for it to flourish, the industry needed a lot of care and the right economic

environment. Today's celebration is the collective effort of a hard-working country that attracts and takes care of its partners. In SR Technics we found the right partner and it is the mutual trust between partners that has led us to such a success story."

Christian Cardona, Minister for the Economy, Investment and Small Business of Malta stated, "We are proud to see the level of trust that SR Technics has placed in our country. Their assessment of the current and future business expectations is evidence that global companies with a presence in Malta share our positive outlook for the Maltese economy. The nation has the resources, work ethic and right location that make it a strategic base for their enterprise."

"The signing symbolizes Malta's commitment to a long term vision for the aviation sector," commented Mario Galea, Chief Executive Officer of Malta Enterprise. "The MRO industry is truly an important pillar of the Maltese economy offering careers and livelihoods to thousands of families and with SR Technics' growth in Malta, we expect continued prominence that we are supporting locally based foreign companies while attracting to Malta the right kind of projects for the future."

Advanced Manufacturing Research Centre, National Research Council of Canada partner to develop novel composites for aerospace



The University of Sheffield's Advanced Manufacturing Research Centre (AMRC) has signed a collaborative research agreement with the National Research Council of Canada to develop novel composites for aerospace and is the first project under the broader CAN-UK science, technology

and innovation research partnership.

The objective of the complete two phase research project is to develop the analysis methods and manufacturing knowledge required to design and produce optimised curvilinear variable stiffness laminates fabricated by Automated Fibre Placement (AFP) and

demonstrate application of the technology on a representative civil aircraft structure.

Professor Keith Ridgway, Executive Dean of the AMRC, said, "We are delighted to have the opportunity to work with our academic colleagues in Canada and look forward to a long and fruitful relationship."

As well as the AMRC and NRC, additional project partners will be required for phase two onwards. Industry partner involvement will ensure the technology and specific applications being developed are directly relevant to near-future aero-structures.

François Cordeau, Vice President of the Transportation and Manufacturing Division of the National Research Council of Canada, said, "Manufacturing makes up nearly half of Canada's aerospace sector. The NRC is excited to work with the global aerospace industry by collaborating with the University of Sheffield on advanced manufacturing methods for cost-effective and environmentally-friendly aircraft."

IATA signs engine maintenance deal with CFM International

The International Air Transport Association (IATA) has entered into an agreement with CFM International (CFM) that will lead to increased competition in the market for maintenance, repair and overhaul services (MRO) on engines manufactured by CFM, a 50/50 partnership between GE and Safran Aircraft Engines.

"Airlines spend a tremendous amount of money on the maintenance and repair of aircraft and engines to ensure we are always operating to the highest levels of safety and reliability. This milestone agreement with CFM will lead to increased competition among the providers of parts and services related to the servicing of CFM engines. We expect increased competition will reduce airline operating costs and help to keep flying affordable. And we hope that this agreement will be an example for other manufacturers to follow," said Alexandre de Juniac, IATA's Director

General and CEO.

Under the agreement, CFM has adopted a set of "Conduct Policies" that will improve the opportunities available to third-party providers of engine parts and MRO services on the CFM56 and the new LEAP series engines. Among the many elements of the agreement, CFM has agreed to:

- 1) License its Engine Shop Manual to an MRO facility even if it uses non-CFM parts
- 2) Permit the use of non-CFM parts or repairs by any licensee of the CFM Engine Shop Manual
- 3) Honor warranty coverage of the CFM components and repairs on a CFM engine even when the engine contains non-CFM parts or repairs
- 4) Grant airlines and third-party overhaul facilities the right to use the CFM Engine Shop Manual without a fee
- 5) Sell CFM parts and carry out all

parts repairs even when non-CFM parts or repairs are present in the engine

The agreement includes specific provisions ensuring the implementation of CFM's commitments with regard to CFM56 series engines which power some 13,400 single-aisle aircraft flying at present. CFM has, however, committed to apply the agreement to all commercial engines produced by the company, including engines in its new LEAP Series. GE, moreover, has agreed to apply the Conduct Policies to other commercial aircraft engines that it produces in its own right.

Beneficiaries of the agreement include IATA, CFM's airline customers, aircraft lessors, third-party MRO facilities and parts manufacturers.

Based on the agreement, IATA has withdrawn a formal complaint it filed with the Competition Directorate of the European Commission in March 2016.

AJW Group secures repairs support contract from Just Us Air



AJW Group has received a repairs support contract from Just Us Air, a Romanian private airline headquartered in Bucharest.

AJW Group will use its industry-leading expertise to manage the repair services for Just Us Air's Airbus A320 aircraft. Outsourcing its repairs to AJW will enable Just Us Air's team to focus on growing the business, building its brand reputation and exceeding its customers' expectations.

Just Us Air started operations in 2017 and specialises in short notice 'Aircraft, Crew, Maintenance and Insurance' (ACMI) arrangements, wet lease operations and ad hoc charter services. The carrier's diverse client base includes tour operators, air transport brokers and airlines.

Christopher Whiteside, President and CEO of AJW Group, said, "It is my great pleasure to announce this new contract with Just Us Air. We are delighted to be working with a carrier, whose core values are aligned with our own. Our support will be instrumental in ensuring that the young airline continues to grow and provide the best possible service to its customers."

Dan Iuhas, CEO of Just Us Air, said, "As a fast-growing start-up airline, there are many areas of focus at any one time. By outsourcing our repairs management to AJW Group, we can focus on building the Just Us Air brand in Europe and attracting new customers, safe in the knowledge that our aircraft will continue to run safely,

Magnetic MRO provide asset management solutions for Go2Sky

Magnetic MRO, a global Total Technical Care maintenance and asset management organisation has recently completed a full delivery support of Boeing 737-800, MSN 32604 to Go2Sky, following the contract signed to provide a complete range of asset management solutions for aircraft lessor.

The aircraft was previously operated by Hainan Airlines and was delivered to Go2Sky, a Slovak charter airline with a fresh EASA Airworthiness Review Certificates (ARC) recommendation, leading to 16 years of Chinese operations and maintenance documents being checked meticulously. The entire transformation process took place in Tallinn facility, covering many technical care solutions including painting, DOA, CAMO, Interior Workshop, Line and Base Maintenance backing, as well as Seat Shop support together with MAC Interiors, a subsidiary of Magnetic MRO.

"It was orchestrated by Magnetic MRO Engineering Unit as the major part of the work scope referred to converting the previous outdated cabin layout into a new and modern looking passenger area. New modifications and conversions were carried out through a smooth communication and professional supervisions, resulting in creating a brand-new looking aircraft inside and out," stated Priit Kimmel, Engineering Manager. "In spite of all inclusiveness and major challenges the project brought along, the result ended up fully satisfactory for all of us, including our customer."

Transport Canada certifies 90-passenger cabin configuration for Bombardier Commercial Aircraft's Q400 aircraft

Bombardier Commercial Aircraft has received certification for its 90-passenger Q400 aircraft configuration from Transport Canada, becoming the first in-production commercial turboprop globally to reach that capacity.

"With increasing growth in the number of passengers per departure in the turboprop market, we are excited to offer our customers a higher-capacity configuration and 15 percent lower cost per seat compared to the previous standard Q400, leading to more profitability potential for airlines," said Todd Young, Head of the Q Series Aircraft



Programme, Bombardier Commercial Aircraft. "This milestone certification showcases -- once again -- the unique versatility of the Q400 turboprop and our continued commitment to the evolution of the programme.

"Upon delivery later this year, our

launch customer SpiceJet will become the first airline to take advantage of the profitable and efficient operations of the 90-seat Q400 aircraft following its order of up to 50 in 2017," added Young.

The 90-seat configuration represents another step in Bombardier's constant enhancement of its Q400 aircraft, aimed at addressing traffic growth and customer bottom line. Other improvements under development include a 2,000-lb-increase in payload capacity and an escalation of the A-Check and C-Check intervals from 600/6,000 to 800/8,000 flight hours.

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Royal New Zealand Air Force to receive CAE 700MR Series NH90 flight training device

CAE has received a contract from the New Zealand Defence Force (NZDF) to provide the Royal New Zealand Air Force (RNZAF) with a CAE 700MR Series NH90 flight training device (FTD).

The contract also includes the provision of long-term maintenance and support services upon delivery of the simulator to RNZAF Base Ohakea in 2020. The contract for the CAE 700MR Series NH90 FTD and through-life support services, including options, is valued at more than C\$50 million.

The CAE 700MR Series FTD offers an immersive and realistic training environment in a fixed-based platform that includes a dynamic



seat for vibration and motion cueing. The RNZAF NH90 simulator will feature the CAE Medallion-6000XR image generator and an extreme field-of-view visual display system (240 degrees horizontal by 88 degrees vertical) ideal for practicing and rehearsing high-risk maneuvers such as ship deck and confined area landings.

"We are pleased the New Zealand Defence Force has once again placed its trust and confidence in CAE to deliver a high-fidelity training system and comprehensive training support services that will contribute to the mission readiness of the Royal New Zealand Air Force's NH90 helicopter aircrews," said Ian Bell, CAE's Vice President and General Manager, Asia-Pacific/Middle East.

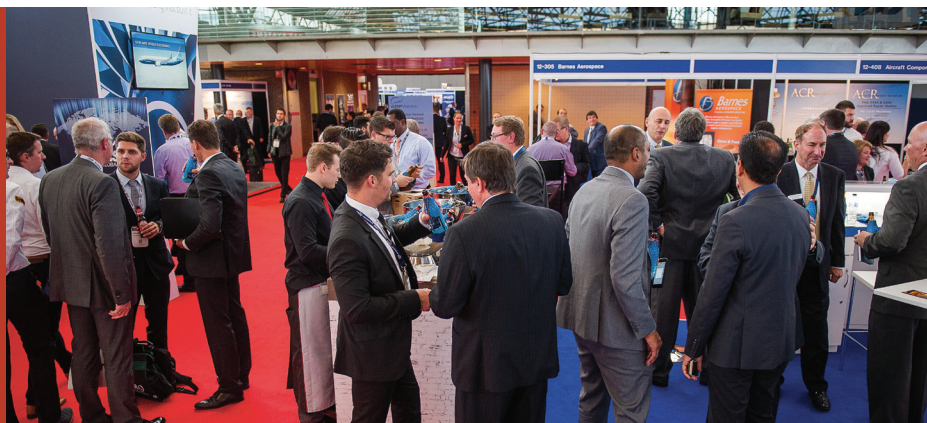
CAE at present provides the NZDF with training support services on a range of platforms, including the T-6C ground-based training systems at RNZAF Base Ohakea and the SH-2G(I) helicopter training systems located at RNZAF Base Auckland.

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Did You Know the Western European Commercial Aviation Fleet will:

Grow

from 6,320 aircraft in
 2018 to 7,660 in 2027

Add

3,410 new aircraft
 while retiring 1,800

Generate

\$221 billion in
 MRO demand through 2027

Generate

\$59 billion in
 engine maintenance

Lockheed Martin delivers 52nd C-5M Super Galaxy

Lockheed Martin has delivered the 52nd C-5M Super Galaxy strategic transport modernised under the US Air Force's Reliability Enhancement and Re-engining Programme (RERP) at the company's Marietta, Georgia, facility.

The delivery completes the RERP upgrade, which extends the service life of the C-5 fleet out until the 2040s.

"With the capability inherent in the C-5M, the Super Galaxy is more efficient and more reliable, and better able to do its job of truly global strategic airlift," said Patricia Pagan, Lockheed Martin Air Mobility and Maritime Missions Strategic Airlift director, "I am very proud of the contractor-government team that carried out the C-5 fleet modernisation effort. We've worked very hard to ensure the C-5Ms are the absolute best strategic airlifters possible for our armed forces."

An Air Force Reserve Command aircrew from the 439th Airlift Wing at Westover Air Reserve Base, Massachusetts, ferried the final C-5M to Stewart Air Force Base, New York, where the aircraft will go through interior paint restoration. Once that work is complete, the aircraft will be flown to Westover where it will be the eighth C-5M assigned to the base.

Lockheed Martin commenced RERP development work in 2001. RERP incorporates more than 70 improvements that enhance reliability, efficiency, maintain-



ability and availability. RERP included changes or modifications to the airframe structure; environmental and pneumatic systems; hydraulic systems, electrical system; fuel system; landing gear; and flight controls.

The heart of the system is the GE F138 turbofan engine (known as a CF6-80C2L1F in the commercial world) derated to 50,000 pounds of thrust on the C-5M. This engine provides 22 percent more thrust than the out-of-production TF39 turbofans on the earlier C-5A/B/C aircraft. The engines also allow the C-5M to meet the FAA's Stage 4 noise reduction requirements.

These changes, taken together, result in a 22 percent increase in thrust, a shorter takeoff roll; a 58 percent enhancement in climb rate; allows the C-5M to cruise—at maximum gross weight—in the Communication/Navigation/Surveillance / Air Traffic Management (CNS/ATM) flight environment; and greatly enhanced fuel efficiency and less tanker

support demand.

Maiden flight of a modified aircraft to the C-5M standard came in Marietta, Georgia, on June 19, 2006. The first operational C-5M was delivered to Dover Air Force Base, Delaware, on February 9, 2009. A total of 49 C 5Bs, two C-5C aircraft, and one original C-5A was modified under RERP.

The C-5M holds 89 FAI-certified world aviation records, the most by any aircraft type. These records include time-to-climb with payload, altitude with payload, and greatest payload carried.

The C-5 Galaxy has been operated solely by the US Air Force since 1970 and is the largest strategic airlifter in the US Air Force's fleet. The C-5 is capable of carrying two 78-ton M1A1 main battle tanks or helicopters and other large equipment intercontinental distances. Fully loaded, a C-5 has a gross weight of more than 800,000 pounds. All of the C-5s were built at Lockheed Martin's Marietta site.

Besides Westover, C-5Ms are assigned to active duty and Air Force Reserve Command units at Dover Air Force Base, Delaware (436th and 512th Airlift Wings) and Travis Air Force Base, California (60th and 349th Air Mobility Wings). The C-5 aircrew training squadron is part of the 433rd Airlift Wing, the Reserve wing at Joint Base San Antonio-Lackland, Texas.

US Army Black Hawks to receive upgraded Doppler navigation systems from BAE Systems

The US Army has contracted BAE Systems to provide touch screen computer display units (CDU) as an upgrade to the company's ASN-128 Doppler GPS Navigation System on Black Hawk helicopters. The self-contained, all-weather, day or night navigation system enables Black Hawk pilots to view real-time flight plan data.

This task order, which BAE Systems secured under a current \$226 million indefinite delivery/indefinite quantity contract, will bring touch-screen navigation system control to UH-60A/L Black Hawks. The Army plans to use the ASN-128 systems through 2035, and the



upgrades will support safer operation for pilots by minimising heads-down tasks.

"We've been a supplier for the ASN-128 programme since 1978," said Alan Dewar, director of Communications and Navigation Solutions at BAE Systems. "The full touch screen with moving map capability will improve safety for pilots, assisting our customer's mission success."

The CDUs will be produced at BAE Systems' facility in Wayne, New Jersey, with circuit card production in Austin, Texas. Additional CDU delivery orders may follow as part of the Army's upgrade plan. The initial order of 250 CDUs will be delivered in 2019 and 2020.

Executives In Focus

Cutter Aviation promotes Shelbey Hooker to the position of Director of Client Support

Cutter Aviation, a leading aviation services provider for the Southwestern United States has promoted Shelbey Hooker to Director of Client Support position. In this new role, Hooker will manage all Client Relationship Managers for each brand Cutter Aviation represents, including Pilatus, HondaJet, TBM and Piper Aircraft, as well as engine overhaul services, CitationJet, BeechJet, King Air and jet maintenance.

Hooker began her tenure with Cutter Aviation in 2009 as a Customer Service representative at Cutter's Phoenix location. In this role, she created various relationships with customers and quickly grew her professional presence and connections. After three years, she accepted a position with General Atomics flying unmanned aircraft. Hooker then deployed in support of Operation Enduring Freedom where she executed

reconnaissance, surveillance, and target acquisition operations during three wartime deployments. She also served as a mission planner and briefing officer for the MQ-1C and MQ-9 aircraft.

Hooker returned to Cutter in 2013 as the Client Relationship Manager overseeing HondaJet Southwest. As the primary point of contact for each client's ownership experience, she has supported all of Cutter's HondaJet owners and operators with great enthusiasm. Her role as an advocate and expeditor for each owner has included guiding post-sale upgrades, updates and maintenance requests by coordinating action plans with service centers until resolved to each client's satisfaction ensuring optimistic ownership experiences.

Hooker also co-founded a non-profit organisation called the Red Note Foundation. Over the past six years, she has

built a staff and managed over 200 participants in her organisation. The Red Note Foundation supports music programmes at Arizona Schools in memory of her sister.

While attending Embry-Riddle Aeronautical University, Hooker earned a B.S. in Professional Aeronautics and a Minor in Helicopter Operations & Safety. She is also an FAA Licensed Commercial Pilot with ratings in Airplanes and Helicopters.

Shelbey Hooker
Cutter Aviation



Cutter Aviation selects Rachel Varela as HondaJet Client Relationship Manager

Cutter Aviation, a full-service aviation company has appointed Rachel Varela to the position of Client Relationship Manager supporting HondaJet aircraft clients. Varela will be the clients' dedicated point of contact for post-sale maintenance matters and will manage and coordinate action plans with approved service centres.

Varela has an extensive background in aviation beginning with her service in the United States Navy where she was a Turbine Engine Mechanic, working mostly on Pratt and Whitney engines for the Grumman Prowler. During this time, she also held the position of Supply Division Supervisor and was responsible for managing over \$200 million dollars worth of inventory. Varela also worked at Boeing as a composite technician and painter on the Apache programme. After her experience with Boeing, she Varela moved to N1 LLC,

where she worked as a Programme Manager for Pratt & Whitney engines, responsible for overseeing all engine maintenance events and interaction with customers across all regions. She worked on numerous cost analysis projects earning two letters of commendation in the process; one for her work on successful TBO escalation and the second for working with P&W Warranty to receive back unexpected funds for the customers.

Varela is a certified A&P mechanic possessing a keen sense of compliance with FAA guidelines related to aircraft maintenance, which is a remarkable asset for Cutter Aviation and its clients. As a graduate of Arizona State University's Ira A. Fulton School of

Engineering, she has a Bachelor's Degree in Aviation Management.

Rachel Varela
Cutter Aviation



International Events

EVENT	DATE	VENUE
World Financial Symposium	17-20 September 2018	Madrid, Spain
IATA Maintenance Cost Conference	19-21 September 2018	Atlanta, USA
The Africa Aerospace and Defence (AAD)	19-23 September 2018	Tshwane, South Africa
Global Airport and Passenger Symposium (GAPS)	02-04 October 2018	Athens, Greece
ERA General Assembly 2018	9-11 October 2018	Edinburg, Scotland
MRO Europe	16-18 October 2018	Amsterdam, Netherlands
NBAA Business Aviation Covention & Exhibition (NBAA-BACE)	16-18 October 2018	Orlando, Florida
Florida International Airshow	19-21 October 2018	Punta Gorda, FL, USA
IATA Airline Industry Retailing (AIR) Symposium	23-25 October 2018	Rome, Italy
Combat Helicopter	23-25 October 2018	Bucharest, Romania
Commercial Aviation Services Asia-Pacific	06-08 November 2018	Singapore
Dubai Helishow 2018	06-08 November 2018	Dubai South, Dubai, UAE
2nd Aerospace & Defence MRO South Asia Summit	17-18 January 2019	New Delhi, India



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