APRIL 2020 - AIRBUS QUICK NEWS

News / Manufacturer



New aircraft e-Delivery process assures health & safety for customers and Airbus employees, and enables business continuity

A new aircraft hand-over and "e-Delivery" virtual process has recently commenced operation, guaranteeing continuation of Airbus' delivery stream, while integrating the required health & safety requirements during the ongoing COVID-19 pandemic. The first customer to adopt the remote end-to-end process is Pegasus Airlines, which in the last few days received three brand new 'e-delivered' A320neo Family aircraft. More airlines will follow likewise in the coming days and weeks. This new e-Delivery approach comprises three main stages: (a) Technical Acceptance Completion (TAC) tasks delegated to Airbus (or to a local third party appointed by the airline); (b) electronic Transfer-of-Title (electronic ToT); and (c) ferry-flight and subsequent reception of the aircraft at the customer's base.

For the TAC (which is a prerequisite for ToT) the airline can delegate Airbus to perform, on its behalf, all the necessary actions. These include the 'ground-check', the acceptance test flight, acceptance manuals and procedures, as well as minor cosmetic rework if needed. Then for the

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ToT completion, Airbus' and customers' teams take benefit from a new secure collaborative platform: "e-SalesContracts". This brings them all together – wherever they happen to be – into one real-time virtual environment where they can optimise and simplify all the contractual transactions, from the paperless drafting and commercially negotiating the delivery documents up to the remote ToT digital signature. This platform thus obviates the need for any of the customer's own staff to be physically present at the Airbus Delivery Centre. After the TAC and ToT formalities are complete, the subsequent ferry-flight is also performed in a health-wise safe manner whereby the customer's own flight crew (or an appointed third party) can pick-up the sanitised aircraft and fly it straight back from the delivery centre to the airline's home base.

As well as affording a means of safe business continuity during the current COVID-19 crisis, the e-Delivery process, especially its new collaborative digital aspects – which confer enhanced workflow efficiencies, flexibility, transparency, plus a more environmentally-friendly and smoother overall customer experience – could become the blueprint for Airbus and its customers going forward.

Parking and storing aircraft – Special COVID-19 update

Airbus Customer Services teams are working hard to adapt maintenance recommendations and support customers which have fleets partially or wholly grounded during this period. The situation calls for exceptional measures and reactivity to provide pragmatic support to operators during this difficult period, while keeping the highest levels of safety.

To this end, Airbus is helping airlines to reduce the huge and sudden maintenance workload, and to ensure a quick return to service of their aircraft when required. In addition to increasing its support teams and giving recommendations to customers, Airbus is providing technical justifications and solutions for maintenance burden reduction. This includes extending calendar intervals for scheduled maintenance tasks and reducing the frequency of periodic ground checks wherever justified by experience and engineering analysis. Airbus has published technical data via Operators Information Transmissions (OITs). Customers can submit technical queries directly to Airbus Customer Services via the AirbusWorld portal. For a comprehensive overview on aircraft storage measures, please consult the latest Airbus online

EASA certifies A330-800 for "beyond 180 minutes" ETOPS

The European Union Aviation Safety Agency (EASA) has approved the A330-800 for ETOPS (Extended-range Twin-engine Operations) "beyond 180 minutes" diversion time. This achievement means that operators of this A330neo variant will benefit from the most efficient, reliable and direct long-range routings. In particular it will maximise the A330-800's exceptional transpacific range capability of up to 8,150nm.

The latest approval for the -800, which includes ETOPS 180 minutes capability in the aircraft's basic specification, also includes the option for "ETOPS 285 minutes". This extends the potential air diversion distance to around 2,000nm. The US FAA's respective ETOPS certification for the A330-800 is expected soon. The similar ETOPS approval for the larger A330-900 took place in January 2019.

The A330-800, which in February 2020 received its joint Type Certification from EASA and the FAA, like the larger A330-900 model incorporates highly efficient Rolls-Royce Trent 7000 engines, a new 3D-optimised wing with greater span and lighter composite materials, plus new wingtip Sharklets.

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A321XLR programme development and industrialisation gathers pace

Following its launch at the Paris Air Show last year, the industrialisation of the A321XLR long range single-aisle programme is underway and the aircraft's design is moving from concept to reality. By early 2020, the first long-lead components for the initial A321XLR flight-test aircraft were already in production – including the main landing gear forgings by Safran and the first parts for the centre wingbox by Airbus in Nantes.

Most recently, in March, Airbus completed its supplier selection for the new major components and systems which are specifically being designed for the A321XLR variant. These suppliers include: Spirit AeroSystems (inboard single-slotted flap); Diehl Aviation (potable water & water waste systems); FACC (modified belly fairing); Premium Aerotec (rear-centre fuel tank primary structure); Collins Aerospace (fuel system); Parker Aerospace (fuel tank inerting system); Vincorion (heated floor panels); Safran (main and nose landing gear); and Triumph Group (landing gear uplock mechanism).

In anticipation of the industrialisation phase, where relevant, the programme is applying Airbus' new "digital design, manufacturing and services" (DDMS) product lifecycle approach. This enables accurate virtual factory simulations to validate investments and ramp-up planning. A key pillar of the DDMS framework is the 3D "Digital Mock-up Unit" (DMU) database, which will allow concurrent design, assembly simulations, and real-time 3D visibility across the transnational co-design plateaus at Toulouse, Hamburg and Filton. Furthermore, the A321XLR programme brings the benefits of 3D visualisation to the non-engineering community, including programme managers – who can now work in 3D thanks to 3D viewer tools.

In addition to the aforementioned digital environments, the installation of complementary physical demonstrators is also well underway for 'validation and verification' (V&V) of the various new structures and equipment of the A321XLR. For example, the Structures Demonstrator programme includes 'major component assembly' (MCA) join-up of fuselage sections 15 & 17, fuselage integration of the new rear-centre-[fuel]-tank, plus other modules and detailed parts. In parallel, the Equipment Demonstrator programme features physical trial installation in a full-size wooden mock-up by a multi-functional team representing each installed system, with experts from Engineering, Manufacturing Engineering, Production, Maintenance and Ergonomics. This approach minimises design clashes, as well as optimising ergonomics. Testing of the cabin comfort for long-range operations has already started, including the use of a climatic test chamber on ground.

To date, 24 customers have ordered a total of more than 450 A321XLRs, validating the market need for the unique capabilities offered by this aircraft. Flight-testing is due to start in 2022, and service entry from 2023. The A321XLR will provide airlines with a range of up to 4,700nm and a 30% lower fuel burn per seat compared with previous-generation competitor aircraft.

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Airbus trials of new A320 Family cockpit digital audio system

Airbus has recently received certification for a new digital audio cockpit system, "Digital Radio and Audio Integrating Management System" (DRAIMS) for the A320 Family – which replaces the current analogue audio systems. DRAIMS, which features new Audio Management systems and new Control Panels with a large modern digital display, multifunction keys and a numeric keypad, handles all cockpit communication tasks. During a flight, the system facilitates clearer communication between pilots, cabin crew and the ground to ensure safety of flight, answer to air traffic control, or prepare for ground operations. Benefits of DRAIMS include 30% weight saving – compared with the previous analogue architecture.

Furthermore, installation lead-time is now reduced due to the much simplified wiring between the cockpit and the avionics bay. It is also more robust, offers advanced back-up capability and improves A/C dispatch capability. Currently being evaluated in-service, DRAIMS will be installed as standard from mid-2021 for the A320 Family. Certification for the A330 Family is planned for around the end of 2020, and subsequently for the A350 XWB.

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Skywise leverages Performance Factor Optimizer app from NAVBLUE

Airbus has expanded its digital offering for airlines with a new solution, Performance Factor Optimizer, connected to Airbus' Skywise open data platform. Developed by NAVBLUE, Airbus' Flight Operations subsidiary, the new app provides an accurate interpretation of the performance variation for each Airbus aircraft, on an individual aircraft basis.

This web-based solution automatically computes the "delta specific range" (DSR) and the associated performance factors used in the Flight Management System (FMS) and the flight planning system, with an automatic aircraft performance database pairing. Performance varies over the life of all in-service aircraft, leading to slightly higher fuel consumption levels as an aircraft ages. This is attributed to degradation effects, which impact both the engines and airframe. The Performance Factor Optimizer application automatically identifies and investigates the resulting DSR trends over time, allowing a more continuous and regular monitoring while reducing the operator workload. As a next step, using the power of additional aircraft data sources (QAR, DAR, SAR*) the app will enable an increased number of points to be analysed, resulting in better coverage of the flight phases for even greater accuracy.

New "eTech 3D Repair" portable tool introduced with airlines

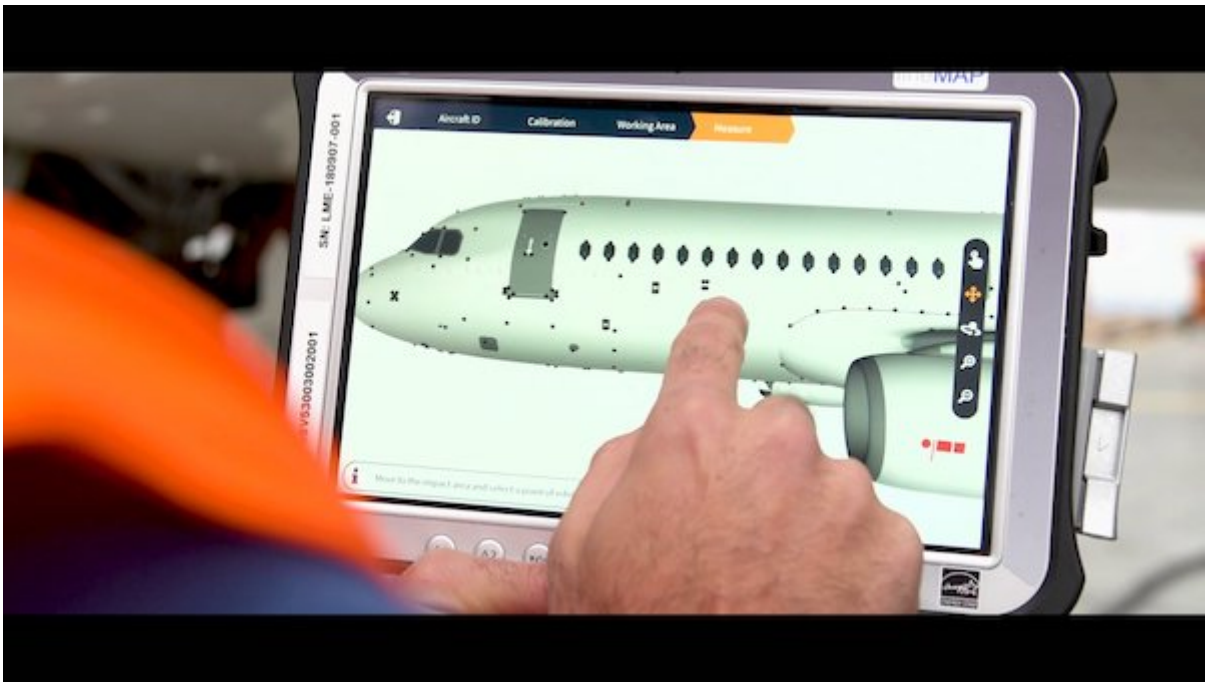
Airbus is introducing with airlines a new integrated solution for recording, assessing, monitoring and reporting aircraft structural damage via a tablet based portable tool. Called

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“eTech 3D Repair”, it can be used on the flight line by pilots and mechanics. Damage localisation is quickly and easily performed thanks to the built-in 3D aircraft models, and the tool provides a complete historical view of any previous damage logged for the aircraft. As well as making it easy to record damage characteristics in one click, eTech 3D Repair guides the user in assessing damage by giving access to the relevant digital structural repair manual (SRM) “ATA” chapters, as well as part names. eTech 3D Repair also includes a lookup function for consulting supplier manuals.

If no standard repair solution is already listed in the SRM, then the tool facilitates a direct way to contact engineering to initiate an “Airbus Tech Request”. It is therefore possible to share quickly and efficiently all the damage data with the aircraft manufacturer or a FAR Part 21 repair organisation [or contact other suppliers by email], thus avoiding time-consuming message exchanges and administrative paperwork. The tool also enables maintenance staff to obtain rapid approval from the authorities for the repair, which will reduce the delay in putting the aircraft back into service.

In summary, the new solution, which replaces Airbus’ PC-based “Repair Manager” system, now brings mobility with a handheld device, making it usable by line mechanics and pilots, and generating significant time savings. It allows them to avoid dependence on paperwork, provides them with easy access to digital documentation, quickly shares information with OEMs, ensures full damage traceability, and produces damage reports quickly – which is key to ensure the compliance of the airline’s process with regulations.

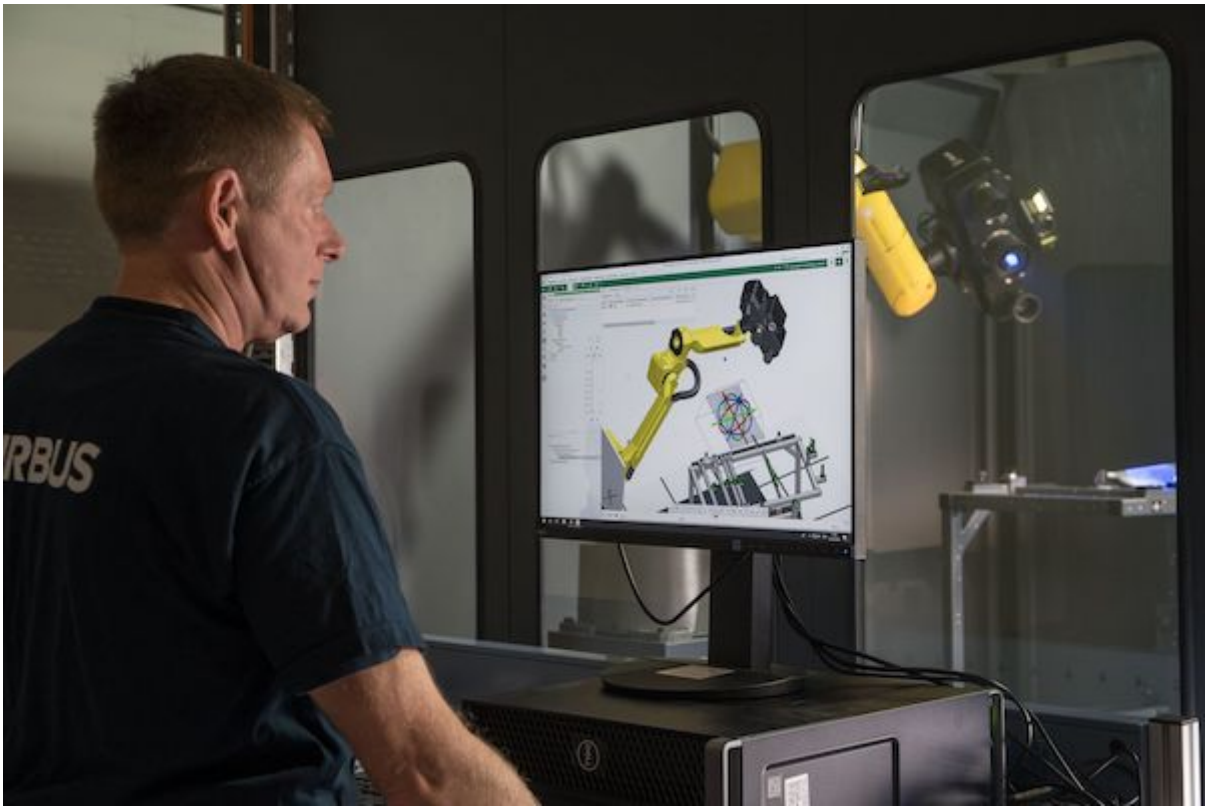


New manufacturing milling centre operational in Finkenwerder

Airbus has opened a new Manufacturing Milling Centre (MMC) in Hamburg at its Finkenwerder site, following a year of construction. Brighter, more ergonomic, more interconnected than the previous facility, all processes for the production of wing corner fittings and special parts production for structural assembly are now located under one roof, from the milling shop to surface protection. The Hamburg MMC stands out for its new system technology, in particular regarding the transfer of data for on-demand production which is now all-digital.

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This works both interactively and visually, such that staff in the Final Assembly Line (FAL) can see the real-time situation in the MCC and vice versa. Moreover, the optimised workflow ensures rapid transit between completion, collection of the fittings and their installation at the FAL. In addition, quality inspections, which were previously performed manually are now automated thanks to two robot-assisted measuring units employing 3D scanners. Also contributing to the production efficiencies are two overhead cranes which allow the set-up of two milling machines at the same time. The new MMC location also improves the working conditions for the specially qualified employees, with large windows for more light and fresh air. In addition, the surface area of 1,100 square metres offers optimised ergonomic conditions and sufficient space for the required logistics areas.



First resin-transfer-moulded large component produced for A320 Family

The first shipset of composite A320 wing spoilers to be produced using an advanced automated manufacturing technique called Resin Transfer Moulding (RTM) was delivered last month from a new facility jointly managed by Airbus and Spirit AeroSystems in Prestwick, UK. This milestone represents one of the first uses of RTM in commercial aviation for large components. The technique involves injecting resin into dry fibres in a press rather than the traditional, more expensive and time-consuming method of 'baking' pre-impregnated carbon fibre and honeycomb in large pressurised autoclaves. RTM enables each part to be manufactured to be identical, to within hundredths of a millimetre, which not only realises significant time and cost savings but also "right-first-time" quality for the RTM spoilers, resulting in more efficient assembly operations downstream at the Broughton wing factory. The first set of spoilers will undergo certification in the coming weeks, as well as trial fits at Broughton and then functionality test at the Final Assembly Line (FAL). The € 50 million project, which will bring around 80 jobs to the region, was launched in 2017 and is joint-funded by Airbus, its supply partner Spirit AeroSystems and the local government.

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