



ST Engineering, Airbus and EFW's A321P2F Solution Marks New Milestones with Flight Tests and new Orders

Singapore, 10 February 2020 – ST Engineering, Airbus and their joint venture, Elbe Flugzeugwerke (EFW) achieved new milestones for their joint A321 passenger-to-freighter (P2F) conversion solution with the first post-conversion flight test for the prototype A321P2F unit and new orders.

First flight test

The first flight test for the prototype unit, which is to be redelivered to launch customer Vallair, was successfully carried out on 22 January this year after undergoing conversion at ST Engineering's facility in Singapore. The next milestone that follows the completion of flight tests will be the issue of the supplemental type certificate (STC) by the European Union Aviation Safety Agency (EASA), which is estimated to be by end 1Q2020.

Mr Lim Serh Ghee, President of ST Engineering's Aerospace sector, said, "After our A321P2F unit receives certification and starts operating, we expect our programme to gain greater traction, joining our pool of Airbus P2F platforms to provide the global air cargo market with cost and fuel-efficient freighter options."

The A321P2F programme, launched in 2015, is the result of a collaboration between ST Engineering, Airbus and EFW. ST Engineering is responsible for the engineering development phase, up to obtaining the supplemental type certificate (STC) from EASA and U.S. Federal Aviation Administration. Airbus contributes to the programme with Original Equipment Manufacturer (OEM) data and certification support, on board computers development, airframe engineering, flight-physics and flight-testing expertise, while EFW will be the STC holder and leads the overall programme as well as marketing & sales.

Conversion and Lease LOI

In other significant milestones, the programme gained traction among operators and lessors looking for a P2F solution in the narrowbody category. A Letter of Intent (LOI) was signed between Keystone Holdings, an ST Engineering aircraft leasing joint venture and Qantas for the conversion and leasing of an A321P2F. The aircraft, to be converted at ST Engineering's facility in Singapore and delivered in end 2021, is currently on lease for passenger service to Qantas Group. The solution in converting and leasing a freighter that meets an operator's specifications leverages the synergy ST Engineering has in innovative asset management and freighter conversions.

Mr Lim added, "Using the strengths we possess as an integrated aviation solutions provider, we are able to bring to the market unique and bespoke solutions under one roof. At the same time, our



innovative solutions in aircraft leasing and freighter conversion extend the life cycle of mid-life aircraft to provide operators cost-effective and flexible options in fleet management.”

Firm orders for A321P2F

Two new orders from BBAM, a global leader in aircraft lease management, mark another milestone for the A321P2F programme. Following an LOI announced on 20 June 2019, BBAM signed a General Terms Agreement in December for several A321P2F conversions. The first A321P2F unit for BBAM was inducted in January 2020 for conversion at ST Engineering’s facility in Singapore, while conversion for the second unit will commence in March.

Steve Zissis, President and CEO of BBAM, said, “As the first conversion solution for narrowbody freighters to optimise volumetric capacity by introducing a containerised lower deck, the A321P2F has the potential to be the game changer for any hub and spoke or point-to-point air cargo operation. For this reason, we made the decision to offer this conversion solution to our customers.”

Dr Andreas Sperl, CEO of EFW, said: “The A321P2F conversion programme is the first in its size category to offer unique containerised loading in both the main deck with up to 14 container positions and lower deck with up to 10 container positions. It is not only the ideal narrowbody freighter aircraft for express domestic and regional operations, but it also has a generous payload-range capability to fly over 2,300 nautical miles, carrying up to 27.9 metric tonnes.”

Christian Scherer, Airbus’ Chief Commercial Officer commented: “We are very pleased to participate in the A321P2F programme, which is now taking off in the market. The aircraft promises to be the most capable freighter in its class and also the most environmentally efficient.” He added, “Our Global Market Forecast predicts that around 1,000 small freighter conversions will be required over the next 20 years – a solid basis for the A321P2F to replace ageing fleets for years to come.”

Other P2F solutions marketed by ST Engineering and EFW using the Airbus platform include the A330 that comes with two variants – the A330-200 and the larger A330-300. ST Engineering is showcasing its P2F solutions together with other aerospace capabilities at the Aviation cluster of the ST Engineering Pavilion (G01) at Singapore Airshow 2020 from 11 – 16 February.

About ST Engineering

ST Engineering is a global technology, defence and engineering group specialising in the aerospace, electronics, land systems and marine sectors. The Group employs about 22,000 people across offices in Asia, the Americas, Europe and the Middle East, serving customers in the defence, government and commercial segments in more than 100 countries. With more than 500 smart city projects across 70 cities in its track record, the Group continues to help transform cities through its suite of Smart Mobility, Smart Security and Smart Environment solutions. Headquartered in Singapore, ST Engineering reported revenue of \$6.7b in FY2018 and it ranks among



the largest companies listed on the Singapore Exchange. It is a component stock of the FTSE Straits Times Index, MSCI Singapore, SGX ESG Transparency Index and SGX ESG Leaders Index.

The Aerospace sector provides integrated aerospace services and solutions through a global network of facilities and affiliates in the Americas, Asia Pacific and Europe, supporting a broad customer base that comprises leading airlines, airfreight operators and armed forces. Its wide spectrum of maintenance and engineering solutions include airframe, engine and component maintenance, repair and overhaul; engineering design and technical services; as well as aviation materials and asset management services. The sector also has original equipment manufacturing capabilities and holds proprietary designs in products such as aircraft seats. For more information, please visit www.stengg.com.

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About Elbe Flugzeugwerke

Elbe Flugzeugwerke GmbH (EFW), a joint venture between ST Engineering and Airbus, bundles various aerospace and technology activities under one roof: Development and manufacture of fiber composite components for aircraft structures and interior fittings for the entire Airbus family, conversion of passenger aircraft into cargo aircraft configuration, maintenance and repair of Airbus aircraft as well as engineering services in the context of certification and approval. The company employs around 1,600 people and generated sales of almost 300 million Euro in 2018. More information about EFW can be found at www.efw.aero.

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