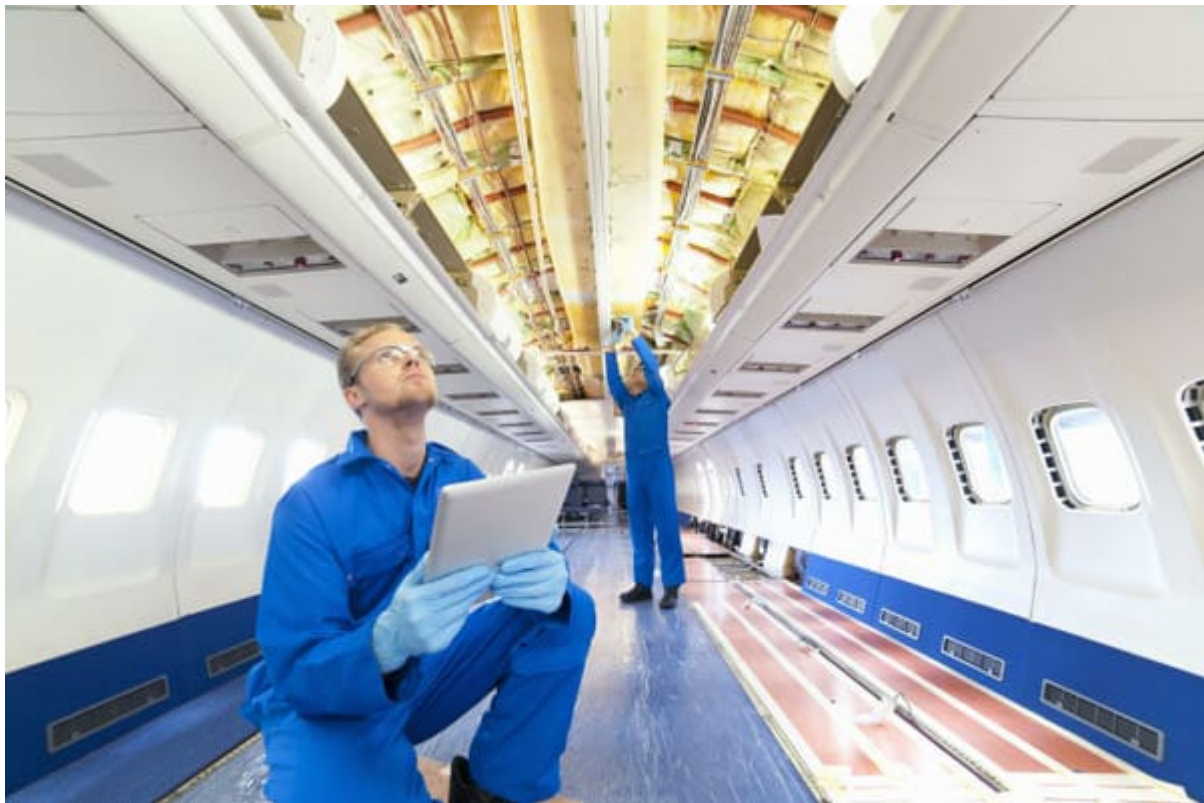


Case Study



3D printing fuels growth for Airframe Designs

Airframe Designs is a team of highly experienced design, analysis, certification and manufacturing engineers that deliver solutions for mechanical structures in aerospace applications.



In July 2020, to support a National Aerospace Technology Exploitation Programme (NATEP) materials development project, Airframe Designs invested in the [Stratasys Fortus 450mc 3D Printer](#) from Tri-Tech 3D, who installed the system and provided full training. The 18-month Government-funded project aims to be a world-first in airworthy part production using water-soluble supports, to speed up manufacturing and reduce potential for damage.

This investment also enabled Airframe Designs to print customer parts using aerospace-certified materials, such as tooling and assembly aids, as well as more complex assemblies.

The challenge

Originally, the Fortus 450mc was running 50 per cent of the time on the NATEP materials development project — the remaining half of the time, the machine was producing customer parts. However, the machine reached its capacity for customer projects, and Airframe Designs was unable to take on more.

The solution

Case Study



Airframe Designs purchased a second Fortus 450mc from Tri-Tech 3D, to add to its manufacturing capacity. This industrial Fused Deposition Modelling (FDM) 3D printer brings speed, cost and material advantages, while offering the repeatability and accuracy required in aerospace applications.

“With the Fortus 450mc, the team at Airframe Designs has been able to edit print parameters to optimise machine performance, a benefit for the NATEP programme and for its customers,” explained Robert Pitts, sales manager at Tri-Tech 3D. “Available with a suite of validated materials, the Fortus 450mc is suitable for a wide range of aerospace applications, including cabin parts and tooling.”

Results

As well as taking on more work, the second system has enabled Airframe Designs to increase throughput. For example, when an urgent customer project came through for a complex 25-part assembly, the team was able to deliver it in four working days — something that wouldn’t have been possible with a single system.

“Now we have experience with Fortus 450mc, we know with 95 per cent confidence that it will build optimally,” said Garry Sellick, additive manufacturing manager at Airframe Designs. “Typically we are achieving ± 0.5 mm accuracy, which is the tolerance we work to, and we’re achieving a high level of repeatability. While we’ve had very few problems, we know Tri-Tech 3D is always on the end of the phone if we need something.”

In the long term, the company hopes to grow and add more machines, and is interested in stepping up to a Fortus 900.

Looking to step up your 3D printing journey? [Get in touch with our team](#) today.

~ENDS~

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About Tri-Tech 3D:

Case Study



Tri-Tech 3D is a premier provider of 3D printing and additive manufacturing solutions in the UK.

Known for its engineering excellence and commitment to customer success, Tri-Tech 3D offers a comprehensive range of products and services designed to meet the needs of a variety of different industries, including Automotive, Aerospace, Defence, Manufacturing, and much more.

Tri-Tech 3D provides a comprehensive service from advice on initial specification and supply of 3D printing hardware to on-site installation, staff training, and on-going product support.

Founded in 2007, Tri-Tech 3D was acquired by the Stanford Marsh Group in January 2017. This resulted in doubling our 3D business with SMG3D and become part of a broader group offering CAD software solutions, CAD training, and wide-format printing.