

ROLLS-ROYCE ULTRAFAN TECHNOLOGY DEMONSTRATOR BUILD COMPLETE AND GETTING READY TO TEST

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Rolls-Royce has completed building and is preparing to test its UltraFan, technology demonstrator. In a major milestone for the programme, the demonstrator engine was transported from the build workshop and into Testbed 80 in Derby, UK where it was mounted in preparation for testing. The first test of the demonstrator is expected to take place early next year and will be operated using 100% Sustainable Aviation Fuel.

Chris Cholerton, President of Rolls-Royce Civil Aerospace, commented: “Seeing the UltraFan demonstrator come together and getting ready for test in Testbed 80 is a great way to end the year. We have all been waiting for this moment, which is such an important milestone for the programme and for the team who have worked on it. The next stage will be to see UltraFan run for the first time on 100% Sustainable Aviation Fuel in 2023, proving the technology is ready to support more sustainable flight in the future.”

Combining a brand new engine design with a suite of technologies to support sustainable air travel for decades to come, the UltraFan demonstrator has a fan diameter of 140 inches and offers a 25% fuel efficiency improvement compared with the first generation of Trent engine.

UltraFan offers a variety of sustainability solutions that will support the journey to net zero aviation. In the nearer term, there are options to transfer technologies from the UltraFan development programme to current Trent engines to deliver enhanced fuel efficiency and reductions in emissions. In the longer term, UltraFan's scalable technology from ~25,000-110,000lb thrust delivers the potential to further improve fuel efficiency of both narrowbody and widebody aircraft by up to 10 per cent.

Testbed 80, the world's largest and smartest testbed, was designed and built especially to accommodate the size and technical complexity of the UltraFan demonstrator. It was opened in 2020 and has already completed many hours of experimental engine testing.

The UltraFan technology demonstrator programme has been supported by the UK's Aerospace Technology Institute and Innovate UK, the EU's Clean Sky programmes plus LuFo and the State of Brandenburg in Germany.

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