

Press release

N3 Engine Overhaul Services delivers first overhauled Rolls-Royce Trent XWB engine

- Company based in Arnstadt near motorway junction Erfurter Kreuz in Thuringia, Germany, with 780 employees is an internationally renowned repair and overhaul service provider for Rolls-Royce Trent aircraft engines

Arnstadt, March 2020. On 23 December 2019, N3 Engine Overhaul Services (N3), a Rolls-Royce plc. and Lufthansa Technik AG joint venture, has overhauled its first Rolls-Royce Trent XWB engine (A350 engine), which belongs to the Munich-based airline Deutsche Lufthansa's fleet of A350s.

With the delivery, N3 is permanently adding a fourth engine type to its future portfolio – namely the most state-of-the-art Rolls-Royce engine currently in use. So far, the repair and overhaul company has only serviced the Rolls-Royce engines Trent 500 (A340), Trent 700 (A330) and Trent 900 (A380). N3's future production programme now also includes the most important engine type, the Trent XWB (A350). The company currently looks after the repair and overhaul needs of more than 50 national and international customers.

Project manager Andrew Elvidge, who was responsible for the initiation of this engine type at N3, looks back over the past few months: "The introduction of the Trent XWB was an exciting time for all of us. The whole team had to familiarise themselves with new assembly and stripping technologies and approaches, and had to learn how to repair the components of this state-of-the-art engine." Prior to that, the N3 staff completed intensive initial and further training on an Rolls-Royce Trent XWB training engine, acquired plenty of knowledge and tried out new tools. "The first Trent XWB is now with our customer, and we are looking forward to the next engines that will gradually find their way to us," says Elvidge.

The Rolls-Royce Trent XWB engine will have a considerable impact on N3's business in the next few years. Due to its efficiency and reliability, the A350, which is powered by the Trent XWB engine, is currently the most rapidly selling wide-body aircraft. It is becoming

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increasingly popular with airlines all over the world. "Over the next few years, we will therefore be overhauling an increasing number of Rolls-Royce Trent XWB engines and will continue to expand our capacities," says N3 director and general manager Nicole Fehr.

N3 as an important partner in Rolls-Royce's international Trent XWB network

Incidentally, the Arnstadt team not only repairs and overhauls Trent XWB motors. Following the launch of the new engine, N3 was the first and only company in Europe contracted by Rolls-Royce to carry out repairs to the blisk components that are the core of the Trent XWB's high pressure compressor as well as the engine pylon components. The Arnstadt-based company now also plays an important role in the production of new Trent XWB engines: for quite some time now, newly manufactured Trent XWB engines have been tested in N3's state-of-the-art engine testing facilities.

The Rolls-Royce Trent XWB is the world's most efficient civilian wide-body aircraft engine and was developed especially for the Airbus A350 XWB family. The abbreviation XWB stands for "extra wide body" and refers to the aircraft type A350, which offers more space and comfort to its passengers due to its wider body. The Trent XWB has more than 20,000 components and delivers between 75,000 and 97,000 pounds of thrust – whilst also making the A350 half as noisy as earlier aircraft generations.

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Company profile

British-German success story in Thuringia, Germany

Arnstadt, March 2020. N3 Engine Overhaul Services (N3) is the European technological centre for the servicing and repair of Rolls-Royce Trent 500, Trent 700, Trent 900 and Trent XWB engines and their components. They serve as engines on Airbus models A340, A330 and A380, currently the largest passenger aircrafts in the world, and the A350, the world's latest and most environmentally friendly long-haul aircraft. As one of the first to settle on the outskirts of Arnstadt, N3 has been active in the Erfurter Kreuz industrial area since 2007. The Thuringian company is integrated in the global Rolls-Royce network that consists of operations in Hong Kong, Singapore and Great Britain (Derby). N3 quickly earned a good reputation in the aviation industry; particularly in terms of quality, flexibility and delivery reliability. The company serves more than 50 international airlines from all over the world. It is also one of the most profitable companies in the region. N3's defined objective is to become the leading centre of excellence in the global Rolls-Royce network for the maintenance and repair of Rolls-Royce Trent 500, Trent 700, Trent 900 and Trent XWB engines and their components.

Engine overhauling using the latest methods

Since 2007, more than 1100 engines have been dismantled, inspected, repaired and tested at the company. Currently, 150 to 200 engines can be processed per year. The factory is equipped with the latest facilities e.g. for cleaning components, for thermal coating and for machining and balancing. The engine test station is one of the most advanced and powerful at any overhauling facility in the world. N3 continually expands its capacity for repair. Thus the Thuringian company has Rolls-Royce certification for special repairs known as "source controlled repairs". For these procedures, MRO companies (Maintenance, Repair and Overhaul) require certification from Rolls-Royce to be able to conduct these repairs autonomously.

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Unique to N3: vertical stripping and building

In order to achieve the best results when overhauling engines, N3 uses vertical stripping and building. Engines are disassembled into individual assemblies while standing vertically and then reassembled in the same way. This is very efficient and non-destructive.

Attractive employer and one of the best training companies in the region

N3's settlement in Erfurter Kreuz, currently the largest industrial area in Thuringia, gave the region an enormous boost. After N3 settled on a location, other renowned national and international companies decided to build factories in the dynamic region.

N3 offers modern and attractive working conditions to its highly qualified workers. Occupational safety and health protection are given top priority. The workforce has more than doubled from 270 when operations began to the 780 employees there are now. The Thuringian aviation company has provided itself with well-educated young talent since 2007. In September 2019, the twelfth technical training cohort for aircraft mechanics in the field of engine technology began. The apprentices learn about the complete process of maintaining, servicing and repairing engines. Within the scope of the operation of the different specialist departments, the working steps e.g. disassembly, inspection, repair, assembly and test of assemblies and engine parts, are conveyed with due regard to the general aviation-specific conditions. Graduates of the technical apprenticeship are among the best in their field. In 2014, the prize for Germany's best aircraft mechanics was awarded to an N3 graduate for the third time. In addition to aircraft mechanics, warehouse logistics specialists are being trained for the first time since September 2016. Due to the special aviation-specific requirements at N3, training on these logistical planning and organisational processes should be encouraged. The company already supports middle-school students in their professional orientation. Students are able to take part in a week long internship at N3 during the autumn and winter holidays.

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N3 Engine Overhaul Services

Key corporate figures

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N3 Engine Overhaul Services – company history milestones

2003	Foundation of the company and location search
2004	Location selection
2005	Planning phase Start of the qualification programme Building permit issuance
2006	Construction phase Ground-breaking ceremony in February Topping out ceremony in September
2007	Moving in to the factory Trent 500 operational approval Operational start-up Start of commercial training
2008	Trent 700 operational approval DIN EN ISO 14001 certification Joining the Thuringia Sustainability Agreement Start of technical training
2009	Overhauling of the 100th engine
2010	Trent 900 operational approval
2011	Overhauling of the 250th engine, AEO F certificate
2012	5 years in operation
2013	Roll-out of the 500th overhauled engine
2014	For the third time, the best German graduate aircraft mechanic in the field of aviation technology comes from Arnstadt
2015	Overhauling of the 100th Trent 900 engine
2016	Start of logistical training for warehouse logistics specialists Trent XWB operational approval
2017	10 years in operation (5 April)
2018	Overhauling of the 1000th engine
2018	Energy efficiency award
2019	Overhaul of the first Rolls-Royce Trent XWB engine

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