



Communications Neckarsulm

Carolin Soulek

Spokesperson Location Neckarsulm

Telefon: +497132 31-87257

E-Mail: carolin.soulek@audi.de

www.audi-mediacyenter.com

Audi Demonstrating 3D Printing Expertise with In-House Design Software in Neckarsulm

- **3D printing helping to create tools that will be used in the assembly of the e-tron GT**
- **New software developed in cooperation with startup trinckle making design easier**
- **Due to be rolled out Group-wide**

Neckarsulm, February 24, 2020 – The in-house team of 3D printing specialists at Audi’s Böllinger Höfe site has teamed up with trinckle, a company based in Berlin, to develop innovative design software. The objective is to enable any employee who needs a tool from the 3D printer to design it personally without needing extensive prior knowledge. The Audi e-tron GT is the first vehicle for which 3D printing is an established part of preparations for series production, which means that all the tools for assembly and pre-assembly are in place at the start of production.

With the newly designed software, there is no need for the time-consuming process of manually sculpting models in CAD (computer-aided design) programs, which makes workflows faster as a result. Using the new system cuts design time for tools by 80%. “Our software makes the process of creating pre-assembly fixtures almost completely automated. That allows us to make the necessary tools quickly and flexibly and to respond to specific requests from the planners or our colleagues on the assembly line,” explains project manager Waldemar Hirsch, who is the head of the team of experts in 3D printing at the Ramp-Up and Analysis Center at Audi Böllinger Höfe. The software is calibrated precisely to Audi’s needs and is also part of the process of digitalizing production at the site.

In the case of the Audi e-tron GT, which is set to roll off the assembly line at Böllinger Höfe together with the Audi R8 starting in late 2020, the 3D printing experts are working closely with their colleagues from the process and assembly planning and pre-series production teams. They are already optimizing the assembly tools for the new workflows. “Collaborative design from an early stage enables optimizations to be made earlier in the process as well. This means that all the necessary tools will already be available and calibrated to the exact requirements when production of the e-tron GT begins,” says Hirsch. One of the 3D-printed tools is to be used in the pre-assembly of air-conditioning compressors and cooling lines. All components need to be aligned with each other with exceptional precision during assembly. That has not previously been possible without a helping hand from a colleague. The custom-



designed pre-assembly fixture with an integrated clamp holds all components in exactly the right position.

The materials used are designed to meet a wide range of requirements and satisfy the most exacting standards. In addition to the exceptionally stable tools containing glass fiber, the 3D printer also produces ESD (electrostatic discharge) materials. These are highly conductive and are therefore used for electrically sensitive components.

Alongside the positive effects on operational processes, the development and use of this software represent yet further major strides in the digital transformation of the company and demonstrate the active changes taking place across all kinds of production facilities as they move toward smart factory status. The browser-based software is currently installed locally and used primarily within Audi Sport GmbH at Böllinger Höfe, but there are plans to roll it out across the Group. The entire Volkswagen Group is already reaping the benefits of the expertise that the Neckarsulm site has to offer thanks to regular cross-brand communication. The design software is not the first development to come out of the 3D printing Competence Center. A software application for smart management of 3D printing orders, also made in Neckarsulm, is already in use at Audi.

- End -

The **Audi Group**, with its brands Audi, Ducati and Lamborghini, is one of the most successful manufacturers of automobiles and motorcycles in the premium segment. It is present in more than 100 markets worldwide and produces at 18 locations in 13 countries. 100 percent subsidiaries of AUDI AG include Audi Sport GmbH (Neckarsulm), Automobili Lamborghini S.p.A. (Sant'Agata Bolognese, Italy) and Ducati Motor Holding S.p.A. (Bologna, Italy).

In 2018, the Audi Group delivered to customers about 1.812 million automobiles of the Audi brand, 5,750 sports cars of the Lamborghini brand and 53,004 motorcycles of the Ducati brand. In the 2018 fiscal year, AUDI AG achieved total revenue of €59.2 billion and an operating profit of €4.7 billion. At present, approximately 90,000 people work for the company all over the world, more than 60,000 of them in Germany. Audi focuses on sustainable products and technologies for the future of mobility.
