

Media Release

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Voith unveils fully digital production line for Audi A8 carbon fiber rear wall panel at JEC World 2018 expo in Paris

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- **World premiere of breakthrough technology in the composites world**
- **Voith innovation allows high volume serial production of CFRP components**
- **Smart Factory Industry 4.0 production at Voith sets standards in efficiency and flexibility**

Garching, Paris. Voith introduces its new carbon fiber manufacturing line at JEC World 2018, the world's leading trade show for fiber-reinforced components. With this new line, Voith will elevate the industrialization of composites production to a new level, as it continues to grow in the automotive and aerospace markets with the production of carbon composite components.

The patented Voith Roving Applicator (VRA) is the core and one of the main parts of this state-of-the-art production line producing the CFRP rear panel for the new Audi A8. This high-load structural component has a complex carbon fiber structure with local reinforcements and is produced using direct fiber placement technology.

In this context, robust preforming without gaps and creases is crucial to meet the stringent quality and cycle time requirements. Voith developed a new, highly efficient forming simulation method to enable the required segmented stamp forming process, which follows the innovative VRA fiber placement process.

After the preforming, a high-pressure resin transfer molding (HP-RTM) process is used to inject the matrix through the fiber material. Subsequently the parts are trimmed by a milling process, a machine washing and fully automated assembly with metallic subcomponents. The transport between the single process steps is done by robotic systems, leading to a new level of production automation of composite components.

“With a whole new digital 4.0 production line, we are setting new standards producing carbon fiber parts for high-volume automotive serial production,” states Voith Composites Managing Director Dr. Lars Herbeck. “Our smart factory concept allows the automated production of CFRP components in almost any shape and individual lot sizes.”

JEC Award 2018

At JEC World 2018 in Paris, the world’s leading trade show for fiber-reinforced components, the high-volume CFRP production line of the Audi A8 rear wall module has won the JEC Innovation Award 2018. This prestigious prize is awarded every year to honor breakthrough innovations in the field of composites. Audi, together with Voith, DOW Automotive, and Zoltek Corp. applied for this award in the category “Automotive Process. The foundations for this large-scale production were laid by the development partnership between Voith Composites and the automobile manufacturer Audi, which has been in place since 2011.

A bodywork in the design of the Audi Space Frame stands for consequent lightweight design. Together with Voith, we have developed an ultra-stiff carbon rear wall, which is the largest component of the passenger cell of the new Audi A8. It contributes highly to the stiffness of the overall vehicle, " says Dr. Bernd Mlekusch, Head of the Lightweight Design Center, AUDI AG



Caption picture 1: Voith Roving Applicator



Caption picture 2: Voith production line, Garching Germany



Caption picture 3: Audi A8 rear wall panel

About the company

Voith Composites is the R&D and production center of carbon fiber-reinforced composites in the Voith Group. For more than 150 years, Voith's technologies have been inspiring customers, business partners and employees worldwide. Founded in 1867, Voith today has around 19,000 employees, sales of €4.2 billion and locations in more than 60 countries worldwide and is thus one of the largest family-owned companies in Europe. Being a technology leader, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive.

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