AZL Aachen GmbH in cooperation with

Aachener Zentrum für integrativen Leichtbau

RWTH AACHEN UNIVERSITY

PRESS RELEASE **Paris, March 1st, 2019**

AZL demonstrates new Ultra-Fast Consolidator Machine (Finalist for the JEC Award 2019) at the JEC World in Paris

JEC World, March 12-14, 2019, Paris Nord Villepinte Exhibition Center

After many years of successful cooperation on JEC World since 2015, the Aachen Center for Integrative Lightweight Production (AZL) renewed the cooperation with the JEC Group for 2019:

At the dedicated exhibition area called **"Composites in Action - JEC Group in partnership with AZL" (Hall 5A, D17)**, AZL and its 9 Partner Institutes of RWTH Aachen University present their latest research and development results. The innovations covering the whole composite value chain including research results of AZL, Fraunhofer Institute for Production Technology IPT and Fraunhofer Institute for Laser Technology ILT, the Institute of Plastics Processing (IKV) in Industry and the Skilled Crafts as well as RWTH Aachen University institutes including the Laboratory for Machine Tools and Production Engineering (WZL), the Welding and Joining Institute (ISF), the "Institut für Textiltechnik" (ITA), the Institute for Automotive Engineering (IKA), the Institute of Structural Mechanics and Lightweight Design (SLA). Following companies are sponsoring partners of this booth and will present their latest products and services: Hille Engineering, Maru Hachi, TELENE and Textechno.

This year, AZL is very proud to present a new machine system development at their booth:
The real machine setup of the **"Ultra-Fast Consolidator Machine"** will be shown at the AZL booth (Hall 5A, D17) **which is one of three finalists for the JEC AWARD 2019 in the category "Industry and Equipment"**.

Figure 1: Ultra-Fast Consolidator Machine System at AZL, Aachen (Germany)

The new UItra-Fast Consolidator Machine offers both high flexibility and mass production of tailored thermoplastic laminates with reduced scrap. Fully consolidated multi-layer laminates

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with different fiber directions and minimized scrap (tailored blanks) can be produced in cycle times below 5 seconds. This individualized mass production is accomplished by a combination of laser-assisted tape placement with in-situ consolidation and a piece-flow principle, which is state of the art in the printing industry but has not been used in such a way within composite production. The achievable productivity is enhanced to more than 500 kg/hour by this piece-flow principle with carriers moved through multiple application stations which are equipped with multiple tape placement applicators. The new machine is scalable: multiple application stations can be added, e.g. for each layer one station for mass production or for each fiber direction one station with a carrier-conveyor carousel: here the carriers are moved multiple times through the application stations.

This innovative machine system is a result of an 18-months AZL Joint Partner Project, conducted in 2017-2018 by the research partners AZL Aachen and Fraunhofer IPT Aachen, in cooperation with industrial partner companies including Conbility, Covestro, Engel, Evonik, Fagor Arrasate, Faurecia, Laserline, Mitsui Chemicals, Mubea Carbo Tech, Philips Photonics, SSDT and Toyota (in alphabetical order). The system will be commercialized by some of the industrial partners in 2019. The real machine setup will be presented at the AZL booth as it is one of three finalists for the JEC AWARD 2019.

Pictures

Download for high resolution pictures: https://azl-aachen-gmbh.de/wp-content/uploads/2019/03/Ultra-Fast_Press-Release-JEC.jpg

About AZL:

RWTH Aachen University is one of the worldwide leading universities in the field of production technology. The Aachen Center for integrative Lightweight Production (AZL) of RWTH Aachen consolidates the lightweight expertise of eight partner institutes with 750 scientists on the RWTH Campus. Furthermore, in cooperation with the AZL Aachen GmbH, the AZL institute has built up an international partner network between these institutes and more than 80 international companies form 21 different countries involved in lightweight production. For this, AZL consists of two separate entities: The AZL of RWTH Aachen University addresses the transformation of lightweight design in mass production with basic research and development of lightweight products, materials, production processes and systems with access to the latest full-scale machines and automation systems. As a service provider partnering with companies in the field of lightweight production technology, AZL Aachen GmbH provides industrial services in the areas of engineering, consultancy and project management, networking and business development. With the AZL Partnership, the AZL Aachen GmbH enables the close cooperation between the lightweight industry and the research institutes of RWTH Aachen Campus along the whole value chain. The AZL Partner Network consists of more than 80 industrial partners representing the entire lightweight production value chain from the raw material producer, over molders, manufacturing equipment suppliers, Tier 1 and Tier 2 to OEMs, from SMEs to large multinational corporations, from Germany to Mexico, China or Japan, from 21 different countries in total.

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