

PRESS RELEASE

Aachen, March 28th, 2019

**AZL, Winner of the JEC Innovation Award 2019,  
 Category: “Industry & Equipment”**

This year, AZL won the JEC AWARD 2019 for the development of the new machine system **“Ultra-Fast Consolidator Machine”**. 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 SE, Laserline, Mitsui Chemicals, Mubea Carbo Tech, Philips Photonics, SSDT and Toyota (in alphabetical order).



**Figure 1: AZL together with some of the project partners at the AWARD Ceremony of the JEC in Paris on March 13<sup>th</sup> 2019 (from left to right): Dr. Günther Derra (Philips Photonics), Dr. Michael Emonts (Managing Director of AZL), Javier Acosta (Fagor Arrasate), Christos Karatzias (Mitsui Chemicals)**

The new Ultra-Fast Consolidator Machine offers both high flexibility and mass production of tailored thermoplastic laminates with reduced scrap. Fully consolidated multi-layer laminates with different fiber directions and minimized scrap (tailored blanks) can be produced in cycle times below 5 seconds with this new scalable machine setup. 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

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production or for each fiber direction one station with a carrier-conveyor carousel: here the carriers are moved multiple times through the application stations.



**Figure 2: Ultra-Fast Consolidator Machine System at AZL, Aachen (Germany)**

The system will be commercialized by some of the industrial partners in 2019. The real machine setup has been presented at the AZL booth during the JEC Exhibition in Paris 2019.

The follow-up project has just started and is still open to join for industrial partners. This follow-up project comprises a further upscale of the machine system as well as a preparation of the commercialization by long-term durability tests and further process optimizations using different tape materials.

#### **All pictures with subtitles**

Download of high-resolution pictures at: [https://azl-aachen-gmbh.de/wp-content/uploads/2019/03/PM\\_AZL\\_JEC-INNOVATION-AWARD.zip](https://azl-aachen-gmbh.de/wp-content/uploads/2019/03/PM_AZL_JEC-INNOVATION-AWARD.zip)

**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 from 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.

**[www.azl-aachen-gmbh.de](http://www.azl-aachen-gmbh.de)**

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