

Pressemitteilung**Fraunhofer-Institut für Produktionstechnologie IPT****Susanne Krause**

12.03.2014

<http://idw-online.de/de/news577185>Forschungsergebnisse, Wettbewerbe / Auszeichnungen
Maschinenbau
überregional**JEC Europe Innovation Award 2014 for Multi-Material Technology**

On 11 March 2014, in Paris, Dr. Michael Emonts of Fraunhofer IPT and Coert Kok of AFPT accepted the JEC Europe Innovation Award 2014 in the "Process" category for the new development of a tape laying head for the automated, laser-supported processing of thermoplast tapes, duroplast prepreps and dry-fiber rovings. The so-called "Multi-material head" is particularly useful for smaller businesses, which want to process all the most common semi-finished materials on only one device, thereby, for example, satisfying the different requirements of automotive and aviation construction, as well as those of the oil and gas industry.

The compact tape laying head is constructed in a modular way, in order to be able to process different fiber materials, such as glass and carbon fibers, as well as various matrix materials on the same equipment, using lasers. The basic platform, which can be adjusted to different robot and portal systems, may, as required, be fitted with exchangeable material feed and cutting units, cooling or heating elements, as well as additional individual modules. This not only enables quick changes to be made between the various materials and different tape strengths and widths, it also significantly improves the userfriendliness of the system.

During the JEC 2014 in Paris, the Fraunhofer IPT will be demonstrating the multi-material head at the Innovation Showcase in Hall 7.2, Stand A 68.

The JEC Americas Innovation Award 2013 also went to Aachen

On 4 October 2013, the engineers of Fraunhofer IPT in Boston, USA were also given the JEC Americas Innovation Award 2013, representing the 18 partners involved in the EU "FibreChain" research project. The international research group from seven European countries were awarded the prize for developing a flexible, automated process chain for lightweight construction components made from fiber-reinforced plastics small or medium-sized runs. The results of the project should improve the productivity with regard to three-dimensional, multi-layer light components, made from endless fiber-reinforced thermoplasts, by lowering costs and increasing resource and energy efficiency, as well as flexibility.

Over two years, the project partners developed new equipment, techniques and tools for an automated process chain for managing and processing the primary materials. The process chain involves not only the automated production of a variety of components made from fiber-reinforced thermoplasts, but also integrated quality assurance and adaptive process monitoring. The basis for this is the twin production phases of the laser-reinforced tape head and the thermoform. Market research carried out in parallel confirmed the marketability of the component variations produced as examples. The process chain is shortly due to be implemented by the project partners in readiness for marketing.

Lightweight production technology from Aachen

During JEC 2014, in Paris, Fraunhofer IPT is also introducing, in Hall 7.2, Stand F35, current production technologies for lightweight construction. This includes a thermoform process that is ready to go into mass production, in order to be able to produce individual, deformation-free hollow sections from fiber-reinforced plastics, thereby saving time and money. The engineers from Aachen are also exhibiting an aircraft model, where fiber-optic sensors were used to monitor components made from fiber-reinforced plastics. On a monitor, visitors are able to follow, live, the changes to the wing's condition in terms of strain and stress. In addition, the Aachen engineers are also demonstrating technologies relating to handling semi-finished textile products, thermoforms made from organic sheets and millers and water-jet cutters made from fiber-reinforced plastics. Fraunhofer IPT's range is completed by developments relating to the manufacture

of products made from fiber composite materials for the medical sector.

Contact

Dr.-Ing. Michael Emonts

Fraunhofer Institute for Production Technology IPT

Steinbachstraße 17

52074 Aachen

Phone +49 241 8904-150

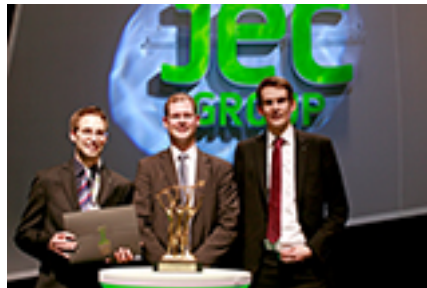
michael.emonts@ipt.fraunhofer.de

www.ipt.fraunhofer.de

This press release and photos are also available on the internet at

<http://www.ipt.fraunhofer.de/en/Press/Pressreleases/20140311JEC2014AwardParis.html>

URL zur Pressemitteilung: <http://www.ipt.fraunhofer.de/en/Press/Pressreleases/20140311JEC2014AwardParis.html>



Smiling award winners at the JEC 2014 prize-giving ceremony: Daniel Werner, Dr. Michael Emonts und Henning Janssen.

© Fraunhofer IPT