

Press release**Fraunhofer-Institut für Produktionstechnologie IPT****Susanne Krause**

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**Fraunhofer IPT and Conbility to collaborate in advancing fiber and tape-placement systems**

Components made of fiber-reinforced plastics have long outgrown their role as elements for use exclusively in high-performance applications in the aerospace sector. Piping for industrial applications and components for both the automotive engineering and the consumer goods industries can now be produced in fully automated tape placement and winding processes, making them relatively economical. In collaboration with Conbility GmbH in Aachen, the Fraunhofer Institute for Production Technology IPT is working to develop the technology to the next level in order to meet industrial requirements in readiness for transfer to industrial application.

Conbility GmbH is looking to add two new systems to its product range using the PrePro technology developed by the Fraunhofer IPT as part of this collaborative venture. The company will provide the technical support for the new standard systems to emerge from cooperation with the Fraunhofer IPT, which are now being marketed by Conbility and will carry out all maintenance on the equipment as well as offering training courses for industrial clients. The new tape-placement system "PrePro 3D" will be presented by the two partners for the first time at the Composite Materials Fair "JEC World" from 6 to 8 March 2018 in Paris in the AZL Composites in Action Area in Hall 5A, Booth C55.

PrePro 3D: Modular tape applicators with VCSEL-technology

The PrePro-3D-applicator is available as a modular system and can be integrated as a plug-in retrofit in existing robot or machine systems. It is suitable for processing pre-impregnated semi-finished products known as prepregs. The outstanding feature of this setup is that this allows complex, three-dimensional preforms to be produced directly. The advanced laser technology used can accommodate a wide range of process temperature, enabling the system to perform laser-assisted thermoplastic tape placement and to process thermoset prepregs with ease. The system is capable of producing tubular components as well as complex 3D structures. In order to facilitate integration in existing equipment, the product has a de-centralized control system which communicate with the machine system via standard interface, thereby ensuring a particularly high level of versatility in terms of applications.

Fraunhofer IPT and Conbility: From research to industrial application

Fraunhofer IPT in Aachen can draw on over 30 years of experience in the development of tape-placement and winding systems. Different versions of placement and winding systems as well as customized special-purpose machines have been developed, set up, optimized and transferred to industrial application in recent years as part of numerous publicly funded projects and in collaborative ventures with industry. Not only has the Fraunhofer IPT acquired a thorough and deep understanding of process control and inline quality assurance systems which it develops and refines continually; it also has extensive experience in the use of a diverse range of heat sources such as hot gas, infrared projectors microwave and laser technology.

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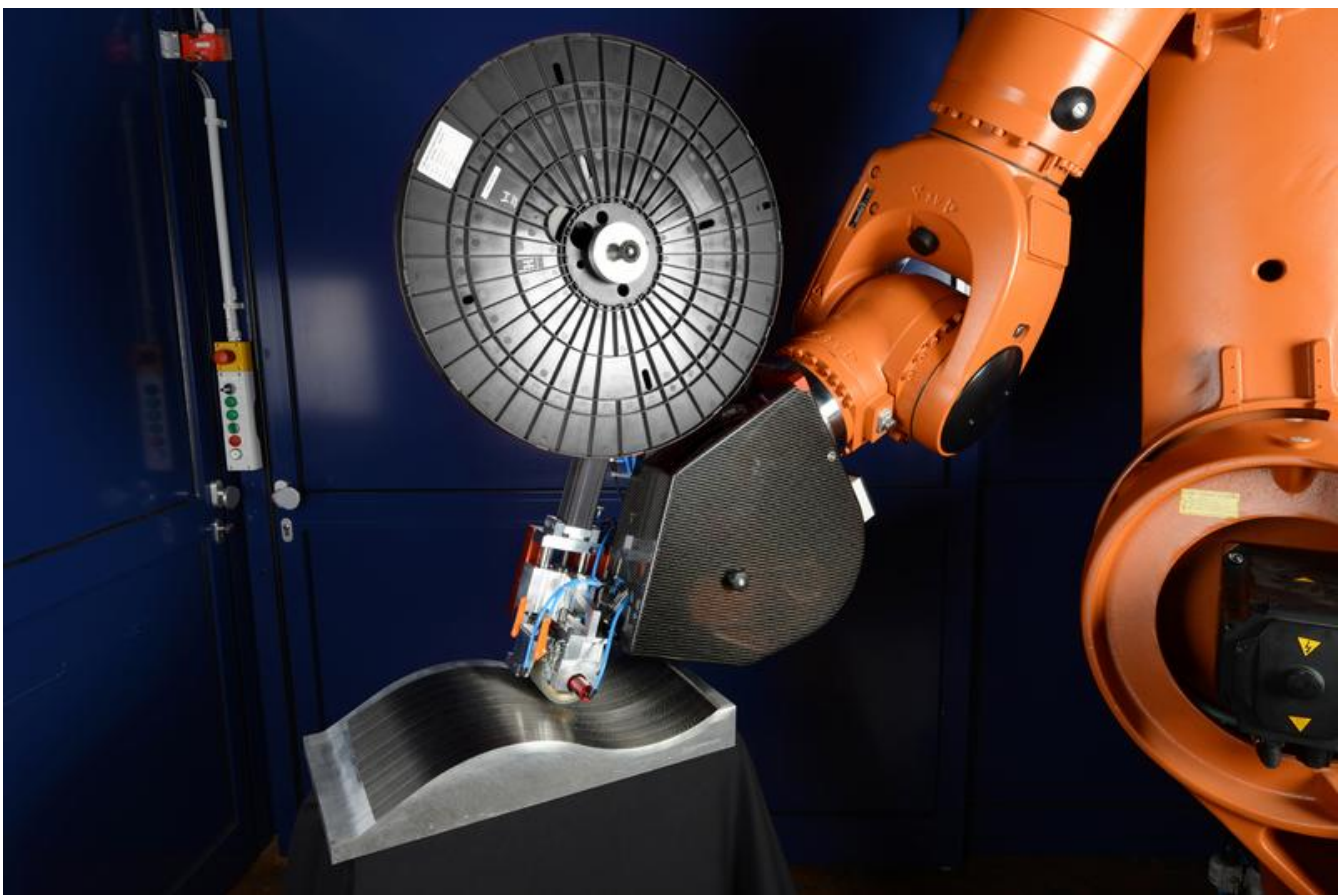
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“PrePro 3D” applicator for modular integration into existing production systems.

Photo: Fraunhofer IPT