



Press Release

Meitingen, September 17, 2018

New production concepts for lightweight components in series – Fiber Placement Center (FPC) at SGL Carbon site in Meitingen officially opened

- FPC is a cooperation between SGL Carbon and Fraunhofer IGCV, supported by the additional partners Compositence GmbH, BA Composites GmbH and Technical University of Munich as well as in future also Coriolis Group SAS and Cevotec GmbH
- Application-oriented research and development with a number of high-tech systems at the SGL site in Meitingen in a space measuring around 500 m²
- Projects with various airplane and car manufacturers

When it comes to lightweight design with carbon fiber-reinforced plastics (CFRP), efficient series production is key to further establish this material class in more and more applications and industries. The production method of fiber placement – and automated, load-path optimized, material efficient laying and cutting of fibers – plays an important role, as this type of method is ideal for industrial production. To incorporate the technology into more high-volume applications across industries and further improve efficiency and resource utilization, SGL Carbon and Fraunhofer IGCV founded the joint Fiber Placement Center at the beginning of this year. The center is headquartered at the SGL site in Meitingen, near Augsburg. System manufacturers Compositence GmbH and BA Composites GmbH as well as the Chair for Carbon Composites at the Technical University of Munich have also joined the cooperation. In addition, also the system experts Coriolis Group SAS and Cevotec GmbH are planning to come on board as partners.

Following the premiere of the FPC at the JEC World industry fair in Paris this March, the FPC today celebrated its opening on site with around 150 guests from the fields of politics, science and industry. Attendees included Franz Josef Pschierer (Bavarian State Minister of Economic Affairs, Energy and Technology), Eva Weber (Deputy Mayor of Augsburg), Dr. Michael Higl (Mayor of Meitingen) and Johann Häusler (Member of the Bavarian Parliament). Martin Sailer (District Administrator of Augsburg) made an appearance via a video message.

With different high-tech systems and a space of over 500 m², the FPC offers customers the option to develop new production concepts and demonstrate them in prototype production. In addition, SGL Carbon can begin with high-volume production of fiber-reinforced components. Both dry and pre-impregnated fibers with or different plastic resins, also referred to as thermoplastic matrix systems, are processed. Both dry and pre-impregnated fibers with or without thermoplastic matrix systems will be processed.

SGL Carbon SE Corporate Communications, Media Relations Soehnleinstrasse 8 65201 Wiesbaden/Germany Phone +49 611 6029-100 | Fax +49 611 6029-101 press@sglcarbon.com | www.sglcarbon.com Already today, preparations of projects for for secondary and primary structural parts with aerospace companies and various automotive parts manufacturers worldwide are under way. The center's work is closely linked with that of SGL Carbon's Lightweight and Application Center (LAC), a facility measuring again around 1,500 square meters also located at the Meitingen site, where the company works with its customers to continually develop innovative lightweight structures, processes and prototypes.

The FPC team consists of several engineers, PhD students and technicians, so that all relevant core disciplines can be covered along the composite manufacturing process chain. Thanks to the cooperation with the Technical University of Munich and the Fraunhofer IGCV, this team will also be accompanied by students working in the course of final thesis so that also the best possible conditions for the promotion of young talents are created.

Quotes on the opening:

Guests at the FPC inaugural celebration were greeted by Dr. Jürgen Köhler (CEO of SGL Carbon), Andreas Wüllner (Head of the Composites – Fibers & Materials business unit at SGL Carbon) and Dr. Klaus Drechsler (Director of Fraunhofer IGCV and Head of the Carbon Composites chair at the TU Munich). In their keynotes, the three hosts emphasized the importance of the new technology.

"For us as SGL Carbon, series production of composite-based lightweight components is a crucial element of our company and growth strategy. We want components made of fiber-reinforced plastics to become a standard in every major industry. One key is the right production methods – with fiber placement being one of several trendsetting approaches. With the new center, we can now offer this technology, originally coming from the aerospace industry, also to other sectors at an industrial level," states Dr. Jürgen Köhler.

"Thanks to the FPC, we have bundled profound expertise in the area of fiber placement, along with a truly impressive set-up of equipment. For many of our customers, this is a promising opportunity to exceed existing process capabilities for serial production of components made from fiber-reinforced plastic," explains Andreas Wüllner.

"The Fiber Placement Center clearly reflects the mission of the Fraunhofer Society, to provide substantial support in knowledge transfer to the industry by means of applied research and to advance the industrialization of fiber-reinforced plastics. Besides our daily cooperation at the center, we also try to reinforce the knowledge transfer, for example with dissertations at the FPC and by combining research with different MAI Carbon projects sponsored by the German federal government as part of the Spitzencluster competition or with Campus Carbon 4.0 projects," adds Dr. Klaus Drechsler.

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About SGL Carbon

SGL Carbon is a technology-based company and world leader in the development and production of carbon-based solutions. Its high-quality materials and products made from specialty graphite and composites are used in industrial sectors that determine the future: automotive, aerospace, solar and wind energy, semiconductor and LEDs as well as in the production of lithium-ion batteries and other energy storage systems. In addition, SGL Carbon develops solutions for chemical and industrial applications.

In 2017, SGL Carbon generated sales of around 860 million euros. As of December 31, 2017, the company had approximately 4,200 employees worldwide in 34 locations in Europe, North America, and Asia.

Materials, products and solutions from SGL Carbon are embedded in the major topics of the future: sustainable mobility, new energies and cross-industry digitization. Further developments in these areas demand more intelligent, more efficient, networked and sustainable solutions. This is where the entrepreneurial vision of SGL Carbon evolves around: contributing to a smarter world.

Further information on SGL Carbon can be found in the Newsroom of SGL Carbon at www.sglcarbon.com/press and at www.sglcarbon.com.

About Fraunhofer IGCV

Application-oriented research and development in the field of production technology is the main goal of Fraunhofer IGCV. Our approach is to combine the expertise in fields of lightweight casting, fiber-reinforced composites, processing technology, automation, holistic factory planning and cost efficiency analysis.

Our competences range from materials sciences, structural mechanics to processing and production. It is our endeavour to reduce the consumption of resources in the manufacturing sector and to gain a technology lead. For this purpose more than 130 scientists of both genders work for innovations for the industry.

Special attention is put, for example, on providing new designs of hybrid and monolithic lightweight structures as well as the use of multimaterials. This requires advanced engineering

methods, manufacturing concepts, joining technologies and new recycling solutions. To accomplish this range of services we combine all our skills in the field of industry 4.0 for a competitive production in the future.

The Fraunhofer-Gesellschaft is the leading organization for applied research in Europe. Its research activities are conducted by 72 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 25,000, who work with an annual research budget totaling 2.3 billion euros. Of this sum, almost 2 billion euros is generated through contract research. Around 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.

Important note:

To the extent that our press release contains forward-looking statements, the latter are based on information that is available at present and on our current forecasts and assumptions. Forward-looking statements, by their very nature, entail known as well as unknown risks and uncertainties that may lead to actual developments and events differing substantially from the forward-looking assessments. Forward-looking statements must not be understood to be guarantees. Instead, future developments and events depend on a large number of factors; they comprise various risks and imponderables and are based on assumptions that may possibly turn out not to be appropriate. These include unforeseeable changes to fundamental political, economic, legal and societal conditions, particularly in the context of our main customers' industries, the competitive situation, interest and exchange rate trends, technological developments as well as other risks and uncertainties. We perceive additional risks e.g. in pricing developments, unforeseeable events in the environment of companies acquired and Group member companies as well as in current cost savings programs from time to time. The SGL Carbon assumes no obligation and does not intend to adjust or otherwise update these forward-looking statements either.

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