Premium AEROTEC, EOS and Daimler prepare the next generation of industrial 3D printing

Automated, integrated, efficient: Joint development of a production system for serial additive manufacturing is planned

Augsburg/Varel, Krailling, Ulm, 19 April 2017 – Metal 3D printing technology is gaining more and more traction in the industrial field. The aerostructures supplier Premium AEROTEC holds a leading position within its sector for this technology. To consolidate this position and to expand the company's capabilities beyond aviation, Premium AEROTEC is starting a joint project with experienced partners EOS, the leading technology supplier for industrial 3D printing, and Daimler, the renowned automotive manufacturer. Together, they will develop the next generation of additive manufacturing (AM) in their NextGenAM project. Via this cooperation, the companies are laying the foundations for the implementation of this technology in large-scale serial manufacturing.

The objective of the project is to progress the automation of the entire industrial 3D printing process. For this, the NextGenAM project team will check the entire additive manufacturing process to see whether parts of it can be automated, from the delivery of metal powder to the processing stages after the build process itself. By this measure, the partners hope to gain significant cost advantages and important foundations in order to use this technology for large-scale serial manufacturing in the future. The process stages before and after the actual manufacturing process constitute around 70 percent of the manufacturing costs. In addition to advanced system technology, the project also strives for a qualification of aluminium for use in industrial 3D printing.

"We are currently the leader for metal 3D printing in the aerospace industry," said Dr. Thomas Ehm, the CEO of Premium AEROTEC. "Now, we need to continue developing this technology extensively in order to expand its application spectrum significantly. Together with our partners, we can thus ensure state-of-the-art technology for our industry."

Dr. Hans J. Langer, Founder and CEO EOS Group stated: "We are proud to be part of such a forward-looking project alongside Premium AEROTEC and Daimler. This underlines the growing footprint of industrial 3D printing in serial production. As a technology pioneer in powder-based additive manufacturing we contribute full engagement and long-lasting expertise. With EOS platforms we push ahead the setup of this future production solution."

„We invented the car, and we are actively shaping the future of mobility. The elements that we bring to this collaboration are our extensive experience in automotive materials and the qualification of those materials, as well as our know-how on efficient and large-scale capacity manufacturing processes in conjunction with component design that is topologically optimised and the latest calculation methods," said Dr. Stefan Kienzle, Head of Advance Development at Daimler AG.

Joining forces for future manufacturing
Each of the three partners contributes its own particular skills and experience: Premium AEROTEC was the first manufacturer in the world to supply serial 3D-printed structural components for Airbus aircraft. Up to now, titanium powder has been used as material for this. EOS is the global technology and quality leader for high-end solutions in the area of industrial 3D printing. With the help of EOS, the additive manufacturing production process is to be integrated into an automated production line. The highly productive Quad-Laser System EOS M 400-4 for additive manufacturing of metal parts is at the core of the production process. The automotive manufacturer Daimler provides comprehensive experience in large-scale serial production. The economically efficient aluminium-based complete system which is to be developed cooperatively over the course of NextGenAM shall be capable for automotive industry and – respectively adapted – for aerospace as well. This provides the opportunity to open up innovative 3D printing manufacturing technology for a wide range of applications.

The three partners will work together in order to achieve major progress in terms of efficiency and processing times. Together, they are investing several million Euros in the planning of and construction of an automated production facility for additive manufacturing based serial production. At a technology centre in Varel (Germany), a development and test environment will be established over the next few months. The project is scheduled to begin in May 2017.

Premium AEROTEC generated revenues of 2 billion euros in 2016. The company's core business lies in the development and production of metal and carbon fibre composite aircraft structures. The company has manufacturing sites in Augsburg, Bremen, Nordenham and Varel in Germany, as well as in Braşov in Romania. For further information see: www.premium-aerotec.com.

EOS is the world's leading technology supplier in the field of industrial 3D printing of metals and polymers. Formed in 1989, the independent company is pioneer and innovator for comprehensive solutions in additive manufacturing. Its product portfolio of EOS systems, materials, and process parameters gives customers crucial competitive advantages in terms of product quality and the long-term economic sustainability of their manufacturing processes. www.eos.info

Daimler AG is one of the world's most successful automotive companies. With its Mercedes-Benz Cars, Daimler Trucks, Mercedes-Benz Vans, Daimler Buses, and Daimler Financial Services divisions, the Group is one of the leading global suppliers of premium cars and is the world's largest manufacturer of commercial vehicles. Daimler Financial Services offers financing, leasing, fleet management, insurance, investments and credit cards as well as innovative mobility services.

The company founders, Gottlieb Daimler and Carl Benz, made history by inventing the automobile in 1886. As a pioneer of automotive engineering, Daimler continues to shape the future of mobility today by focusing on innovative and green technologies as well as on safe and superior vehicles that captivate and inspire. Daimler consistently invests in the development of alternative drivetrains – from hybrid cars to full electric vehicles with battery and fuel cell – with the goal of making zero-emission driving possible in the long term. Moreover, the company is actively promoting accident-free driving and intelligent networking all the way through to self-driving cars. This is just one example of how Daimler willingly accepts the challenge of meeting its responsibility towards society and the environment.
Daimler sells its vehicles and services in nearly all countries of the world and has production facilities in Europe, North and South America, Asia and Africa. In addition to Mercedes-Benz, which is the world's most valuable premium automotive brand, Mercedes-AMG, Mercedes-Maybach and Mercedes me, Daimler's current brand portfolio also includes smart, EQ, Freightliner, Western Star, BharatBenz, FUSO, Setra and Thomas Built Buses, as well as the Daimler Financial Services brands Mercedes-Benz Bank, Mercedes-Benz Financial Services, Daimler Truck Financial, moovel, car2go and mytaxi. The company is listed on the Frankfurt and Stuttgart stock exchanges (ticker symbol DAI). In 2016, the Group employed a total workforce of 282,488 and sold some 3 million vehicles. Revenue totalled €153.3 billion and EBIT amounted to €12.9 billion.

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