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Automated processes improve 3D printing in toolmaking
Tool, Mould and Fixture Making forum at Rapid.Tech + FabCon 3.D unveils possible new applications for additive manufacturing

(Erfurt, 6 June 2019). Geometrically complex moulds and constructions with integrated cooling and temperature-controlling channels are increasingly being produced by additive manufacturing. “The advantages – such as excellent design freedom, design-led manufacture and a faster manufacturing process – are winning more and more people over. We can now safely say that additive technologies, particularly powder bed-based metal processes, have become established in tooling. This is especially true for the manufacturing of injection-moulding tools. However, there is generally still much development work to be done to further optimize tried-and-tested processes and materials, to identify new technologies and materials, to adapt process parameters and to find new or advanced applications. One key goal is to automate and industrialize processes to a greater extent,” says Dietmar Frank, Regional Director for Central Europe at EOS, one of the world’s leading technology providers for industrial 3D printing. The progress being made in these areas will be explored in the forum on Tool, Mould and Fixture Making to be held on 26 June 2019 at the 16th Rapid.Tech + FabCon 3.D exhibition in Erfurt. “We will cast light on current happenings in the industry and research along the entire additive value-creation chain,” declares Dietmar Frank, who took the lead in devising the forum.

Additive manufacturing (AM) starts with the design process. While considerable attention has been devoted to the AM production perspective, there is still plenty of opportunity for optimizing and simplifying the design of 3D models for small batches or for individual, client-specific components. In his lecture, Dr. Ole Bröker, Head of Business Development & Consulting at trinckle 3D GmbH in Hennigsdorf, near Berlin, looks at options for automating design processes for scalable AM applications. Helmut Zeyn, Director at Siemens Industry Software GmbH, examines how to make more efficient injection-moulding tools using industrialised additive manufacturing.

An experienced 3D-printing provider gives his view on “The Additive Revolution in Toolmaking” – hear all about it in a talk by David Sarnowski, Sales Manager at the FIT Additive Manufacturing Group. The company provides industry partners with support at every step of the AM process, helping to pinpoint the optimum combination of process and manufacturing parameters all the way up to quality assurance.
Marc Dimter, sector manager at TRUMPF Laser- und Systemtechnik GmbH, casts light on the advantages of additive manufacturing specifically for the casting industry – an area in which 3D-printing solutions are only now being applied, but with some degree of hesitation.

In additive manufacturing by means of powder-bed fusion systems, handling the powder is one of the most problematic aspects to be considered. This is why Joseph Kowen of Solukon Maschinenbau GmbH, in Stadtbergen, Augsburg, decided to look at the “Pain of Removing Powder” in his talk. He demonstrates options for efficient powder management and demonstrates the advantages of automated processes over manual solutions. He will also look at new regulatory requirements in powder removal.

Unlike additive manufacturing with metals and polymers, 3D printing with carbon or silicon carbide is only just about to be launched on the market. Dr. Sarah Reiser of SGL Carbon GmbH provides an overview of current developments in this field, which are opening up new solutions for corrosive, abrasive and high-temperature applications.
Scientists at the Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM) in Dresden are researching materials with enhanced properties for additive applications. One of the researchers, Marie Jurisch, presents studies on how to increase the wear resistance of metals.

The Tool, Mould and Fixture Making forum is one of 14 sector-specific forums on the conference programme for Rapid.Tech + FabCon 3.D. Three forums – Software & Processes, Plastics, and Standardisation & EHS – are appearing on the agenda for the first time. Alongside these new additions, the programme will feature the established forums on the Automotive Industry; Aviation; Medical, Dental and Orthopaedic Technology; Contract Additive Manufacturing; 3D Printed Electronics & Functions; Design; Metal; and Law, as well as a session by the Fraunhofer Additive Manufacturing Alliance and the two-day AM Science forum. Overall, over the three days of the conference, there will be more than 100 lectures presenting the latest developments, trends and findings relating to additive technologies and applications in theory and practice.

The 3D Printing Conference and the redesigned presentation spaces and networking opportunities at the exhibition will also help attendees to share their knowledge and experiences and to build and maintain their networks.

For their 16th edition, Rapid.Tech + FabCon 3.D are yet again expecting around 200 exhibitors from Germany and abroad, as well as more than 5,000 international trade visitors and conference delegates.

Further information: www.rapidtech-fabcon.com

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