



Rapid.Tech 3D
9 to 11 May 2023
Messe Erfurt

How AM is changing the manufacture and application of modern defence technology

Keynote by Diehl Defence on the opening day of Rapid.Tech 3D 2023 highlights use across the entire value-added process – Air Force experience with additive manufacturing to be discussed in the Innovations in AM forum

(Erfurt, 7 March 2023). The Russian war of aggression against Ukraine has brought public attention to the topic of defence technology. The importance of additive technologies for the development, production and application of state-of-the-art defence systems is reflected in the programme for this year's Rapid.Tech 3D from 9 to 11 May in Erfurt.

AM variety meaningfully structured

Keynote speakers on the first day of the specialist conference will be Anja Rupprecht and Markus Bähr from Diehl Defence GmbH & Co. KG. This division of the Diehl Group, which has over 16,000 employees, supplies high-tech solutions including air defence systems, guided missiles and ammunition to the army, air force and navy. The development engineer and the Structural Materials Division team leader will demonstrate how additive manufacturing (AM) plays a role in all Group divisions, not only Defence: Aviation, Controls, Metal and Metering, and in the entire value creation process. The heart of keynote is to illuminate the sheer variety of AM options, from research and development to series production. "We use additive processes to produce prototypes quickly, for example, or to manufacture production aids, thus making processes more efficient. For this purpose, we use methods such as FDM, SLA or LPBF. The three Diehl Defence sites in Germany all operate autonomously and we can thus be very flexible. We also cultivate intensive discussion between our plants and divisions about AM projects, components and general procedures and issues. This is one way of structuring the many different requirements in a meaningful way," explains Anja Rupprecht.

With regard to uses for AM in the future, one key task identified by the 3D printing experts at Diehl is the reproducible production of high-quality series components. "This is an exciting area, especially for newer, binder-based processes, for example. Our goal is to have standardised processes that also meet the rigorous requirements of the defence sector," says Anja Rupprecht.

Air Force experience with AM

AM is also playing an increasingly important role for users of modern defence technology. Tobias Gärtner will be talking about experiences with additive manufacturing in the German Air Force. The mechanical engineer heads up the design office at the Luftwaffe's Weapon Systems Support Centre 2. He will also be attending the Innovations in AM forum on the first day of the Erfurt conference. His department has been using Industrial 3D printing since 2019. "Printed demonstrators allow us to swap out expensive equipment during development phases, using the dummies as placeholders, so to speak. Additive manufacturing also assists with the production of certified equipment and supports training," says the civilian employee with the German Armed Forces, who will be referring to various use cases. 3D-printed mounts, for example, which improve the handling of night vision devices. Learners can be trained how to repackage and store oxygen masks correctly after use, thanks to 3D scanning technology that provides a realistic scenario outside of the aircraft. "The advantages of additive manufacturing go beyond shorter design times. Thanks to this



technology, we can deliver a tailor-made response to the needs of the German Armed Forces,” says Tobias Gärtner, identifying a key benefit of in-house additive manufacturing expertise.

Other renowned keynote speakers including from the international automotive and aerospace industries, and AM experts from industry and science, are expected to present at the Rapid.Tech 3D specialist conference. The three-day programme from 9 to 11 May 2023 will offer insights into the latest AM applications and developments, for example in the Mobility, Medicine, Aviation, Design, Software & Processes, Innovations in AM and Science forums. AM topics ranging from chemistry/plant engineering/production technology to post-processing and quality assurance will be discussed in dedicated trade forums for the first time.

More information on how to take part in the event is available at: <https://www.rapidtech-3d.de/konferenz/tickets/>

The conference and exhibitor areas of Rapid.Tech 3D 2023 will focus on India’s 3D printing expertise, among other things. A wide range of preparations are currently under way for Indo-German meetings and a joint Indian stand in Erfurt.

Information on special show areas such as the Additive Area or the Start-up Area is available at <https://www.rapidtech-3d.com/exhibitors/registration-prices/>.

Over 2,500 trade visitors from 18 countries flocked to Rapid.Tech 3D 2022 in Erfurt. They learned about new products and services in additive manufacturing from 97 exhibitors from eleven countries, including the US, the United Kingdom, Austria and Switzerland. Visitors were delighted with the conference programme, which featured ground-breaking keynote addresses and trade forums offering in-depth presentations. Delegate numbers were higher in comparison to the last in-person conference in 2019.

Further information: www.rapidtech-3d.de

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