

Press release

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formnext
International exhibition and conference
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Winners of the Formnext Start-up Challenge 2018 selected

From printed microstructures to additively manufactured medical products: The five winners of the 2018 Formnext Start-up Challenge impressed the international jury with a diverse range of groundbreaking innovations in additive manufacturing. The prizes were awarded to the young companies 3DFortify (USA), Aerosint (France), AMendate, Kumovis (both Germany) and Nanogrande (Canada).

The Formnext Start-up Challenge 2018 is now in its fourth year. The innovative technologies developed by the winning international start-ups will be presented in the Start-up Area at Formnext 2018. Visitors can look forward to a new software solution that creates CAD data automatically for 3D printing and a powder deposition system that enables additive manufacturing with different materials at the same time. Along with 3D printing technologies for creating micron-scale structures and medical products, a magnetic 3D printing procedure will also be on show, making the Formnext Start-up Challenge a real highlight in terms of innovation in the international start-up scene. "The top-quality innovation demonstrated by the prize-winners also underscores the great ability of Formnext to attract new start-ups from all around the world," states Sascha F. Wenzler, Vice President for Formnext at event organizer Mesago Messe Frankfurt GmbH.

The Formnext Start-up Challenge 2018 honors companies founded within the last five years. Held in cooperation with MUST 3D Printing, the competition recognizes inventive and viable business ideas. The distinguished jury consists of prominent representatives from the realms of industry, science, media, and investment. The official award ceremony will be held on Tuesday, 13 November 2018 at Formnext, and the five winners will receive trophies sponsored by voxeljet. Together with other start-ups, they will also get the chance to present a short business pitch as part of the new Pitchnext event. This will give visitors an unparalleled insight into the latest innovations in additive manufacturing as well as a preview of future developments in this industry.

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The five prize-winners will be rewarded with a broad range of services designed to guide them toward further success in the development of their company. This includes a free, fully equipped exhibition booth as well as the start-ups being incorporated into all of the relevant marketing and communication activities Formnext conducts around the world. On their journeys to and from Formnext within Germany, the winners will have their return tickets covered by Deutsche Bahn, and business coaching will be provided by AM Ventures. 3Dprintingindustry.com – a member of the competition jury – is also sponsoring a company profile on its industry portal. Meanwhile, the involvement of the aforementioned MUST 3D Printing, a network of stakeholders spanning multiple fields related to industrial 3D printing, is sure to offer further benefits.

Winners

The German start-up **AMendate** is working to develop software for the simple and fully automated optimization of technical components for additive manufacturing. The result is organic-looking structures that enable gentle, efficient, and cost-effective production using additive manufacturing methods. AMendate technology allows such structures to be generated particularly quickly and automatically. The core element is an intelligent optimization algorithm that interprets the simulation result automatically and converts it into commonly used CAD exchange formats.

Aerosint has developed a selective powder deposition system to enable multi-material part production. In an SLS or SLM process, multiple powder materials are deposited to form a single layer, making it possible to produce parts combining a variety of materials (polymers, metals, ceramics) using additive manufacturing methods.

With a printer that is specifically tailored to the requirements of medical technology, German company **Kumovis** is developing a system for producing plastic implants using additive manufacturing methods. The focus is on processing high-performance polymers such as PEEK or PPSU, which are already established in medical technology and approved for the manufacture of medical products. The printer is based on the fused layer manufacturing process, and a temperature-controlled air circuit, including filter units, creates a cleanroom environment. Tailor-made implants are required in the reconstruction of cranial bones or in spinal surgery, for example.

3DFortify specializes in digital composite manufacturing (DCM) to produce composite materials using additive manufacturing. This young American company uses Fluxprint technology, a magnetic 3D printing process that combines magnetics and digital light processing (DLP) 3D printing. As a part is printed, fibers within the part are magnetically aligned voxel by voxel to optimize the microstructure.

The Canadian start-up **Nanogrande** will present the first molecular-scale additive manufacturing system. The MPL-1 can assemble highly packed multilayers of particles as thin as one nm using a variety of materials such as oxides, metals, waxes, and polymers. The patented technology creates layers using fibers, flakes, and unconventional particles and can even combine various materials to form objects with few or no supporting structures. The high print resolution allows the manufacture of structures in the submicron range up to a maximum volume of 10 cm x 10 cm x 2.5 cm.

Background information on Formnext

Formnext is the leading trade fair for Additive Manufacturing and the next generation of intelligent manufacturing solutions. It focuses on the efficient realization of parts and products, from their design to serial production. Formnext shows the future of innovative manufacturing. The conference set to take place alongside the exhibition will also highlight the latest trends and issues in additive manufacturing, along with clever ways in which it can be integrated into process chains in industrial production. The conference's content is designed by Rapidnews/tct. Formnext is organized by Mesago Messe Frankfurt GmbH. (formnext.com)

Background information on Mesago Messe Frankfurt

Mesago, founded in 1982 and located in Stuttgart, specializes in exhibitions and conferences on various topics of technology. The company belongs to the Messe Frankfurt Group. Mesago operates internationally and is not tied to a specific venue. With 140 members of staff Mesago organizes events for the benefit of more than 3,300 exhibitors and over 110,000 trade visitors, conference delegates and speakers from all over the world. Numerous trade associations, publishing houses, scientific institutes and universities work with Mesago closely as advisers, co-organizers and partners. (mesago.com)

Background information on Messe Frankfurt

Messe Frankfurt is the world's largest trade fair, congress and event organiser with its own exhibition grounds. With more than 2,400 employees at 30 locations, the company generates annual sales of around €669 million. Thanks to its far-reaching ties with the relevant sectors and to its international sales network, the Group looks after the business interests of its customers effectively. A comprehensive range of services – both onsite and online – ensures that customers worldwide enjoy consistently high quality and flexibility when planning, organising and running their events. The wide range of services includes renting exhibition grounds, trade fair construction and marketing, personnel and food services. With its headquarters in Frankfurt am Main, the company is owned by the City of Frankfurt (60 percent) and the State of Hesse (40 percent). For more information, please visit our website at:

www.messefrankfurt.com | www.congressfrankfurt.de | www.festhalle.de

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Background information on TCT (Content Partner)

Since 1992 the TCT Group's mission has been to accelerate the adoption of 3D technologies for design, development and manufacture across all industry sectors. Through events, publications, websites and digital products TCT delivers business-critical insights on 3D printing, additive manufacturing, CAD/CAE, metrology and inspection, as well as traditional manufacturing processes such as molding, casting and CNC machining. The TCT Group is owned by Rapid News Publications Ltd (rapidnews.com), part of Rapid News Communications Group. (thetctgroup.com)

Background information on the Working Group Additive Manufacturing (Honorary Sponsor)

Within the Working Group Additive Manufacturing, more than 120 companies and research institutes collaborate under the direction of the German industry federation VDMA. Here, plant engineers; component and material suppliers; industrial companies that work with metals and plastics; service providers in software, manufacturing, and processing; and numerous researchers all work toward the same goal: the industrialization of additive manufacturing techniques. (am.vdma.org)