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EXPO EDITION
Featuring plenty of world premieres set for Formnext 2026

AFTER THE BUILD
Post-processing grows up
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FROM WAAM TO MF-AM
Discover the latest AM system innovations
Pages 06–15

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In September, we headed to London to visit this year’s partner country, the UK. What impressed me most was the city’s unique blend of tradition and forward-looking modernity. Tower Bridge, a triumph of Victorian engineering, for instance, is only a few kilometers from Digital Catapult, where research into future communications networks, including 5G and 6G, is conducted.

This combination of the old and the new is also evident in the world of AM and its industrial environment. In many factories today, 3D printers operate alongside traditional machining and injection molding equipment. Despite all the innovation, AM does not always require everything to be reinvented or for existing production structures to be replaced in their entirety. More often, the key is identifying the right applications where additive technologies can deliver technical and economic value.

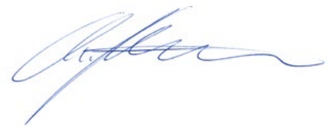
The question of where and how AM can be used effectively, from material selection and the manufacturing process itself through to post-processing, is best answered through direct dialogue between technology providers and users. The more complex and diverse the world of AM becomes, the more important this exchange becomes, which is precisely why it has remained a core element of Formnext for more than ten years.

This year, we are giving even more attention to the important topic of post-processing, with a special show on the topic as well as guided tours among other things. The growing importance of this field for efficient AM production and industrialization is also reflected in the innovations being presented at Formnext 2026. Alongside AM systems, post-processing ranks among the most innovative technology areas at this year’s exhibition.

The many new products and launches featured in this issue, all of which can be experienced at Formnext 2026, showcase the remarkable breadth and versatility of our industry. While some AM technologies are already mature enough that focus has turned either to highly specialized innovations or specific applications, start-ups in particular continue to introduce new technological approaches. It is precisely this combination of maturity and new ideas that makes the industry so exciting.

This innovative strength is also contributing to a gradual improvement in business sentiment across the AM world. The trend is evident in conversations throughout the industry, in company sales reports, and in the results of the latest AG AM member survey conducted within the VDMA.

The global AM community will have the opportunity to experience many more exciting developments beginning on 17 November 2026 in Frankfurt. I look forward to meeting you in person at Formnext.



Sincerely, Christoph Stüker
Vice President Formnext

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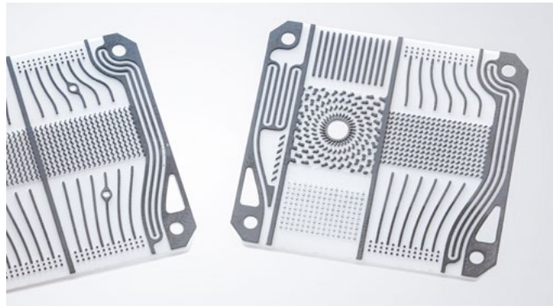

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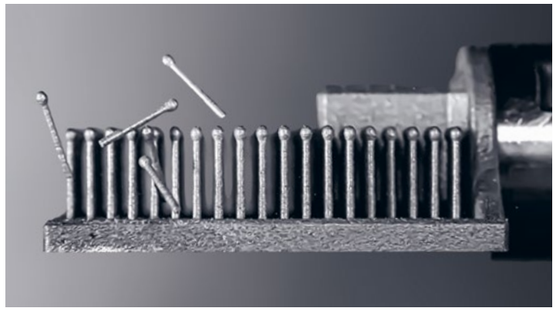

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START-UP EVENTS, SPECIAL SHOWS, SYMPOSIA AND MUCH MORE

Against the backdrop of the AM industry's dynamic industrialization, Formnext will once again confirm its role in 2026 as a leading platform for the manufacturing technologies of the future. With around 800 exhibitors expected, the event will bring together companies from across the entire Additive Manufacturing ecosystem. »Especially in the current market environment, the importance of exchange, orientation and access to innovation is becoming increasingly apparent,« explains Sascha F. Wenzler, Vice President Formnext at organizer Mesago Messe Frankfurt GmbH. »Formnext brings together the industry's key stakeholders, creating fresh momentum for the industrial adoption of Additive Manufacturing.«

To reduce walking distances, improve navigation, and ensure a consistently high-quality visitor experience, the exhibition will be consolidated into Halls 11.0, 12.0, and 12.1, rather than being spread across four hall levels, while maintaining nearly the same total exhibition space.

IN-DEPTH INSIGHTS AND EXCHANGE

Formnext 2026 will once again offer a comprehensive supporting program featuring a wide range of topics and numerous opportunities for professional development and networking. The freely accessible conference program for trade show participants will address both cross-industry topics and real-world application examples on the Industry & Application Stage, delivering valuable insights for users, technology providers, and decision-makers from various sectors. The program will be complemented by the Technology Stage, where exhibitors will present their latest technological innovations and solutions.

The Formnext Defence Summit will add a new thematic focus, exploring current developments and requirements in security- and defence-related AM environments. In addition, a special exhibition dedicated to post-processing will showcase key steps within the industrial value chain (see below).

Established Formnext highlights will also return. The Formnext Awards will once again recognize outstanding innovations and developments, while the Discover3DPrinting seminars will provide newcomers with practical insights into the world of Additive Manufacturing. Additional formats such as the Start-up Area and Pitchnext will continue to bring innovators, investors, and strategic partners together. Further program highlights include:

- »Additive4Industry« showcase by the VDMA Additive Manufacturing Working Group, focusing on Additive Manufacturing in mechanical engineering. The theme of the special show is »AM for Industrial Applications.«
- BE-AM showcase and BE-AM Symposium dedicated to Additive Manufacturing in the construction industry
- Career@Formnext, featuring a job wall, personalized career consulting, professional photo sessions, and networking opportunities
- Partner Country United Kingdom, showcasing its strong manufacturing sector and leading role in Additive Manufacturing through a powerful ecosystem of technologies and industrial applications
- AM Innovation and Standards Summit, organized by ASTM International and taking place on the day before the exhibition opens

All details, as well as the complete event calendar with a convenient bookmarking function, can be found at formnext.com/program

POST-PROCESSING SHOWCASE AND GUIDED TOURS

Formnext is placing a special focus on post-processing in 2026 with its first dedicated Post-processing Showcase. Post-processing is a crucial part of the Additive Manufacturing process chain. At Hall 11.0, Booth F34, the showcase uses real-world exhibits to illustrate how the individual process steps work together. Along a continuous process chain, it demonstrates how additively manufactured raw parts are transformed into functional end products through a range of machining, finishing, quality assurance and measurement processes. Complementing the showcase, the guided tours offer deeper insights into the world of post-processing. The guided tours provide orientation and take participants directly to the booths of selected exhibitors, where they can gain concise insights into specific technologies, applications, areas of expertise and current developments, as well as real-world use cases.

GUIDED TOUR DATES

Wednesday, 18 November: Metal-focused
(GER) 11:00 am – 1:00 pm | **(EN)** 2:00 – 4:00 pm
Thursday, 19 November: Polymer-focused
(GER) 11:00 am – 1:00 pm | **(EN)** 2:00 – 4:00 pm

Participant numbers for the guided tours are limited. Advance registration is available in via the Formnext event calendar. Subject to availability, on-site registration may also be possible.

Register here: formnext.com/postprocessing

The meeting point for all tours is in the South Foyer of Hall 11.0 in front of the Press Center. Please arrive approximately 5 minutes before the start of your tour.

Image: Mesago / Marc Jaquemin

MODULAR DESIGN FOR AUTOMATED MANUFACTURING

It's 3:00 a.m. and the production floor is empty. Nevertheless, the SmartFAB MatriX is working through its job schedule. It starts the next print, changes the build plate in about two minutes, places the finished part in the output magazine, and pulls the next job from the queue. By morning, the batch scheduled during the day shift has been completed. CR-3D will demonstrate this process live at its booth at Formnext 2026, from print start to automatic part removal. According to the company, a standalone 3D printer typically operates for about 54 out of a possible 168 hours per week. The remaining time is lost to setup, build plate changes, scheduling and tracking. The MatriX Cockpit is designed to address this challenge by providing a shared interface for all printing units within a production cell. Jobs can be scheduled using timeline, calendar or list views. The build plate magazine is visible in real time. The cell automatically assigns plates and materials and removes finished parts without operator intervention. Every print is logged, down to the individual unit and parameter set used, which supports batch traceability. For more than a decade, CR-3D has been developing industrial 3D Printing systems for specific applications, with expertise spanning mechanics, electronics, firmware, slicers and filament development. The SmartFAB MatriX is designed for engineering materials. Each printing unit features a closed, heated build chamber and supports nozzle temperatures of up to 350 °C. Beyond standard plastics, it easily handles ABS, ASA, polyamides and fibre-reinforced filaments. The system operates on its own network, without an external cloud connection. If a print unit fails or a build is interrupted, an identically configured unit can take over. Each unit has its own camera, and both print and filament units can be exchanged during operation. The base configuration includes six printing units, each with its own filament station, 120 build plates, and up to 120 kg of loaded filament. The system can be expanded to up to 18 printing units, while multiple MatriX systems can be linked to a centrally controlled cluster. The modular design also allows for additional functions, including a measurement module that checks the dimensional accuracy of each part immediately after printing, a laser module for engraving, marking and cutting, and a packaging module that prepares finished parts for shipment without manual intervention.

CR-3D at Formnext 2026:
Hall 12.1, Booth E131

NEW BRANDING AND LOOK

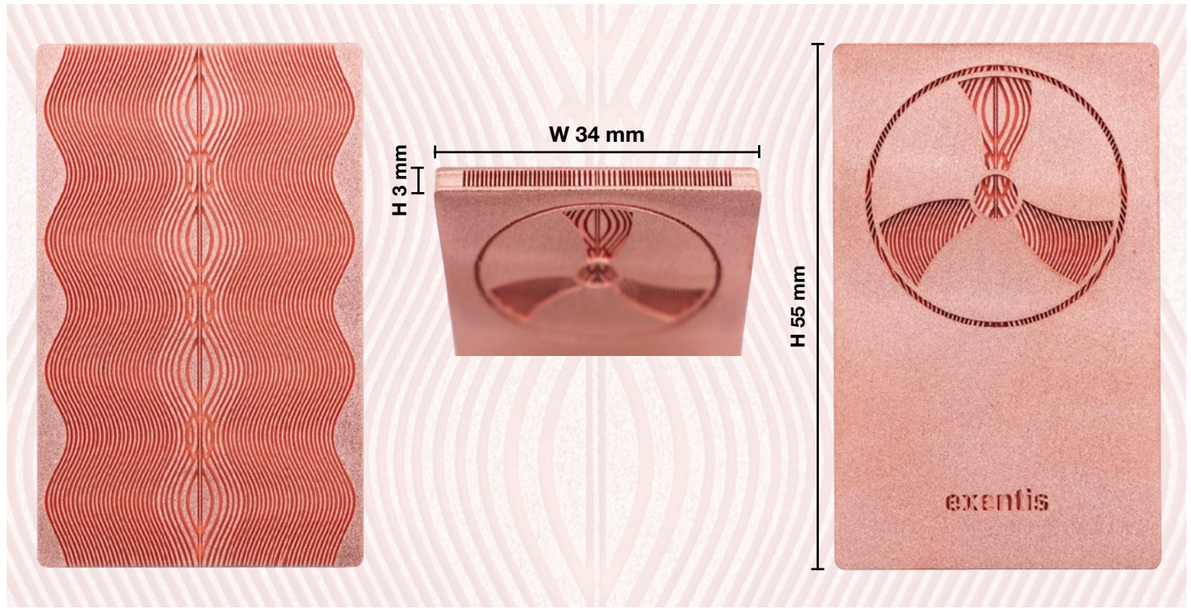
ATLIX is introducing a new visual identity for its Additive Manufacturing systems, marking another important step in the company's evolution. From 1 September 2026, all new machine orders will be delivered under the updated ATLIX branding, including a new product-naming architecture and a distinctive visual design. At the centre of the new portfolio is xBuild, which replaces the previous TruPrint name. The new naming strategy connects ATLIX's products to its broader xWorld ecosystem. The portfolio comprises four systems (xBuild 1000, 2000. 3000 und 5000), each designed for specific production requirements while remaining technically unchanged. »The coming months will be an important period for ATLIX. We have a lot of work ahead of us and many new developments that we cannot wait to present at Formnext,« adds Ferrarese.

Atlix at Formnext 2026:
Hall 12.0, Booth D99

Images: CR-3D, Atlix

Copper Reimagined:
Micro-Precision Meets High-Volume Production

Copper is indispensable for a modern industry. Its excellent electrical and thermal conductivity makes the material essential for power electronics, and thermal management. At the same time, the production of complex copper components with ultra-fine structures and high production volumes presents major challenges for conventional manufacturing processes. This is where the Exentis Group's unique, patented additive screen-printing technology comes into play.



Picture: Exentis 3D-SP Cu-ETP, High-Purity Copper

Image: Exentis

The Swiss company Exentis Group combines precise additive manufacturing with high-volume industrial production, opening up new possibilities for copper processing.

In Exentis' additive screen-printing process, the material is applied layer by layer as a paste through a precisely structured screen. This makes it possible to efficiently produce ultra-fine geometries, delicate structures, and functional elements within a single component. Channel and web widths of < 125 µm, together with layer thicknesses in the micrometre range, enable an exceptional level of detail.

Copper is particularly well suited to applications where efficient heat transfer or high electrical conductivity is required. The Exentis process can be used to manufacture complex thermally functional structures and other functional copper components that would be difficult or highly labor-intensive to produce using conventional manufacturing methods, often requiring multiple production steps.

The technology is not limited to individual parts or small batches. Exentis 3D Mass Customization® was developed from the outset for industrial production. Production systems can manufacture up to several million components per year, combining high production volumes with the geometric freedom of additive manufacturing.

The process also sets high standards in terms of surface quality: surface roughness values of up to Ra 2 µm can be achieved without additional post-processing. At the same time, the layer-by-layer build-up enables thermal functions and other complex structures to be integrated directly into the component.

By processing pure copper, Exentis is expanding the capabilities of industrial additive manufacturing to include a material that will play a central role in the electrification and thermal management of the future.

Exentis Group at Formnext 2026:
Hall 11.0, Booth C38

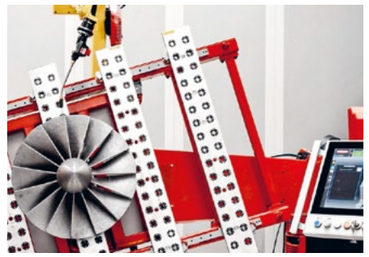
exentis group
Industrialized Additive Manufacturing

Exentis Group AG
Im Stetterfeld 2, CH-5608 Stetten
Tel. +41 56 484 55 31
info@exentis-group.com
www.exentis-group.com

NEW WAAM CELL

Whether for a spare part, prototypes or complex one-of-a-kind piece, Wire Arc Additive Manufacturing (WAAM) is becoming increasingly important as an industrial manufacturing process. The new Additive Cell from Fronius combines state-of-the-art CMT welding technology, intelligent process control and user-friendly software to enable the efficient production of high-quality metal components. According to Fronius, the combination of CMT Additive PRO and the Fronius iWave power source ensures a precise welding process within the cell. All operations are managed by the Polaris system controller. The Fronius Additive Cell also includes the proprietary software bundle Vectris, which brings together the machine tool service kit (MTSK) and the post-processor on a single central platform. Applications for the Fronius Additive Cell, and for WAAM in general, are diverse, ranging from reverse engineering and optimisation of existing components to completely new designs.

Fronius at Formnext 2026:
Hall 12.0, Booth B59



FASTER PRODUCTION OF STRONGER PARTS

Qatar-based Anabolic Mechanics offers a combined hardware and software 3D Printing solution engineered to drastically increase build speeds. The company will demonstrate this technology live at Formnext 2026 using its Anabolic DualCore FDM IDEX 3D printer. Its dual-simultaneous printing system allows two independent toolheads to operate on the same component concurrently. While one toolhead prints the fine outer perimeters, both contribute to filling the interior. This enables visible surfaces to be produced with finer layer heights for a clean surface finish, while internal regions are printed using thicker layer heights to decrease print time. According to the company, this technique significantly increases printing speeds while enhancing part durability. The software also uses »Overflow Anchor Seeding« to create internal cavities that are filled in a continuous overflow process, forming solid internal anchor points intended to increase part durability with no visible impact on the outer surface.

Anabolic Mechanics at Formnext 2026:
Hall 11.0, Booth D62A

MOBILE REPAIR OF CAST COMPONENTS IN THE FIELD

Oscar PLT is introducing a new generation of its ProFocus laser welding technology for mobile repair operations. Designed for use in shipyards, aboard vessels and on wind turbines, the system enables on-site 3D repairs using wire-based Laser Metal Deposition (LMD) technology. To support field deployment, Oscar PLT has developed a compact system architecture built around the ProFocus laser head. The compact diode laser head weighs approximately 6 kg and offers high accessibility in confined working environments. The company is also pursuing further miniaturisation of the power source and peripheral equipment, alongside the development of a new generation of welding heads to expand its mobile portfolio. ProFocus technology has already been successfully demonstrated on test engine blocks and during two real-world vessel repair projects, where critical cast components were restored directly on site.

Oscar PLT at Formnext 2026:
Hall 11.0, Booth B62

Images: Fronius, Anabolic Mechanics, Oscar PLT, Raise3D

LARGE-FORMAT PRINTING WITH HIGH VOLUMETRIC FLOW RATES

US-based company Raise3D will present the two initial models of the Raise3D T Series, a new family of industrial large-format FFF 3D printers. The T450 offers a 450 × 350 × 400 mm build volume, while the T700 extends this to 700 × 500 × 1,000 mm. Both systems combine 4MD CoreXY high-speed motion control, TwinFlow™ high-flow extrusion, an actively heated chamber and intelligent monitoring functions within a production-focused platform. TwinFlow™ technology uses two filament feeds to supply a single nozzle, increasing material throughput for large-format printing. Under specified test conditions, the T Series achieves volumetric flow rates of up to 80 mm³/s and print speeds of up to 700 mm/s. The shared-nozzle architecture also supports dual-material and multi-colour printing without the alignment issues associated with separate nozzle systems. The T Series combines 4MD CoreXY motion control with Pressure Advance technology to reduce vibration, ringing and the risk of layer shifting. An additional benefit is improved extrusion consistency during rapid speed changes, limiting defects such as corner bulging and uneven flow. Supported materials include ABS, ASA and TPU, alongside fibre-reinforced polymers such as PET CF, PPA CF and PPS CF.

Raise3D at Formnext 2026:
Hall 12.1, Booth D21

FROM PROTOTYPING TO SERIES PRODUCTION

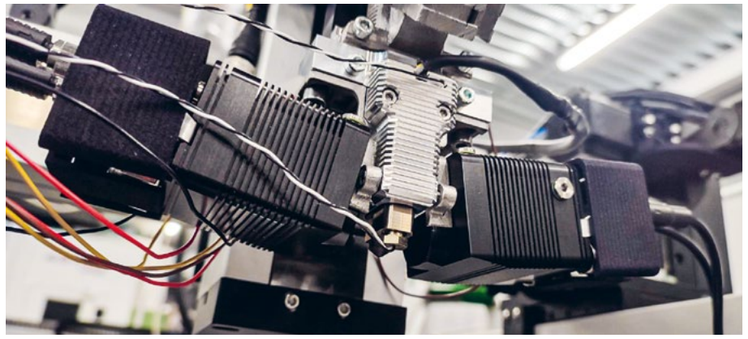
Greek company Anima will unveil its A Series, a range of industrial metal 3D printers designed to support applications from materials research to series production. Based on ZRapid's iSLM160 and iSLM420 platforms, the systems have been re-engineered and optimised by European specialists to meet European manufacturing standards. The series features enhanced machine configurations and integrated research modules tailored to the needs of industrial and research users. Anima has been a major European player in the development and supply of metal Additive Manufacturing systems for many years. »It was precisely this experience that drove the optimisation,« the company explains. »We knew where these platforms needed to be adapted to meet the real-world workflows of European customers in both research and production.« The A1 model, for example, features a specially developed Build Volume Reducer module that enables printing with minimal powder quantities, offering benefits for materials research and alloy development. The A1 is a compact SLM system designed for functional prototyping, toolmaking and small-batch production. It offers a build volume of 160 × 160 × 210 mm and operates with a 500 W fibre laser at 1064 nm. The A4 scales the same platform for series and large-format production. It provides a build volume of 420 × 420 × 500 mm and can be configured with two, three or four 500 W lasers. With a beam diameter ranging from 0.06 to 0.20 mm, it delivers reference build rates of 15 to 50 cm³/h. Both machines support an open-material and open-parameter philosophy. Compatible materials include 316L stainless steel, tool steels, titanium alloys such as Ti6Al4V, aluminium, cobalt-chromium and nickel alloys. The machines are operated via Presto SLM software, while data preparation is carried out using 3DLayer or, optionally, Materialise software. Supported file formats include SLC, CLI and STL.

Anima at Formnext 2026:
Hall 12.0, Booth G79

BRINGING MAGNETIC FIELD CONTROL TO 3D PRINTING

The Jožef Stefan Institute will showcase iRaptor, an omnidirectional magnetic field-controlled 3D Printing platform. The system combines pellet-based material extrusion with a ring of electromagnets surrounding the printhead and integrated Hall-probe sensors positioned close to the nozzle. While material extrusion can process thermoplastic feedstocks containing magnetic particles, the final performance of a printed component depends on more than geometry alone. Particle orientation, material flow and magnetic conditions during deposition all influence the final structure. iRaptor is designed to make the applied field a controllable and observable part of the printing process, enabling systematic studies of local particle alignment and spatially programmed magnetic behaviour, as well as the production of components with tailored magnetic properties. Unlike conventional filament-fed systems, iRaptor operates with pellets and granules. Its prototype magnetisable pellet extruder is designed for processing temperatures of up to 300 °C, while the heated build platform can reach 100 °C within a build volume of 100 × 100 × 100 mm. The printhead integrates a multidirectional electromagnetic arrangement around the extrusion and deposition zone, targeting a controlled field in the 400–600 mT range. Real-time measurements from integrated Hall probes verify the applied field directly at the nozzle. Potential applications include polymer-bonded magnets with tailored magnetisation patterns, electric motor components, sensors, actuators and other functional structures requiring controlled magnetic behaviour.

Jožef-Stefan-Institut at Formnext 2026:
Hall 11.0, Booth B75



Images: Anima, Jožef-Stefan-Institut

HIGH THROUGHPUT AND CLEANER TRAVEL MOVES

Hong Kong-based 3D Printing specialist Peopoly (founded in 2017) will present the new Giga 800, a printer based on fused granulate fabrication (FGF) technology and featuring a build volume of 800 × 800 × 800 mm. The printer's dual-zone screw extruder provides a maximum material throughput of 3 kg/h and supports a wide variety of materials, ranging from soft elastomers to rigid, fibre-reinforced compounds. The extruder incorporates true retraction functionality, while Klipper's Pressure Advance technology compensates for melt pressure fluctuations during speed changes. According to Peopoly, this results in cleaner travel moves, sharper corners and more consistent seams directly from the printer, reducing post-processing requirements. An integrated laser system maps the 800 × 800 mm build plate and automatically compensates for surface variations, eliminating the need for manual bed levelling. The Giga 800 runs open-source Klipper firmware and is supplied with profiles for Orca Slicer, the same toolchain used by millions of FFF users. The system is air-gap capable and can operate fully offline, with no cloud connection or external network dependency required. This makes the printer particularly suitable for defence, aerospace and research and development environments where network-connected equipment may be restricted.

Peopoly at Formnext 2026:
Hall 12.1, Booth A62

Images: Peopoly, ASTM

STANDARDS AS A KEY TO THE NEXT PHASE OF DEFENCE AM

Additive Manufacturing is gaining importance in the defense sector, with decentralized manufacturing, spare-parts supply and rapid access to critical components moving increasingly into focus. As potential use cases expand, standards for qualification, certification and interoperability are becoming essential to broader adoption.

The AM Innovation and Standards Summit, taking place on 16 November 2026 as part of Formnext, will bring together representatives from industry, defence, government and standards development organizations to address these challenges under the theme »Aligning together – Enabling Use Cases by Applying Civilian and Military Standards.« The Summit is organized by the U.S. Commercial Service, ASTM International, ISO and America Makes, in partnership with Mesago Formnext.

A key focus is the collaboration between military and civilian standards development organizations (SDOs). Dr. Holger Ziegler of NATO will discuss opportunities for closer collaboration with civilian SDOs, while other sessions will examine digital process qualification for AM in the space sector and applications across aerospace and defense. The program also brings together high-level representatives from organizations including the European Space Agency (ESA), Rheinmetall and Lockheed Martin.

Breakout sessions and two panel discussions will address topics including AM software and the relationship between innovation and the shop floor in metal AM. The Summit thus connects concrete industrial use cases with the broader question of how standards can help bridge the gap between technological development and qualified production.

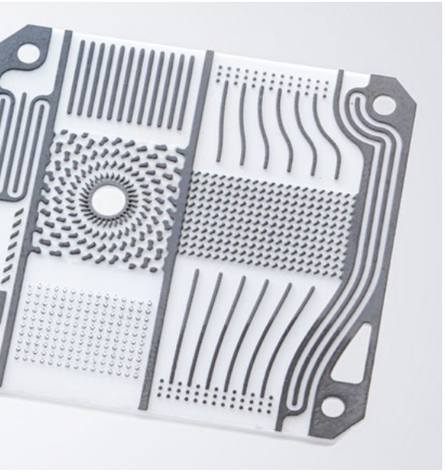
Join the AM community at Formnext on 16 November to exchange perspectives, explore real-world applications and help advance the role of standards in the next phase of Additive Manufacturing.

ASTM at Formnext 2026:
Hall 12.0, Booth G65

FURTHER INFORMATION:
» formnext.com/fonmag
» amcoe.org/calendar

HIGHER LIGHT INTENSITY AND ENHANCED RESOLUTION

At this year's Formnext, Lithoz will premiere its new Performance Pack for the CeraFab System printer range. Built around the latest 4K projection system, the tuning kit delivers a significant leap in both light intensity and resolution. Available for the CeraFab System S65, S65 Medical and the CeraFab Multi 2M30, the Performance Pack doubles light intensity from 60 mW/cm² to 120 mW/cm² while increasing optical resolution by 60%. On the S65, pixel resolution improves from 40 µm (635 dpi) to 25 µm (1016 dpi), making it ideal for demanding applications such as processing dark ceramic materials. In addition to the Performance Pack, Lithoz will showcase a range of new industrial applications, including various cool plates made of aluminium nitride and alumina with a molybdenum-manganese metallisation. Alongside a new zirconia colour range, demonstrated on watch bezels, visitors will also have the opportunity to see hydroxyapatite spinal cages. According to Lithoz, casting cores displayed inside an actual turbine blade represent a key breakthrough in realising the next generation of turbine engines. Meanwhile, complex lead-free piezoceramic components point the way towards miniaturised piezoceramic sensors and actuators for medical applications.



Lithoz at Formnext 2026:
Hall 11.0, Booth B50

FOR LARGE COMPONENTS WITH FINE SURFACES

Caracol has developed its next-generation High-Accuracy Extruder (HA) for precise robotic large-format 3D Printing (LFAM). Intended for use on the company's Heron Additive Manufacturing platform, the compact extruder combines precision with large-scale production capabilities, enabling the creation of fine details and thin layers using a qualified range of high-performance materials, including carbon fibre-reinforced ABS, glass fibre-reinforced ASA and PP, and PETG. According to Caracol, the system enables the production of large-format parts with high surface quality. In an automated robotic LFAM cell, this performance is combined with process repeatability and industrial-grade material properties. Caracol's Material Lab continuously qualifies new materials for the platform. Compared with the previous version, the company has miniaturised the build-quality capabilities of a full-size industrial extruder while significantly improving performance. The new version features three temperature zones, precise control of material deposition and processing temperatures of up to 350 °C. An adaptive material-level sensor automatically recalibrates when feedstock is changed, eliminating the need for manual parameter adjustments. The nozzle range extends from 1 to 5 mm. The 1 mm nozzle enables fine-detail deposition with reinforced engineering materials, including carbon fibre ABS, glass-filled ASA and glass-filled PP. According to Caracol, the HA extruder is designed to address manufacturing challenges in the transportation sector, supporting the production of lightweight, precision-engineered parts for maritime and automotive applications. The company also sees potential applications in aerospace and rail, as well as in design, furniture, art and architecture.

Caracol at Formnext 2026:
Hall 12.1, Booth C129

Images: Lithoz, Caracol, Gühring

HIGHER THROUGHPUT AND REDUCED NOZZLE WEAR

Gühring is expanding its Dianoz product line with a new high-flow nozzle for industrial Additive Manufacturing applications. The new Dianoz High Flow (CHT) combines Gühring's PCD (polycrystalline diamond) technology with Bondtech's patented CHT melt-zone design. This combination delivers superior wear resistance alongside significantly higher material throughput in FDM, FFF and FGF processes. Developed specifically to meet the demands of highly filled and abrasive materials, such as carbon- and glass fibre-reinforced filaments that rapidly degrade conventional brass or steel nozzles, the diamond-tipped design ensures long-term process reliability and consistent print quality. Meanwhile, the integrated Bondtech CHT technology melts filament more efficiently, enabling higher flow rates and a more homogeneous melt that improves layer adhesion.According to Gühring, the new high-flow version processes challenging materials, including ASA-X CF, PA6/12 CF GF, PP GF, HPP, PETG CF, PLA CF or glow-in-the-dark filaments, far more efficiently. Depending on the material used, the nozzle can increase print speeds by up to 50% compared to standard brass alternatives.

Gühring at Formnext 2026:
Hall 12.1, Booth G118

WHEN THE PRINT JOB STARTS ON A FRIDAY AFTERNOON

The latest innovation from Portuguese manufacturer Blocks, a specialist in industrial extrusion 3D printers, is theAutomated Material Unit (AMU). The material handling and feeding system has been specifically developed for Blocks' RF50 platform, which was launched in 2025. Mounted directly on the RF50, the AMU accommodates four spools: two with a capacity of up to 8 kg each and two of up to 5 kg each. The spools are stored in a sealed, actively dried chamber, and the system automatically switches between them as required. Humidity is maintained below 25% relative humidity at a controlled temperature of 70°C. The material tracking system creates a verifiable record for each job, including the spool and batch used as well as the amount of material consumed. The data is available through the Blocks interface and API, and can be integrated into MES and ERP systems. »Our customers didn't ask us to make the RF50 faster. They wanted Friday afternoon to be the start of a print job, not the end of one,« says Duarte Bragadesto, CEO of the company, which was founded in 2013.

Blocks (Dualtech LDA) at Formnext 2026:
Hall 12.1, Stand F78

INCREASED AUTONOMY IN SILICONE 3D PRINTING

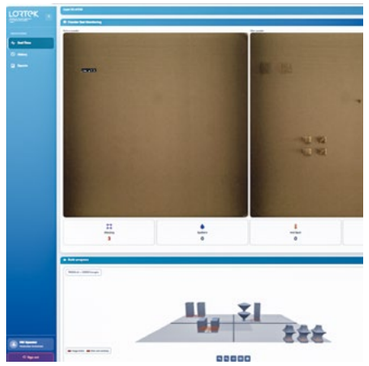
This year, Lynxter will introduce Overtime, a solution for series production that enables larger and more complex silicone parts to be produced without compromising material quality. Silicone 3D Printing has traditionally been limited by the curing time of the material inside the print head. Overtime is designed to overcome this limitation by extending the available printing time. According to Lynxter, the technology increases printing autonomy by up to 36 times without affecting material properties. »We are making the solution available as an add-on module compatible with most S300X – LIQ21 | LIQ11 printers currently in operation around the world. The autonomy and performance of MEX – LIQ technology (or DIW, LDM, etc.), boosted by Overtime, are now comparable to MEX – FIL industrial standards (FFF, FDM, etc.). The Additive Manufacturing of silicone sealing components, protective/masking tooling and medical devices now takes on an entirely new dimension,« says Thomas Batigne, co-founder and CEO of Lynxter.

The Overtime option enables the full build volume of the machine to be used in a single print, maximising production, optimising printing time and enabling fully autonomous operation. According to Lynxter, it also enables the production of larger parts and complex thin-walled geometries at higher resolution.

Lynxter at Formnext 2026:
Hall 12.1, Booth B71

EARLY DETECTION OF PROCESS ANOMALIES

Lortek is introducing its Digital AM Core platform for real-time monitoring and analysis of metal Additive Manufacturing processes. Combining advanced machine vision, melt pool monitoring, artificial intelligence and real-time geometric process tracking, the system is designed to detect manufacturing anomalies during production. High-resolution images are captured at two key stages of each manufacturing cycle: after powder coating and after laser melting. AI algorithms analyse these images to detect defects such as spatters, warping, hot spots and recoater lines before they affect part quality. The platform also incorporates AI-supported melt pool monitoring using photodiode data. Energy emissions are measured from the melt pool, while an AI model analyses the information in real time to identify microscopic variations from expected process behaviour and generate real-time alerts. Digital AM Core further enables real-time geometric monitoring through an interactive 3D visualisation of the manufacturing progress. Users can access cross-sectional views to distinguish between completed and pending regions of the build, visualise the manufacturing strategy and inspect individual layers using interactive analysis tools and laser-based layer selection.



Lortek at Formnext 2026::
Hall 12.0, Booth C121

Images: Lynxter, Lortek, 3DCeram Sinto, Reinforce3D

EXCITING INNOVATIONS STILL UNDER WRAPS

Surprises have become a familiar part of the Formnext experience. While several companies are already offering a preview of forthcoming developments ahead of the exhibition, many are still keeping key details under wraps. What is already clear, however, is that these announcements go well beyond routine product updates. 3DCeram Sinto is aiming to lower the barrier to industrial ceramic manufacturing, Nikon Advanced Manufacturing is teasing its next step in metal Additive Manufacturing and Reinforce3D plans to scale its Continuous Fiber Injection Process (CFIP) for industrial applications.

LOWERING THE BARRIER TO CERAMIC MANUFACTURING

3DCeram Sinto will showcase a new industrial ceramic 3D printer designed to provide a more accessible route into professional ceramic Additive Manufacturing. The company will also demonstrate its M.A.T. hybrid printer live. This printer combines ceramic material extrusion with machining and will be presented alongside a new software solution that integrates slicing and CNC machining.

SCALING HIGH-PERFORMANCE METAL PARTS

Although details remain limited, Nikon Advanced Manufacturing has announced that it will reveal new developments on the opening day of Formnext. With its vision for »what's next« in metal Additive Manufacturing, the company aims to support the production of complex, high-performance metal components for demanding sectors including aerospace and defence.

CFIP TECHNOLOGY AT A NEW SCALE

Spanish start-up Reinforce3D is promising the next major milestone in the development of its Continuous Fibre Injection Process (CFIP) at Formnext. »What we are bringing to Frankfurt this year is the answer to the next question: How can we make this technology available at the scale the industry actually needs?« says Blanca Garro, CEO of Reinforce3D.

Visit all three companies at Formnext 2026:
3DCeram Sinto: Hall 11.0, Booth B32
Nikon Advanced Manufacturing:
Hall 12.0, Booth D119
Reinforce3D: Hall 12.0, Booth A121

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N°1 WORLD-LEADING ELECTRON BEAM TECHNOLOGY

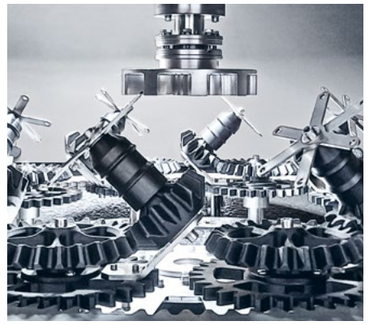
DEPOWDERING EXCEPTIONALLY LARGE AND HEAVY AM BUILDS

Addiblast will be showcasing the Mars05 XL – a system developed for the automated removal of powder from exceptionally large and heavy Additive Manufacturing (AM) builds. Designed to accommodate build volumes of up to 1,375 × 1,375 × 1,700 mm and loads of up to 7,000 kg, the Mars05 XL executes the entire depowdering process within a fully enclosed workspace. It combines controlled two-axis rotation with vibration to release loose and trapped powder quickly and effectively. The process can be adapted to the precise geometry and complexity of the printed components. The system is also material independent and not restricted to a specific metal powder. Additionally, an ATEX-rated design ensures suitability for both reactive and non-reactive powders, with removed powder pneumatically conveyed out of the unit for downstream handling.

Addiblast by FerroČrtalič
at Formnext 2026: Hall 12.0, Booth C12

CLEANING AND STRENGTHENING SURFACES

BMF GmbH has developed a new process that cleans additively manufactured components while simultaneously and selectively modifying the mechanical properties of their surfaces. A key element of the process is shot peening. During this process, small steel balls strike the component surface at high speed, causing plastic deformation in the material close to the surface. This process can introduce compressive residual stresses into the surface layer and increase surface hardness. As a result, it can improve fatigue strength and wear resistance while helping to prevent surface crack formation in highly stressed components. The properties of the treated surface can be precisely adjusted using defined shot peening parameters. In addition to geometric and topographical characteristics, such as surface roughness, particular emphasis is placed on tailoring the mechanical properties of the surface layer to specific application requirements. Through the precise control and documentation of relevant blasting parameters, BMF aims to ensure reproducible processing results, an important requirement for industrial series production.



BMF at Formnext 2026:
Hall 11.0, Booth B30

A COMPACT DESKTOP CNC MACHINE

Chinese company Makera will unveil its new flagship product at Formnext. The new desktop CNC machine runs on Makera Studio, an application combining CAM toolpath generation and machine control, eliminating the need to switch between separate software packages. Makerables, a growing community of ready-to-machine projects, shortens the path from design to finished part.

Makera at Formnext 2026:
Halle 12.0, Stand B01

Images: Addiblast by FerroČrtalič, BMF, Makera, Heimann Sensor

AUTOMATED AND CONNECTED POST-PROCESSING

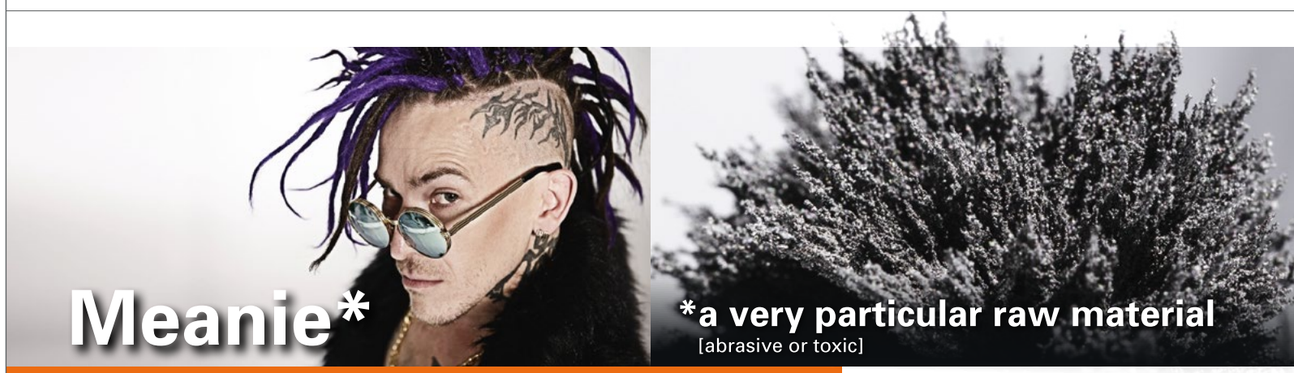
Scaling Additive Manufacturing for industrial production requires more than automating individual process steps. The key is to connect printing, post-processing and material flow into an integrated production environment. This is exactly where Grenzebach Additive Solutions comes in with its manufacturer-independent, end-to-end offering. The company combines automated loading and unloading systems with transport, buffering and post-processing technologies. Autonomous transport systems handle material flow between stations and connect equipment from different manufacturers into a single production environment. According to Grenzebach, this allows automated material handling and depowdering, storage, buffering and advanced post-processing operations, including CNC machining, to be integrated into a coordinated production flow. At Formnext 2026, Grenzebach will showcase this holistic approach through a new interactive application, demonstrating how automated post-processing can be implemented in industrial production. »For productive additive series manufacturing, simply optimising individual machines is not enough. What happens between the machines is what matters. Different cycle times, material flows and technologies need to be intelligently coordinated so that they operate as one integrated system,« says Dimitrios Livadas, CEO of Grenzebach Additive Solutions.

Grenzebach Additive Solutions
at Formnext 2026: Hall 12.0, Booth D61

POE THERMAL IMAGING MODULE AND BEAM PROFILER

Heimann Sensor GmbH has launched a new thermal imaging module with integrated Power over Ethernet (PoE) connectivity. The module combines thermal imaging capabilities with flexible integration options and is currently being upgraded to meet IP67 protection requirements. This is intended to enable reliable operation in challenging environments exposed to dust, moisture and water. With multiple optics options and a wide object temperature measurement range, the module is aimed at applications including predictive maintenance, process monitoring, industrial automation and smart infrastructure. In addition, Heimann Sensor will showcase a new laser beam profiler based on its high-resolution thermopile array technology. Available with resolutions up to 160 × 120 pixels and supported by optional beam analysis software, the system supports beam characterisation across a broad range of laser wavelengths, including THz applications.

Heimann Sensor at Formnext 2026:
Hall 12.0, Booth G134



AFTER THE BUILD: POST-PROCESSING GROWS UP

Text: James Woodcock

Additive manufacturing (AM) is often talked about as though the printer is the production system, yet a printed component is only partway through its manufacturing journey when the build ends. Extra materials and supports have to be removed, surfaces cleaned and finished and, for some processes, binders burned out and the material densified. The operations after the build can determine whether a component is a prototype, a production part or something that never leaves the factory.

Those operations have traditionally been more manual, less connected and harder to quantify than the build itself. The focus on printing has arguably driven AM towards industrialization faster than the processes that surround it, both up- and down-stream. But increasingly we see that post-processing is being simulated, automated and integrated into the production workflow, as equipment makers apply the same industrial logic to the steps after the build.

DEPOWDERING GOES DIGITAL

For metal laser powder bed fusion (LPBF), the first job after a build is removing unfused powder from channels and cavities often designed precisely because no other process could make them. Solukon has spent a decade automating that task with programmed rotation and vibration, and its latest development pushes the operation upstream into software.

The company's SPR-Pathfinder software computes a component-specific motion sequence directly from the part's CAD file. The PRO version, launched in June, simulates the entire depowdering process at higher resolution, predicting process time and revealing powder traps while a component is still on the design screen. A lower-priced BASIC version covers parts of moderate complexity, and both connect to hardware such as the SFM-AT350, which handles components up to 400 x 400 x 400 mm and 100 kg. The depowdering sequence can now be validated before the part exists, mirroring the digital-twin logic that printing itself adopted.

In hardware, ultrasonic excitation running at frequencies far above a component's natural frequency cleans delicate lattice structures with minimal mechanical stress and breaks up powder clumps in long internal channels.

FINISHING WITHOUT THE HAND FILE

Surface finishing presents a similar problem. A printed part may still need blasting, smoothing or cleaning before use, and as AM volumes rise the labor and variability involved become harder to absorb.

Germany's mass-finishing heritage pays directly into this market. AM Solutions, the 3D post-processing brand of the Rösler Group, brings decades of vibratory finishing and shot-blasting expertise to printed parts, combining depowdering and surface finishing in automated equipment. German 3D Printing service provider Formrise reports markedly improved selective laser sintering (SLS) post-processing since introducing the automated S1 blasting system, in a case study published in April 2026.

Automated depowdering and finishing are moving into smaller-footprint equipment as industrial AM systems become more compact.

Image: AM Solutions

For metal parts with mechanically unreachable internal geometry, chemical and electrochemical treatments offer another route, with liquid media flowing through cavities to remove powder and roughness without mechanical contact. The common thread is the replacement of operator-dependent work with repeatable steps that can be specified, monitored and qualified alongside the build.

FROM RAW PART TO PRODUCT

On the polymer side, DyeMansion has built an entire workflow around the same problem, from cleaning and surfacing through coloring to vapor smoothing. Its VX1 brings vapor smoothing to PA12, PA11 and TPU parts in a compact format, sealing surfaces to a glossy finish with PFAS-free solvents in a closed system.

LOWERING THE BARRIER

As printer makers push compact industrial machines, post-processing suppliers are following with »right-sized« equipment. AM Solutions' S1 Basic is a compact system bringing automated cleaning and surface finishing of polymer parts to the industrial entry-level segment. DyeMansion is heading the same way with a compact Powershot machine that packages its PolyShot Cleaning & Surfacing technology for service bureaus, innovation teams and OEMs running smaller volumes.

A service bureau producing a few hundred parts does not need a factory's downstream infrastructure, and compact machines let post-processing follow AM into those environments without recreating the manual work automation was meant to replace.

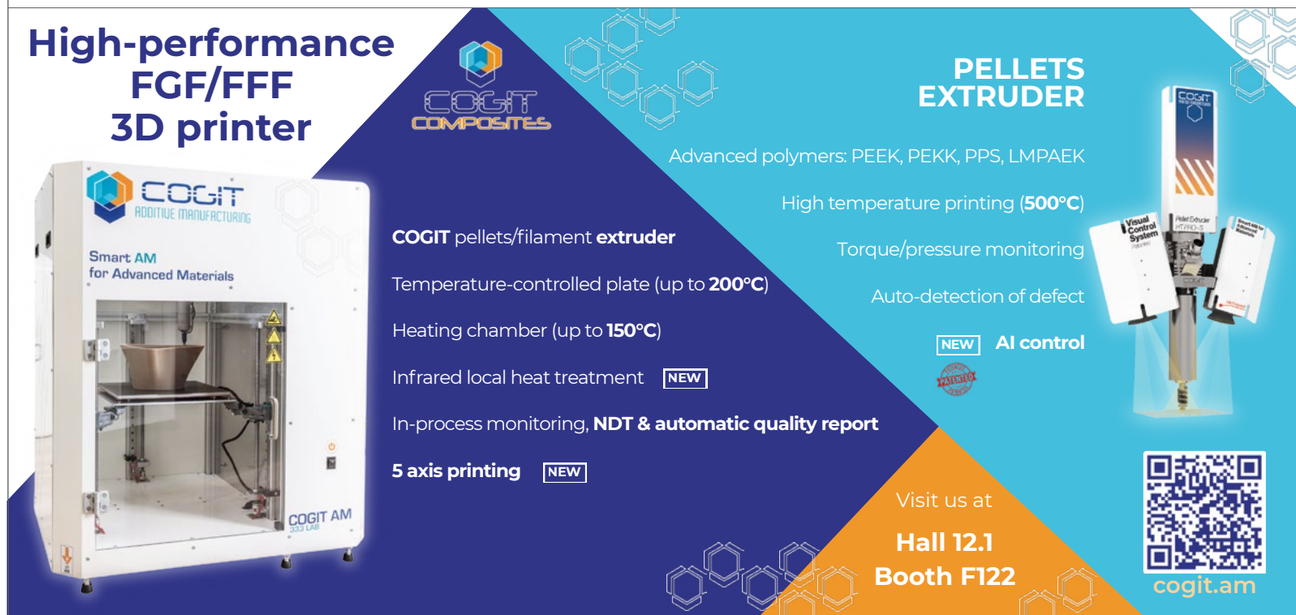
MEASUREMENT CLOSES THE LOOP

Post-processing ultimately leads to a »finished« part which needs to be checked and qualified. This is especially true where internal channels and cavities have been finished and cannot be inspected by manual means. Industrial computed tomography (CT) captures interior and exterior features through a single nondestructive process and companies like Zeiss have built powder-to-part AM quality workflows around it. Dimensional verification before and after post-processing is also crucial where parts require critical tolerances. Renishaw, which builds both metal AM systems and the metrology that inspects their output, launched its compact Equator-X 500 gauge in late 2025, combining absolute and comparative measurement in one unit and feeding results back to production while parts are still being made. The trend for bringing all the requisite processes for true production onto the factory floor continue across the ecosystem.

Manufacturers are looking for the same things from post-processing as they are from the build itself: consistency, speed and reduced manual labor. Simulation, automation and equipment sized to the production capacity it serves are all parts of the answer.

Post-processing once entered AM conversations as an afterthought and a caveat. On more recent evidence it is increasingly understood as an integral part of the wider process and, as such, one of the areas of interest in pushing AM into more application areas at greater volume. The build is still where the part is created, but increasingly the production system is only as industrial as everything that happens after the laser, nozzle or projector switches off.

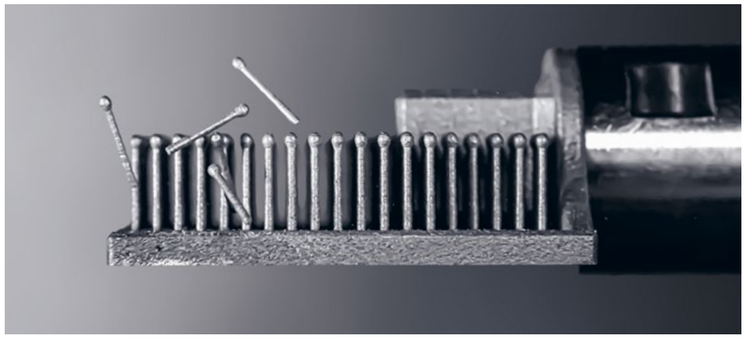
+ FURTHER INFORMATION:
» formnext.com/fonmag



ULTRASONIC WAVES INDUCING CONTROLLED FRACTURES

The Fraunhofer Institute for Additive Production Technologies (IAPT) is presenting for the first time a new method for removing support structures from additively manufactured metal components. The process uses high-frequency mechanical vibrations in the ultrasonic range to automate support structure removal. According to IAPT, benefits of this method include improved workplace safety, time savings, cost reductions, improved process stability, greater reproducibility and more consistent quality. The process combines component-specific vibration excitation with specially adapted support structure designs, generating resonance effects within the support structures and inducing local stress peaks at the attachment points. This results in controlled fracture behaviour within the resonance range. The support structures can be detached within a few minutes without residue and without manual intervention. The new process originates from the Sonodent research project, which received funding from the Fraunhofer IAMHH Competence Center in May 2026. According to IAPT, the technology has potential applications not only in dental technology but also across a range of industrial sectors. In addition, the institute is presenting an automated powder removal solution for PBF processes. The system combines a collaborative robot (cobot) equipped with a dedicated clamping system for handling components and build plates with a specially developed powder removal cell. This flexible solution is intended to improve occupational safety while also enabling cost savings, improved quality and a high level of powder recovery.

Fraunhofer IAPT at Formnext 2026
Hall 12.0, Booth C51



AUTOMATED DEPOWDERING FOR LPBF PARTS OF UP TO 800 KG

With the new SFM-AT850, Solukon is expanding its range of automated depowdering systems for large LPBF components. Making its world première at Formnext 2026, the system is fully compatible with SPR-Pathfinder software. This uses CAD data to calculate the optimum depowdering motion sequence, allowing users to assess depowdering feasibility during the design stage. The SFM-AT850 can accommodate components weighing up to 800 kg (500 kg more than the previous SFM-AT800-S model) and measuring up to 650 × 650 × 800 mm. At the same time, its overall dimensions are smaller than those of the previous SFM-AT800-S model. The SFM-AT850 uses Solukon's Smart Powder Recuperation (SPR) technology, combining programmable two-axis rotation with vibration excitation to ensure that powder can be removed from even the most complex internal channels. For reactive materials such as aluminium and titanium, the system can be operated under an inert protective gas atmosphere. Additional features include extra compressed-air and inert-gas connections on the rotary table, enabling optional supplementary air-blow solutions. For particularly tall components, an extended swing arm is available, increasing maximum component height capacity to 1,050 mm.

Solukon at Formnext 2026:
Hall 12.0, Booth D58

Images: Fraunhofer IAPT, Solukon, Becker Additive Manufacturing Solutions, Toolcraft

POWDER RECOVERY, LONG-LIFE FILTRATION AND PASSIVATION

Becker Additive Manufacturing Solutions (Becker AMS) will showcase CycleAM, a new process gas management solution for the LPBF process. The system combines powder recovery, long-life filtration and patented automatic passivation technology. »As LPBF systems become increasingly productive, the demands placed on process gas management are also growing. Higher laser power, increased machine utilisation and the processing of reactive materials create new challenges, particularly in filtration and waste handling,« Becker AMS says. A cyclone separates powder from the process gas stream before it reaches the downstream filtration stage. The recovered powder can then be sieved and qualified for potential reuse in accordance with the applicable material and quality requirements. At the same time, upstream separation reduces the particle load on the downstream filtration system, which is designed for an exceptionally long service life. Depending on the material, application and operating conditions, a filter lifetime of approximately six to eight years can be achieved. Metal LPBF generates fine, reactive process residues and condensates, particularly when processing reactive materials such as titanium. These residues require special precautions during handling, storage and disposal. Using Becker AMS's patented passivation technology, these residues are automatically treated within the system and converted into a non-reactive, non-explosive state.

Becker Additive Manufacturing Solutions
at Formnext 2026: Hall 12.0, Booth G101

PRECISION CLEANING IN A 550 M² CLEANROOM

In highly sensitive industries such as semiconductor manufacturing, aerospace and satellite technology, contamination at the micro- and sub-micrometre level can compromise the performance of critical components. To address this challenge, Toolcraft AG offers a comprehensive portfolio of precision cleaning processes designed to remove microscopic particles, films and residues from sensitive surfaces gently, thoroughly and without leaving traces. The objective is to create reproducible cleanliness conditions for downstream manufacturing processes. To achieve this, Toolcraft combines wet-chemical and physical cleaning methods tailored precisely to the materials, geometries and cleanliness requirements of each application. Cleaning operations are carried out in a 550 m² ISO Class 6 cleanroom. The installed equipment is designed to accommodate components measuring up to 1,500 × 1,700 × 1,500 mm and weighing up to 1,200 kg, enabling even large and heavy parts to be cleaned under controlled cleanroom conditions. The service portfolio includes vacuum dry cleaning with subsequent residual gas analysis (RGA), ultrasonic bath cleaning, as well as cooling-channel and high-pressure cleaning processes. According to Toolcraft AG, all cleaning and inspection procedures are validated, traceable and compliant with ASTM E595 requirements.

Toolcraft at Formnext 2026:
Hall 12.0, Booth C41

EASY-TO-EDIT 3D MESHES

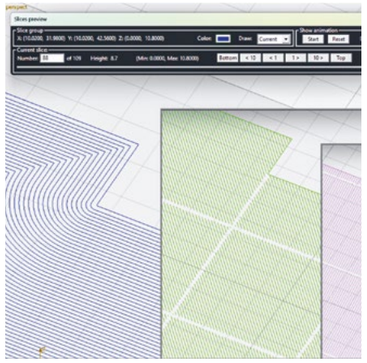
Chinese software and artificial intelligence company Tripo AI has unveiled a preview of Tripo P2.0, its latest foundation model for generating high-quality, production-ready 3D content. According to the company, the new model enables creators to integrate AI-generated 3D objects more seamlessly into professional production workflows. A major advancement over Tripo P1.0, Tripo P2.0 introduces quad topology. The new model allows users to generate 3D meshes that are easy to edit, rig, animate and incorporate into established production pipelines. »Topology has been the barrier between AI-generated 3D models and actual production: game and film pipelines rely on quad meshes and, until now, AI could only achieve this through slow, unstable retopology,« says Dr Yanpei Cao, Chief Scientist at Tripo AI. According to the company, Tripo P2.0 produces clean quad topology with smooth edges, reducing the need for manual post-processing. Developed for games and interactive experiences, the model supports 3D artists, technical artists and game developers in creating production-ready assets. It is particularly suited to producing game characters and objects with hard surfaces, such as vehicles, props and buildings.

VAST/Tripo AI at Formnext 2026:
Hall 12.1, Booth B01

STRIPE AND CHECKERBOARD PATTERNS FOR PBF

Finnish software company DeskArtes is set to release version 16.1 of 3Data Expert. The new release includes a range of advanced capabilities, including an improved 3D nesting function and a completely new Build Engine for metal LPBF systems. With 3Data Expert 16.1, users can reliably prepare 3D models for metal, SLA and DLP systems. The new build engine includes multiple hatching strategies and vertical zones with variable slice thicknesses. Hatching patterns such as stripe, checkerboard and offset are designed to support the production of consistent, high-quality end-use parts. For example, stripe and checkerboard patterns use short laser vectors to prevent excessive heat accumulation, which can contribute to part distortion. Overall, Build Engine is intended to optimise part density, minimise thermal stress and balance productivity in metal manufacturing processes. A simple interface provides Analyse and Build commands. The Analyse command checks and divides the slicing area into various Z spans, assigning slice thickness according to the surface angle of the 3D model and applying appropriate laser speed, power and hatching distance settings for each Z span. Build Engine uses straightforward list controls for each parameter, supported by clear text and image-based guidance throughout the workflow.

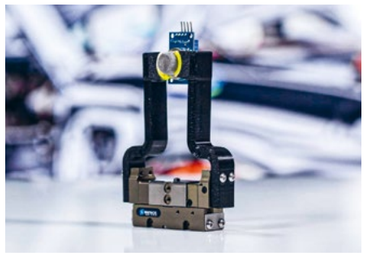
DeskArtes at Formnext 2026:
Hall 12.0, Booth F101



DESIGNING PRODUCTION TOOLS WITHOUT CAD EXPERTISE

Following an open beta programme and feedback from hundreds of industrial users and partners, Berlin-based AM software specialist Trinckle has officially launched Additive App Suite – a selection of dedicated applications designed to simplify the adoption of 3D Printing in manufacturing environments. The apps enable users to create production-ready tools and manufacturing aids without requiring CAD expertise. Each application automates a proven design workflow, allowing users to move from a manufacturing requirement to a printable design within minutes. According to Trinckle, users can discover proven applications instead of starting from scratch, independently convert production needs into designs, and employ guided workflows to scale 3D Printing across additional use cases throughout the organisation. The Additive App Suite is available directly from Trinckle as well as through Stratasys and its partner network. It is also integrated with Stratasys' GrabCAD Print software.

Trinckle at Formnext 2026:
Hall 12.1, Booth C101

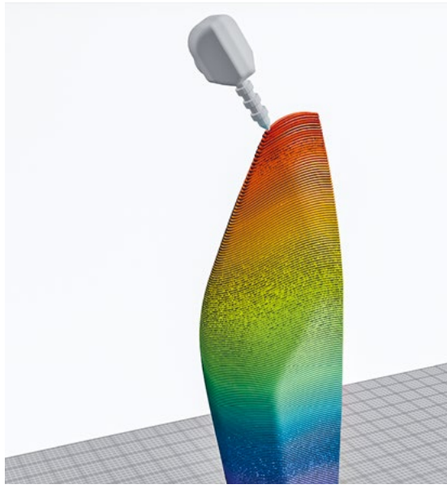


Images: DeskArtes, Trinckle, Layer Performance

GREATER AUTOMATION IN MULTI-AXIS SLICING

Layer Performance GmbH will unveil a comprehensively revised version of its Layer Performance Slicer, promising expanded capabilities for non-planar and multi-axis Additive Manufacturing. The updated software introduces automated slicing strategies, simplified operation and real-time visualisation to rapidly generate complex three-dimensional toolpaths without manual planning. The slicer automatically generates 3D-optimised machine code for a wide range of hardware configurations, including industrial robots, five-axis systems, Cartesian machines, delta kinematics and conveyor systems. Additional hardware, such as rotary-tilt tables, can also be integrated into the machine kinematics and controlled in tandem with the robot. The software also offers dedicated processing modes for pellets, filaments, pastes and Wire Arc Additive Manufacturing (WAAM). A key advancement in this release is the increased automation of the slicing process. Predefined manufacturing strategies automatically configure key process parameters, while the software generates collision-free toolpaths based on part geometry and specific load cases. Real-time visualisations allow operators to review and verify path adjustments instantly.

Layer Performance at Formnext 2026:
Hall 12.1, Booth F111



MEASURING THE CO_2 FOOTPRINT OF SPOOLS

As part of its ongoing commitment to sustainability, Alpaplastic now measures the environmental impact of its spools through Life Cycle Assessment (LCA) using a dedicated carbon accounting platform. LCA examines a product's environmental impact across its entire life cycle rather than focusing on a single indicator. Carbon dioxide (CO_2) emissions are the first metric the company has begun tracking. As an example, Alpaplastic has calculated the carbon footprint of one of its spools, from raw material sourcing through to manufacturing – a key first step towards applying this analysis across the majority of its product portfolio. As industrial buyers increasingly request verifiable environmental data for the components they purchase, Alpaplastic aims to have this information readily available before it becomes a formal requirement.

Alpaplastic at Formnext 2026:
Hall 12.1, Booth F71

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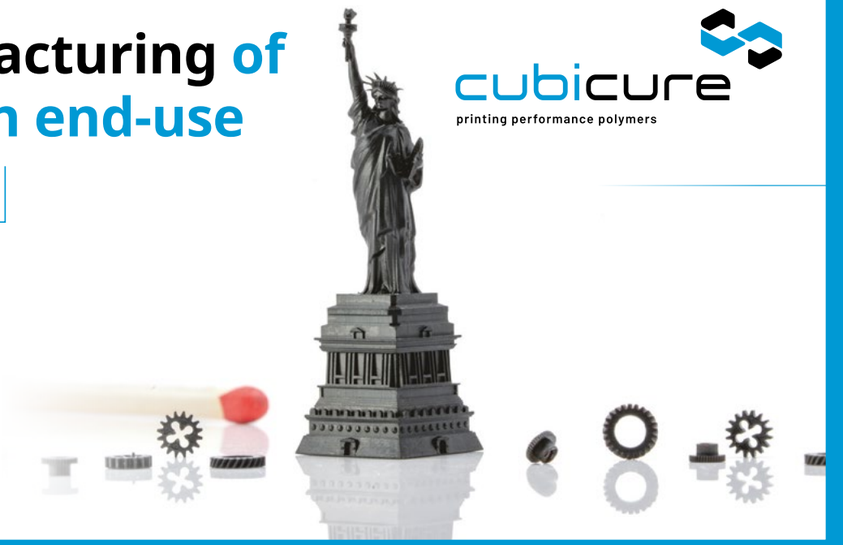


NEW MATERIALS FOR HIGH Z-AXIS TENSILE STRENGTH

LA-based Siraya Tech, founded in 2019, is expanding its materials portfolio with new engineering-grade FDM filaments, industrial pellets and casting resins to address key challenges in 3D Printing. Among the new materials is ASA-CF Core, which features a concentrated chopped carbon fibre core encased within an outer shell of highly adhesive modified ASA. With an overall carbon fibre content of 20%, the material is designed to deliver enhanced stiffness without compromising layer adhesion. Because the fibres are fully contained within the core, they do not interfere with layer-to-layer bonding. Siraya Tech reports that Z-axis tensile strength approaches that of an unfilled polymer. The fibre-free outer shell also reduces nozzle wear and helps extend service life. The company will also present Support PET Ivory, a breakaway support material for multi-material and IDEX printers working with mid-temperature engineering polymers including PET-CF/GF, ABS, ASA and TPU. For higher-temperature materials such as PPA-CF/GF, PPS and PA6, Support PPA Ivory offers the same clean-removal characteristics. Designed to remain stable at the annealing temperatures required for these demanding materials, it withstands heat treatment, prevents warping and sagging in unsupported areas, and breaks away cleanly after cooling. Completing the range is Cast Ultra White, a casting resin developed for jewellery and industrial investment casting. Its wax-rich formulation enables clean burnout with very low ash content, while its shift from translucent during printing to bright white after washing and curing provides excellent visual contrast during processing.

Siraya Tech at Formnext 2026:
Hall 12.1, Booth A62

MANUFACTURING CONCEPTS WITH FIBRE-REINFORCED COMPOSITES

Making its Formnext debut, Mitsui Chemicals Europe will present new PP-CF filament and pellet solutions from the Tafnex product family. In addition to producing components using FFF and FGF processes, the materials can be combined with Tafnex semi-finished products reinforced with continuous fibre. According to the company, this enables hybrid manufacturing concepts that combine the design freedom of 3D Printing with the performance benefits of continuously fibre-reinforced composites. Potential applications include mobility, robotics, defence and a broad range of industrial applications.

Mitsui Chemicals Europe
at Formnext 2026: Hall 12.1, Booth G99

NEW COMPOSITE MATERIALS FOR TOOLING AND MORE

At Formnext, Moi Composites will present a range of new thermoset composite materials developed for demanding industrial applications. Central to the range is A1134, a material specifically engineered for Moi Composites' SFM technology. Based on a vinyl ester matrix reinforced with up to 45% short glass fibres, A1134 is designed for applications that require high stiffness, elevated heat deflection temperature (HDT), dimensional stability and resistance to acids and oils. The material is particularly well suited to moulds and tooling applications where dimensional accuracy, machinability and surface finish are critical. The company has also developed a new High-Tg material for applications that require enhanced thermomechanical stability at elevated temperatures. Its increased glass transition temperature (Tg) extends the operating range in which printed component retain their dimensional and mechanical properties under thermal loads. In addition, Moi Composites will present new low-density, tough and flame-retardant materials. The developments are part of Moi Composites' innovation program, which is supported by the European Innovation Council (EIC) Accelerator.

Moi Composites at Formnext 2026:
Hall 12.1, Booth D19

Images: Siraya Tech, Mitsui Chemicals Europe, Moi Composites

LOWER FRESH POWDER CONTENT REDUCES PRODUCTION COSTS

German plastic powder producer Lean Plastics Technologies GmbH (LPT) promises high technical performance, improved material efficiency and reduced process costs with its new material, LeanSint PA12 Eco, a white PA12 powder for selective laser sintering (SLS). The material has been tested on various SLS systems and can be processed using standard build parameters for EOS PA2200. According to LPT, its mechanical properties are comparable to those of established PA12 materials in key areas, and it is fully compatible with standard post-processing methods such as dyeing and vapor smoothing. To drive cost efficiency in the SLS process, LeanSint PA12 Eco significantly reduces production costs by using a lower proportion of fresh powder. A sample calculation by LPT showed potential cost savings of more than 60%. At the same time, LeanSint PA12 Eco helps reduce, as used PA12 powder can be reprocessed by LPT and reintegrated into the material cycle.

Lean Plastics Technologies
at Formnext 2026: Hall 12.1, Booth A127

NEW CERAMIC FORMULATIONS FOR HYBRID MANUFACTURING

In collaboration with Lucideon, Hydra Manufacturing has created two new material formulations for its Champ hybrid manufacturing system: silicon carbide and high-purity alumina. Champ combines additive deposition with integrated subtractive machining to produce technical ceramic and hardmetal components with fine features and tight tolerances. According to Hydra Manufacturing, a University of Leeds spin-out, developing the material and process together ensures that the new formulations can be printed, machined and densified with predictable, repeatable results from the outset. Silicon carbide extends Champ into high-temperature, wear-resistant and thermal-shock applications across aerospace, energy and semiconductor manufacturing, while high-purity alumina addresses demand for electrically insulating and biocompatible components in medical and electronics markets. The new materials are currently undergoing qualification and will be available in early 2027. Hydra Manufacturing and Lucideon are also exploring additional material formulations to meet growing demand across sectors such as aerospace, space, defence and energy.

Hydra Manufacturing at Formnext 2026:
Hall 12.0, Booth F139 & Hall 11.0, Booth D62E

LONG-TERM FILAMENT DEHUMIDIFICATION

Chinese company Sunlu presents its new, co-branded Sunlu-Inslogic FilaDC i10 filament dehumidification cabinet. The new hardware solution addresses two key challenges in FDM 3D Printing: reliable long-term filament storage and continuous active moisture control. Featuring an innovative molecular sieve circulating dehumidification system, the FilaDC i10 provides a reliable, energy-efficient alternative to conventional hot-air drying cabinets. Rather than relying on prolonged high-temperature drying, the cabinet continuously circulates air through an integrated desiccant system that captures and retains moisture. When the molecular sieves become saturated, they are automatically regenerated through controlled heating, which removes the trapped moisture and restores full dehumidification performance without user intervention. Real-time humidity monitoring enables the system to switch automatically between moisture absorption and regeneration modes. The FilaDC i10 accommodates up to ten 1 kg filament spools within a compact, stackable design. An integrated PTC heating module incorporates dual-layer hardware and software protection features, while maintaining operating noise levels of 35 dB or lower and a product surface temperature of no more than 30 °C for safe and quiet operation. Founded in 2013 in Zhuhai, Sunlu specialises in 3D Printing filaments, resins and accessories. The company operates more than 270 production lines, has sold over 25 million products and holds more than 530 intellectual property rights.

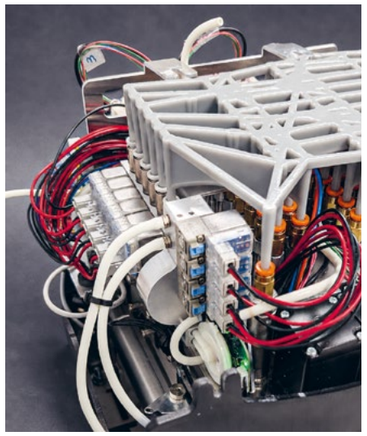
Image: Sunlu

Sunlu at Formnext 2026:
Hall 12.0, Booth C11

SINGLE FLUID MANIFOLD REPLACES MORE THAN 30 TUBES

Complex pneumatic systems in life science equipment frequently require extensive manual assembly. A recent collaboration between Swiss start-up Nureo and UK-based Rapid Fluidics demonstrates how automated design and Additive Manufacturing can simplify these systems. Working for a mutual client in the life sciences sector that develops automated sample preparation systems, the two companies redesigned a pneumatic subsystem that originally comprised more than 30 individual tubes. The new solution replaces these tubes with a single integrated fluid manifold. Featuring a complex organic geometry, the manifold combines multiple functions within a single compact component. For the system redesign, Nureo employed its automated 3D design software, which allows engineers to define the required interfaces and design constraints before automatically generating production-ready geometry within minutes. Rapid Fluidics manufactured the manifold using Additive Manufacturing before integrating and validating the component within the existing system.

Nureo at Formnext 2026:
Hall 11.0, Booth D62H



SECURING THE AVAILABILITY OF AUTOMOTIVE SPARE PARTS

To ensure the continued availability of spare parts even as demand declines, Bosch has produced the housing of a throttle valve device (DV-E) from the aluminium alloy AlSi10Mg using the LPBF process at its Additive Solution Center (ASC) in Nuremberg. According to Bosch, producing the part with a conventional casting tool would have required a lead time of four to six months. Additive Manufacturing enabled the DV-E housing to be provided significantly faster. As an additional benefit, Bosch also cites greater material homogeneity compared with the conventionally manufactured cast component.

Bosch at Formnext 2026:
Hall 12.1, Booth C41

WASH-OUT TOOLING EXPANDS INTO INJECTION MOULDING

Having successfully demonstrated the use of its 3D-printed salt cores for manufacturing thermoset CFRP parts, Swiss start-up Sallea and industry partners are now expanding the technology to injection moulding applications. Sallea recently developed a proprietary coating solution for binder-jetted salt cores. This new coating completely seals the cores while retaining their water solubility, creating ready-to-use washout tooling for industrial applications. This step represents a move from product development with industry partners toward market entry. The company's expansion into injection moulding initially focuses on liquid silicone rubber (LSR) and other polymer systems, with thermoplastic CFRP as well as aluminium and magnesium alloy applications expected to follow. One example of the technology's potential is the production of lattice cores for sandwich structures. These lattice geometries can be further enhanced through locally tailored geometries, directional optimisation and continuous gradients.

Sallea at Formnext 2026:
Hall 11.0, Booth D62G

Images: Nureo, Bosch, Sallea

FROM MODULAR HOMES TO A YACHT'S HARDTOP

From modular housing to large-scale polymer components, Turkish engineering company Avenco will demonstrate how robotic Additive Manufacturing can be applied across a wide range of industries. A recent project in the Weißenhorn region of southern Germany showcased the company's capabilities, with the exterior walls of a modular home produced through a single continuous 3D Printing process using a mobile seven-axis robotic system developed in collaboration with Kuka. The building is the Pluto model from Rupp Gebäudedruck's Ready4Space series, a 23 m² residential module featuring a gable roof and a printed façade structure. It is intended to become part of a modular housing community in the region. Avenco mounts a robotic arm on a mobile linear axis, with the rail serving as the system's seventh axis. The rail provides a travel distance of 10 metres and, combined with the robotic arm's reach of 4.9 metres, creates an effective printing area of approximately 80 m² for single-storey structures without repositioning the base unit. With a footprint of just 23 m², the Pluto module easily fitted within this operating envelope. The Pluto module was printed using standard-compliant concrete supplied by Quick-Mix. The rail-guided platform can also be adapted for other materials by replacing the concrete print head with Avenco's large-format thermoplastic extruder. The company has used this method to produce two large-format polymer components: the complete yacht hardtop, including both the roof and load-bearing structure manufactured from carbon fibre-reinforced polycarbonate, and the hull of an autonomous maritime drone.

Avenco at Formnext 2026:
Hall 12.1, Booth C69

CUSTOMISED SHOULDER PADS USING LATTICE STRUCTURES

Camera operators carry more than the responsibility of capturing breathtaking cinematic images. They also bear the weight of equipment that can total 8 to 10 kg, including the camera, lens, battery and monitor. This load is typically concentrated on an area little larger than a postcard, with only a thin layer of rigid foam padding separating the equipment from the operator's shoulder. Researchers at the Chair of Environmentally Sound Production Technology at the University of Bayreuth, together with the Fraunhofer Institute for Manufacturing Engineering and Automation IPA, have developed an alternative: additively manufactured lattice structure made from flexible thermoplastic polyurethane (TPU). The structures are produced using powder bed-based High Speed Sintering. According to the researchers, the individually designed and resource-efficiently manufactured shoulder pads offer improved carrying comfort. The highly permeable lattice design also reduces heat build-up and moisture accumulation. The University of Bayreuth reports that these advantages can be transferred to a wide range of other applications involving customised, print-optimised cushioning structures, including prosthetics and orthotics, protective equipment, seating systems and carrying systems.

University of Bayreuth at Formnext 2026:
Hall 12.1, Booth C71

GENERATIVE DESIGN OPENS NEW POSSIBILITIES FOR JEWELLERY

Through its collaboration with Spherene, Neoshapes SA is demonstrating how generative modelling algorithms combined with Additive Manufacturing can unlock new opportunities in jewellery production. The approach uses sophisticated internal and external structures to reduce weight while maintaining exceptional structural integrity. Binder Jetting technology enables the production of intricate channels, hidden cavities and complex lattice structures generated through advanced software algorithms. After printing, components undergo a sintering process and can also be infiltrated where required. According to Neoshapes, combining the precision of industrial metal 3D Printing with the creative freedom of algorithmic design makes it possible to create distinctive jewellery pieces that combine visual impact with remarkable structural lightness

Neoshapes at Formnext 2026:
Hall 11.0, Booth A30

Images: Avenco, Neoshapes

COLLABORATION DRIVES ROLLER COASTER CAR PROJECT

The Berlin-Brandenburg metropolitan region has been exhibiting at Formnext since 2018. A special highlight of this year's joint booth, which spans approximately 400 m², is a full-scale 3D-printed replica of a roller coaster car. The original was created by Intamin, a company specialising in the development and production of amusement and transportation systems. The roller coaster car was created as part of a collaborative project involving several partners. Tobias Otten from Intamin was responsible for the development and design of the roller coaster layout while Florian Otten, who has been designing and producing 3D-printed roller coaster models since 2017, prepared the design data and developed print-optimised components for the project. Particular attention was paid to a modular design that allows the exhibit to be assembled, disassembled and transported with ease.

Eric Dechandt of Überdruck3D Dechandt & Habermann GmbH, a Berlin-based specialist in professional 3D Printing services and large-format printed objects for trade fairs, exhibitions and events, oversaw production of the roller coaster car. The team at 3dk.berlin Trading GmbH supplied specially tailored printing materials as the project's materials partner. The continuous development and quality assurance of the materials take place in the company's own 3D Printing laboratory. The Berlin-Brandenburg joint booth is organised by Berlin Partner for Business and Technology on behalf of the State of Berlin and is funded by the European Regional Development Fund (ERDF) and the State of Berlin. The project is supported by AMBER (Additive Manufacturing in Berlin-Brandenburg).

Berlin-Brandenburg region
at Formnext 2026: Hall 12.1, Booth A101

HOW AM IS SHAPING THE FUTURE OF SUSTAINABLE MAGNETIC SOLUTIONS

Aimen Technology Centre is exploring the potential of Additive Manufacturing for magnet production through two ambitious European projects: MagNeo and REMHub. The focus of MagNeo is on developing permanent magnets that are free of rare earth elements (REE), while REMHub aims to extend the service life of existing REE-containing magnets. Both projects recognise AM as a key technology for Europe's future magnet ecosystem. Additive Manufacturing enables tailored material compositions and bespoke microstructures, including customised grain sizes and textures that directly influence magnetic performance. Within MagNeo, AimenI-Men is pioneering high-throughput screening strategies using DED technology. This approach enables the rapid evaluation of multiple alloy compositions and processing conditions in a fraction of the time required by conventional methods, significantly accelerating the discovery of optimised magnetic materials and microstructures. The REMHub project takes a holistic approach to the rare earth value chain, covering sourcing, processing, recycling, digital traceability and remanufacturing. Rather than recycling damaged components through energy-intensive recovery processes, DED offers the opportunity to restore their functionality. At the same time, AIMEN is investigating how the unique thermal conditions and design flexibility offered by DED can be exploited to manufacture next-generation magnets with improved performance. Another exciting development is the integration of an electromagnet directly into the printhead, enabling the in-situ alignment of magnetic particles during printing. This approach allows for the production of anisotropic bonded magnets, in which magnetic particles are aligned in a preferred direction during the manufacturing process, resulting in enhanced magnetic performance.

Aimen at Formnext 2026:
Hall 11.0, Booth A74

Images: Tim Morr, Aimen

FROM EXHAUST HEADER TO OPTIMISED STEEL WHEEL

At this year's Formnext, Meltio will present a range of real-world applications for its wire-laser AM technology. It will also be offering live demonstrations of its 3D Printing technology. One highlight comes from automotive company DMZ, which used Meltio's technology to manufacture a highly complex exhaust header geometry designed to optimise exhaust gas flow within a combustion engine. The redesign reduced assembly time from eight hours to just one. Printed in stainless steel, the component was installed in an Abarth 595 and successfully completed around 10,000 km of operation over the course of a year, including 600 km of track driving. MZ also applied Meltio's AM technology to reinforce the metal structure of a steel vehicle wheels. By adding material in strategically selected areas, the company increased wheel stiffness while retaining the weight advantages of steel. The optimised wheel achieved the same natural frequency as an alloy wheel despite its lighter construction. In another application, Imet3D used Additive Manufacturing to replace an obsolete component following the failure of a critical centrifugal pump. The redesigned part was produced from 316L stainless steel, delivering significantly improved corrosion resistance compared with the original cast-iron component.

Meltio at Formnext 2026:
Hall 12.0, Booth C119

ROTATING DETONATION ROCKET ENGINE MADE OF COPPER

Swiss company Feramic AG is demonstrating how university research can be translated into industrial solutions in metallic Additive Manufacturing for the aerospace sector. At Formnext, the company will highlight two space-related projects. The first is the Pegasus rocket programme, a collaboration between ETH Zurich and the Swiss student space initiative ARIS. This project focuses on the development of a liquid-fuelled Rotating Detonation Rocket Engine (RDRE), which Feramic will present at Formnext for the first time. To achieve this, the team needed an engine with integrated, delicate cooling channels. Within four weeks, Feramic developed the appropriate printing parameters for the Hovadur CNCS copper alloy. The result was a fully functional test bench engine that demonstrated the feasibility of additively manufactured cooling geometries under extreme operating conditions. The expertise gained through prototype development is now being applied to industrial projects, including a collaboration with aerospace start-up Stellar Alpina. Here, the focus shifts from parameter development to ensuring process stability, qualification and surface quality for flight-ready components.

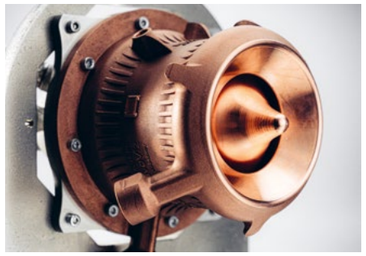


Image: Feramic, Image page 30: Antonius Köster / Shining 3D

Feramic at Formnext 2026
Hall 12.1, Booth C61

ENHANCED DATA FOR PARTICLE SIZE AND SHAPE ANALYSIS

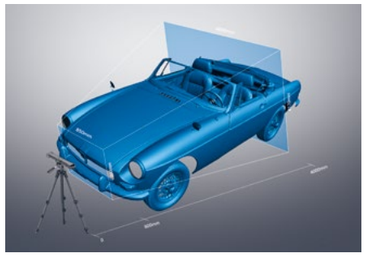
With Qicpic/s, Sympatec presents the latest generation of its modular system for dynamic image analysis. The extensively upgraded sensor platform combines high-resolution camera technology with higher frame rates, a larger field of view and optimised optical imaging. According to Sympatec, these enhancements expand the possibilities for the rapid and detailed characterisation of particle size and shape in powders, granules, fibres and other materials. At the heart of the new generation is a camera system offering a resolution of up to 20 megapixels. The increased resolution enables more detailed capture of particle contours, providing a stronger data foundation for particle size and shape analysis. At the same time, the larger camera sensor provides an expanded field of view, allowing more particles to be captured within a single image. In addition to the higher resolution, image acquisition speed has also been significantly increased. At the full 20-megapixel sensor resolution, Qicpic/s achieves frame rates of up to 80 frames per second. Depending on the acquisition mode, frame rates of up to 950 frames per second are possible at reduced resolution. Beyond particle sizing, dynamic image analysis provides information on numerous particle shape characteristics. This enables users to examine differences in particle morphology and to compare particle populations in greater detail.

Sympatec at Formnext 2026:
Hall 12.0, Booth B41

SOFTWARE, SCANNERS AND TRAINING

Antonius Köster GmbH & Co. KG will showcase new solutions for image data processing, haptic 3D modelling and 3D scanning while also presenting its expanded training programme for selecting and implementing digital workflows. MySegmenter Research v26 complements the portfolio for non-clinical research and education. This independently versioned and clearly labelled Research Edition processes CT and MRI data for applications such as anatomical training, demonstration models, historical imaging datasets unrelated to current treatment, research projects and veterinary medicine. The resulting geometries can be further refined through haptic modelling in Hexagon's Geomagic Freeform and prepared for AM. Version 2026.2 of Freeform introduces a range of new features, including mesh engraving, quad-mesh output, 3MF import and GLB export, alongside enhancements to the Python interface and the Dynabot automation tool. In addition to Touch and Touch X devices from 3D Systems, Antonius Köster will be showcasing Haply's haptic input devices, MinVerse and Inverse3, for the first time at Formnext. Another addition to the scanner portfolio is the EinScan Trak from Shining 3D. The wireless system captures objects without reference markers and can operate in both tracking and handheld scanning modes. It is particularly well suited to larger components, reverse engineering, restoration and complex geometries. Since 2026, the company has also offered open group training courses at its headquarters in Meschede. These courses cover digital manufacturing in orthopaedic technology as well as 3D scanning and reverse engineering, spanning the entire workflow from the physical component to the production-ready CAD model.

Antonius Köster at Formnext 2026:
Hall 12.0, Booth F09



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CONTACT:

» Hotline: +49 711 61946-810
» formnext@mesago.com
» formnext.com/fonmag

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info@mesago.com
mesago.com

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PROJECT COORDINATION
Nina Schwarzer
Phone +49 711 61946-566
Nina.Schwarzer@mesago.com

EDITED BY
ZIKOMM – Thomas Masuch
thomas.masuch@zikomm.de

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info@kurtz.de
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