# Formnext 2024 highlights sustainability and innovation in 3D printing



The Formnext 2024 exhibition, held in Frankfurt, Germany, showcased the evolution and future of 3D printing amidst ongoing market changes marked by uncertainty and significant mergers and acquisitions. As the foremost event in the 3D printing calendar, it featured an array of innovations focused on sustainability, technological advancements, and an exploration of new materials, drawing in industry leaders, innovators, and enthusiasts alike.

A central theme of the event was sustainability in 3D printing. Traditionally viewed as a greener alternative to subtractive manufacturing, many participants acknowledged that further promotion of 3D printing as an eco-friendly technology is imperative. According to Stephen Holmes reporting for DEVELOP3D, nearly every exhibitor highlighted sustainability enhancements, from innovative recycling methods to the introduction of new eco-friendly materials.

EOS unveiled its HighReuse materials line, comprising ALM PA 950 HD and PA 2220, which reportedly achieve recycling rates of 80% and 70% respectively. Stratasys showcased its SAF ReLife software upgrade, enabling its H350 machines to utilise waste PA12 powder generated from various 3D printing processes, thereby reducing waste significantly. Other companies, like Evonik, introduced flame-retardant PA12FR, which can now be reused at a rate of 50% in HP Multi-Jet Fusion printers.

Some exhibitors presented creative uses of industrial waste and offcuts in their products. Notably, ColorFabb highlighted its recycled filaments from denim and used polystyrene packaging, showcasing a proactive approach to sustainability that resonates with environmental, social, and governance (ESG) values.

In a notable development, advancements in laser technologies were also presented at the event, with companies like Meltio unveiling blue lasers that consume 30% less power while improving the efficiency of production equipment.

The exhibition was also marked by a sense of resilience and innovation following a wave of consolidations in the industry. Renowned brands, undeterred by recent corporate changes, showcased cutting-edge technology aimed at streamlining production processes. Stratasys had a substantial presence, presenting enhancements to its various machines and exhibiting over 30 new materials for the Origin P3 resin platform. 3D Systems generated considerable interest with its high-speed PSLA 270 printer, while Formlabs attracted crowds with its high-quality offerings, reflecting the industry's emphasis on premium build quality and design.

As the market for desktop Fused Deposition Modelling (FDM) machines matures, some observers noted a potential plateau in new developments. Major brands, including UltiMaker, seem to pivot towards industrial applications instead of competing in the increasingly saturated desktop market, where no new launches emerged from prominent western manufacturers.

Formnext 2024 demonstrated a noticeable shift towards software solutions within the additive manufacturing sector. Various software brands were present, promoting tools for design automation and process control. Companies such as Synera and Cognitive Design Systems showcased their software innovations, while traditional CAD providers like Catia, Siemens, and Autodesk incorporated additive workflows into their offerings, thereby enhancing their competitive edge over specialist software firms.

Despite an impressive array of innovations, the event was not without its challenges. China-based software company VoxelDance faced legal scrutiny from German customs officials regarding purported intellectual property infringements, bringing its demonstrations to an unexpected halt.

On a promising note, exhibitors like Stratasys and Nano Dimension pushed the boundaries of 3D printing capabilities. Stratasys collaborated with Baralan to utilise its PolyJet technology for manufacturing complex forms, traditionally associated with glasswork. Meanwhile, Nano Dimension garnered significant attention for its advanced micro 3D printing and electronics capabilities, presenting innovative products such as fully functional 3D-printed motors and drone chassis.

As the Formnext 2024 exhibition came to a close, it was evident that the 3D printing industry is at a critical juncture, evolving through technological innovation and a clearer emphasis on sustainability, paving the way for more responsible and efficient manufacturing practices in the future.

Source: [Noah Wire Services](https://www.noahwire.com)

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