



New PRO Series by Roboze: functional prototyping and additive manufacturing with super polymers for industry

At the AM Forum in Berlin, Roboze presents the PRO series: faster, more performing and with new super polymers, created to shorten the prototyping and supply chain phases of small components and high-performance tools

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Results-oriented production. This is the claim that accompanies the [new Roboze Professional series](#) during the AM Forum in Berlin.

Roboze is a provider of additive manufacturing industrial solutions aimed at optimizing the production of parts to replace metals with super polymers and composite materials. Its collaborative approach with end customers has always allowed the company to quickly engineer new solutions and help them face the current challenges of the market, production and supply chain.

Today it does so by presenting the new PRO series, professional solutions that use its proprietary software, Prometheus, and new materials to increase companies' digital transition opportunities. The machines offer quick and cost-effective access to the production of parts with well-defined technical and industrial requirements, as they can support the validation of finished AM parts with super polymers and technical materials (PEEK, TPU, ABS ...), and, with the same solution, accelerate the research and development of new applications and the digitization of the warehouse of tools and spare parts. Productivity, quality, versatility and rapid ROI acceleration represent the common factors of the new series.

Roboze PRO series: what's new?

Prometheus slicing software and strategic print profiles: twice as fast, better surface / better details.

The PRO series consists of two solutions: One PRO and Plus PRO. Compared to the previous professional series, these two systems see an integration with Roboze Prometheus slicing software, developed for end-to-end workflow management, from the early design stages to the final production of the printed part. The software has strategic printing profiles that allow prints up to 2 times faster, compared to the industry average, with the UltraFAST profile, to obtain tools to support production lines with the material Carbon PA, PA loaded with carbon fiber, and to shorten the concept validation phase with ULTRA-PLA technical material. Print speed is a very important issue for professionals. For this reason, Roboze declares that it will extend this profile to other types of materials available on the PRO series and that this will be done through a simple software update.

This solution, in fact, can be critical in the current context of supply crisis by obtaining prototypes and tools on demand, without the need to have a physical warehouse, quickly, reducing the dependence on time and costs of external suppliers. PRO systems enable these advantages by providing a process consisting of: print settings - material-software-machine - automatically and with few manual operations; precise and repeatable, as well as scalable, technological ecosystem; fast material / print project change and low maintenance. In this way, additive manufacturing becomes high quality with a configuration that increases the uptime of the solution at the same time.

Moreover, the Prometheus' UltraQuality profile is added for the production of components in PEEK, Carbon PEEK and ToolingX CF (among the new materials that Roboze is introducing on the market with the PRO series), which allows to obtain extremely detailed parts with the company's leading materials, among the most adopted in the Electronics, Aerospace, Mobility and Energy industries. The goal is to offer companies the ability to scale functional prototyping and small-volume production, saving time and costs with the possibility of obtaining a more flexible process with the full range of Roboze materials.

New materials to expand application opportunities

On the materials front, the Roboze family of super polymers and composites expands with the addition of Roboze PEKK and ToolingX CF materials.

Roboze PEKK (polyetherketonketone) is an optimized formulation that allows to easily print super-performing parts with flame retardant properties, high thermal, mechanical and chemical resistance. UL 94 V-0 classified, it is the ideal choice for industrial applications that require high performance and ease of process.

Roboze ToolingX CF is a thermoplastic composite material loaded with carbon fiber. It is lightweight and with exceptional thermal stability and is inherently self-extinguishing. It has a high chemical resistance, as it resists organic acids, gasoline, oils, such as engine oil, brake fluids and coolants. These are features that place it among the most adopted materials in the aerospace sector and for tooling.

Roboze PEKK is a tough material. It is chosen when there is the need to obtain more isotropic parts, compared to the loaded materials, and when the working environment involves mechanical stress at high temperatures. ToolingX CF, on the other hand, is a rigid material, also given the addition of carbon fiber, and is the preferred material when chemical and mechanical resistance are required at a lower cost of raw material than super polymers.

These materials are already popular in the AM market. The real news is that, thanks to the PRO series, it is now possible to increase the application opportunities with a single industrial solution. Therefore, it is not just functional prototyping, but production of strategic parts for obtaining an optimized, cost-effective, and rapid workflow.

An example is the production of moulds for paper pulp products with Roboze Plus PRO and ToolingX CF material to replace aluminum which, in addition to overcoming the geometric and customization limits of conventional solutions, allow the lightening of the part, useful for operators handling the mould, and a reduction in costs of over 60%.

Furthermore, this solution can also substantially affect the acceleration of test campaigns in sectors such as aviation, among the most demanding in the world, as it requires incredibly high standards and precision from its materials and components. This is the case with the production of custom test bench components in Roboze PEKK, created to ensure compatibility between the test subject and the test bench. Getting it quickly and with functional requirements becomes a real game-changer for the industry.

Industrial, flexible, and cost-effective process

The PRO series includes all the innovative elements brought to the market in recent years by Roboze. The ecosystem created allows an improvement in the design and feasibility of production with a very high attention to issues related to the production chain, including the answer to the need of reducing the operating costs of machines, materials and labor, as well as design time in a single solution.

"With the Roboze PRO series, production becomes stronger, faster and less expensive." declares Alessio Lorusso, Founder & CEO of Roboze. "We have engineered the Professional solution with the sole aim of providing a performance-oriented solution for manufacturing companies, expanding application

opportunities with accessible materials and industrial-grade hardware-software solutions. We believe the quality of the systems, of the printing process and of the finished components can help companies to limit risks, increase the safety of the supply chain and continue to keep their production alive and competitive."

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About Roboze

Roboze is re-shaping the manufacturing industry and revolutionizing the world of 3D printing with the most precise technology, capable of processing super polymers and composite materials on demand for finished functional parts for extreme applications in industries that include aerospace, oil and gas, energy, manufacturing and mobility sectors.

The Roboze high technical ecosystem includes a complete range of advanced 3D printers for high-temperature and high-strength super plastics, developed with the collaboration of the best global players. It guarantees a real optimization of costs and time along the entire supply chain, while bringing additive manufacturing closer to the standards of traditional manufacturing.

Furthermore, Roboze offers the possibility to produce customized finished parts On Demand and Just-in-Time through its manufacturing as a service global network, Roboze 3D Parts, which allows companies to reduce costs and time by shortening the steps of their supply chain and digitizing their inventory.

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