

Nanoscribe Launches Quantum X align, a high-precision 3D Printer Enabling Auto-Aligned Printing on Optical Fibers and Photonic Chips

The Quantum X align features the first-ever microfabrication system within an industry-proven lithographic platform, advancing photonic packaging with nano-precision alignment capabilities.

Nanoscribe, a BICO company, will debut the Quantum X align, a new high-performance 3D printer at the Photonics West Conference and Exhibition in San Francisco. The Quantum X align is the first 3D printer with advanced 3D alignment capabilities that enables the printing of freeform microoptical elements directly onto optical fibers and photonic chips, setting new standards in the design and fabrication of microoptical elements.

The Quantum X align provides robust and reliable alignment solutions for realizing efficient light coupling via Free Space Microoptical Interconnects (FSMI) between chips and optical fibers. The microfabrication system extends the capabilities of the groundbreaking Quantum X platform, allowing for a more straightforward process chain, relaxed assembly tolerances and no necessity of the costly and time-consuming active alignment and a further reduction of devices dimensions.

"With the addition of the new Quantum X align to our industry-proven Quantum X platform, we are enriching Two-Photon Polymerization with powerful alignment technologies that drive the ever-increasing demand in data communications, telecommunications and sensing applications," says Martin Hermatschweiler, CEO and co-founder of Nanoscribe. "Our goal is to address the challenges of efficient coupling in photonic packaging and make high-precision 3D printing the technology of choice in integrated photonics."

The new high-precision 3D printer unlocks unprecedented possibilities for photonic packaging, which is promising for developing more energy-efficient technologies with high data processing capacities. Photonic integrated circuits (PIC) will help to surpass the limited computing power of today's microelectronics at a tremendously lower power consumption, driving applications in artificial intelligence or quantum computing. However, manufacturing of such devices requires new technologies for realizing microoptical interconnects. The new Quantum X align addresses these current challenges with innovative hardware and software solutions. Based on Two-Photon Polymerization (2PP) as the leading high-precision 3D printing technology, the Quantum X align achieves alignment accuracies in all spatial dimensions of down to 100 nanometers.

The Quantum X align is a finalist for the Prism Awards 2022 in the category Manufacturing and Test, proving the innovative approach of this revolutionary printer. The awards ceremony will take place on January 26 in San Francisco as part of the SPIE Photonics West Conference and Exhibition. To learn more about the Quantum X align, please visit www.nanoscribe.com/en/products/quantum-x-align

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This information was submitted for publication, through the agency of the contact persons set out above, on January 25, 2021, at 14:00 (CET).

About Nanoscribe

The medium-sized company develops and produces 3D printers and grayscale lithography systems as well as specially developed printing materials and application-specific solutions for various microfabrication applications. The specialist for additive manufacturing of high-precision structures and objects on the nano-, micro- and mesoscale was founded in 2007 as a spin-off of the Karlsruhe Institute of Technology (KIT) and has been part of the BICO Group since June 2021. More than 3,000 users and operators at top universities and innovative companies worldwide benefit from the groundbreaking technology and application tailored solutions for 3D Microfabrication. Nanoscribe has created its strong market leading position through high quality engineering and agility to continuously develop its products to meet customers' high expectations.

About BICO

Founded in 2016, BICO (formerly CELLINK) is the leading bio convergence company in the world. By combining different technologies, such as robotics, artificial intelligence, computer science, and 3D bioprinting with biology, we enable our customers to improve people's health and lives for the better.

The company has a focus on developing technologies that will advance Health 4.0 Next Generation Core Industry Ecosystems that enable tissue engineering, diagnostics, multiomics, and cell line development. BICO's technologies enable researchers in the life sciences to culture cells in 3D, perform high-throughput drug screening and print human tissues and organs for the medical, pharmaceutical, and cosmetic industries. We create the future of health.

The Group's instruments in the field amounts to 25,000, including all the top 20 pharmaceutical companies, are being used in more than 65 countries, and have been cited in more than 9,500 publications. BICO is listed on Nasdaq Stockholm under BICO. www.bico.com

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