



NEWS RELEASE

A world's first: voxeljet presents groundbreaking cold IOB 3D printing technology at GIFA 2023

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FRIEDBERG, Germany--(BUSINESS WIRE)-- voxeljet AG (NASDAQ: VJET) a global leader in industrial 3D printing solutions, presented a groundbreaking innovation at the renowned GIFA 2023 trade show: the new cold IOB (Inorganic Binding) 3D printing technology. With this unique process, molds and cores for the foundry industry can be produced from sand and an inorganic binder without the need for microwave treatment.

The new cold IOB process technology was presented by voxeljet at GIFA in June 2023 (Photo: Business Wire)

For voxeljet, this year's GIFA was all about inorganics. In addition to the joint project ICP

(Industrialization of Core Printing) with Loramendi for BMW, the Bavarian company also presented a new, patent-pending, cold-curing inorganic process technology (cold IOB). The ICP project involves a fully automated, manufacturing cell in operation at BMW's light metal foundry in Landshut. Within this manufacturing cell, casting cores are printed with inorganic binders and then cured using a microwave. Consequently, it is a warm process technology.

The new cold IOB technology does not require a microwave curing and is thus characterized by lower investment and operating costs. The use of IOB technologies opens up numerous advantages for the foundry industry, e.g. only water vapor is produced during casting instead of harmful gases. This not only reduces emissions but also improves working conditions in foundries.

"The introduction of cold IOB technology is an important step towards further adoption of printed cores and molds with inorganic binders in the foundry industry," says Dr. Ingo Ederer, CEO at voxeljet. "Our goal is to provide

innovative solutions that not only increase efficiency, but also help promote the sustainability of metal casting."

The features of the cold IOB process technology and molds and cores produced with it include high dimensional accuracy, very good detail resolution and edge sharpness, and the ability to 3D print large molds and cores. Unlike warm IOB processes, which require printed cores to be cured and dried using a microwave, voxeljet's cold IOB technology only requires drying after printing, which takes place outside the machine. Customers thus avoid high investment and operating costs for industrial microwaves. The process can basically be used on all voxeljet platforms. It is currently being tested and offered on the VX1000 and VX1000S printers. An expansion of the offering to the VX2000 is planned soon.

The use of inorganic binder in the foundry industry, especially in the automotive sector, is gaining popularity. In view of increasing environmental regulations, demand for inorganic-bonded molds and cores is expected to rise continuously. voxeljet is committed to expanding its leading role in the field of environmentally compatible 3D printing processes and to making a significant contribution to the sales growth of the voxeljet Group through this strategic orientation.

The cold IOB technology is particularly suitable for prototyping and medium series sizes and is now commercially available. Interested customers already can order benchmarks.

About voxeljet

voxeljet is a leading provider of high-speed, large-format 3D printers and on-demand parts services to industrial and commercial customers. The Company's 3D printers employ a powder binding, additive manufacturing technology to produce parts using various material sets, which consist of particulate materials and proprietary chemical binding agents. The Company provides its 3D printers and on-demand parts services to industrial and commercial customers serving the automotive, aerospace, film and entertainment, art and architecture, engineering, and consumer product end markets. For more information, visit our website www.voxeljet.com or follow us on **YouTube**, **LinkedIn**, **Facebook** and **Instagram**.

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