NEWS RELEASE

# GIFA 2023: voxeljet Brings Fully Automated 3D Printing Into Series Production in the Automotive Industry

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- As part of the Industrialization of Core Printing (ICP) cooperation project, voxeljet has developed a process for the automated large-scale production of sand cores.
- voxeljet has implemented a fully automated, integrated production line for the BMW Group plant in Landshut, which uses five VX1300-X 3D printers to print water jacket cores for high-performance engines.
- From June 12 to 16, voxeljet will be exhibiting at GIFA in Düsseldorf (Hall 16, Booth D23).

FRIEDBERG, Germany--(BUSINESS WIRE)-- voxeljet AG (NASDAQ: VJET) is presenting a milestone in additive series production at this year's GIFA show in Düsseldorf. Together with its partner Loramendi, voxeljet has developed and implemented a process and system for the automatic large-scale production of inorganic sand cores for light metal casting for the BMW Group plant in Landshut. The production line features voxeljet's next generation VX1300-X (VJET X) 3D printers. The 3D printers are integrated into a fully automated pre- and post-processing workflow, including industrial microwaves for the curing of 3D printed cores. This solution offers a tailor-made, powerful and innovative solution for the production of BMW's high-performance engines.

ICP production line at the BMW Group plant in Landshut, Germany (Photo: Loramendi)

In addition to the ICP project, voxeljet will be showcasing other industrial 3D printers, 3D printing solutions and innovations such as the award-winning Sharrow propeller at its booth in hall 16 at booth D23.

After years of research and optimization, a joint vision goes live: voxeljet and Loramendi present their flagship project for BMW Group Plant Landshut at this year's GIFA foundry trade fair. As part of our cooperation project ICP (Industrialization of Core Printing), we have developed a fully automated and integrated production line for the inorganic large-scale production of sand cores using 3D printing.

## Nine become one: Advantages of 3D printing

By using 3D printing in the production of water jacket cores, the design of the cylinder head for the BMW B48 engine can be significantly improved. The inorganic process protects the environment and improves working conditions, as only steam is produced during casting. At the same time, the efficiency and consumption of the engine can be optimized due to the complex design of the component. No other technology made it possible to mass-produce such a complex element in a cost-efficient manner. Instead of the previous nine complex individual parts, BMW can now produce the core entirely in one piece using 3D printing. The ICP production line completely automates and optimizes the once manual and tedious process. Five voxeljet VX1300-X 3D printers now produce thousands of cores fully automatically every week using the binder jetting process. These are then unpacked, hardened, cleaned and prepared for casting in unpacking stations, microwaves and cleaning cells specifically developed by Loramendi.

"The fully automated 3D production line is the standard we want to implement: for four years, we have worked hard on this project with BMW. To see the VJET X printers in full operation now is extremely exciting and a milestone not only for us but also for the entire 3D printing and automotive industry," highlights Dr. Ingo Ederer, voxeljet founder and CEO.

## 3D printing for series production

The VX1300-X 3D printer is a 3D printer designed for mass additive manufacturing. A high-performance process unit enables bidirectional recoating and simultaneous printing of the build area. As a result, the VX1300-X achieves extremely short layer times and high output volumes in multi-shift and continuous operation, which makes it ideal for series production. It can be operated either solitary with conventional furanic or automated with inorganic material systems. With a fully automated post-processing cell, the complex sand cores are prepared for metal casting and integrated into the existing casting process. The tool-free construction of the sand cores enables variant changes at unparalleled speed, without any time-consuming tool changes and production downtimes.

## Other highlights at GIFA: Innovative propeller design and other 3D printing innovations

We will be presenting further innovations at GIFA, such as a completely new type of boat propeller. For Sharrow Marine LLC in Detroit, we manufacture PMMA 3D printed models for the award-winning Sharrow MX-1 boat

propeller. This new propeller is more efficient, faster and, above all, significantly quieter than other propellers. 3D-printed PMMA models from voxeljet in combination with investment casting enable a design that pushes conventional manufacturing technologies to their limits and is only possible thanks to additive manufacturing.

Learn more about us, our product portfolio and successfully implemented projects and visit voxeljet at GIFA 2023 in hall 16 at booth D23.
Dr. Ingo Ederer, voxeljet founder and CEO, Rudolf Franz CFO/COO, as well as experts from various business units are available for a personal meeting. If you are interested in a press interview, we will arrange an appointment on site. Please feel free to contact Frederik von Saldern (voxeljet/Marketing & Communication), +49 821 7483 447, **frederik.vonsaldern@voxeljet.de**

## About voxeljet:

voxeljet is a leading provider of large-format high-speed 3D printers and on-demand services for industrial and commercial customers. The company's 3D printers are based on powder-based, additive manufacturing technology to produce highly complex components from various materials, including sands and plastics. The company provides its 3D printers and on-demand services to industrial and commercial customers in the automotive, aerospace, film and entertainment, art and architecture, engineering, and consumer goods sectors. For more information, visit our homepage **www.voxeljet.com**, or follow us on **YouTube**, **LinkedIn**, **Facebook**, **Twitter** and **Instagram**.

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