

Industrial series printing of polymer parts finally made possible

Cubicure presents new large-scale 3D printer Cerion®

Vienna, November 5, 2021. Austrian 3D printing company Cubicure supplements their machine portfolio with the Cerion production plant in a bid to completely cover the digital manufacturing process from prototyping to industrial series production. The large-scale machine provides industrial companies with an essential element needed to fully digitize their production chains. Cerion was developed by Cubicure over the past few years and is already in use with pilot customers.

A new era of additive series production

The industrial serial printing of polymer parts necessitates a radical departure from familiar concepts of lithographic additive manufacturing such as resin baths or material vats. With Cerion, Cubicure instead introduces a new printing technology featuring a mobile printing head and a revolving resin carrier film. The large-scale system's printing concept is scalable in its physical dimensions and entails a completely novel understanding of throughput and production quality in lithographic 3D printing.

Cerion unleashes the vision of purely digital production: A few bulky or thousands of small parts are printed in the same consistently high quality. Polymer parts are printed with an optical accuracy of $50 \times 50 \mu\text{m}^2$ on a platform measuring one meter by 30 centimeters and with unprecedented reproducibility. "Due to the type of processing with a traversing printing head and exceedingly precise exposure control, there is no variance in manufacturing precision distributed over the build area," confirms Dr. Bernhard Busetti, process engineer and product manager for AM systems at Cubicure. In addition, Cerion relies on Cubicure's proven Hot Lithography technology. This means that the new system already has access to a wide process window and a broad range of photopolymers.

Rethinking stereolithography

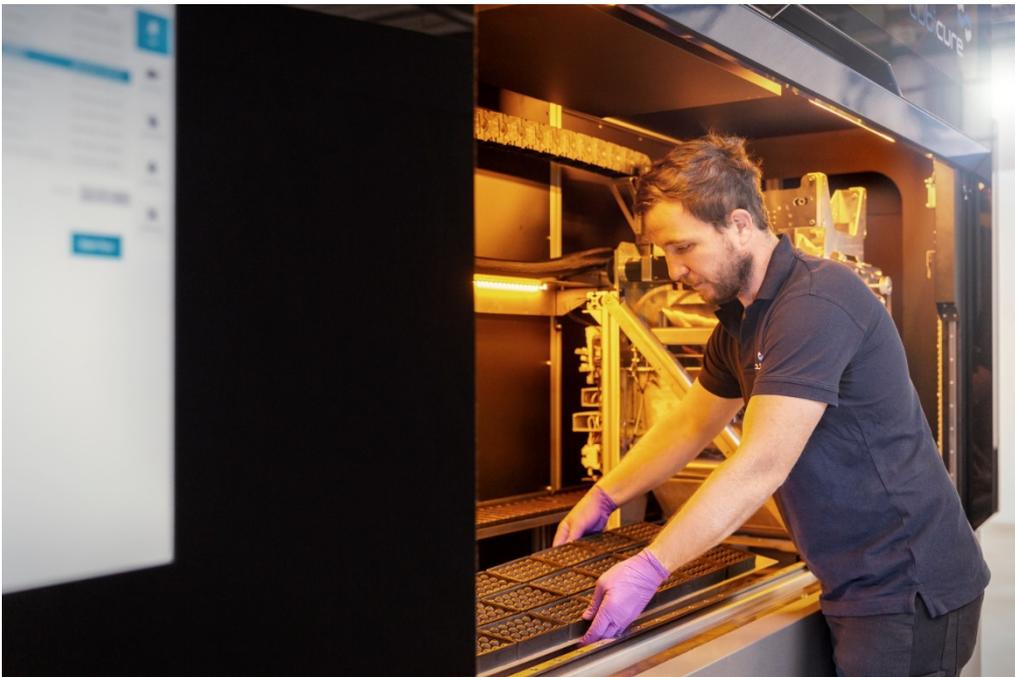
"This is the essential breakthrough in the industrial upscaling of lithographic printing processes" enthuses Managing Director and CTO Dr. Robert Gmeiner. "In this printing process, both the material intake and the detaching of printed polymer layers from the carrier film are scalable. Many factors of the building process such as process forces are now decoupled from part geometry and building platform occupancy. Even the width and length of the printing platform no longer have an influence on process performance. After three decades of stereolithography, finally an industrially scalable process has been found."

Now, nothing stands in the way of mass printing high-performance polymers; the next step leads into an age of toolless manufacturing. To see what the future of light-curing 3D printing holds, one only needs to visit the trade show Formnext in Frankfurt am Main in mid-November. Cubicure will be exhibiting in hall 12.1 at booth F39.

Press release



From now on, Cubicure's 3D printing plant Cerion toollessly manufactures polymer parts at the push of a button and in series production.



Cerion's novel printing concept enables the additive mass production of industrial polymer parts.

Images: Cubicure GmbH

Press release

Cubicure GmbH develops, produces and distributes industrial 3D printing solutions for polymer parts. With roots in academia and the ambition to help shape the digital future of manufacturing, this Vienna-based company has been setting the course for agile production since 2015. Their Hot Lithography process enables the unprecedented additive manufacturing of resilient high-precision components. Learn more at cubicure.com/en.

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