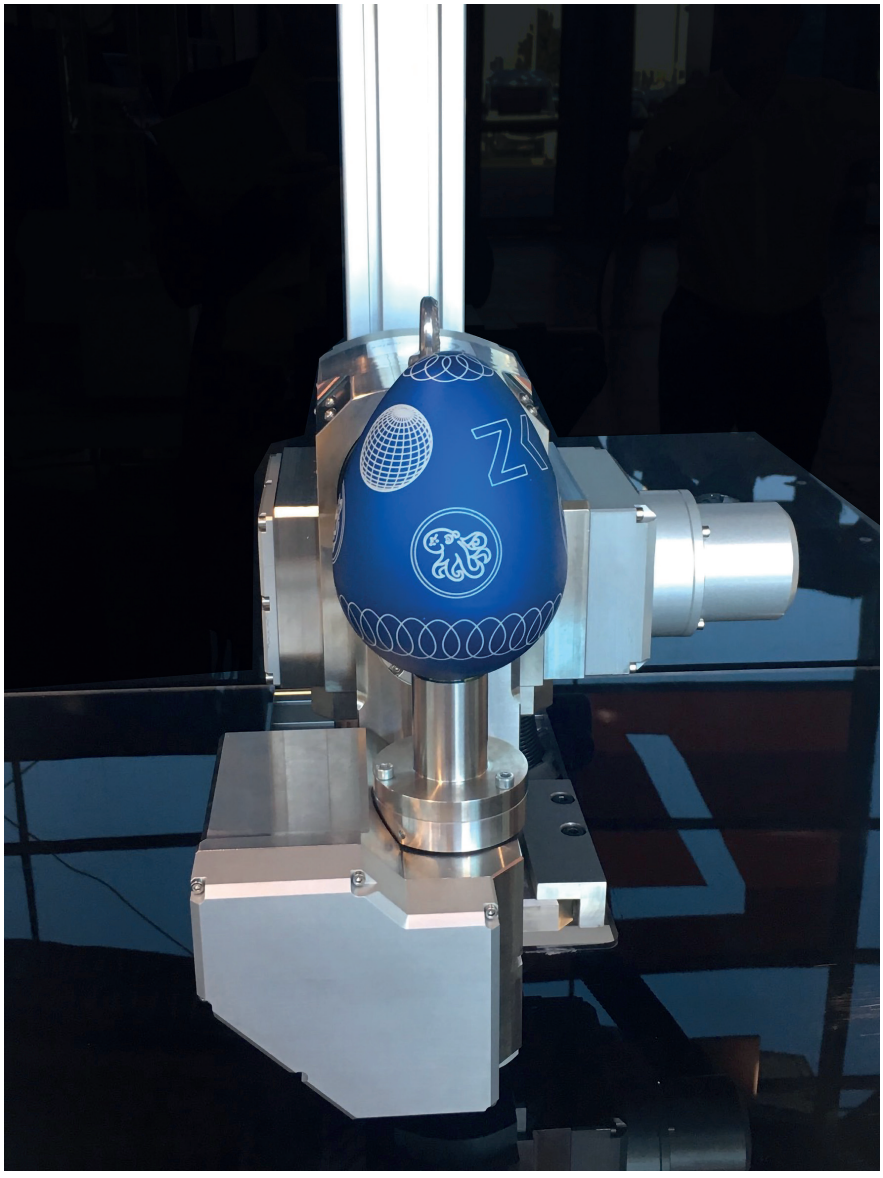
The introduction to automated laser technology

Most recently Zimmer&Kreim presented the new genius 900 Nova eroding machine at the AMB in Stuttgart. A machine that convinces in stability and precision, thanks to its modular design and the thermosymmetrically mineral cast construction. It is precisely this well-considered construction that enables developers to now also put other technologies on the existing foundation.
Here the engineers' focus lies on laser technology. With technological support of INDEL AG (for the control engineering) as well as ARGES (for the laser technology) Zimmer&Kreim presented at the FORMNEXT a new prototype construction with a possible laser application to remove the supporting geometry of generatively manufactured components in the SLM technique. The 'ingenious' about this idea is that the machines do not to need a standardized production, but can specifically be built for the costumers' requirements, or the component, respectively. Zimmer&Kreim always looks at the whole process chain and has set the course early on to integrate this technology into automation. "We strongly believe that laser machining just like a other technologies in the area of tool and mold making, and production must be an integral part in the automated process chain," Armand Bayer, managing director of Zimmer&Kreim, explains the company strategy. "With our longstanding experience of automation across different technologies we have integrated laser technology for a long time in our systems in terms of software. With this new step, we can also provide the hardware," Armand Bayer emphasizes.
While machining components with time losses of time of up to 50 % still occur at the processing of G-codes. In this area, Zimmer&Kreim, together with the technology partners, achieved a significant increase in performance
For the machining (3D-ablation) of ceramic coated Inconel® components, one application has already successfully running.



Example of diverse precise engravings on an egg
(Picture: Zimmer&Kreim GmbH & Co. KG, Brensbach, Germany)

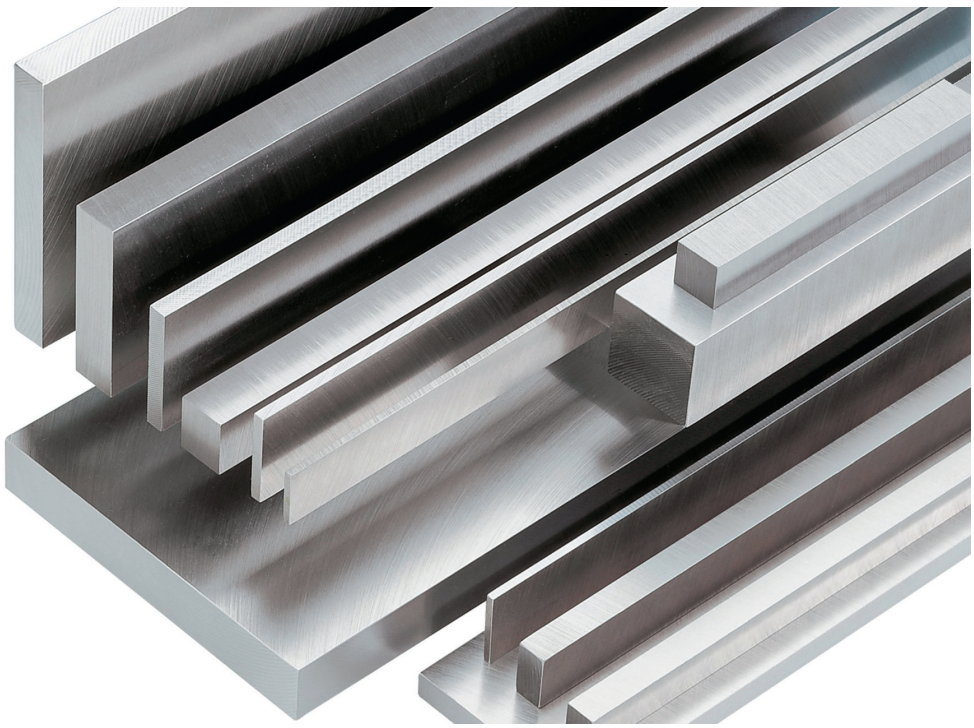
A concept that "holds water" – for time saving and efficiency

As exhibitor at the FORMNEXT

ZK presented a possible digital workflow in post-processing of generatively manufactured components using a SLM-component. The post-processing of SLM-component requires currently approx. 70 % of the production time as whole for components.
As the post-processing is divided into many work steps and technologies, the conditions must be met first, to create all work steps digitally and give to the component digitally. All work steps are then saved and processed on a database with the standardized software tools of the Zimmer&Kreim “Alphamoduli” software solution. The existing job management software for the respective technologies then controls all work steps for each component individually, fully automated or manually. Fully automated and / or manually. The starting point is the respective CAD / CAM system of the customer, also in combination with the customers’ own ERP system. Zimmer&Kreim can therefore rely on its long-standing competency in automated control and processing of components in tool and mold making starting with lot size 1. The opportunity, which will be presented at the exhibition to separate supporting geometry with a laser close to contour or to simply revise building panels, in order to be re-used in a SLM-system, is part of an innovative overall concept. Next to the fully automated post-processing of generatively manufactured components, wire-eroding machines or band saws for separating components from building panels, can also be automized with the ZK “Chameleon” automation system.
With its known foresight, Zimmer&Kreim faces the challenge of eliminating the “bottleneck” in post processing of generatively manufactured components, and thus moving technologies like SML a considerable step toward the synchronized and reproducible mass production (beginning with lot size 1).

Extended precision flat steel range

Companies in the toolmaking, jigs and fixtures, and mechanical engineering industries like to make use of semi-finished products in precision flat steel. HASCO has considerably extended its supply range and thus made it even easier for customers to design and manufacture their products. With around 2,000 new dimensions, HASCO now supplies more than 5,000 products in precision flat steel in a wide range of steel grades with an unrivalled delivery performance. The semi-finished products are available in lengths of 500 and 1,000 mm, fulfil DIN 59350 in terms of dimensions and tolerances and are noted for their high dimensional accuracy and surface quality.
The newly added quality steels 1.0570, 1.2083 and 1.2510 complete the proven flat steel range and leave virtually nothing to be desired.



(Picture: HASCO Hasenclever GmbH + Co KG, Lüdenscheid, Germany)