

CNC MANUFACTURING WITH CATIA V5

CNC manufacturer Glöckler designs and produces prototypes, pre-production runs, samples and tools that later see use e.g. in medical technology or vehicle construction. For production purposes, Glöckler relies on CATIA V5 and postprocessors by CENIT.

► PERMANENT CAD/CAM OPTIMIZATION

The company CNC Fertigung & Vorrichtungsbau Glöckler is a contract manufacturer that handles sophisticated chip

removal tasks with focus, energy and careful use of resources. Glöckler generally works on milled precision components or prototypes that require a high degree of manufacturing expertise. To stay ahead of the pack in terms of technology, owner Werner Glöckler relies on his employees, the CAD/CAM-System CATIA V5, and software by CENIT.

„Developing programs doesn't earn us money“, explains Werner Glöckler. „What's decisive is what's actually running on our machines. That's why the NC programs have to be created and installed quickly: so we can produce and produce

“We must have the right CAD/CAM strategy, because we don't even remember what a reject is.”

Werner Glöckler
Owner of CNC Manufacturing Glöckler

and produce.“ The Glöckler company continually strives for optimization, because it's the only way to survive in this market.

► **CATIA V5 IS THE FUTURE**

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The CAD/CAM strategy for quick program flow is clearly defined. „In future, we want to do everything with CATIA V5 and phase out the other systems one by one“, says Werner Glöckler. „Our programmers were very quick to accept the V5 system. It motivates them in their work and makes them more efficient. And if a staffer falls ill or goes on leave, his colleague can take up the slack right away. Everything is consistent and replicable – for each and every process. „

► OPTIMAL OUTPUT VIA FASTPOST

As a certified CATIA partner, CENIT handled the necessary conversion work, the staff training and the postprocessors and so ensured smooth implementation. Frictionless transition from the CAD/CAM system to the respective machine is crucial.

Glöckler's high-end machinery park for chip removal consists exclusively of HERMLE machines such as the HERMLE U1000, C800V and the C800U. The control unit is a Heidenhain TNC 426.

► PRECISION MANUFACTURE OF FIREARMS

The FASTPOST postprocessor handles the output of the CATIA-simulated NC program. The postprocessors for the HERMLE machines were developed in close cooperation between CENIT and HERMLE Application Technology and are thus optimally adapted to the requirements of day-to-day chip removal tasks.

Glöckler is licensed to produce firearms, a field that demands absolute precision. Many arms manufacturers come to Glöckler with their products and problems – increasingly so, meaning that the company is busy addressing expansion issues.



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For Armatix GmbH, Glöckler provides components for manufacturing intelligent firearm systems. A weapon equipped with the Armatix Smart System can only be used by a person authorized to do so. If someone is forcibly disarmed, or if the weapon is stolen or lost, it is automatically deactivated and thus becomes unusable. The handgun features integrated, electronically controlled actuator engineering that enables absolutely safe and reliable arming or deactivation of the weapon.

► PROBLEM-FREE DATA IMPORT

The CAD data for Armatix handguns come from a non-congruent system, as is often the case in the contract manufacturing world. „But CATIA's many interfaces make us very flexible“, says Uwe Günter, programmer at Glöckler. Data import does not pose any problems. The data can be processed and modified at any time. But in the case of the Armatix revolver no further design steps were needed, meaning that Glöckler could move directly to the programming stage.

The gun's complex free-form surfaces and geometry details, such as a shadow gap, could all be addressed via CATIA's comprehensive milling strategies. Programmer Uwe Günther mostly relied on the strategies for groove and Z-plane milling, contour-guided surface milling and copy-milling.

► PERFECT COORDINATION BETWEEN PROGRAMMING AND PRODUCTION

Coordination aspects between the programming software and the control technology are continually discussed with the machinery maker. This leads to optimal programs, which Glöckler combines with CATIA's simple, direct and rapid simulation safeguards to gain high process security. At the end of the day, that's what guarantees excellent products.

To process the Armatix revolver, a series of test millings were conducted on different sections of the gun body. The gun had to have extremely high surface quality, i.e. high-gloss post-milling polishing was required. To be able to manufacture such components reproducibly, everything has to work in perfect sync. And that's only possible if one can rely on many years of experience with milling cutters, cutter wear and manufacturing strategies.

The programs for the revolver were transferred to the Heidenheim control unit without a hitch and were quickly run in. Milling work was conducted on a 5-axis milling machine with orientated axes, yielding absolutely compelling quality.

► CONSISTENT CAD/CAM PROCESSES WITH CATIA V5

The use of CATIA V5 and CENIT FAST-POST at Glöckler shows that this combination can be highly successful even for small

toll manufacturers. Manufacturing orders can be processed with high flexibility and precision.

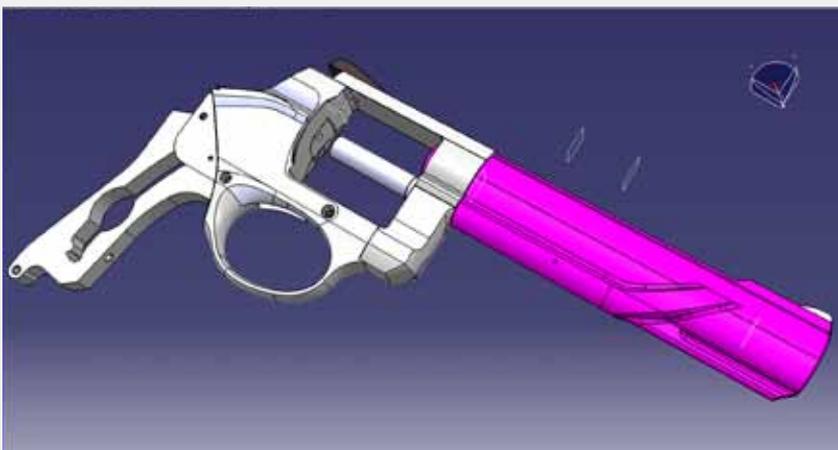
By using this combination, CNC-Fertigung Glöckler profits from standardized workflows and full CAD functionality. A further advantage is the total CATIA V5 integration, meaning that CAD/CAM processes can run holistically, without system changes or interfaces. Rapid productivity thanks to immediately available, high-performing postprocessors with a structured, user-oriented range of functions is a decisive edge in toll manufacturing. In sum, it allows Glöckler to satisfy the demands of performance-conscious clients, be it in terms of quality, costs, or deadlines.

The machine simulation field still holds further opportunities for optimization, offering increased process security and even quicker running-in.

► ABOUT CNC-MANUFACTURING GLÖCKLER

Werner Glöckler is the driving force behind the enterprise. Before founding his own business in 1991, he worked as a manager responsible for de-chipping manufacture and training at various reputable companies.

Mr. Glöckler established CNC Fertigung & Vorrichtungsbau Glöckler in July, 1991. From the very beginning, production focused strictly on absolute quality, guaranteeing a steadily growing customer base and employee numbers.



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