



ACCELERATED DEVELOPMENT AND MANUFACTURING WITH CATIA V5

Team WHZ Racing, based in Saxony, relies on CENIT AG know-how in the field of CATIA V5-integrated NC programming. CENIT provided consulting services and fine-tuned its FASTPOST postprocessor for WHZ's Hermle machine to always supply the right NC output and ensure high-value components. Program run-in is strongly accelerated thanks to machine simulation based on a FASTCONTROL controller emulator.

Modern training content, a wide-ranging network with industry and other academic institutions, comprehensive, practice-oriented lab equipment and open-minded professors – all these strengths are available to students at the Faculty of Automotive and Mechanical Engineering at the tradition-rich West Saxony University of Zwickau, which offers degree courses in Mechanical Engineering, Industrial Management & Engineering, and Leatherworking Technology.

From product development to manufacturing to end customer – the degree courses and specialization options cover technical expertise, methods and methodology in line with professional requirements, and a tight focus on practice orientation and quality. Important

racecar project. CENIT provided consulting services and fine-tuned the postprocessor for the HERMLE machine to ensure the right NC output. Before the NC programs are rolled out to the facility, they undergo in-depth validation via a controller emulator within the

“CENIT solutions let us maximize all the benefits of our new 5-axis simultaneous processing unit, including prior checking of processing sequences via on-screen machine simulation.”

**Prof. Andreas Tanner,
Chair of Machine Tool Engineering**

engineering basics, business management know-how and selected additional qualification skills such as business English are all part of the package.

► KNOW-HOW FOR CATIA-INTEGRATED NC-PROGRAMMING

CENIT as a development partner contributed its know-how of CATIA-integrated NC programming to the Saxons' latest

CATIA-integrated machine simulation. This radically accelerates program run-in and ensures not just top-notch finished parts, but also a decisive time bonus. And to milk the racing team's processes for all they were worth, the postprocessor and the machine kinematics were fine-tuned one more time at the end of the project.



ACCELERATED DEVELOPMENT AND MANUFACTURING WITH CATIA V5

► HIGH PRECISION OF SIMULATION

Such maximally efficient components are now available to many machine manufacturers – usually in two variants. The first is based on a controller emulator, the second on a virtual control core. By integrating a virtual control system – e.g. the Siemens VNCK or the Heidenhain VirtualTNC – even greater precision can be achieved: the simulation can accurately reproduce 99.9 percent of the available control functions.

► OPTIMAL SUPPORT

„CENIT custom-designed a CATIA NC workshop for us and provided the perfect software add-on. That gave us the decisive impetus“, says Matthias Kliche from the Faculty for Automotive and Mechanical Engineering, Special Field: Machine Tool Engineering. „Another benefit, particularly during the introduction phase, was the fact that we could keep going back to the CENIT experts with our technical questions. And even now, their PLM specialists always have an open ear for us.“ Meanwhile, the WHZ team is building many of the racecar components on its own. Thanks to CATIA’s consistency, there are no conversion problems when transferring CAD data. The data can be further processed or modified at any time. If no further engineering work is

needed, as was the case when engineering the rear plate of the current racing car, the user can also progress directly to the programming stage. CATIA’s comprehensive milling strategies easily coped with all the geometry details of the rear plate.

The programs are output via a special postprocessor for a 5-axis HERMLE milling processing system and a Siemens 840D control unit. Before any machine begins its work, however, a detailed machine simulation is conducted with the aid of a controller emulator.

► POSTPROCESSOR UND CONTROLLER EMULATOR PERFECTLY COORDINATED WITH HERMLE

To achieve the perfectly coordinated processes needed for the postprocessor and the controller emulator for the HERMLE machine, the machine manufacturer and the software provider have to cooperate very closely. Continual coordination of programming software and control system leads to optimal programs that can be run in very quickly. This not only benefits students at the West Saxony University of Zwickau, but also manufacturing enterprises from any industry sector. Thanks to the fully intermeshed CAD/CAM process steps, the WHZ students were able to roll out a completely revamped racer – and

their hopes for new lap records won’t be disappointed.

► PROFILE CENIT AG

CENIT AG has been a consultancy and software specialist for the optimization of business processes in Product Lifecycle Management, Enterprise Information Management, Application Management Services and Business Optimization & Analytics since 1988. CENIT currently has over 720 employees world-wide and its customers include Allianz, BMW, Daimler, EADS Airbus, LBS, Metro, AXA and VW. A large number of customers are medium-sized enterprises, particularly in the financial services, automotive and mechanical engineering sectors, such as Dürr, ISE and Emil Bucher.

CENIT is headquartered in Germany (Stuttgart), where it is present in all the major cities. It also has a branch near Detroit to cater for the American market. CENIT is also represented in Switzerland and since 2006 in Romania. With the foundation of another subsidiary in Toulouse CENIT stresses its reputation in the aerospace industry. The internationality of CENIT’s business gains more importance with a further consistent expansion of these subsidiaries.

CONTACT

CENIT
Industriestraße 52-54
70565 Stuttgart

Tel.: +49 711 7825-30
Fax: +49 711 7825-4000
E-Mail: info@cenit.de
Web: www.cenit.de

