



VMR Achieves Fast and Efficient Prototyping with Cimatron

Shop produces plastic and metal prototypes and short runs by incorporating integrated CAD/CAM software into its workflow.

[VMR GmbH & Co. KG](#), located in Mönchweiler in southern Germany, has a wide range of machines, from CNC milling and EDM machines; to mill/turn, vacuum, and die-casting machines; to metal and plastic 3D printers. “We focus on prototypes and short runs of up to 10,000 parts,” explains CEO Thomas Viebrans. “We offer our customers a broad range of manufacturing technologies from one provider.” Each day brings different customers and different challenges that require an extremely flexible and efficient CAD/CAM system. With Cimatron, VMR designs and manufactures up to 50 graphite electrodes per day (10,000 per year).

Implementing a Seamless Workflow from Idea to Final Product

VMR has customers in multiple industries including automotive, aerospace, and medical. The company supports the entire process from design and NC programming to production and assembly. VMR also provides customers with customized mold design and optimization.

Since 2000, their tool of choice is Cimatron integrated CAD/CAM software by 3D Systems. Previously, VMR used STRIM 100 and Euclid Styler software for CAD and SolidCAM software for CAM, which frequently caused data translation errors. Viebrans remembers: “We had to reject orders because we couldn’t open the models from customers. In addition, the system wasn’t geared towards toolmaking and the CAM license was really expensive.”

Because of these issues, they started evaluating a new CAD/CAM solution in 1999. VMR tested various systems and Cimatron soon stood out as a favorite, largely because it is an integrated system. Viebrans says: “We liked the openness and the comprehensiveness of the system. The previous system offered very good freeform modeling, but Cimatron was even better. One of the real highlights of Cimatron is the CAD data interfaces, which are affordable and of premium quality.”

CHALLENGE

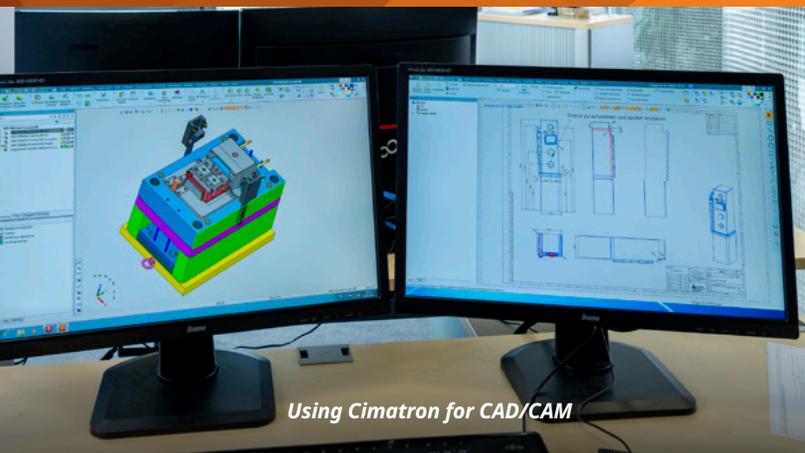
Efficiently, cost-effectively design and manufacture prototypes and short runs while reducing errors.

SOLUTION

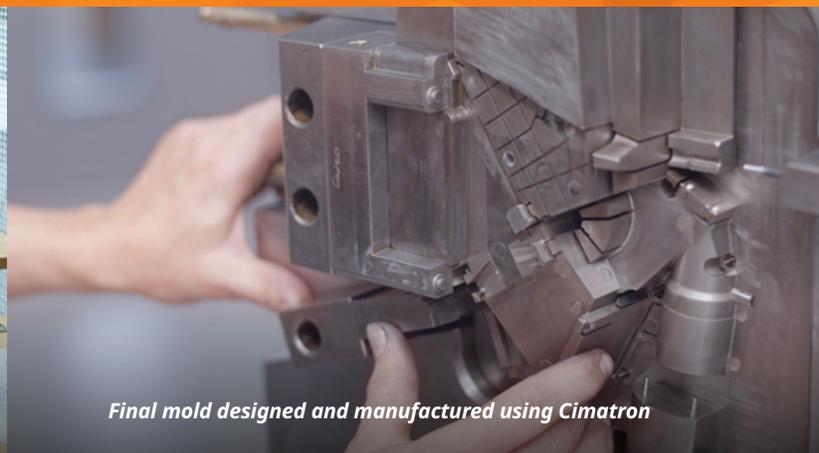
3D Systems Cimatron® integrated CAD/CAM software for design and manufacturing

RESULTS

- Reduced electrode design and manufacturing time by 70% and automated the process by defining templates.
- Operated milling and EDM machines at full capacity to design and produce 10,000 electrodes per year.
- Eliminated data import errors.
- Accelerated on-boarding time for new employees (8 days of training)
- Maximized return on investment.



Using Cimatron for CAD/CAM



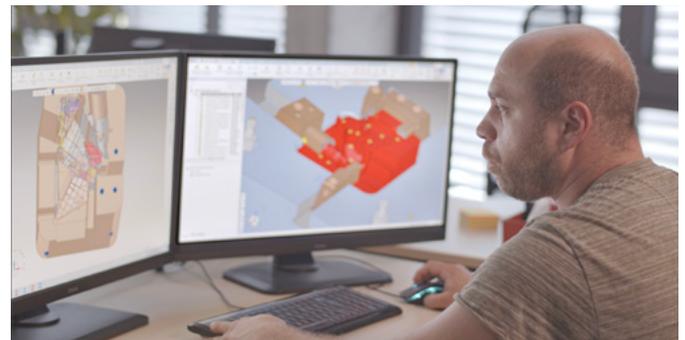
Final mold designed and manufactured using Cimatron

“Since we started using Cimatron, we have never experienced problems with data import again. In addition, the follow-up and maintenance costs are affordable.”

— Thomas Viebrans, CEO, VMR GmbH & Co. KG

VMR now has fewer interface issues with no data errors caused by import and export, which ensures a higher throughput and process-proof planning.

Cimatron proves its value every day. For example, VMR has more than 20 view-only licenses, which are used on the shop floor by machinists who can then view the 3D models and figure out how to assemble the tools. This not only makes the machinists' work easier, it also makes the designers' work easier because they have to answer fewer questions. Sales and other departments also use the view-only licenses.

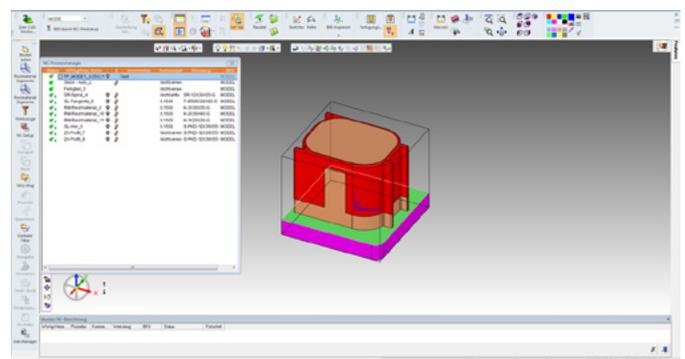


Employees using Cimatron at VMR

Automating Electrode Design for High Output

VMR reduced the time it takes to design and manufacture electrodes by 70 percent and automated the process by defining templates in Cimatron for the most-used electrode geometries. These templates are predefined with all parameters for design and production such as with NC programs for milling. A new electrode is generated by choosing the most suitable template and editing the geometry. After Cimatron has refreshed the model, VMR can start production immediately.

Viebrans adds: “It helps that our engineers have worked as NC programmers, so they know the pitfalls. The 3D models are built in a way that makes CAM easy—at a rate of 50 per day, this is a critical factor.”



Predefined template being loaded in Cimatron with criteria for calculation purposes

“Last year, our electrode engineers generated geometry and NC programs for 10,000 electrodes, which is about 50 electrodes per day. This is only possible with reliable and extraordinary automation. Cimatron offers exactly that. With Cimatron, we can operate our milling and EDM machines at full capacity.”

— Thomas Viebrans, CEO, VMR GmbH & Co. KG

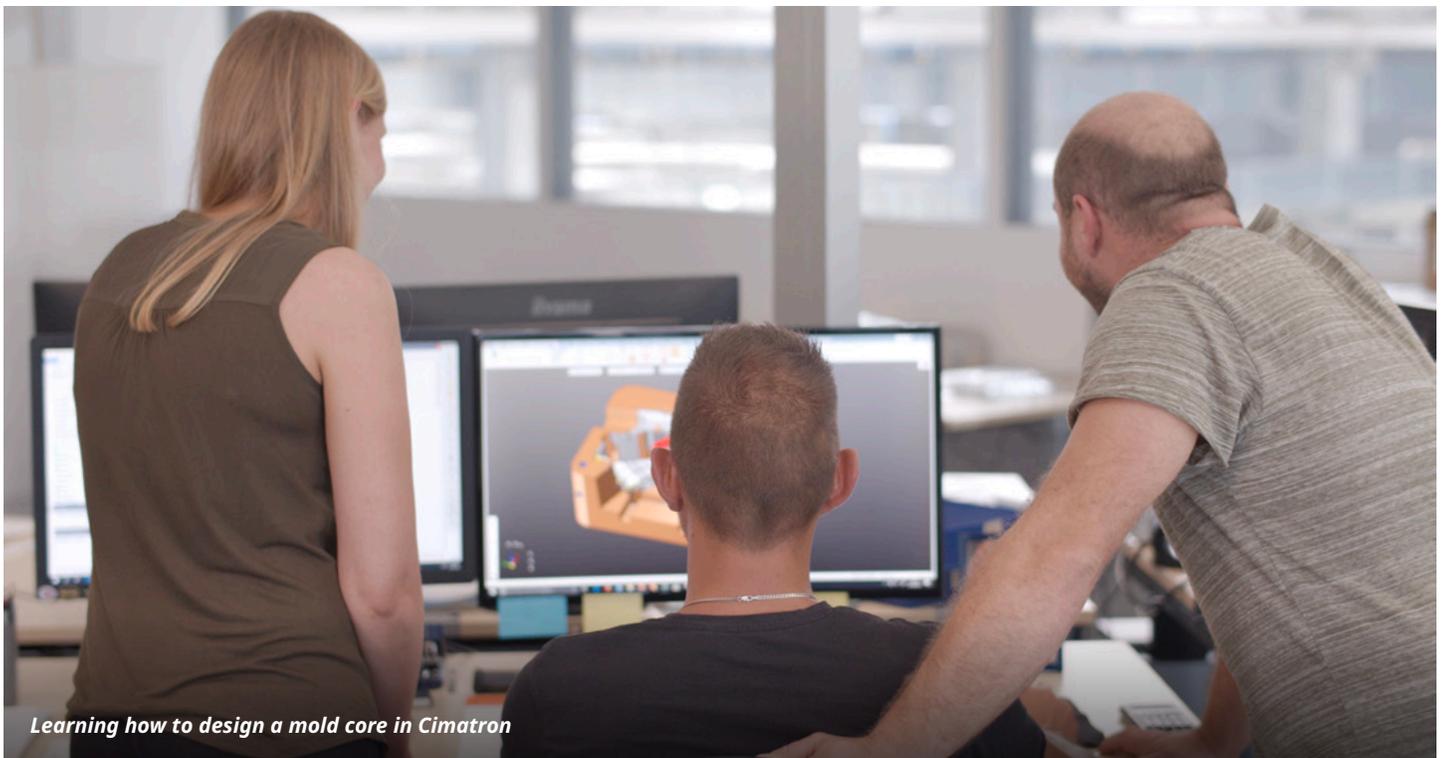
Maximizing ROI

Cimatron has enabled VMR to maximize their return on investment (ROI) by increasing efficiency and productivity through automation, accelerating on-boarding time for new employees, and completing more orders.

The ease of use of Cimatron is a significant advantage: “It is easy for new employees to become efficient in Cimatron,” says Viebrans. 3D Systems software sales representative Angelika Hermann explains: “Eight days of training are enough to introduce an engineer to Cimatron. VMR is my showcase customer when it comes to efficiency in Cimatron.”

“Over the years, 3D Systems has been a really valuable partner,” remembers Viebrans. “The training is excellent and enables our employees to work in Cimatron almost immediately. The cooperation with our sales representative was close, pleasant, and relaxed from the start, which is important as it makes business easier and creates confidence.”

“In our business, speed is crucial”, Viebrans concludes. “Our customers need consistent, high-quality prototypes as fast as possible. To meet these expectations, I need to have trust in our tools; that’s what Cimatron offers me. I would recommend Cimatron to anyone.”



Learning how to design a mold core in Cimatron

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