



## DIE SINKING EROSION: PROCESS CHAIN OPTIMIZATION

Manufacturing enterprises often rely on electrodes to give their (injection molded) tools the right shape. Optimizing and automating the eroding process offers considerable cost-saving potential. This is the path chosen by TAKATA-PETRI. By introducing CENIT's FASTELECTRODE software, the enterprise has now successfully automated the design, workshop connectivity and manufacturing of sinking electrodes.

- › Industry  
Automotive
- › Key Objective  
Automation of the eroding process
- › Highlights  
Optimization of eroding process
- › Solution/Services  
FASTELECTRODE  
Zwicker system connection
- › Key Benefits  
Integrated manufacturing process  
Adapted documentation  
High quality

With more than 30,000 employees, the automotive supplier TAKATA is one of the leading developers and manufacturers of integrated passenger safety systems such as airbag systems, safety belts, child restraint systems and steering wheels. TAKATA-PETRI is the

subsidiary responsible for the Group's European activities. The enterprise is known for its customer-oriented solutions, its technological edge, and its high service and quality standards. Naturally, TAKATA also applies these traits and goals as a yardstick for its software solutions.

### › CATIA V5 FOR EFFICIENT DEVELOPMENT

For its toolmaking tasks, TAKATA-PETRI relies on CATIA V5 by Dassault Systèmes. In addition to the many possibilities and benefits this system offers for design and manufacturing, CATIA improves data consistency and thereby contributes to higher workflow efficiency and enhanced product quality. For this reason, the enterprise wanted to extend the same principles to the electrode usage aspect of its toolmaking.

Previously, the electrodes could not be designed down to the last detail. Reference surfaces weren't created according to uniform criteria; starting and eroding positions had to be entered into the machine manually. And the documentation of the sinking process always had to be prepared individually. This regularly led to problems: incorrect data might be entered into the eroding machine, the inconsistent documentation gave rise to clarity problems, and in some cases the electrode's zero-reference point was off.

› **INTEGRATED DATA AND DOCUMENTATION**

Very quickly, TAKATA-PETRI realized that data consistency was a crucial aspect of CENIT AG's CATIA V5-integrated solution FASTELECTRODE. The software supports the entire process, from the preparation of the electrode model and its setup to the design of the electrodes and finally to NC processing. Additionally, the system automatically documents all relevant information.

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## ► CONNECTIVITY TO ZWICKER SYSTEM

Connectivity with the Zwicker Systems workshop planning and management system can be established with a simple mouse-click. FASTELECTRODE then transfers all electrode and EDM parameters, the erosion position as well as all relevant project information into the format the Zwicker system requires.

For use at TAKATA, the software was specially enhanced to automatically generate and export so that the starting positions of the erosion paths. Another feature was developed to document the selected reference frame elements.

## ► EXCELLENT PROJECT MANAGEMENT

The project had to take into account various strict requirements. "We had to observe a set of rules and wanted to verify that they were indeed all being observed. For example, all electrodes had to have a reference frame element," explains Marcus Volland, System Coordinator for Process Development Tooling at TAKATA-PETRI AG. "In cooperation with CENIT, we were able to successfully implement all these requirements."

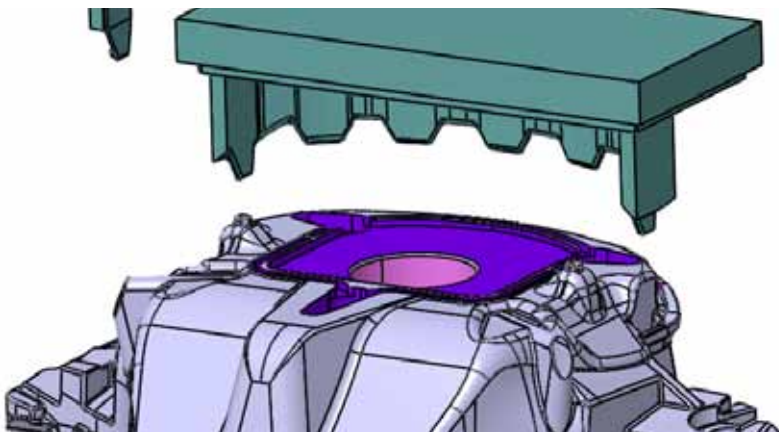
## ► PRODUCTIVITY FROM THE VERY FIRST

The solution is currently deployed at two TAKATA-PETRI locations. In both instances, introduction went off smoothly and left the users fully satisfied. "Once we decided in favour

**"With its electrode solution FASTELECTRODE, CENIT has made an important contribution to automating our die sinking erosion process. We are highly satisfied with the smooth implementation and the individual customizations."**

**Marcus Volland, System Coordinator, Process Development Tooling at TAKATA-PETRI AG**

of FASTELECTRODE, everything happened very quickly. After the software was installed and our users had received the necessary training, we were soon able to generate electrodes to the quality standards we wanted," says a satisfied Christian Czika, Team Leader, Production Preparation Tooling at TAKATA-PETRI. "And we didn't encounter any acceptance problems at all. Once the software was introduced and configured and the rules were defined, we started working productively right away."



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