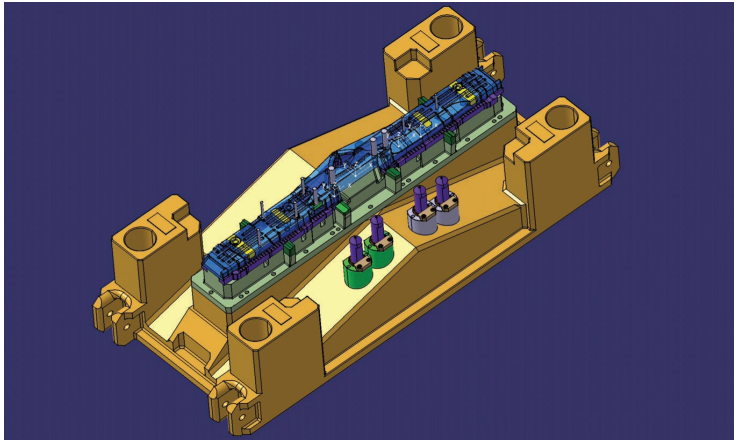IBM

Unior Stojna oprema shortens automotive die design process with CATIA V5

"Our manufacturing processes have changed for the better with the introduction of CATIA V5. Five-axis machining is a completely new technology for us." Srecko Klinc, Leader of the Design Department, UNIOR Strojna oprema

Highlights

- *The need to translate data from disparate CAD programs used by clients and supply chain partners was costing time and leading to lost geometry*
- *CATIA V5 allows Unior to work with a wide variety of CAD data in native format, saving time and improving responsiveness*
- *Unior estimates process times have been shortened 30-40 percent. Improved NC capabilities allow the company to make parts it previously could not.*

Unior more competitive with CATIA V5

Unior is the largest foundry operation in Slovenia. It manufactures and sells a wide range of products under its own trademark on every continent, based on a long-standing reputation for quality.

UNIOR Strojna oprema is a wholly owned subsidiary based in Maribor, Slovenia. It offers complete services for sheetmetal forming tools from concept to manufacturing and testing. Unior specialises in stamping dies for the automotive industry for customers including Mercedes Benz, Audi and BMW.

Unior chose CATIA V5 for its tooling business because of its compatibility with all the major automotive OEMs and Tier 1 suppliers. Unior also appreciates the ease of use of CATIA V5 and the fact that it is available for Microsoft™ Windows™ on the PC platform. Most importantly, the integration of world-class, solid and surface modelling and NC manufacturing functionality provided Unior with a complete, integrated solution.

CadCam Design Centar, IBM Business Partners for Slovenia and Croatia, were responsible for the implementation and training and is providing ongoing support. They also played an important role in providing the right NC post-processors. Their manufacturing skills were pivotal to the introduction of complex 5-axis machining at Unior, which occurred in conjunction with the acquisition of CATIA V5.

Compatible with native data

Increasingly, data is circulated in the automotive community as 3D native model data. With the aid of CATIA V5, Unior developed a method plan

CATIA

to use in preparing quotations for its prospective customers based on imported geometry. CATIA V5 is used to create precise 3D geometry and drawings. The die assembly is subsequently developed fully in CATIA. Unior also uses CATIA V5 to produce the NC tool paths to machine the die. Finally, it produces detailed drawings (to the customer's specifications), which are delivered with the die assemblies.

"There are always data translation issues when using neutral formats," said Srecko Klinc, Leader of the Design Department at UNIOR Strojna oprema. "Loss of geometry and additional re-modelling always occurs. This is why native compatibly with CATIA is so important."

Unior's objective is to create the necessary tooling geometry as quickly and easily as possible based on the data received from the client. To achieve this, Unior uses CATIA hybrid design and the NC manufacturing modules.

"We could not do the work we do without CATIA V5," Klinc said. "We estimate that, compared to our previous solution, the complete end-to-end process has been shortened by 30 to 40 percent. With the combination of software we have we are also making parts we couldn't make before."

More iterations, better products

The time saving makes Unior more competitive and frees time to do more design iterations, improving the product and the quality. With the aid of forming and manufacturing simulations, material use has been optimised, saving even more process time and material cost.

"Our manufacturing processes have changed for the better with the introduction of CATIA V5," Klinc said. "Five-axis machining is a completely new technology for us, deployed for the first time together with CATIA V5."

In the short-term future, Unior plans to acquire additional seats of CATIA V5 for die assembly design and to add specific tools dedicated to the tooling industry, especially for metal-forming applications.

The company's ultimate objective is a solution exclusively dedicated to die-tooling producers, one that can handle specific characteristics like spring-back effects. "We are very happy with CATIA V5 for its hybrid modelling and NC manufacturing capabilities," Klinc said. "Our processes have improved significantly since we introduced CATIA and I look forward to expanding our technology in the future around a CATIA V5 kernel."

For more information

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