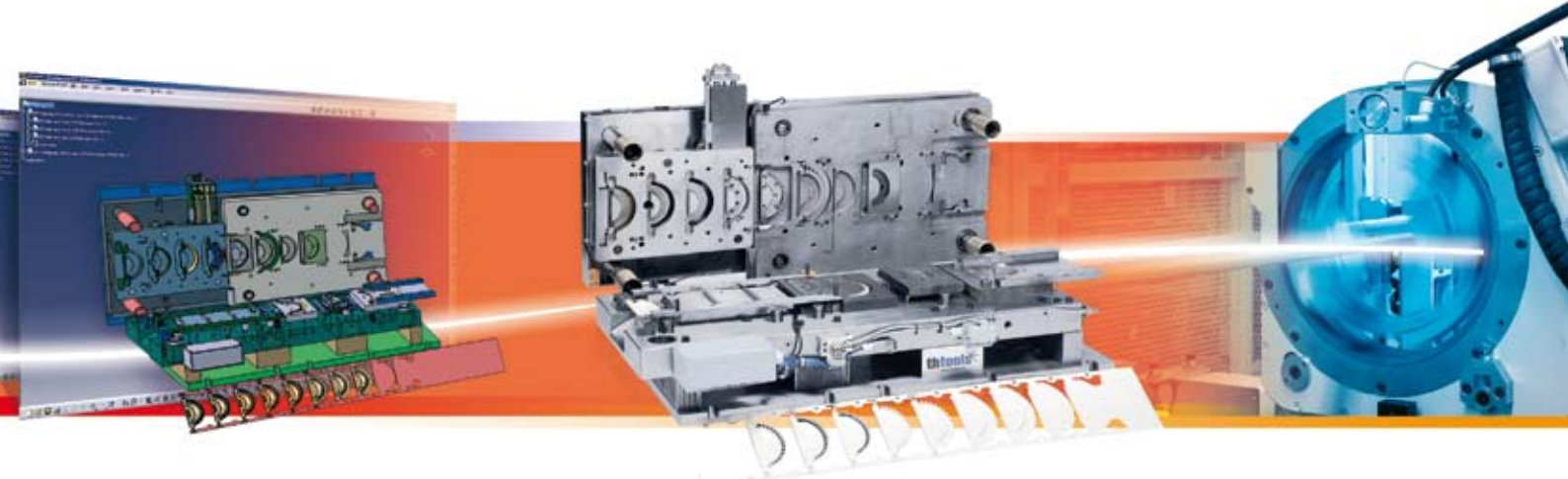


TH-Tools

Competing with low-cost competitors with CATIA



Overview

■ Challenge

Choosing to focus on high quality and precision products, TH-Tools must remain competitive against mass-production global suppliers and companies offering less expensive products and services

■ Solution

TH-Tools adopted CATIA to reduce production costs while maintaining superior product quality

■ Benefits

TH-Tools increased design precision and reduced downstream assembly problems thanks to CATIA's design-in-context and early interference checking capabilities



"The ability to design-in-context of the full digital mock-up and perform virtual interference testing in the design stage prevents downstream assembly problems, which can compromise delivery dates."

Jari Saaranen
CEO
TH-Tools



More than 20 Years of experience in tool manufacturing

Finland-based TH-Tools manufactures machines, equipment and parts for the technology industry around the world, in addition to Finland and nearby Sweden. A nationally renowned expert in metal processing, TH-Tools has a staff of over 100 professionals working at its different sites in Tampere, Akaa, Vaasa and Lahti.

In addition to the manufacture of versatile components and tools, TH-Tools also makes production machinery and production lines for several industrial sectors. Over the years, TH-Tools has earned a reputation for its versatility and craftsmanship in the production of large, complicated tools for pressing automotive sheet metal parts. The company also has a diverse range of efficient machinery for highly accurate wire cutting, die-casting molds for aluminium and zinc parts, welding and machining fasteners, lifting tools and assembly equipment, and robotic grippers to name a few.

As TH-Tools turns its attention to conquering new markets, it faces global competition from companies that propose less expensive equipment and services. The company believes that differentiating itself from competitors by focusing on quality, precision and unbeatable craftsmanship is a sure way to emerge a winner in the race for machining technology leadership. But all this should not translate into higher costs for the customer, which is why TH-Tools needs to keep its production costs down while providing its customers with the right solution in a timely fashion.

CATIA for design and manufacturing

A CATIA user since 1987, TH-Tools moved to CATIA V5 in 2001 for the design and manufacture of its sheet metal tools. Since 2006, the company started using CATIA for all its production tool needs with particular focus on PLM in the area of production automation. "Our customers come to us for the design, production and on-site installation of one-of-a-kind high-precision machines," said Jari Saaranen, CEO,



TH-Tools. "Each machine has a long lifespan and it's important that we continue to provide service and maintenance for many years to come," he added.

Process coverage from A to Z

Customers who want to manufacture a specific part commission TH-Tools to design and manufacture the tool or an entire production line. The design phase begins when a customer provides TH-Tools with the part it wants to produce, most of the time in digital format as a CATIA model or other standard format. TH-Tools engineers create a 3D model of the tool using CATIA's Advanced Mechanical Design and Hybrid Design products. "With CATIA, component quality is higher and design precision has considerably improved," said Kenneth Söderling, Design Engineer, TH-Tools.

TH-Tools virtually assembles and performs interference checking early in the development process thereby avoiding time consuming redesign work late in the process. "The ability to design-in-context of the full digital mock-up and perform virtual interference testing in the design stage prevents downstream assembly problems, which can compromise delivery dates," said Jari Saaranen.

TH-Tools uses CATIA's Multi-axis Surface Machining to define the NC program that is then post processed using tailor-made post processors from CENIT for the creation of

the NC machine codes for its Heidenhain and Fanuc CNC-controls. "We chose to take advantage of CENIT's postprocessor experience and strong integration between these postprocessors and CATIA NC code rather than create the postprocessors ourselves," said Kenneth Söderling.

Once each component is manufactured, TH-Tools assembles the final machine in-house and tests it by producing some initial parts, which are evaluated by the customer for quality and adherence to specifications. When the parts are approved, TH-Tools installs the machine or entire production unit at the customer site and provides, if requested, training to the machine operators.

Managing and sharing data – a key objective

TH-Tools recently acquired CATIA PLM Express and plans to use its data management features to resolve issues such as managing large numbers of complex parts and sharing these parts between designers working at its different sites. Respecting company standards, avoiding the use of outdated parts, and improving traceability are just some of the anticipated benefits in this next phase of TH-Tools' PLM installation.



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Kenneth Söderling
Design Engineer
TH-Tools

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cenit



Dassault Systèmes
10, rue Marcel Dassault
78140 Vélizy Villacoublay – France
+33 (0)1 61 62 61 62

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