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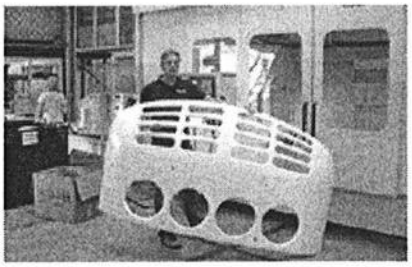
Part/Tool-Setting Technology Ensures Clear Sailing for One Small Manufacturer of High-Quality Moulds and Dies

Case Studies: Solving Real-World Problems



The Dutch company Plastica Thermoforming in Bergen op Zoom designs and manufactures plastic products, primarily thermoforming items to meet customers' specifications and functional requirements. Plastica had been using VISI Modelling from **Vero Software plc** for the flexible and efficient design of customer-defined CAD models since 2000. Five years later, it decided to invest in the **VISI Machining 5-Axis simultaneous milling module** from Vero, which has enabled the company to double its production capacity.

Plastica has 25 years of experience with 5-axis simultaneous milling for the trimming of thermoformed parts. Before using VISI, the engineer had to drive the CNC around the component manually in a labour-intensive teach procedure that might take half a day, even for a simple job. Product diversity was increasing, and parts were getting larger. Thus, the company decided to purchase a 5-axis **Geiss** ECO machining centre and, with it, Vero Software's VISI Machining.

All 5-axis programmes for the **Geiss** ECO now are generated off-line using VISI Machining, based on the CAD model. The programmer has complete control over the 5-axis tool path, the tilting of the tool axis, and the lead-in/lead-out methods. To trim thermoformed products, the swarf-cutting method is often used, the side of the tool being driven along the surface edge. When holes are difficult to reach, the tool is tilted more in order to avoid collision with the toolholder. To machine planar holes, the tool is oriented perpendicularly to the surface. All possibilities are clearly defined within the graphical interface, which helps the operator to create the NC programme.

Once the tool path is complete, the programmer can use the integrated kinematic simulator to walk virtually through the complete programme and prove that the tool path is collision free.

Plastica machine operators report that programming is now faster than before. As soon as the programme is finished on the PC, the CNC machine is started. The **Geiss** ECO is used to maximum

capacity, allowing Plastica to double production.

After the success with the **Geiss** ECO, Somatech, the Benelux software distributor of VISI, generated postprocessors for four other 5-axis CNC machines employed by Plastica, all constructed to run with VISI and two located in the company's Lille, France, divisional facility. Importantly, all of the machines are programmed off-line from Bergen op Zoom using VISI Machining 5-Axis.

"It is easy to notice the progress we have made on the shop floor after switching to VISI," says Ton Proost, Plastica Thermoforming's R&D director. "Everything runs more smoothly, there are no more interruptions as a result of the programme, and the machine operators do not have to stand around waiting for a solution to be able to continue." The company can keep to its planning schedule more accurately than before.

The VISI products and a close relationship with Somatech are integral to Plastica's operations now.

"It is important for us to know we have a commitment from a key supplier to support us in a positive manner," concludes Proost.

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