

Solid Edge · CAM Express

Hi-Con Technocast

Casting manufacturer sees productivity gains of 30 to 35 percent using Solid Edge and CAM Express

Industry

Industrial machinery

Business challenges

Outsourced design work slowed casting development
2D process caused delays

Keys to success

Seamless integration of Solid Edge and CAM Express
Siemens' reputation for quality, service and innovation

Results

Productivity up by 30 to 35 percent
40 percent of manual processes already eliminated
15 percent reduction in cycle time
A measurable competitive advantage

Integrated solution also helps reduce cycle time, increase product quality and capture competitive advantage

Castings for many uses

Hi-Con Technocast Pvt. Ltd. (Hi-Con), established in 2003, is devoted to producing a complete spectrum of investment castings using the lost-wax process for both ferrous and nonferrous metals. The company makes castings used in pumps and valves, automotive and transportation components, medical implants, and oil and gas equipment.

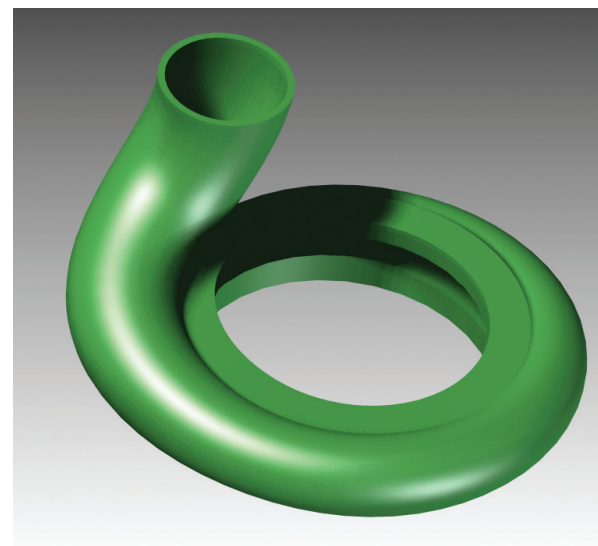
Since its inception, this India-based company has gradually expanded its reach to buyers in other countries. Hi-Con is managed by highly qualified, technical professionals with two decades of experience in investment casting and metallurgy. Its quality management system has received ISO 9001:2008 certification, PED/97/23/EC standards compliance and AD Merkblatt W0 certification.

Outsourced design work slowed the process

At first, Hi-Con outsourced the die design portion of casting development. This added to the cycle time for the castings, however, and put some jobs in jeopardy. "Our customers ask us within what time frame we can deliver the end products,

and if we delay the delivery we lose our customers," says Bhavesh Makadia, international sales coordinator at Hi-Con. In an effort to speed casting development, Hi-Con's management decided to bring die design in-house. Before that could be done, management wanted computer-aided design (CAD) software that could handle complex die shapes. The decision was made to evaluate CAD options and computer-aided manufacturing (CAM) alternatives at the same time.

Hi-Con reviewed solutions from Parametric Technology Corporation, DelCAM and Siemens PLM Software. Hi-Con chose Solid Edge® software and CAM Express soft-



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Krushnakant Mendapara
Director
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Machine Shop
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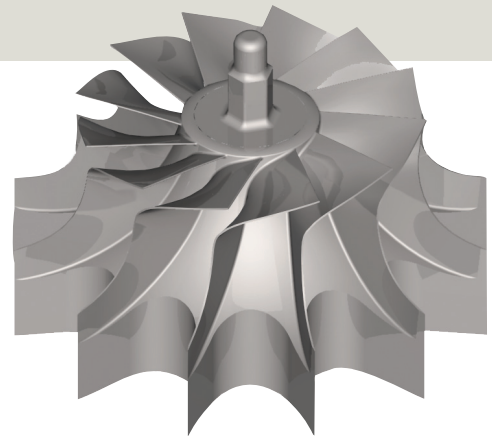
ware, both from Siemens PLM Software. The company selected Solid Edge and CAM Express in part because of the tight integration between the two solutions. Another factor was Siemens' strong reputation. "Siemens is a great brand and when we tell people in our industry that we use Siemens products in-house, they rely on us completely," says Hariom Upadhyay, general manager at Hi-Con.

Among the technical features of Solid Edge with synchronous technology that Hi-Con particularly likes are its synchronous-based modeling capability and the fact that the solution is built on Parasolid® software, also developed by Siemens.

With synchronous technology, the user no longer has to choose between constraint-driven or history-free modeling; unlike some other systems, "constraint programming" isn't needed to re-use a model for other design purposes; and data from multiple CAD systems is immediately usable.

The Parasolid factor was also attractive. Parasolid is the world's leading 3D solid modeling component software and it is used as the foundation of many Siemens products, such as Solid Edge and CAM Express. Parasolid is also licensed to many of the leading independent software vendors (ISVs) on a level-playing-field basis. These ISVs develop hundreds of applications based on Parasolid in the product design and analysis market space. With Parasolid, ISVs can reliably share data.

Finally, CAM Express not only provides powerful numerical control (NC) program-



ming with a low total cost of ownership, but is seamlessly integrated with Solid Edge.

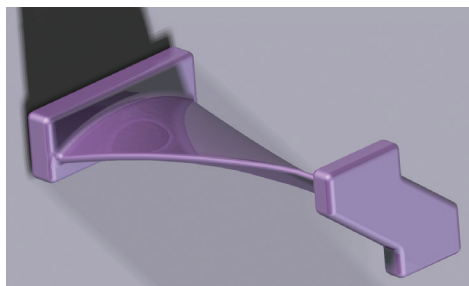
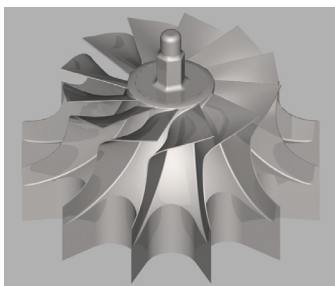
"All these factors gave us confidence in Siemens product lifecycle management (PLM) technology," explains Manish Khachar, director at Hi-Con.

Fewer delays, greater accuracy

Hi-Con often works from customers' 2D drawings to create castings. In the past, it was sometimes difficult to understand the designer's intent. "We were not in a position to clearly understand customer needs," explains Upadhyay. "The chances of failure in this process were frequent, and changes were often needed, resulting in a longer delivery time." That changed after the company installed Solid Edge and CAM Express.

Now, after receiving 2D drawings, the designer creates a 3D representation of the component in Solid Edge. "Converting our 2D data into 3D models is easy with Solid Edge," notes Mahesh, a design engineer at Hi-Con. "Just open the drawing, transfer to 3D and pull the regions into 3D."

"Today, with Solid Edge and CAM Express, our process is faster, and we can make rapid changes without errors," says Navin Chaniyara, deputy general manager of the Machine Shop at Hi-Con.



Solutions/Services

Solid Edge with synchronous technology
www.siemens.com/solidedge

CAM Express
www.siemens.com/plm/camexpress

Customer's primary business

Hi-Con Technocast Pvt. Ltd. specializes in precision investment castings.
www.hicontechnocast.com

Customer location

Rajkot (Gujarat)
India

Partner

Shree Infosys

"Solid Edge with synchronous technology and CAM Express have helped us to increase our productivity by 30 to 35 percent."

Hariom Upadhyay
General Manager of Engineering
Hi-Con Technocast

Krushnakant Mendapara, a director at Hi-Con, adds, "This new process, based on Solid Edge and CAM Express, has given a new dimension to our business. Customers are aware that we use the latest technology from Siemens and of how we can meet their expectations on time, every time."

Another difference is that, with CAM Express, Hi-Con can use the Solid Edge geometry as the basis for the NC programs used to machine the dies. Chaniyara explains, "We are able to get the right programming done on CAM Express; hence, die quality is impeccable, and programming efficiency is excellent." Because of the integration between Solid Edge and CAM Express, any design changes are updated in CAM automatically and tool paths adjust to the new shape.

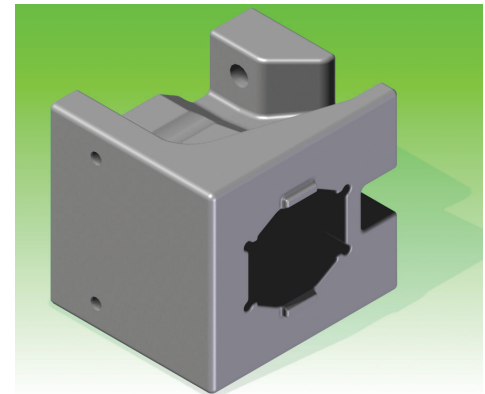
"Solid Edge with synchronous technology and CAM Express have helped us to increase our productivity by 30 to 35 percent," adds Hari OM Upadhyay, general manager of engineering at Hi-Con.

Customers prefer Siemens

A number of Hi-Con's customers also use Siemens solutions, including Solid Edge and NX™ software; these customers are quite happy with Hi-Con's choice of Solid Edge and CAM Express. "We have achieved success with our existing and new customers with timely delivery and the ability to meet their specifications," says Khachar.

Other improvements since installing Siemens' product lifecycle management (PLM) software are also significant. These include reduced costs (already resulting from a 40 percent elimination of manual processes), better designs and a 15 percent cut in cycle time that occurred when design work was brought in house.

"With Solid Edge and CAM Express, we are technically stronger, and we are happy to showcase our strengths to our customers," says Upadhyay. "Siemens offers outstanding PLM technology, and we have utilized this technology to greatly improve our competitive advantage."



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