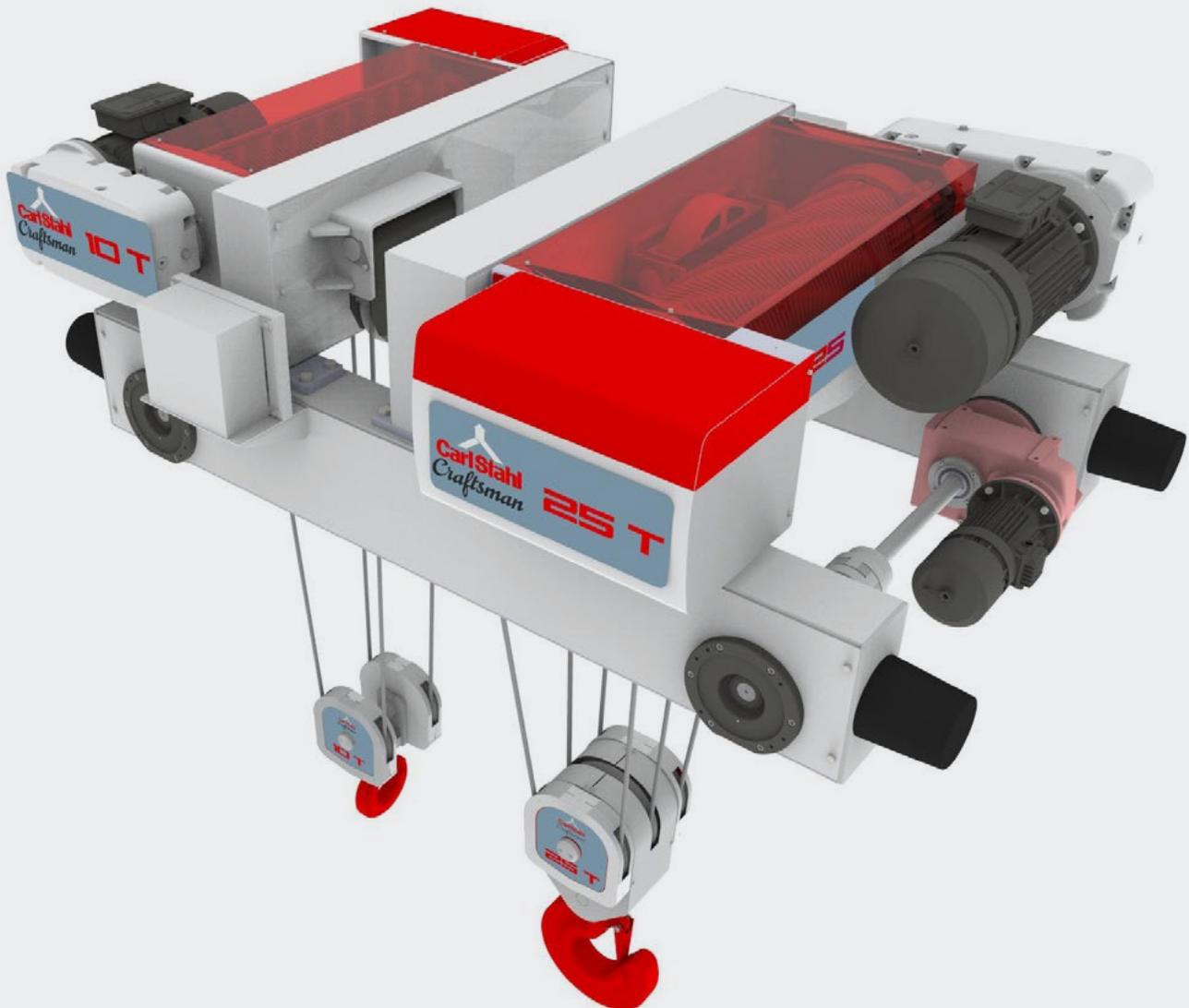


CRAFTSMAN AUTOMATION PVT. LTD.

GROWING AUTOMATED MANUFACTURING BUSINESS
WITH SOLIDWORKS SOLUTIONS



By standardizing on SOLIDWORKS design, analysis, and technical communication solutions, Craftsman Automation has dramatically increased product development throughput, enabling the tooling and manufacturing company to expand into markets for molded and cast parts.

Challenge:

Increase manufacturing capacity and reduce cycle times by accelerating tooling and fixture development to support growth and expansion into new markets.

Solution:

Implement SOLIDWORKS Professional design, SOLIDWORKS Premium design and analysis, SOLIDWORKS Simulation Professional analysis, and SOLIDWORKS Composer technical communication software solutions.

Benefits:

- Increased manufacturing output by 40 percent
- Reduced production cycle times by 30 percent
- Improved product quality
- Expanded into mold and cast parts markets

Craftsman Automation Pvt. Ltd. is a diversified light engineering company that is dedicated to developing more cost-effective and efficient ways for manufacturing components for a variety of applications. With its headquarters in Coimbatore and 10 plants across India, Craftsman serves customers in automotive and industrial markets, with roughly half of the company's business coming from automotive customers, such as Daimler India Commercial Vehicles, Tata Motors, Ashok Leyland, Mahindra & Mahindra, and JCB Automotive.

In addition to developing required tooling, and manufacturing automotive engine heads, engine blocks, and transmission parts, including gear boxes for commercial vehicles, tractors, construction machinery, and utility vehicles, Craftsman makes wire rope cranes, electric chain hoists, marine accessories, and sheet metal and aluminum foundry products, and performs contract manufacturing for customers in the printing, textile, and wind power industries.

Until 2004, the company used AutoCAD® 2D design tools to develop tooling and fixtures for machining and grinding components, based on 2D engineering drawings supplied by customers. However, as Craftsman customers increasingly made 3D model data available alongside 2D drawings, management recognized the opportunity that 3D provided for simultaneously increasing throughput and improving quality, both of which were necessary to support the company's growth and expansion objectives, according to Vice President of Information Technology A. Manisekaran.

"It's much easier to work in 3D than in 2D—with far less potential for errors," Manisekaran explains. "Most of our customers use SOLIDWORKS® design software and provide a SOLIDWORKS model file along with associated drawings, so it made sense to use a common platform for tooling and fixture development because it makes life easier for everyone involved in terms of communication, visualization, and the flexibility to make design changes."

Craftsman decided to standardize on SOLIDWORKS solutions—implementing 38 SOLIDWORKS Professional design licenses, one SOLIDWORKS Premium design and analysis license, two SOLIDWORKS Simulation Professional analysis licenses, and one SOLIDWORKS Composer technical communication license—because the software is easy to use, provides integrated finite element analysis (FEA) tools, and is used by the majority of Craftsman customers.

BOOSTING THROUGHPUT AND CUSTOMER SATISFACTION

Since standardizing on the SOLIDWORKS development platform, Craftsman has realized significant productivity gains, increasing the number of jobs that it can handle annually by 40 percent while improving both tooling and part quality substantially. The company has also leveraged SOLIDWORKS solutions to reduce production cycle times by as much as 30 percent. Manisekaran says these improvements have resulted in higher levels of customer satisfaction.

"Working on the common SOLIDWORKS 3D design platform enables us to avoid problems related to misinterpretation of drawings," Manisekaran stresses. "We take a customer's part model directly into SOLIDWORKS, and then develop the tooling and fixturing around the part. With this approach, our quality has improved, so customer satisfaction has also increased."



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— A. Manisekaran, Vice President of Information Technology

VALIDATING TOOLING FIXTURES WITH FEA

The capability to use integrated FEA tools in SOLIDWORKS Premium and SOLIDWORKS Simulation Professional software has greatly contributed to the quality improvements that Craftsman has realized. For example, Craftsman now runs FEA validation analyses on every tooling system that it designs, which customers must review and approve prior to tooling development and production.

"We do an FEA validation study on every project, not only to confirm fixture strength and tooling performance but also to ensure that we avoid potential problems down the line," Manisekaran says. "We require customers to approve the validation analysis before we develop tooling and begin manufacturing the part. The ability to run simulations up front has helped us achieve higher levels of quality and given our customers greater confidence in our tooling designs."

EXPANDING INTO NEW MARKETS

By supporting greater throughput and shorter production cycle times, the move to the SOLIDWORKS development platform is helping Craftsman sustain growth in its traditional machining and grinding markets, as well as expand into markets for injection-molded and cast parts. "Historically, our manufacturing automation systems have focused on machining and grinding operations," Manisekaran points out. "Due to the trend toward greater use of engineered plastics and other materials, we will soon add molded and cast parts to our offering."

"With the mold development and analysis tools included in the SOLIDWORKS design platform, we can more easily and cost-effectively expand into these markets," Manisekaran adds. "Our long-term strategy is to support all of our customers' tooling and production needs, regardless of the manufacturing approach. With the productivity increases that we've realized and the software's breadth of capabilities, SOLIDWORKS is helping us grow and expand."

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Using SOLIDWORKS design, analysis, and technical communication solutions, Craftsman Automation has not only substantially increased throughput, the company has also improved quality and customer satisfaction.

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