

Industrial machinery and heavy equipment · Automotive and transportation

Electrotherm

Optimizing engineering projects, steel plants and electric vehicles

Product

Solid Edge

Business challenges

2D approach increasingly inefficient, especially relative to assemblies

Too many downstream errors

Need to reduce costs, improve development process, increase innovation

Keys to success

3D assembly models generated from 2D drawings

Parametric modeling for different types of machinery

Virtual design inspections

Tight collaboration with customers

Employee training and recognition

Results

Design time reduced by 20 percent

Time to do assembly drawings down 34 percent

60 percent reduction in human errors

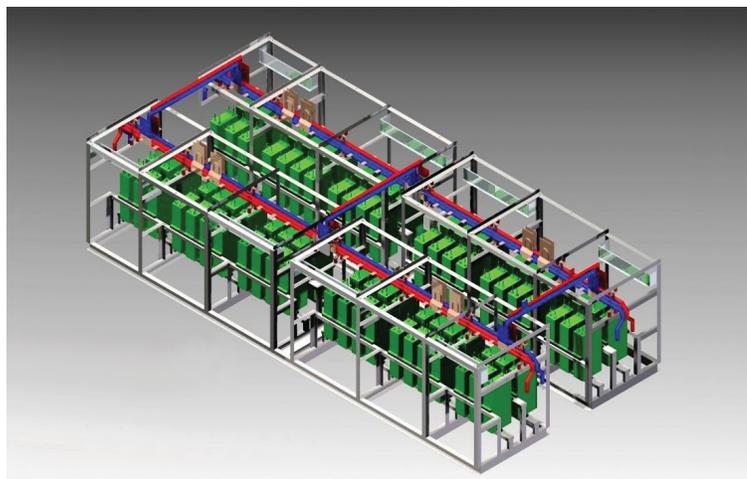
Solid Edge 3D capabilities help Electrotherm reduce operational costs, improve product development process and increase design innovation in delivering world-class product line

Moving forward with a vision

Founded in 1983, Electrotherm (India) Ltd. is prominent among steel and engineering companies worldwide. Electrotherm is the only India-based company to offer turnkey services for setting up medium-sized steel plants and manufacturing melting equipment according to European standards, with CE certificates issued. The company also features ISO 9001-certified plants, including assembly shops housing the

state-of-the-art CNC machines and a host of special-purpose equipment to improve product quality and precision. The company's network spans 27 countries globally, including India, Africa, Bangladesh, China, Egypt, Iran, Iraq, Nepal, Malaysia, Pakistan, Russia, South Africa, Sri Lanka, Turkey and others.

Electrotherm's vision is to become a world-class player in induction engineering and electric vehicles by investing in, developing and providing reliable metallurgical equipment and services at competitive prices, integrating best manufacturing practices and incorporating eco-friendly technologies. Manoj Bhandari, design head at Electrotherm, notes, "We are a passionate company with primary interests in engineering, but our capabilities are



Caprack assembly with busbar and capacitor. Capacity: 1,500Kw to 10,000 Kw.

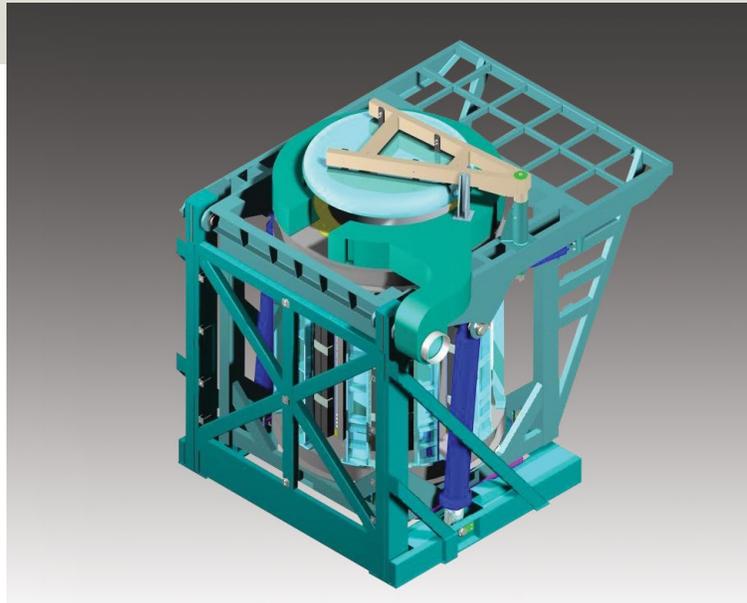
Results *(continued)*

Improved product design and validation process

Significant cost savings due to faster processes, improved productivity

"We are a passionate company with primary interests in engineering, but our capabilities are expanding both in terms of delivery and innovation. We are now actively investing in tools and equipment to facilitate engineering research and development of alternate fuels and technologies."

Manoj Bhandari
Design Head
Electrotherm



Tilting structure with lid and furnace ring assembly. Capacity: 0.5 to 30 tons.

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Siemens' Solid Edge® design software is helping with the company's vision and expansion.

Five factors drive selection

Electrotherm had been using AutoCad 2D functionality for all of its development work, but in a global market where both customers and competitors were increasingly using advanced software tools, the company recognized the need to move to a 3D platform, in fact, considered it a mandate. Among reasons, customers were requiring solutions involving substantially greater complexity and Electrotherm had

reached a point where 2D development was increasingly becoming a drain on resources, especially in creating and managing assemblies. The 2D process was propagating errors and slowing operations from start to finish.

Customers were also looking to suppliers for value-added problem solving. Bhandari points out, "Innovation had become an important differentiator. And we were intent on not just maintaining our engineering strengths, but rather substantially improving our innovation technologies as well."

Five factors were critical in selecting its 3D CAD solution: easy to use, ease of conversion from 2D to 3D, easy handling of large assemblies, the innovation factor and solid support from the provider. Siemens' Solid Edge stood out in all areas. "We found Siemens exceptionally strong in terms of delivering technologies that help companies innovate and Solid Edge a valuable tool here," says Bhandari. "In addition, Siemens PLM Software's business relationship with Sun Cad added certainty to our decision, as we've had a very strong working relationship with Sun Cad."

Measured improvements

Electrotherm regularly invests in people and technologies for continuous improvements across its operations. The company

"Solid Edge is a powerful tool to help expand our world-class portfolio."

Manoj Bhandari
Design Head
Electrotherm

Solutions/Services

Solid Edge
www.siemens.com/solidedge

Customer's primary business

Electrotherm designs, produces and sets up medium-sized steel plants and manufacturing melting equipment globally. A multi-divisional ISO 9001 certified company, its global operations include facilities in India, Africa, Bangladesh, China, Egypt, Iran, Iraq, Nepal, Malaysia, Pakistan, Russia, South Africa, Sri Lanka, Turkey and others.
www.electrotherm.com

Customer location

Gujarat
India

Channel Partner

Solid Vision

considers its training and recognition programs key to its success, especially relative to continuous efforts to explore, learn and absorb emerging technologies for developing cost effective, reliable and efficient product lines. Company management notes that both its investments in people and technologies are paying off. This is especially evident with Solid Edge.

Since implementing Solid Edge, project design time has been reduced by 20 percent, with parametric modeling particularly advantageous for the company's melting equipment design needs.

Assembly drawings that once took 30 hours are now done in 20 hours, representing a 34 percent time reduction. Visualizing products in 3D vs. 2D has enabled a 60 percent reduction in human error. Automatic bill of material (BOM) creation (for the purchasing department) also

has been instrumental in error reduction. Component designs and assemblies are now extraordinarily accurate. Overall, the development process, especially validation, has been improved.

The aggregate of design, drawing and visualization improvements translates to a significant cost savings across operations, increased individual productivity, optimal collaboration with customers, increased information re-use and greater innovation. "Solid Edge is a powerful tool to help expand our world-class portfolio," says Bhandari.

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