

**Solid Edge**

# Heatec JieTong

Using 3D to expand the piping and heat exchange services business

**Industry**

Machinery and industrial products

**Business challenges**

Extend business into the global marine and oil and gas industries

Reduce human errors and fabrication issues

Increase virtual collaboration

**Keys to success**

Upgrade 2D design capabilities to 3D solution

Track and reduce errors before manufacturing

Leverage visualization to showcase designs

**Results**

Attained design savings objective, reducing non-conformance errors by 80 percent

Realized significantly improved project management

Improved product quality and value

Increased profitability

Set up processes for continuous global expansion

Heatec JieTong leverages Solid Edge to improve design process, increase profitability and facilitate global expansion across the marine and oil and gas industries

**Leading provider further establishes global presence**

Heatec JieTong burst onto the scene when Heatec Asia Pacific Pte Ltd and JieTong Engineering Pte Ltd merged in 2003. Previously, both companies had been providing piping and heat exchange services for more than 10 years. Within two short years, Heatec JieTong opened its first facility, Heatec Shanghai Co Ltd. This milestone marked the first step in the company's strategic vision of establishing a global presence.

Heatec JieTong is a prominent provider of piping and heat exchange services for the marine and oil and gas industries. The company counts numerous major shipyards, including Jurong Shipyard Pte Ltd, Sembawang Shipyard Pte Ltd, Keppel Shipyard Limited and Singapore Technologies Marine Ltd as its clients, as well as some of the world's largest shipping services, such as Neptune Orient Lines Limited, Teekay Shipping and ExxonMobil Singapore.

**Dealing with the limitations of 2D**

Heatec JieTong prides itself on providing high quality services with an emphasis on timely delivery. This is why the company was able to achieve ISO 9001:2000 certification, the highest international quality standards in the field of piping structure fabrication and heat exchanger manufacturing and repair. For those with knowledge of this industry, even more impressively, Heatec JieTong met these demanding standards in its second year of operation.

**"Solid Edge 3D is especially adept at enabling customers to virtually visualize and better comprehend the design concept, which enables us to showcase more options as well as collaborate on possible improvements and new ideas."**

Jenson Soon  
Engineering and Quality Assurance Manager  
Heatec JieTong

To retain its quality promise, Heatec JieTong realized that it needed to address several issues that were slowing its manufacturing process. Among the most critical, the company was using a 2D drawing package to design its systems. The company's project managers noted that the 2D approach was especially cumbersome in responding to tight deadlines.

As a result of using 2D, repeated corrections also slowed the manufacturing process and increased costs, with human errors and fabrication problems literally causing the company to discard several systems after manufacture. Accuracy was also an issue with 2D development, since the company's engineering teams often found it hard to mark out the precise bolt locations when designing heat exchangers and air coolers.

### Why Solid Edge

To improve its design approach, to keep up in the demanding piping and heat exchange services industry and to continue its global expansion, Heatec JieTong realized that it needed a more efficient product development process. In addition, it wanted a high-value solution. With this in mind, the company management turned to Siemens PLM Software's Solid Edge® software. Management knew that Solid Edge was an industry-leading mechanical design system, with exceptional tools for creating and managing 3D digital prototypes. And the company's system designers understood that Solid Edge provided a fully integrated design management environment that would enable them to create error-free, accurate designs for manufacturing.

Heatec JieTong's decision makers were right.

With the implementation of Solid Edge, Heatec JieTong's design teams adopted best-in-class 3D drafting and visualization, which produced immediate results. For the first time, designers found it easier to keep up with engineering



changes. Just as importantly, design errors were essentially eliminated, which resulted in better quality bills of materials. Similarly, the design teams found it was easier to edit and organize their designs. The company's designers also were able to tightly track their edits and audit the necessary changes.

### Faster turnaround, 80 percent fewer errors, increased profitability

"With Solid Edge, the company has achieved a marked competitive edge and growing revenues," says Jenson Soon, who manages Engineering and Quality Assurance at Heatec JieTong. "Specifically, since the implementation of Solid Edge, we have realized a much smoother and efficient design process. This is a direct result of reducing nonconformance errors

## Solutions/Services

Solid Edge

[www.siemens.com/solidedge](http://www.siemens.com/solidedge)

## Customer's primary business

Heatec JieTong is a leading provider of piping and heat exchanger services for today's global marine and oil and gas industries.

[www.heatec.com.sg](http://www.heatec.com.sg)

## Customer location

Singapore, Indonesia

China

**"Most importantly, with significantly reduced design errors and an accelerated process, we have increased profitability."**

Jenson Soon  
Engineering and Quality Assurance Manager  
Heatec JieTong

by 80 percent. Most importantly, with significantly reduced design errors and an accelerated process, we have increased profitability." He explains, "The software is well-suited to our specific piping and heat exchanger design needs. That has enabled us to achieve efficiencies well above and beyond what we originally anticipated."

## Upcoming opportunities

With a workforce of 1,200, Heatec JieTong is continuously looking to improve its services offering, internal processes and market expansion. As a result, the company expects to receive increasing requests for customized complex heater and cooler designs. "As this takes place, the potential for errors and likelihood of design interferences are likely to increase," says Soon. "But with the integration of Solid Edge, we are confident that the company will be able to face these challenges. As Heatec JieTong steers towards global expansion, Siemens PLM Software's Solid Edge has empowered us with the confidence to deliver value, quality and timely services to our customers," says Soon.

"With increasing global customers, we foresee the need to facilitate more real-time online global collaboration," says Soon. "Solid Edge 3D is especially adept at enabling customers to virtually visualize and better comprehend the design concept, which enables us to showcase more options as well as collaborate on possible improvements and new ideas." Soon concludes, "We are quite pleased with our relationship with Siemens PLM Software and its Solid Edge technology and look forward to continually working together to reinforce our leadership position."



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