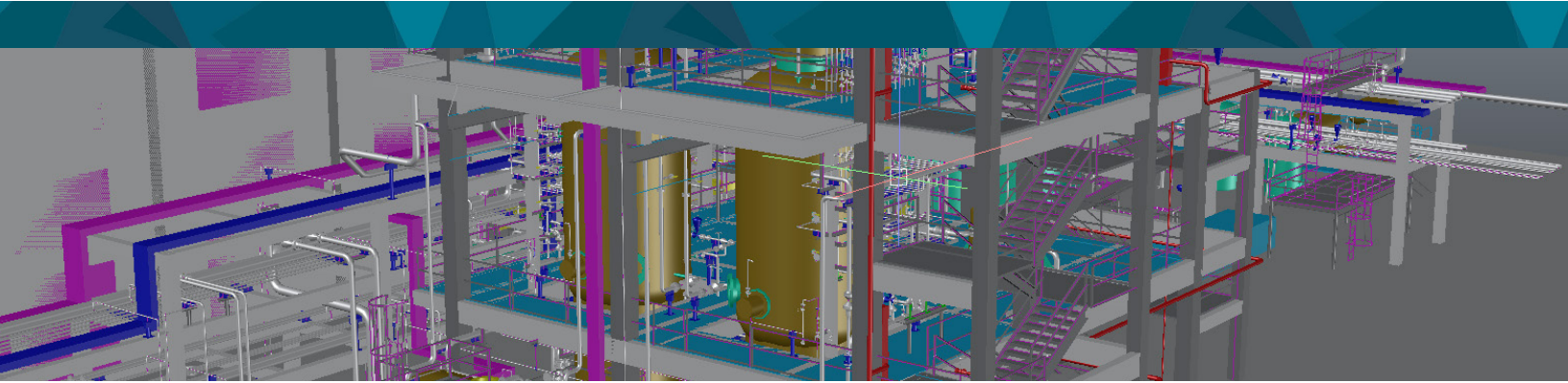




ZHEJIANG ENGINEERING DESIGN CO., LTD., CHINA

Key Facts

Company: Zhejiang Engineering Design Co., Ltd.

Website: www.zedc.com.cn

Industry: Oil & Gas

Country: China

Products Used:

CADWorx® Plant Professional
CAESAR II®

Key Benefits:

- Completed the database and 3D model independently
- Translated the 3D model of pipelines to CAESAR II to conduct the piping stress analysis
- Made detail design reviews more intuitive and efficient
- Increased accuracy from 90 percent to 95 percent
- Reduced modeling labor hours by 20 percent

ZHEJIANG ENGINEERING PROVIDES EFFICIENT DESIGN FOR HYDROGEN SULFIDE PLANT WITH CADWORX®

EPC handles 3D modeling complexities on H2S plant

Founded in 1958, Zhejiang Engineering Design Co., Ltd. (ZEDC) provides engineering, procurement, and construction (EPC) services to the chemical, petrochemical, and pharmaceutical industries. In addition to engineering and design, the firm provides clients with consulting and project management services.

IDENTIFYING GOALS

The Sichuan Hebang hydrogen sulfide (H₂S) gas production project, located in Leshan, Sichuan, China, has a capacity of 15,000 tons/year and covers 6,500 square meters with a cost of US\$300 million (2 billion RMB).

One of the world's top five engineering companies, JGC of Japan, licensed the production technology for H₂S, one of the main materials of methionine, and partnered with Zhejiang Engineering Design Co., Ltd. (ZEDC) for the detail design work. The project includes the following facilities:

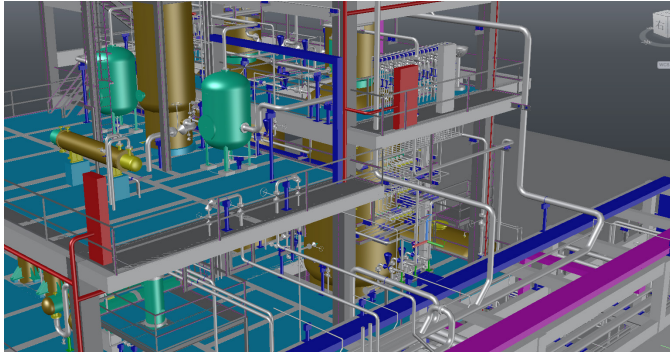
- H₂S plant
- Sulfur melting and purifying plant
- Sulfur warehouse
- Refrigeration plant

There are 95 pieces of equipment and 400 pipelines totaling 5,800 meters of stainless steel, carbon steel, galvanized steel, and PE pipe with diameters of DN15 to DN500 and a total of 21 pipe classes.

OVERCOMING CHALLENGES

For this project, JGC needed to review ZEDC's detail design 3D model at the 30 percent, 60 percent, and 90 percent stages.





“The project’s 3D model complexity and JGC’s detail requirements were major challenges,” explained Miaoyan Jin, 3D administrator at ZEDC. “Plus, many young engineers lacked experience using 3D design and had to learn it on the job.”

ZEDC had used other design software previously. Because of the importance of accurate material accounting and easy visual design reviews, the company decided on 3D design using CADWorx® because of the software’s fast learning curve and ease of use plus its easy integration with CAESAR II® for pipe analysis.

Without CADWorx, more collisions in the design can occur, adding to expenses, and the bills of material would be less accurate. The design review meetings would typically uncover more errors resulting in costly rework, causing customer satisfaction to suffer.

REALIZING RESULTS

By using CADWorx, ZEDC completed the database and 3D model independently and translated the 3D model of pipelines to CAESAR II to conduct the piping stress analysis.

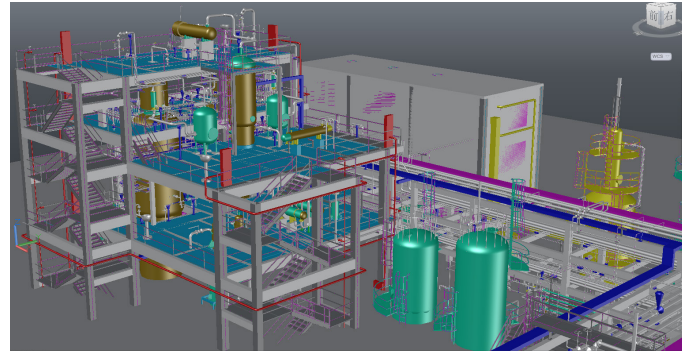
CADWorx helped eliminate errors and customer complaints, and the detail design reviews were more intuitive and efficient, delivering higher customer satisfaction.

ZEDC increased its accuracy from 90 percent to 95 percent.

“Modeling totaled about 1,000 labor hours, a 20 percent reduction thanks to CADWorx and CAESAR II,” Jin added, “and labor hours will continue to decrease as staff members become more skilled.”

AWARD-WINNING PROJECT

ZEDC received the 2016 CADWorx Drivers of Success Runner-Up Award for its use of the software. The annual Drivers of Success competition recognizes innovative applications of Hexagon PPM products, impressive project results, and significant benefits from collaboration among disciplines and the integration of the products.



ABOUT HEXAGON PPM

Hexagon PPM is the world’s leading provider of asset life cycle solutions for design, construction, and operation of industrial facilities. By transforming unstructured information into a smart digital asset, our clients are empowered to visualize, build, and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire life cycle.

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