CASE STUDY

Prokon enhances productivity through Octave Forte 3DWorx & Aspect Pipe Stress collaboration and automation

Key facts:

Company: Prokon Engineering and Consulting

Website: www.prokon.com

Industry: Metals & Mining

Country: Turkey

Octave products used: Aspect Pipe Stress *(CAESAR II),* Forte 3DWorx *(CADWorx Plant Professional)*

Headquartered in Ankara, Turkey, Prokon Engineering and Consulting (Prokon) specializes in engineering and design for all phases of industrial plant facilities, including civil, steel, electrical, mechanical and piping projects. The company's employees include engineers, drafters and designers and operations staff.

Identifying goals

Prokon was selected to perform engineering and design work on a 2.5 million- ton-per-year, $2 billion steel plant in Iskenderun, Turkey. The plant included an electric arc furnace, a hot strip and cold reversing mill, and pickling, galvanizing, and color coating lines. Auxiliary units included open- and closed-circuit cooling water plants, compressed air and air separation plants, a reverse osmosis plant and chiller plants. Prokon provided structural, electrical and piping detail design valued at $10 million. Deliverables included 600 piping layout and piping 3D drawings, 5,500 piping isometric drawings and about 300 sheets of pipe stress analysis reports.

Overcoming challenges

For this challenging project, Prokon chose Forte 3DWorx and Aspect Pipe Stress in part because they provide collaboration between design and engineering. This

integration breaks down barriers between engineering and design so both groups can share information seamlessly in a collaborative work environment.

The Forte 3DWorx intelligent 3D modeling allowed Prokon to identify and correct errors that could interfere with the structure. "Errors that cannot be seen from 2D drawings can be easily identified from the 3D models for immediate correction," explained Malik Enes Baygor, piping design engineer for the project. After creating 3D models of the piping and structure, they were able to easily select any view of the layouts and sections to generate 2D views. This made reviews faster and helped identify errors that would have been much more costly to correct later, reducing project work-hours and expenses.

Key benefits:

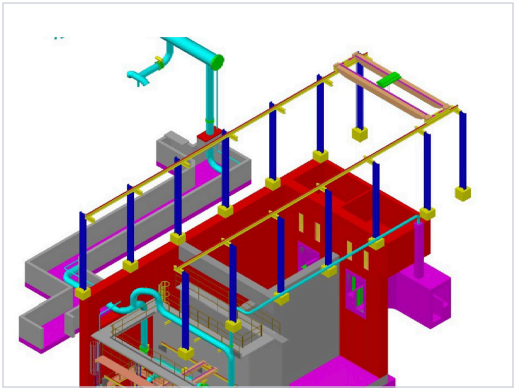
- Enhanced error detection with 3D modeling, reducing project work-hours and expenses.
- Saved time and improved accuracy by automating isometric drawings and bills of material.
- Improved productivity through seamless collaboration between structural and piping designs.

"We produced the greatest amount and quality of piping drawings and calculations in the company's history."

Malik Enes Baygor
Piping Design Engineer,
Prokon Engineering and Consulting

Realizing results

Prokon created the 5,500 isometric drawings easily and quickly using Isogen. Using the Forte 3DWorx specification editor, they generated accurate bills of material for suppliers. "With this automation, we eliminated time that would have been wasted in manually producing bills of material and isometric drawings," Baygor added.



Designing the structural drawings in 3D, Prokon was able to easily interface and merge them with the piping. Prokon easily imported the Forte 3DWorx 3D piping model information into Aspect Pipe Stress for engineering analysis. This collaboration made everything easier and faster for both designers and engineers, improving productivity for all. "We produced the greatest amount and quality of piping drawings and calculations in the company's history," said Baygor.

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.