CASE STUDY

Mayekawa leverages Octave solutions to improve its efficiencies in 3D modeling

Intelligent 3D design solution enables Japanese manufacturing company to create deliverables more quickly and accurately

Key facts:

Company: Mayekawa Manufacturing Company

Website: www.mayekawa.com

Industry: Process

Country: Japan

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

Key benefits:

- Increased productivity and design quality
- Improved accuracy in engineering deliverables
- Consistency in engineering design across global projects

Mayekawa Manufacturing Company (Mayekawa) has expanded its business by focusing on freezing and compression technologies since its establishment in 1924. It is one of the most advanced companies in manufacturing industrial refrigeration compressors. As a thermal engineering company, Mayekawa has long contributed to providing business solutions to its customers based on these technologies, and in turn continuously evolved its technology and services. The company has expanded its capability by combining R&D and manufacturing understanding in order to cope with a wider and deeper range of problems that confront customers in the 21st century.

Identifying goals

Headquartered in Japan, Mayekawa is one of the most advanced companies in manufacturing industrial refrigeration compressors. Mayekawa develops markets with new plant-improving technologies that achieve energy-saving, water conservation, resource-saving and various robotic technologies, utilizing the knowledge of industrial refrigeration experience. Mayekawa has been a user of Forte 3DWorx at its Japanese headquarters, using the solution for piping design of the refrigeration package and gas compressor units it manufactures. As Mayekawa grows its

business globally, the company wants to ensure consistency of design all over the world via a standardized engineering computer-aided design (CAD) platform.

Overcoming challenges

- Reduce time required to create and modify 3D models and pipe design drawings
- Ensure consistency of engineering design with a single 3D CAD system across all its global sites
- Improve engineering design quality and overall productivity

The company has found Forte 3DWorx very effective for general arrangement (GA) drawings, spool drawings and bills of material – the time to create GA drawings has been halved, with spool output productivity improving tenfold.

Realizing results

Mayekawa's previous 3D CAD system (prior to implementing Forte 3DWorx) had severe limitations in operability and processing speed, which was slowing down the company's production. As Mayekawa's workload grew, it became increasingly apparent to the engineering firm that it needed to replace its 3D CAD system to support its growing business.

Mayekawa's package design department first selected Forte 3DWorx because it was the perfect fit with Mayekawa's selection criteria: user-friendly software that is compatible with AutoCAD® and Aspect Pipe Stress data. Forte 3DWorx is an integrated, AutoCAD-based software solution, and has bi-directional links with Aspect Pipe Stress for pipe stress analysis and Aspect Pressure Vessel for pressure vessel analysis. Another key draw was the availability of local Japanese language support for Forte 3DWorx. The solution was quick and easy to set up and use, enabling Mayekawa to start designing right away. Training was completed within only a month and Forte 3DWorx was used for projects the next month.

"Forte 3DWorx had a positive impact on our business almost immediately, enabling us to reduce the time to create and modify 3D models and pipe design drawings for manufacture," said the chief engineer of Mayekawa's Unit Products Division. "The efficiencies that Forte 3DWorx has brought to our engineering processes allow us to create engineering deliverables more quickly and accurately." Forte 3DWorx provides intelligent drawing and database connectivity, advanced levels of automation and easy-to-use drafting and design tools.

The comprehensive suite of design tools includes piping, structural steel, equipment, process and instrument diagrams and design review, plus automatic isometrics and bills of material. Forte 3DWorx has revolutionized the plant design industry with its ease of use, flexibility, interconnectivity and scalability.

As Mayekawa takes on more global projects, the engineering company wants a standardized platform worldwide to ensure consistency of design. With Hexagon's global presence and worldwide support, Mayekawa determined that it could easily expand the use of Forte 3DWorx to its overseas locations, including Korea, Europe, Brazil and the United States.

Engineering design information can now be easily shared among Mayekawa's global teams, enabling the company to better meet the needs of global projects. Today, Mayekawa – with over 20 designers, including engineers in international business departments – uses Forte 3DWorx worldwide, deploying the solution for pipe design and equipment drawings. The company has found Forte 3DWorx very effective for general arrangement (GA) drawings, spool drawings and bills of material – the time to create GA drawings has been halved, with spool output productivity improving tenfold. In addition, enhanced accuracy has also helped to eliminate errors in construction drawings.

Moving forward

Mayekawa has been very impressed with the application of Forte 3DWorx and the local support provided by Octave. As it extends the use of Forte 3DWorx to its overseas sites, it will continue to enhance and improve its efficiencies in 3D modeling. The Japanese engineering company also plans to expand its use of other Octave solutions to fully maximize the benefit of its Forte 3DWorx environment.

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.

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