CASE STUDY

Vepica speeds fabrication project by 15 percent using Octave's design solutions

Key facts:

Company: Vepica

Website: https://vepica.com

Industry: Oil & Gas

Country: United States

Octave products used: Forte 3DWorx *(CADWorx Plant Professional),* Forte Isogen *(Isogen)*

Key benefits:

- Centralized database with Forte 3DWorx to streamline project work
- Minimized errors while satisfying client requirements
- Achieved faster processing times forreports, drawings and other client deliverables
- Reduced labor hours by 15%

Vepica is a multinational company with more than 40 years experience in engineering, procurement, construction and management projects (EPC/EPCM). The firm has completed more than 4,000 projects in four continents.

Identifying goals

Basic Equipment Inc. selected Vepica to design the fractionation facility of a 25,000 BPD Atmospheric Distillation Unit (ADU) in Houston, Texas, US, for processing Crude A (API 38.2°) or Crude B (API 45.8°) in single crude streams or a combination of these two feed stocks.

The facility includes 87 pieces of equipment and 28,500 feet of pipe ranging from 3/4 inch to 24 inches in diameter. The structural steel totaled 737,400 lbs.

Vepica offices in Caracas, Bogota, and Houston worked on the project. Effective communication among design teams was paramount to ensure they used the same design procedures to deliver quality results.

The project also required a modular process skid design, raising concerns that valve hand wheels might interfere with adjacent piping. Additionally, the client requested that the last third of the engineering cycle overlap with the fabrication phase of the project, leaving no room for error.

"With Forte 3DWorx, we completed the project in 15 percent less time than our initial estimate, and our client was highly satisfied with the quality Octave provided and began using us on other projects."

Jesus Espiga
Piping Engineer, Vepica

Overcoming challenges

"Without Forte 3DWorx, costly clashes and interferences were common – as were dimensioning and format errors for piping isometrics," explained Jesus Espiga, piping engineer at Vepica.

These issues often resulted in additional time for rework. Plus, without a centralized database, there were often errors in bills of materials, resulting in waste.

The project's multisite setting required careful management of the central database. With Forte 3DWorx, Vepica could synchronize design information from the three offices into one central database server as team members created the 3D model. The company could then automatically produce piping isometrics and accurate material take-offs.

To avoid interferences, Vepica created a report for the client, showing valve orientation by extracting supplemental Isogen data. The report enabled the team to eliminate errors during fabrication and reduce operation times.

Realizing results

Vepica used Forte 3DWorx to maintain quality control, reduce human error and achieve faster processing times for reports, drawings and other client deliverables. The client took advantage of the 3D model for reviews during the fabrication phase of the project.

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.