



## CASE STUDY

# Empresas Y&V achieves fast completion and design precision with Octave Forte 3DWorx and Aspect Pipe Stress



### Key facts:

**Company:** Empresas Y&V

**Website:**  
[www.yvsite.com](http://www.yvsite.com)

**Industry:** Water

**Country:** Colombia

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

### Key benefits:

- Quick and intuitive learning curve in the solutions
- Produced accurate bill of materials and other deliverables
- Met strict project delivery timelines

A leading general contractor with offices in the Americas, Empresas Y&V (Y&V) provides comprehensive engineering, procurement and construction services to clients engaged in production and oil refining, gas production and petrochemical processing. With more than 1,500 highly qualified employees, comprehensive technological knowledge and proven project management expertise, Y&V solves all project-related challenges from the development phase through successful completion.

### Identifying goals

Pacific Rubiales Energy Corporation awarded Y&V Group a US\$35 million project for six water treatment plants (units 15 through 20) at the Central Processing Facility 2 (CPF2) for crude oil treatment at the Rubiales field in Colombia. On the fuel performance catalyst 2 (FPC2), the recovery of oily water cream takes place in water treatment plants (WTPs).

Currently, the plants distribute the flow of water from the skimming tanks with oil content between 600 and 800 parts per million (ppm) equally between the water treatment plant packages to reduce the oil content to 1 ppm. The treated water at the outlet of the WTP, with an oil content of less than 1 ppm, goes to a pool of water that is treated before being injected into the well.

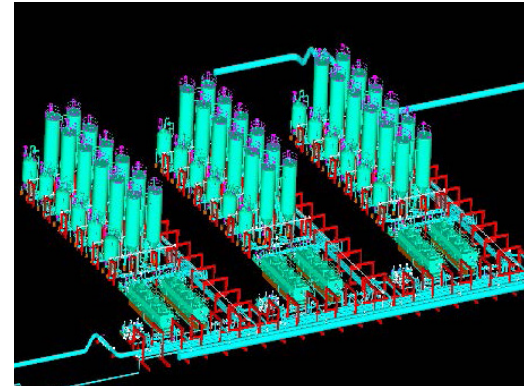
The project involved 20 pieces of equipment for each plant such as pumps, filters, decanters, flotation cells and pipes with diameters ranging from small bores of one-half inch to 2-inch up to large 42-inch bores. Y&V's assignment included all of the basic and detail engineering for the six water treatment plant units.

*“With Forte 3DWorx we were able meet the client’s fast delivery schedules as well as the required precision in the design, bill of materials and other deliverables.”*

**Nicola Continelli**  
Piping Leader, Y&V

## Overcoming challenges

Y&V used Forte 3DWorx to develop the 3D models, ortho-graphic drawings, isometric drawings and bills of material interfaced with Aspect Pipe Stress for analyzing and generating reports on flexibility of the piping systems. Focusing on knowledge management, it implemented Forte 3DWorx within the company for equipment and piping designs to address projects that required both short deadlines in the deliverables and precise and efficient execution. “We managed to reduce the times of flexibility analysis by extracting Aspect Pipe Stress files directly from Forte 3DWorx for analysis in Aspect Pipe Stress,” said Nicola Continelli, Piping Leader at Y&V.



## Realizing results

Forte 3DWorx helped Y&V speed the delivery times for isometric drawings and Forte ReviewWorx helped them identify and address interference issues in the 3D model. It also reduced the amount of time for configuration and learning.

“As a Venezuelan engineering company operating in Colombia, we emphasize knowledge management and chose Forte 3DWorx for the design of equipment and piping even though our experience had been with other design tools, and the results were beyond all expectations,” Continelli concluded.

## 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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