



CASE STUDY

Iacino Progetti streamlines full-scope plant engineering with Octave BricsCAD and Octave Forte 3DWorx

Key facts:

Company: Iacino Progetti

Industry: Chemicals and Petrochemicals, Oil and Gas

Country: Italy

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

Iacino Progetti is a small, highly specialized engineering firm based in Italy, focused on pressure equipment and industrial piping for the chemical and oil and gas sectors. The company covers the full scope of mechanical engineering, including design calculations, fitness-for-service assessments, and repair and modification procedures.

The company's client base spans end users such as refineries with direct contracts, as well as fabricators and constructors of pressure vessels and furnaces.

The company has long relied on multiple Octave solutions across disciplines, managing piping design, pressure vessel calculations, pipe stress analysis and tank engineering within an integrated environment. It has developed extensions for specific project needs and provides training on Octave solutions to industrial firms across Europe.

Identifying goals

When a new project arrived requiring full-scope delivery from a single engineering team, that integration would be put to a practical test.

The project in question involved the engineering of two industrial furnaces in Poland. Iacino Progetti was responsible for virtually the entire scope: structural frameworks, piping design, pressure parts and civil works, with only instrumentation handled externally. This type of end-to-end delivery, designed from scratch, demanded tools that could handle complexity across disciplines without creating handoff friction.

A central requirement was the ability to model piping in 3D and push that model directly into stress analysis, without re-entering data. The client also had a specific requirement for weld reporting, needing a breakdown of shop and field welds by material type and diameter in inches, to allow cost estimation with fabricators.

Overcoming challenges

To meet these requirements, Iacino Progetti selected BricsCAD and Forte 3DWorx. With decades of experience across the Octave portfolio, including Aspect Pressure Vessel (formerly PV Elite) and Aspect Tank (formerly TANK), the team relied on a coordinated workflow spanning 3D design, stress analysis and pressure vessel engineering, covering the project from first model to the final report.

The team also worked with on-site Leica laser-scanning equipment and knew that Forte 3DWorx could incorporate point cloud data directly into the modeling workflow for verification and as-built checks.

Key benefits:

- **Faster delivery and lower overhead:** straightforward project setup, direct model transfer between tools and automated reporting cut engineering time significantly, at a cost estimated to be one-fifth of that of heavier enterprise platforms.
- **Integrated workflows across disciplines:** a coordinated environment spanning 3D design, pipe stress analysis and pressure vessel engineering keeps project data consistent and eliminates manual handoffs between tools.
- **Differentiating capabilities:** laser scan integration and Isogen-based weld reporting enabled the team to meet specific client requirements that competitors could not match.

Another key factor in the selection was export flexibility. Forte 3DWorx supports IDF export, used to exchange design data, and allows the client's web-based visualization platform to use the data directly.

Realizing results

The direct link between Forte 3DWorx and Aspect Pipe Stress (formerly CAESAR II) delivered immediate productivity gains. Rather than constructing analysis models independently within Aspect Pipe Stress, the engineering team modeled piping in Forte 3DWorx and transferred it directly, cutting modeling time substantially.

Owner Antonino Iacino highlights the ease of setup and integration with third-party tools: "It's very easy to make a piping specification, a piping class. And the software lets you extend the data model, which is important for the kind of work we do. In addition, the possibility to import the models spares a lot of work and is very quick. What used to take one hour can now be done in ten minutes."

The weld reporting capability proved particularly effective. When the client requested a structured breakdown of shop and field welds, Iacino Progetti used Forte 3DWorx with its integrated Isogen-based weld database to generate the required report, categorized by material specification and quantified in inches. The data was delivered with a single export. The client confirmed that Iacino Progetti was the only contractor to provide this in that form.

Laser scan data from Leica equipment was integrated into the design environment, allowing the team to verify as-built conditions against the model and manage survey data alongside live design work.



Database management and administrative overhead were reduced, with the integrated platform handling project data in a single structured environment rather than across separate files and tools.

Moving forward

For a project of this scale, the team estimated setup and delivery costs at roughly one-fifth of an equivalent workflow on a heavier enterprise platform: "It's the perfect platform for this kind of mid-scale project," says Antonino Iacino.

Iacino Progetti plans to continue using Forte 3DWorx for projects of similar size and complexity, where the tool's ease of configuration and integration with Aspect Pipe Stress make it well-suited to the engineering scope. The team is also developing a custom component for support detailing within Forte 3DWorx, which will allow the software to handle the definition and drawing production of complex, non-standard composed supports.

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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