CASE STUDY

Marson 3D Innovative accelerates brownfield project execution with Octave Forte 3DWorx

Key facts:

Company:
Marson 3D Innovative

Website:
www.marson3d.com

Industry: Pharmaceutical

Country: Italy

Octave products used:

- Forte 3DWorx *(CADWorx Plant Professional)*
- Forte ReviewWorx *(CADWorx Design Review)*
- Leica Cyclone
- Leica TruView

Key benefits:

- 10% time savings in total project schedule due to rapid as-built data acquisition and interoperable solutions
- 5% cost savings during erection phase due to accurate and complete 3D data
- Improved decision-making processes due to access to timely information and review models

Identifying goals

Marson 3D Innovative is an Italian engineering company specializing in 3D design and laser scanning surveys. The company's client, Isagro, a leading Italian owner operator in the agro pharmaceutical market, needed a new cryogenic plant to be erected inside an existing facility. To decide where to site the unit, Isagro needed a new as-built 3D model of the facility to be created to facilitate the creation of the new cryogenic plant.

Construction had to be executed in accordance to the ATEX directive, a European Union directive describing what equipment and work environment is allowed in a setting with an explosive atmosphere.

Marson 3D Innovative suggested a 3D laser scanning survey to be carried out to capture the existing conditions and as-is-information of the facility.

Overcoming challenges

The biggest challenge for the construction of the new plant was the time constraint stipulated by Isagro. Marson 3D Innovative needed a way to shorten its original engineering schedule to meet the tight deadline that it was expected to meet.

Marson 3D Innovative needed a solution that would allow for a complete, rapid laser scanning survey and which subsequently would support the creation of an as-built 3D model from the point cloud. Due to strict limitations on time, the solution needed to be implemented quickly, easy to operate and be interoperable with other third-party solutions.

Octave Forte 3DWorx was chosen for the project due to its ease of use and accuracy, as well as the ability to utilize point cloud data inside a CAD environment and create customized interfaces with other software suites that Marson 3D Innovative was already using.

The first step in the project execution workflow involved capturing the existing facility in Bussi Sul Tirino (Italy). The laser scanning survey was performed in half a day.

Back at the office, to produce a single point cloud, the individual point clouds captured on-site were registered and unified together using Leica's Cyclone software. To check the quality of the point cloud, it was opened and navigated in Leica's TruView software.

Basic measurements and coordinate checks were performed to verify that the point cloud was correctly orientated and positioned within the plant coordinate system.

The next step was to import the existing point cloud to Forte 3DWorx, where a detailed 3D model of the existing facility could be created. To check clearances, ensure no clashes

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Alberto Pagliarini
Technical Service Manager and Project Coordinator, Isagro



A 3D model created of the cryogenic plant created in Forte 3DWorx

existed and to finish off routing of piping connections between the new design and as-built model, the new cryogenic plant design model created in Forte 3DWorx was combined with the point cloud and the as-built model developed from it.

Throughout the project, Forte ReviewWorx proved invaluable in discussions with Isagro, ensuring timely decisions were made to keep the project on track and to plan how construction should be executed efficiently and safely.

Realizing results

Octave's design software was used throughout the project due to the simple and complete workflow between laser scanning, Leica software and Forte 3DWorx. The interoperability of the solutions drove a faster project execution throughout the entire workflow from the laser scanning survey performed on-site to 3D model creation in the office.

During the project, Marson 3D Innovative created an accurate as-built 3D model of the existing facility to facilitate the cryogenic plant. This helped to avoid unnecessary adjustments and welding during the erection phase, saving time and ensuring compliance with the ATEX directive.

Isagro Technical Service Manager and Project Coordinator, Alberto Pagliarini, said, "The detailed design process used for this project is very powerful, I was really impressed! It can be widely utilized in future projects. Design review helped us to correctly understand all the design and construction steps, checking correspondence of process and construction documents."

Moving forward

As a long-time Forte 3DWorx user, Marson 3D Innovative has utilized Octave's solutions in most of its engineering projects and the company will continue to use Octave solutions in all of its future projects.

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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