



### FACTS AT A GLANCE

**Company:** Marson 3D Innovative

**Website:** [www.marson3d.com](http://www.marson3d.com)

**Description:** A pioneer in laser scanner surveying, Marson 3D is an engineering company specializing in detailed and reverse engineering.

**Employees:** 10

**Industry:** Oil & gas, petrochemicals, chemicals, food, power generation & distribution

**Country:** Italy

#### PRODUCTS USED:

- Intergraph® CADWorx® Plant Professional
- Intergraph CADWorx fieldPipe™ Professional
- 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

## MARSON 3D INNOVATIVE ACCELERATES BROWNFIELD PROJECT EXECUTION WITH INTERGRAPH® CADWORX® SOLUTIONS

**Italian engineering company chooses Intergraph® CADWorx® fieldPipe™ Professional for introduction of a cryogenic plant**



### 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 insertion of the new cryogenic plant.

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

Marson 3D Innovative suggested a 3D laser scanning survey to be executed 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 creation of an as-built 3D model from the point cloud. Due to the strict limitations on time, the solution needed to be implemented quickly, be easy to operate and use, and be interoperable with other third party solutions.

Intergraph CADWorx software was chosen for the project due to its ease of use and accuracy, as well as the ability to utilise 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.

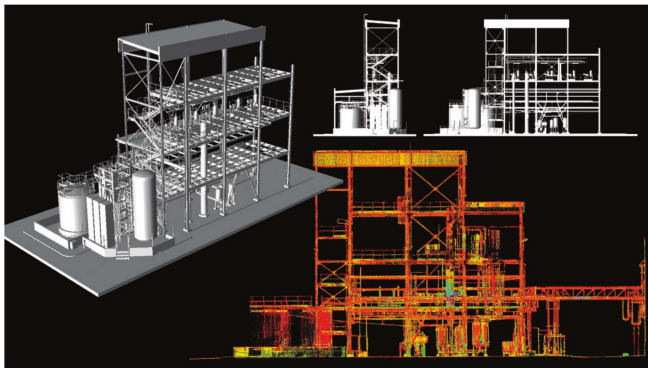
Back at the office, to produce a single point cloud, the individual point clouds captured

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 CADWorx fieldPipe, where a detailed 3D model of the existing facility could be created. To check clearances and to ensure no clashes 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 CADWorx Plant Professional was combined with the point cloud and the as-built model developed from it.

Throughout the project, CADWorx Design Review 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



*A point cloud and a view of the plant created in CADWorx fieldPipe.*

## REALIZING RESULTS

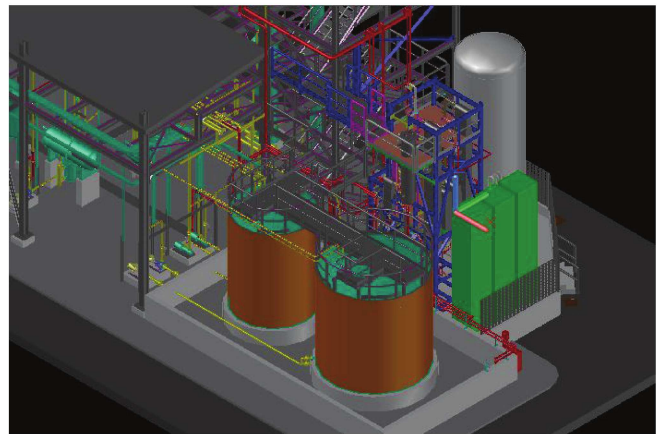
Intergraph CADWorx software was used throughout the project due to the simple and complete workflow between laser scanning, Leica software and CADWorx fieldPipe. The interoperability of the solutions drove a faster project execution throughout the entire workflow from the laser scanning survey performed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

## ABOUT INTERGRAPH PROCESS, POWER & MARINE

Soon to be known as Hexagon Process, Power & Marine, Intergraph Process, Power & Marine is the leading global provider of engineering software for the design, construction and operation of plants, ships and offshore facilities.

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

Alberto Pagliarini, IsagroTechnical Service Manager and Project Coordinator, 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."



*A 3D model created of the cryogenic plant created in CADWorx Plant Professional.*

## MOVING FORWARD

As a long-time CADWorx user, Marson 3D Innovative has utilized Intergraph solutions in most of its engineering projects and the company will continue to use Intergraph CADWorx & Analysis solutions in all of its future projects.



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