



GELSIA, ITALY

Key Facts

Company: Gelsia

Website: www.gelsia.it

Description: Gelsia is an Italian industry leader in distribution of gas, heat, and environmental services. Founded in 2008, Gelsia is a key player in the Italian energy business and provides services to 28 municipalities in Northern Italy.

Industry: Power Generation (Gas, Electric, Thermal)

Country: Italy

Products Used:

- CADWorx® P&ID
- CADWorx Plant Professional
- CADWorx Design Review

Key Benefits:

- Improved operations and maintenance efficiency
- Increased awareness of and access to information
- Safer plant management
- Reduced management costs

GELSIA IMPROVES OPERATIONS AND SAFETY MANAGEMENT WITH CADWORX® & ANALYSIS SOLUTIONS

Leading energy provider increases productivity and lowers management costs of thermal power plant and substations in Northern Italy



IDENTIFYING GOALS

Gelsia is a leading energy supplier of gas, electricity, and thermal power located in Seregno, Italy. Originally started as a municipal company of Seregno in 1910, and launched as Gelsia Group in 2008, the company has grown to become one of the major players in the Italian energy market, and currently provides services to 28 municipalities in Italy.

Gelsia wanted to improve the safety, productivity, and maintenance potential for its existing combined heat and power station and substations in Seregno, Lombardy. The company needed a way to map the facilities of the cogeneration plant and substations, obtaining designs as actually constructed ("as built").

The goals of the project were to:

- Create an intelligent and up-to-date 3D model of the plant for improved safety management and maintenance.
- Generate an accurate overview of plant documentation, including piping layouts, isometric sketches, and bills of material.
- Acquire component data for an accurate materials management and layout study.
- Extract critical information to improve energy efficiency of the plant.

The company wanted to improve its understanding of its own network and reduce management costs. Gelsia decided to utilize the CADWorx® suite for the project, including CADWorx Plant Professional combined with CADWorx for the creation



of intelligent 3D models, CADWorx P&ID for piping and isometrics creation, and CADWorx Design Review to enable efficient management and tracking of the project steps.

OVERCOMING CHALLENGES

Based on its own software, Gelsia already had a facility maintenance process in place. This system needed more information to enable full and efficient management of its facility. As such, the first step was to perform a 3D laser survey of the entities located inside the substations to create a 3D realistic point cloud of the environment surveyed. The survey was registered with Leica Geosystems HDS Cyclone™ software and displayed in the Leica TruView free viewer.

From the 3D point cloud, a characterized 3D model was implemented. All information relative to each power station and substation, such as equipment data sheets, piping and instrument components, etc., were included in the 3D model to:

- Allow safe management of substation operations.
- Enable easy and faster maintenance of the substations (especially during unpredictable failures and subsequent emergency management).
- Create a complete database of components inside substations for materials management.

Simultaneously, CADWorx P&ID was used to create an intelligent database of the existing P&IDs of the plants. Throughout the project, CADWorx Design Review was used by the Gelsia management team to review project progress, and facilitate decision making regarding next steps.

REALIZING RESULTS

With the newly available intelligent information, Gelsia was able to:

- Improve safety of the facilities thanks to having a real-life 3D design documentation of the plant.

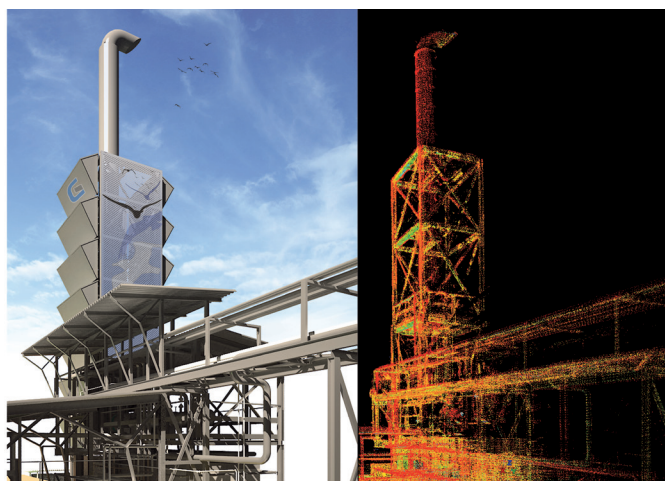
- Streamline plant operations and maintenance due to more available and better quality information.
- Create a database for materials management for the substations.

Furthermore, once the 3D model was completed, all documents and information such as the piping layout, sections, isometric sketches, and a complete bill of material were available to allow PED qualification of the substations.

The choice to adopt the CADWorx & Analysis Solutions suite was motivated by its ease of learning and use; complete interoperability between the various modules of the software suite; and the possibility of an easy-to-implement, custom interface with other software.

MOVING FORWARD

During the project, Gelsia standardized its work processes with the CADWorx solution suite. The final step of the project will be to integrate the existing information systems (CMMS and GIS) with the new data. The company expects to be using CADWorx solutions in all of its future projects.



Cogeneration Plant 7Mw

ABOUT HEXAGON

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE). Our industry-specific solutions create smart digital realities that improve productivity and quality across manufacturing, infrastructure, safety and mobility applications.

Hexagon's PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

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