



## NORTECH, UNITED KINGDOM

### Key Facts

**Company:** Nortech Solutions Group Ltd.

**Website:** [www.nortech-group.com](http://www.nortech-group.com)

**Industry:** Oil & Gas, Chemical & Petrochemical, Energy, Iron & Steel

**Country:** United Kingdom

#### Products Used:

- CADWorx® Plant Professional
- CAESAR II®
- Isogen®

#### Key Benefits:

- Improved 3D design capabilities
- High-quality isometric production
- Lowered project costs
- Enhanced 3D laser scan data processing

### NORTECH STREAMLINES PLANT DESIGN WITH HEXAGON PPM SOLUTIONS

Engineering services provider implements CADWorx® tools for a gas plant design project

**NORTECH**  
Integrated Engineering Solutions

Nortech Solutions Group Ltd. provides professional engineering design, project, and construction management assistance services to the oil and gas, process, petrochemical, chemical, iron, steel, and energy industries both in the U.K. and internationally. Nortech works closely with clients to develop and deliver a project from Concept Engineering (CE), Basic Engineering (BE) and Detailed Engineering (DE) with the production of Approved For Construction (AFC) deliverables across a number of market sectors.

#### IDENTIFYING GOALS

Nortech, an award-winning engineering design, project management, procurement, and construction management assistance service provider, was selected to engineer and design a new plant for Jersey Gas company, a liquefied petro gas importer owned by International Energy Group. Jersey Gas' original manufacturing plant could not efficiently operate based on the seasonal differences in energy demand, and at peak times it was running with minimum spare capacity. The new plant was required to operate on demand and cover seasonal differences in energy demand, allowing the existing gas holder to be withdrawn out of service and the associated land to be sold for further development. The main drivers for the project were to improve the security of supply and to remove the need for the gas holder, which was decommissioned in 2012 and freed the land for potential redevelopment.

Nortech was chosen to supply engineering and design services for Jersey Gas' new plant. Existing plant information was to be retrieved in CloudScan and Navisworks formats, of which only simplistic data models had been produced. Hexagon PPM solutions were used for more complex plant and construction design to ensure the completion of the project according to a tight delivery schedule.



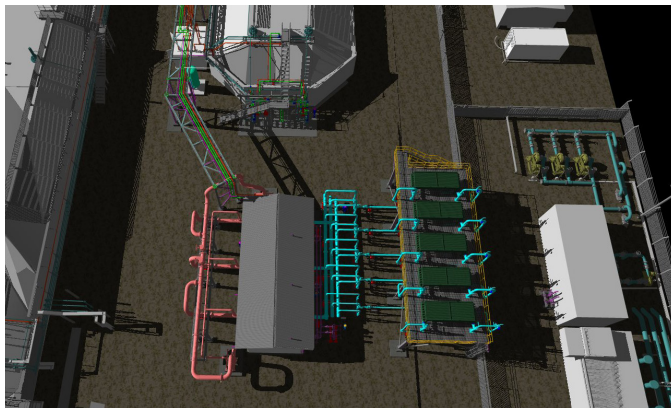
## OVERCOMING CHALLENGES

A tight time schedule and the limitations to the available data model affected the engineering and design process. Nortech needed a solution to ensure clash-free design with efficient 3D design capabilities, the ability to produce and revise isometrics, and the ability to create bills of materials.

Nortech chose CADWorx® Plant Professional and Autodesk Navisworks for their familiarity and AutoCAD®-based 3D design capabilities. The 3D design began with the creation of piping specifications along with existing, modified, and new piping catalogues. The piping modelling commenced after the creation of the specifications.

CADWorx Plant Professional was also used for the structural, civil, and mechanical design. After this, all the isometric drawings were produced with Isogen, enabling automated isometric creation tailored to Nortech's needs. Piping support details and generic 3D design were also created with Hexagon PPM tools. Moreover, the 3D design was transferred into a fully dimensional 2D format for fabrication purposes.

CAESAR II® was used for pipe stress analysis throughout the project. The interoperability of CAESAR II and CADWorx Plant Professional enabled quick and highly successful information transfer between the solutions. This provided an effective and cost-saving way to easily define a piping system analysis model.



## REALIZING RESULTS

Working with CADWorx Plant Professional and Navisworks gave Nortech's engineering department an overall view of the 40-plus separate 3D files and helped the team keep track of the design processes. The models could be easily viewed within Nortech as well as readily shared with the client.

CADWorx Plant Professional was used to:

- Create piping and structural design in both 3D and 2D formats
- Automatically generate accurate isometrics
- Define pipe support details
- Create layouts and bills of materials

## MOVING FORWARD

Following the successful Jersey Gas project, Nortech has implemented CADWorx Plant Professional in the majority of its projects, predominantly for piping design. Intergraph tools are currently used on a wide range of brownfield topside projects, including caisson replacements, FEED studies, and complete projects across a number of North Sea offshore facilities.



## 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.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.