



OHL INDUSTRIAL, SPAIN

Key Facts

Company: OHL Industrial

Website: www.ohl.es

Employees: 20,000

Industry: Construction

Country: Spain

Products Used:

- Intergraph Smart® 3D
- Intergraph Smart Instrumentation
- Intergraph Smart Materials
- Intergraph Smart P&ID
- Intergraph Smart Review
- CAESAR II®

Key Benefits:

- Better quality design and detailed design
- Enhanced integration of project outputs during different phases of the project lifecycle
- Reduced lead time (modifications) and 'processing' time of requested information
- Improved efficiency and coordination between different disciplines

OHL INDUSTRIAL SUCCESSFULLY DESIGNS AND BUILDS A NEW HYDROCARBON STORAGE TERMINAL IN ONE OF THE BUSIEST HARBORS IN EUROPE

Intergraph Smart® 3D and Intergraph Smart Materials provide the construction company with additional design and procurement quality

Obrascon Huarte Lain (OHL) is one of the largest international concession and construction groups. It boasts one hundred years' experience and has significant operations in 30 countries across five continents. The OHL Group is composed of four divisions: OHL Concesiones, OHL Construcción, OHL Industrial and OHL Desarrollos. Since its establishment in 1911, OHL has been involved in all types of activities in the construction field all over the globe.

IDENTIFYING GOALS

The port of Algeciras (Cádiz, Spain) is located in the Strait of Gibraltar. With nearly 80,000 vessels handled per year, the harbor is the largest port in Spain and one of the busiest in the world. Vopak Terminal Algeciras awarded OHL Industrial the turnkey contract for the construction of a marine terminal, storage and distribution of hydrocarbons in the harbor. The project included the development of all detail engineering, supply of materials and equipment, construction and assembly, commissioning and start-up of the maritime terminal.

The project aimed to meet two main objectives: to increase the fuel supply to vessels and to offer greater environmental and safety guarantees. In order to undertake this project, OHL invested 165,000 hours of engineering and more than 2 million hours of construction with more than 600 workers during peaks.

As a result of the project, the terminal Algeciras will offer international customers the opportunity to safely store their product ashore, optimally capitalizing on any developments in the Mediterranean gas and oil trading market.



OHL Industrial has leveraged Hexagon solutions for their scalability, the integration of engineering disciplines and because they cover all the phases of a project lifecycle. The products used include Smart 3D, Smart Instrumentation, Smart P&ID, Smart Materials, Smart Review and CAESAR II.

OVERCOMING CHALLENGES

The main challenge came from using a new design tool, whose catalogs needed to be customized to OHL requirements. A longtime PDS® user, the switch to Smart 3D required training the users and making catalog adjustments, which put pressure on the deadline. The company initially trained nine designers and two administrators.

The challenges experienced with Smart Materials had to do with including the catalogs of electrical and instrumentation disciplines in a short period of time, and improving company standard work process and workflows through the system. Once all the departments used the system during the entire execution, the project experienced better communication in planning, project structure, strategies, teamwork and distribution of responsibilities.

REALIZING RESULTS

With Smart 3D, OHL tackled the modeling of structures, platforms, equipment, piping design, modeling of stands, and the design of electrical trays and instrumentation, as well as interference analysis, reporting, isometrics and plant drawings. The model was presented to the customer in Smart Review.

Smart P&ID was used for process and instrumentation diagrams, while the list of instruments, cables, controls, hook-up diagrams, electrical connections, instrument data sheet and process data sheets were created with Smart Instrumentation. CAESAR II was responsible for the piping flexibility analysis, while Smart Materials centralized all the material management, coding, planning, reception, stock, dispatch to subcontractors and reporting.

The company experienced the following benefits:

- Better quality design and detailed design
- Enhanced integration of project deliverables during different phases of the project lifecycle
- Reduced lead time and “processing” time of requested information
- Improved efficiency and coordination between disciplines

The terminal has 22 storage tanks with nominal storage capacity of 403,000 cubic meters: 346,000 cubic meters for fuel oils and gas oils and 57,000 cubic meters of gasoline. The terminal also has more than 200 mechanical equipment, both static and dynamic. In order to complete the project successfully, OHL Industrial invested more than 50 engineers, two years and an investment of 130 million euros.

Using the latest technologies available, such as 3D modeling of the terminal to the highest detail, enabled the company to have full project traceability. This resulted in improved management of materials and teams, greater design coordination, smoother decision making, and minimal disruptions during the construction phase, which contributed decisively the project to finish successfully. This terminal is the largest built in Spain in a single project and was granted recognition for high security levels.

MOVING FORWARD

The next steps will involve extending Smart 3D and other Smart tools to other projects, as soon as the catalog has been further customized to include OHL database items, specific valve requirements and the company’s materials catalogs. Additional pipe modeling formats will be created and the catalog specifications will be simplified to make it more intuitive. The company aims to integrate on real time their design tools (S3D, SI, SP&ID) using SmartPlant® Foundation as central management system.

ABOUT HEXAGON

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

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.