



## PROFILE:

**Company:** IBERDROLA Engineering and Construction

**Web site:** [www.iberdrolaingenieria.es](http://www.iberdrolaingenieria.es)

**Description:** Iberdrola Engineering and Construction is one of the world's leading energy engineering companies, with project in more than 25 countries, and subsidiaries and branches in another 22 countries. Its engineering and construction activity is targeted primarily at power generation, distribution, and control facilities, with a large involvement in nuclear and renewable energy projects.

**Employees:** 2,500

**Industry:** Power

**Country:** Spain

## PRODUCTS USED

- PDS®
- Support Modeler
- SmartPlant® 3D
- SmartPlant P&ID
- SmartPlant Instrumentation
- SmartPlant Review
- SmartPlant Foundation

## KEY BENEFITS

- Short product learning curve; reduced design times and re-use of designs.
- System integration helps to prevent conflicts of information between disciplines.
- “Environment of engineering” allows all subcontractors and partner engineering companies to work within Iberdrola’s templates, procedures, and specifications.

## IBERDROLA ENGINEERING AND CONSTRUCTION REDUCES DESIGN TIMES WITH INTERGRAPH SOFTWARE

### IBERDROLA Uses SmartPlant® Enterprise to Complete Power Projects

IBERDROLA Ingeniería y Construcción (Engineering and Construction), established in 1995, has become one of the world's leading energy engineering companies. With active projects in more than 25 countries and a project portfolio valued at more than €2.3 billion, IBERDROLA is realizing increased activity from a strategy shift to target the creation of engineering and construction of power generation, distribution, and control facilities. Heavily involved in large nuclear and renewable energy projects, IBERDROLA's services also include project management, engineering, supply, construction and commissioning, turnkey projects, and operational support.

IBERDROLA began implementing Intergraph solutions in 2003, when the landscape was ripe for expanding its business into new markets. The company wanted to execute international EPC projects much like the ones it had in Spain, and the challenge was to do this while saving time and money in execution in spite of the distance and geographical distribution of its international customers.

### INTEGRATION IS THE KEY

To access the international markets, IBERDROLA knew it must be more competitive. And, to be more competitive, they focused on one goal – integration. It understood the success of an EPC project depended in large part on the integration of all the components in the project. In effect, this meant coordination between all the disciplines involved in the life cycle of a power plant, from engineering to commissioning.

Within each of its EPC projects, many groups are involved – subcontractors, engineering, procurement, logistics, construction, and commissioning. Managing the data flow and information is critical in this environment. All the groups have access to view and edit data, and with the SmartPlant Enterprise solutions, the workflow operates smoothly and seamlessly. The firm has also been able to avoid conflicts of information between disciplines, preventing duplication of data and guaranteeing modifications are done in real-time and received across the entire workshare.

“We chose the Intergraph solutions because, as a company, it has provided us a secure implementation with excellent technical support,” said Fernando Torres, System Manager of IBERDROLA. “Intergraph has helped us evolve our functionality toward a more user-friendly environment, and we have experienced great performance in our engineering and 3D design efforts. We specifically chose SmartPlant 3D because of its powerful global workshare and automation capabilities.”

For its initial implementation, IBERDROLA chose Intergraph's PDS, Support Modeler, SmartPlant P&ID, and SmartPlant Instrumentation for its design and engineering functions. SmartPlant Review and SmartPlant Explorer were used to access information for visualization purposes. However, for its goal of system integration, IBERDROLA decided it made no sense to start that process while it was still using PDS and Support Modeler, so it began the migration from these solutions to SmartPlant 3D, Intergraph's next-generation, data-centric design solution. IBERDROLA completed implementation of SmartPlant 3D in early 2008, and continued its use of PDS and Support Modeler only on projects that began before then. SmartPlant 3D provided increased functionality, design speed, and better performance on power plant design projects. In the latter half of 2008, IBERDROLA began the implementation of SmartPlant Foundation, and in 2010, it will begin the integration between SmartPlant Foundation and its project document management tool.

## DUAL PROJECT ENVIRONMENTS

IBERDROLA breaks down its EPC projects into two scenarios – Environment of Engineering and Project Management. The Environment of Engineering contains almost the entire Intergraph SmartPlant suite of solutions and their integration with SmartPlant Foundation. For IBERDROLA, the key is to keep the “know-how” within the company. This means all of the subcontractors and engineering companies work with their templates, procedures, and specifications, and all the designs are made by remote access using Citrix. Using the same systems, architecture and working models, everyone involved in the project will be functioning over an equal model. It is within this environment that SmartPlant Instrumentation, P&ID, and 3D are used for designing process diagrams, construction drawings, purchasing counts, design reviews, and checking assemblies.

The Project Management environment is where IBERDROLA access and integrates all the value-added products within the EPC projects. Connections to the enterprise and resource planning (ERP) system running SAP, the bill of materials system running BDU, the document management system running SmarTeam, the planning system running Primavera, and the visualization system running SmartPlant Review all reside here. All are strategic disciplines in IBERDROLA's EPC

projects. For example, the integration between SmartPlant Review and Primavera allows IBERDROLA to revise the main sequences of project construction schedules and correct mistakes and make improvements in the early stages of a project.

## INTERNAL GROUP AIDS IMPLEMENTATION PROCESS

To help with the implementation of the Intergraph solutions, IBERDROLA has an Architecture and Technology (ARTE) department responsible for, among other things, testing new software and configuring new products. When the products are “developed and proven,” ARTE trains the respective business area within IBERDROLA on the new application and provides technical support, if necessary. This methodology was quite helpful not only for IBERDROLA, but also for Intergraph as well. As IBERDROLA added new products during the software implementation process, the ARTE team received the training and then, in turn, provided it to the IBERDROLA application teams. One exception to this was for SmartPlant 3D, where the whole design application team received training together with ARTE.

To obtain the performance from the software IBERDROLA desired, some customization was required, such as the addition of properties to objects, creating libraries, configuring outputs (reports, drawings, isometrics, etc.), and establishing a methodology to work with these tools for its projects. Once the customization was complete, IBERDROLA quickly experienced such benefits as reduced learning curves, expedited design times, and the ability to reuse designs. These benefits, in turn, have resulted in increased productivity throughout the enterprise.



SmartPlant 3D example

## ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph PP&M provides

enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

For more information, visit [www.intergraph.com](http://www.intergraph.com).

