



FACTS AT A GLANCE

Company: Siemens Energy Sector

Website: www.energy.siemens.com

Description: Siemens Energy Sector encompasses the entire energy conversion chain and, in particular, plant-to-grid connections and other types of interfaces. The group focuses on the requirements of energy utilities and industrial companies – especially those in the oil and gas industry.

Revenue: In fiscal 2009, Siemens Energy Sector generated revenue of \$37.6 billion and a profit of \$4.8 billion.

Employees: 85,000 employees in 90 countries

Industry: Energy

Country: Germany

PRODUCTS USED

- SmartPlant® 3D
- SmartPlant P&ID
- SmartPlant Foundation
- PDS®

KEY BENEFITS

- Integrates tools, centralizes data storage, and automates data transfer
- Enables controlled data sharing, improves data management, and enhances data integrity
- Reduces project hours in modeling piping, piping supports, HVAC, structural, and equipment modeling

SIEMENS ENERGY SECTOR SETS NEW RECORDS IN PROFIT AND REVENUE WITH SMARTPLANT® 3D

Intergraph® Technology Offers Streamlined Solutions and Reduces Project Hours

IDENTIFYING GOALS

By any measure, Siemens AG is a global powerhouse. For 163 years, the company has been synonymous with technological innovation and operational strength. In 2009, Siemens reported revenues exceeding US\$114 billion, with more than 400,000 employees in 190 countries. Siemens Energy Sector offers products, services, and solutions for power generation, transmission, and distribution, and for oil and gas production, conversion, and transport. Within the sector, there is also a growing focus on the dynamic renewable energy market, with emphasis on wind turbines, photovoltaic projects, and solar-thermal power plants.

Siemens' vision for its plant engineering framework required a change in the engineering execution process. In the old environment, most tools were not integrated, data storage was decentralized, much of the transfer of data was on paper, and the environment was "organization-oriented." The company wanted a new environment to modernize its engineering and communication processes by introducing integrated tools, centralized data storage, automated data transfer, and a "process-oriented" environment. The strategy for realizing this vision of an integrated engineering environment was to implement Intergraph SmartPlant Enterprise engineering software in the Siemens Energy Sector.

OVERCOMING CHALLENGES

- Modernize engineering and communication processes through integrated tools, centralized data storage, automated data transfer, and a "process-oriented" environment
- Achieve savings in per-project hours among the disciplines – process, civil, electrical, mechanical, and 3D modeling
- Use the best technologies available to stay competitive and profitable

REALIZING RESULTS

From 1996 to 2008, Siemens used Intergraph PDS for all projects, and SmartPlant Review for design reviews by clients and management. SmartPlant Review supports the entire plant design workflow and natively views PDS files, as well as SmartPlant

files. In 2007, Siemens began using SmartPlant 3D, Intergraph's advanced design software, for three execution and three reference plant projects, followed in 2008 with full release of the software for all new projects.

One anticipated benefit of migrating to a system based on a central data pool was that it would provide a way to streamline data exchange among all the disciplines involved in a project. This easier exchange of data could then enable integrated workflows across disciplines and processes, including business processes beyond design.

Working in an integrated tool environment would also enable controlled data sharing, improved data management, and enhanced data integrity. Siemens also anticipated one more benefit from selecting SmartPlant 3D specifically – a software partner who is accessible and whose global reach ensures support of Siemens' multinational projects.

In evaluating SmartPlant 3D's performance of modeling tasks, Siemens found the greatest reduction in project hours in modeling piping (39 percent time savings) and piping supports (26 percent savings). The next most significant work-hour reductions were in HVAC (22 percent savings), structural (16 percent savings), and equipment modeling (8 percent savings).

MOVING FORWARD

Siemens has exhaustively tested SmartPlant 3D with very satisfying gains in productivity. Based on these results and the company's previous experience with other SmartPlant applications and PDS, Siemens has set a new target – the comprehensive use of SmartPlant Enterprise.

With regard to its engineering tools portfolio, Siemens plans a complete migration to SmartPlant 3D. So far, it has completed the migration for reference power plants and combined cycle power plants. In 2010, it completed the migration for steam power plants

and conventional islands and integrated SmartPlant in the entire Plant Engineering operation. Regarding development and upgrades, Siemens Energy Sector's plans call for the complete integration of SmartPlant throughout the entire engineering process. Further modularization, configuration, and automation will follow.

Werner von Siemens, the company founder, remarked in 1857, "In critical situations, decisive and vigorous action is nearly always the best strategy." Following that axiom, Siemens has aggressively pursued new markets with innovative technologies, now including the SmartPlant Enterprise family of solutions.

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.

