



FACTS AT A GLANCE

Company: Chiyoda Corporation

Website: www.chiyoda-corp.com

Description: Since its founding in 1948, Chiyoda Corporation has successfully built several plants and executed many projects in over 40 countries around the world in very diverse fields, including energy, petroleum and natural gas, chemical and petrochemical, pharmaceuticals, environmental conservation, and general industries. Chiyoda is a front-runner in energy-related technology, and its purpose is to contribute to the society through engineering for sustainable progress by promoting balance and harmony between industrial progress and the global environment.

Revenue: US\$2.97 billion

Industry: Energy

Country: Japan

PRODUCTS USED

- SmartPlant® Materials
- SmartPlant Instrumentation
- SmartPlant P&ID
- SmartPlant 3D
- PDS®

KEY BENEFITS

- Optimized, integrated materials management system
- Automated deliverables such as custom reports for ease of sharing
- Project monitoring for improved efficiency and enhanced risk management
- Successful project execution for concurrent projects

CHIYODA ESTABLISHES INDUSTRY-STANDARD MATERIALS MANAGEMENT SYSTEM FOR MEGA-PROJECTS

Intergraph® SmartPlant® Materials delivers an optimized, integrated materials management system for successful project completion

IDENTIFYING GOALS

Chiyoda Corporation (Chiyoda), headquartered in Yokohama, Japan, is a world-leading engineering company with wide-ranging business interests in such fields as energy, chemicals and petrochemicals, pharmaceuticals, environmental technology, social infrastructure, and industrial facilities. Since its founding in 1948, Chiyoda has built several plants and executed numerous projects in over 40 countries around the world.

Chiyoda had developed its own in-house materials management system but in 1998, it decided to replace the system. After an intensive evaluation of all the solution providers in the market, the company chose Intergraph® and decided to replace its in-house materials management system with SmartPlant® Materials as the global, enterprise-wide standard.

In 2005, Chiyoda took on three large LNG (3LLNG) projects in Qatar, with each project requiring the construction of two trains with a capacity of 7,800,000 t/year each, which is the world's largest capacity record to-date. It was highly critical that the company could execute the challenging engineering, procurement, and construction (EPC) work for these three mega-projects, using Intergraph technology.

OVERCOMING CHALLENGES

- Establish an automated, transparent materials management system across all EPC processes, especially for mega-projects
- Ensure a seamless interface between the materials management system and multiple 3D CAD systems
- Optimize project workflows to execute multiple projects concurrently

REALIZING RESULTS

Chiyoda is an experienced SmartPlant Materials user, and the Intergraph solution played a significant role in the 3LLNG Qatar mega-projects.

"SmartPlant Materials is recognized as the industry standard, and its fundamental data structure is an excellent fit with our desire for an automated materials management system," said Ichiro Ota, general manager of the engineering services

and project IT department at Chiyoda. "With SmartPlant Materials implemented, we were able to meet the requirements of the 3LLNG Qatar mega-projects."

SmartPlant Materials is the only solution available on the market that fully supports the unique materials management processes needed in the process, power, and marine industries. It offers Chiyoda a total materials management and subcontract management solution for its plants and projects. SmartPlant Materials is proven technology and has been adopted by industry-leading EPC companies around the world – users of SmartPlant Materials report improved procurement efficiency with lower risks and costs through accurate and effective materials management.

Intergraph worked closely with Chiyoda to implement SmartPlant Materials to its specific requirements, establishing project workflows, preparing material codes, and customizing reports. Chiyoda also introduced custom functionality, such as reducing the importing spool BOM data volume as the company had requested subcontractors to send BOM data for all spools, and automatic execution of custom reports each night to share the generated intermediate file, which reduces report generation time for each user. In addition, Intergraph tuned several native programs in SmartPlant Materials to meet the data volume of the mega-projects, which was critical for project execution.

Chiyoda also implemented other Intergraph solutions, such as SmartPlant Instrumentation and SmartPlant P&ID, which were integrated with SmartPlant Materials for the sharing of instrumentation and line list data. It was also important that SmartPlant Materials was integrated with Chiyoda's other systems, including SmartPlant 3D and its in-house ELE/INS MTO systems. Chiyoda established a seamless interface, enabling the company to manage all EPC data in a single database for a fully integrated materials management process. The company could monitor the project status regularly and manage any risks accordingly. At the peak of the 3LLNG projects, more than 300 users would be accessing the SmartPlant Materials system.

"SmartPlant Materials helped tremendously in optimizing the entire materials management process, ensuring that the correct quantity of the required materials was delivered at the right time to the construction site," said Ota. "SmartPlant Materials contributed significantly to project execution – without the Intergraph solution, we would not have been able to complete the 3LLNG Qatar mega-projects successfully."

MOVING FORWARD

As a leading EPC contractor, Chiyoda continues to enhance its materials management system with SmartPlant Materials.

Ota said, "SmartPlant Materials is one of the best software solutions for EPC contractors, and it can handle even the most complex and challenging projects. We used it successfully for our mega-projects, and we highly recommend the solution for effective materials management."

Chiyoda is a longtime Intergraph customer and has been using SmartPlant Enterprise solutions, including SmartPlant Materials, SmartPlant Instrumentation, SmartPlant P&ID, and SmartPlant 3D. The company is currently exploring other solutions from the SmartPlant Enterprise suite, such as SmartPlant Foundation, SmartPlant Process Safety, and SmartPlant Electrical, which can be used in an integrated environment to enable Chiyoda to further enhance safety, quality, and productivity of its projects.



Images courtesy of Qatargas Operating Company Limited

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 to make processes and infrastructure better, safer, and smarter. The company'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,

operation, and data management of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the public safety and security, defense and intelligence, government, transportation, photogrammetry, and utilities and communications industries. Intergraph Government Solutions (IGS) is an independent subsidiary for SG&I's U.S. federal and classified business.

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