



Chiyoda Corporation, Japan

Key Facts

Company: Chiyoda Corporation

Website: www.chiyoda-corp.com

Industry: Energy

Revenue: US\$3.1 billion

Country: Japan

Products Used:

- Intergraph Smart® Materials
- Intergraph Smart Instrumentation
- Intergraph Smart P&ID
- Intergraph Smart 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 Smart® Materials delivers an optimized, integrated materials management system for successful project completion

Since its founding in 1948, Chiyoda Corporation (Chiyoda) has successfully built several plants and executed many projects in more than 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.

Identifying Goals

Chiyoda Corporation, 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.

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 Hexagon and decided to replace its in-house materials management system with Intergraph Smart® Materials as the global, enterprise-wide standard.

In 2005, Chiyoda took on three large LNG 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 Hexagon 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 Smart Materials user, and the Hexagon solution played a significant role in the Qatar mega-projects.

“Smart 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 Smart Materials implemented, we were able to meet the requirements of the Qatar mega-projects.”

Smart 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. Smart Materials is proven technology and has been adopted by industry-leading EPC companies around the world – users of Smart Materials report improved procurement efficiency with lower risks and costs through accurate and effective materials management.

Hexagon worked closely with Chiyoda to implement Smart 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, Hexagon tuned several native programs in Smart

Materials to meet the data volume of the mega-projects, which was critical for project execution.

Chiyoda also implemented other Hexagon solutions, such as Smart Instrumentation and Smart P&ID, which were integrated with Smart Materials for the sharing of instrumentation and line list data. It was also important that Smart Materials was integrated with Chiyoda's other systems, including Smart 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 Qatar projects, more than 300 users would be accessing the Smart Materials system.

“Smart 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. “Smart Materials contributed significantly to project execution – without the Hexagon 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 Smart Materials.

Ota said, “Smart 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 Hexagon customer and has been using Hexagon solutions, including Smart Materials, Smart Instrumentation, Smart P&ID and Smart 3D. The company is currently exploring other Hexagon solutions, such as SmartPlant Foundation and Smart Electrical, which can be used in an integrated environment to enable Chiyoda to further enhance safety, quality, and productivity of its projects.

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.

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 3.9bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.