



## CASE STUDY

# Daqing Oilfield Construction Design and Research Institute uses Intergraph Smart® Materials to improve procurement efficiency

Industry-leading Octave technology enables Chinese design institute to establish effective materials management system

### Key facts:

**Company:** Daqing Oilfield Construction Design and Research Institute (DOD)

**Website:**  
[dqyt.cnpc.com.cn](http://dqyt.cnpc.com.cn)

**Industry:** Oil and gas

**Country:** China

**Octave products used:** Intergraph Smart® Materials (Now Octave Loop Core), Octave Facets Instrumentation (Intergraph Smart Instrumentation), Octave Forte Reference Data (Intergraph Smart Reference Data), Octave Forte 3D (Intergraph Smart 3D)

Daqing Oilfield Construction Design and Research Institute (DOD) is an international engineering company and a technology enterprise and a leading design institute in China's petroleum industry. It specializes in engineering consultation, engineering design and survey, turnkey projects, engineering development and research, development of technical products and other services. DOD has maintained a prominent position among China's top 100 survey and design corporations since 1992.

### Identifying goals

DOD is the design institute of Daqing Oilfield Limited Company, which is a subsidiary of China National Petroleum Corporation (CNPC). The Daqing oilfield is the largest in China and is also one of the rare giant sandstone oilfields in the world. CNPC is China's largest oil and gas producer and supplier, as well as one of the world's major oilfield service providers and a globally reputable contractor in engineering construction.

DOD is a leading design institute in China's petroleum industry, providing engineering, procurement and construction (EPC) services. It took on two projects in China: a natural gas treatment plant and a natural gas processing plant. The Chinese design institute wanted to improve its current materials management process and reduce the associated risks with procurement.

### Overcoming challenges

- Establish integrated materials management system across all EPC processes
- Improve procurement efficiency and reduce project risks and costs

## Key benefits:

- Intelligent materials management system for increased procurement efficiency via optimized project workflows
- Integration with other engineering applications for consistent, accurate and high-quality data
- Reduced costs and accelerated project schedules

## Realizing results

DOD determined that Smart Materials was the most intelligent materials management solution available in the market, offering full materials control and optimized project workflows. Smart Materials enables DOD to manage the materials required across all engineering disciplines, such as piping, structure, equipment, electrical, instrumentation and others. This greatly improves overall procurement efficiency and project productivity.

Smart Materials (and now Octave Loop Core) 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 DOD a total material management and subcontract management solution for its projects. Smart Materials is proven technology and has been adopted by industry-leading engineering firms around the world – users of Smart Materials report improved procurement efficiency with lower risks and costs through accurate and effective materials management.

DOD implemented Smart Materials as its centralized materials management system, establishing the relevant material codes for its projects in the Forte Reference Data database. This database can then be applied in Octave's design tools, such as Forte 3D, Facets Instrumentation and other solutions. Octave provided DOD with dedicated support and technical guidance throughout the implementation process.



With clearly defined commodity and material codes, along with the associated rules, DOD has access to consistent, accurate and high-quality data, helping to improve procurement efficiency for reduced risks and lower project costs. Using Smart Materials, the Chinese design institute is able to establish an effective materials management system, ensuring the company delivers its projects on time and within budget.

## Moving forward

DOD will continue to use Smart Materials and further enhance its materials management system. The company will also integrate Smart Materials with other Octave solutions for a single interface across the project lifecycle. This will help to facilitate the overall construction phase of its projects and enable DOD to execute projects successfully.

## About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property, and assets— for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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