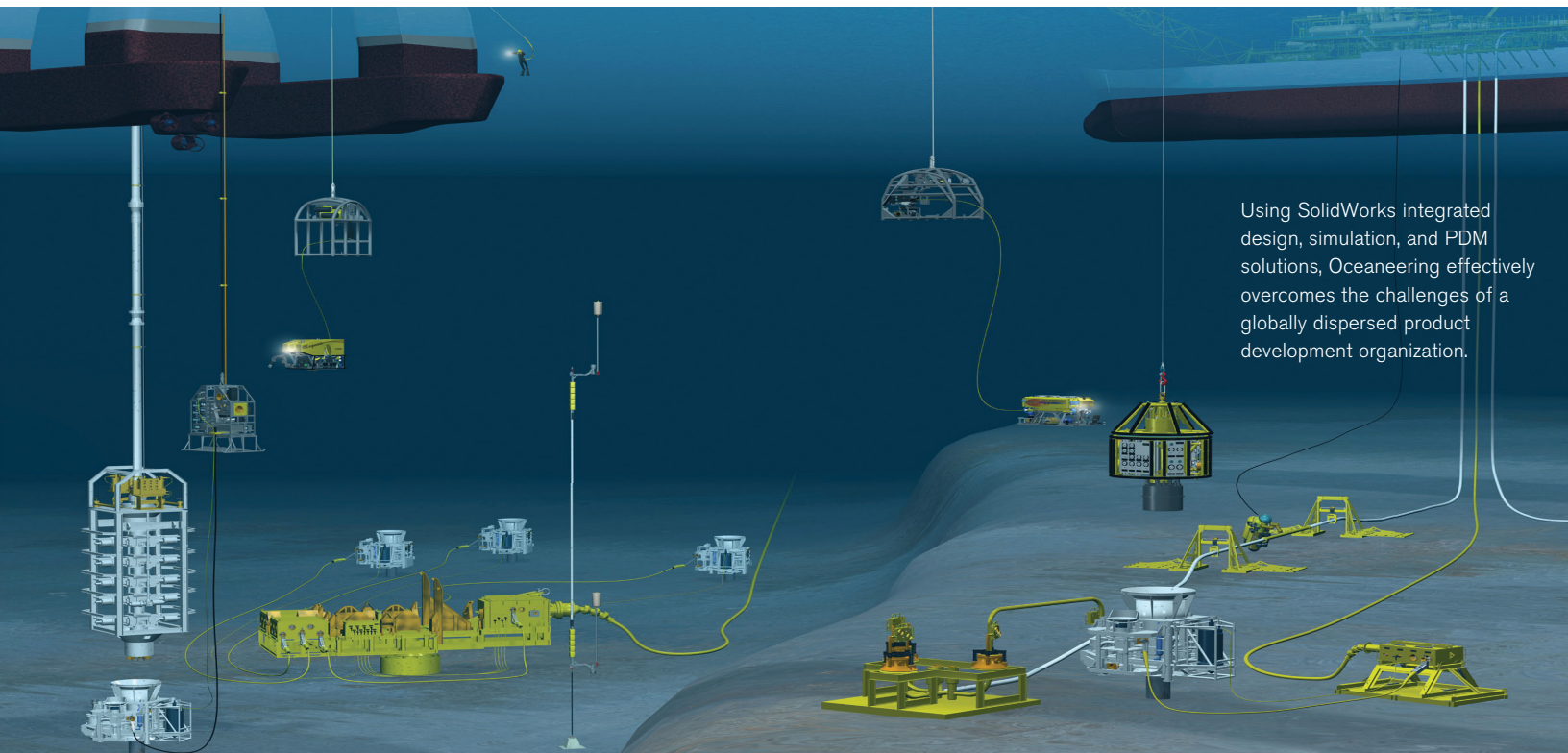


Oceaneering International, Inc.

ADVANCING OFFSHORE OIL AND GAS EXPLORATION WITH SOLIDWORKS ENTERPRISE PDM



Using SolidWorks integrated design, simulation, and PDM solutions, Oceaneering effectively overcomes the challenges of a globally dispersed product development organization.

CHALLENGE:

Connect the design, engineering, and business operations of the Deepwater Technical Solutions division to improve the quality of offshore oil and gas products, eliminate unnecessary development costs, and accelerate product delivery.

SOLUTION:

Implement SolidWorks design, simulation, and PDM solutions to improve communication, minimize rework, encourage design reuse and standardization, accelerate time-to-market, and reduce development costs.

RESULTS:

- Shortened design cycles by 40 percent
- Cut time-to-market by 50 percent
- Reduced development costs by 30 percent
- Increased design reuse by 40 percent

As the search for oil and gas reserves increasingly requires offshore deepwater exploration, Oceaneering International, Inc., has become a leading provider of subsea technical solutions. The company designs and manufactures a variety of engineered offshore products, including remotely operated vehicles (ROVs), mobile offshore production systems, and built-to-order specialty subsea hardware. Oceaneering's expertise has enabled the company to grow into a globally diversified manufacturer of advanced technology applications with revenues of more than \$1.9 billion a year.

The company's rapid growth – with thousands of employees working out of 66 locations in 18 countries – has created a range of product development challenges. At its Deepwater Technical Solutions (DTS) division, engineers use SolidWorks® 3D design and simulation technologies as part of their efforts to streamline development and control costs. However, to truly maximize its productivity gains, DTS needed a product data management (PDM) system that could integrate its globally dispersed product development operations, according to John Mullen, PDM implementation manager.

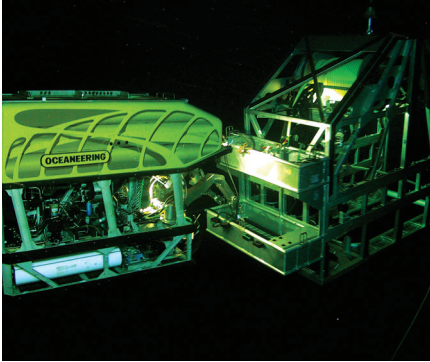
"We needed to implement a PDM system that our employees would actually use in order to save time and money," Mullen explains. "In addition to connecting DTS engineering locations in the United States, Canada, Brazil, Norway, Scotland, India, and Singapore, we wanted to extend access to design data to other departments as well as integrate it with our PeopleSoft enterprise resource planning (ERP) system. We believe that by providing everyone connected with the business with managed access to design data, we will realize substantial improvements in efficiency."

After researching PDM solutions, Oceaneering chose SolidWorks Enterprise PDM software, implementing 200 seats at DTS worldwide. The company chose SolidWorks Enterprise PDM because it is easy to use and administer, requires minimal training, and costs a fraction of the price of most PDM solutions.



"By installing SolidWorks Enterprise PDM, we keep the work flowing, which is how we make money."

John Mullen,
PDM Implementation Manager



With SolidWorks Enterprise PDM, Oceaneering saves time and money through tighter revision control, improved workflows, and greater standardization.

"The way that SolidWorks Enterprise PDM is set up is phenomenal," Mullen stresses. "It does not require teams of people to manage or implement. I can sit in my office in Houston and implement vaults anywhere in the world. SolidWorks has made it so easy to implement and use that our team became proficient and began using it after only three hours of training, compared to weeks of training with other PDM applications."

Compressing development cycles

Since implementing SolidWorks Enterprise PDM software, Oceaneering DTS has reduced its design cycles by 40 percent and cut time-to-market by 50 percent through greater design reuse (a 40-percent increase), tighter revision control, automated workflows, and dramatically improved design search capabilities. For example, DTS engineers used to spend up to four hours searching for a particular design file, a circumstance that led to a great deal of geometry re-creation and related inconsistencies. Now, an engineer can find a specific file in just seconds.

"By installing SolidWorks Enterprise PDM, we keep the work flowing, which is how we make money," Mullen notes. "We are able to find designs more quickly, use what others have already made more frequently, and move quality product out the door more consistently."

Squeezing out unnecessary costs

In addition to time savings, the tighter revision control, improved workflows, and greater standardization afforded by SolidWorks Enterprise PDM software have resulted in significant cost reductions at DTS related to less scrap and rework, fewer mistakes, and more efficient throughput.

"We have saved money by going paperless, using the PDM system to drive workflows and giving manufacturing personnel access to the latest model revisions," Mullen points out. "PDM has enabled us to reduce our development costs by 30 percent and completely eliminate ECOs. Instead of issuing an ECR, we roll to a new revision. With PDM, there are no longer questions about the correct revision or unauthorized part modifications, which results in far less rework."

Integrating development and business operations

SolidWorks Enterprise PDM also pays dividends for DTS outside of engineering and manufacturing through integration with other business operations. Purchasing agents can place accurate orders when they make sense. Project managers have greater insight into design progress. Marketing and sales personnel can update their presentations and materials with the latest revision information.

"PDM makes design data available to whoever needs it in the appropriate form," Mullen explains. "Everything is available to engineers, and other business functions can access data in the format that meets their needs. This degree of integration results in improved communication and feedback, which helps every aspect of our business run more efficiently."



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