



## Det Norske Veritas, Norway

### Key Facts

**Company:** Det Norske Veritas

**Website:** [www.dnvgl.com](http://www.dnvgl.com)

**Description:** DNV is the leading provider of risk management and quality assurance services to the maritime, oil & gas, and power and renewables industries.

**Industry:** Natural Gas, Petrochemical, Offshore

**Country:** Norway

**Products Used:**

- PV Elite®

### Det Norske Veritas Uses PV Elite® to Successfully Complete Pressure Vessel Design Verification

Headquartered in Oslo, Norway, with 9,000 employees and 300 offices in more than 85 countries, Det Norske Veritas (DNV) is an International Association of Classification Societies organization and one of the world's largest providers of risk management services to the maritime, oil, gas and energy, food and beverage and healthcare industries. DNV has worked internationally since 1867.

#### Verifying Design of 40 Vessels for Hydrocarbon Production

DNV Brazil undertook a pressure vessel design verification project for Petrobras to extract natural gas in the Santos Basin, a PMXL1 fixed platform. The project required verification according to ASME VIII Division 1 & 2 2004, addenda 2006 for all classed vessels plus inspections for further certification involving 40 vessels with design pressures of up to 100 Kg/cm<sup>2</sup>.

#### Overcoming Challenges of Different Types of Vessels and Time Constraints

A main challenge of this two-year project for DNV was dealing with different types of vessels (i.e., heat exchangers, towers, separators) in a short period of time with delays from designers and manufacturers in providing equipment according to schedule.

#### Delivering Design Verifications Quickly and Accurately

After the client provided the drawings, DNV input them in the database, created an independent model in PV Elite®, ran the analysis and generated an approval letter for those drawings. The manufacturer then closed the comments and issued a new revision after which DNV issued a Design Verification Report (DVR) describing all the approved drawings, references, correspondences and remarks. Next came the inspection and tests phase, with DNV surveyors using the approved drawings to check compliance with the approved project. Once completed, DNV issued a certificate, concluding the project.

Using PV Elite, DNV Brazil was able to verify the vessel designs quickly and accurately, which included the approval letter and the DVR.

“PV Elite helped us perform faster and more accurate design verification through the input of vendor’s drawings to PV Elite and simulation and the elimination of the chance for errors,” said Rafael Silva, mechanical engineer at DNV Brazil. The result was improved approval times.

### **Eliminating Rework, Saving Time**

“PV Elite helped our project engineers develop new and important pressure vessel skills, and the quick design verification with PV Elite enabled us have enough time to fix any vessel problems or deviations while it was still in manufacture’s hands,” Silva added. “This helped avoid rework in the yard.”

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## **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 21,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.