



Nuon, Europe

Key Facts

Company: Nuon

Website: www.corporate.vattenfall.de/

Industry: Power Generation and Distribution

Products Used:

- SmartPlant® Foundation
- SmartPlant Instrumentation
- SmartPlant P&ID

Key Benefits:

- The digital twin of the facility enables assessment of which changes in the plant are urgent, or include operational risks and cost
- 50% time savings in locating technical documentation

Nuon Digitizes Asset Information Management with Hexagon PPM Solutions

Nuon is a part of the Vattenfall group, which has approximately 20,000 employees. The parent company, Vattenfall AB, is 100% owned by the Swedish state, and its headquarters are located in Solna, Sweden. Vattenfall's main markets are Denmark, Finland, the Netherlands, Germany, the UK and Sweden.

Identifying Goals

Nuon is a utility company that provides electricity, gas, and heat in the Netherlands, Belgium, and the United Kingdom. The goal of this project was to implement an asset information management system for the Nuon Epe Gasspeicher GmbH that operates a plant for storing gas into underground salt caverns. The Nuon Epe plant consists of seven gas caverns of an average depth of 1,200 meters and total gas volume of 400 million nm³.

As the new gas storage plant had no existing software in place and it was Nuon's first plant of this type, the company was searching for a solution that would support the operational and maintenance team in executing their daily work efficiently. The main aim was to find a system that would enable the engineers to find the information needed for their work in an effective and intuitive manner.

The ultimate goal was to ensure that all the engineers could find and update data enabling Nuon to fulfil the safety, environmental and availability requirements of an operational plant, and to keep the license to operate in any situation. The system had to be intuitive to use and be driven by the technology itself to enable a sophisticated structure that would connect with SAP®.

Overcoming Challenges

Nuon chose Hexagon PPM as the solution provider because of the need to avoid losing any intelligent data during the transition. As the automation engineer responsible for the task was familiar with both the SmartPlant® Foundation

(SPF) Module and SmartPlant P&ID modules, no intelligent data was lost during the configuration. During this project the plant was extended twice by two different contractors supplying together approximately another 12,000 files. At that time, the structure of the data management system made efficient integration of these files possible.

From the operational point of view, Nuon staff were familiar with technical documents and plant breakdown structures. This capability to have a technical view from a P&ID played an important role in the operational team's acceptance of using the SPF module, and in using the SAP PM.

Delivering Results

The first step of the project was to implement SPF as a document management system for all the technical, inspection, and non-technical documentation. During the first phase, the data from all the contractors was integrated into the new system. Nuon received approximately 35,000 files on paper or electronically, and after analyzing and consolidation, the final amount was decreased to approximately 25,000 files. These documents were then checked and registered, and any missing documents or data was included. The Phase 1 was executed with no additional programming as SPF can be customized via .Net API's.

During the second phase, when the plant was already operational, the SPF-based Master System was connected with a direct interface with the SAP PM System in order to update and extend tags and assets. The last part of the project was the integration of SmartPlant P&ID and the as-built R&I drawings.

The key benefits Nuon realized using Hexagon PPM solutions include:

- A good overview of the digital twin of the facility enables assessment of which changes in the plant are urgent, or include operational risks and cost

- 50% time savings in locating technical documentation
- The capability to quickly react if questions regarding compliancy are raised by other engineering companies or the government
- Improved data integrity as all the documentation and data can be hosted in one integrated system

Moving Forward

For current operations, Nuon uses SmartPlant Instrumentation to keep their loops up-to-date. SmartPlant P&ID is utilized as a graphical user interface for the technical personnel to connect with SPF. SPF itself is used to find the technical documentation and maintenance documentation quickly. The new system manages all different types of documentation and data from Word, Excel and JPEG files to PDF's and 3D data.

The integration between SPF and SAP enables Nuon to always have access to up-to-date and correct technical data. The integration enables information exchange and updates between the different systems, allowing SAP PM to be used for planning maintenance rounds. The plant operator can use SAP PM to enter any technical issues they have encountered in the process equipment into the SAP messaging system. These messages will be automatically shared with the maintenance personnel so that they can easily generate a repair order for the contracted external service provider.

Robert Neve, Asset Manager at Nuon, commented: "Having a centralized asset information management solution in place has multiple benefits from securing the license to operate to significant improvement in operations due to enhanced efficiency. With the help of Hexagon PPM, we can find our technical documentation in half the time than before."

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.