

Vattenfall Prepares for Sustainable Energy Growth by Reaching Operational Efficiency with ThingWorx



VATTENFALL



- Vattenfall Heat is increasing visibility by centrally monitoring their geographically dispersed installations and related assets. The improved insights in processes, supply and demand and large amounts of operations data enable them to optimize the efficiency of both the operation and energy consumption. This allows them to use resources more efficiently and for example identify potential CO₂ savings.
- The improved insights also enable them to forecast demand and respond in a timely manner with the development of the heat network infrastructure.
- Vattenfall Heat can minimize installation downtime and thus maximize reliability, assuring quality, and sustainable service for customers.
- The features of the ThingWorx platform - including scalability, customization, rapid deployment, and operational insight - enable them to build a future proof platform that creates value on a short notice and supports future demands and requests, such as connecting and developing new applications.

Vattenfall is one of the largest European suppliers of electricity and heat, with more than 13 million customers, and 20,000 employees. The company is actively working towards a climate-smart society without fossil fuels and aims to boost the already-growing demand for sustainable energy in this pursuit. These developments affect all four business units: Power Generation, Wind, Distribution and Heat. In the Netherlands, Vattenfall Heat is anticipating to these goals by optimizing operational efficiency.

This business unit Heat manages around 1,800 assets in the Netherlands such as auxiliary and temporary heat plants, heat production units, and cold plants, serving more than 120,000 households. The growing customer demand and business objectives require centralized and easy access to systems and management solutions but also opportunities to optimally benefit from the available data.

The Challenge

Vattenfall Heat needed a way to increase visibility in the processes, supply and demand, to be able to optimize the efficiency of both the operation and energy consumption. They needed a way to centrally monitor their geographically dispersed installations and manage their large amounts of operations data. They decided to select a single, easy to use, customizable and scalable platform with remote access to all systems and installations for improved visibility and data management.

"Business expansions and acquisitions over the years has created a maze of solutions and data siloes, which has led to inefficient asset management and poor data utilization. So, along with the need to scale up and become more sustainable, implementing a centralized platform was more crucial than ever." – Pieter Nehmelman, Technical Specialist at Vattenfall

The Approach

The choice for the ThingWorx Industrial IoT Platform and Kepware Connectivity Suite followed an extensive selection process. A product requirements document with a list of possible solutions was first compiled by a scrum team with representatives from all important stakeholders, such as management, the technical department, and the end-users, to ensure the best results for all parties involved. The team then started looking for partners that could deliver quick-time



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to value as well as support in the companies' long-term vision. The three shortlisted parties were invited to demonstrate their solutions and services. The demonstration from partner Novotek, who specialize in industrial automation was decisive.

The Novotek specialists took the time to understand Vattenfall's challenges and translated that into a relevant demonstration. They offer support during implementations, deliver product expertise to the scrum team and are available for questions and support after delivery of the platform. Ultimately, Vattenfall Heat chose PTC solutions based on key factors including scalability, customization, rapid deployment, and operational insight. The features enable them to build a future proof platform that creates value on a short notice and also supports future demands and requests, such as connecting and developing new applications.

Nehmelman explains, "The demonstrations were important for us to see whether the promises in terms of technical possibilities were also fulfilled in practice. The PTC solution stood out for us in terms of flexibility, functionality, and scalability. In addition, trust in Novotek also played an important role in our choice. They have been providing solutions for the Vattenfall automation system for a long time and have proven themselves as skilled external colleagues."

The Result

Vattenfall is now using ThingWorx to visualize geographic process data, starting in their Amsterdam region. Via dashboards, they can monitor and analyze process data and manage alarms from generators, remote point measurements, and transfer stations. The Amsterdam project is designed to be easily scaled up and rolled out in other regions, such as Arnhem, Lelystad, and Rotterdam.

The project with PTC affects both the operation and the customers of Vattenfall Heat. Internally, the management, technical department, and end-users benefit from being able to use one centralized, uniform solution for asset management and associated data collection. This offers them greater operational insight in a user-friendly interface. For example, they can now forecast demand and respond in a timely manner with the development of infrastructure. It also offers them the opportunity to use resources more efficiently to identify potential CO2 savings, for example. In addition, Vattenfall can minimize installation downtime and thus maximize reliability, assuring quality, and sustainable service for customers. This pilot thus lays a good foundation for further growth and sustainability.

"Through the phased approach, we keep our own framework sharp and the mixed project group ensures optimum relevance and workability. The mixed project group ensures optimum relevance and workability. This is also evident from the fact that the initial reactions are without exception positive." said Nehmelman. "With Novotek and PTC we are laying a solid foundation for future integrations with other applications and a large-scale rollout for Vattenfall Heat in the Netherlands."



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