

A Power Utility Company leverages Azure IoT Solution to use energy more efficiently and productively



The Customer

A Norwegian utility company, which transmits energy to 190,000 customers in the Agder area, making it country's fourth largest distribution company.

Business Challenge

The company was looking for ways to utilize digital technologies like Intelligent Cloud, IoT to make the grid more intelligent, efficient, flexible and predictable. The goal was to develop a smart grid solution for increased renewable energy from various suppliers and sources.

The company wanted to collect data from different devices like sensors, grid and electrical substation that generate energy to predict the load forecast and automate the generation of power from the devices in the most efficient manner.

The need was to have a plan to run the load forecast data for all connected devices through an optimization engine that would generate results to efficiently run the electrical substation.

One of the challenges in the project was to provide the load forecast data to the optimization engine that needed the input in the form of a csv file. The other challenge was that the output from the optimization engine was also in the form of a csv file, which needed to be parsed and the respective commands to be dispatched to the devices.

WinWire Solution

The project used intelligent technology to create a cutting-edge smart grid solution to prepare the grid for greater renewable integration and help keep pace with growing energy consumption. The **Microsoft Azure, Azure IoT Hub and Power BI** were combined to provide customer with tools to improve dispatch of new energy resources, including device controls and predictive forecasting for situational awareness.

WinWire created a solution by building following components for integration with the optimization engine.

- Optimization Web API
- Optimization Integration Tool
- Optimization Output Processor
- Optimization Dispatcher

The solution will also enable operators to better predict demand and engage distributed resources, thereby reducing the demand on the substation and saving money that would otherwise be needed to upgrade.

Business Value

- Streamlined site operations across organization
- Reduced manual data-entry due to automation
- Quicker actions to issues on sites
- Better insights for the executive team