

Intelligent Plant Management with HanPrism

Yeong-Am Wind Farm in Korea

Yeong-Am Wind Farm, located in the Yeong-Am County of the South Jeolla province, generates 40 megawatts of electricity from 20 wind turbines across its 1,100-acre farm. Yeong-Am is now the fourth-largest wind farm in South Korea. Every day the farm provides 90,000 watts/hour of electricity to a population of 20,000 in the southwestern part of South Korea.

Challenges

The renewable and clean energy initiative is increasingly prevalent in South Korea, resulting in wind power industry growth across the country. The high variability of the electricity generating capability hourly, daily, and seasonally exposes wind farms to frequent equipment failures and operational inefficiencies. In order to alleviate concerns of wind station capabilities, Yeong-Am needed a solution to improve operations and reduce inefficiencies before beginning construction.

Integrated Data Infrastructure

Yeong-Am wanted to intuitively and accurately monitor assets through variables such as production, velocity, and stop/error status to improve the decision-making process. In addition, in order to improve communication and collaboration, Yeong-Am needed a system that made data accessible at various layers of the organization. Yeong-Am needed an integrated data infrastructure at the wind farm and headquarters to ensure farm data was not only available in Yeong-Am's server room but throughout the entire organization.

HanPrism

In 2014, Yeong-Am installed HanPrism and HanPHI, monitoring 8,000 points throughout the farm. Headquarters also installed HanPrism in order to provide additional monitoring and analysis for the wind farm.

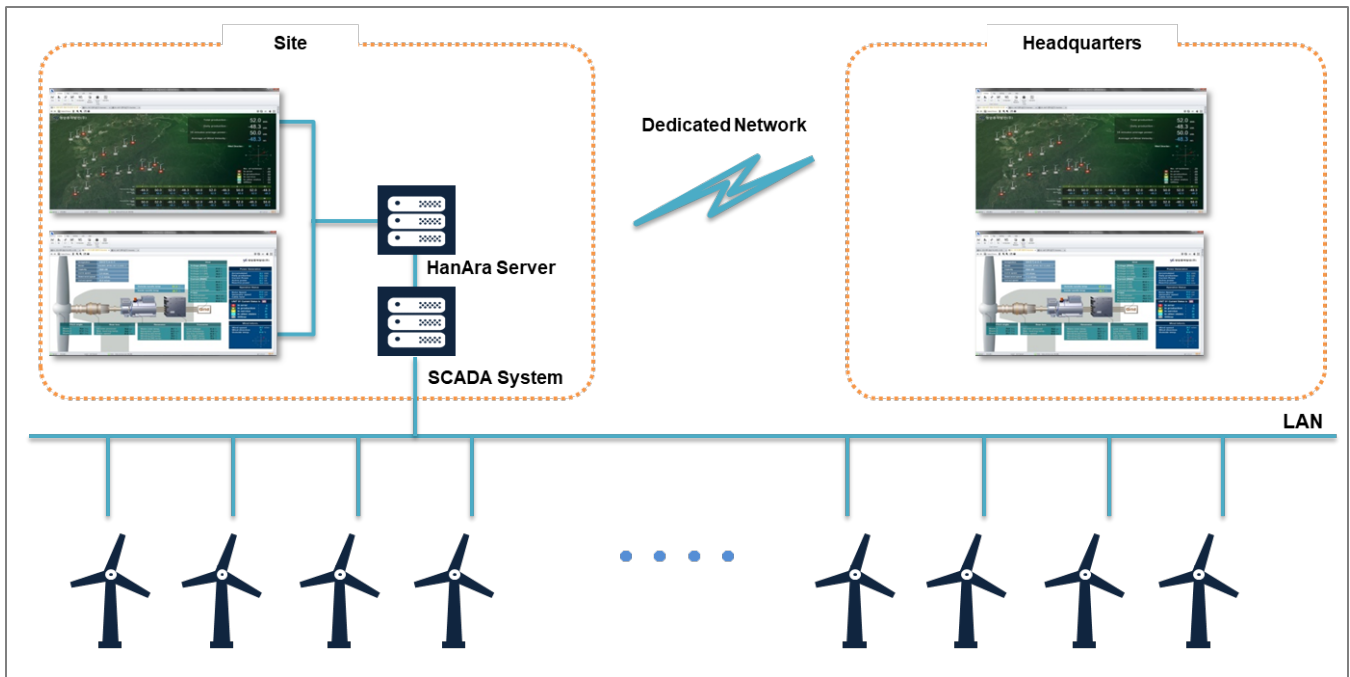
With HanPrism, Yeong-Am draws actionable intelligence from vast and widely dispersed data. Its headquarters are located 203 miles from the wind farm, but with HanPrism, headquarters monitor real-time and historical data at any time.

Benefits

Efficient Data Management

Without HanPrism, Yeong-Am's operational data would be cut off from the rest of the organization, only accessible in the server room. Yeong-Am stores and protects its data locally, but operators, managers, and decision-makers now have access to the data on their computers at any time. No one has to physically go to the server room to analyze Yeong-Am's operational data. They also utilize HanPrism charts and the Excel add-in application to create reports such as generation quantity compared to wind, generated energy compared to speed, and cumulative production.

In addition, regardless of distance, headquarters easily monitors the status of Yeong-Am at the plant, equipment, and sensor level. With HanPrism, headquarters monitors real-time information and process trends at a glance. Headquarters simplifies the decision-making process by utilizing HanPrism’s actionable intelligence.



Challenges

- Inadequate data infrastructure to communicate and collaborate at headquarters and the wind farm
- Operational inefficiency due to high variability of the electricity generating capability

HanPrism

- Monitor real-time data from a centralized location that is distant from the wind farm
- Quickly check, analyze, and share data at any time on their PCs

Benefits

- Manage plant efficiently with a stable data management solution
- Analyze long-term data with powerful trend tools within a second
- Increase data usability through HanPrism dashboards