



Revolutionizing Power Management: Hyundai Steel x PcVue SCADA

INTRODUCTION

Hyundai Steel, a leading steel manufacturer in Korea, wanted to modernize its **power management system**. The primary goals were to improve **energy efficiency**, reduce electricity costs, and enhance operational control.

The company, partnering with Koreadata Corporation, chose PcVue system to monitor its power infrastructure. PcVue is now monitoring four substations via control panels in the factory of Chungcheongnam-do, in South Korea.

To support field operations and improve responsiveness, Hyundai Steel also implemented SnapVue, PcVue’s mobile solution. Their objective was to equip operators with real-time data, reduce reliance on manual processes, and enable faster, safer decision-making directly on-site.

THE NEED TO DIGITALIZE THE PROCESS

Before the project, Hyundai Steel faced significant operational limitations due to the lack of a real-time **monitoring system for its substations**. The company lacked a monitoring system for substations as moved, forcing operators to rely on manual workflows.

Operators relied heavily on paper-based processes: they recorded inspection results and equipment status manually in the field, then had to return to the control room to access system data or validate information. Operators wrote notes on paper, visited the main server to check equipment status, and manually compiled reports.

This created multiple inefficiencies: delays in decision-making, repeated back-and-forth between field and control room, and a strong dependence on phone communication to confirm situations. This process was time-consuming, increased the potential number of errors and limited the ability to respond quickly to critical issues, as there was no



access to **real-time monitoring**. Operators could not access real-time data while being physically present in the substation, forcing constant back-and-forth trips or reliance on phone communication between two personnel. This lack of simultaneous visibility and on-site presence significantly slowed down response times and decision-making.

BEFORE



AFTER



In environments with many similar electrical assets, this also increased the risk of misidentifying faulty equipment.

For example, when an incident occurred, operators first had to locate the issue manually, then contact the control room to confirm the equipment status before acting which slowed down response time.

Safety was another concern, as operators could not always verify in real time whether equipment was still energized before intervening.

To overcome these limitations, Hyundai Steel wanted to try a **mobility solution** that could streamline processes and boost productivity.

They needed a mobile solution that would provide real-time access to data directly, improve accuracy in fault identification, and reduce dependency on the control room.

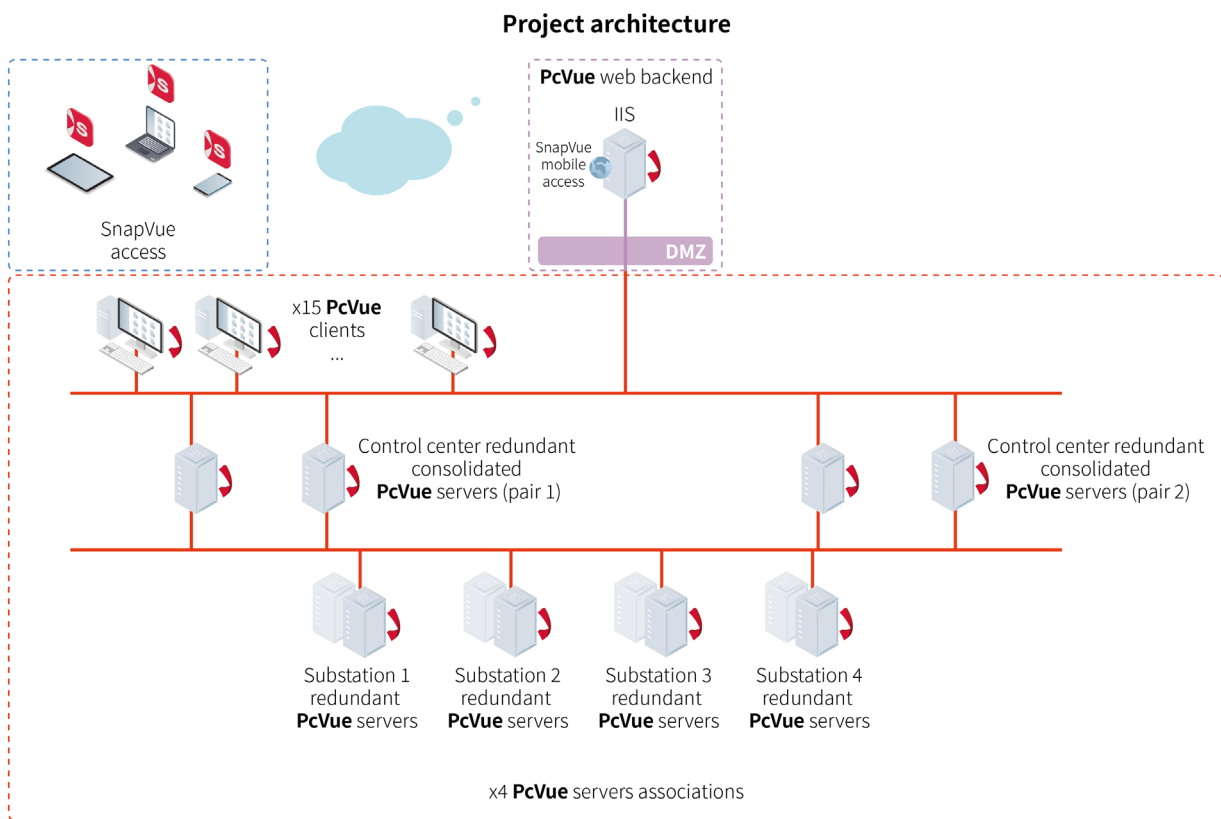
A COMPLETE IMPLEMENTATION

In that case, **PcVue** was chosen to address these challenges. PcVue had already been in place for over 15 years, and the project focused on enhancing the existing system with the recent implementation of SnapVue, without requiring a complete system replacement.

The system enabled real-time monitoring of two substations via control panels, integrating both centralized supervision and mobile access through SnapVue.

Our system enabled the **monitoring of four substations** via control panels, integrating advanced features such as **SnapVue**. Our SCADA system uses communication protocols like **IEC61850, Modbus, OPC, and SNMP**, supporting around 65,000 tags.

The implementation was remarkably efficient, completed within just three months, including **SCADA training** for operators. This fast-paced integration ensured minimal disruption to Hyundai Steel's ongoing operations while equipping their team with the knowledge required to maximize the system's capabilities.



REAL-TIME AND MOBILE MONITORING

Before PcVue, the operators spent significant time performing tasks manually, including checking equipment status, compiling reports, and addressing critical issues.

These operations were time-consuming, required constant coordination with the control room, and often delayed responses to critical events.

This manual approach often delayed responses and created inefficiencies. With the introduction of **SnapVue**, one of PcVue's features, these processes have been transformed, allowing operators to complete tasks more quickly and efficiently.

Operators now receive real-time updates on equipment status and substations directly on their mobile devices, enabling immediate awareness of any issue. **SnapVue** provides real-time updates on **equipment status** and substations.

When an alarm occurs, such as over-voltage or a tripped switch, operators can instantly identify the exact equipment affected and react without delay.

It enables operators to access and download **technical documents** and manuals directly on their tablets, enhancing their productivity. Additionally, the **alarm notifications system** ensures immediate responses to critical issues, such as over-voltage or tripped switches causing power outages.

Currently, **SnapVue covers 650 zones** within Hyundai Steel's operations. Each "zone" corresponds to a specific physical area of the site, where contextual information is automatically delivered to the operator based on their location.

Each zone is defined by a **geotag**, such as an NFC tag, providing location-specific information as operators move throughout the facility. This means operators no longer need to search for data or contact the control room. They automatically access the right information for the equipment in front of them.

Currently, 20 operators use **SnapVue** daily. Plans are already underway to expand the system to more zones, offering even greater coverage and flexibility.

CONCLUSION

PcVue, along with **SnapVue** have provided Hyundai Steel with practical solutions for their power monitoring needs.

The combination of real-time supervision and mobile access has significantly improved operational efficiency, reduced manual processes, and enhanced safety for field operators.

PcVue has significantly improved the efficiency and reliability of daily operations by enabling access to **real-time status updates** and **alarms** and enhancing access to **technical resources**.

Beyond supervision, the project represents a shift toward more connected, autonomous, and data-driven field operations

TECHNICAL POINTS



Features:
SnapVue



Monitoring of
two substations
via control
panels



Number of tags:
65,000 tags

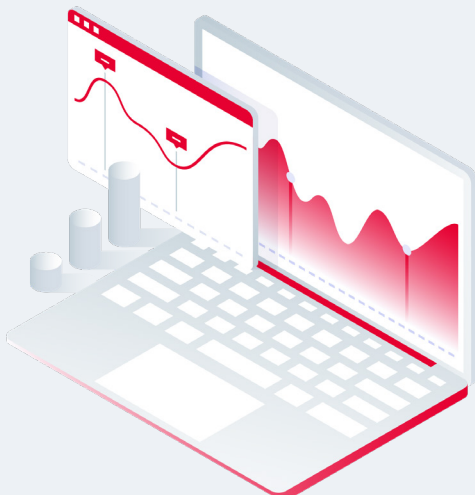


Communication protocols:
IEC61850, Modbus, OPC and SNMP



RESULTS

- **Real-time monitoring:** immediate notification of critical alarms, such as over-voltage, improving response times
- **Enhanced Productivity:** quick and easy access to technical documents and equipment manuals
- **Successful monitoring:** monitoring of four substations now monitored effectively, boosting energy management capabilities.



Client/End-User:
Hyundai Steel

System Integrator:
Koreadata Corporation



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