



CUSTOMER CASE STUDY

Streamlining Data Infrastructure for Power Generation Operations

BKOAI modernized power-generation data systems to improve real-time visibility and operational efficiency

Solution: PI and Ignition Modernization

Industry: Power Generation

Use Case Focus: Data Infrastructure Modernization

GOALS

- Modernize legacy power generation data systems to support real-time operational insights.
- Establish unified data accessibility across multiple generation sites and platforms.
- Transition historical data storage to modern time-series databases for long-term analysis.
- Enable advanced analytics and decision support capabilities across the organization.

SOLUTIONS

- Migrated critical calculations from legacy eDNA to PI Asset Framework.
- Rebuilt visualization screens in PI Vision and configured new PI interfaces.
- Deployed MQTT and DNP interfaces on-site to stream data to central Ignition servers.
- Integrated InfluxDB via Kymera adaptors to enable long-term time-series historization.

CHALLENGES

- Relying on legacy eDNA data systems limited real-time operational visibility.
- Fragmented SCADA historian platforms prevented efficient cross-site data analysis.
- Operating with siloed systems restricted integration with external business tools.
- Managing outdated visualization screens delayed decision-making processes for operators.

RESULTS

- Created a unified data platform supporting both real-time and historical analysis.
- Improved operational visualization and data accessibility across the power generation fleet.
- Enhanced integration with external applications like Power BI and energy management systems.
- Established a robust foundation for future advanced analytics and operational decision-making.

EXECUTIVE SUMMARY

BKOAI modernized power-generation data systems to improve real-time visibility and operational efficiency. The work migrated critical calculations from legacy eDNA to PI Asset Framework, rebuilt visualization screens in PI Vision, deployed MQTT and DNP interfaces to stream site data to central Ignition servers, and integrated InfluxDB through Kymera adaptors for long-term time-series historization. The resulting platform supports both real-time and historical analysis while improving data accessibility, visualization, and integration with external business applications.

Legacy Data Infrastructure Constraints

Legacy eDNA systems limited real-time operational visibility, while fragmented SCADA historian platforms prevented efficient cross-site analysis. Siloed systems also restricted integration with external business tools, and outdated visualization screens slowed operator decision-making.

PI and Ignition Modernization

BKOAI migrated critical calculations from eDNA to PI Asset Framework, rebuilt visualization screens in PI Vision, and configured new PI interfaces. MQTT and DNP interfaces were deployed on-site to stream data to central Ignition servers, while InfluxDB was integrated through Kymera adaptors for long-term historization.

Unified Access for Operations and Analytics

The modernization created a unified data platform supporting real-time and historical analysis. It improved operational visualization and data accessibility across the power-generation fleet, enhanced integration with Power BI and energy-management systems, and established a foundation for future advanced analytics and operational decision-making.