

Improved Security for Korea Gas with HanPrism[®]

CASE STUDY

Safety and Efficiency

As Korea's sole liquefied natural gas (LNG) provider, Korea Gas Corporation (KOGAS) safely distributes natural gas to 17 power plants and city gas companies nationwide, including 17,491 households in 207 districts. KOGAS operates four production facilities and boasts the largest single tank storage capacity at 270,000 kiloliters. In total, KOGAS operates a nationwide pipeline network that spans more than 4,824 kilometers (2,997 miles), and stably supplies LNG throughout South Korea.

Challenges:

Safety is a top priority for KOGAS as the company strives to minimize risk throughout the process from gas production to supply by constantly performing safety diagnostics and emergency drills. KOGAS also analyzes factors impacting the stable demand and supply of natural gas.

Thus, KOGAS understands the importance of a data infrastructure to manage its data resources and related resources. However, its prior plant information system (PIS) data infrastructure did not help KOGAS improve its safe and efficient operation.

*KOGAS operates South Korea's largest
single tank storage capacity at*

270,000 kl
for liquefied natural gas

KOGAS' pipeline network spans over

4,824 km

Top concerns:

Security

Maintenance

Upgrades

Key Risks to Offset

- **Cyber Security Concerns**

The Korean government designated KOGAS as a *critical information infrastructure*. Therefore, KOGAS needed to reinforce its security system - including its information system - to protect its data and operation from cyber threats. The existing PIS did offer an optional cybersecurity solution; however, that solution was not cost effective.

- **Maintenance & Upgrade Burden**

KOGAS did not participate in the yearly maintenance program for their existing PIS. When any issue occurred, KOGAS would contract with the vendor for the needed services.

KOGAS was also interested in upgrading their system by installing additional tags, but the vendor's policy required KOGAS to renew the annual maintenance program in order to be eligible for such upgrades, plus pay a penalty for not having a current maintenance plan in place. The cost of the additional tags plus the cost of the maintenance program plus the penalty fee simply did not make financial sense.

Solution & Benefits

In 2013, KOGAS chose HanPrism as their data management system after comparing it to their existing system. The HanPrism data migration tool converted KOGAS' historical data for over 18,000 points across 5 years from the existing historian server to the HanPrism server. HanPrism replaced the existing PIS system at two facilities and became the data infrastructure at one new KOGAS facility. With HanPrism, KOGAS effectively manages vast amounts of data securely and utilizes built-in visualization and analysis tools throughout all layers of the organization.

Solution & Benefits

- **Reinforced Cybersecurity**

With HanPrism, KOGAS did not need an additional expensive cybersecurity system. HanPrism is a comprehensive solution that includes physically unidirectional networks to stop any cyber attack. In compliance with Korea's security requirements, KOGAS now consistently and stably collects, stores, and utilizes their data with confidence and integrity.

- **Reduced Maintenance Costs**

With HanPrism's Care Program, KOGAS receives the necessary support and training it needs to effectively use its data to create actionable intelligence. Plus, by analyzing KOGAS' requirements, we were able to fix many database and point information errors buried in the previous PIS.

- **Increased Actionable Intelligence**

HanPrism is now the total data infrastructure for KOGAS, collecting and storing equipment data. Users easily monitor their process and data with intuitive user interfaces and mimics. Additionally, KOGAS now loads historical data faster and more precisely than with its prior PIS.

KOGAS leaders and directors view the status of individual facilities as well as the entire fleet using HanPrism. Engineers and operators use HanPrism charts and the Excel plug-in application to analyze data daily, weekly, or monthly. Overall, KOGAS utilizes HanPrism to generate actionable intelligence and simplify the decision-making process.

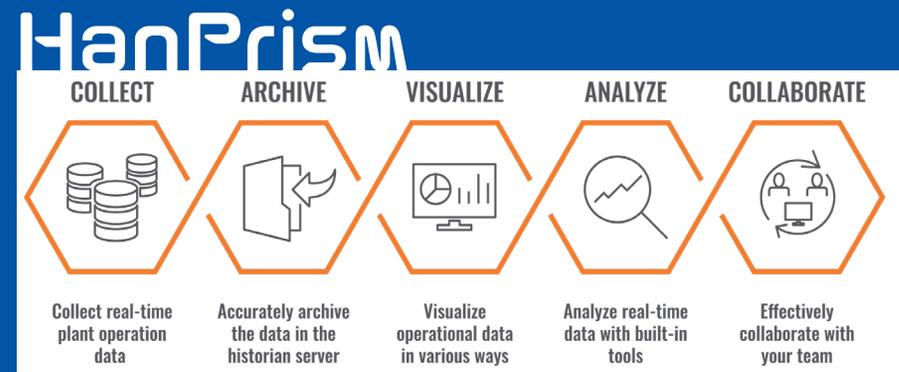
HanPrism migrated over

18,000

points of historical data for KOGAS

That historical data spanned

5 years



About HanAra Software

HanAra Software connects deep industry knowledge with innovative technology to provide integrated data management and predictive maintenance solutions for process plant management. Through the implementation of HanAra solutions, plants enjoy results including reduced costs, increased efficiencies, and ultimately improved plant safety. HanAra Software combines solutions with training and care programs to support clients every step of the way.

HanAra Software is the United States headquarters of South Korean-based BNF Technology. BNF Technology is a professional software development company that provides optimized software solutions for operational management of process plants. Coal-fired, combined-cycle, seawater desalination, and petrochemical plants use our solutions. Since our founding in the year 2000, BNF Technology has provided various solutions to more than 150 units across two continents to help them achieve operational excellence.

**To turn your data into actionable intelligence,
call: 737.209.9220
or email: info@hanarasoft.com**

About Korea Gas (KOGAS)

Founded in 1983, KOGAS is South Korea's sole LNG provider. It focuses on providing clean, safe, and convenient energy to the nation and has become the world's largest LNG importer. By importing LNG from the world, KOGAS is able to produce, purify, sell, and supply LNG to power plants and utility companies throughout South Korea. As a public organization, KOGAS ensures the stable supply of LNG.

KOGAS operates four LNG terminals (Incheon, Pyeongtaek, Tongyeong, and Samcheok) and a pipeline network of 4,824 kilometers. KOGAS is also expanding to other nations, participating in gas pipeline projects and providing expertise in construction and operation of gas pipelines.

