



How an Indonesian energy company has enhanced **operational safety** by making its solution explosion-proof with Hikvision

CASE STUDY

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Organization:

PT Pertamina Gas

Location:

Riau Province,
Indonesia

Industry:

Energy

Product:

Explosion-proof
cameras, automated
cleaning system,
DeepinMind NVRs,
interactive displays

At its new booster pump station in Riau Province, the Indonesian energy company PT Pertamina Gas has deployed Hikvision's explosion-proof cameras and automated cleaning systems. By eliminating fire risks and protecting workers from hazardous pole-climbing maintenance, this update has strengthened operational safety and efficiency at the facility.

The challenge

Meeting the demands of critical energy infrastructure

A key player in Indonesia's national energy sector, [PT Pertamina Gas](#)'s new booster pump station facility is designed to strengthen its ability to distribute oil around the country. Built to the highest standards, this facility will play a key role in Indonesia's energy vision and requires security systems that reflect this importance.



The location, however, presents some quite unique operational requirements. In particular, the booster pump station area is classified as explosion-proof, which means that equipment installed on-site needs to be able to function safely in potentially extremely hazardous conditions. However, conventional cameras may present challenges in such environments. If they malfunction and produce sparks or excessive heat near oil pipelines or flammable materials, it can trigger explosions or fires with devastating consequences.

In addition, with cameras mounted at significant heights, PT Pertamina Gas sought solutions that could not only withstand extreme environments, but which were also practical to maintain over the long term. Apart from this, the solution needed to be flexible enough to serve multiple security purposes, from monitoring the perimeter to helping prevent unauthorized access to restricted zones.

The solution

Explosion-proof cameras and smart automation safeguard critical operations

To address these specialized requirements, PT Pertamina Gas has worked with its integration partners—[PT Elnusa Tbk](#) and [PT Geptronika Sentosa Utama](#)—to deploy a comprehensive security system from Hikvision.

The solution centers on six [316L 2MP 36x Explosion-Proof Cameras](#) (DS-2DY9236I-CWX(T5/316L)), each featuring 36x optical zoom capability. These cameras are strategically mounted on poles around the perimeter, providing clear visibility across the facility. They meet full international ATEX and IECEx certifications and are designed specifically for use in environments with explosive gas and flammable dust atmospheres. Their protective housing ensures that even if internal components malfunction, any sparks or heat remain safely contained, preventing external ignition. This design puts safety first without compromising on video quality.



One of the most innovative design features in these cameras is the integrated lens washing system. Given that cameras are installed at considerable heights, manual cleaning would require workers to regularly climb high-mounted poles. This would be a time-consuming and potentially highly dangerous task. With these cameras, however, operators can activate an automatic washing system remotely using a joystick controller. When the lens needs cleaning, the system releases water or cleaning solution, followed by an automatic wiper that clears the lens.





These cameras also have a line crossing detection feature which alerts security personnel whenever someone approaches restricted areas. This capability adds an important layer of protection for workers, helping prevent accidental entry into dangerous zones.

Inside the working area of the booster pump station, nine [2 MP Vandal WDR Fixed Dome Network Cameras](#) (DS-2CD3123G2-I(S)U) provide coverage of indoor spaces. All video feeds connect to two [16-ch 2U 8K DeepinMind NVRs](#) (iDS-9616NXI-M8/X), which ensure reliable storage.

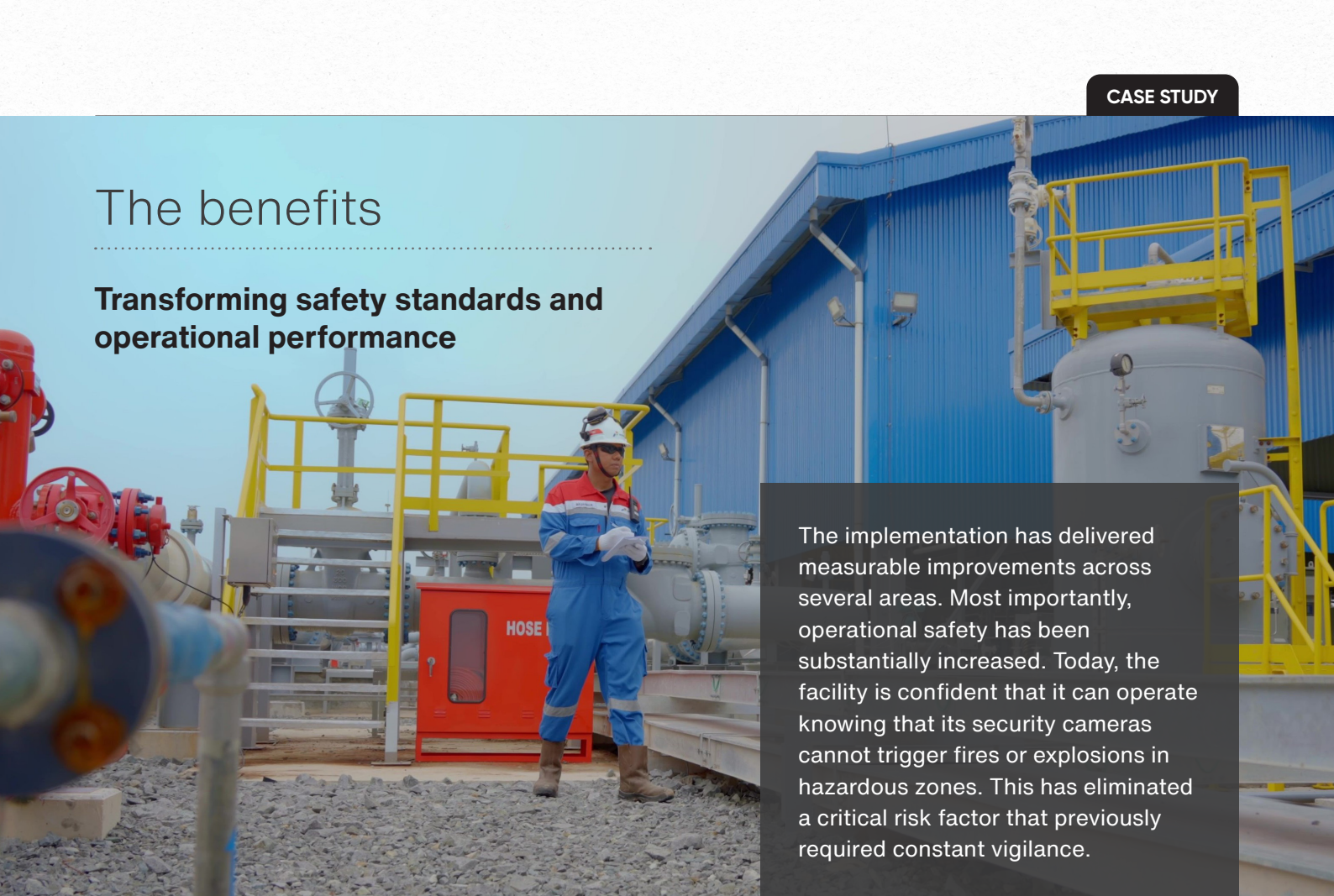


In the command center, two [65-inch 4K Interactive Displays](#) (DS-D5C65RB/B) serve dual purposes. One screen shows live security camera feeds, while the other displays operational data from the facility's alarm and Supervisory Control and Data Acquisition (SCADA) systems. These displays run on both Android and Windows platforms, making them versatile enough to support video conferences and collaborative work sessions. The facility team has found the whiteboard function particularly useful, describing the upgrade from standard displays as a significant operational improvement.



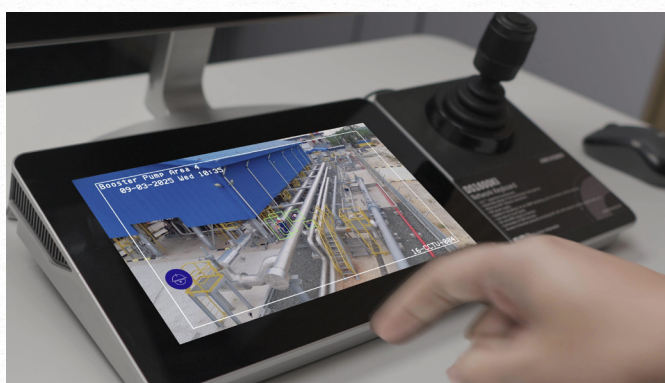
The benefits

Transforming safety standards and operational performance



The implementation has delivered measurable improvements across several areas. Most importantly, operational safety has been substantially increased. Today, the facility is confident that it can operate knowing that its security cameras cannot trigger fires or explosions in hazardous zones. This has eliminated a critical risk factor that previously required constant vigilance.

Staff health and safety have also seen dramatic gains. Eliminating routine pole climbing removes one of the most dangerous tasks workers faced, while proactive alerts prevent accidental entry into restricted areas where hazards could prove fatal. “This technology isn’t just a tool,” said Danny Ardiantara, Assistant Construction Manager at PT Pertamina Gas, “it’s a tangible expression of our commitment to safety and social responsibility.”



Operational efficiency has also increased substantially. Maintenance tasks that once required hours of coordination now happen instantly from the control room. Consolidated displays enable faster decision-making and more effective facility management across both security and operational functions.

PT Pertamina Gas has also demonstrated how AIoT (AI-powered Internet of Things) technologies can elevate safety standards at critical energy facilities. By prioritizing solutions that protect workers and prevent environmental risks, the company has created a model where operational excellence and human wellbeing reinforce each other. In this way, it is a great example of technology for good; innovation that safeguards people, preserves the environment, and strengthens essential infrastructure for the communities it serves.



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-- Danny Ardiantara, Assistant Construction Manager at PT Pertamina Gas

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