

TITAN integrated, hardware-independent IP CCTV and PSIM solutions for the protection of critical national infrastructure



Complete CCTV and PSIM Solutions for Offshore and Onshore Assets physical security

Reducing Risk in Mission Critical Environments

Avoidance and mitigation of shutdowns, **saving** millions of pounds in cash-flow.

Increased **safety** of employees because of enhanced supervision of people and systems.

Better **compliance** with internal systems and protocols, and also with external regimes especially in the area of HSSE.

Enhanced **control**, governance and supervision, including audit tools and emergency response capability.

Reduced long term **cost of ownership** of physical security

hardware because of ease of upgrade, ease of legacy migration, ability to integrate rather than discard legacy technology on brownfield sites, and absence of proprietary lock-in.

Excellent, intuitive user interfaces that make systems **easy to use**.

Assurance that assets are **secure** and monitored.

The very best hardware from **trusted brands**.

Scalability.



Our energy sector customers include a tier one operator in the UKCS (mini case study overleaf). Overseas our customers include the Maghreb-Europe Gas Pipeline operating company which uses Titan Vision to protect over 1,000 km of natural gas pipeline, metering stations and other facilities in North Africa. Titan Vision integrates with the customer's existing Security Management System (SMS) and Perimeter Intrusion Detection System (PIDS) to monitor fencing on either side of the pipeline. A fibre ring runs along the entire fence line. In the event of an attack, power failure or break in the fibre, Titan Vision passes the alarm into the SMS and displays video of the location of the incident. Customers in the Middle East via our partner, Geoquip, include the Kuwait Oil Company and the Government of Oman.

Our customers include a tier one operator who uses our integrated security platform, Titan Vision, to protect North Sea assets & pipelines.

The Brief

We were asked to design a web-based system to provide visual confirmation of alarms on an unmanned platform which functions as a hub for the entire oil field, taking the oil from all other platforms and sending it to the coast. All the equipment telemetry had to be transmitted via the customer's intranet. The platform is monitored and controlled (i.e. gas, fire, pressure etc.) from an operations room over 160km to the south. The old operational procedure for an alarm offered a grace period to check all safety parameters before shutting down the platform. If the response team received a second alarm the platform was shutdown immediately. A variety of delays and costs would then be incurred, including flying engineers to the platform and many hours with the platform out of operation. A typical shutdown would take around 12 hours and cost millions of pounds in lost production.

The new system involved installing cameras with PTZs on each level to give overall views of the platform and fixed cameras viewing certain important components and valves. The purpose was to increase the grace period following an alarm as the operators now had vision from all areas of the platform, allowing a much more comprehensive evaluation of any alarm incident and hopefully avoiding platform shutdowns.

System Design

The cameras are high definition 1/2" day/night JVC's installed in ATEX approved Exd explosion proof housings giving excellent images in all lighting conditions. As the platform is unmanned it was decided to house the control server and network video recorder in the head office frame room on the mainland and transmit all camera images over the wide area network via compression codecs. Due to bandwidth restrictions the streams were capped at 750kbps for the PTZs and 256kbps for the fixed cameras. Using Titan compression codecs these figures easily allow real time images at a good resolution offering an accurate view of conditions and incidents on the rig. The main viewing stations are based further along the pipeline WAN where the operator has full view and control of the cameras. The CCTV server is linked to the platform's modbus serial alarm interface and responds to any given alarm condition by automatically moving cameras to the alarmed area and displaying the 4 most critical images on the operator's PC. This automation vastly reduces the time taken to evaluate the alarm condition, assisting with the decision to override the platform shutdown routine.

Following the success of this new system on the unmanned platform, a decision was taken to upgrade the 4 existing pumping stations' CCTV systems on the mainland in line with the new specification in order to give the operators full view of all sites along the pipeline.

This Titan Vision system has been in operation for 9 years, during which time it has given the operator the confidence to avert numerous potential shutdowns and hence save many millions of pounds in lost production.

