

Motorola Solutions' Silent Sentinel cameras provide accurate early threat detection for African FPSO to boost safety, efficiency, productivity and operational continuity

GLOBAL LEADER IN THE OIL AND GAS INDUSTRY

The end user is a global leader in the oil and gas industry, providing engineering, procurement, construction, and installation services for both offshore and onshore projects. It specialises in large-scale infrastructure projects, including energy-related facilities, focusing on deepwater oil exploration, drilling, and other complex energy-related services. The company also operates in the renewable energy sector, supporting transition projects.

AXIANS ITALIA SPA SB

Axians Italia SpA, headquartered in Milan, provides IT and digital transformation services, such as cloud and data centre Infrastructure, enterprise networks and physical and cyber security, to businesses and public entities. A brand of VINCI Energies, Axians has over 16,000 employees worldwide and an annual turnover nearing 4 billion Euros.

End User

- Global leader in the oil and gas industry
- African FPSO (floating production storage and offloading unit)

Partner

Axians Italia SpA SB

Industry

ICT solutions for the oil and gas sector

Challenges

The customer needed:

- A high-performance, FPSO-specific early detection system to accurately identify potential maritime threats and attacks, which are a major concern for oil and gas operators in Africa; these attacks can disrupt operations, endanger personnel, and cause significant financial losses
- Robust hardware that can withstand harsh weather, such as cyclones, storms, high waves, strong currents and marine conditions (salt water is highly corrosive and conductive, which can significantly impact the performance and lifespan of electronic equipment and infrastructure)
- A highly-automated, intelligent system to mitigate the risk of human error; oil and gas operations run 24/7, worker's fatigue can increase the risk of delayed emergency response



MOTOROLA SOLUTIONS

Challenges

Hostile threats and risk of human error

This global leader in the oil and gas industry was looking for an early detection system for its FPSO (Floating production storage and offloading unit) located off the coast of Africa. The area is, historically, prone to a range of hostile maritime threats, including attacks, security breaches, and extreme weather, such as cyclones, storms, high waves, and strong currents; and these hazards, together with the ongoing risk of collisions, can endanger personnel and damage equipment, as well as disrupt operations with the resulting significant financial and resource losses. Therefore, to try to detect threats faster and more accurately, the company decided to automate its early warning systems. It also wanted to mitigate any risk of human error; its FPSO is operational 24/7 and worker fatigue or a shift change, for example, might cause delays in its emergency response.

Bespoke technology in a harsh, corrosive maritime environment

The company required a high-performance, reliable system specifically designed for offshore facilities, for the early detection, recognition, and identification of possible hostile threats around maritime installations within a comprehensive maritime security scenario. It also needed highly-ruggedised equipment with finishes and IP ratings suited to the harsh marine environment, as saltwater, being highly corrosive and conductive, can significantly impact the performance and lifespan of electronic equipment and infrastructure installed offshore.

Solution

A FPSO specific security system which comprised Silent Sentinel cameras, radar, AIS and specialist command and control software was deployed, for a comprehensive and robust approach to safeguarding the facility and as a key component of its overall security infrastructure.

Early detection with increased long-range visibility and identification

The Jaegar cameras offer clear, high quality images, even in low light conditions at night, allowing the ability to see vessels, objects, and activities at long distances, depending on sea and weather conditions. This extreme precision imaging now gives the FPSO more time to assess potential threats; and the high-resolution videos are paired with the vessel monitoring capabilities delivered by the associated radar and AIS systems. This allows operators to identify vessels, read identification markings, and even recognise individuals, all at significant distances, so they can organise a fast, efficient response to any suspicious vessels or possible dangers.

Highly ruggedised, high-performance marine-grade cameras

The end user has been impressed by the durability of the Silent Sentinel cameras; their ruggedised housing with marine-grade finish is tested to an IP67 standard to protect against dust and water ingress and is highly resistant to saltwater corrosion. This durability ensures long-term functionality and minimises maintenance frequency.

“Offshore facilities, particularly in Africa, face a unique set of challenges based on a combination of environmental, technological, and human factors. These issues can directly impact the efficiency, security, safety, and longevity of operations, which is why our customer was looking for a reliable, high-performance, automated early threat detection security system suitable for the marine environment. The Silent Sentinel cameras were the obvious solution. Moreover, the project support we received and the strong collaboration with the Silent Sentinel team facilitated a smooth, efficient, and successful deployment to ensure the Jaegar long-range cameras met our customers' expectations in this challenging environment.”

– Simon Rech, Project Manager - Axians Italia SpA SB



Minimal infrastructure results in cost effectiveness

Moreover, with their wide-area, long-range capabilities, fewer cameras are needed to provide the coverage the FPSO needs, thus lowering initial investment costs too.

Reduced manpower and human error

Finally, utilising automated monitoring for tracking, target classification and event detection has lowered operator workload and minimises the potential for human error. Indeed, the Jaegar cameras reduce the need for physical patrols, allowing workers to be deployed more strategically and efficiently for increased productivity.

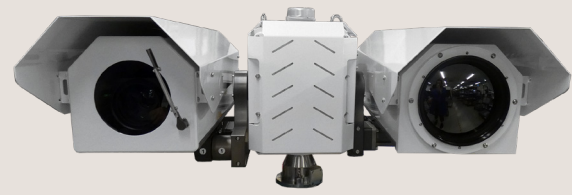
Benefits

Successful, cost-effective early threat detection system suitable for FPSOs

The integration of the Jaegar long-range surveillance solution into the FPSO security system is enhancing security, situational awareness, and operational efficiency. The FPSO can now quickly detect and assess any potential threats around its offshore operation, as an early warning for emergency response. Moreover, the advanced features of the solution and the durable design of the cameras, which are built to withstand harsh marine conditions, are providing significant benefits, including improved, accurate threat detection, real-time monitoring, reduced downtime, and long-term reliability with minimal maintenance.

Future plans

The end user has been so impressed with the benefits of integrating the Silent Sentinel camera platform for long-range surveillance capabilities into its wider security systems, that it is planning to roll out this solution to further FPSOs in the near future.



Solution

A FPSO early threat detection security system comprising:

- Silent Sentinel Jaegar long-range cameras
- Radar
- AIS (Automatic Identification System)
- Specialist command and control software

Benefits

- Early threat detection and improved response accuracy
- Reduced false alarms and human error and fatigue: automated monitoring for tracking, target classification and event detection reduces operators workload and minimises the potential for errors
- Improved operational efficiency: the long-range cameras reduce manpower requirements and the need for physical patrols, allowing workers to be deployed more strategically and efficiently
- Improved safety for both personnel and assets
- Cost and resource savings through both the prevention of incidents, such as collisions or security breaches, as well as the range and durability of the Jaegar cameras
- High-performance hardware and technology suited to the marine environment, for increased uptime
- Excellent support and collaboration to ensure deployment success





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