

CASE STUDY

OIL&GAS SITE SECURITY

> Securing Full Oil and Gas Facilities

Today oil and gas industry is a complex operating environment, critical to the world economy. As exploration and drilling activities move into increasingly remote and hostile locations, the need for continuous security increases.

SPYNEL panoramic thermal cameras address the requirements of oil & gas infrastructures in a scalable and flexible way, adapting to different geographic conditions, size, scale requirements and various threats.

> Background

Oil and gas plants tend to be extremely large, including onshore refineries with pipelines spanning long distances and offshore platform with satellite unmanned platforms making its protection extremely challenging. Plants require a **robust and reliable surveillance**, with cameras able to provide **early warning night and day**, in all weather conditions.

Within a **major project of security enhancement for onshore and offshore infrastructures**, HGH delivered several SPYNEL panoramic thermal surveillance cameras to an oil & gas company to provide 24/7 protection to the workforce and plant helping to preserve the efficiency of operations.

HGH SPYNEL IR 360 cameras were especially chosen by the oil&gas company to provide:

- Surveillance of the exclusion area along the pipeline
- Surveillance of the onshore site perimeter
- Surveillance of the main offshore platform with its 2 unmanned satellites
- Surveillance of the oil terminal inside perimeter
- Coastal surveillance up to 20km between onshore and offshore facilities
- Detection, tracking and classification of all types of threats
- Automatic alarm triggering



Cyclope GUI for onshore facility monitoring

> Challenges

The major challenge is to identify as early as possible the detected targets as malicious assailants: it helps for **an accelerated decision-making** to face an unwanted critical situation. The design of an effective and integrated plant security system is a must to ensure the protection of this wide oil&gas production site.

- Secure very large complex spanning several hundred km² with no gap in security
- 365 days, 24/7 surveillance, day and night capability
- Must withstand harsh maritime/terrestrial environments: sea, fog, corrosion, extreme temperature, sand, vibration, solar glare and more
- Automatic detection, tracking, and identification of various threats in real-time, including small targets such as RIB undetectable by radars
- Situational awareness helping for rapid assessment of unwanted events
- Seamless and robust integration into third party Video Management System (VMS) thanks to Cyclope software ONVIF compliance
- Remote location
- Evidential videos

> Solution

Multiple SPYNEL sensors were deployed throughout the oil and gas facility, providing a full surveillance with no security vulnerability.



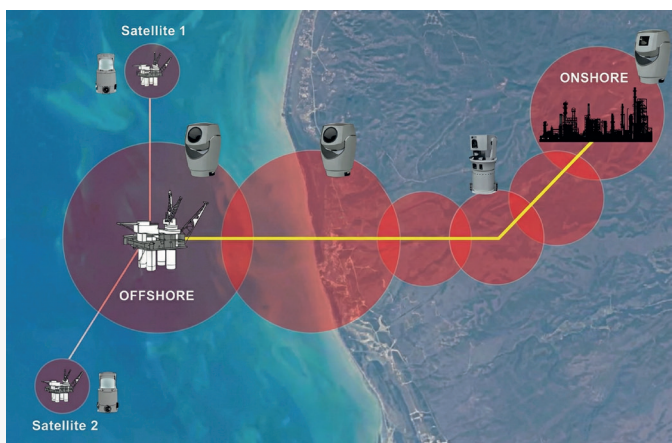
Small boat detection, tracking and classification with Cyclope software

Accurately Detect, Track, Identify Risk at Distance

With its panoramic thermal imaging technology, SPYNEL cameras detect in real-time **multiple threats, anywhere in the oil and gas site**, along the pipes, in the perimeter surrounding the pipes, along perimeter lines and in the open sea. SPYNEL keeps a **continuous surveillance and tracking** of the site even in case of multiple events happening at the same time.

The **intuitive user interface of Cyclope software** makes it easy to define a secured zone. A **buffer zone** around the asset, or a pipeline can also be added to provide an early warning to the operators in case of an unwanted intrusion. Cyclope sends **alerts to the operator anytime a threat is detected**.

The protection of small unmanned offshore satellites is ensured with SPYNEL-M sensors creating a **short range surveillance bubble**



Monitoring areas of onshore and offshore facilities with Spynel

around the satellites whereas the main offshore platform is protected with the longest range Spynel-X sensor. It ensures increased situational awareness by detecting any approaching ship with unprecedented advance notice to warn and to save the staff on site.

Interoperability

ONVIF compliant, Cyclope software is easily interfaced with third-party VMS, for a single monitoring and control environment, allowing operators to take rapid actions. The **video recording and playback** can serve as evidence, providing a complete picture to enhance the investigation process and outcome.

Cyclope Hypervisor software is also offered by HGH for **remote multi-site/area security**. It provides real-time centralization of all threats detected by the multiple SPYNEL sensors deployed on one or several sites.

Return-on-Investment

Monitoring an entire site can be a very expensive project with a traditional surveillance system, in terms of number of sensors and deployment requiring infrastructure. The combination of **long-range detection performance and the panoramic spinning imaging technology requires fewer cameras and less infrastructure, lowering drastically costs.**

"HGH SPYNEL thermal cameras operate continuously 24/7 and give maximum flexibility for setup, installation and integration. SPYNEL is a robust solution delivering multi-site awareness", said Cyril Marchebout, HGH Sales Director.

> Conclusion

Highly scalable, SPYNEL IR sensors provide a **total wide area surveillance and enhanced threat detection for the full offshore and onshore facility.**

Highly versatile, SPYNEL series sensors provide a comprehensive range of surveillance solutions to secure the plant and reduced system costs, complexity and infrastructure.



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