

CASE STUDY

SECURING FLNG OFFSHORE PLATFORM



> Securing FLNG Offshore Platform with Spynel IR 360 Camera

Floating Liquefied Natural Gas (FLNG) offshore platform in development will be equipped with robust, sea-proven HGH SPYNEL wide area

surveillance cameras to protect the asset and the staff against pirate and terrorist attacks coming from open sea.

> Background

Highly vulnerable, isolated in the middle of the ocean, an offshore platform represents a **target of choice for terrorism**.

Such an act could interrupt a nation's regular supply of energy and deprive it of an essential source of income, could cause loss of life and long-term environmental damage. Due to its slow reaction force capability, **early detection of possible hostile threats** is the key to preventing successful attacks.

An overall security plan was developed by the oil&gas company, including SPYNEL panoramic thermal cameras to provide **24/7 wide area surveillance** of the FLNG offshore platform, even in total darkness.

> Key facts

- **Platform type:** Ultra-deepwater floating liquefied natural gas (FLNG) facility
- **Estimated Capacity:** 3.4 million tonnes per year

HGH Spynel-X IR panoramic cameras were especially chosen by the offshore company to provide:

- Surveillance of the exclusion area of the FLNG
- Detection, tracking and classification of all types of floating object
- Automatic alarm triggering

> Challenges

Due to the environmental and geopolitical risks as well as the cost induced by significant damages, the major challenge is to help for an **accelerated decision-making** to face an unwanted critical situation. Moreover the overall conditions such as harsh weather, extreme temperatures, vibrations, flammable liquids or gasses, temporary staff make highly challenging criterias to meet safety and security requirements.

- Secure kilometers of open water
- Must withstand a harsh maritime environment: Sea, fog, corrosion, extreme temperature, shock, vibration, solar glare and more
- Detection of small targets, including small boats, RIB undetectable by radars
- Detection, tracking, and identification of various targets in real-time, by all weather conditions, up to 15km
- Distinguish known & unknown targets
- Situational awareness helping for rapid assessment of the sea events
- 365 days, 24/7, surveillance, day and night capability
- Seamless integration into third party VMS software; ONVIF compliant
- Remote observation
- Evidential videos

> Solution

Two Spynel-X are mounted on both sides of the offshore platform, providing a full **360° sea-coverage and a long-range surveillance up to 15km**

24/7 Surveillance & Remote Control Centre

Spynel-X detects, tracks and classifies an unlimited number of threats or objects coming from any directions, even very small, undetectable by radars. The panoramic thermal imaging technology generates real-time HD-360 videos and sends **alerts anytime a threat is detected.**

The alarm management module of CYCLOPE software provides **advanced data processing, filtering and automatic classification.** It is able to distinguish a threat from an AIS-equipped vessel and bookmark different types of threats for an unparalleled comprehensive understanding of the situation. This is a key point in maritime areas where the traffic of friendly targets such as commercial vessels can be dense. With its real-time panoramic visualization and very low false alarm rate, it provides the operator the **most reliable situational awareness.** The system architecture is redundant to ensure a high level of availability and continuity despite the isolation of the asset.

ONVIF compliant, Spynel panoramic thermal sensors are seamlessly integrated into the existing security system, automatically sending alert streams to the VMS. The video recording and playback can serve as **evidence** in case of unwanted security issues.

Designed for Maritime Environment

A suitable **maritime design** ensures Spynel IR camera protection from environmental corrosion, UV radiation damage and water jets. **Highly stabilized** and using advanced image processing stabilization, Spynel successfully secures the gas rig in heavy sea-clutter.

Easy-to-Operate

Finally, the HGH thermal imaging surveillance solution is designed to be simple to install and to use. The security staff can be **fully operational in less than 30 minutes.**



"HGH SPYNEL thermal camera includes the latest imaging technologies offering the best of detection, tracking, identification and classification for unprecedented protection of offshore facilities.", said Cyril Marchebout, Oil&gas segment owner.

> Conclusion

The security of the FLNG platform is considered as a prime concern for all the parties involved. In this context, HGH Spynel thermal sensors **provide effective 24/7 sea surveillance at long range distance to support proactive security decisions.**

After being chosen as the long-range IR sensor for the first Prelude FLNG (Shell), SPYNEL proves to be the sensor of choice to ensure early panoramic detection in offshore platforms.



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Contact us : hgh@hgh-infrared.com | hgh-infrared.com

EUROPE

10 rue Maryse Bastié
91430 Igny, FRANCE
Phone: +33 1 69 35 47 70

USA

1240 E Campbell Rd Ste. 200,
Richardson, TX 75081, USA
Tel: +1 805 965 6701

ASIA

1 Paya Lebar Link, #04-01
Singapore 408533
Phone: +65 6955 8585