



Enlighten the Unseen

NAVAL PANORAMIC SURVEILLANCE SOLUTION BY SPYNEL®

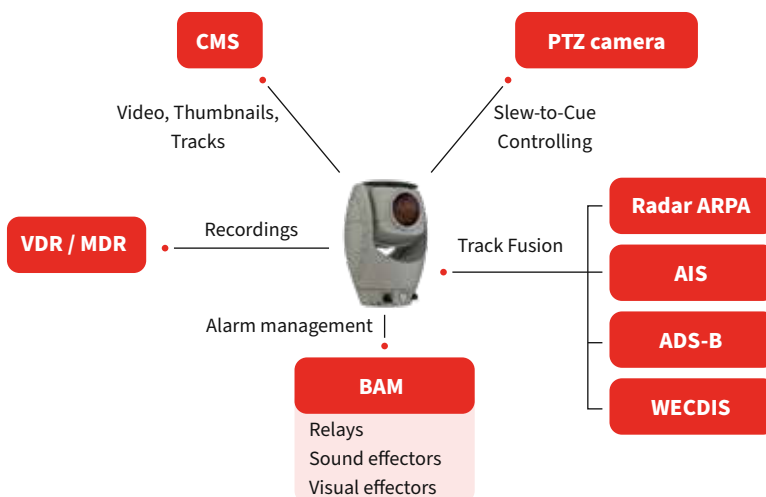


360° SITUATIONAL AWARENESS AROUND THE VESSEL

The SPYNEL® IR panoramic surveillance solution is designed to be embedded on vessels. It provides a powerful situational awareness over 360° thanks to its unequalled resolution of up to 120 MPix associated with the CYCLOPE advanced detection & tracking software. This all-in-one fully passive surveillance solution covers large distances, below the horizon and up to the sky (vertical view), to generate an unprecedented early warning:

- Against conventional and asymmetrical air and surface threats
- For Search & Rescue missions
- For Navigation, to avoid hazardous floating objects

FULL INTEGRATION & AUTOMATIC DATA FUSION WITH CMS AND SENSORS



- **Track Fusion** with Radar, AIS, ADS-B, WECDIS
- **Automatic Classification** through Artificial Intelligence
- **CMS integration:** videos, tracks, metadata, advanced functionalities
- **Automatic control** by CYCLOPE of EO/IR PTZ, LRAD, Search Lights to the tracks
- **Live-Replay** of full 360° video with timeshift
- **Forensics analysis** with raw video recordings

hgh-infrared.com/self-protection-of-ships-antipiracy

NAVAL PANORAMIC SURVEILLANCE

By SPYNEL®

BLUE WATER – VESSEL SELF-PROTECTION

Embedded on the largest vessels, SPYNEL is recognized as one of the highest performanceIRST. With its extra-long range detection capability, SPYNEL allows early target detection and discrimination, day & night. Driven by CYCLOPE advanced video analytics, SPYNELIRST can detect, track and identify simultaneously an unlimited number of targets.

Even threats considered as stealthy for a radar will be detected by theIRST panoramic thermal technology. Also used as a passive radar during critical navigations, SPYNEL ensures vessel close-in surveillance. Simultaneous detection and tracking of multiple targets over 360° enable the vessel to be immune to drone swarms and to anticipate any asymmetrical assault.

TheIRST provides seamless integration with other sensors owing to tracks data fusion, as well as with on-board systems for powerful situation awareness.



SHALLOW WATER – SECURING YOUR EXCLUSIVE ECONOMIC ZONES

Embedded on patroller vessels, SPYNEL provides a long-range detection and recognition capability over the full panorama in order to prevent illegal activities in EEZ waters. Using the latest advance of thermal imaging technology, the SPYNEL's continuous 360° rotation ensures that no event will be missed.

Featuring advanced integration capabilities, SPYNEL can control external systems, including search lights, LRAD and EO/IR PTZ camera to focus on detected tracks. These ones can be shared as well to other patrollers or a centralized control room.

The powerful combination of Artificial Intelligence module and advanced image processing provides a high-end automatic classification between surface targets such as sailing boats, tankers, RIBs, jet skis, boats, whatever the weather conditions.



UNMANNED SURFACE VESSELS (USV) NAVIGATION

Embedded on USV, the gyro-stabilized and light SPYNEL-F provides the USV with a sense & avoid sensor (SAA), improving navigation safety. Thanks to the detection of floating obstacles, COLREGs anti-collision rules are addressed with SPYNEL.

It also provides a real-time panoramic situation awareness for a distant operator. With continuous video recording capabilities and reduced bandwidth consumption, SPYNEL-F is the most adapted IR solution for USV navigation.



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