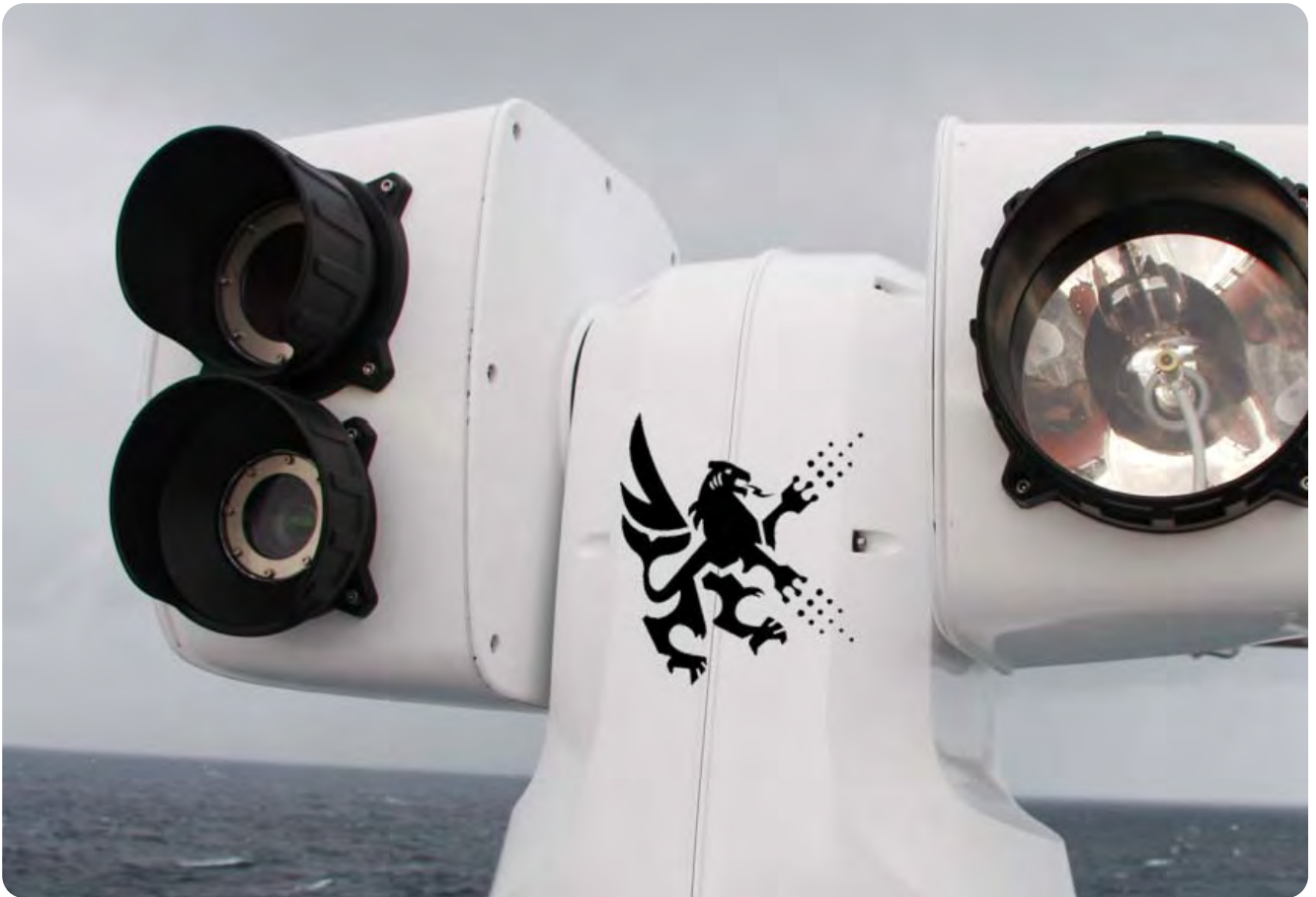


## THE SECURUS SYSTEM

aptomar  
safety at your fingertips



The SECurus stabilized sensor unit includes a visible light video camera, day/night active infrared camera and searchlight.

## PROVEN SECurus TECHNOLOGY OFFERS A LEAP FORWARD IN SHIPBOARD HAZARD AWARENESS AND CONTROL

APTOMAR OFFERS A UNIQUE OFFSHORE HAZARD AWARENESS SYSTEM THAT IMPROVES EMERGENCY RESPONSE AND COORDINATION AND REDUCES THE COST OF SURVEILLANCE.

Many technological advances have been applied recently to security, surveillance and emergency response systems in the military, governmental entities and private industry. These improvements include infrared imaging, digital image processing, interactive multilayered map displays and real-time sharing of a Common Operating Picture at multiple locations. Aptomar is the first to adapt these technologies to the offshore industry's unique requirements.

The Aptomar SECurus solution has proved so successful in the offshore industry that it has been written into mandatory fleet specifications and regulatory requirements by companies and governmental agencies.

For example,

- Major international E&P firms have specified SECurus for all new vessels worldwide as Best Available Technology for use in search and rescue and oil recovery operations.
- The Norwegian oil spill response authority, NOFO, has specified SECurus technology in their ERRV class notation for all new oil response vessels commissioned to operate in Norwegian waters.
- New Brazilian regulations require measurements to estimate the relative thickness of different parts of an oil spill. The SECurus system is currently the only stand-alone technology that complies.



The SECurus system is installed on the supply vessel Volstad Princess owned by Volstad Shipping under contract to StatoilHydro.



The SECurus display highlights an oil spill in infrared and automatically plots its location and boundaries on the sea chart.

## HAZARD CONTROL ON THE BRIDGE – HAZARD AWARENESS BACK ON LAND



The Aptomar SECurus system can be deployed on the bridges of offshore vessels, floating production units and fixed platforms. The accompanying Lighthouse system integrates the output from multiple SECurus systems plus other third-party sensors into displays in the “situation rooms” of fleet owners and E&P companies to provide a real-time, Common Operating Picture during emergency response operations.

Aptomar customers find the SECurus system invaluable in the support of three types of emergency operations:

- Maritime security
- Oil spill monitoring and response
- Search and rescue.



Piracy is a serious threat to offshore vessels and platforms. The SECurus system provides timely warning of a potential intrusion or attack so that all precautions can be taken to protect personnel and operations.

4-5

## PROACTIVE AND EFFICIENT MARITIME SECURITY

EFFECTIVE MARITIME SECURITY REQUIRES LONG-RANGE DETECTION TO SCREEN POTENTIAL THREATS AND PROVIDE ADVANCE NOTICE TO PREPARE FOR AN INTRUSION OR ATTACK. TODAY, STANDARD SURVEILLANCE IN HIGH-RISK ENVIRONMENTS IS CARRIED OUT BY EXTRA ON-DECK STAFF USING BINOCULARS AND SEARCHLIGHTS. THIS OBSERVATION METHOD IS LABOR-INTENSIVE AND EXPENSIVE AND PROVIDES ONLY A FEW SECONDS OF ADVANCE NOTICE.

The SECurus answer provides 24/7 surveillance of the vessel or platform perimeter, up to 20 nm away, with automated alarming for suspicious incoming vessels. Bridge officers get up to 30 minutes of advance warning of a potential incursion, which can be crucial to



securing personnel and equipment and safely curtailing operations. Not only does the SECurus system free up highly trained personnel for operational duty, it provides the peace of mind they need to sign up for work in high-risk locations.



Infrared imaging clearly displays the oil slick under all visibility conditions. Boundaries of the slick are automatically projected onto a sea chart in real time.

Automated analysis of the image clearly shows the relative thickness of different parts of the oil slick.

## OIL SPILL MONITORING AND RESPONSE

MORE JURISDICTIONS THAN EVER ARE NOW REQUIRING SPILL THICKNESS ESTIMATION BECAUSE EFFECTIVE OIL SPILL RESPONSE DEPENDS ON QUICKLY UNDERSTANDING THE LOCATION, EXTENT AND CONFIGURATION OF THE SPILL. BECAUSE 90% OF THE VOLUME OF OIL IS CONCENTRATED IN 10% OR LESS OF THE SLICK AREA, BETTER RESPONSE CAN BE ACHIEVED BY SENSING THE THICKNESS OF DIFFERENT PARTS OF THE SLICK.

The SECurus active infrared camera detects and clearly visualizes an oil spill by

- Automatically calculating the spill location and displaying its boundaries on a sea chart
- Estimating the oil slick thickness up to 2.2 nm away to pinpoint the optimal area for applying dispersants
- Sharing spill location and status information in real time with all responding parties — on sea, land and in the air.





6-7

## SEARCH AND RESCUE

SUCCESSFUL SEARCH AND RESCUE OPERATIONS DEPEND ON QUICK DETECTION AND LOCATION, AND THE PRECISE SHARING OF INFORMATION AMONG ALL INVOLVED PARTIES.

The all-weather, day/night SECurus solution clears the “fog of war” during emergency response operations by

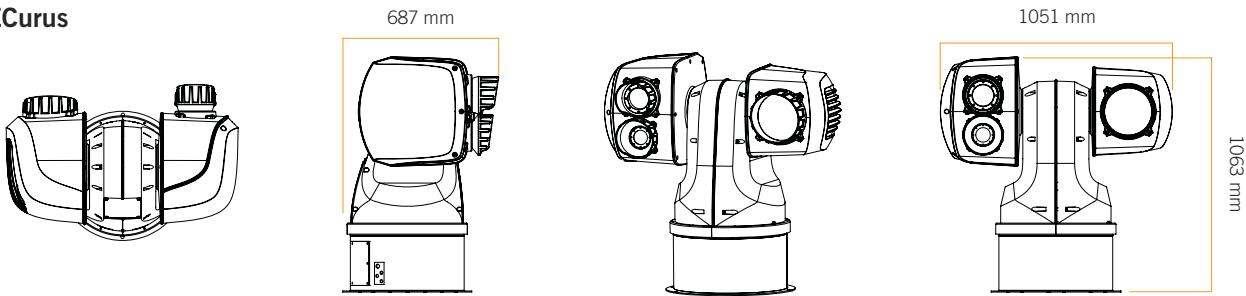
- Detecting a head or face in the water up to 2 nm away
- Calculating the target’s location, displaying it on the sea chart and locking on to follow the target as it drifts
- Tagging the target location and status in AIS and sharing the information in real time with all rescue parties.



# SECurus CONFIGURATION AND PERFORMANCE

FOR SHIPBOARD DEPLOYMENT, THE SECurus SYSTEM PROVIDES AN INTERACTIVE TOUCH SCREEN DISPLAY ON THE BRIDGE. THE SECurus SEA CHART INTEGRATES MANY LAYERS OF INFORMATION ON A SINGLE DISPLAY. PREEXISTING RADAR AND AIS DATA IS COMBINED WITH NEW INPUT FROM THE SECurus STABILIZED SENSOR INSTALLED ON THE ROOF OF THE BRIDGE. STANDARD SECurus SENSORS INCLUDE A “NORMAL” VIDEO CAMERA, LONG-RANGE ACTIVE INFRARED CAMERA AND A SEARCHLIGHT. THE SYSTEM CAN ALSO INTEGRATE INPUT FROM OTHER DEVICES SUCH AS RADAR-BASED OIL SPILL MONITORS, SONIC CANNONS AND MAN-OVERBOARD RADAR BEACONS.

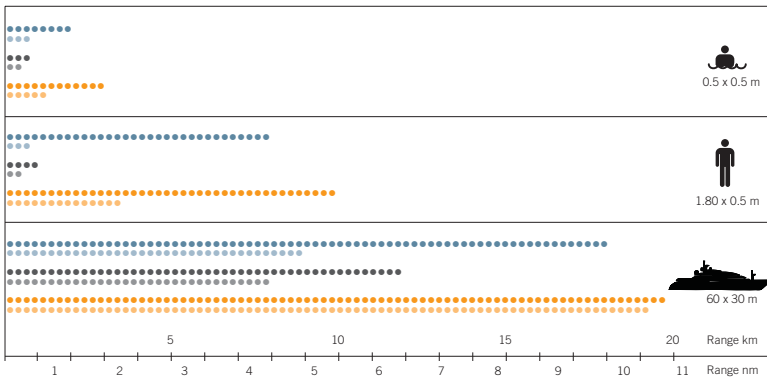
## SECurus



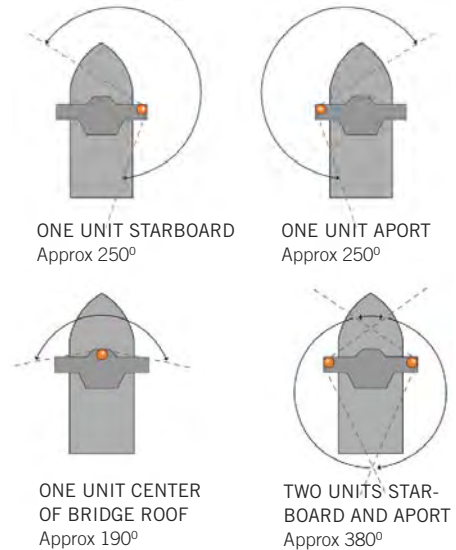
## RANGE CHART

All data given under ideal conditions

- DAY CAMERA
  - Detection
  - Recognition
- IR PASSIVE
  - Detection
  - Recognition
- IR ACTIVE
  - Detection
  - Recognition



## CONFIGURATION



### CLOSE PROXIMITY OPERATIONS RANGE UP TO 2 nm

- DAY AND NIGHT VISION
- SEARCH AND RESCUE
- SECURITY
- SURVEILLANCE
- FIFI



### MID-RANGE OPERATIONS RANGE UP TO 8 nm

- DAY AND NIGHT VISION
- SEARCH AND RESCUE
- SECURITY
- SURVEILLANCE
- FIFI



### LONG-RANGE OPERATIONS RANGE UP TO 20 nm

- DAY AND NIGHT VISION
- OIL SPILL MONITORING
- SEARCH AND RESCUE
- SECURITY
- SURVEILLANCE
- FIFI



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APTOMAR ENGAGES WITH COMPANIES AND ORGANIZATIONS WHO ARE COMMITTED TO FULFILLING OUR COMMON GOALS IN DEMANDING OFFSHORE OPERATING CONDITIONS:

- To protect personnel from injury and loss of life
- To safeguard against health hazards
- To minimize our impact on the environment
- To secure the operations of vessels and third-party property.



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