

# Integrated Oil Spill Detection System



**FURUNO FINLAND OY**

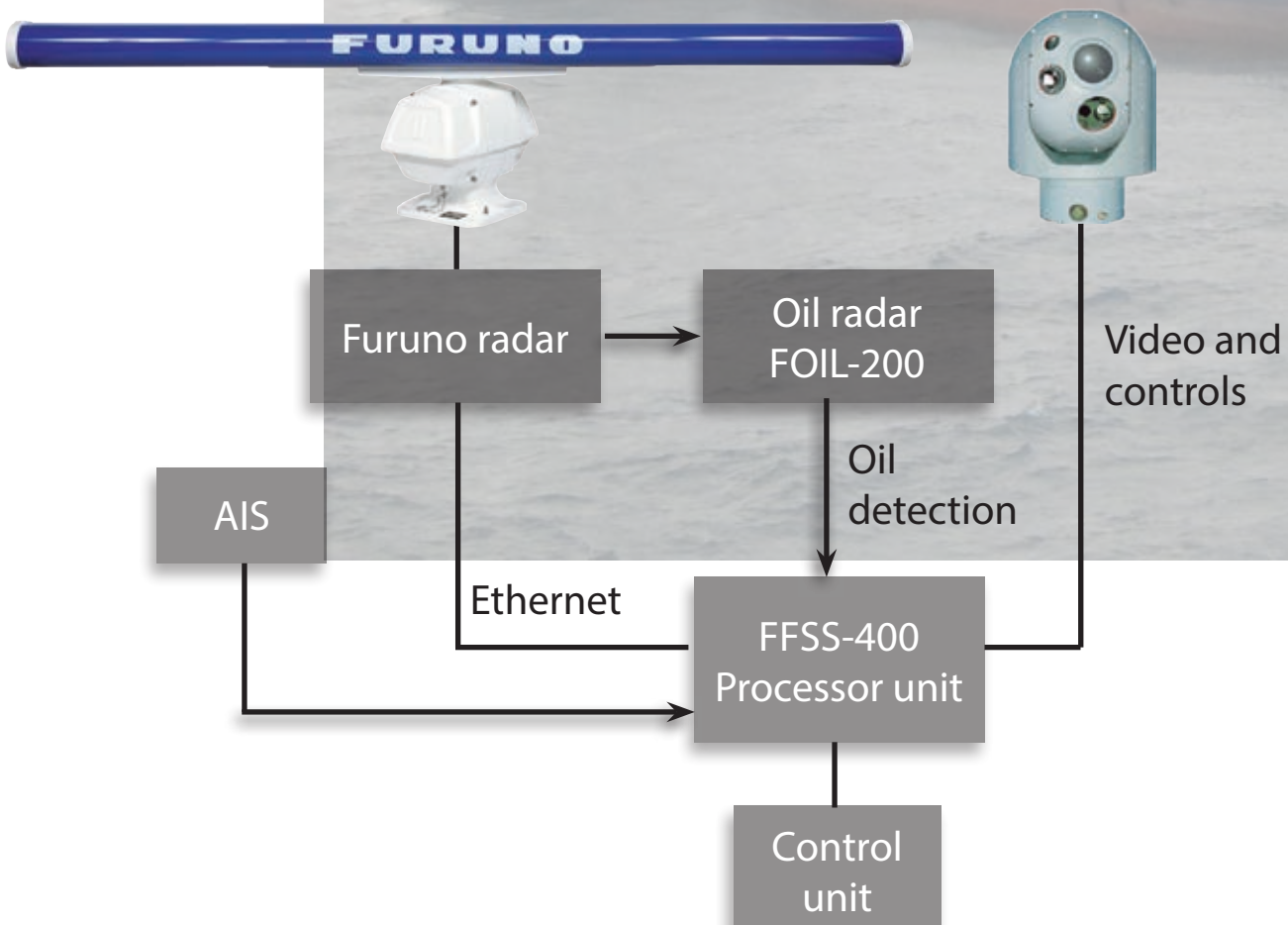
# Integrated OSD system introduction

The integrated oil spill detection system can be installed and operated on board the vessel. It can also be installed in a control center connected to shore based sensor stations.

Typical system consists of following sub-systems:

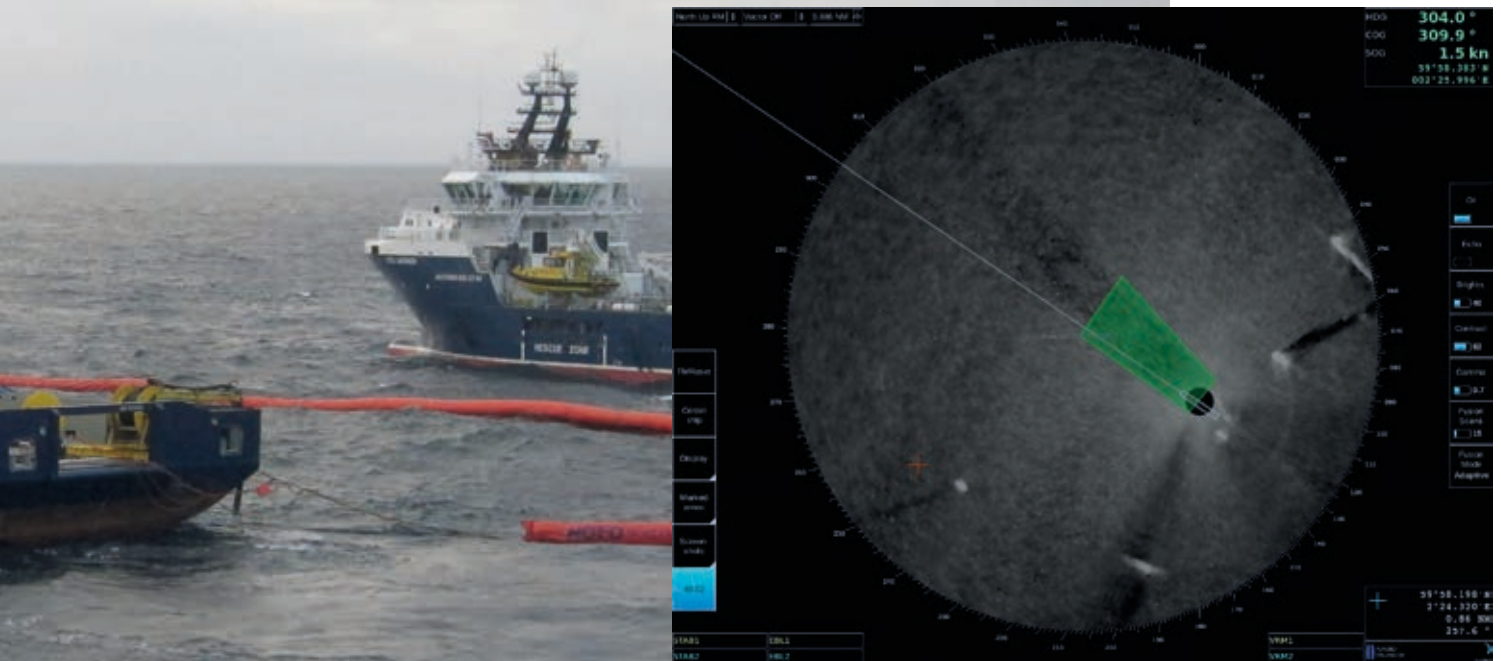
- Furuno radar system (eg. Furuno FAR-2xx7)
- Furuno Finland oil radar FOIL-200
- Thermal camera
  - Stabilized cooled thermal camera (Eg. Controp iSea series)
  - Uncooled thermal camera (Eg. FLIR M-series)
  - Furuno Finland Oy Dual camera for fixed installations
- Furuno Finland Surveillance station FFSS-400

All sub-systems are integrated together to establish efficient operation platform for oil spill detection and surveillance activities.



## Oil radar FOIL-200

Furuno Finland FOIL-200 is cost efficient oil radar processor to be connected with standard X-band Furuno navigation radar. FOIL-200 provides oil spill visualization and manual or automatic detection of oil spills. It forwards oil spill detection polygon to the FFSS-400 chart processor.



## Thermal cameras

Thermal camera can be used to verify the oil spill detection received from the oil radar. Stabilized cooled thermal cameras can be integrated in the system. Supported models are Controp iSea series which can be installed in the offshore patrol vessels and patrol boats. Other manufacturers' models can be utilized upon request.

Uncooled lower cost FLIR M-series models can be used in the shorter range vessel systems and onshore based protection systems. For the fixed sensor stations Furuno Finland surveillance dual camera (daylight and thermal units) can be integrated. Different options for optics and sensors are available.

# FFSS-400 Surveillance workstation

Furuno Finland Surveillance station FFSS-400 is the integration center of the system with following functionalities

Efficient chart engine for official ENC charts

Navigation radar integration

- radar echoes display
- radar control to track new ARPA targets

Situational picture creation

- radar tracks
- AIS tracks
- manual targets
- external targets

Oil spill detections

- detected polygons display

Camera direction and zoom sector display

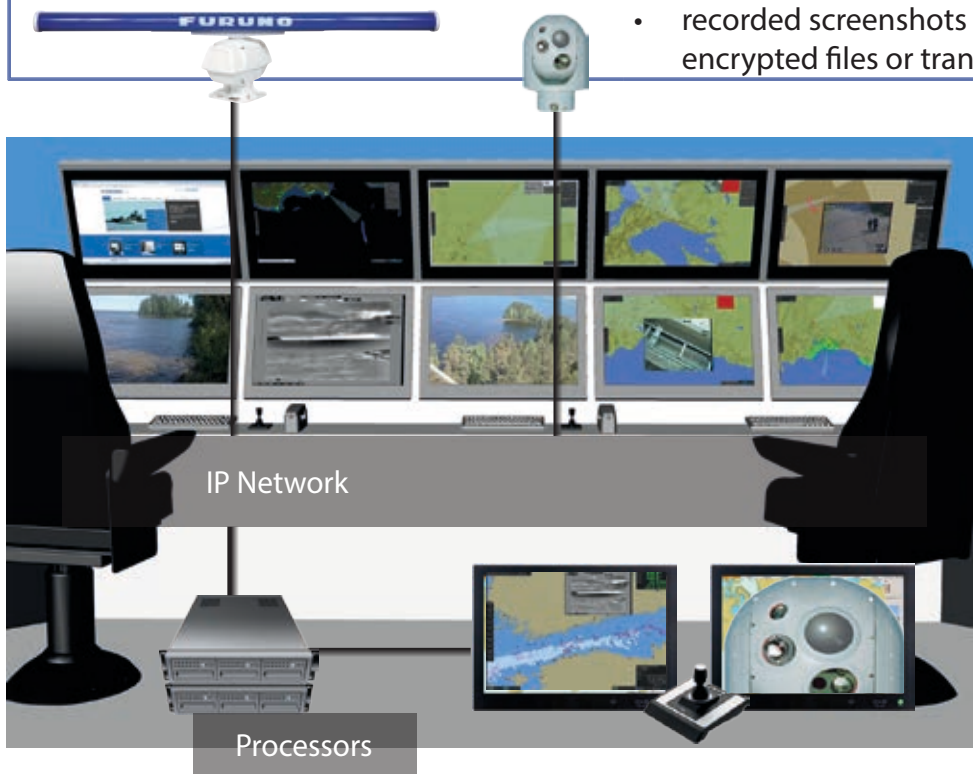
Camera video display

Camera control

- manual control
- automatic tracking of selected target

Recording and playback functionalities

- both workstation screenshots and camera video are separately recorded
- recorded screenshots and videos can be exported as encrypted files or transmitted to external systems



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