# MIROS OIL SPILL DETECTION

## AUTOMATIC SURVEILLANCE & TRACKING FOR FAST & EFFICIENT SPILL RECOVERY

DATASHEET

The Miros Oil Spill Detection (OSD) system is a world-leading solution for oil spill surveillance and recovery. This proven technology provides round-the-clock surveillance with automatic spill detection.

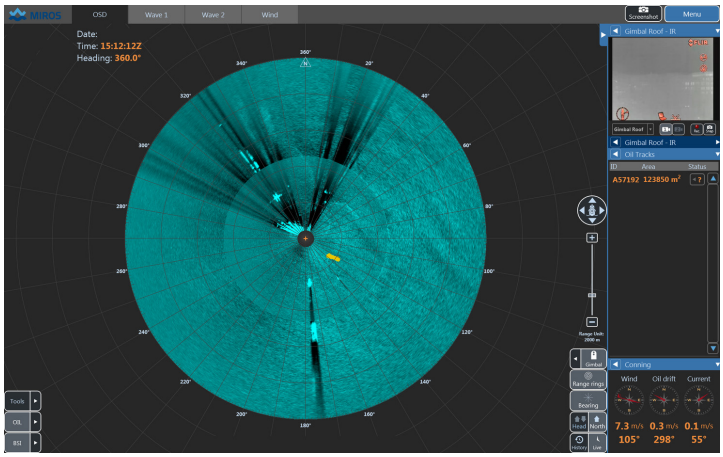
Once a spill is detected, Miros OSD can switch its priorities to handle the dynamic and shifting environment of an oil spill recovery operation. The system automatically tracks spills as they develop and drift, facilitating swift and efficient recovery efforts and guiding the optimal positioning of booms, skimmers and dispersant.

## KEY FEATURES

- Automatic oil spill detection
- Automatic oil spill tracking
- IR & optical camera integration
- Historical data with playback mode
- High sensitivity & low false alarm rate
- Operational in low visibility, day or night
- AIS targets, wind, current and wave data
- Access data locally & remotely

## ESSENTIAL FOR

- Round-the-clock oil spill surveillance
- Fast and efficient recovery of oil spills
- Efficient deployment of boom/skimmers
- Post-incident analysis
- Spatial positioning & thickness estimation



The graphical user interface shows present and historical oil spill detections. Wind and ocean current data, as well as oil drift direction and speed, are also displayed. The addition of wave information is optional.

Miros OSD receives data input from X-band marine radars, optional IR/optical cameras. and existing wind, GPS, gyro and AIS sensors.

Positions and shapes of radar detections are overlaid by AIS targets and drift buoys.

The optional addition of IR and optical cameras can aid operators in the verification of oil spill detections, the identification of the thickest parts of the spill, and estimation of spill thickness and volume.

Historic radar imagery can be played back providing a clear insight into an oil spill's development as well as serving as a recording of the contingency efforts undertaken.

Alarms are managed with configurable thresholds, operator acknowledgement and alarm history.

## SPECIFICATIONS

| **Detection Mode** | **Characteristic** |
|---|---|
| Surveillance Mode: | Low false alarm probability |
| Recovery Mode: | High detection probability |

**Detection range by radar** (typical range, depending on antenna height and local wind conditions):

| **Radar Pulse Mode** | **Pulse Length** | **Range$_{MAX}$** |
|---|---|---|
| Short Pulse: | 50 - 80 ns | 2 - 4 km |
| Medium Pulse: | 250 - 300 ns | 4 - 7 km |

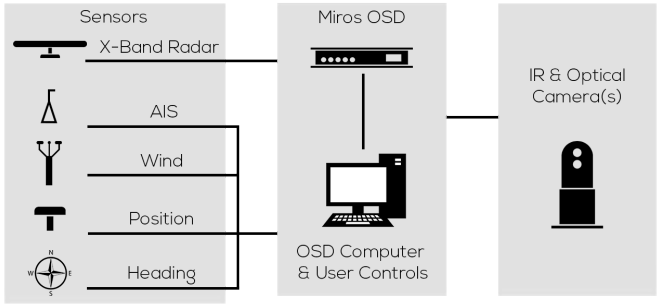
**IR camera range** (typical clear weather range depends on camera height)

| **Target** | **Range$_{MAX}$** |
|---|---|
| Oil: | 0,9 - 6,0 km |
| Detect human size target: | 1,0 km |
| Detect 30ft vessel: | 3,7 km |

| **Tracking** | |
|---|---|
| Radar: | Multiple oil spill targets |
| Camera: | Multiple oil spill targets, AIS targets and drift buoys |

| **Input Interfaces** | |
|---|---|
| Gyro Heading: | NMEA-0183 |
| GPS Position, Time: | NMEA-0183 |
| Wind: | NMEA-0183 |
| AIS: | NMEA-0183 |

| **X-Band Radar Interface** | |
|---|---|
| Ant. Beam Width: | 1.3° or less (6 feet or more) |
| Ant. Rot. Speed: | > 15 RPM |
| Ant. Mount. Height: | > 15 m above sea level |
| Pulse Mode: | Short pulse (50 - 80 ns) or medium pulse (250 - 300 ns) |
| Pulse Rep. Frequency: | 1000 Hz or higher |
| Output Power: | 10 kW or more |
| Radar Signals: | Raw video, sync, heading marker and azimuth |
| Antenna Polarisation: | Vertical or horizontal |




| **Output Interfaces** | |
|---|---|
| Data: | Ethernet, FTP on TCP/IP |
| Alarm: | Visual, sound |

| **Environmental specifications outdoor** equipment | |
|---|---|
| Temperature: | -30°C to +50°C |
| Humidity: | 0 – 100 % RH condensing |
| IP (Outdoor Equipment): | 56 |

| **Electrical Data** | |
|---|---|
| Supply Voltage: | 100-240 VAC 50-60 Hz |
| Power Consumption: | Nom: 250 W, max 300 W (basic system) |

Specifications are subject to change without prior notice.