Ultra Electronics, Surveillance & Security Systems is the leading supplier of fully automatic radar and camera based safety and security systems for the offshore market.

Collision incidents between platforms and vessels, and damage to valuable sub-sea infrastructure caused by vessels, are a major hazard for the offshore oil and gas industry. Impacts may include a loss of life, environmental damage due to an uncontrolled release of hydrocarbons, a loss of production, or even a total loss of the installation.

For more than 25 years, Ultra has enabled the world’s leading offshore operators to manage this risk with fully integrated radar, AIS and camera based solutions.

Ultra’s surveillance system is designed specifically to assist offshore oil and gas operators concerned with the security and safety of their offshore assets. It reduces the worry of security risks posed by marine traffic, rogue vessels and small target threats.

SYSTEMS SUPPLIED BY ULTRA INCLUDE:
- Platform based Radar Early Warning Systems (REWS) with integrated AIS to automatically track the positions of all marine traffic with full record and playback for incident management.
- Integration of Ultra transponders to track the positions of company vessels, rescue craft and helicopters.
- Integration of cameras for target identification.
- Man Overboard (MOB) technology to detect MOB incidents and aid rescue and recovery.
- Sensor manager software to correlate Radar, AIS, EO, MOB and Ultra transponder information.
- Command & Control operator software for situational awareness, incident management and logistics planning.
- Voice over IP (VoIP) radio systems to allow remote VHF communications with passing vessels, company vessels, and helicopters.

Ultra works with many of the world’s leading radar suppliers, and can offer a choice of sensors to meet individual customer requirements. These range from conventional magnetron based radar, to the latest solid state technology offering improved target detection, high levels of reliability and low maintenance.

RADAR TRANSCEIVERS
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RADAR SIGNAL PROCESSING AND TRACKING
The Ultra radar management system will automatically track vessels up to a range of 25 NM from offshore or onshore installations. Multiple radars can be combined across multiple sites to ensure full field coverage. Sophisticated signal processing is used to ensure that the system is unaffected by changes in weather and sea conditions.
TRACK MANAGEMENT
Multiple sensors can be correlated to provide a fused track picture for a region and distributed to all display systems within a region. Track managers can be cascaded via data links to provide regional and national track pictures. Track data can be transmitted via a network or radio link to local and remote control room displays (offshore or onshore) and to any company operated vessel within radio range.

SENSOR MANAGEMENT
Camera systems can be integrated and driven by the radar tracker to follow targets of interest. The system includes intelligent selection of the most appropriate camera. Each camera Field Of View (FOV) is shown on the logistics information system display. Other integrated sensors include weather sensors, Direction Finders (DF) and miscellaneous alarm monitoring nodes. The system has sensor data management and distribution capabilities over a Wide Area Network (WAN).

SID TRANSPONDERS
These private transponders provide accurate positional information of all support vessels and helicopters. The SID acts as a radio data network node and is used to distribute radar and transponder track data, MOB, system status data and security related information.

AIS TRANSPONDER MODULES
Receive and integrate information from Automatic Identification System (AIS) transponders on passing ships within range. Aid to Navigation AIS Solutions (AtoN) can also be provided to improve visibility of offshore assets on passing vessels.

ASSET TRACKING DEVICES
Track data from third-party systems, such as satellite fleet-tracking services, can be incorporated and these tracks correlated.

VOIP RADIO SYSTEM
Integrated remote marine and air band radios allow operators at remote locations, including onshore control rooms, to communicate with any vessel or aircraft within the coverage area via platform fitted radios.

MAN OVERBOARD (MOB)
MOB and personal locator modules can be integrated. The MOB system utilises third-party Personal Locator Beacons (PLBs), platform-mounted MOB alarm receiver modules, SID transponders and homing DF receivers on support vessels, support daughter craft and fast rescue craft.

COMMAND & CONTROL DISPLAY (C2DB)
This module uses a variety of electronic chart formats as a backdrop for the display of all marine surface and helicopter activity as a complete composite view. Designed to provide the operator with a comprehensive suite of alarms to address issues relating to security, collision, MOB and threats to sub-sea assets from fishing activity. C2DB also contains functionality for logistics planning to ensure valuable support resources are used efficiently and effectively.
Ultra has more than 25 years experience supplying safety and security systems to the upstream oil and gas industry. In excess of 150 worldwide installations with major oil companies provide offshore platform protection. In addition to these offshore installations, Ultra provides safety and security systems for LNG terminals, ports, jetties, FPSOs and monobuoys.

Currently, on the UK continental shelf alone, more than 50 Ultra radar installations and over 100 MOB units protect offshore assets and personnel within an area in excess of 100,000 square miles.

FEATURES

- Multiple sensor integration and data distribution capabilities including radar, AIS and proprietary transponders, asset tracking devices, weather sensors, cameras and Direction Finders
- Adaptive radar processing for all weather and sea conditions
- Sophisticated command and control display designed specifically for the offshore oil and gas industry with enhanced logistics monitoring and planning version available, including live safety case criteria monitoring
- Geo-referenced database server with multiple clients having shared overlay data (standalone configuration available)
- Configurable operator login levels of security
- Configurable alarm criteria, including collision risks or zone incursions
- Transponders transfer situational awareness data to support vessels, which reduces response time in emergency situations
- Combined regional and national operating picture options, including correlated track data compilation from multiple sensor sites
- Data logging for future playback and analysis, including full recording of track data, alarms and operator actions
- Remote engineering, fault diagnosis and system configuration
- Incident Management

The individual components of the offshore protection system are described in separate leaflets. Please contact Ultra Electronics or your local representative for further information.