



ELECTRONICS DIVISION

**DSS-IRST
DISTRIBUTED STATIC STARING
INFRARED SEARCH AND TRACKING**

The DSS-IRST-Distributed Static Staring InfraRed Search and Tracking System-is a real 360° full coverage naval search & track system, designed as a passive early warning system. It is able to minimize the false alarm rate, reduce reaction time and providing very wide elevation coverage.

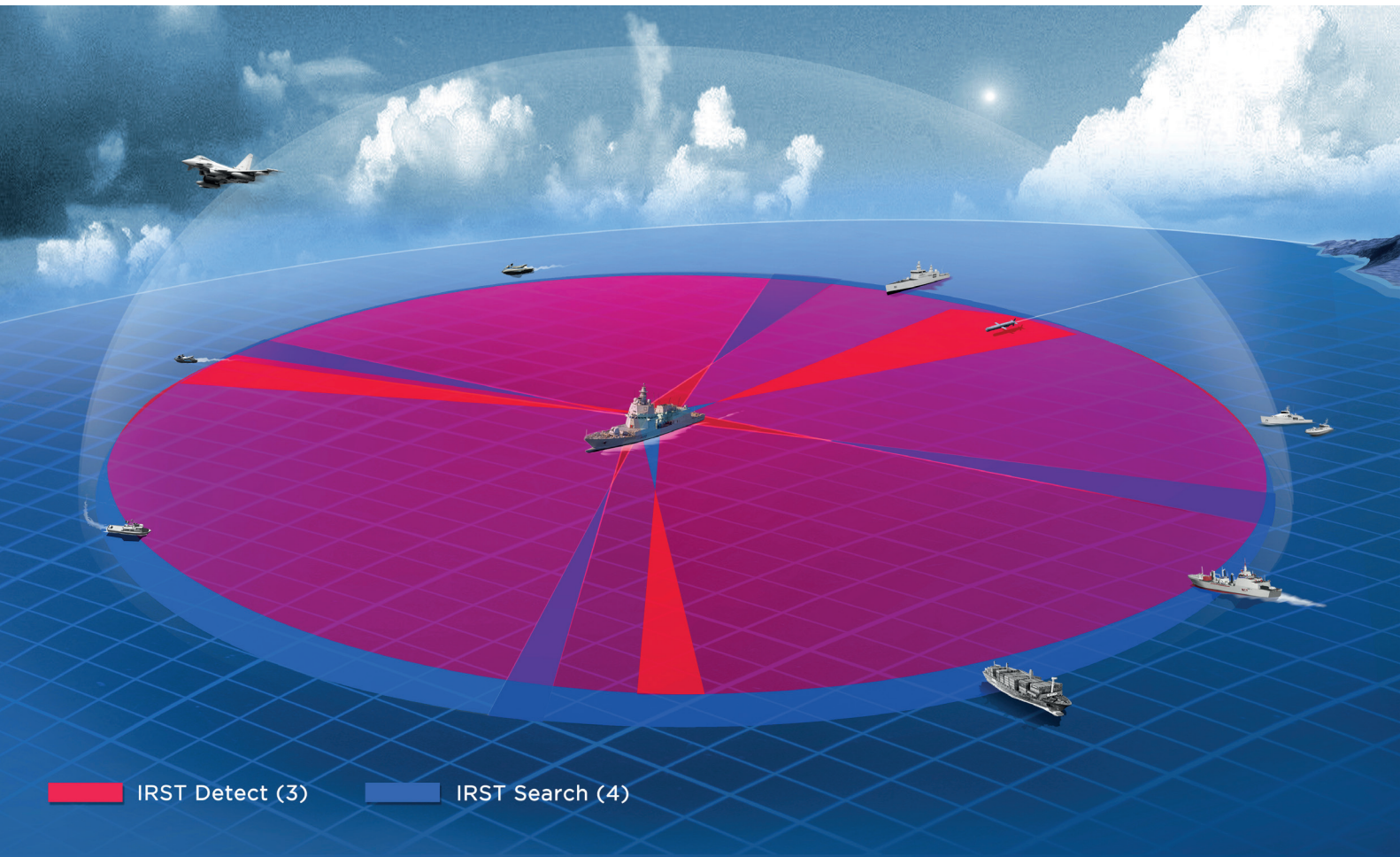
DSS-IRST provides a protection against simultaneous, at long or short range, fast threats, increasing the ship survivability.

CAPABILITIES

- Anti-Sea Skimming Missile, fast surface and aerial target detection.
- Asymmetrical threats Detection, MPADS like.
- Persistent Surveillance 24H 7/7 on Blue water, littoral and harbor environments
- Search & Rescue missions.
- Silent Navigation-EMCON missions.
- Target Passive Ranging.
- Complementary to RADAR for multipath, sea clutter and low RCS targets.

KEY FEATURES

- Automatic use of Blue Water, Littoral or Harbor algorithms, each tailored for an effective detection of multiple threats, in their relevant scenario
- 360° Situation Awareness with a very wide elevation coverage of 30°, with no blind angle sectors.
- The Search Head Units can be set at lower elevation for human targets detection, while the Directional Head Units can be automatically or manually moved on the searching area, zooming to the potential castaway.
- When the Ship is in silent mode mission, DSS-IRST becomes the main System for Navigation Support, Situation Awareness and Threats Detection.
- The System provides to the CMS the Target Azimuth, Elevation and distance, without Laser Range Finder and Radar Support.
- Day/night high definition panoramic view, providing smooth video that can be watched on the Bridge or wherever it is required.



SYSTEM ARCHITECTURE

DSS-IRST is an open architecture configurable according to the customer's Requirements. All the Sensor Heads are designed to be rugged, light and compact.

The main DSS components:

- Search Head Units (SHU) lightweight and highly stabilized, perform the Search and Track Function. Four units provide a real 360° x 30° Field of Coverage at 50Hz.
- Directional Head Units (DHU) lightweight and highly stabilized, perform:
 - The automatic acknowledgement of the tracks coming from the SHUs.
 - The visual target Investigation performed by the local operator.
 - Passive Ranging feature, together with the SHU.
- 1 Data and Video Management Unit (DVMU) Rack for Search and Track and Imaging Algorithms Processing.
- Local Console Unit (LCU): User console for local operator and maintenance purpose.
- 4 Windows Cleaning Unit (WCU) for the automatic cleaning of the Head Units Windows.



SEARCH HEAD UNIT



DIRECTIONAL HEAD UNIT (DHU)



DATA & VIDEO MANAGEMENT UNIT



LOCAL CONSOLE UNIT



THE MFC (IN PICTURE) OF THE CMS, THAT INTEGRATES AND SHOWS DSS-IRST IMAGES AND COMMANDS.

SYSTEM INTERFACE

Day/night high definition panoramic view, providing smooth video that can be watched on the Bridge or wherever it is required, stating all the tracks acknowledged by DSS

360° Situation Awareness with a very wide elevation coverage of 30°, with no blind angle sectors

Thanks to its passive ranging feature, all the tracks are shown perfectly located in the space



When the Ship is in silent mode mission, DSS-IRST becomes the main System for Navigation

Fast surface target, are easily detected and tracked.

The HMI can be easily set with the showing of several IR or TV videos, coming both from the SHU or DHU sensor heads.

TECHNICAL SPECIFICATIONS

• Coverage	Full 360° azimuth-30° vertical. DHU angle Elevation:-20° + 70°.
• Stabilization	Gyro mechanical and electronic stabilization.
• Thermal Imager	Detector: MWIR Starring HD. Frame rate: 50Hz.
• Windows Cleaning	Automatic System.
• System Integration	Fully Vessel CMS Integration.
• Power	115V 60Hz.

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