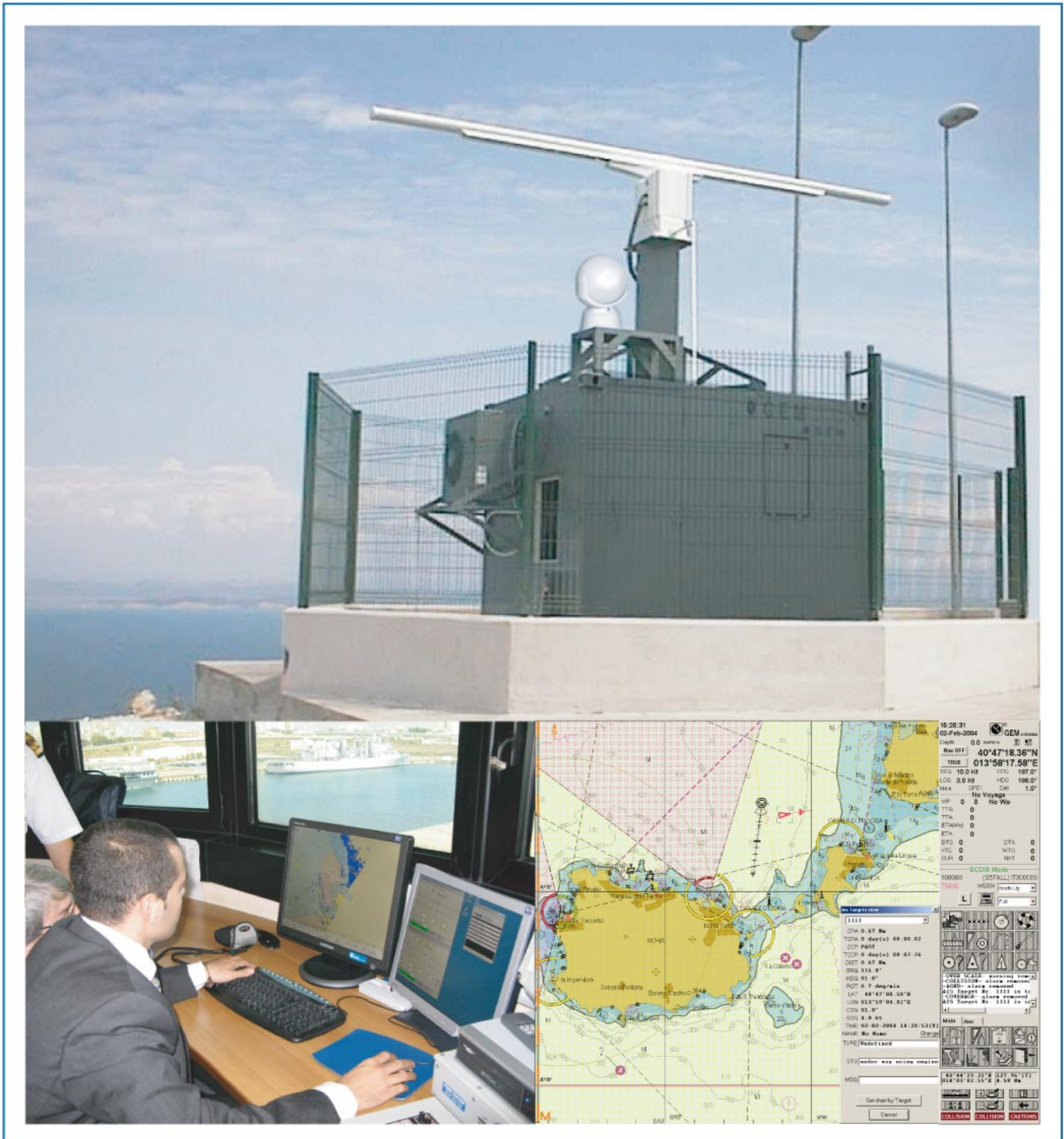


INTEGRATED SOLUTIONS FOR MARITIME SAFETY, SECURITY, AND SURVEILLANCE



- ◀ Homeland security
- ◀ Port surveillance
- ◀ River and narrow waters surveillance
- ◀ Coastal surveillance
- ◀ Surface control in coastal and deep sea



System Integration Philosophy

GEM elettronica meets any customer demand through:

- Fast, restless decision making and action promptness, one of the basic Company's features since its inception;
- Its R&D Lab including Senior Engineers and Technicians to identify original and cost-effective solutions by integrating TLC, AIS, etc.;
- No-stop interaction with its customers;
- Production, Installation, Training and after-sale support of even complex systems

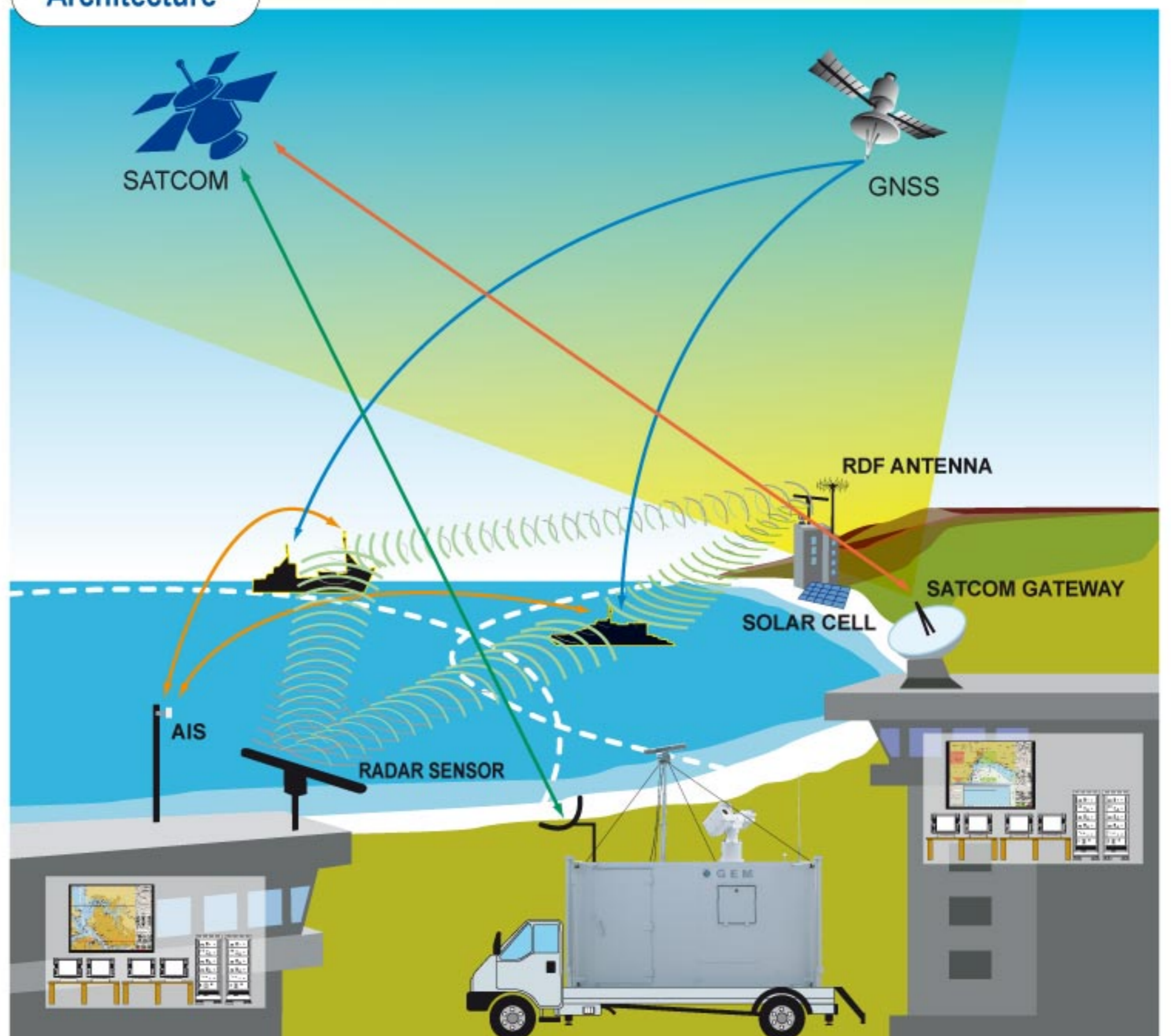
Comprehensive and experienced system integration solutions to its VTMS customers

GEM elettronica has acquired a long term experience in the supply of innovative VTS either as turn key provider or equipment sub contractor, including radar, optronic, communication sensors, in particular:

- ◀ Multi-radar tracking and fusion
- ◀ TV/IR optronic sensor integratoin
- ◀ Integration of AIS and RDF
- ◀ Picture-in-picture display
- ◀ ECDIS features
- ◀ Integration of weather sensors
- ◀ Record and Play
- ◀ Audio/Visual Alarms on events
- ◀ BITE
- ◀ Automatic and reconfigurable record on mass storage supports
- ◀ Reports generation and management
- ◀ Multi purpose Data Bases Management
- ◀ Interface to external Systems



Architecture



X-BAND FULL SOLID-STATE MARITIME AND COASTAL SURVEILLANCE RADAR

State of the art & Cost-Effective Solution for Superior Performance and Reliability

Sentinel-200 & Sentinel 100



SENTINEL FAMILY

is GEM elettronica's answer to the critical and demanding missions of real-time maritime and coastal surveillance.

SENTINEL FAMILY

is the result of GEM elettronica 20-year experience in designing, manufacturing and installing coastal and ship-borne, high-performance radar systems.

SENTINEL FAMILY

is the radar of choice to detect and counter illegal maritime activities, secure coastline, protect vital maritime assets and support home-land security missions.

Software key features according with IALA recommendation V127, V128 and IALA VTS Manual 2008

DATA & SIGNAL PROCESSING

- Multiradar tracking;
- Multisensor fusion.

REMOTE SENSOR MANAGEMENT

- Control of sensors;
- Reception of sensor signals;
- BITE management.

NAVIGATION RULES CONTROL

- Transit control into zones forbidden to navigation;
- Speed limit control;
- Control of ships inside forbidden zones.

SUPPORT TO NAVIGATION IN OPEN AND NARROW WATERS

- Control of safety distance between vessels
- Warning at turning points inside navigable fairways
- Traffic direction inside one-way channels

DANGEROUS CARGO MONITORING

- Dangerous cargo tracks are specially marked as long as they stay inside warning areas

SERVICES MANAGEMENT

- Local port services
- Information services (INS)
- Traffic Organisation Service (TOS)
- Navigational Assistance Service (NAS)

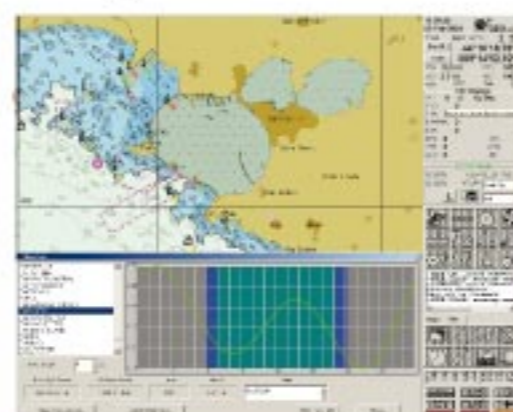
SECURITY SUPPORT (ISPS CODE)

SUPPORT TO SEARCH AND RESCUE

- Detection of small floating objects;
- Aid tool to SAR operations.

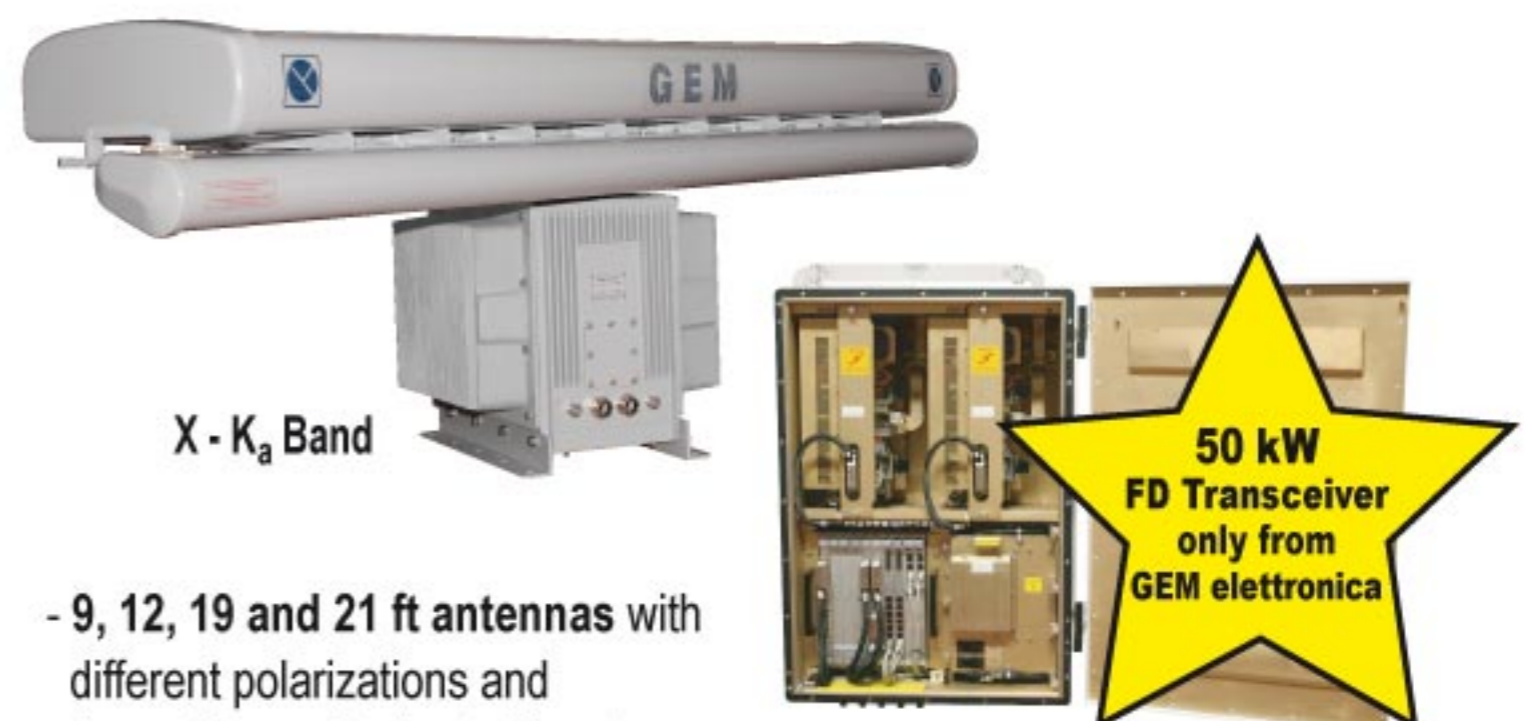
DANGEROUS CARGO MONITORING

- Traffic Data
- Ship Data
- Event Data
- Accident Data
- CMAP Management
- ECDIS Functions
- Objects
- Ships
- Lanes
- Waypoint



IALA recommendation V127, V128 and IALA VTS Manual 2008

X / K_a BAND Very High Resolution Radar for Port Surveillance and Security Applications



X - K_a Band

- 9, 12, 19 and 21 ft antennas with different polarizations and beamshapes (fan), rotating at different rotation rates (12 / 22 / 40 / 60 rpm)
- Single or Multiple polarization (selectable) for best performance in every condition
- 25 / 50 kW dual redundant/FD transceivers

Last generation compact, lightweight electro-optical systems, featuring high reliability and performance, designed for 24/7 optronic surveillance within the scope of top-ranked coastal monitoring systems

- h24 optical functions for search and surveillance
- passive detection, designation, identification and tracking of surface and surface targets
- Ease of installation and maintenance which, together with reliability, keeps through-life costs to a minimum.





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