VTS and Coastal Surveillance Centers

VTS and Coastal Surveillance solutions for shore based applications have been specifically developed to meet the needs of port, harbor and river traffic operators and government agencies charged with the protection of the coastal and littoral zones.

VTS Centers developed by CSR are modern and fully integrated maritime traffic management system, ensuring acquisition, processing, management, economy, consulting and data presentation. It is the primary tool for ensuring safety, security, policing,

The modular and scalable design brings state-of-the-art technology in reach surveillance applications. With high reliability and the CoTS approach, the chosen solution will ensure an economic model in terms of direct and indirect costs.

The systems includes

- Sensors: Radar, Optronic (video, thermal, laser), Whether Stations, etc.
- Data acquisition and store subsystem
- AIS subsystem;
- **SafeSea** software suite

**SafeSea** software is developed within CSR, is highly customizable and can be integrated with the most of the existing related systems.

**SafeSea** is a Vessel Traffic Management and Control system and the main area of interest are Ports, Harbors and Coastal Areas. The purpose of any Vessel Traffic Management and Information Systems (VTMS) is to provide the operator with a clear and concise real-time portrayal of vessel movements and interactions in the surveillance area in order to support on-duty decisions.

The VTS system uses multiple components (hardware, software, sensors) and provides basic functionality, interfaces and integration capabilities such as:

- Multi sensor processing (Radar, AIS, RDF, CCTV, Weather)
- Advanced radar and data processing
- User-friendly Traffic Display System, GIS centric
- Integrated recording & replay (data/voice)
- Vessel Traffic Management System (VTMIS = VTS + Database)
- Traffic simulation tools for training purposes
All Safesea VTMS components can be configured to build systems ranging from small to very large ones, due to its modular design and the ability to interface other sensors like AIS, RDF and meteorological sensors.

To increase the safety in the movement area a Conflict Detection unit is an essential part of Safesea system to allow automatic detection of future potential traffic conflicts or situations.

The Conflict Detection is based on the evaluation and prediction of the movement of tracks obtained by processing the sensor data and topology data (restricted areas, etc.) the traffic situation is analyzed to trigger configured events and traffic ride infringements, such as:

- a track crossing an active guard line
- a track entering an active guard ring or a guard area
- a track leaving a buoy ring or a swing circle
- a track exceeding an area specific speed limit
- a track entering an active prohibited or restricted area
- a track entering a special area slaved to another track (area collision conflict)
- two selected tracks can be on collision course, etc.
- synchronized REPLAY function using GIS, video and voice records

The solid state radar sensor used is designed to provide up to 50,000 hours of use between service and repair, is simple to operate, intuitive in every sense and will ensure sharp target detection and display of even the smallest of targets.

The CSR VTS team provides outstanding service throughout the life of our products, and organizes the business to recognize the varying service requirements needed at the different stages of a VTS system acquisition.

All customers benefit from our project management process. This ensures a central overview of customer requirements is maintained from an early stage of the relationship through to contract award, and then throughout the life of the project. This comes as standard and is key to ensuring smooth, on-time, and to budget project delivery.

For further information, please do not hesitate to contact us:  vts@csr.ro