Ship Traffic Control Solutions
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Coordinated, Global Approach
Fully connected maritime traffic control and tools for coordinated monitoring and decision support among relevant stakeholders
LEADING THE PROGRESS IN GLOBAL SHIP TRAFFIC CONTROL

Ship Traffic Control Solutions, with the support of automated self-learning decision support technologies, make it possible to operate a ship traffic control model similar to that available to the aviation industry. Ship movements can be advised and controlled by a country, even beyond territorial waters.

A new generation of Ship Traffic Control and Management Solution is required to extend safety and efficiency of navigation far beyond the limits of traditional coastal systems.

ESTABLISHING PORT-TO-COAST-TO-COUNTRY-TO-COUNTRY MONITORING, CONTROL AND SUPPORT SYSTEMS

All technologies can be connected through one central operating system enabling the data to be available across the whole operational ecosystem.

COMPLETE SOLUTIONS

Collect and process various streams of data
Integrate it into a common operational picture
Share between all relevant stakeholders

300 STC INSTALLATIONS IN 55 COUNTRIES
**Vessel Traffic Services**

**COORDINATION OF VESSEL TRAFFIC AND PORT CALLS**

Scheduling approaching vessels optimizes port load and **INCREASES EFFICIENCY**

Distribution of common data to several operations stations improves VTS **TEAMWORK**

Operator receives **FULL INFORMATION** about VTS area as the result of automatic processing and fusion of data from various sensors, such as radars, AIS, CCTV, RDF, GMDSS, weather stations

Advanced decision support system helps operators to recognize a dangerous situation long before it escalates, and thus increases **SAFETY**

Electronic chart overlay, combined with vessel positions and sensor data, provides a **FULL TRAFFIC IMAGE**

3D VTS significantly enhances **SITUATION AWARENESS**

Traffic management tools provide a basis for **TRAFFIC COORDINATION**

Open interfaces enable **INFORMATION EXCHANGE** between VTS and other services

**COMMUNICATION EQUIPMENT** allows interaction with vessels

Recording system stores **ALL DATA** for debriefing and accident analysis
Coastal Surveillance Systems
CREATION OF A COMMON OPERATIONAL PICTURE

Integration of local and regional operations centres into a national scale system improves the **CHAIN OF COMMAND**

Blending data from many sensors types allows for **DETECTION OF EVEN SMALL TARGETS**

Integrated CCTV/EOS helps to **VISUALLY IDENTIFY UNKNOWN TARGETS**

Advanced radar processing system **TRACKS HIGH-SPEED MANEUVERING TARGETS**

Multipurpose target classification (friend or foe) improves **AWARENESS**

Long-range sensors can **EXTEND COVERAGE** up to the edge of an Exclusive Economic Zone (EEZ)

Mobile sensor sites **IMPROVE SURVEILLANCE**

**ANOMALY DETECTION** module picks out targets exhibiting suspicious behavior amongst all vessel traffic

Enhanced monitoring and control of own assets **FACILITATES INTERCEPTION**

Data is stored for **HISTORIC TRENDS ANALYSIS AND STATISTICS**

Full all-component redundancy provides **CONTINUOUS OPERATIONS**
**Offshore Solutions**

**EFFECTIVE MONITORING AND TRACKING OF ACTIVITY AT OFFSHORE INSTALLATIONS**

- Advanced strike prediction module provides **EARLY WARNING** for all approaching unauthorized vessels of any type.

- Integration of **OIL SPILL DETECTION** system protects the environment.

- Anchoring detection system helps to **PROTECT UNDERWATER INSTALLATIONS**, such as cables or pipelines, from damage.

- Virtual AtoN broadcast improves **SAFETY OF INSTALLATIONS**.

- Special tools help operators to improve **COORDINATION OF MARITIME OPERATIONS**.

- Integration of multiple sensors allows **SEVERAL INSTALLATIONS TO BE PROTECTED FROM ONE CONTROL CENTRE**.

- Long range detection of even small targets provides **SECURITY OF THE INSTALLATION AREA**.

- Integration with ADS-B displays **HELICOPTER TRAFFIC**.

- CLEAR AUDIO AND VISUAL PRESENTATION of alarms allows asset coordination to be combined with other tasks.

- Moving of infrastructure to onshore premises **REDUCES INSTALLATION COSTS**.
Multiple sensor inputs facilitate more rapid RECEPTION OF DISTRESS CALLS

System helps the assigned mission coordinator to IDENTIFY SEARCH AREAS and CALCULATE SEARCH PATTERNS

Resource management tools allow more EFFICIENT ALLOCATION OF RESOURCES in SAR operations

Inland module displays RIVER ELECTRONIC CHARTS

Inland AIS messages provide ADVANCED INFORMATION ahead of vessel arrival

Real-time display of all search resources and surrounding traffic improves SEARCH EFFICIENCY

Automatic report generation SIMPLIFIES MANDATORY REPORTING requirements

Automatic Transmitter Identification System (ATIS) VHF helps to IDENTIFY VESSELS communicating with the VTS

On-route monitoring allows for NAVIGATIONAL ASSISTANCE for vessels
Pilot Management Solutions

SAFE AND EFFICIENT PILOTAGE

Light-weight and user-friendly PPU brings **FREEDOM** and **MOBILITY** on the bridge.

Coordination of pilotage operations **INCREASES EFFICIENCY** and **ENHANCES COMMUNICATIONS** between all port services.

**SITUATIONAL AWARENESS**
via onboard sensors over AIS Pilot Plug.

**AUTOMATED REPORTING** reduces amount of VHF communications and administrative burden.

Pilot specific functions and powerful tools provide **DECISION SUPPORT** on board.

**NAVIGATIONAL INFORMATION**
through using official, local and bathymetric data.

**COMMON OPERATIONAL PICTURE**
through information exchange between VTS and other services, including Weather and Tidal Level data.

**IMPROVED SAFETY** of pilotage by using high-precision Independent PPU sensors.

**DATA LOGGING** and **RECORDING**
for incidents investigation.

Can be used for **DEEP-SEA, CHANNEL, HARBOUR** and **RIVER** pilotage.
VTS Simulation and Training Solutions

BRINGING TECHNOLOGY, EXPERTISE AND CONTENT TOGETHER

Full scale simulator allows provision of IALA V-103 training in a realistic environment

Simplified edition is suitable for on-the-job training within installed VTS or CSS system

Online training offers operators flexibility in choosing where and when they familiarise themselves with the software

Integration with other simulators provides possibility for joint exercises for VTS operators and bridge teams

Project Execution, Support and Service

BUILDING LONG-LASTING RELATIONSHIPS

Project team oversees full project cycle from system design to implementation

Our installation teams work around the world from Arctic coasts to tropical areas, including installations offshore, on board vessels, as well as in high-risk areas

24/7 support team ensures swift reaction to customer requests

Remote monitoring and support program (if agreed with customer) allows for speedy resolution of technical issues
Ship Traffic Control

SMART MARINE ECOSYSTEM

- **MONITOR**
  - Collect and process the data
  - Create common operational picture
  - Distribute data to clients

- **ALERT**
  - Analyse traffic
  - Detect dangerous traffic situations
  - Increase situational awareness

- **RESPOND**
  - Provide decision support services
  - Ensure ship to shore communications
Wärtsilä is a global leader in smart technologies and complete lifecycle solutions for the marine and energy markets. By emphasising sustainable innovation, total efficiency and data analytics, Wärtsilä maximises the environmental and economic performance of the vessels and power plants of its customers.

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