

# White Paper

## Maritime Rescue Coordination Center (MRCC)

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# Integrated Vessel Traffic Management & Information System for Port, Waterway, Coastal & Maritime Security

## Vessel Traffic Management integrated with Incident Management and Search & Rescue planning to support a Common-Operational-Picture for collaborative decision making (CDM) in Maritime Coordination Centers

Ensuring that our maritime transportation system, the waterways upon which it navigates, and the ports into which the vessels travel are safe and secure is a critical domain in which Barco, BMT Renewables Limited (UK) and Fortek Computers Limited (UK) are closely co-operating.

Advanced VTS solutions today are no longer reserved for major ports, waterways and maritime authorities, but are becoming increasingly significant for maritime rescue coordination and incident management. Integrated traffic management systems and solutions offering high-performance and highly reliable maritime services are needed to fulfill the continually increasing security standards.

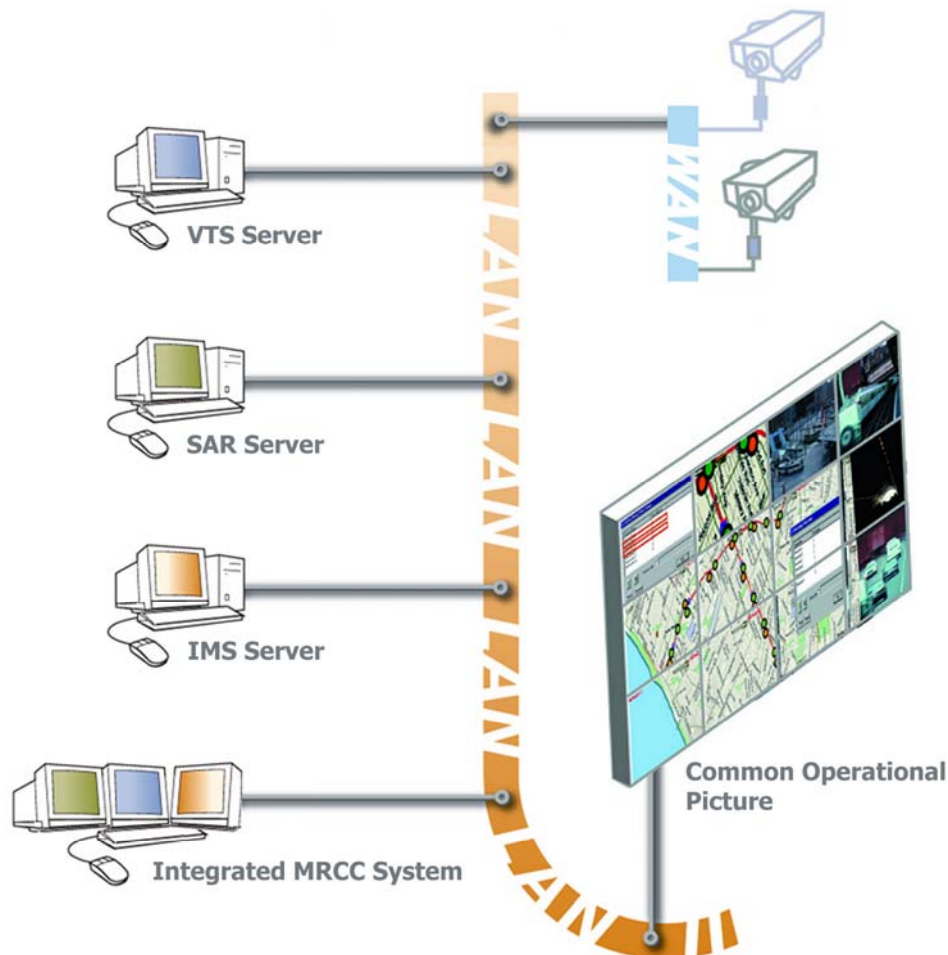


Figure 1: Integrated best-of-breed solution for MRCC operations

Barco Traffic Management focuses on integrating traffic management and rescue coordination services supporting a Common-Operational-Picture visualization for Ports, Waterways, Coastal & Maritime Security. The nature of maritime crisis management means that different agencies, like the coastguard, search & rescue, anti-terrorist units, emergency response services, security companies, ship owners and harbor organizations, are dispersed in virtual organizations. They need to work together to look at situations, assess the risks, identify potentially critical situations that may develop into crises, develop strategies for avoidance, mitigation or aid, plan for these and then implement. Continual re-planning and updating based on integrated information support is essential as the situation changes. Given this, it is difficult for information and knowledge to be shared to ensure a high degree of group awareness of how the situation is managed in order to timely, accurate and effective decisions are made throughout the process.

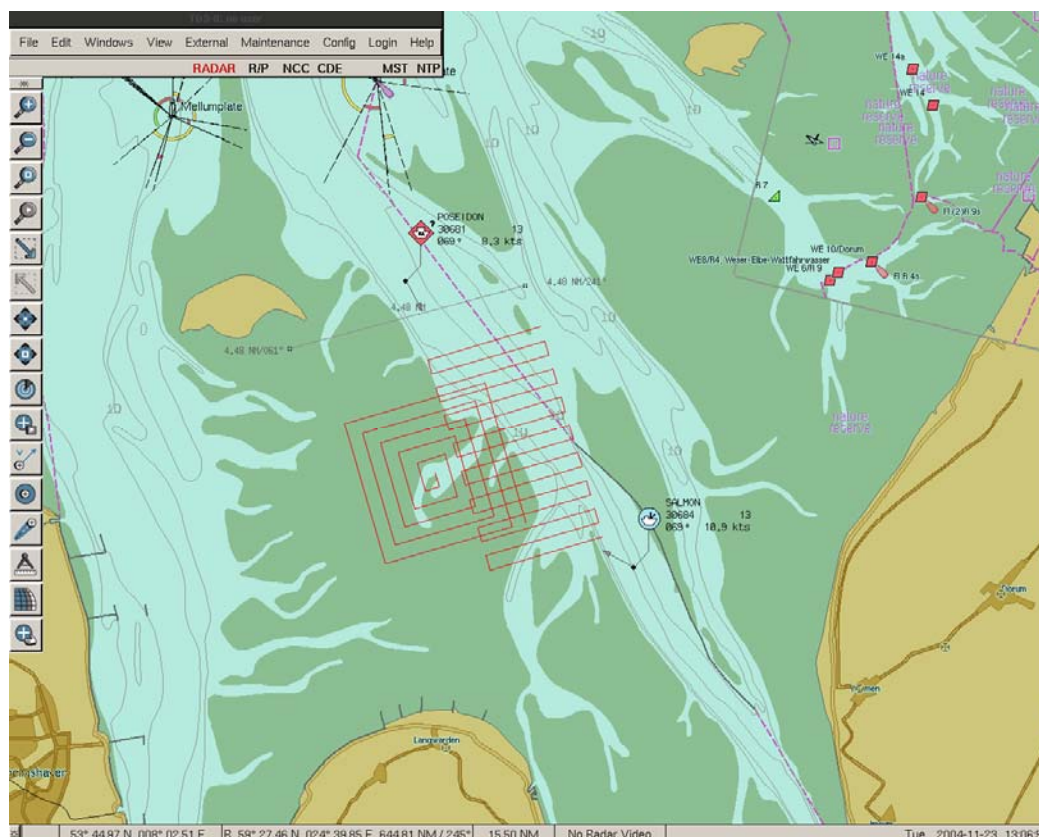


**Figure 2: Common-Operational-Picture on large-area display**

### **MRCC Ostend (Maritime Rescue and Co-ordination Center)**

As a first step towards implementation of a comprehensive solution, Barco was selected in February 2005 by the Shipping Assistance Division of the Ministry of the Flemish Community to build a new Maritime Rescue and Co-ordination Centre in Ostend together with Fabricom GTI and Tein Telecom.

Barco will deliver an MRCC solution integrating an advanced version of OPScenter VTS with an Incident Management System and a Search & Rescue module. With the new system, operators will be able to display traffic data from different external sensor sites such as the "Schelderadarketen" (Scheldt radar chain) and an existing AIS network. The solution also includes voice communication facilities, combined radar video, track, voice recording & replay and allows for browser-based access to an integrated traffic image. If there is an incident, the MRCC can rely on a lean, reliable and cost-effective solution, which fully supports all Port Control and Maritime Rescue activities.



**Figure 3: Integrated presentation of information**

Along with its role as maritime co-ordination centre, the new MRCC will also be used as an incident management room and press information centre. For this purpose, Barco Control Rooms will install a large-scale high-resolution OverView display, providing 24/7 operational capability with multiple inputs and adjustable screen layout functionalities.

### Next generation MRCC integrated solutions

In the future an integrated solution should not just cover the integration at the presentation level but also at the database level. Therefore it is planned to develop an advanced server architecture (containing the modeling BMT applications SARIS, OSIS and Rembrandt) and integrate with the Barco VTS interfaces and other external information sources such as SafeSeaNet. This will allow integration of a large range of data sources, real-time information and models. These simulation & training tools will support the people behind the systems by helping to complement their experience and knowledge in the best way.

Functionality	Name	Forecast Timeframe						Example Maritime Use
		History	Real Time	Hours	Days	Weeks	Years	
Vessel Traffic Services	VTS	X	X	X				Collision Avoidance
Automatic Identification Systems	AIS	X	X	X				Ship and cargo identification
Incident Management	VISION	X	X	X				Incident response
Search & Rescue Planning	SARIS		X	X	X			Search and rescue response
Oil Spill Information	OSIS			X	X	X		Oil spill dispersal response
Traffic Simulation and Forecasting	Rembrandt			X	X	X	X	Long term growth in traffic and collision risk
Search & Rescue Resource Planning	SRMD						X	Long term need for search and rescue resources

Barco tools	Fortek tools	BMT tools	Future options
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With this synergic integrated concept combined with Barco's Personal Workstation Consoles, operators are no longer confined to a limited number of monitors. They can now size and move a virtual monitor anywhere on the screen for maximum viewing and best fit in different situations. This allows for better collaboration between co-workers, individual situational response (in addition to common-operational-picture wall) and reduced disparate displays that integrate all information formats – video, data, RGB.



## Conclusion

A true surveillance environment as such in a Maritime Rescue Coordination Center (MRCC) is designed to provide a real-time collaborative work environment for monitoring, response dispatching/co-ordination, access/flow control, recording and overall systems control for 24/7 operations. Barco's VTS solution combined with the solutions from BMT and Fortek are tailored to optimally facilitate these functionalities and make the surveillance environment more efficient for both small and large or complex traffic management and rescue coordination centers.

Barco's vision therefore is of a very advanced all-in-one solution, supporting vessel traffic monitoring, incident management and search & rescue including high quality video walls and large personal displays.

## About Barco

Barco is a recognized international leader and pioneer in the design, development and manufacturing of real-time graphics display systems and software components for traffic management. Based on many years of experience in traffic management, Barco provides its customers with tailored integrated Vessel Traffic Services solutions, and components for coastal surveillance systems and advanced working positions.

Barco's expertise in providing high-performance display systems is supported by a worldwide network of research, development and support services. A global sales organization, with regional support people who understand your language and requirements, complements Barco's partnership approach.

## Enquiries

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