

Vardø VTS – the Northernmost VTS in the World?

Based around the C-Scope maritime domain awareness system, the new Vardø VTS went online in January 2007, enabling the Norwegian Coastal Administration to monitor ships from the Russian border in the Barents Sea to Rørvik, Norway. Vardø VTS is located at 70°21'N - 31°02'E, and is likely the northernmost VTS in the world - and possibly with the largest VTS area, covering some 11,000km of coastline (25,000km including islands).

An essential task for the Vardø VTS is to monitor the oil and gas transportation along the environmentally sensitive Norwegian coastline, where fisheries and tourism are key industries.

Operators typically monitor about 200 vessels daily, of which 10-20 receive special attention due to their size or risk of pollution. All ships over 5,000 gross tons and ocean tows entering the Norwegian Economic Zone are requested to report to the Vardø VTS when entering the VTS Area.

The Vardø VTS includes multiple VTS Operator Workstations, dedicated maintenance facility, and redundant Web service for the CMIS (Coastal Management Information System) providing the latest Internet-based application technology, through a simple and user-friendly interface that facilitates ease of data entry and reporting on critical information. A dual Warning and Integration service, weather station, and AIS integration is also incorporated in the C-Scope system.



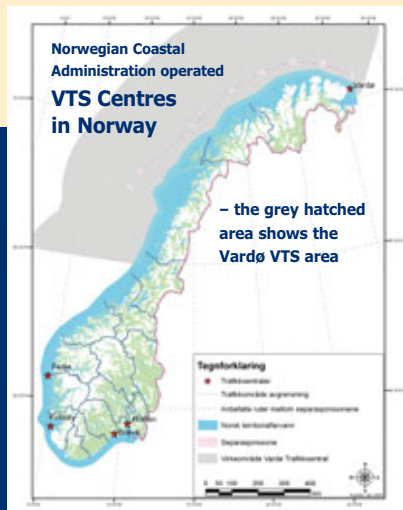
Vardø VTS Immediately Proves its Value...

On March 2nd 07, just 2 months after the Vardø VTS went live, they worked in close cooperation with the Norwegian Joint Rescue Coordination Centre at Bodø, to assist in saving the 101m long oil tanker, 'BBC Iceland' from grounding. The ship carried a mixture of pollutants including heavy oil and diesel oil and at one point was only 1nm from shore! During the short period the new VTS has been operational, this incident and several other successful incidents, demonstrate that professional operators, well functioning routines and technology are already in place at the Vardø VTS.

Vardø VTS: Making Snøhvit Safer

Up to 25% of the world's undiscovered petroleum resources are believed to be in the Arctic and the first successful exploitation is the Snøhvit project, located in the Norwegian part of the Barents Sea.

The Snøhvit project will exploit the resources of three gas fields in the Barents Sea; Snøhvit, Albatross and Askeladd, which lie about 75nm northwest of Hammerfest in Norway. The processing plant on Melkøya is Europe's first export facility for liquefied natural gas (LNG) and these activities have greatly increased the number of vessels transiting Norway's Arctic coastline.



The Norwegian Government imposes stringent environmental requirements on the offshore oil and gas industry, part of this has been to develop transport corridors and the introduction of an IMO approved mandatory traffic routing system along a 600nm route between Vardø and Rørvik.

The routing system consists of eight separate TSS (Traffic Separation Schemes) and seven recommended routes. The objective is to shift maritime traffic about 30nm from the coast of Norway and thus increase response time for oil-spill operations.

The TSS is controlled by the Kongsberg Norcontrol IT C-Scope based Vardø VTS system. The station is operational 24/7, even under Arctic conditions and must continually provide accurate and reliable information to the VTS Operators. The integrity of this data is vital where safety of navigation, safety of life at sea and oil pollution is concerned and it is also recorded for analysis and evidence in a court of law, so it must also stand up to legal challenges from the owners of errant vessels that have not complied and legal action has ensued.

New C-Scope Functionality

The C-Scope Operator Display is a sophisticated Graphical Information System, which Kongsberg Norcontrol IT has developed to provide maritime situational awareness including VTS. Continuing development means that new functionality is being released on a regular basis.

The next release, which follows closely behind the release for the Vardø VTS in March, features a number of new modules, some tailored specifically for coastguard operations although all are very generic and beneficial for port and offshore marine operations alike.

A brief description of some new features follows:

Search And Rescue – seamless interface to Search and Rescue systems that assist users managing search and rescue incidents. During any specific search and rescue incident, the user is able to export a report that contains incident information as well as graphical objects (incident area, search patterns). This report is graphically displayed on the real-time Traffic Image/Recognised Maritime Picture in the C-Scope Operator Display Chart Window(s).

Warning Object – An alert mechanism to attract the user's attention when operating conditions require, i.e. during filtering and replay.

Track Re-classification – Any track can be given a unique classification and symbol allowing tracks to be classified and highlighted as the case may be.

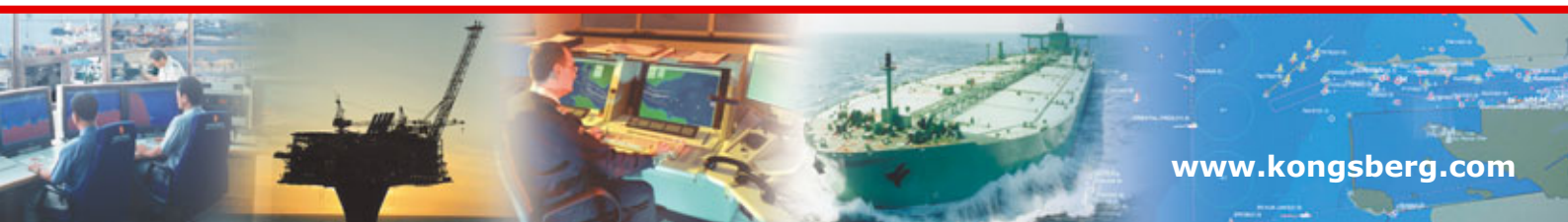
Software Maintenance – A mechanism that ensures all software is kept up to date, synchronised and maintained from a central location. Central maintenance makes it much easier to roll out upgrades or patches across geographically dispersed users and services.



Web Diagnostic Tool – This tool allows administrators to interrogate, monitor and control all C-Scope services from a remote location using a standard Internet browser.

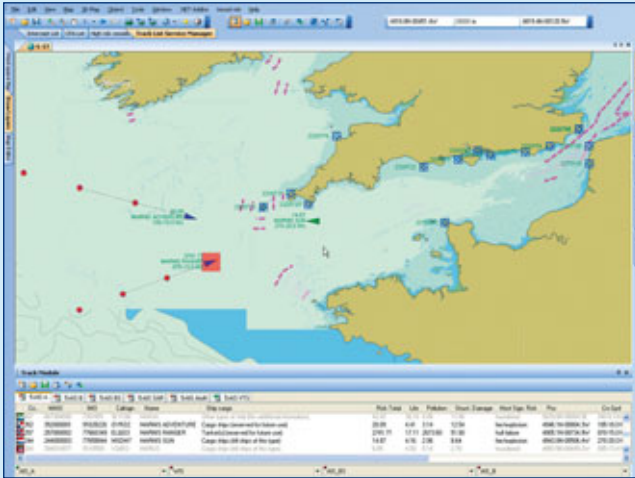
AIS Interface – An updated AIS interface with many new features such as display of country flags, enhanced vectors for RoT, COG and heading. The interface also allows for sending and receiving safety and text messages within the Operator Display.

Hot Standby – Ensures no single point of failure in the C-Scope network. Fully supports redundant servers, hosting track distribution, and provides fail over switching without losing data or requiring manual intervention.





Helping to Develop the Future of Navigation



Specially adapted C-Scope software formed the platform for an in-depth MarNIS (Maritime Navigation and Information Services) demonstration, held at the MCA's Highcliffe Training Centre in the UK on 13th & 14th Feb 2007. The event, attended by MarNIS members and stakeholders from all over Europe, demonstrated progress in the further development of electronic navigation (E-Navigation) within the European Union 6th Frame Work Programme.

Kongsberg Norcontrol IT is a key member of MarNIS, which consists of 47 partners and 12 sub partners. C-Scope forms the front end of a new concept for the future of seaborne navigation by MarNIS called Maritime Operation Services (MOS), which is being developed to integrate the disparate information channels already available into one complete system. The intention is that an MOS operator can view and utilise information from specialised services at one operator station, including: Coastal VTS, Oil Pollution Response, Search & Rescue and Maritime Assistance Services (MAS).

The UK Maritime & Coast Guard Agency hosted the demonstration, and has pledged to play a large part in the continuing development of the MOS and the MarNIS project.

Long Range

The MOS version of C-Scope produces its Traffic Image via AIS, Radar and other sensors, including the forthcoming Long Range Identification and Tracking (LRIT) and Long Range Reporting (LRR).

A key focus of the MOS concept is to create a pro-active service by introducing MarNIS Risk Areas (MaRA) zones, which are extremely dynamic and are implemented based on several factors including live weather, current and tide data, and AIS and other database information of every vessel in the area. Each vessel is assigned a risk value based on a configurable algorithm, which uses values such as distance offshore, type of vessel and risk to human life/environment. This information is gathered via the various integrated MOS data inputs enabling operators to prioritise and gain a greater understanding of the current situation.

"The MOS concept is still under development but what we saw today is a good example of the work carried out by MarNIS so far," comments Einar Lihovd, Kongsberg Norcontrol IT's software specialist on MarNIS. "C-Scope is our seventh generation VTS package and we are keen to continue its development within the MarNIS framework, as this will serve to enhance the service we are able to offer our customers around the world."

Projects Update

We have completed a number of key Factory Acceptance Tests and Site Acceptance Tests over the last few months.

Factory Acceptance Test: The FAT of the VTS for Dar es Salaam took place in Horten, Norway during March. Our customer, the Tanzania Ports Authority, also accompanied Kongsberg Norcontrol IT's Eigil Ørebeck and Ivar Reiten to England for a FAT of the GMDSS delivered to the project by our subcontractor ICS Electronics.

The Port of Dar es Salaam in Tanzania enjoys a steady increase in throughput and is also an important transit port for neighboring countries. With this high level of activity, the Port acknowledged the need for a proven and robust VTS to be installed, to accurately represent vessel movements within the service area and to help ensure efficient turn-around times.

Site Acceptance Test: The SAT for VTS and high performance radar systems using frequency diversity was completed in March for various ports in the Kingdom of Saudi Arabia (as part of an eight port VTS and AIS contract announced in May '06). Successful completion of the tests demonstrates that the project and our C-Scope Frequency Diversity Radar System is right on target.

Saudi Ports Authority will utilise the new systems to detect vessels around Dammam Port, Jubail Industrial Port, Jubail Commercial Port, Jeddah Port, Yanbu Industrial Port, Yanbu Commercial Port, Duba Port, and Jizan Port. "Each of these ports has its own unique maritime domain awareness requirements. For example, radar propagation in the Red Sea is completely different to that in the Arabian Gulf and our radar solutions need to have the correct processing to optimise radar detection in each of these areas," comments Steve Guest, Regional Sales Director, Kongsberg Norcontrol IT.

Steve continued "Our C-Scope Frequency Diversity Radar system was chosen after the ports ISPS Code driven risk assessment. This risk assessment identified and quantified threats in the maritime domain and enabled us to tailor a specific solution. This customisation of radar solutions to any given threat is a key service provided by Kongsberg Norcontrol IT."

Öresund Sound VTS to be Installed Summer 2007

The Swedish Maritime Administration and the Royal Danish Administration of Navigation and Hydrography (RDANH) have contracted Kongsberg Norcontrol IT to supply the Vessel Traffic Service system for the Öresund Sound area, where the Öresund Bridge links Denmark and Sweden. The Öresund Sound VTS, which will be known as the Sound VTS, will be operational later in 2007.

The VTS will form the core of a monitoring and information centre for ship traffic in the Öresund Sound.

The VTS Centre will be in Malmö Sweden, where Kongsberg Norcontrol IT will integrate three operator stations running the advanced VTMS 5060 solution and five works stations for pilot dispatch. Radar video from four radars will be fused to provide the Traffic Image. Two radars will be located on the Swedish side and two on the Danish side of the Sound.



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