

## CRIADS Service for the Norwegian Defence

Kongsberg Norcontrol IT has recently signed a contract to provide a four year service program for the Norwegian Defence Coastal Radar Integration and Display System, also known as CRIADS. The scope of supply includes site and sensor maintenance, service and support, system development and provision of spare parts.

CRIADS is a NATO approved (Mil-Std 498 and NATO quality assurance provisions) surveillance technology, which was integrated into the product portfolio by Navtek, a Norwegian VT-MIS specialist that merged with Kongsberg Norcontrol IT following its acquisition by Kongsberg Defence & Aerospace in August 2006.

"We're delighted to have received this contract from the Norwegian Defence. It confirms the added value that the acquisition of Navtek has brought to our overall product offering, especially for our defence orientated customers," says Inge Flaten, President, Kongsberg Norcontrol IT.

CRIADS provides control and monitoring facilities for sensors such as AIS, coastal radars, radio direction finders, ESM equipment, CCTV systems, and interfaces to tactical links. It merges the data inputs to one complete Recognized Sea Picture (RSP), a high quality picture compilation that may be distributed further to other agencies and operatives. This realtime capability plays a key role in the processing of maritime data.

Historically, due to a combination of technical limitations and self imposed security constraints, previous sensors and processing systems had to operate in isolation, resulting in severely hampered operations that by definition, forced the duplication of resources with all the associated costs and risks. CRIADS has eliminated these restrictions and their associated costs.

CRIADS has the capability and capacity for producing an unambiguous, real-time, tactical RSP at Surveillance Headquarters. The capabilities include the control and monitoring of coastal radars, track initiation, track registration, sensor fusion and track correlation with data from other sources. At the Surveillance Headquarters the RSP is also prepared for distribution and exchange on NATO defined tactical data links.

CRIADS is an extremely flexible system that can be developed exclusively to each country's specific requirements. To this end it can use several different chart formats including C-Map CM-93/3, which is the primary format but Shape, VPF, S57 and GeoTiff may also be chosen. MIL-STD-2525 Track symbols are used primarily but the system can also utilise simpler forms for symbols such as NTDS from the OTH Gold standard.

"As a core part of our product portfolio for the defence market, CRIADS is a highly flexible proposition that is capable of consolidating all key sensor systems to ensure high quality data acquisition in security and safety critical zones. We are able to tailor it exactly to customer requirements, ensuring that all local challenges are overcome to make the system a vital tool for national security and in the fight against terror," concludes Inge Flaten.

## MDSol: Providing Maritime Domain Awareness for Africa

Marine Data Solutions (MDSol) is a South African based 'Black Economic Empowerment' company owned by some of its staff and the Kongsberg Group. The company is part of Kongsberg Norcontrol IT and is focused on the entire African market.

With its headquarters in Cape Town, an office in Port Elizabeth and one opening soon in Durban, MDSol employs ten people and focuses on enabling Africa's Port and Coastal Authorities to effectively and efficiently manage their vessel traffic. This is achieved through the provision of maritime domain awareness solutions like VT-MIS, AIS and Aids to Navigation Systems.

The company has recently been named one of South Africa's Best 25 employers for 2007 and its Managing Director, Steve Nell is the president of the Industrial Members Committee (IMC) of the IALA. MDSol believes that it's different to other companies due to its passion for its customers and staff, which is reflected by the company's positive slogan - "At Your Service".

MDSol has a relatively high profile in the African maritime industry and will be attending exhibitions in Ghana and Mauritius in 2008.



Sitting (left to right): Cikizwa Mbuku, Steve Nell, Thabisa Sibara  
Standing (left to right): David Lewis, Mervyn Winter, Marlon Williams, Bruce Nell, Anthony Naude', Khanyisa Matroko and Paul Weber

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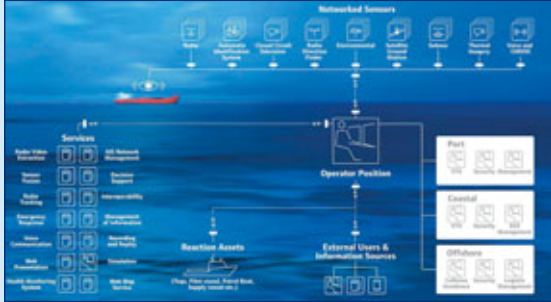
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## Developing Data Integration Tools

Integration of data from many external sources has always been a challenge but with projects like the UK AIS network and the VTS at Vardø, Kongsberg Norcontrol IT has both encountered and mastered the complexities, which ultimately provides added value to the system owner.



### Input

The VTS at Vardø covers one of the largest maritime domains in the world and in addition to AIS tracks, it receives data from an already existing coastal radar chain (CRIADS system) as well as satellite data, which is used for oil spill detection. The technology is also in place for the integration of LRIT data.

"Kongsberg has developed a new Information Exchange application, called the Message Central by the NCA, and which binds the various data sources to the VTS and enables its delivery outside of the system," explains Hogne Sperre, Project Manager of the Vardø VTS for Kongsberg Norcontrol IT. "For instance, the sophisticated Operator Support System in place enables the checking of AIS data through the Message Central from third party sources on the internet such as Safe Sea Net."

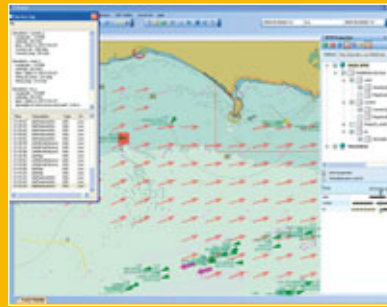
Additionally, there are eight NATO funded military radars that form part of the sensor network that needed to be connected to the AIS network but security restrictions imposed by NATO made this impossible. In order to solve this problem, two interfaces were made, one which provides a non-sensitive data stream for civilian use and another isolated, higher resolution stream just for the VTS operators.

### Output

In an AIS Network one of the most ill understood facets of the operation is the effect the large amounts of data can have on the system components, whether these are hardware or software. To address this and to make sure that all interested parties can access the data on existing systems, an open architecture is used in Kongsberg Norcontrol IT's AIS network software. This allows the network software to 'interoperate' (interface and exchange data) with other national (Customs, Police, Defence), Port Authority or General Lighthouse Authority information systems.

Kongsberg Norcontrol IT utilised this open architecture to enable the MCA to deliver UK AIS network information outside of its headquarters to 19 Maritime Rescue Co-ordination Centres (MRCC) around the UK coastline. This information would ensure that operators had access to all the relevant information, therefore improving the quality of sea rescues and security throughout the country.

"We are active in international and national research programs like MarNIS and 3D Attention Zone, and through membership of the IALA and participation in the VTS and eNav committees new tools to better handle data are constantly in development. We are completely focused on data integration and believe that our vast experience enables us to provide a superior solution to COTS product providers in the maritime sector," concludes Hogne Sperre.



## MCA Rolls out Phase 3 of the C-Scope User Interface

The Maritime & Coastguard Agency (MCA) has implemented Phase 3 of the UK AIS network, following the successful Factory/Site Acceptance (FAT/SAT) testing of Kongsberg Norcontrol IT software upgrades to its C-Scope User Interface.

"The UK AIS Network provides real-time AIS information to all Maritime Rescue Co-ordination Centres (MRCC), MCA's Headquarters, and a number of other UK stakeholders," comments Steve Brown of the MCA, who attended the FAT at Kongsberg Norcontrol IT's Horten, Norway facility. "The C-Scope User Interface has been in service with UK MRCCs for over a year. The latest planned release provides a number of additions which will supplement existing functionality."

Phase three includes a wealth of new functionality within the C-Scope User Interface, including: BMT SARIS support, VHF direction finding, transmission and receipt of AIS messages, track reclassification and high visibility warning object. A number of management functions were also integrated into the system, including: Software maintenance and distribution, fully redundant server configuration, audit and logging, integration with health monitoring system and follow me customised settings.

"Now that we have added radio direction finding sensors, the AIS Network has already evolved into a maritime domain awareness network with different user groups being able to connect to gain access to the data that is relevant to their individual role through our C-Scope User Interface," said Steve Guest, Kongsberg Norcontrol IT.

## New and Completed Contracts

### Humber VTS Upgrade Completed

Kongsberg Norcontrol IT has completed an extensive upgrade to the Humber Estuary VTS, which includes the updating of the complete system to the latest version of VTMISS060 at Spurn, Immingham and Hull.

Spurn Point continues to provide the Humber Estuary VTS Centre functions, while Immingham has been configured for Disaster Recovery and Emergency operations. The project also included the updating of the existing VTMISS060 modules and the introduction of new satellite centres at Goole and Grimsby. Two new Kongsberg base stations were installed in Hull and Goole to substantially extend the up-river coverage of the system. Additionally, four new meteorological stations were added along the river.

Two brand-new software functions were developed specifically for this project to ease operations for the Hydrographical Department and seamlessly exchange data with ABP's Port and Vessel Information System (PAVIS).



### VTS and PMIS for Port of Rijeka, Croatia

The Port of Rijeka Authority has chosen Kongsberg Norcontrol IT to supply vessel monitoring and port management solutions as part of an ongoing development plan to modernise the Port of Rijeka. The company will work alongside the project partner Ericsson to deliver and install all components within Q1 2008.

The scope of supply consists of both software and hardware solutions, including the Kongsberg Norcontrol IT VTMISS060 with Radar, VHF and three Operator Stations in addition to a Port Management Information System (PMIS) and a web based traffic display with web access to the PMIS. VTS training is also included as part of the contract.

