KONGSBERG NORCONTROL IT CONTRIBUTES TO ENHANCE SEA BORDER PROTECTION

With the final conference due in September and following the second and final trial campaign which took place at the end of June this year, the I2C (Integrated System for Interoperable sensors & Information sources for Common abnormal vessel behaviour detection and Collaborative identification of threat) integration project has resulted in significant breakthroughs for enhancing sea border protection, it is understood.

Kongsberg Norcontrol’s I2C was implemented to enable automatic identification and tracking of vessels suspected of involvement in, for example, irregular migration, illegal fishing, drug trafficking and looting of cultural heritage.

Starting in October 2010 and due to conclude in October 2014, I2C proposes a new generation of innovative sea border surveillance, integrated with key existing and in development capacities to track vessel movements and activities for early identification and reporting on EUROSUR (European Border Surveillance System). The resulting I2C prototyped system has been specifically designed to set up a real time and permanent maritime picture over large areas of territorial water and, furthermore, to provide an online decision aid with tools for detection of suspicious activities performed by co-operative and non-co-operative vessels, with identification of the most plausible threats.

Kongsberg Norcontrol IT’s role in the project was focused on the integration of various data interfaces towards information sources, and the associations of these data with vessels’ tracks. This work provides the main input for the behaviour analysis parts and presentation parts of the I2C system.

Focus has been on the utilisation of external sources of intelligence relevant for the analysis of vessel traffic in order to detect suspicious events or vessels, including a variety of available databases with vessel characteristics and history (for example obtained through Lloyd’s, Paris MoU, Tokyo MoU), with secured restricted information, weather and sea state forecasts and detected vessels from orbiting satellites equipped with Synthetic Aperture Radar.

Working in real-time, the overall I2C-system exploits this data to give automatic alerts to operators, who may then track vessels of interest.

Part of Kongsberg Norcontrol IT’s research in I2C has been to explore the use of open and emerging industry standards for information exchange, with the objective of developing concepts that can be efficiently adapted to different providers of information.
Data exchange standards used in the I2C prototype solution are: the IVEF (Inter-VTS Exchange Format) by IALA: the WFS (Web Feature Service) by OGC and the SOS (Sensor Observation Service) also by OGC.

Kongsberg Norcontrol IT has significant experience in data exchange standards for maritime domain awareness systems and was responsible for the original introduction of the IALA IVEF protocol through its participation in IALA and experience gained from its Singapore VTS delivery project, based on its state-of-the-art C-Scope technology.

It is understood that the company also proposed the WFS and SOS standards and has significant experience with them on projects with other KONGSBERG units such as Kongsberg Spacetec (also a partner in I2C) and Kongsberg Satellite Services.

Picture caption
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