SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)
Integrated Applications End-to-End Solutions (1)

Author: Mrs. Marte Indregard
Kongsberg Satellite Services AS, Norway

Mr. Paul Whitaker
Kongsberg Satellite Services AS, Norway
Mr. Tony Bauna
Kongsberg Satellite Services AS, Norway
Mr. Borre Pedersen
Kongsberg Satellite Services AS, Norway

MULTIMISSION RAPID RESPONSE SERVICES

Abstract

Kongsberg Satellite Services (KSAT), Norway, downloads data from more than 60 Earth Observation satellites, including high resolution SAR and electro-optical satellites, and operates more than 30 antennas through several ground stations. KSAT is the only company in the world that can supply access to satellites from both the Arctic and the Antarctic. In addition KSAT is expanding the global capabilities through an extensive partnership, to offer a truly global cost-effective multi-mission Ground Network of both polar and mid-latitude stations operated as one single interconnected service.

Operations at KSAT are executed on a 24/7-365 basis, and one of KSAT's main focus areas is use of satellite technology for rapid response services. Marine applications have been developed and operational at KSAT for more than a decade. KSAT's operational multi-mission oil spill and vessel detection service includes data acquisition from SAR and electro-optical satellites, processing, reception and integration of non-space data into the analysis process, image analysis and interpretation, followed by early warning to the customer as well as information ingestion into a dedicated web-client.

The KSAT Emergency oil spill response service was activated and used during the first month of the Deepwater Horizon accident in Gulf of Mexico in April 2010. Such situations are characterized by a huge need for information – and short deadlines. One single satellite system will not meet all requirements, so a combination of all applicable satellites is the optimal solution. KSAT established a dedicated multi-mission emergency service chain for the area around the oil rig, and data from both radar and optical missions were ordered from the satellite owners.

The high piracy activity in the Gulf of Aden and Somali basin over the last couple of years have lead to a demand for improved maritime recognised picture for the area. Both vessel owners and naval forces have expressed interest in the information that can be provided from satellite based vessel detection and AIS reception to support their activities and reduce the risk of operating in the area. KSAT has been involved in several demonstrations where vessel detections from different sources of satellite data (RADARSAT-2, ENVISAT, TerraSAR-X, Cosmo-Skymed, KOMPSAT-2, QuickBird, WorldView-2) have been combined with satellite AIS data and made available to the end-user in near real-time.

Lessons learnt from the Deepwater Horizon accident and demonstrations in support to anti-piracy activity will be further discussed in the paper.