

IAF EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

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NEAR REAL TIME PROCESSING FRAMEWORK FOR REMOTE SENSING BASED MARITIME
SURVEILLANCE APPLICATIONS**Abstract**

Applications for near real time ship detection, based on remote sensing satellite image data, were developed and implemented as one of the first value adding services for Maritime Situation Awareness. The service was successfully demonstrated by different projects. Currently implemented for the SAR satellite sensors TerraSAR-X, TanDEM-X, Radarsat 2 and the Copernicus mission Sentinel 1; high resolution (HR) optical satellite sensors Landsat-8 and Copernicus Sentinel-2; and very high resolution (VHR) optical satellite sensors GeoEye-1, WorldView-1-4 and Deimos-2. Using TerraSAR-X and TanDEM-X satellites the service is available for the commercial market via AIRBUS DS, one of the key suppliers for remote sensing data. Service with very high resolution optical data provided in partnership with European Space Imaging (EUSI) company, key distributor of VHR satellite imagery in Europe. With respect to user needs different product formats are implemented and operationally available. Fusion with AIS data from terrestrial and satellite AIS sources is integrated to provide more reliable picture with information like ship name, ship class, and destination. The SAR algorithms are developed by the Maritime Security Lab in Bremen, part of the Remote Sensing Technology Institute (IMF) while the Maritime Security Lab in Neustrelitz is responsible for the optical part as well as the near real time framework development and the service chain implementation at DLR's Ground Station in Neustrelitz. The Maritime Security Labs in Bremen and Neustrelitz were established at the EOC focusing on the research and development of new EO near real time services in the maritime domain. Beside the oil and ship detection services the development of iceberg detection and ice classification, as well as the delivery of products of meteo-marine parameters like wind and wave are currently part of the research and development activities. The presentation will focus on the service implementation approach as an example for the multi mission approach for near real time applications at the DLR ground station Neustrelitz.