Introduction

We present a novel mobile solution to provide efficient services for data fusion towards augmenting maritime safety [1]. The proposed solution includes logging mechanisms that facilitate people sensing based research dataset development in open format [2].

It is about complex and integrated fusion of data coming from multiple mobile and typical tracking sensors (e.g. low weight/high performance radar, position transmission mechanisms and electro-optic/systems and hyper-spectral sensors). The key aim is to assist the detection and early identification and tracking of moving targets (e.g. with moving target indication and data fusion/correlation capabilities), as well as methods for obstacle detection and maritime surveillance.

Maritime mobile services have to exchange real time data with multiple maritime/aerial assets no matter where the operation is conducted (close to harbors or at the open sea) and independently from the existing surveillance infrastructure. The proposed approach is also useful for the detection of marine pollution incidents.

This innovative single window solution [3] presents high-efficiency, low operational costs’ profiles and possibly contributes to standardization in construction as it utilizes typical tracking infrastructure and typical mobile devices [4] (smartphones and tablets/ipads) & PCs.

Mobile Services for the Crew
A set of mobile services is available to the officer in charge and the permanent crew, located on the operational vessel/vehicle/station.

- Main screen for the member of any search and rescue operation
- Single Screen Grid View with the map, thermal camera and onboard camera
- Real Time Radar Mobile Service for region Athens, Greece.

Smartphone App Functionality

- Testing and Simulation
  - The mobile services have been based on a cross-platform framework and furthermore they have been extensively tested in order to perform efficiently and allow ease of use at a wide range of devices and operational conditions.
  - The picture presents use of the software during a simulation exercise/inspection at a port both for its online and offline functionality.

References


Acknowledgments

This research has been co-financed by the project: BORDER GUARDS - Border Geomatics Utilities for Area Reconnaissance & Decision Support, Project Code: 11SYN_9.781 of the SYNERSIS PROGRAMME 2011-2015, co-funded by the European Regional Development Fund and National resources.