Learn from your data
Measure, Manage, Innovate, Engage

Geospatial World Forum, Geneva
May 8, 2014

SeaSearch
supported by ESA
(ARTESS 20 IAP Feasibility Study)
What is SeaSearch?

- A fusion platform for creation of value added services for maritime users
- Focus on mass market value added services
- An initiative of Data Fusion Research center (DFRC) AG, Switzerland with the support of the European Space Agency (ESA) as part of the ARTES20 Integrated Applications Promotion (IAP) programme

Maritime Surveillance Retailer

the sale of goods to the public in relatively small quantities for use or consumption rather than for resale
Core Technology

✓ The core technology behind “SeaSearch” is a tracker – software engine that is able to highly accuracy track vessels using a small number of measurements (“plots”)

✓ Data fusion engine correlating EO data and position data (terrestrial AIS, Sat-AIS, Radar, web data)

✓ Index service for EO dat
SeaSearch Architecture
Learn from your data
Measure, Manage, Innovate, Engage

SeaSearch Services
Situation Awareness Picture

- Real-Time Situation Awareness picture to be integrated into national command and control systems
- Worldwide coverage
- Real-time
- Embedded Alert Service
  - Including Illegal activities that take place far away from national borders.
Long Range Alerts

WWAIS @wwais_dfrc
Highly unusual behavior detected for vessel KALUGA on route to NEDERLAND
Ref: 4595309-20
Collapse  Reply  Delete  Favorite  More
4:00 AM - 16 May 13 - Details

Reply to @wwais_dfrc
Motherboat Detection

☐ WWAIS (operational): Predictive tracking (AIS) and alerting based on behavioral analysis

Real operation exercise – Guardia Civil (Spain), September 2013
Blue Border Protection

Malta, September 2014
Oil Ring Protection

✓ Detection of unauthorized activities nearby oil rings
  - Oil
  - People
  - Drugs
Rendezvous Detector

- Detects all types of rendezvous at sea:
  - Large vessel with small vessel
  - Drop-off
  - Transfer while on the move
Fishing Analyzer

- Provides real time information on “hot” fishing areas
- Competitor analysis – where are my competitors?
- Low cost, highly affordable
Port Optimization

- Estimated Arrival Time
  - 24 hours
  - 48 hours
  - 72 hours

- Estimated waiting time

- Under capacity alert

- Over capacity alert
Cargo Tracking

- Analyze the overall shipment of cargo worldwide
- անվտանգենում են բարձունքային տրանսպորտ

![Map of cargo tracking](image-url)
Call for Collaboration
For Data Providers

- Data providers are welcome to join the SeaSearch platform in order to extend their customer base.
- SeaSearch is offering a revenue share model.
- Partial funding *may* be available from ESA in a future demonstration project.
For End Users

✓ End users are welcome to test SeaSearch and serve as show case for the project

✓ Partial funding *may* be available from ESA in a future demonstration project
For System Integrators

✓ SeaSeach provides open interfaces for system integrators and value added service developers

✓ Please contact us for further information
Thanks for your attention

CONTACT

Dr. Thomas Staub, Chief Scientist

<table>
<thead>
<tr>
<th>E-mail</th>
<th><a href="mailto:thomas@dfrc.ch">thomas@dfrc.ch</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>+41-79-4847602</td>
</tr>
<tr>
<td>Phone</td>
<td>+41-31-5118511</td>
</tr>
<tr>
<td>Address</td>
<td>DFRC AG</td>
</tr>
<tr>
<td></td>
<td>Eigerstrasse 12</td>
</tr>
<tr>
<td></td>
<td>CH-3007 Bern, Switzerland</td>
</tr>
</tbody>
</table>