Decision Support for Oil-Spills (DSOS)

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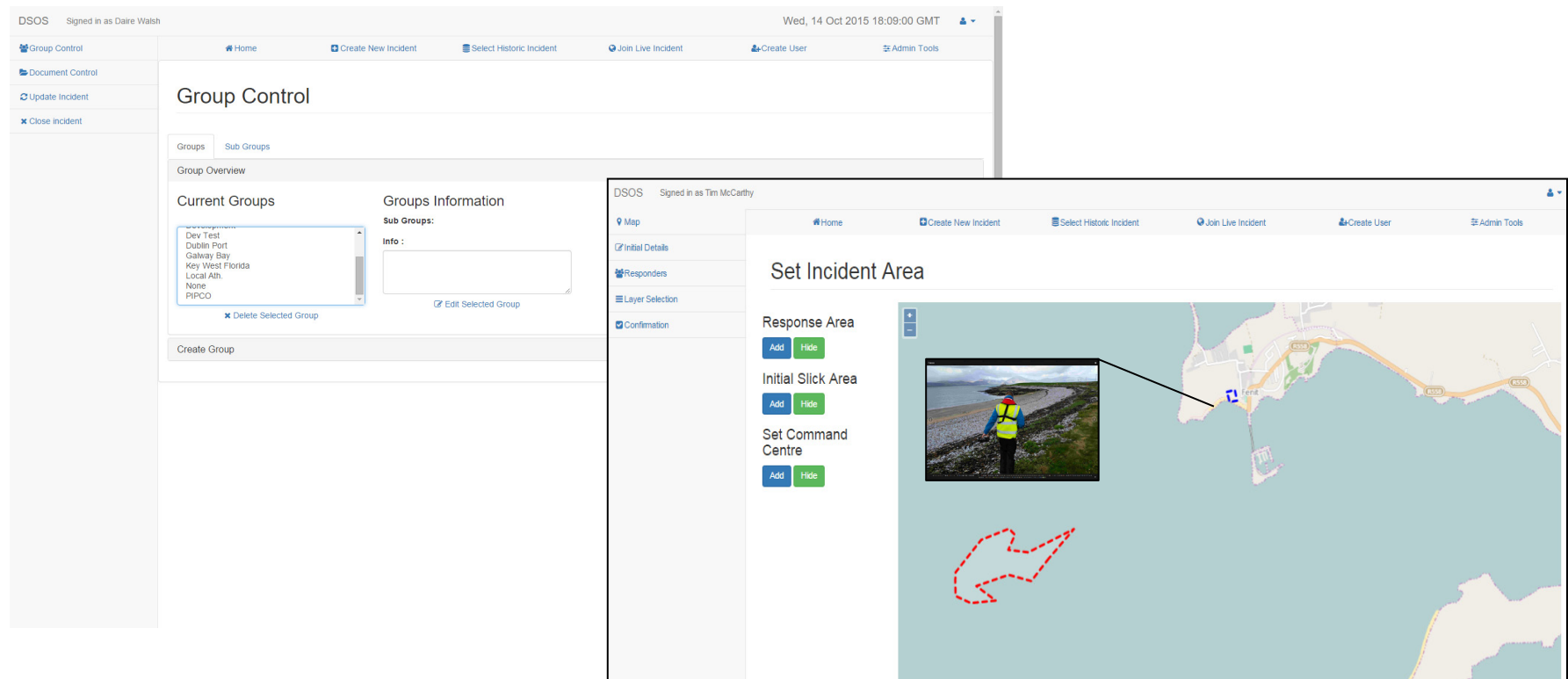National Centre for Geocomputation
Maynooth University
27th oct 2015

Aim & Objectives

Develop a prototype **geospatial decision support platform** to provide more **effective information management** when **responding to oil-pollution incidents** in the marine environment

- **Evaluation of platform** under real world conditions (carried out in conjunction with SEA-PT oil-spill exercise on West coast of Ireland)

- Assessment of new real-time sensor technologies including **Remote Sensing satellites (e.g. Sentinel)**, **low-altitude Airborne & UAVs**
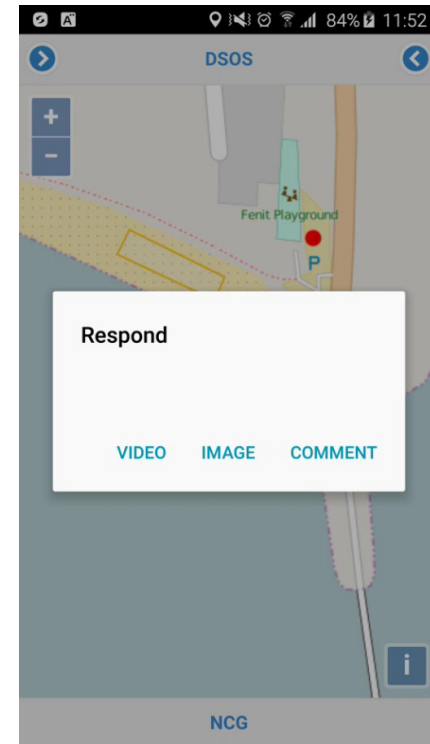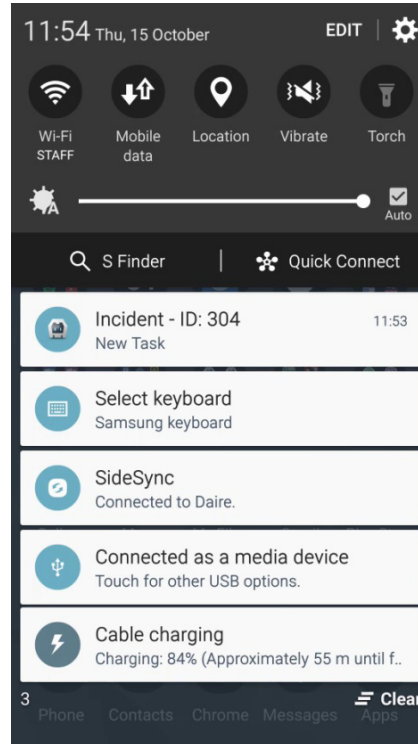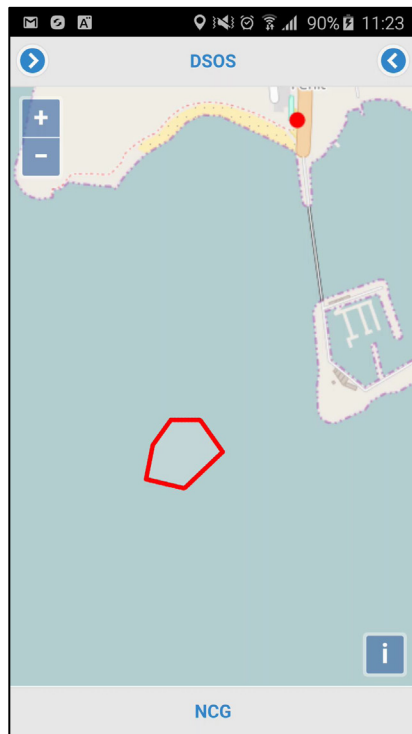
Cloud-based Marine Pollution Management Platform

DSOS Platform Modules include;

- Response Team Formation & Mobilisation, Incident Reporting
- Document & Check-list Management
- Data Ingestion, Layer Management
- COP with various Mapping, Tasking, Logging & Analysis tools
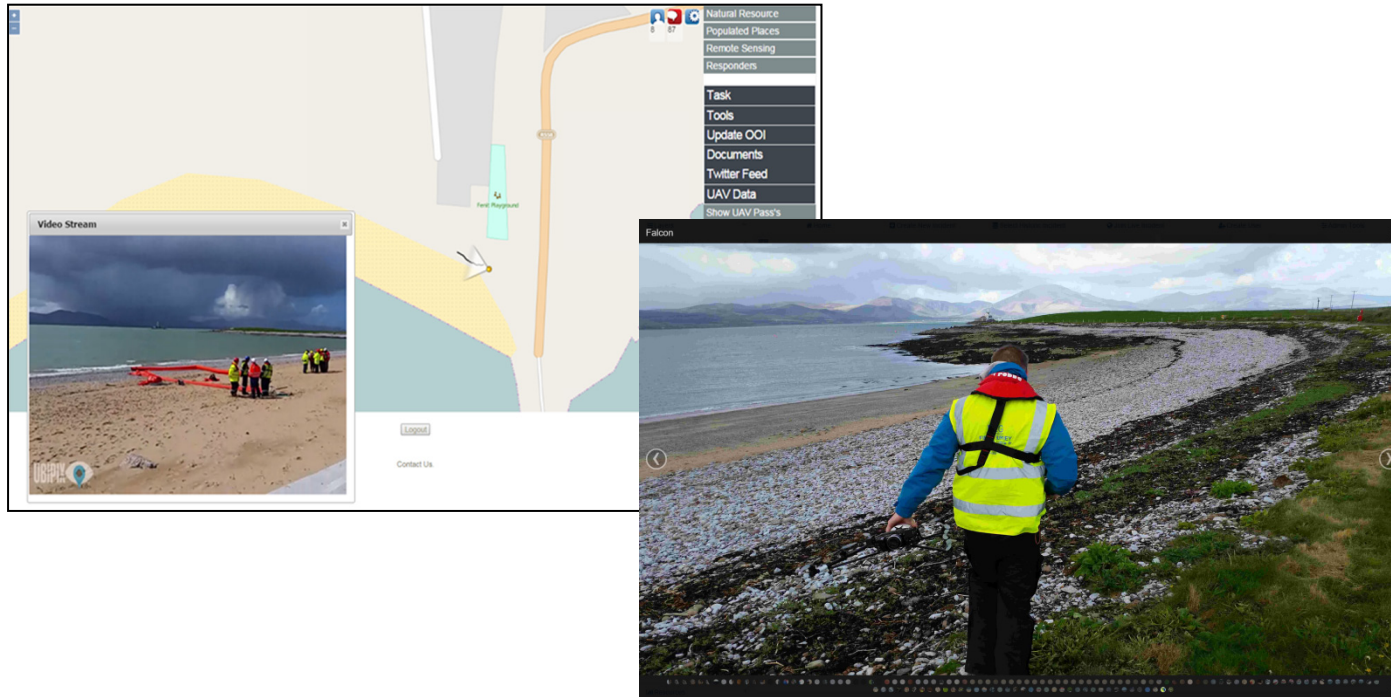- Comprehensive Pollution Incident Logging and Reporting tool

SmartPhone App (Real time views, Field-Observation & Tasking)

DSOS Smartphone App
- communicate with coordinator,
- accept tasks, report on task status,
- log and transmit field observations, in near real-time, GPS, images and video
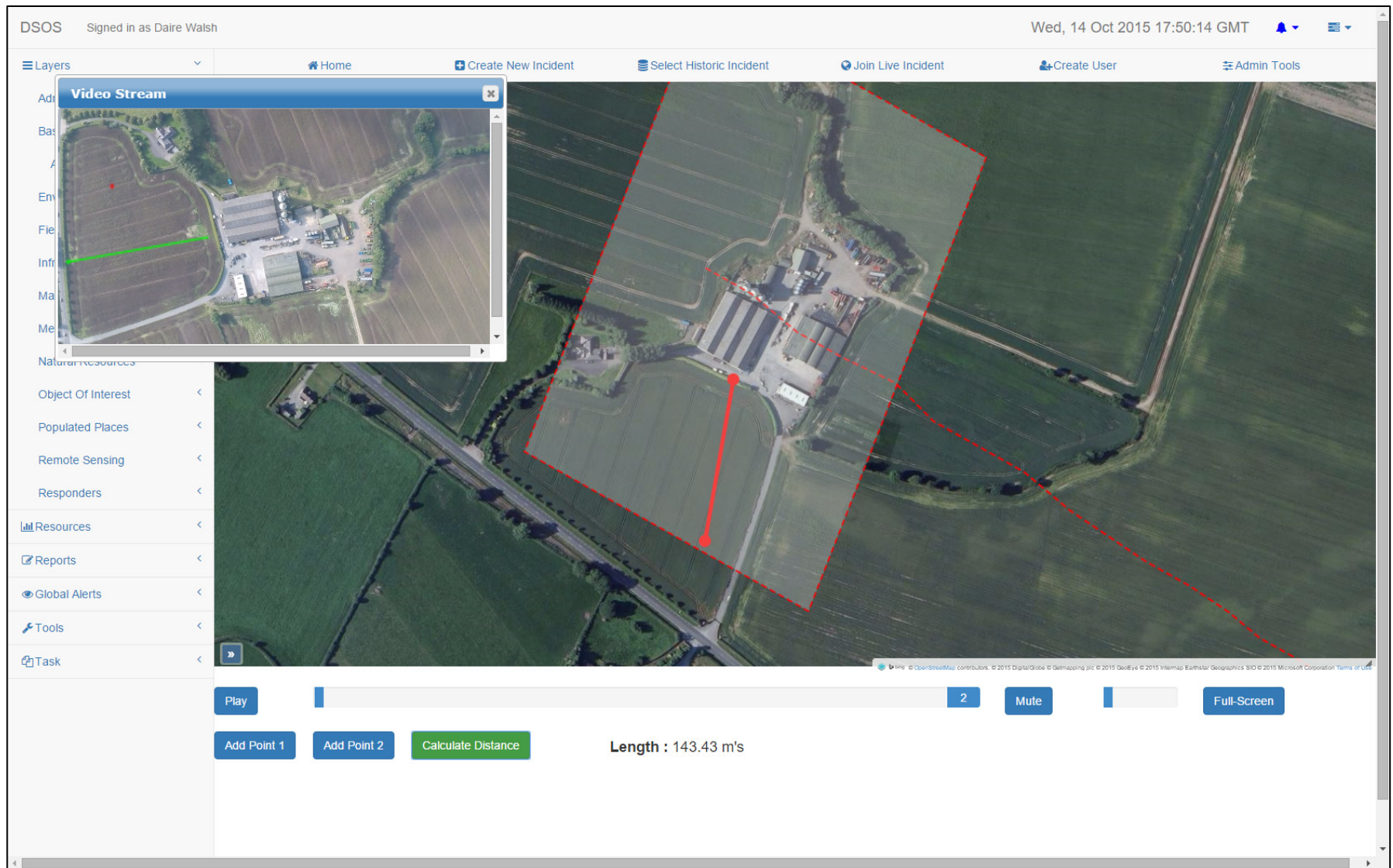
Outputs: Research & Innovation

DSOS platform was evaluated out in the field (Fenit, Co Kerry) with Oil Pollution Industry groups (SEAPT.ie) in April 2015. Refinements were identified and subsequently implemented.
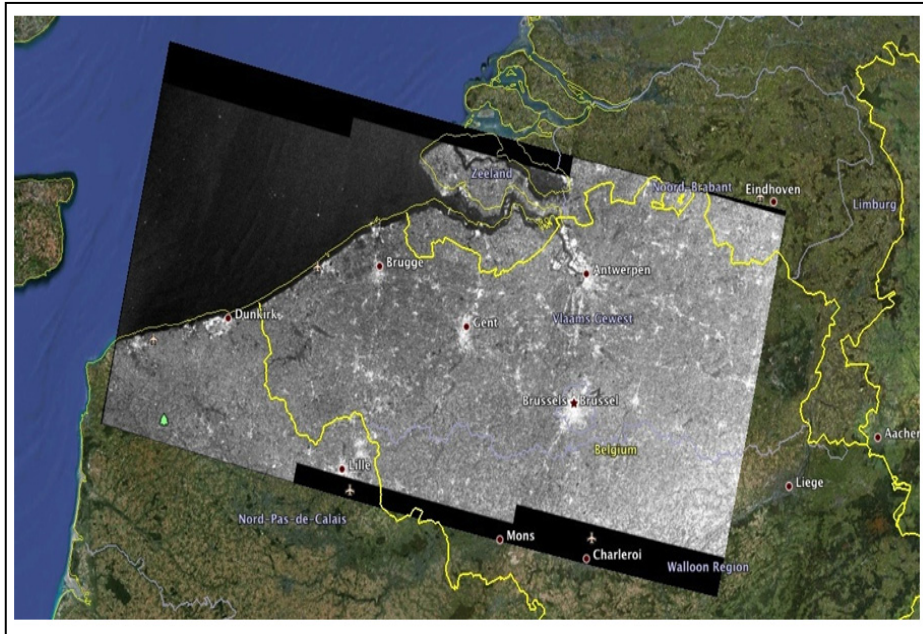
- Check-lists, Response plans, Logistics/Resources
- Real-time update of responder positions (Platform & Mobile Devices)
- De-clutter Common Operational Picture (COP), Improve layer mgt & post-event reporting
- Role of Airborne UAVs (Birds-eye view, Poor Weather- higher performance aircraft)

Airborne/UAV Video mapping

- Integrating Airborne data in near real-time for oil-slick tracking, 6-DOF
- In-frame-positioning & area measurement
- Tagging

Satellite Remote Sensing

Sentinel-1 (strip map 80km, 5m) & Sentinel-2 (13bands, 10m,20m,60m, 265km)

Collaborative Ground Segment/Mirror Sites

EMSA CleanSeaNet & SafeSeaNet