

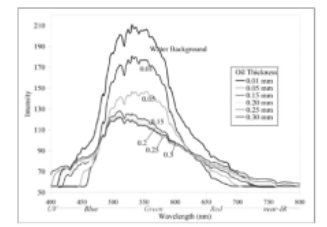
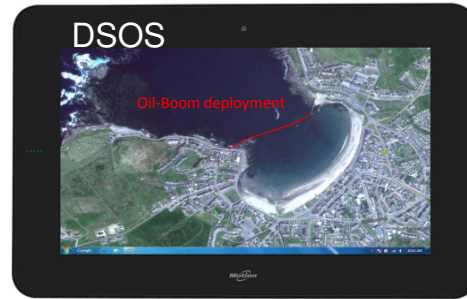
# Decision Support for Oil-Spills (DSOS)

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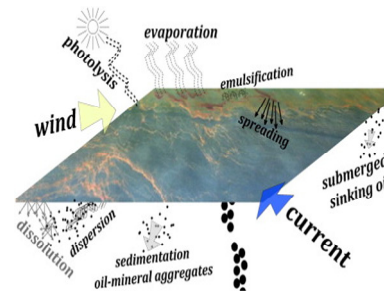
## Aim & Objectives

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

- Design, construction of a novel spatial decision support platform for handling oil-spills in marine environments
- Evaluation of platform under real world conditions (carried out in conjunction with SmartBay & 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 UAVs and in-situ sensor platforms



Alaska North Slope Crude Thickness (Svejksky et al., 2012)



AVRIS over Deepwater Horizon, USA (Leifer et al., 2012)



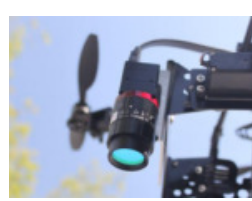
Oil Spill Detection with ESA's Sentinel-1



ESA Sentinel-1

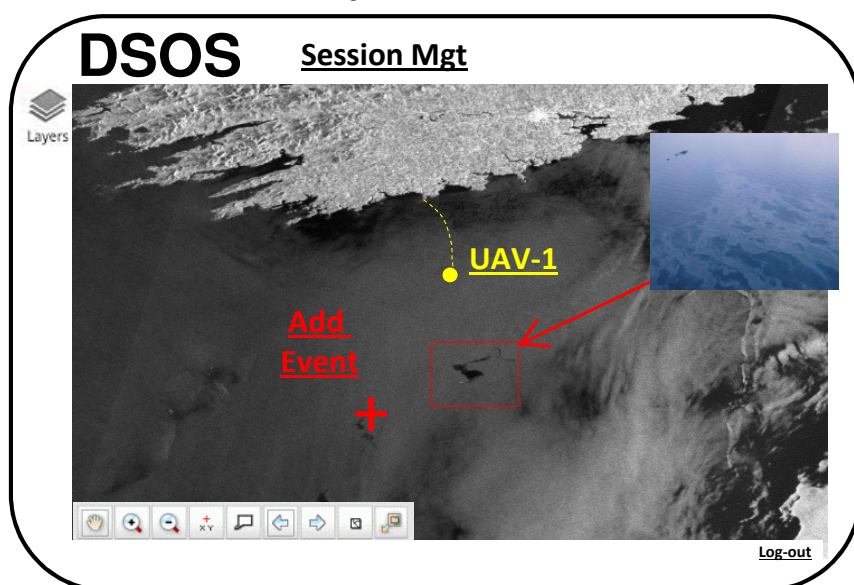


RPAS/UAV



Hyperspectral Sensor

## Common Operational Picture



## Research & Innovation

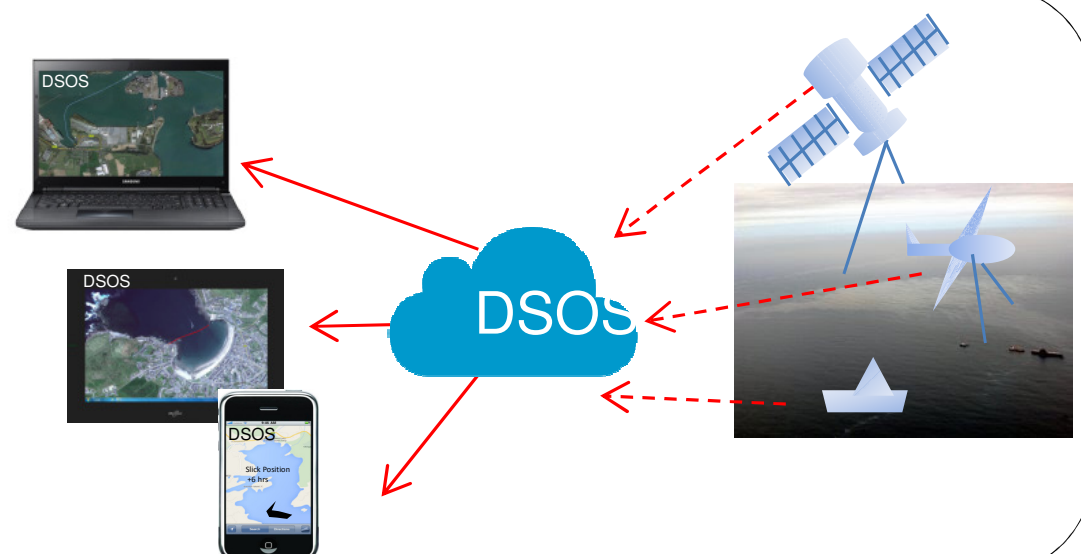
Design, build and assess a self-organising, cloud-based geoinformatics platform architecture, based around the **Common Operational Picture** model. This platform will be used to host an online oil-spill incident response instance that can be accessed by coordinators, responders and observers alike whether in the command centre or out in the field.

- Improved detection & mapping of Oil Spills
- Automated response team formation, tracking & coordination
- Rapid collation and presentation of relevant remotely sensed and mapping datasets
- Real-time analytics reporting on hazards, exposure & vulnerability
- Alert, Tasking, Observation & Resource management
- Comprehensive recording of entire incident from initial alert, to assessment through to recovery for post-event analysis
- Secure access control from computer, tablets and SmartPhone devices

## Outcomes & Impact

The prime motivation for this project is to develop new geospatial technologies to help mitigate the risks of offshore O&G operations

- Provide a powerful prototype scalable platform to develop novel emergency response methodologies, carry out scenario simulation and train personnel
- Build and integrate the offshore O&G industry's operational capability for emergency preparedness and response



### Research Team

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