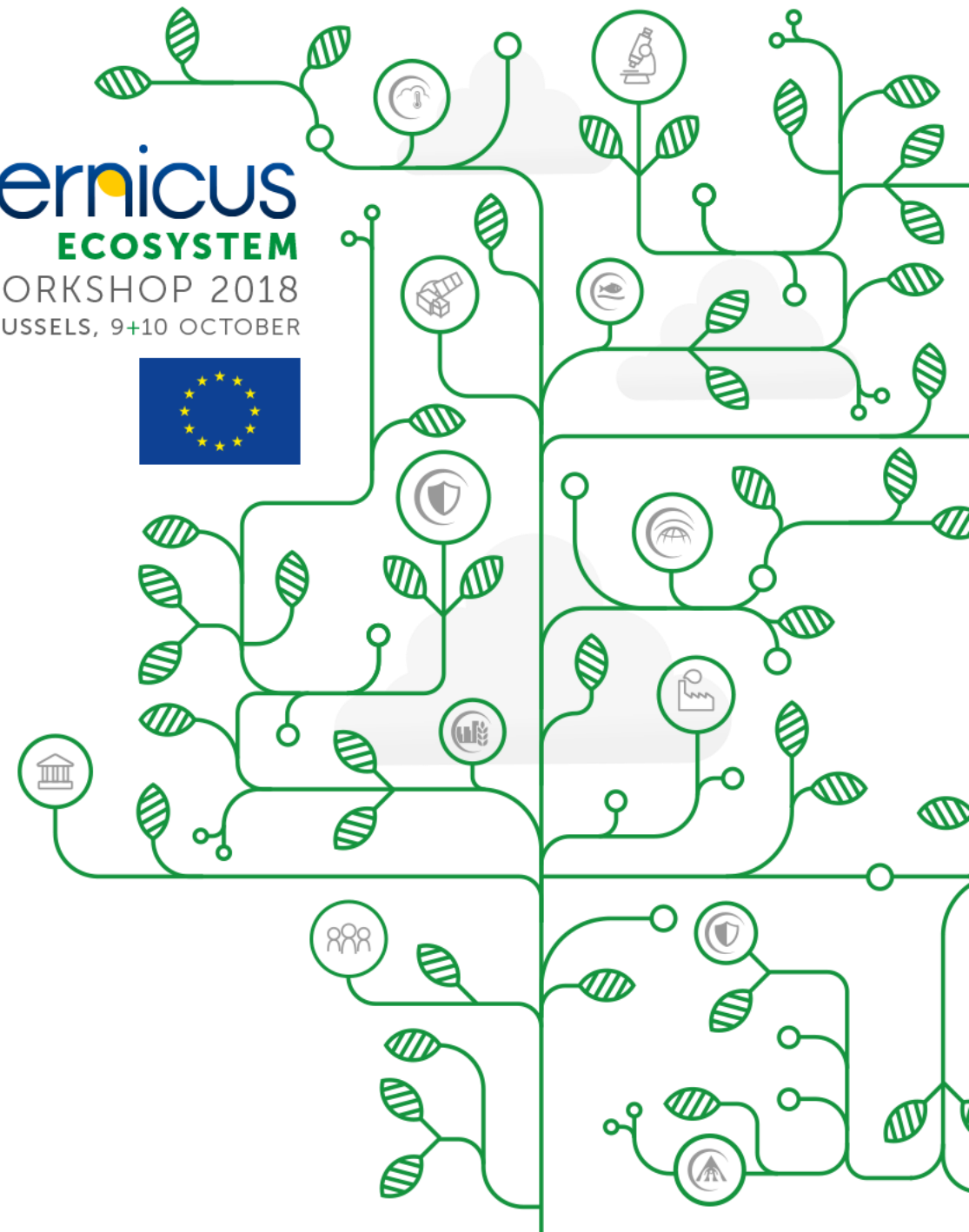


Copernicus & Drones for more effective Maritime Surveillance

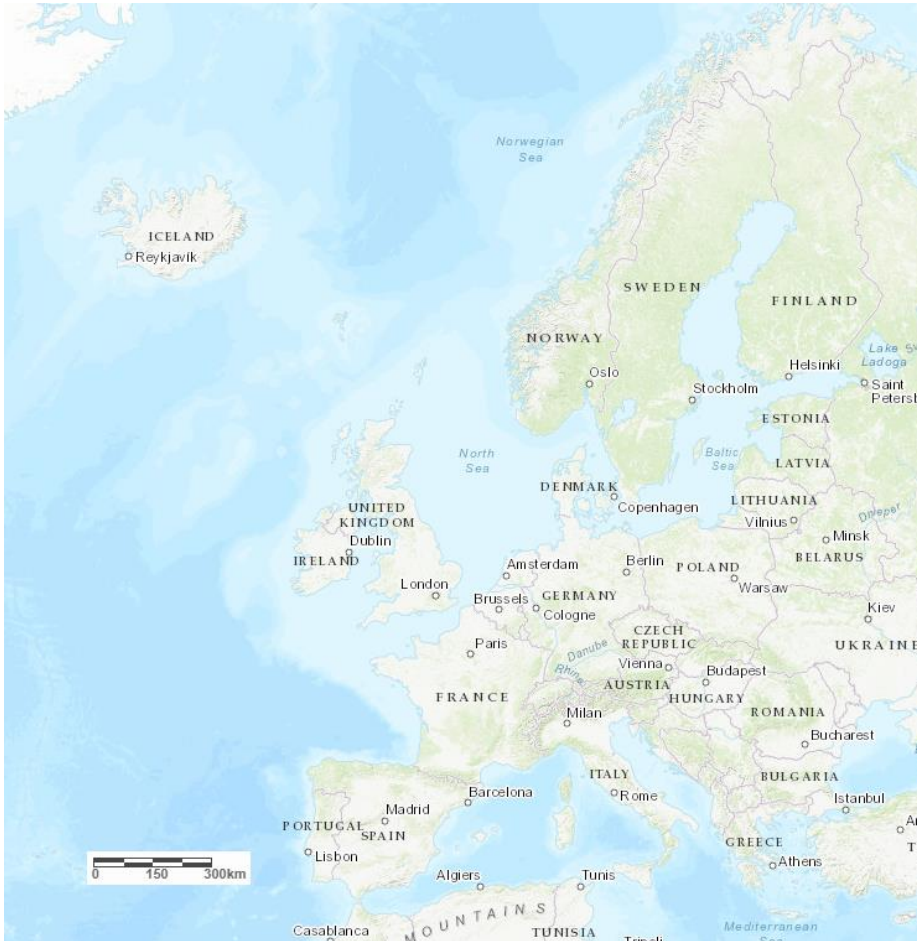


Maynooth University
National University of Ireland Maynooth



Europe's Valuable Maritime Environment

2

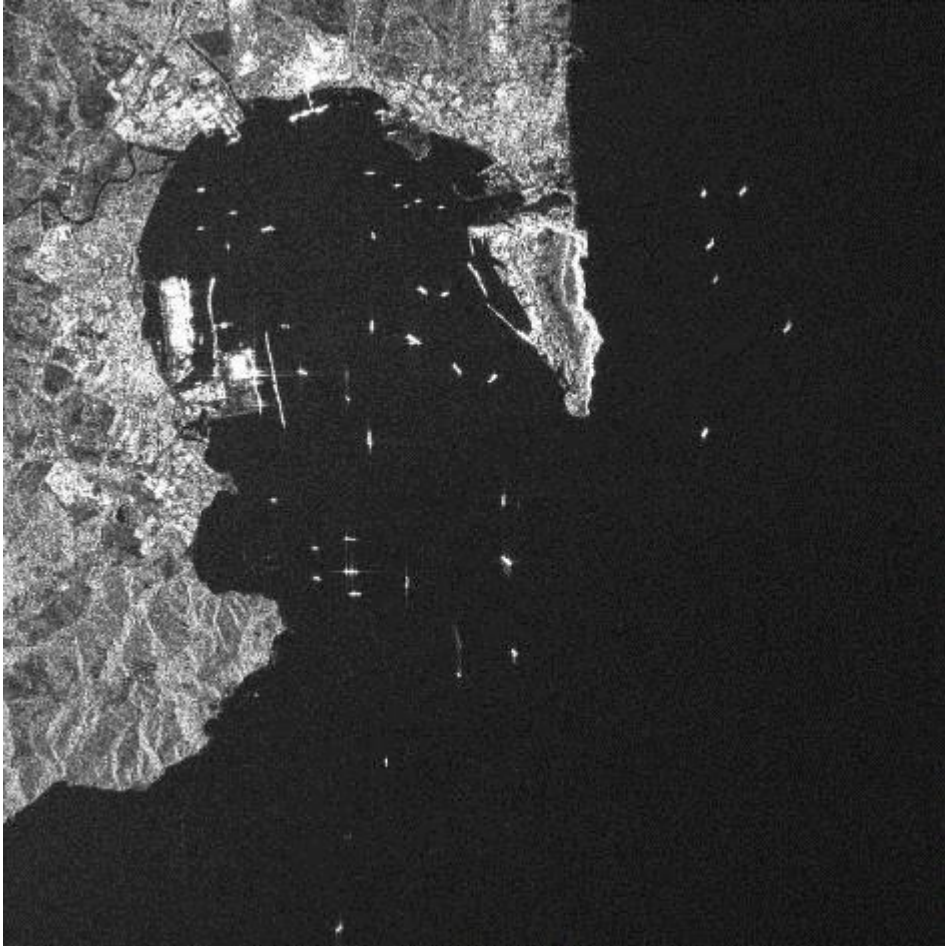


- 23 out of 28 EU countries have a coastline.
- The EU's coastline is 7 times as long as the USA and 4 times as long as Russia's.
- The EU's maritime regions are home to almost half its population and account for almost half its GDP
- In terms of surface area, there is more sea than land under the jurisdiction of EU countries
- Including its outlying regions, the EU has the world's largest maritime territory.
- €multi-billion economy: Shipping, Fisheries, Aquaculture, Renewables, Hydrocarbon, Tourism

Source: <http://www.emsa.europa.eu/copernicus/item/2880-copernicus-maritime-surveillance-service-overview.html>



Relevant Agencies (Safety, Security, Environment) ³



European Level

- EMSA (Reducing Risk: Maritime accidents, marine pollution, loss of human life)
- Frontex (Helps EU countries & Schengen associated countries manage their external borders)
- EFCA (Coordinates national fishery operations & oversees Common Fisheries Policy)
- MAOC for Narcotics (coordinate anti-drug trafficking)

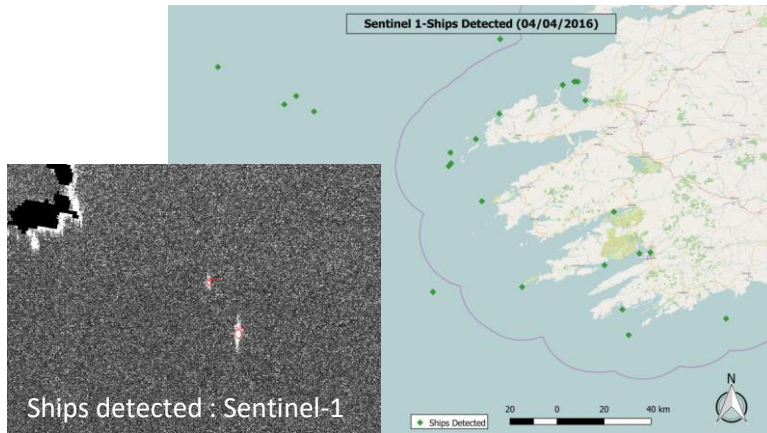
Member State Level

- Coast Guard, Police, Fishery Protection, Customs



Integrating Drones into Copernicus

4



Source: <http://www.spatialoverlay.xyz/uncategorized/sentinel-1-ship-detection/>



Source: Uflyte.com. U-Flyte (Unmanned Aircraft Systems Flight Research) 17/SPP/3460 is funded under the Science Foundation Ireland (sfi.ie) Strategic Partnership Programme

Drone Operations

- Encourage development of joint Copernicus-Drone demonstrator at a regional level e.g. Atlantic, North Sea, Baltic, Black Sea, Mediterranean

Drone Technology

- Improved EU platform & Sensor performance for harsh offshore environment monitoring & surveillance

Organisation

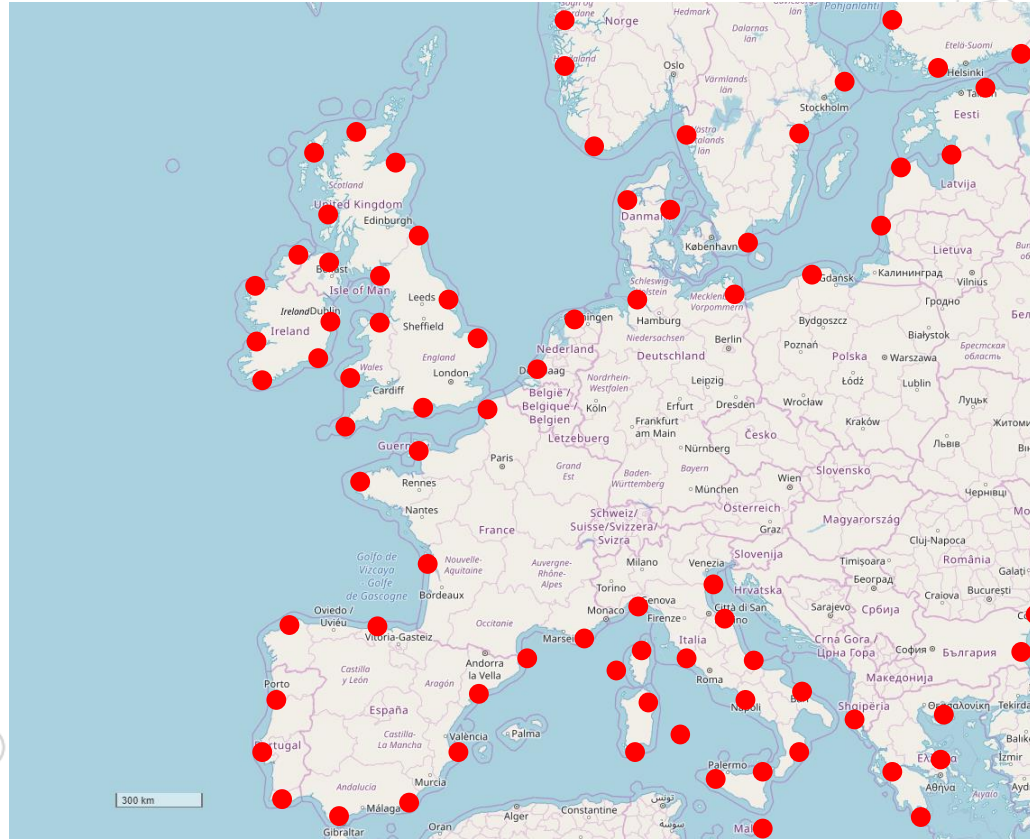
- Promote better cooperation between EU & MS agencies in Marine environment

Innovation

- Develop '**shared services**' model – existing Copernicus and new regional Drone networks – time-shared by various agencies



Copernicus-Drone 'Shared-Services' Network*



* For illustration only

- Fully Autonomous Operation
- Reconfigurable, mobile stations
- Adaptable sensor/payloads
- Multi-agency use (EU/MS level)
- Long distance control, 150km range
- Integrated with DIAS

tim.mccarthy@mu.ie

+353-86-8567441

<https://u-flyte.com/>

