

# HAZRUNOFF

## PROJECT

TOWARDS AN EARLY RESPONSE TO FLOODING AND HAZMAT CONTAMINATION IN TRANSITIONAL WATERS

### HazRunoff at a Glance

**TITLE:**  
«Integration of sensing and modelling technologies for early detection and follow-up of hazmat and flood hazards in transitional and coastal waters».

**PROGRAMME:** Directorate-General for European Civil Protection and Humanitarian Aid Operations

**TOTAL BUDGET:** 670,210.92 €

**EU GRANT:** 483,297.07 €

**DURATION:** 2 years  
(January 2018 – December 2019)

**COORDINATOR:** Instituto Superior Técnico (IST)

**WEBSITE:** www.hazrunoff.eu

### The Challenge

Flood events in inland and transitional waters, often associated with major urban and industrialized coastal areas, can trigger hazmat incidents (oil, chemical or radiological pollution) that potentially represent a serious threat for coastal communities and ecosystems.

Early alerting and follow up systems, based on innovative observing techniques applicable to different or combined types of flooding and hazmat events, are a key requirement in order to effectively respond to such incidents.

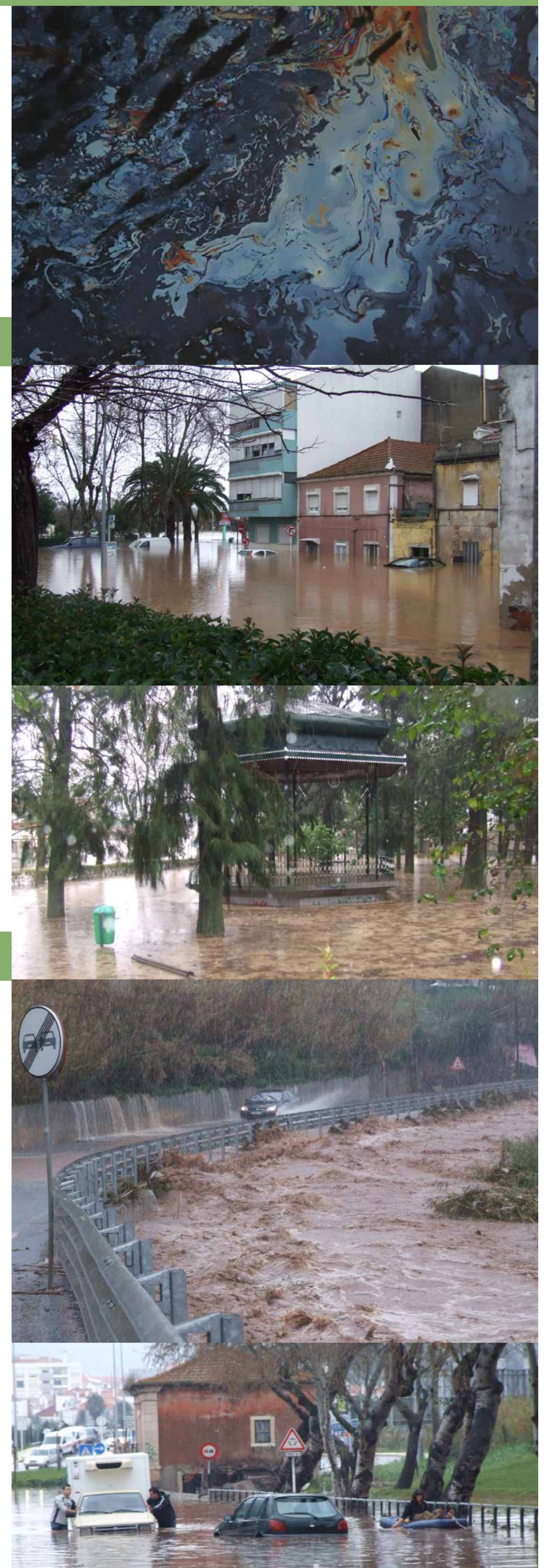
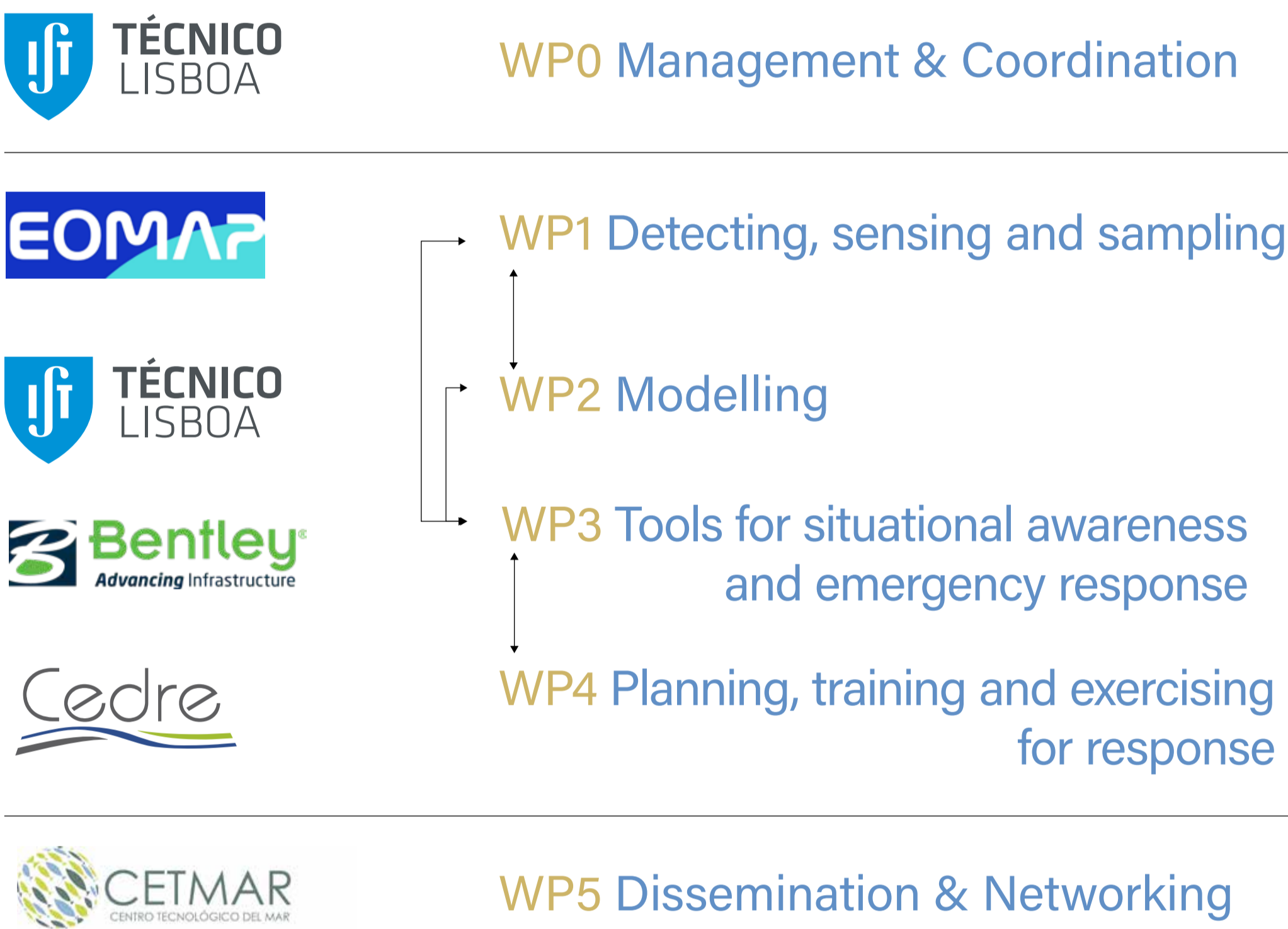
### The HazRunoff Goal

HazRunoff aims to fill the knowledge and technology gaps around early alerting & detection, follow-up and early response to different or combined types of flooding and hazmat pollution in inland and transitional waters by providing a comprehensive framework combining:

- In-situ sensing technologies.
- Airborne and satellite remote sensing.
- Holistic high-resolution modelling.
- Operational tools for situational awareness and crisis management.
- Improved contingency planning and adapted protocols for response and communication.

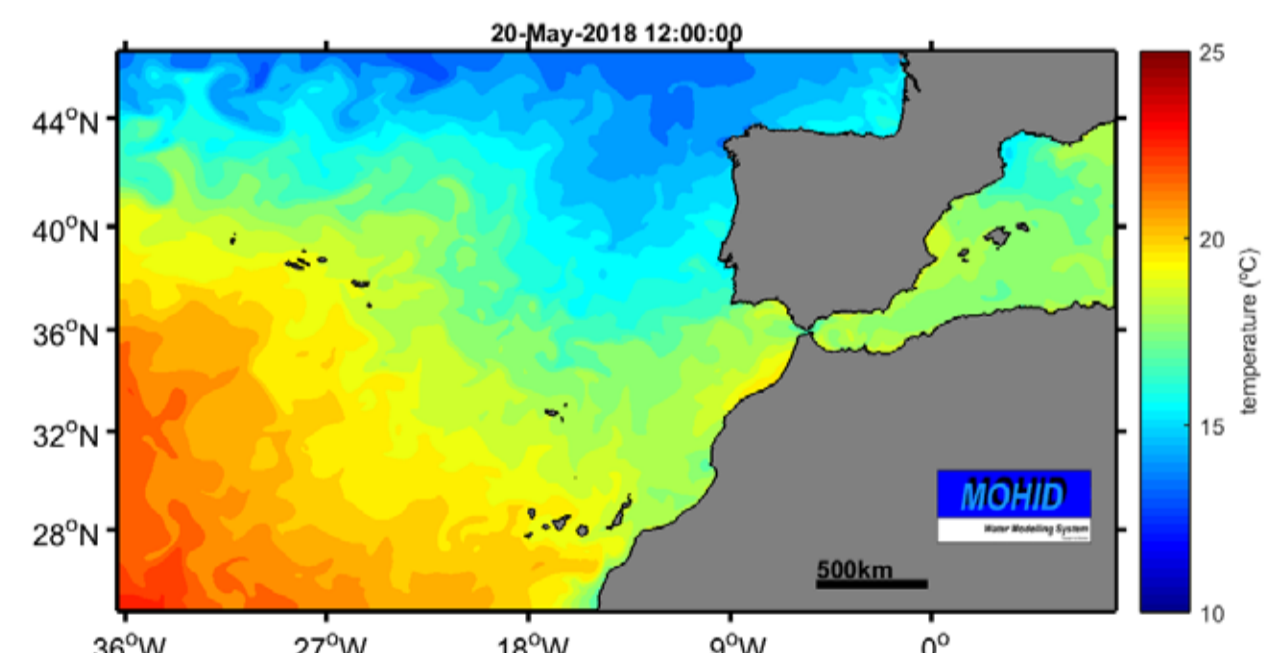
Based on state-of-the-art technologies tested in 4 pilot areas, HazRunoff foresees the development and optimization of a holistic set of technologies and methodologies adaptable to any geographical area where transitional waters play a significant role.

### HazRunoff Working Streams



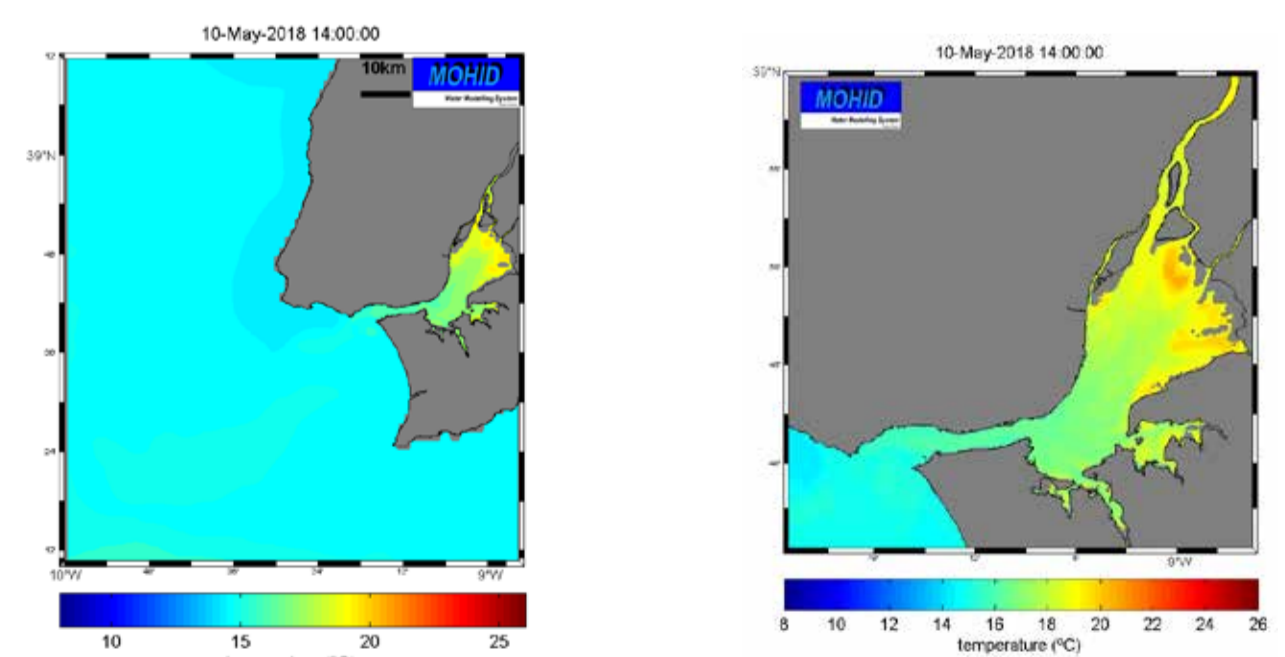
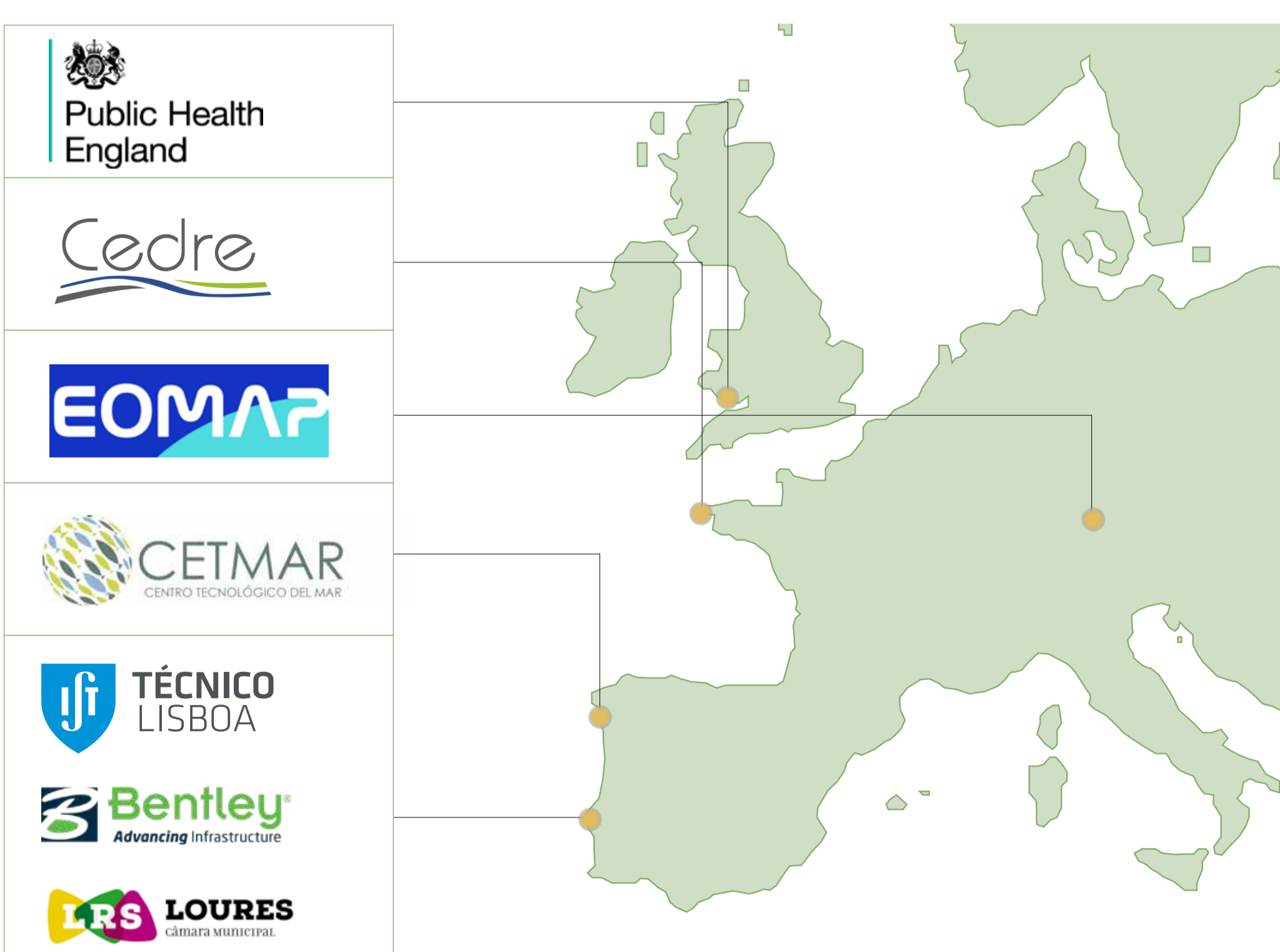
### Expected Results

- Increased preparedness and knowledge on multiple types of floods using a complex modelling strategy, capable of simulating flash floods, storm surges and riverine floods.
- Earlier detection of hazmat incidents in transitional waters based on remote sensing techniques and IoT approach.
- A more efficient and safer capacity for monitoring pollution incidents combining UAVs and advanced and fast web-based pollutant dispersion modelling.
- Increased awareness on potential maritime pollution, hazard identification and risk perception by automatic data analytics on social media feeds.
- Improved contingency planning using model-based hazard mapping for multiple types of hazards; new response protocols and communication planning.
- Improved knowledge of chemical properties and behaviour of pollutants in transitional waters by laboratory measurements of 20 chemical substances.
- Improved knowledge and awareness of multiple hazards through new training materials, courses and exercising.



### Project Partners

HazRunOff Partners Countries



### Contact us

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