G3S | **CoastPredict**

with The Global Ocean Observing System

Revolutionizing Global Coastal Ocean observing and forecasting

Co-designing the infrastructure needed, open access to data & resources

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2021 2030 United Nations Decade of Ocean Science for Sustainable Development

This programme is endorsed by the **UN Decade of Ocean Science**

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Aims

Transform the science of observing and predicting the global coastal ocean;

Develop an **integrated coastal and open ocean observing and modelling system**;

Provide improved, multidisciplinary, and extended range **predictive capability** for the coastal zone to **respond to societal needs**;

Upgrade the **infrastructure for exchange of data & ressources** with standard protocols.

"Focusing on the many common worldwide features of the coastal ocean that can be implemented locally in other coastal locations worldwide"

CoastPredict Approach: integrated multi-platform observing & predicting

Comprehensive and efficient observing systems:

- From inland to offshore
- Relocatable
- Multi-sensor, "smart" sensors & citizen science
- Sharing & delivering data & resources: open and free access to users
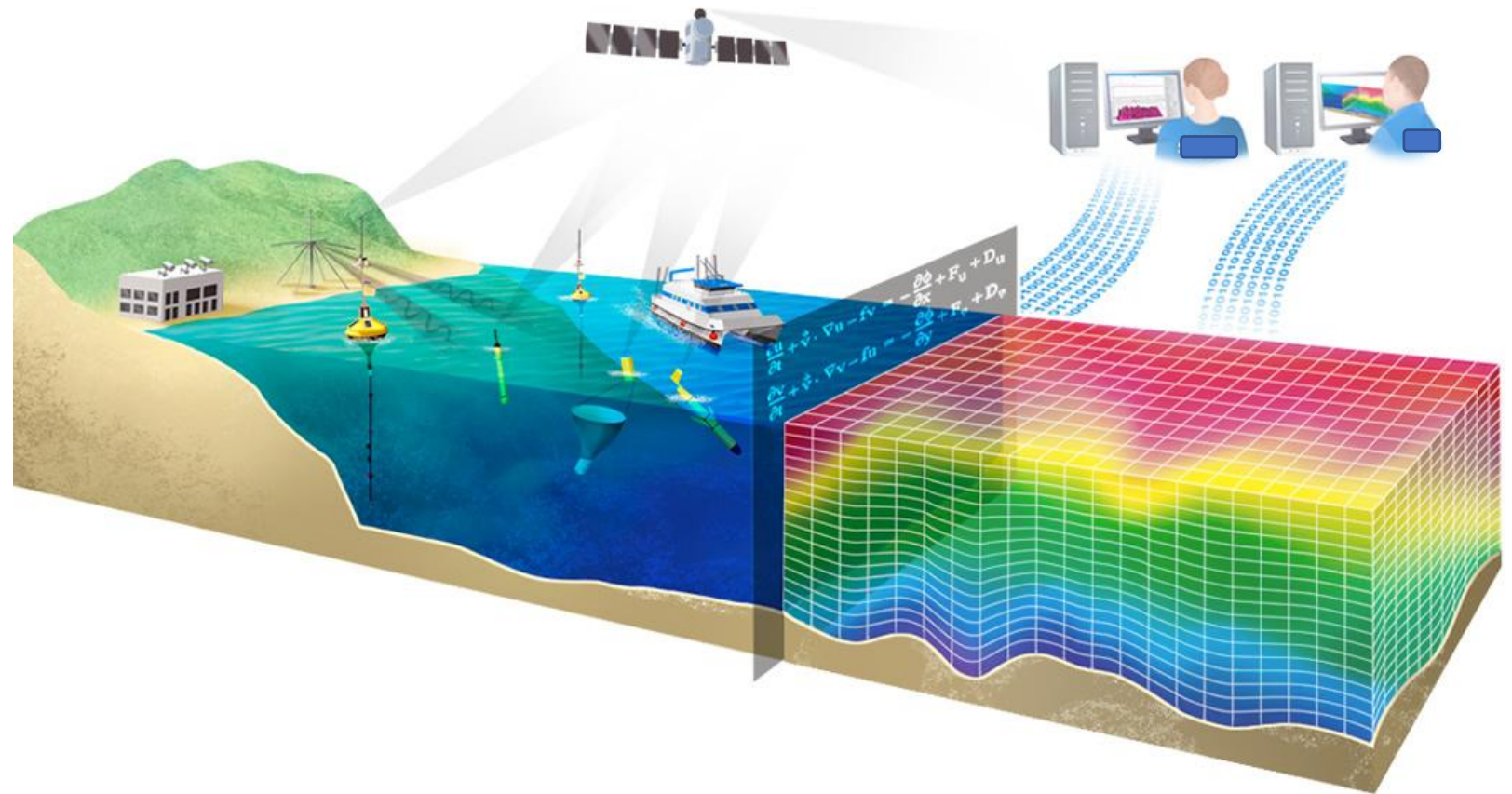
Why GlobalCoast ? - a framework for implementation

Demonstrate, at Pilot Sites, an integrated observing and predicting system for the global coastal ocean

Create globally replicable solutions, standards, applications that enhance coastal resilience

Accelerate data collection and advance modelling and analysis tools to be aligned with best practices and open and free data sharing

Pilot Site locations

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30 Regions

> 120 Pilot Sites
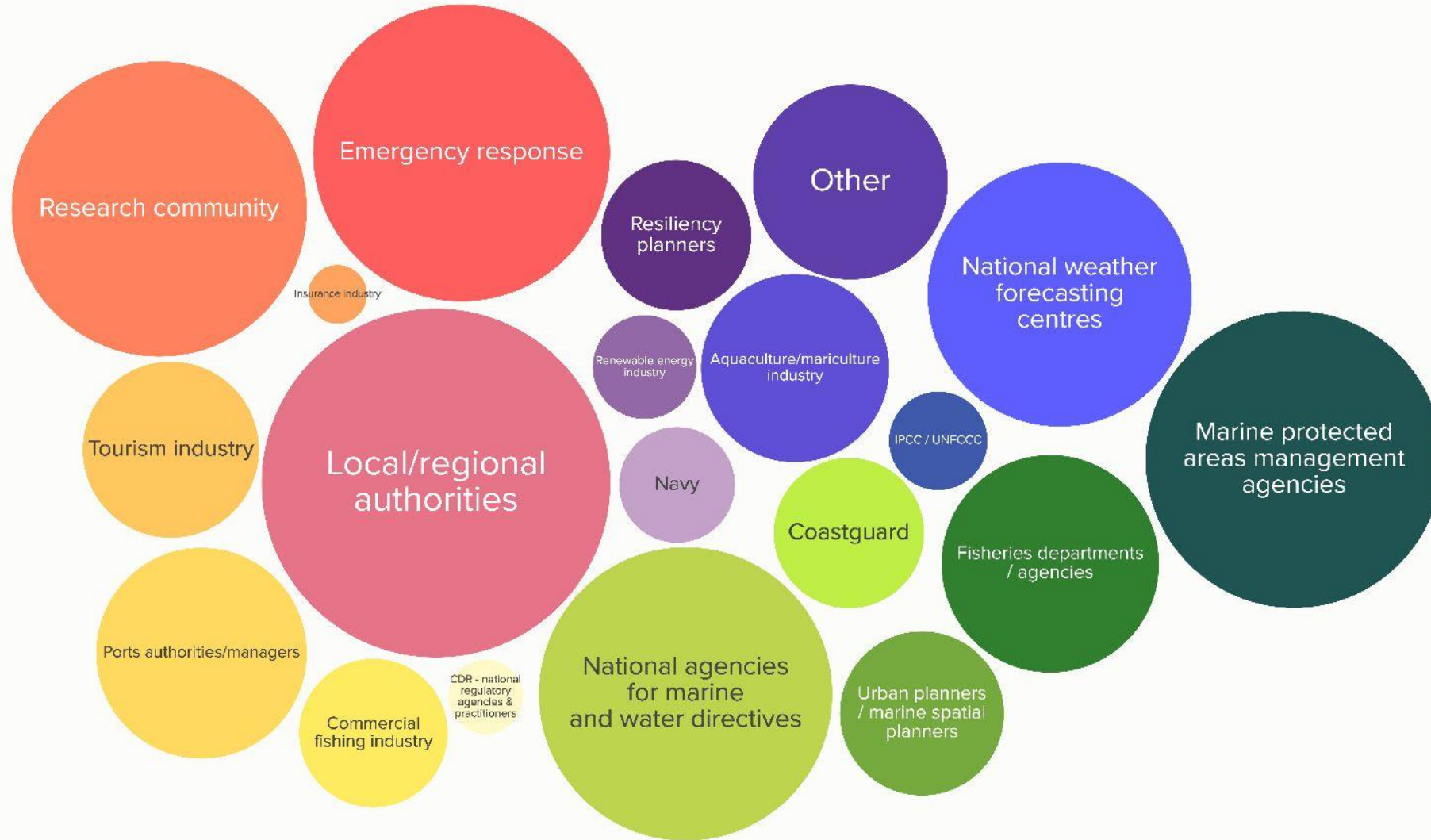
227 institutions in
65 countries

Google My Maps

STAKEHOLDER GROUPS
Q: Who are key intermediate and end-users for the integrated observing & predicting system in your Pilot Site?

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Emergency response

Other

Research community

Resiliency planners

Insurance industry

National weather forecasting centres

Renewable energy industry

Aquaculture/mariculture industry

Tourism industry

Local/regional authorities

Navy

IPCC / UNFCCC

Marine protected areas management agencies

Coastguard

Fisheries departments / agencies

Ports authorities/managers

CDR - national regulatory agencies & practitioners

Commercial fishing industry

National agencies for marine and water directives

Urban planners / marine spatial planners

Implementation at Pilot Sites

Each Pilot Site will deliver the following products:

- Open and free global products from the available data repositories in the target area: **satellite, in-situ, analyses, re-analyses, forecasts (ocean, coastal ocean and atmosphere);**
- New coastal in-situ, **especially with low-cost sensors, and new remote-sensing observations & predictions in the target areas**;
- Transformative predictive models, both numerical and AI-based, of the coastal marine ecosystem
- Coastal Vulnerability/ exposure data
- Different levels of user interfaces and services
- Best Practices material and documentation
- Training and education modules.

Open, free GlobalCoast digital infrastructure

Coastal Resilience requires a vast data and computing infrastructure to make science-based information accessible and usable

● increase the amount of coastal data open and freely available requiring the collection of cost-efficient and community observations with standard protocols

● improve information quality, making analysis tools accessible and demonstrating services built on cloud data
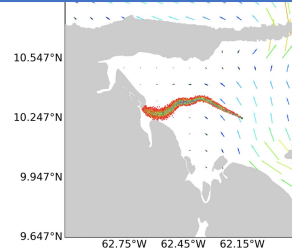
Services

What-if scenarios, ocean indicators, Digital Twins, early warnings

Extreme events early warning

Support coastal management

Marine pollution monitoring / forecasting

Nature Based Solutions planning & monitoring
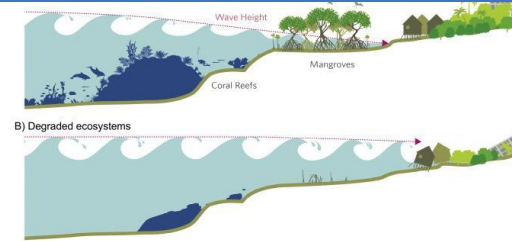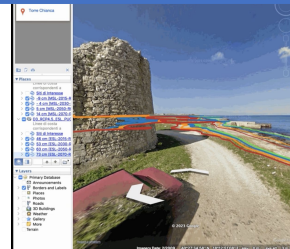

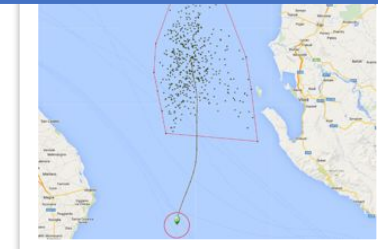## Aquaculture planning & management

Coastal sea situational awareness
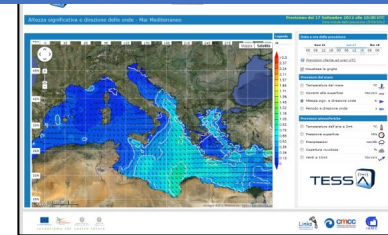

Ship routing
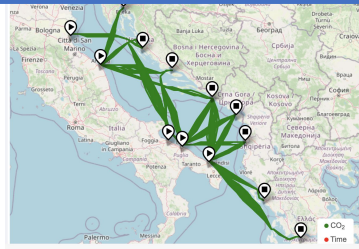
Climate indicators

Search & rescue
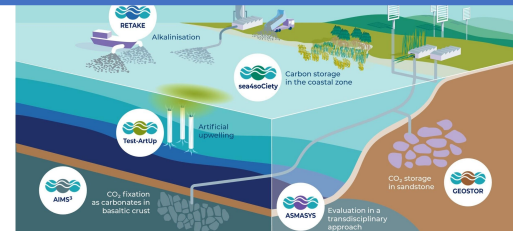

Data visualisation

Planning/management of marine renewable energy

Marine Protected Areas planning & management

CDR planning / monitoring & reporting

Ocean city & ports management

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Thanks!

CoastPredict will make vital, real and lasting change.

Get in touch to start the conversation about your ideas, how you can help us and what your contribution will enable us to achieve together.

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