MARINE DATA:
WHAT ROLE FOR EUROPE?

a vision for 2020

overview

- why are we doing it?
- what has EU done?
- what will EU do next?

- **why are we doing it?**
- what has EU done?
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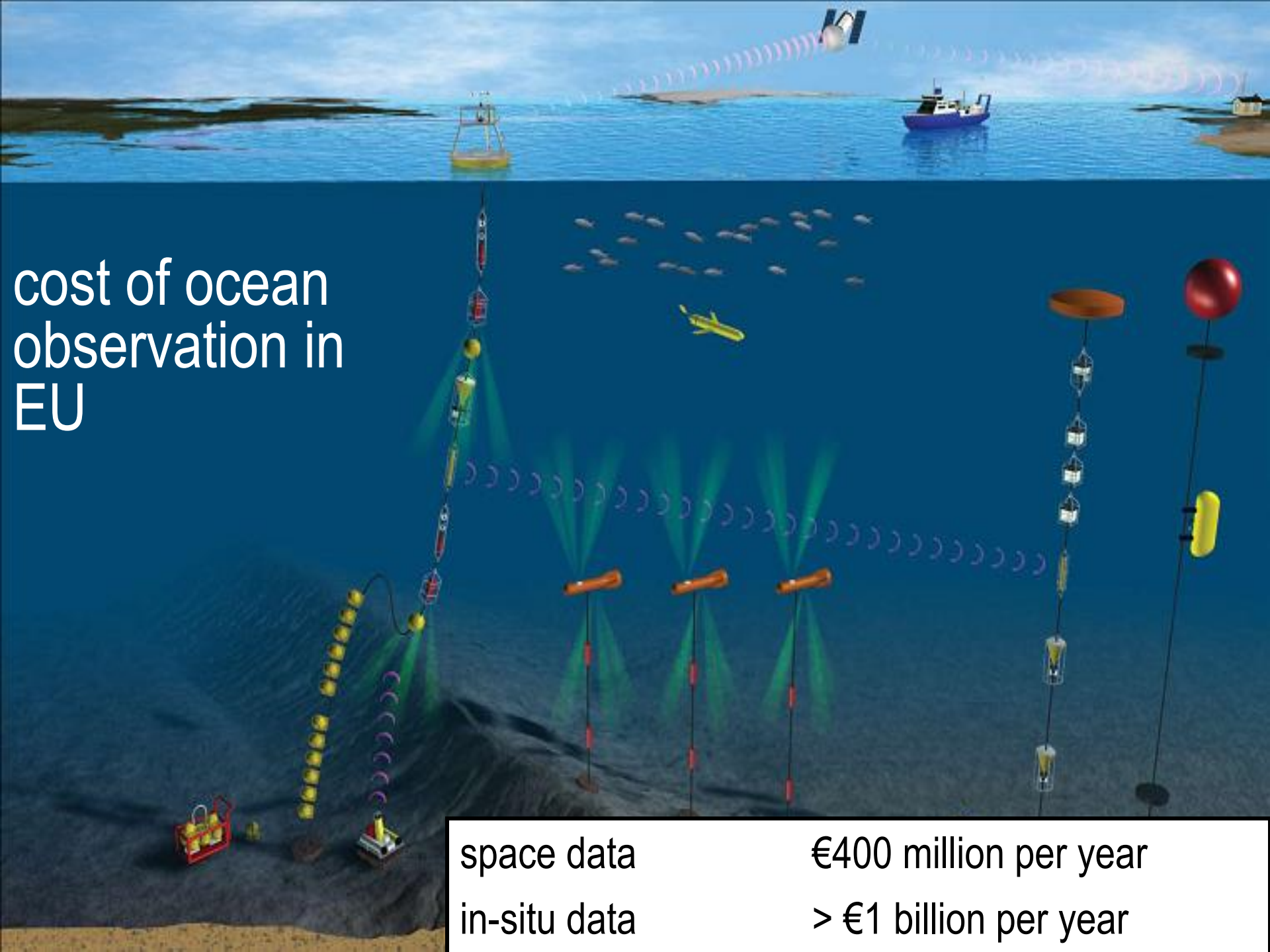
nature International weekly journal of science

Patching together a world view

Data sets encapsulating the behaviour of the Earth system are one of the greatest technological achievements of our age — and one of the most deserving of future investment.

There is only one Earth, with only one history, and we get only one chance to record it. Ideas not followed through can be taken up again later. A record not made is gone for good.

cost of ocean observation in EU



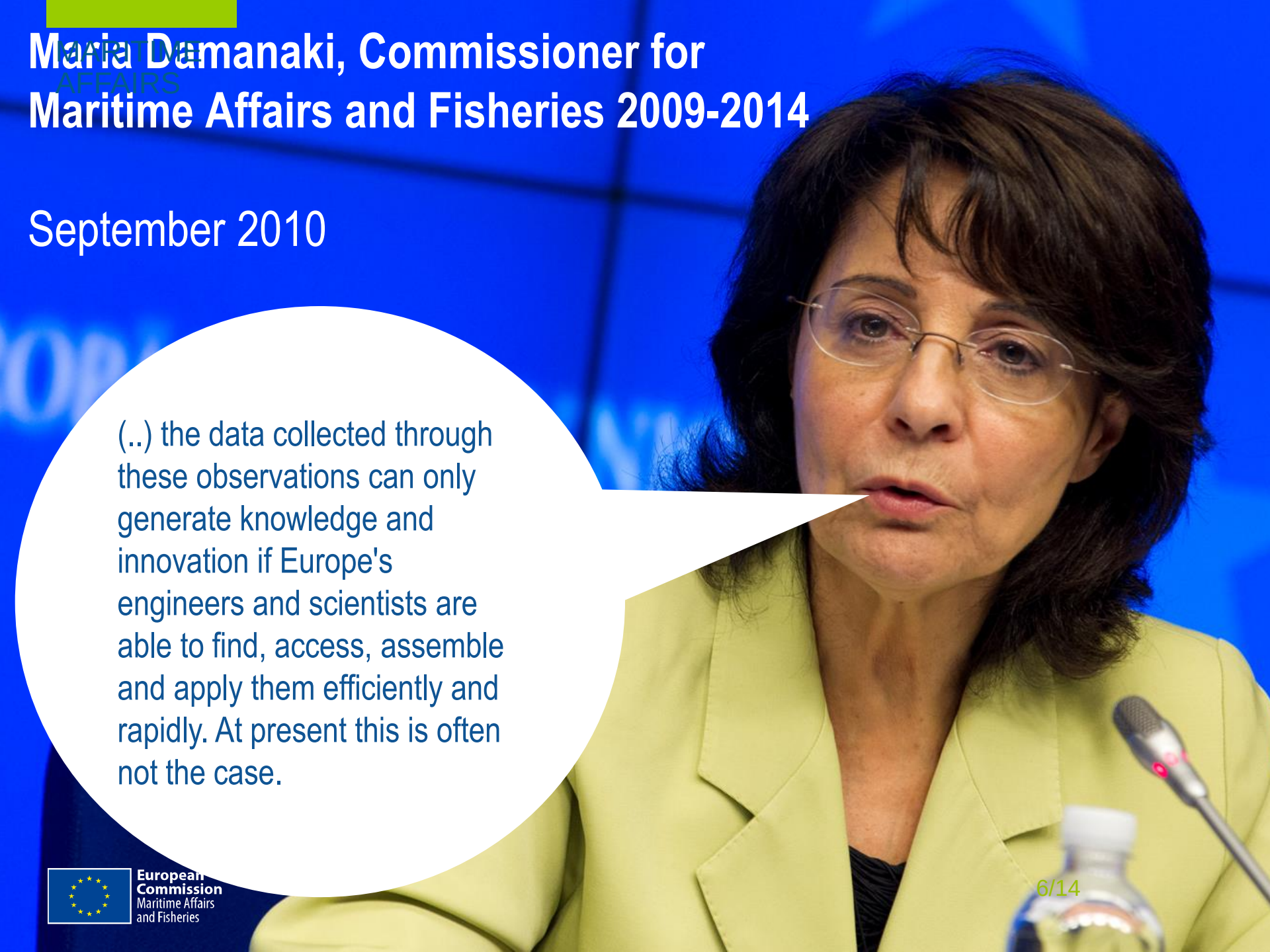
space data	€400 million per year
in-situ data	> €1 billion per year

Maria Damanaki, Commissioner for Maritime Affairs and Fisheries 2009-2014

MARITIME AFFAIRS

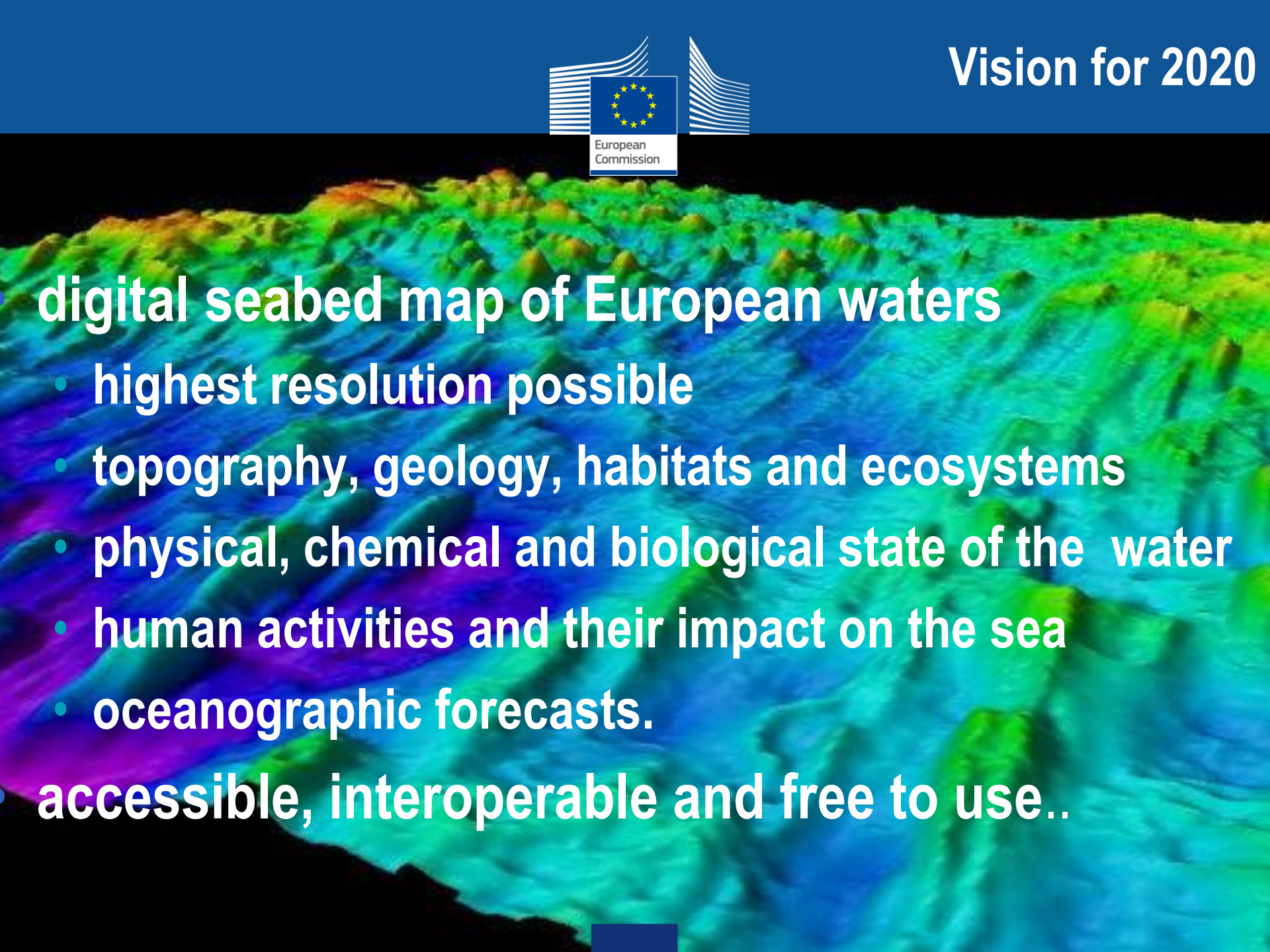
September 2010

(..) the data collected through these observations can only generate knowledge and innovation if Europe's engineers and scientists are able to find, access, assemble and apply them efficiently and rapidly. At present this is often not the case.



European Commission
Maritime Affairs and Fisheries

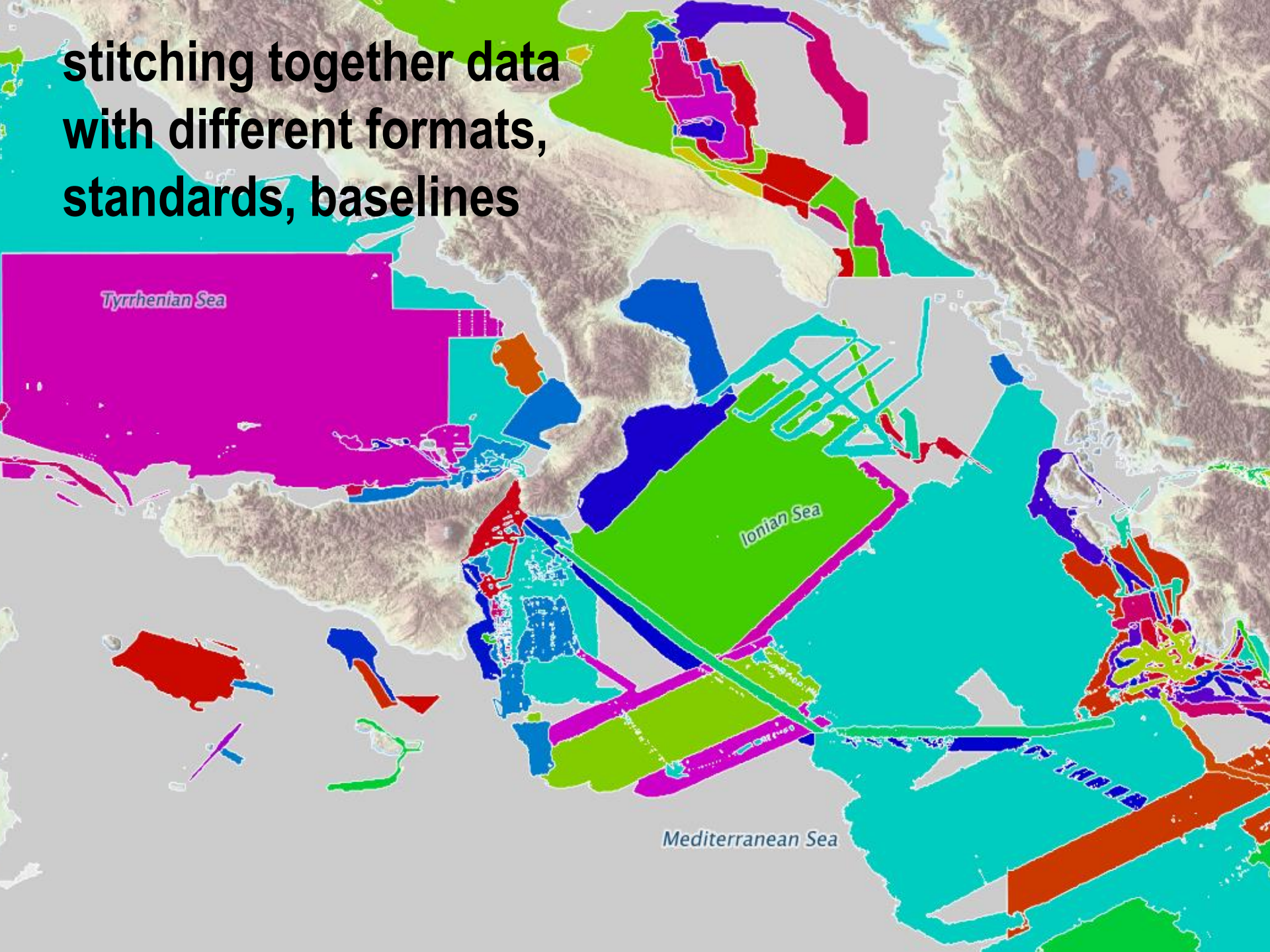
Vision for 2020



- digital seabed map of European waters
  - highest resolution possible
  - topography, geology, habitats and ecosystems
  - physical, chemical and biological state of the water
  - human activities and their impact on the sea
  - oceanographic forecasts.
- accessible, interoperable and free to use..

benefits

1. reduced costs for offshore activities
   - no need to repeat measurement that has been made by another agency
   - costs less to assemble data from different sources
2. stimulation of innovation
   - more providers can offer services
3. reduced uncertainty in knowledge of the behaviour of the sea


stitching together data
with different formats,
standards, baselines
Tyrrhenian Sea
Ionian Sea
Mediterranean Sea

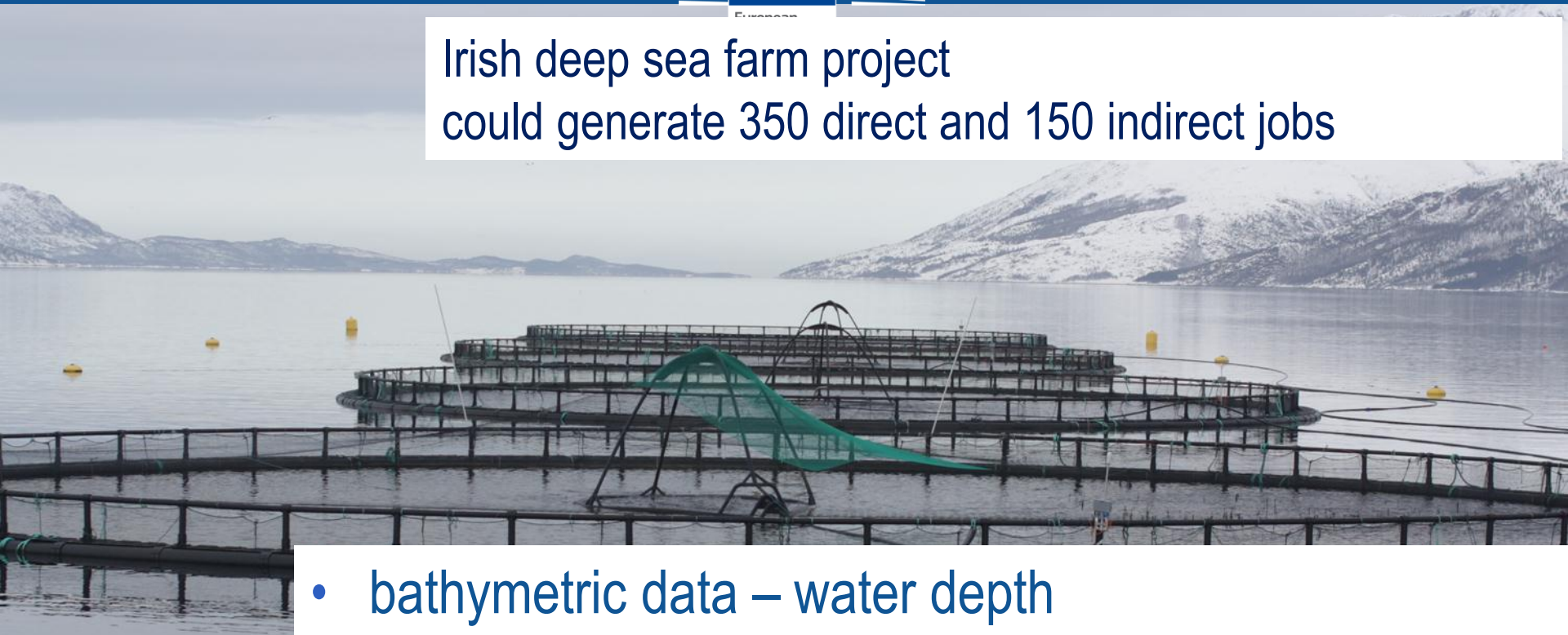
to create a topographical map with 16 times better resolution than had previously been available

	potential savings
private bodies	€ 1,300,000,000
public authorities	€ 55,000,000
hydrographic agencies	€ 23,000,000
research and academia	€ 200,000,000
civil society	€ 0
total	€ 1,500,000,000

(when it's finished)

innovation – new cage design

Irish deep sea farm project
could generate 350 direct and 150 indirect jobs



- bathymetric data – water depth
- geological data – sediments for foundations
- chemical data – water quality
- physical data – tides, waves, currents
- biological data – not endanger local wildlife

innovation – protection of cables

- 48 cable failures occur in Europe each year
- €6.9 billion losses

- need information on
  - sediment properties for burial techniques
  - local human activity (fishing etc)
  - temperature, salinity
- etc

uncertainty reduction – better routing

- improved charts will allow faster transit for deeper draughts
- NOAA estimate that one additional foot of draught may account for between $36,000 and $288,000 additional profit per transit

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EU support for marine data

		approximate annual cost € million	Delivered
Data Collection Framework	from 2004	75	length age, sex of fish, by-catch etc
Copernicus space component (for marine observation)	from 2012	150	surface temperature, ice, chlorophyl etc
Copernicus marine service	from 2012	20	ocean forecasts
EMODnet	from 2012	10	bathymetry, geology, habitats, physics, chemistry, biology, human activity

+ data collected in research programmes

(EU spends ≈ €350 million per year on marine and maritime research)

are data fit for use?

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The EMODnet MedSea Checkpoint evaluates the quality of the data fro monitoring systems in terms of their accessibility, availability, multiple-use, reliability, time consistency, space consistency, as well as the planning of te advancements, new accessibility, new assembly protocols and observationa required to meet Challenges described below.

- Mediterranean and North Sea
  - at half-way point
- Arctic, Atlantic, Baltic, Black Sea
  - beginning

Marine protected areas

do we have coherent set of marine protected areas?

Oil platform leaks

how quickly can we assess damage from oil spills?

Climate and coastal protectio

how fast are our coasts eroding?

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coming up

- **more data delivery through machine-to machine connections**
- **better access to fisheries data**
  - proposal for revised Data Collection Framework in preparation
- **better stewardship of data at end of projects**
  - research, impact assessment for offshore facilities etc
  - data ingestion tender launched
- **more structured input from users**
  - user group to be set up

Any questions?