

# Agendapunt 4

## Strategische aangelegenheden en ambities 2011-2015

# Strategische aangelegenheden

- Kerntaken VLIZ
- Mariene wetenschappen als sleuteldomein
  - *Vlaamse baaien 2100 en Ecorise*
  - *Mariene biotechnologie*
- Europese context
  - *EurOCEAN 2010 en de Ostend declaration*
  - *Joint Programming Initiative 'Oceans'*
  - *Europees Marien Observatie- en Datanetwerk*
  - *Lifewatch en andere onderzoeksinfrastructuur*
  - *Marine Board ESF*

# Kerntaken VLIZ

- Performantie-indicatoren
- Decretale verankering
- Beheersovereenkomst 2011-2015
- Mandaten en datastromen

# Aanbevelingen t.a.v. overheid

- VLIZ een aantal duidelijke mandaten geven en vertalen in strategische doelstellingen, bvd ondersteuning van het mariene en maritieme beleid in Vlaanderen, economische meerwaardecreatie.
- Het VLIZ moet het Vlaamse knooppunt worden/zijn voor zee- en kustgerelateerde data. Data voortvloeiend uit projecten gefinancierd door de Vlaamse belastingbetaler moeten uiteindelijk in de databanken van het VLIZ belanden.
- **Mariene wetenschappen erkennen als een sleuteldomein voor de toekomst**, om zo de reputatie en excellentie van het VLIZ op een hoger niveau in te schakelen binnen gestelde en nog te stellen prioriteiten in Vlaanderen.
- De haalbaarheid van een **Vlaams onderzoeksprogramma in de mariene wetenschappen** analyseren. Het VLIZ kan hier een faciliterende rol vervullen door de werking van de wetenschappelijke commissie (expertengroepen). Tevens zo anticiperen op een eventuele teruglopende Federale 'geoormerkte' financiering voor de mariene wetenschappen, en inspelen op Europese ontwikkelingen (bvb Joint Programming).

# Vlaams onderzoekslandschap

- FWO, IWT, BOF
- SOCs (VIB, IMEC, VITO, IBBT)
- ITG, KMDA, Meise,...
- VLIZ

# Vlaamse Baaien 2100

<http://www.vlaamsebaaien.com/>

Toekomstvisie: 10 projecten  
...van 'waterbouwers' naar Vlaamse overheid

Stuurgroep:  
10 projecten in 3 pakketten

- *geïntegreerd kustveiligheidsplan*
- *innovatief onderzoek*
- *masterplan 2050 voor de kustzone*

# Vlaamse Baaien 2100

## Onderzoeksprogramma Vlaamse Baaien :

- ter onderbouwing masterplan
- haalbaarheid deelprojecten
  - technisch, vergunningsprocedures, impact op het milieu, kosten/baten voor de zeevering, voor de natuurlijkheid van de kustzone, voor toerisme en recreatie, voor economische ontwikkeling en ontwikkeling van duurzame energie, mogelijkheden voor alternatieve financiering

# Vlaamse Baaien 2100

## Onderzoeksprogramma Vlaamse Baaien :

- integratie Westerschelde en Zeeschelde
- 2 clusters van onderzoekthema's
  - Eilanden op zee
    - » Mogelijkheden? - impact op veiligheid, natuurlijkheid, maritieme toegankelijkheid
    - » Alternatieve functionaliteiten?
  - Robuuste zeewering/ontwikkeling van de kust

# Vlaamse Baaien 2100

Nieuwe onderzoeksforum “Ecorise” :

- innoverend onderzoekswerk inzake duurzame waterbouw en het creatief gebruik van baggerspecie
- samenwerking tussen de overheid en de private sector
- komt de facto neer op een Vlaams marien onderzoeksprogramma (weliswaar met een specifiek en welomlijnd thema)

# Vlaamse Baaien 2100

- Onderzoek i.v.m. meerwaarde voor veiligheid van eilanden in zee
  - kostenefficiëntie van vooroeversuppleties/geulsuppleties met hergebruik van baggermateriaal – onderzoeken als alternatief voor strandsuppleties in het kader van onderhoud van de kustlijn
  - realisatie van een zandmotor met hergebruik van baggermateriaal voor creatie van natuur- en recreatiegebied, en langetermijnvoeding van de strandwal
- Onderzoek i.v.m. alternatieve functionaliteiten van eilanden in zee
  - multifunctioneel eiland: economische haalbaarheid (maritieme veiligheid, overslag van bulkgoederen, of aanleg- en onderhoud en basislocatie van windparken)
  - multifunctioneel eiland: kustwaterbouwkundige aspecten, effecten op hydraulica, morfologie, sedimenttransport
  - "energie"eiland, als basis voor mariene duurzame energie, als stabiliserende factor in energieaanvoer door windmolenparken: economisch onderzoek
  - "energie"eiland: kustwaterbouwkundige aspecten, effecten op hydraulica, morfologie, sedimenttransport
- Estuaire vaart

# Ecorise en VLIZ

## **VLIZ als bewaker van het Vlaams marien onderzoeksprogramma**

- Neutraliteit
- Openheid en transparantie
- Competitie en wetenschappelijke excellentie

## Modaliteiten kunnen zijn:

- bepaalde volumes geld oormerken voor welbepaald onderzoek
- betrokkenheid van de private sector als partner in de projecten toelaten
- co-financiering vanuit de private sector toelaten of vereisen (50% in het geval van Ecorise).

## RoI VLIZ:

- beheer van het programma ??? waarnemen secretariaat, organiseren oproepen, organiseren beoordeling, opvolgen uitvoering;
- centrale ondersteunende diensten: logistieke ondersteuning, communicatie, databeheer.

# Mariene biotechnologie

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# Mariene biotechnologie

- voedselvoorziening en –veiligheid
- menselijke gezondheid
- gezondheid van het milieu
- klimaatsverandering
- energie
- economische groei

# Mariene biotechnologie

Vlaanderen mag deze boot niet missen,  
mede gezien

- de grote multidisciplinaire onderzoeksgemeenschap in Vlaanderen
- de expertise aanwezig in de grote bedrijven en mariene kmo's
- de internationale contacten in dit domein
- de faciliterende rol van het VLIZ en FlandersMarine
- het innovatiepotentieel voor het bedrijfsleven, incl. spin-offs

# Mariene biotechnologie

"Gezien

- de unieke eigenschappen van mariene ecosystemen, de fysische en chemische variabiliteit in in de zeeën en oceanen, de aangepaste levensvormen die ze herbergen gaande van stranden en intertidale modderplaten tot de diepzee en hydrothermale bronnen;
- de extreme originaliteit en diversiteit van mariene organismen, het feit dat deze een unieke bron van genetische informatie en biogeochemische complexiteit vertegenwoordigen;
- het mariene milieu een kritische bron van producten en diensten van maatschappelijk belang is, incl. voedsel, bio-actieve componenten en biomaterialen met zowel medische als industriële toepassingen;
- mariene ecosystemen, en in het bijzonder mariene organismen, in belangrijke mate onderbestudeerd en ondergebruikt zijn in vergelijking met terrestrische ecosystemen en organismen;
- Vlaanderen aan zee ligt, toegang heeft tot een grote verscheidenheid aan mariene habitats, een lange traditie heeft van marien biologisch onderzoek, een sterke biotechnologische expertise, en significante relevante onderzoeksinfrastructuur; en
- Vlaanderen en Europa nu strategisch moeten handelen om een sterke mariene biotechnologische sector uit te bouwen die kan bijdragen tot het aanpakken van de toekomstige maatschappelijke uitdagingen;

# Mariene biotechnologie

*Pleit het VLIZ voor een Vlaams Onderzoeksprogramma Mariene Biotechnologie dat moet leiden tot een georganiseerde, geïntegreerde en competitieve Vlaamse marien biotechnologische sector die – op duurzame en ethische wijze – een geavanceerd instrumentarium gebruikt om een significante bijdrage te leveren tot het aanpakken van belangrijke maatschappelijke uitdagingen op het vlak van voedsel- en energieveiligheid, ontwikkeling van nieuwe geneesmiddelen, en het duurzaam gebruik en beheer van de zeeën en oceanen.*

*Het voorgestelde onderzoeksprogramma moet de onderzoeksgemeenschap en de sector toelaten beter bij te dragen tot het oplossen van sociale, economische, milieu- en gezondheidproblemen. In de context van een verzwakte economie en beperkte beleidsruimte, lijkt het belangrijk te focussen op het optimaliseren van gebruik van mariene materialen, een betere coordinatie van onderzoek, en het maximaliseren van de voordelen voor de Vlaamse burger van producten en diensten afgeleid van mariene biotechnologie.*

*Het programma moet bijdragen tot de welvaart en tewerkstelling in Vlaanderen, en moet Vlaanderen binnen Europa positioneren als een competitieve regio."*

## The European Marine Science Policy Landscape

- The Integrated Maritime Policy for Europe (2007)
- European Strategy for Marine and Maritime Research (2008)
- Marine Strategy Framework Directive (2008)
- European Reserarch Area (ERA) (2007)

### *And...*

- Lisbon/Gothenburg Agendas
- Lund Declaration
- White Paper on Climate Change
- European Climate/Energy Package for 2020
- Innovation Union and European Strrategy 2020
- Etc..

# EurOCEAN 2010

*Grand challenges for marine research in the next decade*

[www.eurocean2010.eu](http://www.eurocean2010.eu)



2010



BELGIAN SCIENCE POLICY



opelijk



## EDUCATION AND OUTREACH

### REINFORCING GENERAL KNOWLEDGE AND EXPERTISE ON THE SEAS IN EUROPE

*"It is a major challenge to bring cutting science to the public due to the fact that the communication world is difficult to navigate and communicate."*

**Europe today**

- 1. The ocean is popular in the media, but the more difficult, global issues and science topics are not.
- 2. Most people associate the sea with leisure and recreation and are unaware of other scientific and cultural aspects related to the sea.
- 3. Marine education is well established in schools, but development and maintenance of the subject is difficult due to limited availability of resources, teachers, and staff, etc.

**Europe tomorrow**

- 1. Marine research and technology could be a vital driver for economic growth in Europe.
- 2. Improving marine science education in schools is important to ensure a sufficient pipeline of talent.
- 3. Increasing career literacy, and raising the awareness of the public at large.
- 4. Improving educational qualifications of the highest standards for marine scientists and marine professionals, and staff, etc.




In 2020 20% increase in marine education and outreach activities in Europe.

**EUROCEAN**

## MARINE ECOSYSTEM FUNCTIONING

### TRANSLATING FUNDAMENTAL KNOWLEDGE FOR THE SUSTAINABLE MANAGEMENT OF THE SEAS

*"An improved understanding of ecosystem dynamics and functioning is critical to manage the consequences of anthropogenic change and human impact."*

**Europe today**

- 1. In a complex marine system, all marine species are known to interact.
- 2. Marine ecosystem services are essential for the well-being and prosperity of the coastal zone.
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- 4. Marine ecosystem services are essential for the well-being and prosperity of the coastal zone.

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In 2020 10% increase in marine ecosystem research in Europe.

**EUROCEAN**

## CLIMATE CHANGE

### CHANGING OCEANS IN A CHANGING CLIMATE

*"The ocean has a significant role in the global climate system, and an improved understanding of its role is critical to manage the consequences of anthropogenic change and human impact."*

**Europe today**

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In 2020 15% increase in climate change research in Europe.

**EUROCEAN**

## BLUE ENERGY

### PREPARING EUROPE FOR A NEW ENERGY ERA.


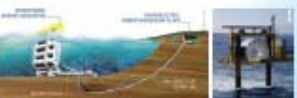
*"100% renewable energy supply systems are not a matter of 'if' but rather a matter of 'when' and 'how'."*

**Europe today**

- 1. Europe's energy supply is heavily dependent on fossil fuels, which are finite and their use contributes to climate change.
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**Europe tomorrow**

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- 2. Improving marine science education in schools is important to ensure a sufficient pipeline of talent.
- 3. Increasing career literacy, and raising the awareness of the public at large.
- 4. Improving educational qualifications of the highest standards for marine scientists and marine professionals, and staff, etc.

In 2020 20% increase in blue energy research in Europe.

**EUROCEAN**

## THE OCEAN, IT'S IN YOUR HANDS

*"The ocean is a source of life, a source of wealth, a source of knowledge, a source of inspiration, a source of hope."*

**EUROCEAN 2010 CONFERENCE**  
Grand Challenges for Marine Research in the next decade

Thermae Palace, Ostend  
12 & 13/10/2010

[www.eurocean2010.eu](http://www.eurocean2010.eu)

**EUROCEAN**



22 oktober 2010

Wetenschappelijke kerngroep VLIZ

## FOOD TOWARDS A SUSTAINABLE HARVEST FROM THE SEAS

*"Sustainable consumption, production and innovation are critical for the future sustainability of fisheries and aquaculture in Europe. Research, policy, practice, training, communication and public goods are ALL vital to our future food security."*

**Europe Today**

- Europe's marine resources (27%) are overfished and its stocks have been depleted. Fisheries and aquaculture production...
- Europe's marine resources are overfished. The European fish average catch is only 422,000 tonnes, far below the 1.6 million tonnes of the world average.
- The EU aquaculture industry produced 1.2 million tonnes of fish, shellfish and crustaceans in 2009, generating a turnover of €1.5 billion and supporting 140,000 jobs.
- Over 100,000 tonnes of wild sea products are produced in the EU each year.
- Marine, generating 10% of the EU's gross value added.
- Europe's marine resources are being depleted. The EU's marine resources are being depleted. The EU's marine resources are being depleted.

**Europe Tomorrow**

- Marine resources and technology need to be used more sustainably.
- The management of European fisheries is changing. It is becoming more sustainable. It is becoming more sustainable.
- Europe's aquaculture sector is producing high quality, high value products. It is producing high quality, high value products.
- Europe's marine resources are being depleted. The EU's marine resources are being depleted.







## OCEANS AND REMEDIES FOR HUMAN HEALTH AND WELL-BEING

*"The sea is a fundamental and irreplaceable part of the planet. It is a source of food, medicine, and inspiration. It is a source of life, and it is a source of hope. It is a source of life, and it is a source of hope. It is a source of life, and it is a source of hope."*

**Europe Today**

- Over 100,000 people die each year from diseases linked to the sea.
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## MARINE OBSERVATIONS AND INFORMATION TOWARDS AN INTEGRATED EUROPEAN OCEAN OBSERVING SYSTEM






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**Europe Today**

- The availability of ocean observations is limited. The availability of ocean observations is limited.
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## MARINE SPATIAL PLANNING TOWARDS EFFECTIVE MANAGEMENT STRATEGIES OF HUMAN ACTIVITIES IN THE MARINE ENVIRONMENT

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**Europe Today**

- Marine spatial planning is limited. Marine spatial planning is limited.
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## MARINE RESEARCH INFRASTRUCTURES TOWARDS WORLD-CLASS MARINE RESEARCH INFRASTRUCTURES IN EUROPE

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**Europe Today**

- Marine research infrastructure is limited. Marine research infrastructure is limited.
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**Europe Tomorrow**

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## MARITIME TRANSPORT MAINTAINING EUROPE'S POLE POSITION IN SUSTAINABLE SHIPPING

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**Europe Today**

- Maritime transport is limited. Maritime transport is limited.
- Maritime transport is limited. Maritime transport is limited.
- Maritime transport is limited. Maritime transport is limited.
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**Europe Tomorrow**

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# Europa

De Europese onderzoeksruimte (ERA)

+ Geïntegreerd Maritiem Beleid

Naar een Mariene ERA

# Europa

## Kaderprogramma's

- Mobiliteit, vb EMBC, Mares
- Onderzoeksprojecten, vb Theseus
- Netwerken, vb MarBEF, Marine-Genomics
- ERA-nets, vb MarinERA, MariFish, AMPERA, SEAS-ERA

## Nieuw

- Onderzoeksinfrastructuren
- Joint Programming Initiatives

# EMODnet

Marine Knowledge 2020

= data collection and assembly

EMODnet 2011-2014

- Thematic assembly groups : Biology!
- Prototype secretariat : InnovOcean!

# Onderzoeksinfrastructuren ESFRI

LifeWatch: <http://www.lifewatch.eu>

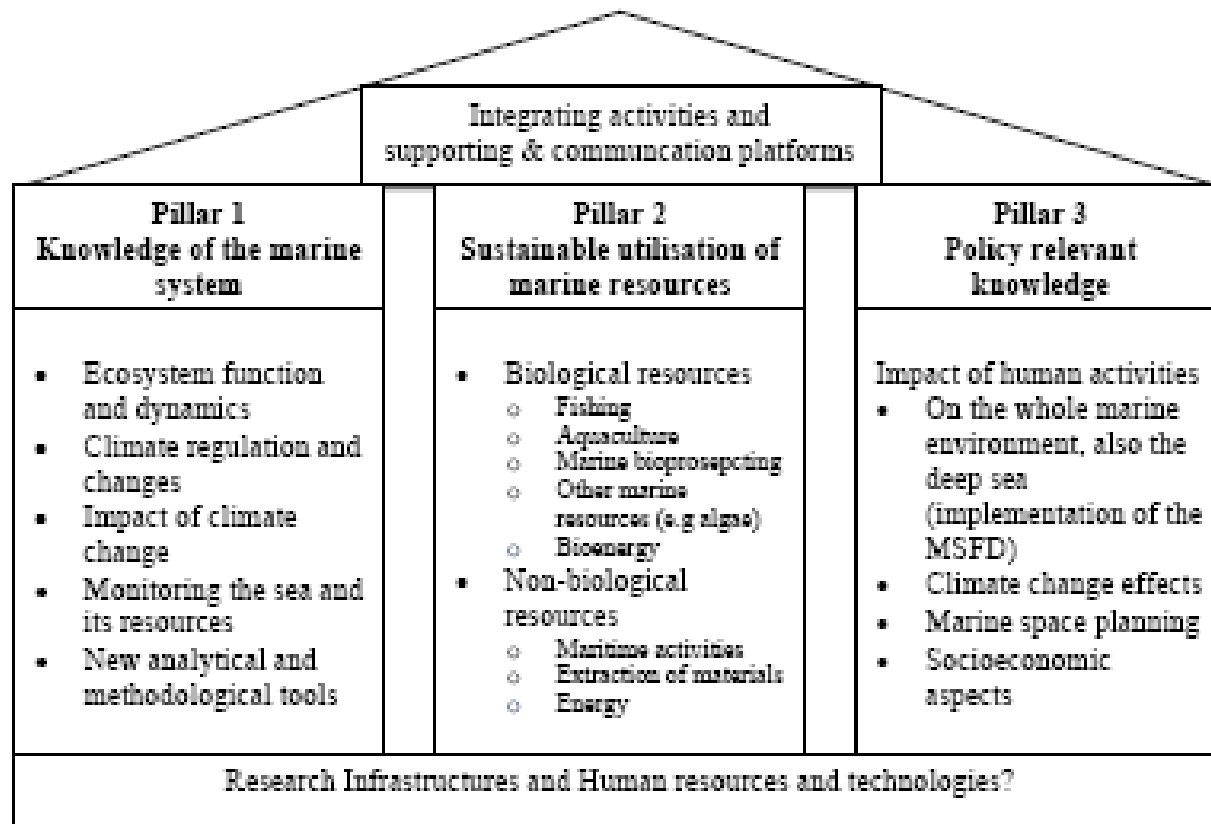
ICOS: <http://www.icos-infrastructure.eu>

Euro-Argo: <http://www.euro-argo.eu>

...en mogelijks nieuwe in de toekomst, bvb Coastal and Deep Sea  
Observatories, Research Vessels,...

# JPI Oceans

## Healthy and Productive Seas and Oceans



# Ostend declaration

The European marine and maritime research community stands ready to provide knowledge, services and support to the European Union and its Member and Associated States, recognising that

*“The Seas and Oceans are one of the Grand Challenges for the 21<sup>st</sup> Century”.*

In doing so, we acknowledge:

- the critical role of the oceans in the earth and climate systems;
- the importance of coasts, seas and oceans and their ecosystems to our health and well-being;
- the increasing impacts of global environmental change on the marine environment and the significant socio-economic consequences of those impacts;
- the ongoing need for basic research to address major gaps in our fundamental knowledge of coasts, seas and oceans;
- the enormous opportunities for innovation, sustained wealth and job creation in new and existing maritime sectors such as aquaculture, renewable energy, marine biotechnology and maritime transport; and
- the need to translate these messages to all sectors of society.

Furthermore, we underline the crucial role of marine and maritime science and technology in providing knowledge and understanding of the seas and oceans and their biodiversity in creating new opportunities and technologies which will support and progress:

- job creation through smart, sustainable and inclusive growth (Europe 2020);
- implementation of the Integrated Maritime Policy for the European Union (2007), the European Research Area (EC Green Paper on ERA, 2007) and other policies such as the Common Fisheries Policy;
- Good Environmental Status in our marine waters by 2020 (Marine Strategy Framework Directive); and
- related grand challenges including food, energy and health, as identified in the Lund Declaration (2009).

The marine and maritime research community recognises that significant progress has been made in response to the Galway (2004) and Aberdeen (2007) Declarations, evidenced in the adoption of the Integrated Maritime Policy for Europe (2007), its environmental pillar the Marine Strategy Framework Directive (2008) and the European Strategy for Marine and Maritime Research (2008), and commits to building future progress within this comprehensive policy framework.

# Ostend declaration

## *Addressing the Seas and Oceans Grand Challenge*

The EuroOCEAN 2010 Conference identified priority marine and maritime research challenges and opportunities in areas such as food, global environmental change, energy, marine biotechnology, maritime transport and marine spatial planning, including seabed mapping. The Conference delivered an unequivocal message on the societal and economic benefits Europe derives from the seas and oceans and of the crucial role that research and technology must play in addressing the Seas and Oceans Grand Challenge.

The European marine science and technology community, building on existing achievements and initiatives, is ready to address this challenge in partnership with industry and the public sector, and call upon the European Union and its Member and Associated States to facilitate this response by delivering the following proactive and integrating actions:

### 1. Joint Programming

Develop an integrating framework, combining the assets of European programmes with those of Member States, to address the Grand Challenge of the Seas and Oceans, including the identification and delivery of critical marine research infrastructures. The Joint Programming Initiative on "Healthy and Productive Seas and Oceans" has the appropriate scale of integration and should be actively supported by the European Commission and Member States.

### 2. European Ocean Observing System

Support the development of a truly integrated and sustainably funded "European Ocean Observing System" to (i) re-establish Europe's global leading role in marine science and technology; (ii) respond to societal needs by supporting major policy initiatives such as the Integrated Maritime Policy and the Marine Strategy Framework Directive; and (iii) support European contributions to global observing systems. This could be achieved through better coordination of national capabilities with appropriate new investments, in coordination with relevant initiatives (e.g. ESFRI, EMODNET, GMES) and the engagement of end-users.

### 3. Research to Knowledge

Establish appropriate mechanisms to keep under review current marine and maritime research programmes and projects with a view to enhancing their impact by (i) exploiting the results of this research; and (ii) identifying existing and emerging gaps. This should be supported by a repository for the reports and findings of national and EU marine and maritime research projects, programmes and initiatives, with capacity for archiving, translating, analysing, reporting and developing integrated knowledge products to facilitate policy development, decision making, management actions, innovation, education and public awareness.

# Ostend declaration

To address effectively the Seas and Oceans Grand Challenge it is essential to prioritise initiatives and programmes to enhance:

- **Innovation**

Provide enhanced support for innovation and the commercialisation of new marine/maritime products, processes, services and concepts in support of the Innovation Union and the Europe 2020 Strategy;

Promote actions to raise awareness within the marine scientific community of the innovation potential of marine science, and opportunities to make use of it in cooperation with ocean industries.

- **Training and Career Development**

Establish appropriate training and mobility opportunities for marine researchers and technologists and provide stable and attractive career pathways to ensure the highly skilled workforce that will be needed to support expanding marine and maritime sectors;

- **International Cooperation**

Establish at EU level a mechanism to strategically enhance international cooperation (i.e. between European consortia and third country partners) in science and technology, with support for networking initiatives, preparatory phase projects and concrete actions;

Strengthen bilateral/multilateral cooperation with key funding organisations, intergovernmental bodies and marine/maritime science institutions outside Europe to overcome barriers to, and deliver workable solutions for, joint funding of relevant international research programmes and infrastructures.

The European marine and maritime science community is committed to playing its role, in partnership with industry and the public sector, to bridge the gap between science and innovation to support sustainable development.

# Marine Board

## Changing landscape:

- European Science Foundation (ESF)
- European Heads of Research Councils (EUROHORCs)
- European Research Council (ERC)
- European Research Organisation (ERO)