



Blue Italian Growth  
TECHNOLOGY CLUSTER



ECOMONDO

# THE BLUE CIRCULAR BIOECONOMY IN THE MEDITERRANEAN

10<sup>th</sup> November 2022

Giovanni Caprino

President, Blue Italian Growth Technology  
Cluster

# OUR MISSION

## Step 1: COMMUNITY



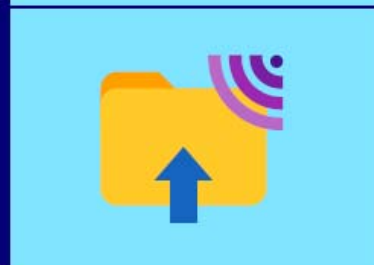
To create a national community in the context of the blue marine economy;

## Step 2: PARTNERSHIP



To promote an innovation-driven blue growth, by fuelling private-public research partnership

## Step 3: INTEGRATION



To favour the integration of infrastructures and skills at the national level

## Step 4: ACHIEVEMENT



To achieve an economic growth based on innovation while preserving natural capital (Good Environmental Status)



1

### MARINE HABITAT & COASTAL ZONE

Ocean observing systems adapted to the reality of the Mediterranean, with particular reference to coastal & intertidal zones/sandy & rocky shores; integration of sensor webs, artificial intelligence technologies and digitization. Development of quantitative models for describing good environmental status (GES) through KPIs, environmental certification systems applied to marine environments.



2

### BIOTIC MARINE RESOURCES

Fisheries and aquaculture: ICT technologies for food safety and monitoring of fishing activities; digital technologies for the autoapplied to aquaculture plants; new sustainable feeds for aquaculture, multitrophic aquaculture; conversion of wastes form fisheries to high-value products; integration of aquaculture plants into multi-use platforms. Marine ecological restoration.



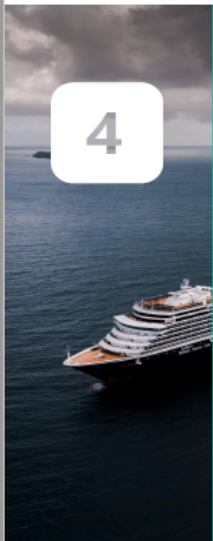
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### ABIOTIC MARINE RESOURCES

New modular offshore platforms aimed at co-location of diverse technologies (renewables, aquaculture, hydrogen production, sea water desalination: multi-use platforms) Reuse of end-of-life offshore platforms (marine research labs, CO2 underground storage, renewables, aquaculture); New exploration technologies for deep-sea mining;



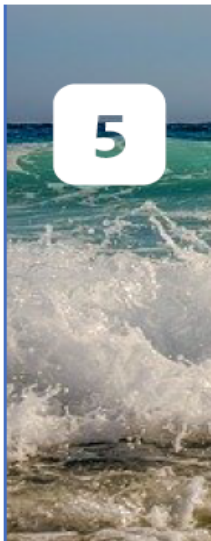
## OUR DEVELOPMENT TRAJECTOIRES



4

### SHIPBUILDING & MARINE ROBOTIS

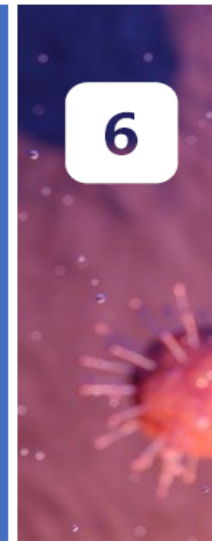
Fuel -efficient, low environmental impact, safer and autonomus ships  
Submarine autonomous vehicles for monitoring and operations  
Technologies for the reduction of the environmental impact of ports and harbours



5

### BLUE RENEWABLES

Development of low-cost marine renewables in terms of life cycle (installation, operations, maintenance and decommissioning)  
Exploitation of tidal and wave energy: application to higher-energy cost geographical areas (such as islands)  
Integration of renewable power production and desalination technologies



6

### BLUE BIOTECHNOLOGIES

Remediation of contaminated soils and seabeds through biotechnologies;  
Production of novel pharmaceutical compunds from marine bioactive molecules  
Nao-biotechnologies and biomaterials, energy from micro-algae, application of bioha conversion of fisheries waste to high value products



1

## Research infrastructures

Research infrastructures are a means of promoting pan-European cooperation and offering scientific communities efficient access to advanced methods and technologies. The roadmap addresses basic and applied research in all the scientific sectors identified in the previous trajectories.



2

## Sustainability and economic uses of the sea

This action aims to contribute to the definition of guidelines for the development of analysis models of the environmental and socio-economic aspects related to the use of the marine-coastal environment by identifying adequate tools for proper environmental management (e.g. maritime planning, governance bodies)



3

## Skills & Job

Italian system, shows a limited speed of adapting long-term training and learning paths to the needs imposed by the rapid development of technologies and economic and social models. The design, production and use of the technologies developed in BE will be subject of training courses suitable to guarantee the involvement of young people in the world of work, even with the complete application to the new tools.





1

**STRATEGIC  
SUPPORT FOR  
POLICY MAKERS**



2

**INTERNATIONAL  
DEVELOPMENT**

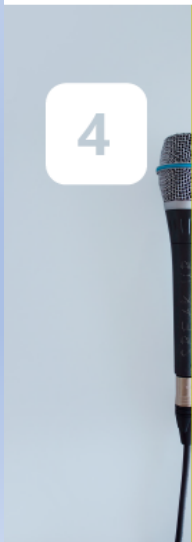


3

**ANIMATION &  
NETWORKING**



## **OUR ACTIVITIES**



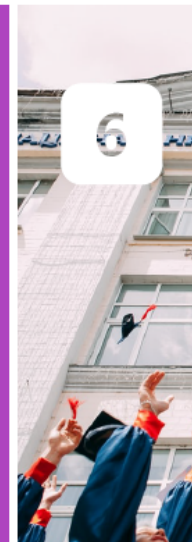
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**COMMUNICATION  
& PROMOTION**



5

**SUPPORT FOR  
RESEARCH  
ENHANCEMENT  
PROCESSES**



6

**SUPPORT FOR  
EDUCATION &  
TECHNICAL  
TRAINING**

# OUR COMMUNITY

Our 92 members come from different scientific sectors from both the public and private sectors



## UNIVERSITIES

22 universities scattered throughout the Country are today members of BIG with specific skills on Cluster issues



## REGIONAL HUBS

The cluster also federated 9 Regional Clusters, expression of the public and private sector of the Italian regional territories



## RESEARCH CENTERS

11 research centers that represent the national highest point with regard to scientific excellence.



## BUSINESS CONSTORTIA

The Cluster has associated 4 consortiums of companies with a group of representative companies



## SMEs

27 micro, small and medium-sized companies are part of the cluster, representing the Italian industrial fabric, mostly made up of small businesses.



## LARGE COMPANIES

5 of the largest Italian companies are part of the cluster membership base



## OTHERS

14 other organizations including local associations, interest groups and trade associations



# OUR PARTNERSHIP



- Partnerships with Federazione del Mare; Cluster Maritime Tunisien; Blue Greek Cluster Strategis, Forum Oceano, Cluster Maritimo de Les Illes Balears.....
- Founding Member of the WESTMED MARITIME CLUSTER ALLIANCE (WCMA)
- Participation to EU-funded projects:
- INTERREG: B-Blue, InnoBlueGrowth plus cooperation with MISTRAL
- COSME: MedBan, IKAT
- ERASMUS+: MarMed

# ONGOING PROJECTS

## MEDBAN (COSME)

### Objectives:

- implement the industrial ecosystem of the blue economy (food, renewable energy, ports, maritime transport, tourism, biotechnology)
- support SMEs working in the blue economy field in the adoption of processes and technologies aimed at achieving a green and digital transformation

Cluster BIG's budget	€ 202.411,90
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EU financing (90%)	€ 198.170,71
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<b>Budget to be allocated to Italian SMEs</b>	<b>€ 160.000</b>
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## IKAT (COSME)

### Objectives:

- provide innovation, acceleration, mentoring, training and internationalization services to SMEs operating in the sustainable tourism sectors
- support SMEs in increasing their competitiveness, in developing greater resilience and post-COVID-19 recovery

Cluster BIG's budget	€ 185.912,50
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EU financing (90%)	€ 182.321,50
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<b>Budget to be allocated to Italian SMEs</b>	<b>€ 150.000</b>
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## MarMed (Erasmus+)

### Obiettivi:

- Maritime Clusters managers' training and skills enhancement
- promote competitive profiles for maritime clusters throughout Europe and, in particular, in the Mediterranean area

Cluster BIG's budget	€ 47.120
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EU financing (100%)	€ 47.120
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## ITALY-TUNISIA: COOPERATION STEPS

### **Memorandum of Understanding BIG-TC & CMT (9th June 2020)**

*Focus on: environmental monitoring, fishery and aquaculture, pleasure boating, maritime technologies, sustainable tourism, training*

### **MEDBLEUE 2021 & Recommendation paper (21st September 2021)**

*Focus on: training, blue skills and research in blue economy; maritime transports, ports partnership, digitalization; sustainable maritime tourism & pleasure boating; sustainable blue bioeconomy and equitable blue trade between Tunisia and Italy*

### **BIG-TC & CMT Meeting (9th November 2021)**

*In the framework of the «Corridors to Sustainable Blue Development» event organised by WestMed in Rome*

### **MEDBLEUE 2022 (29th-30th September 2022)**

*International conference on blue economy*

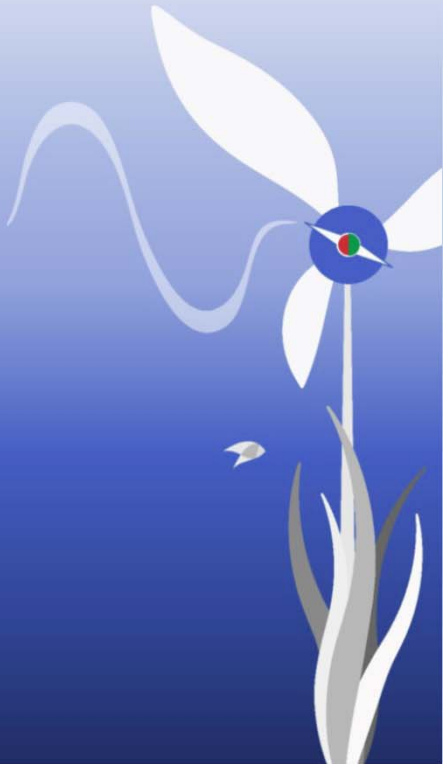
# OUR VISION



- Increasing European and cross-border **networking**, particularly in the Southern shore of the Mediterranean
- Cluster BIG as **key point of reference** for policy makers at both national and regional level
- Being the main **promoter** for **innovation** in transversal sectors in the blue economy between research centres, universities and industry.



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