



Scientific and Technological Challenges to the Blue Economy

 Institut de Ciències del Mar
20th September 2023

01

**BlueNetCat – Maritime R+D+I
Network of Catalonia**

02

Blue Economy Context

03

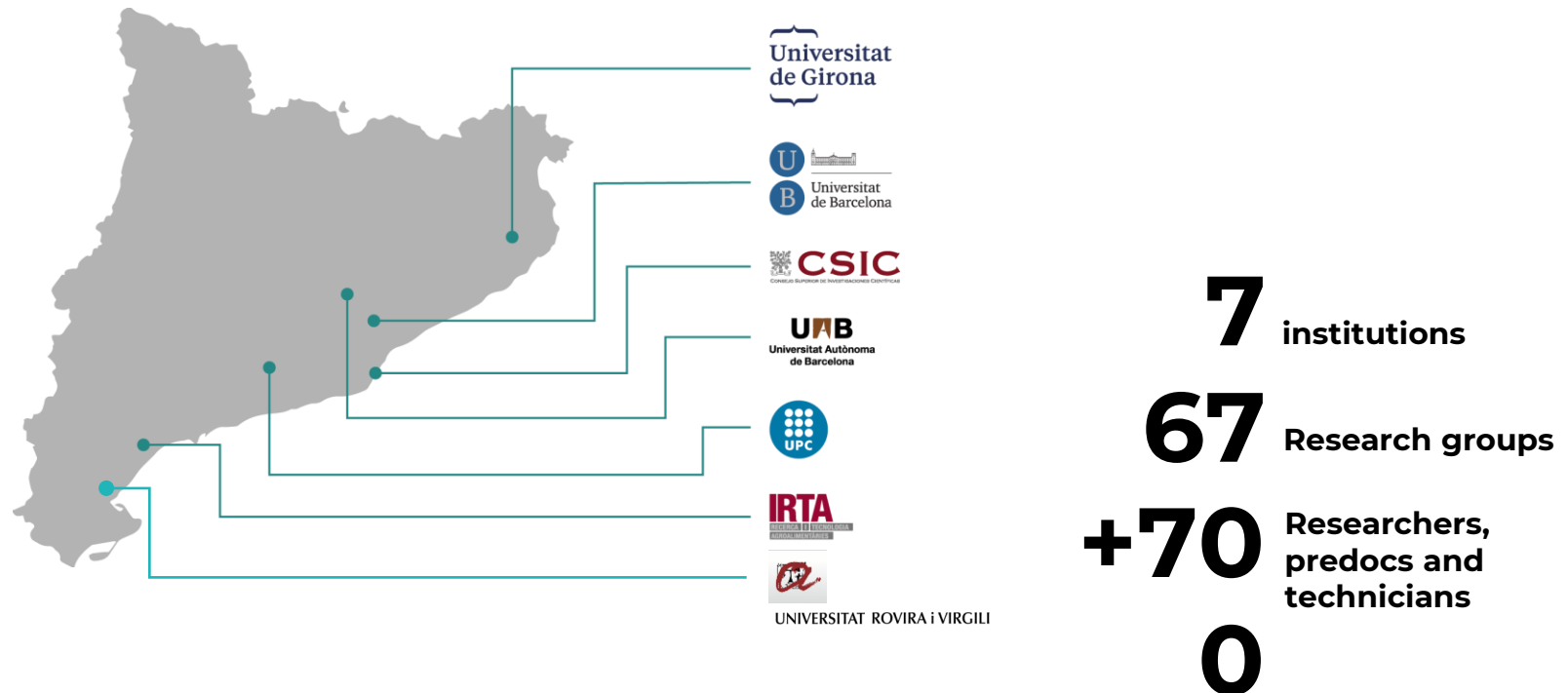
Main Challenges

BlueNetCat

Innovation and transfer instrument In Blue Economy of the Catalan Government

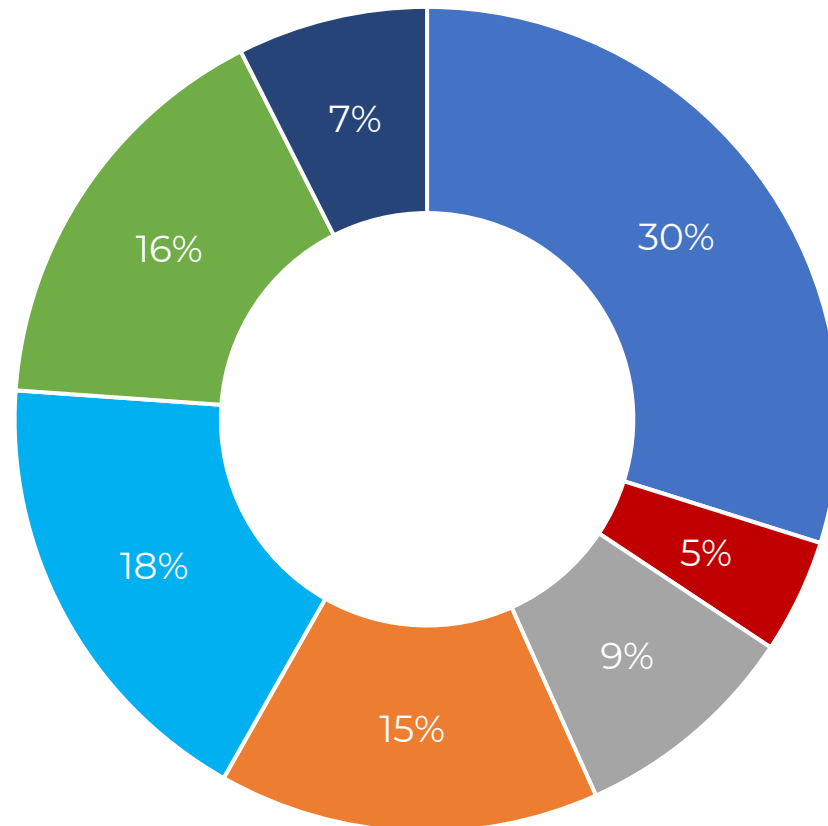
Mission

Create an **interdisciplinary innovation and transfer ecosystem**, a bridge with the quadruple helix, to **improve the competitiveness** of the research/innovation sector in the Catalan Blue Economy.



Composition and scope

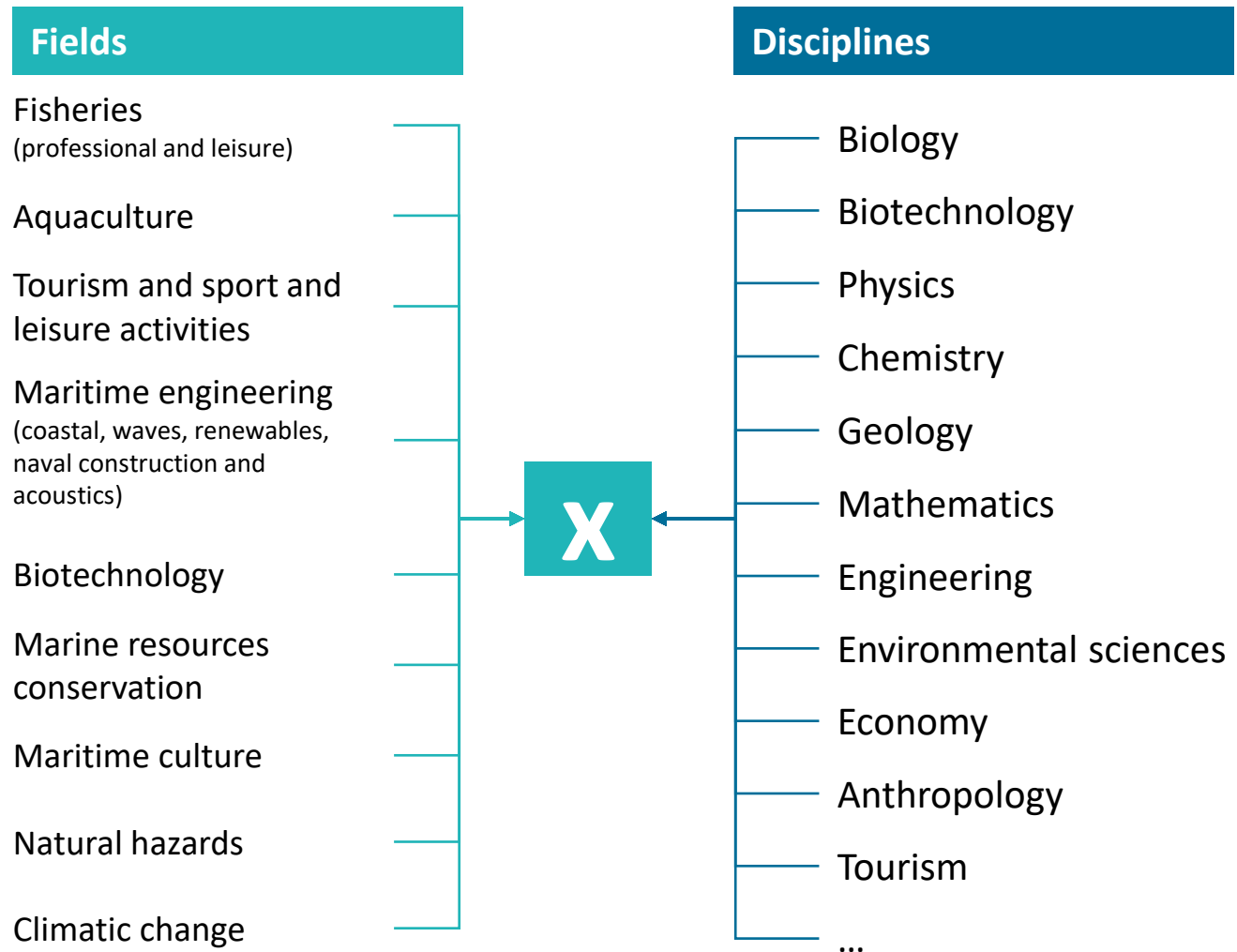
Research groups structured by institution



CSIC	20
UPC	12
UdG	11
UB	10
UAB	6
URV	5
IRTA	3

Composition and scope

fields x disciplines = SCOPE



Activities and goals



Incubate and accelerate our researchers' technologies



Catalize companies/public admin/research

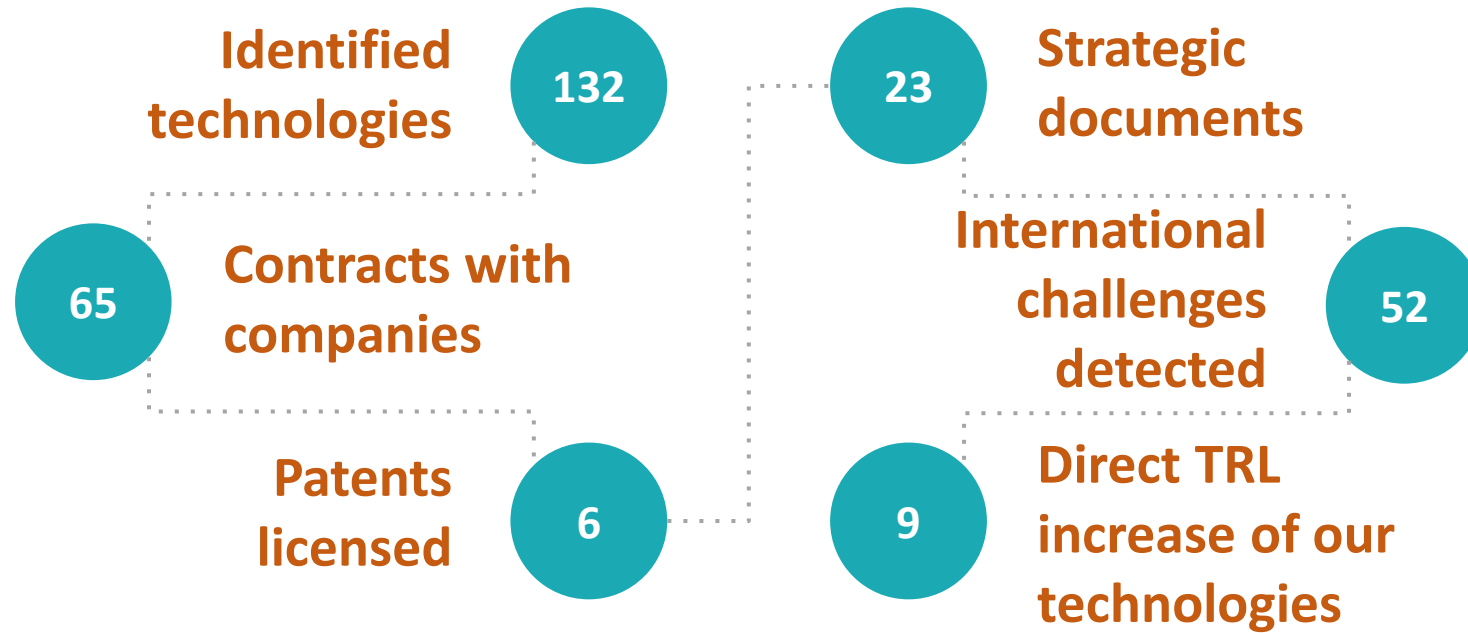


Organize network sessions



Build a transfer culture in the research community

Indicators up to 2023



UNESCO Challenges

10 CHALLENGES

Ocean Decade Challenges for collective impact



Challenge 1

Understand and beat marine pollution

Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ocean ecosystems and develop solutions to remove or mitigate them.

[Watch the video](#)



Challenge 2

Protect and restore ecosystems and biodiversity

Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions.

[Watch the video](#)

UNESCO Challenges



Challenge 3

Sustainably feed the global population

Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world's population under changing environmental, social and climate conditions.

[Watch the video](#)



Challenge 5

Unlock ocean-based solutions to climate change

Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change across all geographies and at all scales, and to improve services including predictions for the ocean, climate and weather.

[Watch the video](#)



Challenge 4

Develop a sustainable and equitable ocean economy

Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions.

[Watch the video](#)



Challenge 6

Increase community resilience to ocean hazards

Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience.

[Watch the video](#)

UNESCO Challenges



Challenge 7

Expand the Global Ocean Observing System

Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users.

[Watch the video](#)



Challenge 9

Skills, knowledge and technology for all

Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders.

[Watch the video](#)



Challenge 8

Create a digital representation of the ocean

Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, which provides free and open access for exploring, discovering, and visualizing past, current, and future ocean conditions in a manner relevant to diverse stakeholders.

[Watch the video](#)



Challenge 10

Change humanity's relationship with the ocean

Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, and identify and overcome barriers to behaviour change required for a step change in humanity's relationship with the ocean.

[Watch the video](#)

BlueNetVal Challenges



SOSTENIBILITAT DE LES ACTIVITATS DE L'ECONOMIA BLAVA

Sostenibilitat de les activitats humanes al medi marí des de les perspectives ambientals, socials i econòmiques



INNOVACIÓ BLAVA I SOCIETAT (OCEAN LITERACY)

Implicar a la societat civil en les innovacions blaves, sigui com a receptors d'informació o com a proveïdors de necessitats i inquietuds.



SALUT HUMANA I OCEANS

Tracta tots els efectes (positius i negatius) que pot tenir el mar en la salut humans



GESTIÓ DE L'ESPAI MARÍTIM-TERRESTRE

Vetlla per la millora de la governança i gestió de l'espai marítim-terrestre pel que fa als recursos i activitats humanes



CONTAMINACIÓ MARINA I DESCARBONITZACIÓ

Abasta la problemàtica dels contaminants marins de manera integral, des de la part preventiva i analítica fins a la part relacionada amb els seus efectes i mesures paliatives amb una perspectiva d'economia circular sempre que sigui possible



VALORITZACIÓ I REGENERACIÓ DE RECURSOS MARINS

Aborda la recuperació/utilització/conservació dels recursos marins per tal d'obtenir productes/servis d'alt valor afegit de manera sostenible

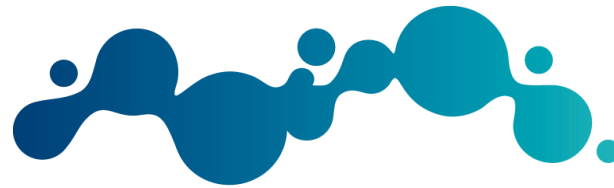


RISCOS MARINS, SEGURETAT MARINA I CANVI CLIMÀTIC

Abasta esdeveniments catastròfics marins (ex. tsunamis, grans temporals) i els nous reptes derivats del canvi climàtic des de perspectives socials i tecnològiques

BlueNetVal Challenges

Challenge	Description
Oceanic/maritime Data Management	Collect, storage, treatment and use of marine data for sustainable uses of the resources.
Maritime Transport Efficiency	Enhancing efficiency and sustainability of maritime transportation through innovations like cleaner fuels and autonomous ships.
Blue Bioplastics	Developing biodegradable plastics from marine sources to reduce plastic pollution.
Ocean Observation and Monitoring	Enhancing capabilities for real-time data collection, climate monitoring, and disaster management.
Marine Pollution Reduction	Implementing measures to reduce marine pollution from plastics, chemicals, and oil spills.
Marine Biotechnology	Advancing research in marine biotechnology for pharmaceuticals, food, and materials production.
Sustainable Fisheries	Ensuring sustainable harvesting practices to preserve marine ecosystems and maintain fish stocks.



Xarxa Marítima DE CATALUNYA

BlueNetCat

Director: lourdes.reig@upc.edu

Business Development manager: pablo.bou@upc.edu



Twitter @Bluenetcat



Website (<https://www.bluenetcat.eu/>)