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## The BlueNetCat – The Catalan reference network for the knowledge transfer in Blue Economy

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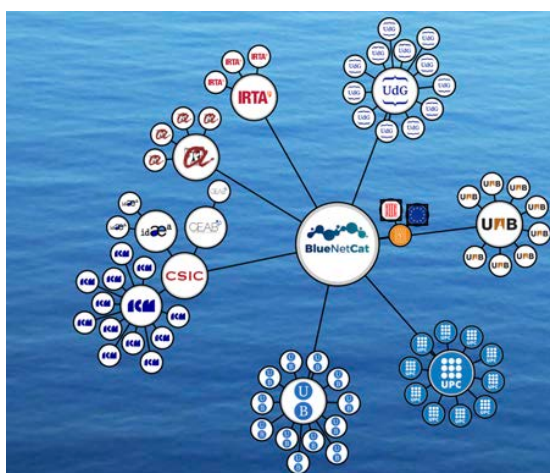
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**Abstract** – The blue economy is an essential sector to accelerate the green transition and to comply with the most important European and international regulations (e.g., the Blue Growth Strategy and the European Green Deal, and the UN Sustainable Development Goals).

In Catalonia, the blue economy accounts for about 5.8% of total employment and 3.4% of GVA. Due to the crucial location of the region within the Mediterranean Basin, and its scientific and technological capacity, Catalonia may be among the leaders in terms of innovation in blue economy, with huge potential to export innovation and to provide the whole society with huge benefits and positive impacts.

In 2018, Catalonia was among the first regions in Europe to adopt a maritime strategy according to the EU directives and regulations. Within the Catalan Maritime Strategy, the technological transfer of innovation in blue economy plays a key role. Thus, the BlueNetCat (“Xarxa d’R+D+I Marítima de Catalunya” in Catalan, [www.blunetcat.eu](http://www.blunetcat.eu)) was designed as a tool to foster the technological transfer - in all the disciplines affecting the blue economy sectors - from the Catalan universities and research centers toward the market and the society.

Nowadays, the BlueNetCat (“Xarxa d’R+D+I Marítima de Catalunya” in Catalan) is an open innovation multidisciplinary community, accounting for more than 700 researchers, trainees, and technicians. The network is constantly growing and currently is composed by 67 research groups belonging to 5 Catalan universities (University of Barcelona, Autonomous University of Barcelona, Universitat Politècnica de Catalunya, University of Girona, Rovira i Virgili University) and 2 research institutions (the Spanish National Research Council, CSIC, with three different research centers, and the Institute of Agrifood Research and Technology, IRTA).



The BlueNetCat is constantly working to create a bridge with the quadruple helix by acting as a single innovation hub to link up the technological offer of the Catalan researcher with the market. The BlueNetCat has also a privileged situation in Catalonia, being part of the Catalan Maritime Co-ordination Council (CCCM) and at national level, being part of the Knowledge Space in Blue Economy of the Spanish Ministry for Agriculture, Fish and Food.

The BlueNetCat has also positioned itself at international level, collaborating and interacting with the most relevant initiatives and organizations (e.g. the Vanguard and the WestMED Initiatives, The European Regions Research and Innovation Network, the World Ocean Council).

In the past three years the BlueNetCat assisted 32 research groups with specific actions designed to bring their technology closer to the market or the society:

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- 1 team was supported in the study of the commercial viability of the innovation.
- 1 team received help in the assessment of the economic viability of the technology.
- 6 groups were assisted in the definition of the market study and the business model.
- 7 research teams received support and assistance in elaborating their roadmap to the market.
- 8 teams were supported in the study for the protection of their intellectual property.
- 9 teams received assistance in the improvement of the Technology Readiness Level (TRL) or the Societal Readiness Level (SRL) of their innovation.

Among other projects, the BlueNetCat fostered different technological projects like, for example, an Integrated Geographic System for responsible anchoring, an Intelligent buoy for coastal management, an IoT tracking system for buoys and small vessels, and a PET-recycling system with engineered marine enzymes.

In the next three years, the BlueNetCat will continue to consolidate its integrative governance structure, also incorporating diversity and the participation of social agents active in the blue economy, to continue defining a co-responsible, participative, and transparent structure to make a positive impact in society.

In particular, the four main objectives for the period 2023-2025 are the followings:

- (1) Consolidate the community as a structure for innovation transfer. This objective will encompass in particular:
  - a. leverage the extensive and multidisciplinary expertise (Blue Skills) in thematic working groups, also open to stakeholders of the quadruple helix, organized to solve relevant Maritime Challenges.
  - b. Grow up the portfolio of technologies and services the members of the network can provide.
  - c. Empower the BlueNetCat members and relevant stakeholders with ah-hoc training sessions
  - d. Foster the technological transfer by empowering the members of the network through and entrepreneurship program.
- (2) create and identify open innovation environments to solve societal problems and needs. By proactively searching and detecting potential opportunities (including funding) and partners at Catalan and national and international level, the BlueNetCat aims at detecting the more relevant blue economy needs and opportunity for the society, while also positioning itself as an international reference in open innovation.
- (3) Help the BlueNetCat members to exploit their knowledge and bring their technology closer to the market, in co-creation with the quadruple helix. This objective will be achieved by:
  - a. Mentoring and supporting the members through strategic actions (e.g., studies and documents) that may help them along the process.
  - b. Fostering the internationalization of the technology through the BlueNetCat extensive networking.
  - c. Creating specific working sessions and events (e.g. the annual Maritime Hub) to foster the networking and interaction among the BlueNetCat members and relevant stakeholders of the quadruple helix.
  - d. Setting up a talent training incubation and acceleration service and a specific programme (BlueNetVal) to further develop the technical and entrepreneurial skills of the BlueNetCat members.
- (4) Communicate and disseminate as key action to generate social impact. The BlueNetCat wants to promote Ocean Literacy, defined by UNESCO as understanding the influence of the ocean on you and your influence on the ocean, a fundamental step to act sustainably.

In the next three year, the BlueNetCat also aim at identifying more than 100 new technologies and to detect more than 30 new blue economy international challenges for the society, to increase the Readiness Level of at least 30 technologies and to provide assistance to at least 20 research groups.

Through its actions, BlueNetCat will generate a positive social impact, by providing key tools to pour the knowledge generated in the Catalan research ecosystem towards the most relevant stakeholders, thus allowing the sustainable creation of wealth and progress in the blue economy sector. Last but not least, by involving citizens and increasing their awareness about the marine environment, the BlueNetCat will contribute to making them co-protagonists in the protection and the sustainable use of marine resources.

*Keywords – Technological transfer, knowledge transfer, Blue Economy, Entrepreneurship, Blue Skill, quadruple helix.*