

BLUE biotechnology as a road for innovation on HUMAN's health aiming Smart growth in Atlantic Area EAPA_151/2016 (2018-2021)

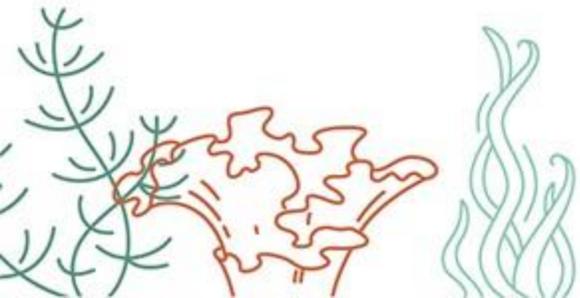
Isabel Cabaleiro

European Grouping for Territorial Cooperation Galicia North of Portugal

5 Noviembre 2021

What is an EGTC?

The objective of an European Grouping of Territorial Cooperation (EGTC)/Agrupación Europea de Cooperación Territorial (AECT) is to “facilitate and promote, in particular, territorial cooperation, including one or more of the cross- border, transnational and interregional strands of cooperation, between its members”.

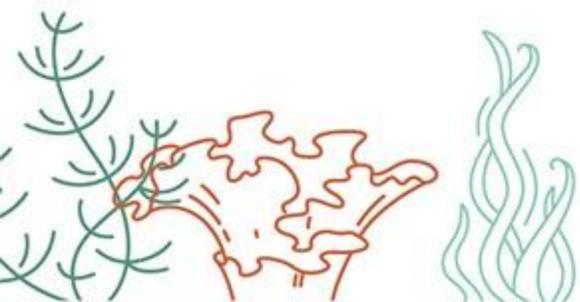


Galicia North of Portugal, EGTC

The European Grouping of Territorial Cooperation Galicia Norte de Portugal provides a meeting point for institutions, companies and citizens on both sides of the border. Its aim is to dinamise and interconnect the Galicia North of Portugal Euroregion, comprising a population of six million people.

Both Xunta de Galicia and Comissão de Coordenação e Desenvolvimento Regional da Região Norte de Portugal (CCDR-N) signed the statutes in 2008 and the EGTC started working on 2010.

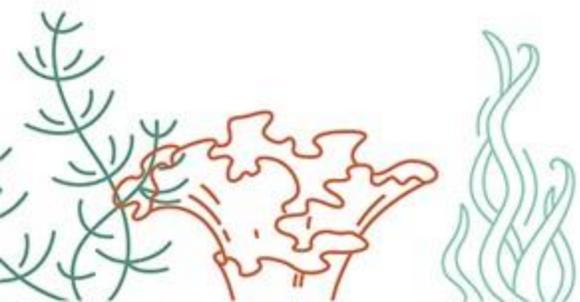
It was the third European EGTC and first in the Iberian Peninsula.



GNP, EGTC objectives

Facilitate and encourage territorial and **institutional cooperation** between its members, to help **break down physical and bureaucratic barriers**, helping to **mitigate the border effect** and enabling the creation of an effective Galicia North of Portugal Euroregion.

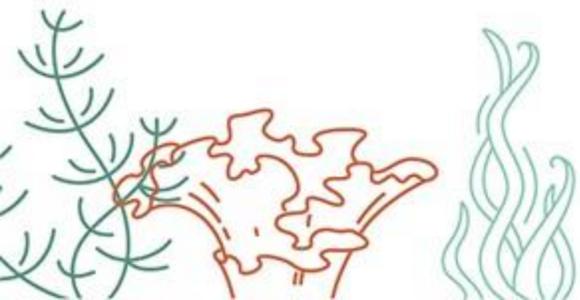
Consolidation of the cooperation processes established by the Euroregion agents, continuing and reinforcing successful **cross-border actions**.



GNP, EGTC objectives

Promote the creation of new procedures to **optimise administrative** management at all levels, encouraging cross-border synergies and simplifying regional and local public management systems on both sides of the border.

Contribution to the **improvement of the quality of life** (social, economic, cultural) and the creation of value (R+D+i, cross-border business cooperation) in the Euroregion through the promotion of investments and efficient public services.



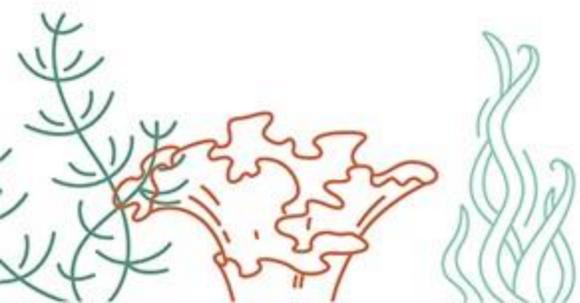
IACOBUS

IACOBUS programme promotes cooperation within the Euroregion in the scientific field.

Universities and
Polytechnical Institutes
(2014)

Technological Centres (2018)

Biomedical Foundations
(2020)



IACOBUS

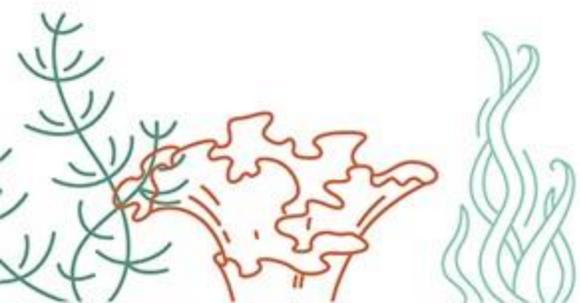
IACOBUS programme promotes cooperation within the Euroregion in the scientific field.

IACOBUS Stays – 8 calls – 1095 stays funded – More than 1.2 million €

IACOBUS Papers – 3 calls – 136 candidates selected - 1 000 €/paper

IACOBUS Patents – 2021 first call

<http://iacobus.gnpaect.eu/>

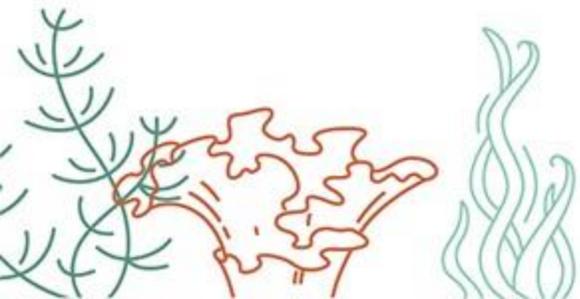


BLUEHUMAN Project

BLUE biotechnology as a road for innovation on HUMAN's health aiming Smart growth in Atlantic Area EAPA_151/2016 (2018-2021)

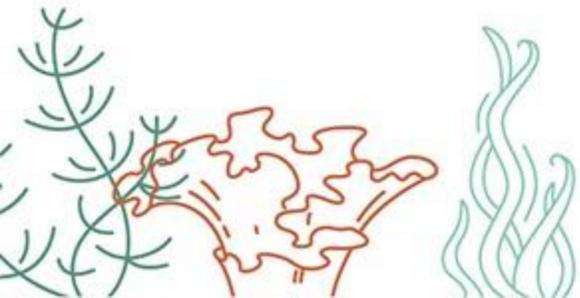
BLUEHUMAN project aims to widen the commercial potential of the Atlantic Ocean on Europe by proposing innovative products for the biomedical field.

To achieve this, the project has seek to expand the commercial and scientific potential, beyond current activities mainly limited to fishing and maritime transport, opening the avenue of blue biotechnology with new high added-value solutions.

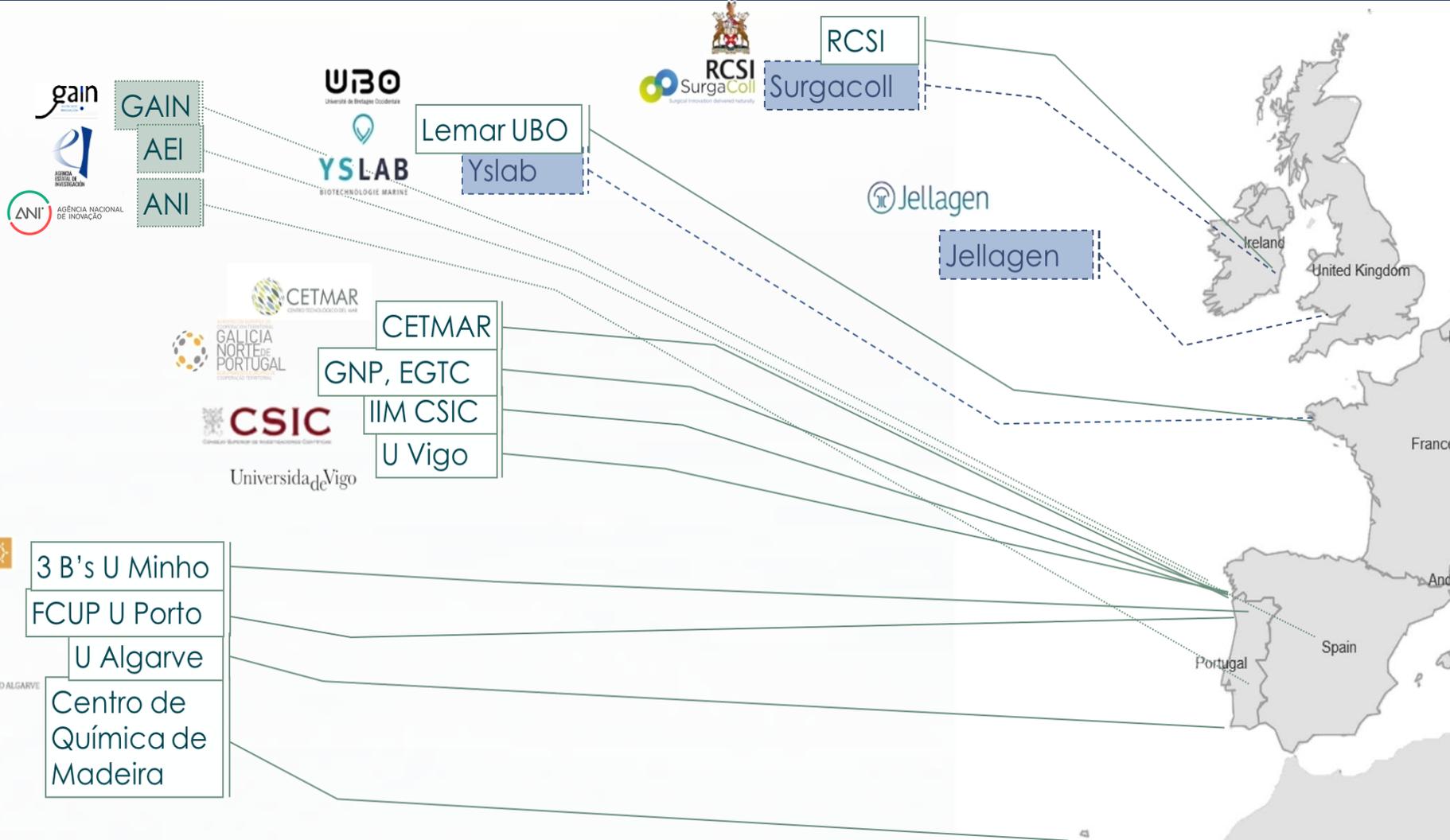


BLUEHUMAN Project

BLUEHUMAN project promotes the valorization of marine resources from the Atlantic Area, as well as fisheries by-products, improving the industrial process and the development of certain stages of high added value products completely developed in the sectors of biomedicine and global well-being. All of that will be achieved using blue biotechnology as a tool and a partnership made up by companies and specialized research groups focused on innovation.



BLUEHUMAN Consortium



3 B's U Minho
FCUP U Porto
U Algarve
Centro de
Química de
Madeira

CETMAR
GNP, EGTC
IIM CSIC
U Vigo

UBO
Lemar UBO
Yslab

GAIN
AEI
ANI

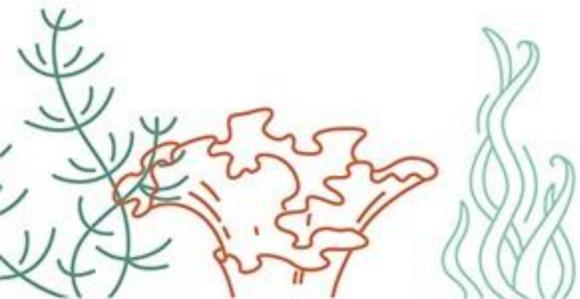
RCSI
Surgacoll

Jellagen
Jellagen

What is Capitalisation?

Even though it is compulsory to include a Capitalisation work package in Interreg Atlantic Area projects, there is no clear definition of what it is expected from it.

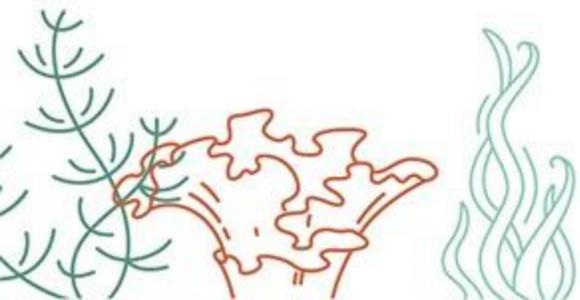
We have had to figure out what is for us Capitalisation, define our objectives, and plan what actions and tools we will use to achieve those objectives.



Why it is necessary to communicate and capitalise the results?

Marine biotechnology has the potential to create jobs in the Atlantic area with a high qualification; producing compounds and bio-sanitary, cosmetic, and nutritional products with great value for society, and contributing to moving towards a circular economy.

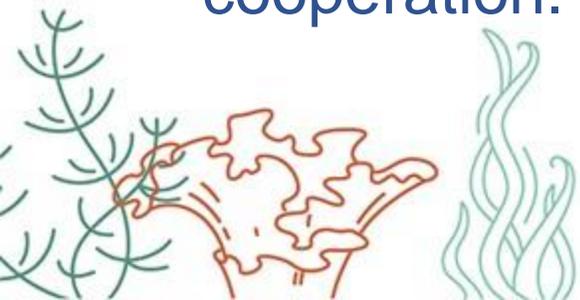
Research is key for this potential to be realised. This activity demands intensive and prolonged investments to discover/design/characterise/test to industrially produce the new compounds or products.



Why it is necessary to communicate and capitalise the results

The role of start-ups and SMEs is key to closing the circuit from research to market and/or the large biosanitary and pharmaceutical companies. Due to their characteristics and dimensions, these companies need access to external, public or private, funding sources. Also, in many cases, they lack the resources to effectively communicate the demands to the policymakers that would make easier their activity.

Also, it may sound as a cliché, but it is true: the sea knows no borders... Thus, cooperation in blue economy is paramount if we want to achieve a sustainable, fair and cohesive development in our Atlantic Region , and communication and capitalisation is fundamental to promote this cooperation.

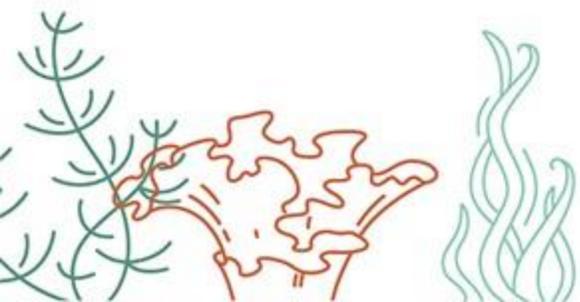


Capitalisation

Regarding the Capitalisation workpackage, several actions have been developed, including:

- The constitution of an advisory board.
- The development of a Capitalisation Strategy.

A capitalisation event will soon be held and a capitalisation publication will be presented by the end of the year.

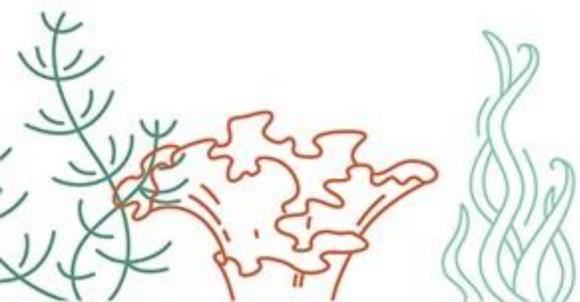


Capitalisation

As part of the Collaborative Innovation Network activity:

- A survey focused on the cooperation between industry and academia in blue biotech activities, with more than 150 answers;
- The recopilation of a Catalogue with details of blue biotech and marine products valorisation research groups and companies (currently, around 200 entries).

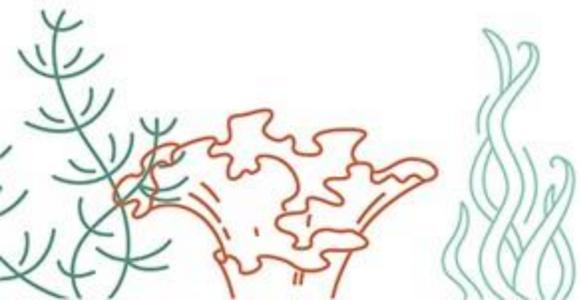
A **capitalisation event** will soon be held and a **capitalisation publication** and **roadmap** will be presented by the end of the year.



The survey

A survey has been carried out among researchers and managers of companies in the field of blue biotechnology focused on cooperation between both groups.

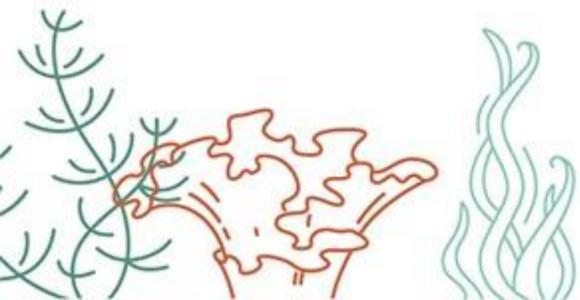
The survey has been carried out in collaboration with CETMAR and has focused on the five countries that are part of the Interreg Atlantic Area program.



The survey

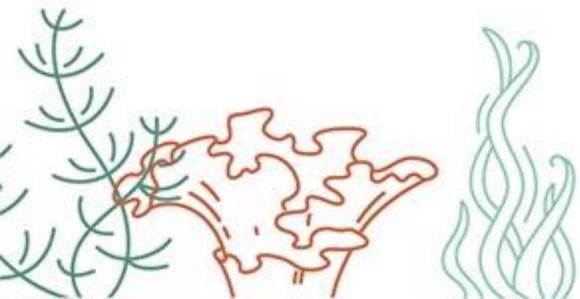
196 personalized surveys were sent to company managers and 543 to researchers. As of February 28, 2020, 45 responses had been received from companies and 124 from researchers from Spain, Portugal, Ireland, France and the United Kingdom.

The responses from Spain and Portugal predominate because, in many cases, there was a previous relationship on the part of the CETMAR team, which significantly increased the percentage of surveys answered.



Who are we looking for?

Marine biotechnology is defined by the OECD as ‘the application of science and technology to living organisms from marine resources, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services’.



How it started...

Information about the “blue biotech” sector is very scattered. We couldn’t find a comprehensive, reliable, database, even the most specialized projects (like Marine Biotechnology Era-Net) were incomplete, specially, regarding to companies.

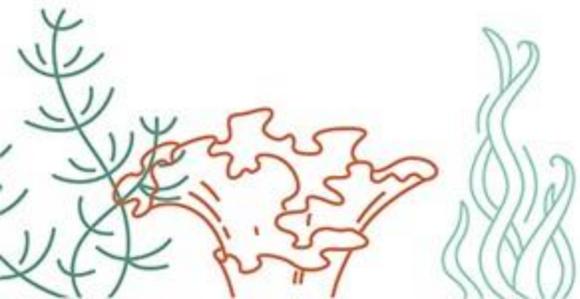
Institutions

[Scientific](#) | [Education](#) | [Funding Agency](#) | [Network](#) | [Commercial](#)

31 records found with search conditions : Type= Commercial

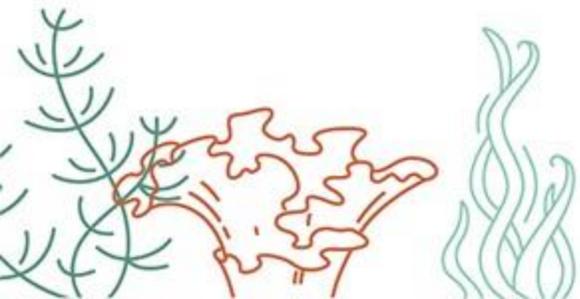
[show split up list](#)

[Abiel srl](#), [more](#)
[AquaBioTech Group \(ABTG\)](#), [more](#)
[Aquapharm Biodiscovery Ltd](#), [more](#)
[BIO-Protein predictions \(Bio-Product\)](#), [more](#)
[BIOALVO S.A.](#), [more](#)
[BioBridge](#), [more](#)
[Biomimex, Ltd.](#), [more](#)
[Biotech Surindo](#), [more](#)
[Biologic](#), [more](#)
[Clariant](#), [more](#)
[Dan Salmon AVS](#), [more](#)
[Delta Institute of Applied Ecology \(ISDELTA\)](#), [more](#)
[DVIPC Consulting \(DVIPC\)](#), [more](#)
[Ecofoster Group Oy](#), [more](#)
[Environmental Protection engineering S.A. \(EPE\)](#), [more](#)
[GlycoMar Limited](#), [more](#)
[Inter-Municipal Corporation For Solid Waste Management Of Chania \(DEDISA\)](#), [more](#)
[Interworks](#), [more](#)
[Maris Projects B.V.](#), [more](#)
[Microstech](#), [more](#)
[Paques BV](#), [more](#)
[Perpetual Biotechnologies \(PB\)](#), [more](#)
[Rosetta Genomics; Rosetta Green \(Rgen\)](#), [more](#)
[Sea4Us - Biotechnology and Marine Resources, Ltd \(Sea4Us\)](#), [more](#)
[SINTEF Fisheries and Aquaculture](#), [more](#)
[SINTEF Materials and Chemistry \(SINTEF-MC\)](#), [more](#)
[Solvay](#), [more](#)
[Studio Associato Gaia](#), [more](#)
[The French Ministry of Higher Education and Research; Centre de Coopération Internationale en Recherche Agronomique pour le Développement \(MESR-CIRAD\)](#), [more](#)
[Tikal nv](#), [more](#)
[Unilever; Unilever research & development Vlaardingen \(URDV\)](#), [more](#)



Blue vs Red vs Green...

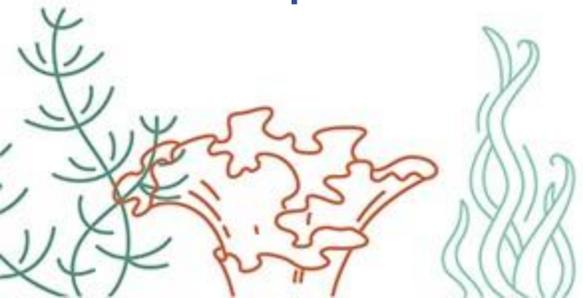
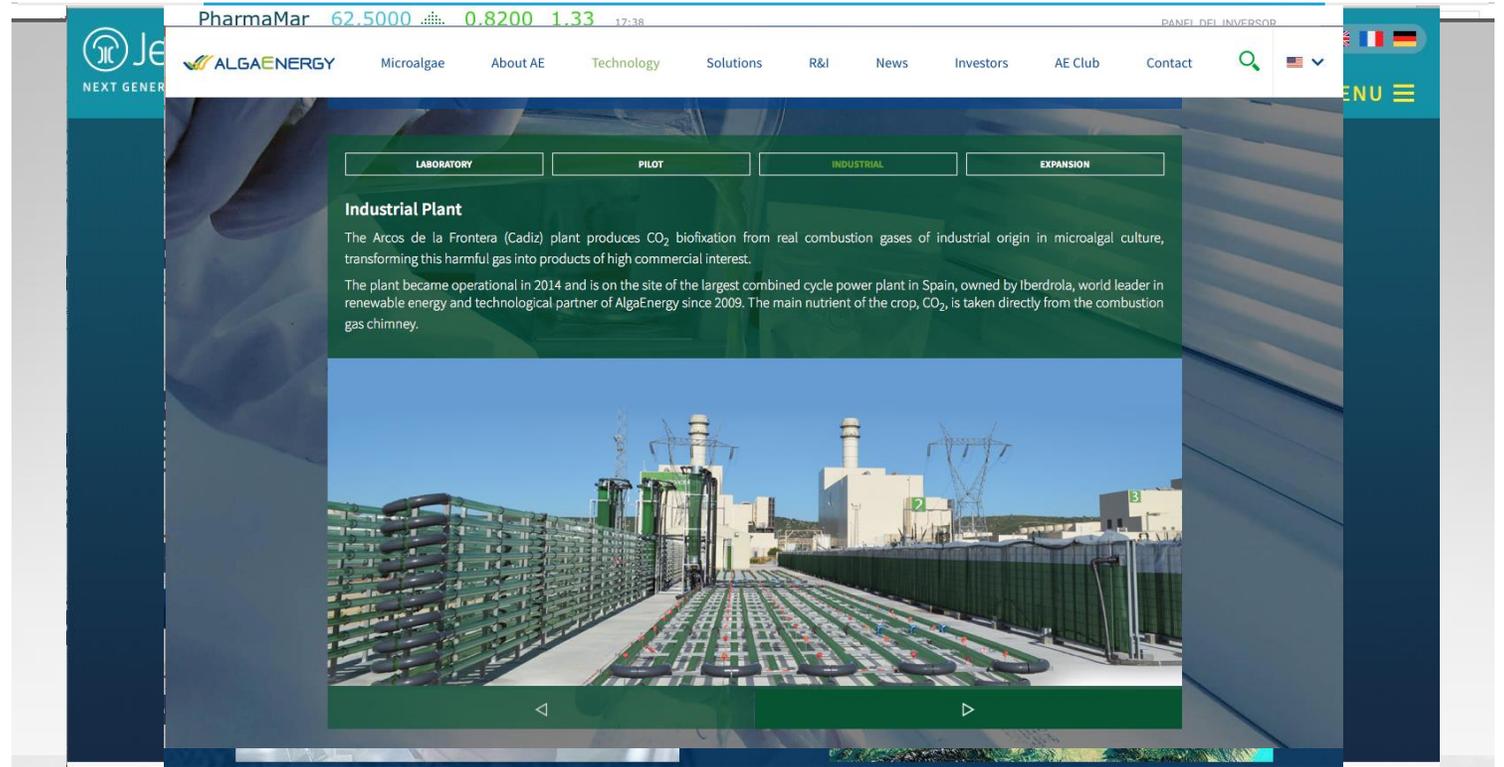
Red Biotechnology	➔	Focused on human health
Green biotechnology	➔	Focused on agriculture
White biotechnology	➔	Focused on industry
Yellow biotechnology	➔	Focused on food production
Blue Biotechnology	➔	Based on marine resources



A wide sector

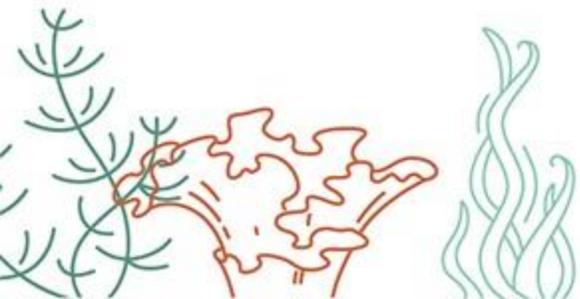
Sometimes, it is hard to know if a company uses marine resources as raw materials/ingredients/models, etc.

The range of companies included in the marine biotechnology sector is quite wide.



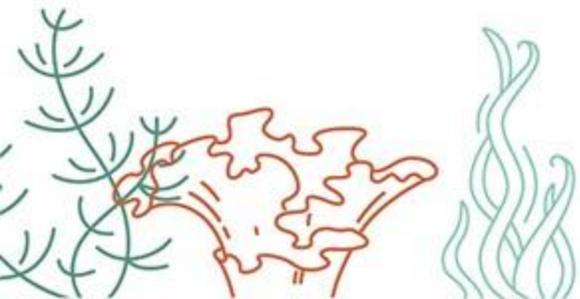
To whom it may concern...

Another problem was to find the e-mails to send the survey... In the case of researchers, this was easier than in the case of companies. First, you have to identify the person you want to contact (CSO, R+D Director, Projects responsible...), then, you have to find the e-mail details. This is not so easy as in the case of researchers, that usually have quite complete contact details in the web pages of their institution.



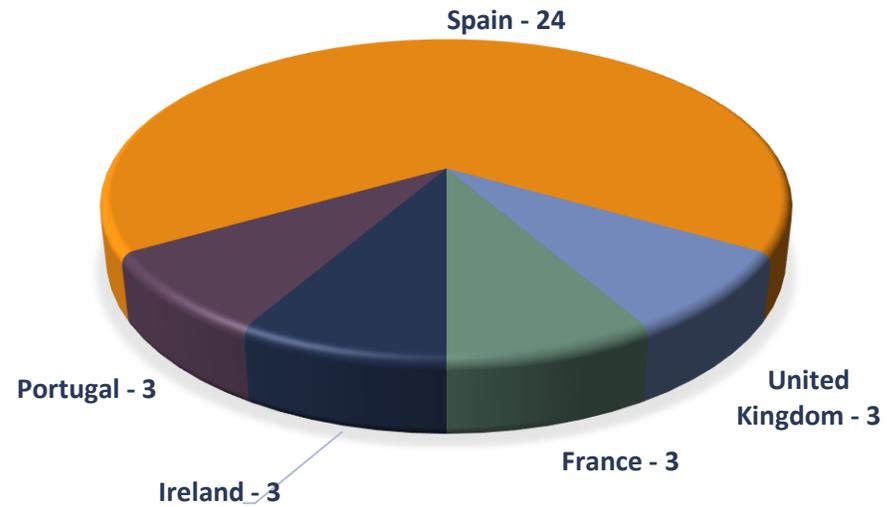
Lesson learnt...

A comprehensive, personalised, updated, user friendly catalogue would be very useful in order to facilitate the contact between researchers and companies, helping to increase the mutual knowledge and facilitating the interchange of information and the search for partners in future financing calls. CVMar+i is a good example of this.

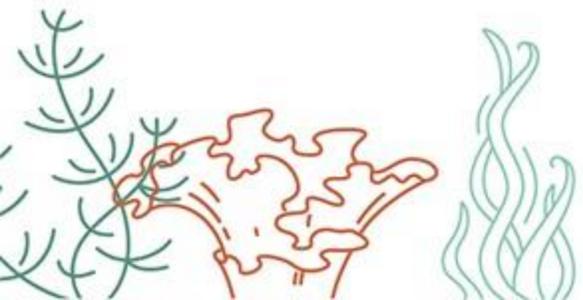
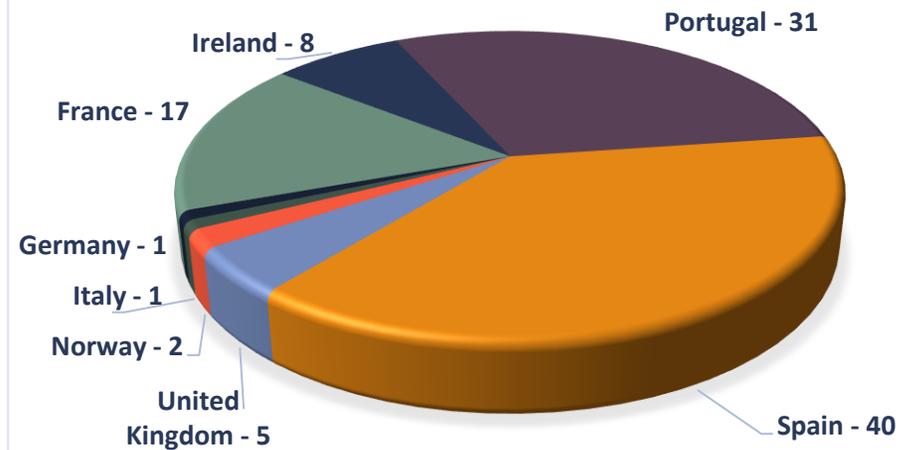


The answers came from...

COMPANIES

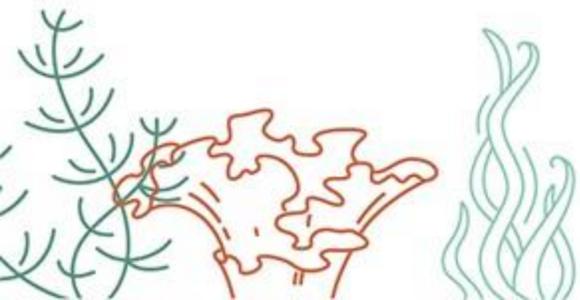
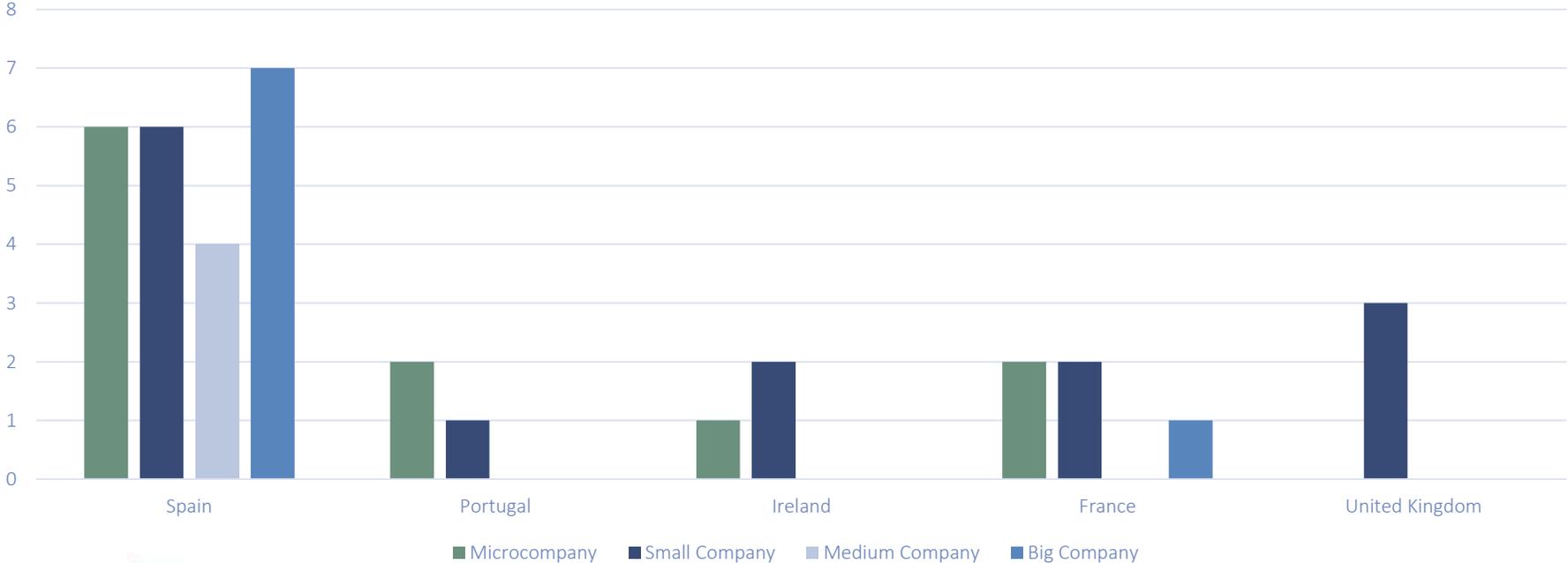


RESEARCHERS



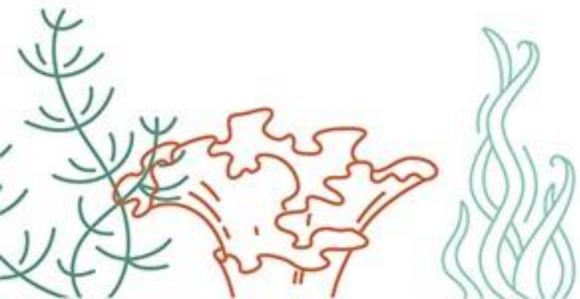
Companies' size

Size and country

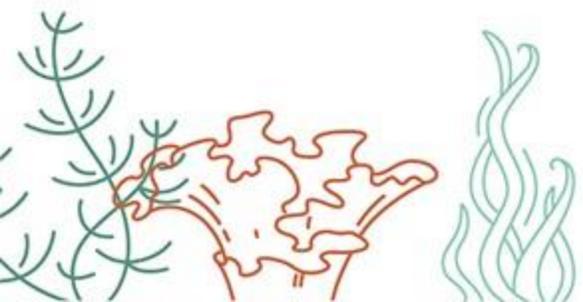
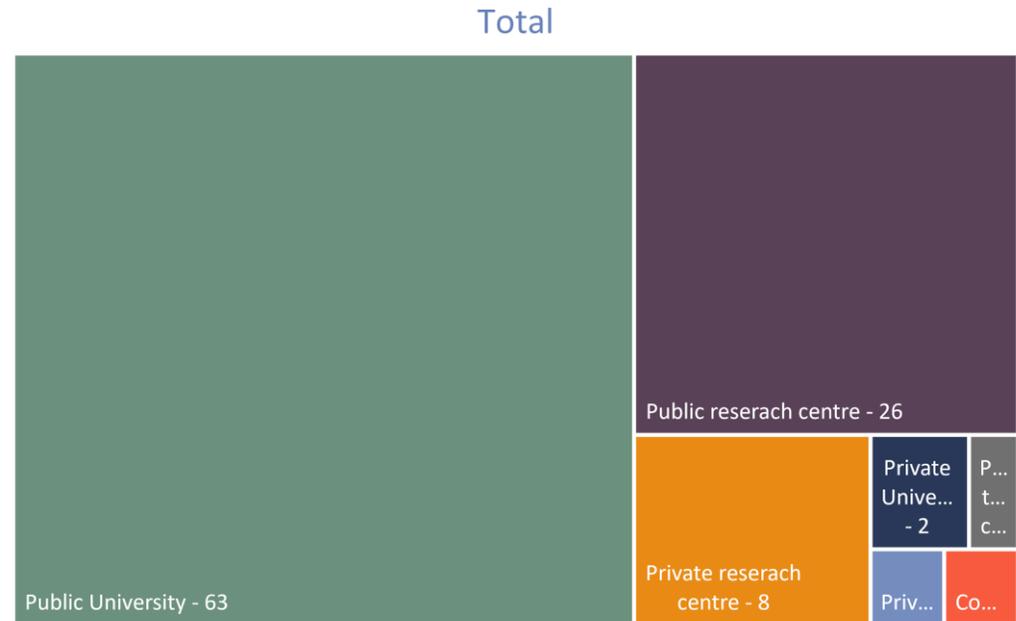
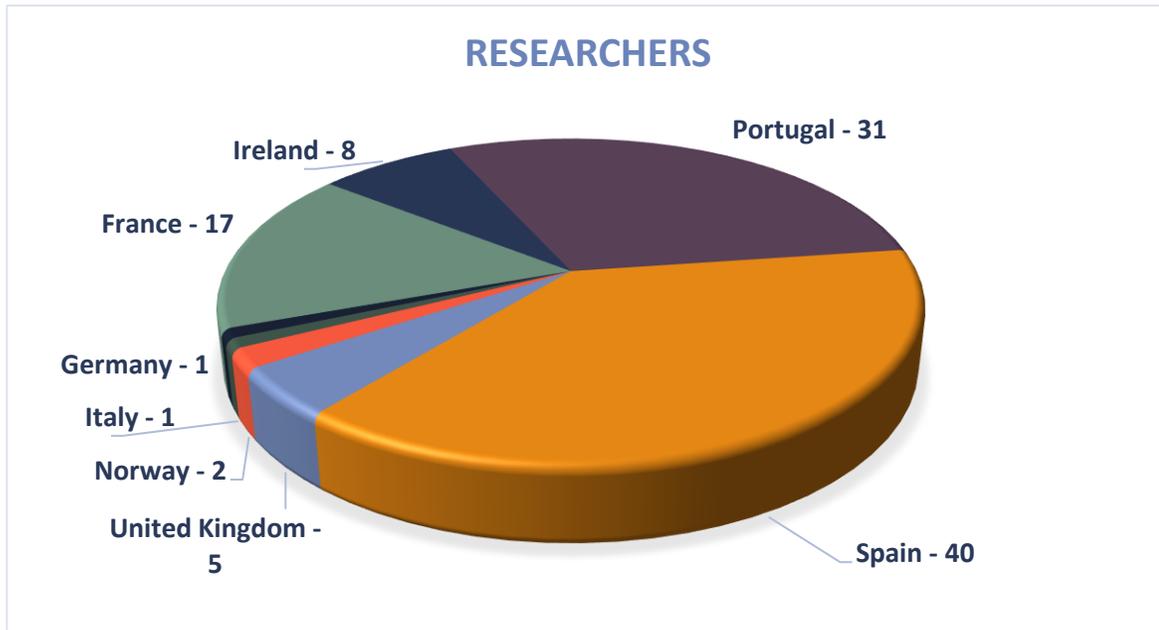


The know how was financed...

There is still room for improvement in the case of private external funding for companies operating in the blue biotech sector. More information would be needed to address the root cause of this reduced percentage of companies using private funding. In any case, an effort to increase the information about the different opportunities to access this source of funding and to improve the visibility of the sector would be helpful.



Research institutions

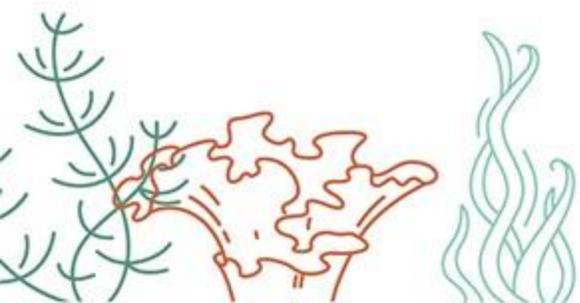


Research institutions

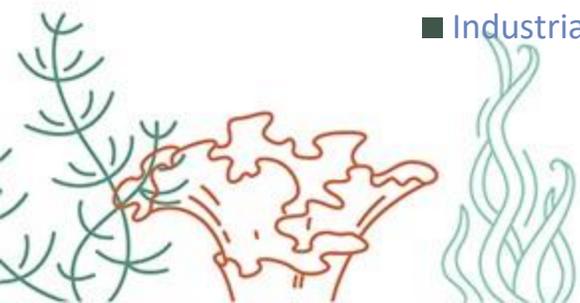
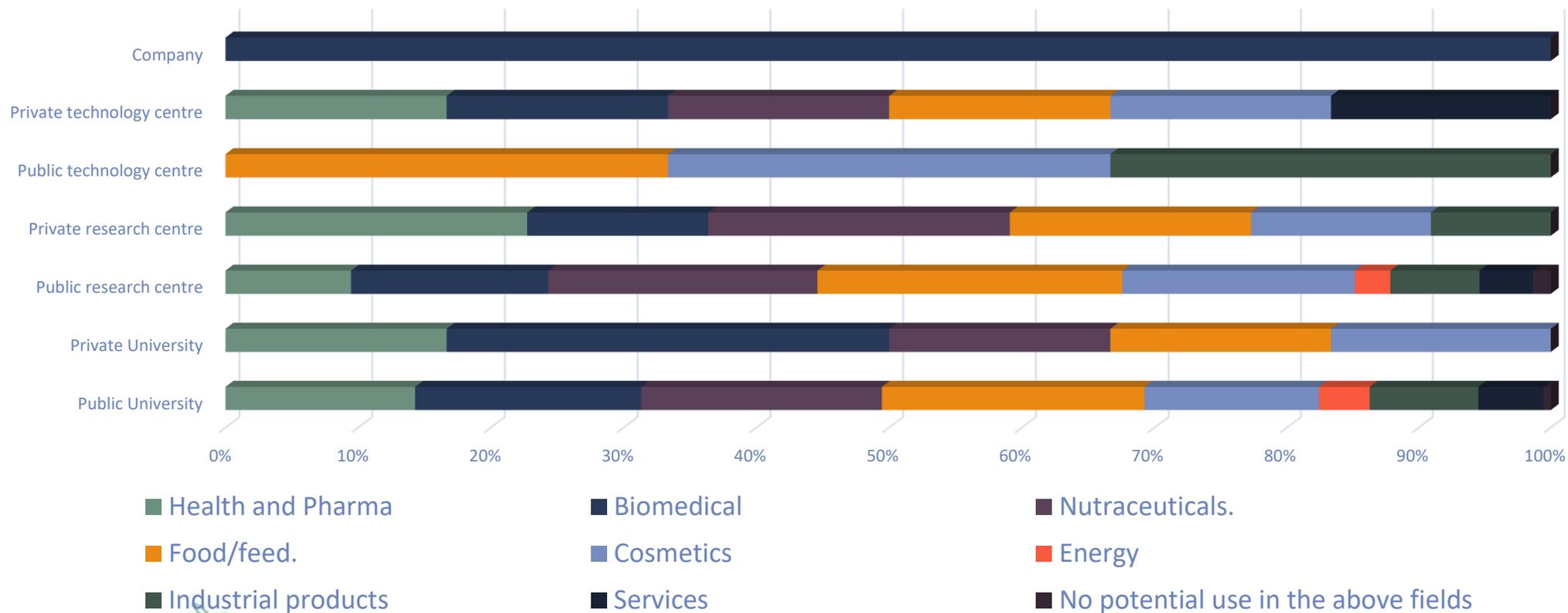
Spain



Portugal



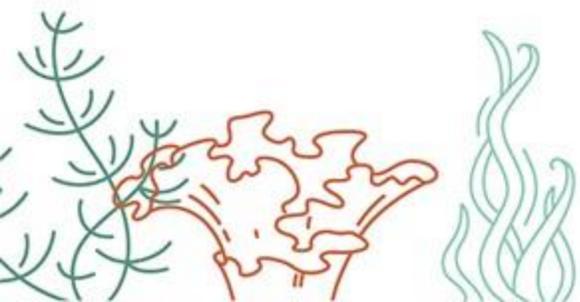
Research institutions



Conclusions

The percentage of researchers that answer negatively is quite different in Spain and Portugal when comparing them with the total figures. An special effort in transference of the research results would help to take them beyond Academia.

A more business-friendly design of calls for access to public funding could help to improve their collaboration with researchers.



Why not?

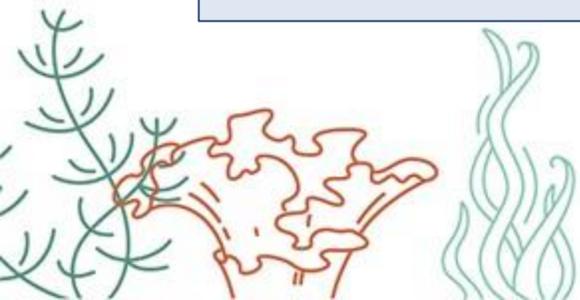
Portugal

Difficulties to include companies in research projects due to the design of public financing calls. - 4	The group's research activity is focused on basic science and doesn't fit into a development and innovation framework. - 3	<p>No company has addressed us looking for co-operation. - 2</p> <p>Due to the excessive bureaucracy that this cooperation would imply - 2</p>
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Spain

The group does not address companies looking for cooperation, 1	The group's research activity is focused on basic science and doesn't fit into a development and innovation framework., 1	Due to the lack of mutual knowledge about both research lines., 1	Due to the excessive bureaucracy that this cooperation would imply, 1	Difficulties to include companies in research projects due to the design of public financing calls., 1
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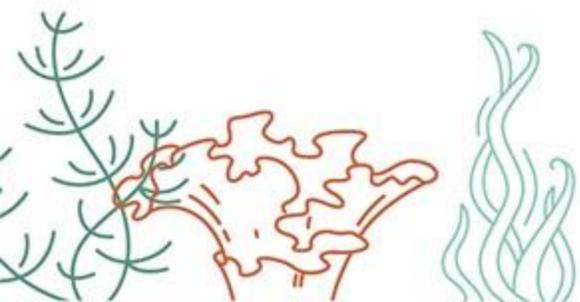
A more business-friendly design of calls for access to public funding could help to improve their collaboration with researchers.



How to improve cooperation

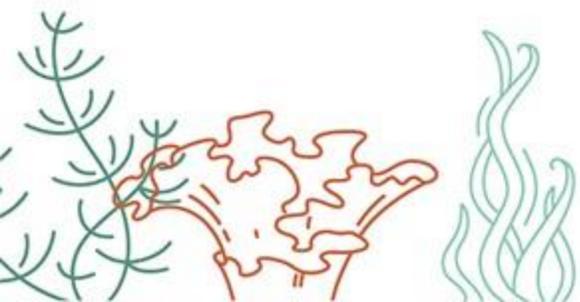
A greater recognition of collaborations with private companies in the evaluation of researchers' activities could encourage researchers to maintain more fluid contacts with industry.

It would also be positive to encourage the exchange of information on the activities carried out by companies and researchers, in order to facilitate their rapprochement and cooperation.



How to improve....

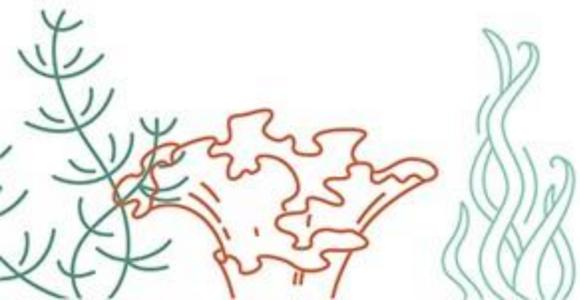
One way to improve knowledge about the activity of research groups is to facilitate their dissemination through "non-scientific" channels, for which it is essential to provide researchers with the means and time, valuing these efforts appropriately, and to strengthen communication with sectoral associations.



The case of BLUEHUMAN companies

The original BLUEHUMAN consortium included 3 companies focused both on marine biotechnology and tissue engineering.

But, along the way, one company closed its operations, and another one choosed to continue just as associated partner. And those situations serve as examples of the issues facing small and medium enterprises when they want to reach the market with new products or when they participate in public funded research projects.



SurgaColl

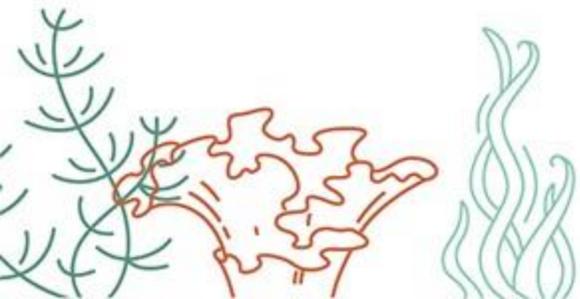
SurgaColl Technologies was a medical device company developing novel tissue regeneration products for the surgical treatment of diseases of the bone, cartilage and other human tissue. It was established in 2010, and their products were based on technology developed at the Tissue Engineering Research Group (TERG) of the Royal College of Surgeons in Ireland (RCSI).

SurgaColl decided to close its operations due to the difficulties to secure finance to undertake the studies imposed by the new medical devices regulatory framework, that came into force in May this year. In several finance rounds, they had secured more than 7 million Euros.



Yslab

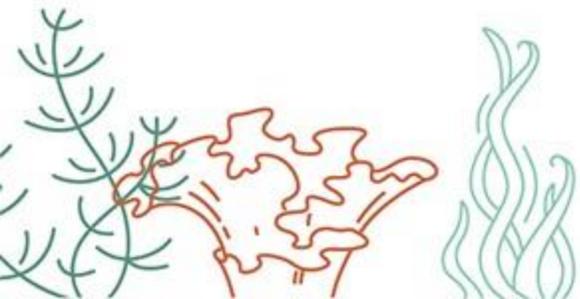
The case of Yslab was different; in this case, the impact of COVID-19 on the activity of the company, led to some difficulties and they decided that the bureaucratic requirements to participate as partners, were excessive, and decided to continue as associated partners, without financial claims.



Lessons learnt...

SMEs working on biotech/biomedical sector are more vulnerable to changes in the legislative framework and have more difficulties to afford the investment needed to put a new product in the market; it would be useful to reinforce the public support or introduce instruments to achieve a more levelled playing field.

Bureaucracy can still be a barrier for some companies to participate in public funded projects. Simplifying the procedures would probably encourage more



Thank you!

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