

EUROPEAN BLUE CHAMPIONS

CHARTING THE COURSE FOR INNOVATION FINANCE



European
Investment Bank

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Charting the course
for innovation finance



European
Investment Bank

European blue champions:

Charting the course for innovation finance

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ABSTRACT

This report provides an overview of the **funding landscape for investments in innovative applications of the Blue Economy**. It explores the **challenges faced by scale-ups** in this sector, including access to finance, regulatory hurdles and market barriers. The findings and recommendations presented in this report are based on extensive research, including ecosystem mapping, surveys and expert interviews.

It results in policy and financial recommendations that would help strengthen EU Blue Economy scale-ups, hence contributing to fostering EU growth, competitiveness and security.

In collaboration with the European Commission, and in support of the Mission “Restore our Ocean and Waters by 2030”, the European Investment Bank (EIB) launched the **“EU Blue Champions” pilot scheme which received more than 70 applications, representing financial needs of about €4 billion**, and offered the opportunity to explore the market and financial gaps faced by Blue Economy scale-ups.

This report summarises the market insight gathered throughout the programme.



Example of EIB-financed project: Port of Ystad Infrastructure, Sweden (©Ystad Hamn)

EXECUTIVE SUMMARY

Oceans play a crucial role in sustaining life on Earth and the global economy. The Blue Economy generates \$1.5 trillion annually, supporting nearly 3 billion people around the globe¹. The economy's dependence on maritime trade and a growing network of underwater communications make oceans of strategic importance in an increasingly geopolitically unstable world.

The Blue Economy can make a significant contribution to European ambitions for competitiveness and growth, due to the EU economy's extensive natural connections with oceans and seas. Its coastline spans over 68 000 km and the Exclusive Economic Zone of its Member States is four times the European Union's land surface. The European Union has thriving shipping, shipbuilding, ocean technologies, tourism and fisheries industries. It possesses one of the largest networks of Marine Protected Areas (MPAs) and has put in place measures and targets for decarbonising ports and shipping. The European Union leads the way in offshore wind energy, accounting for 75% of global offshore wind capacity.

Its Mission "Restore our Ocean and Waters by 2030" has measurable targets for protecting and restoring ecosystems and biodiversity, pollution and decarbonisation. The European Union is also aware that trade routes and underwater communications are essential for maintaining the economy and is investigating further measures needed for their protection. Achieving the development of a sustainable Blue Economy requires technology that is, partly, not yet on the market. Whilst the European Union's strong scientific base means that new ideas are emerging to tackle these challenges, transforming these ideas into operational European solutions and technologies that can compete in the global market has been slow in the past.

In this context, the EIB, in collaboration with the European Commission, and in support of the Mission "Restore our Ocean and Waters by 2030", launched the "EU Blue Champions" pilot scheme² to accelerate the development of innovative ocean-related technologies and support projects aimed at scaling from demonstration to operation. The call for applications received more than 70 applications, of which 20 projects³ (companies and public entities) were selected covering key Blue Economy sub-sectors such as renewable offshore energy, sustainable aquaculture, marine biotechnology, ocean observation, ocean technologies and eco-friendly shipping. These tackle a range of challenges – including clean energy, resource efficiency, waste reduction, and decarbonisation – with strong business cases set to drive growth beyond the Blue Economy.

Throughout this pilot scheme, an ecosystem mapping survey with 34 scale-ups, more than 40 interviews with experts, and five case studies with Blue Champions were performed. The results of the lessons learned through this market intelligence exercise are compiled in this report which aims to **analyse the current market gaps** and market failures for Blue Economy scale-ups in Europe. This report also intends to provide recommendations on how these could be addressed by the EIB and other EU institutions to boost the growth of Blue Economy scale-ups in Europe, hence contributing to the growth of clean tech and deep tech.

Key challenges

In terms of market gaps and failures, the report shows that most scale-up companies in the Blue Economy have high growth ambitions. However, they face hurdles such as high CAPEX requirements, limited access to financing, and uncertainty about market demand. These prevent them from overcoming the "valley of death", where innovation may stall or even fail despite promising early-stage results.

¹ OECD (2016): The Ocean Economy in 2013: <https://iwlearn.net/documents/2852>

² [Launch of 'EU Blue Champions' scheme to support innovative projects - European Commission](#)

³ [EU Blue Champions unveiled: 20 companies will receive advisory support to grow their business](#)

Additionally, EU policies that foster innovation-based growth towards a climate-neutral future, strong customer demand and successful partnerships with large corporates are all key drivers for growth. Nonetheless, companies also face barriers such as access to financing for larger investments, complex regulations and availability of skilled staff. It has been reported that due to the fragmented EU market, European scale-ups rely heavily on domestic markets and public funding, with nearly half of their turnover originating from domestic sources.

Lastly, regarding funding gaps, the sample of Blue Economy companies surveyed under this pilot anticipates substantial funding needs of €110 million on average per company over the next five years to achieve their strategic objectives. In particular, they expect to secure funding from equity injections, debt financing and grants. However, securing EU-based investment funds and EU programmes remains a challenge, prompting companies to seek non-EU investors. In addition, European venture capital funds are not willing to commit large amounts due to the technological risks associated with most of these types of projects, and private equity funds prefer to look for companies that already generate revenues, which is not always the case for these projects. This may create a situation where companies that have received venture capital (VC) are not attractive yet for private equity (PE).

Based on these findings and complemented by expert interviews, the report provides recommendations for boosting the growth of Blue Economy scale-ups in Europe, with nuances across different blue innovation ecosystems requiring tailored actions depending on their level of development and specific characteristics. On the policy side, five key recommendations have been formulated:

Key recommendations

1. Rebalance budget from early stage to scale-up stage.

Although grants remain key at an early stage, it is advised to rebalance some of the grants to scale-up stage, in combination with technical assistance. This approach offers multiple benefits, including a significant multiplier effect and the potential to foster a dedicated investment ecosystem for the Blue Economy.

Launched in 2019, the BlueInvest platform offers invaluable support to startups through technical assistance, matchmaking events, and more. This programme helps them secure private funding and has contributed to more than 65 success stories, with startups raising more than €300 million in total thanks to technical assistance. Therefore, continuing the provision of technical assistance through dedicated blue economy programmes such as BlueInvest is essential to continue nurturing the startup ecosystem.

However, new mechanisms should be in place to ensure that the companies ready to grow could receive support in their scale-up trajectory, as moving from the prototype phase to full commercialisation poses significant challenges to young companies.

2. Facilitate anchor contracts to help scale-ups secure revenues.

Anchor contracts from a public entity or from a large corporate were pointed out by companies as an effective way to ensure revenue and support the final stages of product development. For innovative/disruptive technologies, anchor contracts, where necessary and proportionate, could serve as a signal to the market with respect to the viability and relevance of the product offered and can foster further contracts.

This approach would mimic the successful US strategy where governments have played a crucial role in the success of various tech companies. Examples from the European space industry could also be followed.

3. Simplify procedures and provide regulatory sandboxes – ocean testing facilities.

Several companies pointed to regulatory barriers related to environmental standards, maritime law, or sector-specific compliance as a challenge to their expansion in EU markets. The simplification of procedures at European level for key technologies would, for instance, help reduce the risk attached to these projects but require concerted efforts at EU and Member States levels.

Simplifying compliance with regulation would also be accelerated by setting up testing facilities and alliances across countries. For new key technologies, regulatory sandboxes allow for testing on a pilot basis under simplified rules and under real-world conditions, speeding up the innovation process in sectors such as renewable energy, ocean testing or dual-use technologies in defined ocean testing zones.

Regulatory sandboxes are already promoted at EU and Member States level for other sectors (green transition, fintech, etc.). Additionally, sharing best practices among regulatory bodies could enable faster deployment of innovative solutions across the European Union.

4. Strengthen regional blue economy strategies.

Given the high level of fragmentation in the EU market and the varying strengths and capabilities of regional innovation ecosystems, a regional approach is recommended to complement the European dimension. This approach would enable the creation of regional clusters with higher impact, based on a smart specialisation strategy.

For instance, in 2024 a Blue Champions event in Athens, Greece, which brought together European and national institutions as well as entrepreneurs, highlighted the need to develop regional blue economy innovation roadmaps involving key stakeholders. The objective of the event was to analyse the conditions for building a dynamic innovation ecosystem linked to local industries, actors and regional strengths.

At the EU level, these innovation roadmaps should be aligned and grounded in existing local blue innovation ecosystems, building on the strengths of national initiatives and actors. Norway's ocean strategy, for example, can be seen as a good practice, as the country successfully integrates the ocean into its strategic, industrial, and environmental policies.

5. Produce a consolidated European ocean data infrastructure.

To access reliable and accurate data and information on oceans is vital for achieving both the transition to a sustainable blue economy and to harness business opportunities. Currently, initiatives such as the European Marine Observation and Data Network (EMODnet) and the EU Blue Economy Observatory exist.

However, companies as well as experts have expressed their difficulty in gathering market intelligence data on the Blue Economy. Such data are extremely important for companies when scaling up to estimate the market size of their products or services. For investors, it also helps in assessing the opportunities for each sector.

In this context, a one-stop shop for Blue Economy data would be extremely helpful to gather market data on the different sub-sectors (such as addressable market, growth trends), as well as investment amounts per stage of investments (pre-seed, seed, Series A, B, etc.). To do so, more structured cooperation between EU Member State authorities on data collection would be needed. Such consolidated European ocean data infrastructure would be suitable not only for researchers and public administrations but also for businesses to steer more private investments into the blue economy.

The report concludes with three main financial recommendations:

Financial recommendations

1. Continue and expand blended equity instruments.

The VC ecosystem is essential to provide risky capital to Blue Economy startups. However, it is still emerging and quite fragile and thus continues to require public support. Through the InvestEU Blue Economy instrument, the European Union is backing several Blue Economy funds. It aims to mobilise around €230 million of EU funds for financial intermediaries investing in this sector and to crowd in €660 million of private capital. Continuing and expanding the provision of thematic blending instruments with EU guarantees, with a partnership between the Commission and the European Investment Fund (EIF), would be instrumental in supporting the further growth of the Blue Economy venture capital ecosystem and the innovators it supports.

2. Strengthen venture debt instruments.

The venture debt product proposed by the EIB is a loan to late-stage companies, providing liquidity after Series A/B equity funding rounds. It offers patient capital, which is crucial for such startups, addressing the challenges of fast-growing SMEs with investment plans in the European Union. Based on the EIB's successful experience with this unique instrument (also referred to as quasi-equity), the European Union has a powerful tool in place that deserves to be expanded.

This means strengthening programmes like InvestEU Thematic Green Transition and InvestEU Thematic Innovation, which can provide the necessary guarantees to ensure the EIB can expand its venture debt portfolio without compromising on risk. Expanding the venture debt instrument is essential to support the growth of our next EU Champions. Covering different sectors under these thematic programmes would be an effective way to maximise impact and broaden flexibility.

3. Support targeted debt financing for post scale-up growth or large public projects.

Companies plan to rely mostly on debt after their scale-up phase. Given the successful experience of large European companies (Orsted, Mowi, La Saur) which have issued green and sustainability bonds, this instrument may be an innovative financial instrument that can finance further expansions of their Blue Economy projects.

Looking forward, green and sustainability bonds have the potential to provide a stable and predictable funding stream, attracting institutional investors, such as pension funds and impact investors who are interested in environmental, social and governance (ESG) investment opportunities.

On the other side, some local and regional authorities, as well as sovereign entities have specific Blue Economy-related projects, most likely to be financed through debt. In this context, the EIB could play a key role in providing technical assistance to municipalities, Member States and even large corporates to issue green and sustainability bonds for financing large blue infrastructure projects. The EIB could also act as a purchaser of such issuances, broadening the capital markets for the Blue Economy.

The infographic below summarises the key findings and recommendations of the report.

Figure 1: Key Findings and Key Recommendations of the Report

KEY FINDINGS



1. Capital-intensive and risky technologies: Blue Economy scale-ups require significant CAPEX at later stages of development and face challenges finding investors due to technological risks and complex testing phases.



2. Inadequate funding mechanisms: There is a scarcity of funding mechanisms for companies at later stages of development. This leads them to seek funding from non-EU investors, which can push them into foreign ownership or control.



3. Skill shortages: Innovative Blue Economy companies struggle to find and retain the right skills, especially at management level.



4. Regulatory barriers: Lengthy permitting procedures and a lack of commonly-recognised certifications across Member States hinder growth.



5. Fragmentation: Innovation ecosystems for Blue Economy companies are strong in some countries but weaker in others. Some national champions struggle to expand outside of their domestic market.

KEY RECOMMENDATIONS

POLICY RECOMMENDATIONS

1. Rebalancing budget from early stage to scale up stage:

Specialised support can help to address skill gaps and support the investment ecosystem.



2. Facilitate anchor contracts:

Anchor contracts from public entities or large corporates would ensure revenues and support product development.



3. Simplify regulations:

Simpler permitting procedures for key technologies and streamlined recognition of national certifications would reduce regulatory barriers.



4. Strengthen regional Blue Economy strategies:

Create regional clusters with higher impact based on a smart specialisation approach.



5. Create a consolidated European ocean data infrastructure:

A one-stop shop for researchers, public administrations and businesses would help to steer private investment in the Blue Economy.



FINANCIAL RECOMMENDATIONS

1. Blended equity:

Continue and expand blended equity instruments for Blue Economy companies to improve access to risk capital.



2. Venture debt:

Expand the use of venture debt instruments to support the growth of EU champions.



3. Green and sustainability bonds:

Support the issuance of green and sustainability bonds to finance large blue infrastructure projects.



1 CONTEXT: THE BLUE ECONOMY – A STRATEGIC EU SECTOR

Oceans are the basis of all life on Earth. Despite being overused or abused by human activity (overfishing, pollutions, dredging of ocean floors), their critical role in mitigating climate change has been increasingly recognised in both economic and scientific arenas:

1. **Oceans are a significant carbon sink**, absorbing about 30% of the carbon dioxide (CO₂) emitted by human activities. Marine ecosystems, particularly phytoplankton, seagrasses and mangroves, absorb CO₂ during photosynthesis and store carbon in their biomass and sediments⁴. Looking ahead, sustainable ocean management can enhance the ocean's potential to sequester carbon and mitigate climate change effectively.
 2. The oceans offer vast potential for **renewable energy sources**, including offshore wind, tidal and wave energy. Transitioning to these renewable sources can significantly reduce reliance on fossil fuels, thereby lowering greenhouse gas emissions⁵. By 2023, global offshore wind capacity exceeded 50 gigawatts (GW), with projections to surpass 200 GW by 2030⁶.
 3. Breakthroughs in ocean-related technologies are starting to provide a deeper understanding of marine environments – a realm often considered less explored than space – which will enhance environmental preservation. Monitoring ocean temperatures, currents and ecosystems will therefore improve climate models and predictions, informing policy decisions and adaptation strategies.
 4. Moreover, **ocean-related activities are strategic and multifaceted**, encompassing economic, but also geopolitical, security and technological aspects. Marine security being central to EU security and defence policies, the European Union revised its Marine Security Strategy in 2023, increased investment in defence R&D, and equipment, and reinforced its bilateral partnerships⁷. Understanding these dimensions is crucial for companies, investors and policymakers because they highlight the pivotal role that oceans will continue to play in the coming years in the global economic and geopolitical dynamics.
 5. Globally, the ocean economy is valued at approximately \$1.5 trillion annually, according to the OECD, and expected to double by 2030⁸. If this were a country, it would be ranked among the top ten economies of the world. In terms of employment, ocean-related activities are also pivotal, with an estimated 3 billion people relying on the ocean for their livelihoods, including sectors such as fisheries, tourism and shipping⁹.
 6. Oceans are not only enablers of traditional sectors such as tourism, fisheries, shipping and ports (see below the economic contribution of the Blue Economy in Europe) but are increasingly supporting emerging sectors such as blue biotechnologies, blue renewable energy, and more.
- Safe oceans make a significant contribution to economic prosperity by enabling trade. Global maritime trade accounts for 20% of global trade value, and 90% of global trade volume is transported by sea.

⁴ National Oceanic and Atmospheric Administration (NOAA). (2021). *Ocean Carbon Sequestration*.

⁵ International Renewable Energy Agency (IRENA). (2020). *Offshore Renewable Energy: A Global Perspective*.

⁶ Global Wind Energy Council (GWEC). (2023). *Global Offshore Wind Report*.

⁷ The four pillars of the EU Strategic Compass on Marine Security, Council of the European Union

⁸ Organisation for Economic Cooperation and Development (OECD). (2016) *The Blue Economy in 2030*.

⁹ International Labour Organization (ILO). (2018). *World Employment Social Outlook 2018: Greening with Jobs*.

Therefore, control and security over key shipping routes can determine economic stability and influence global markets. Nations have invested in strategic partnerships to safeguard these vital channels against threats, utilising both traditional naval forces and emerging technologies like unmanned systems¹⁰.

- **Oceans also host more than a million kilometres of submarine fibre-optic cables¹¹**, connecting continents, islands and countries around the world. Protecting this infrastructure is vital for global internet communications across continents. This also applies to submarine pipelines – critical infrastructure for transporting crude oil and natural gas.
- The growing reliance on technology in maritime operations creates vulnerabilities. Cybersecurity in shipping and port operations is increasingly vital to national security. Ensuring the integrity of these systems is essential for maintaining economic and strategic stability¹².
- Furthermore, the competitiveness of all sectors of the EU economy relies on this infrastructure and will require further financing to develop new strategic submarine infrastructure and enhance the security of existing infrastructure¹³.

¹⁰ International Institute for Strategic Studies (IISS). (2022). The Military Balance 2022.

¹¹ Institute of Marine Engineering, Science and Technology (ImarEST) (2024).

¹² European Union Agency for Cybersecurity (ENISA). (2021). Cybersecurity in Maritime Transport.

¹³ White Paper: How to master Europe's digital infrastructure needs, European Commission, February 2024: <https://digital-strategy.ec.europa.eu/en/library/white-paper-how-master-europes-digital-infrastructure-needs>

2 THE ECONOMIC CONTRIBUTION OF THE EU BLUE ECONOMY

In the European Union, the Blue Economy holds immense potential compared to other regions due to its natural ties with oceans and seas:

- The European Union's coastline spans over 68 000 km, making it one of the longest in the world. The European Union also benefits from the largest Exclusive Economic Zone in the world, covering 17 million square kilometres, which is four times the European Union's land surface¹⁴.
- The extensive coastline supports a diverse range of maritime activities, including shipping, tourism and fisheries. To protect the marine environment, the European Union has established one of the largest networks of Marine Protected Areas (MPAs) in the world, covering 12.1% of its marine waters in 2021¹⁵.
- With some of the busiest ports globally, such as Rotterdam, Antwerp and Hamburg, through which 20% of all imported goods in Europe pass¹⁶, the European Union's role in decarbonising ports and shipping will be key to achieving global environmental targets.
- The European Union has positioned itself at the forefront of the transition to sustainable marine energy sources, with offshore wind energy accounting for nearly 75% of global offshore wind capacity¹⁷.
- Ocean-sustainable technologies development is one area in which Europe currently leads. According to the MIT Technology Review, seven out of the top ten countries in the Blue Technology Barometer are based in Europe: the United Kingdom (1st), Germany (2nd), Denmark (3rd), Finland (5th), Norway (6th), France (7th), and Sweden (8th)¹⁸.

Accurately gauging the economic impact of technologies within the Blue Economy, particularly those that are innovative and sustainable, remains challenging.

The EU Blue Economy Observatory plays a pivotal role in bridging this gap by monitoring and analysing economic activities related to oceans, seas and coasts. With an emphasis on traditional ocean-related sectors, in 2021 the EU Blue Economy continued to evolve by:

- employing **3.6 million people** (+17% compared to 2020)
- having a turnover of nearly **€624 billion** (+ 21% compared to 2020)
- accounting for **€171 billion** in gross value added (+35% compared to 2020)

This estimation not only includes related ocean technologies, but also innovations that have high growth potential and cover transversal markets. To provide an indication of the economic potential of these sustainable ocean-related technologies, the table below presents key facts around five major Blue Economy sectors covered by the Blue Champions Pilot Scheme.

¹⁴ The future of European competitiveness, European Commission, September 2024.

¹⁵ MPAs in Europe's seas, European Environment Agency, 2023: <https://www.eea.europa.eu/en/analysis/indicators/marine-protected-areas-in-europes-seas>

¹⁶ Ports 2030. European Commission – Directorate-General for Mobility and Transport. 2013. https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/brochures_images/ports2013_brochure_lowres.pdf

¹⁷ European Environmental Agency. <https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/europes-seas-and-coasts/#interesting-facts>

¹⁸ MIT Technology Review, Blue Technology Review: <https://www.technologyreview.com/2022/01/05/1040367/the-blue-technology-barometer/>

Table 1: EU Blue Economy trends by sector

Key Facts	Key Trends
Aquaculture and blue biotechnologies	
<ul style="list-style-type: none"> • Aquaculture farming in the European Union yielded almost 1.1 million tonnes of aquatic organisms in 2022, worth €4.8 billion¹⁹. • The total EU market for blue biotechnologies is valued at €868 million in 2021 and is projected to grow to €1 786 million in 2032 at a compound annual growth rate (CAGR) of 6.8%²⁰. 	<ul style="list-style-type: none"> • Aquaculture is the fastest-growing food production sector globally, although not all of it is sustainable. • Sustainable aquaculture practices and demand for protein sources are rising. • Innovations in blue biotechnology are driving development in healthcare, energy and agriculture, but also in biofuels through seaweed harvesting and transformation.
Blue renewable energy	
<ul style="list-style-type: none"> • The marine renewable energy sector experiences growing trends, with gross profits estimated at €2.4 billion and gross value added of €3.3 billion in 2021, marking a 45% increase compared to 2020²¹. 	<ul style="list-style-type: none"> • EU targets to reach net-zero emissions by 2050 rely heavily on expanding marine renewable energy. • The potential for all ocean energy technologies combined ranges from 45 000 terawatt-hours (TWh) to above 130 000 TWh per year. This means that ocean energy could cover more than twice the current global demand for electricity²².
Ocean technologies	
<ul style="list-style-type: none"> • Underwater robotics' market size is expected to reach nearly \$8.47 billion by 2030 with a CAGR of 8.15% during the forecast period²³. 	<ul style="list-style-type: none"> • Ocean technologies like remote sensing, autonomous vehicles and AI are revolutionising ocean exploration but also offer many defence-related applications. • Ocean Tech also has an indirect positive impact on the digitalisation of ocean industries (smart shipping, data-driven fisheries, monitoring of infrastructure, etc.).
Environmental protection and regeneration	
<ul style="list-style-type: none"> • The EU Coastal Tourism sector's turnover amounted to €140 billion in 2021²⁴. • According to the European Environmental Agency, "economic damages related to coastal 	<ul style="list-style-type: none"> • Restoration of coastal ecosystems and modernisation of coastal cities for sustainability purposes are crucial but often lack a strong business case²⁶.

¹⁹ Aquaculture statistics, European Commission: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Aquaculture_statistics#:~:text=Aquaculture%20farming%20in%20the%20EU,2022%2C%20worth%20%E2%82%AC4.8%20billion.&text=Spain%2C%20France%2C%20Greece%20and%20Italy,aquaculture%20output%20volume%20in%2000-2022.

²⁰ Blue Economy Observatory, European Commission: https://blue-economy-observatory.ec.europa.eu/eu-blue-economy-sectors/blue-biotechnology_en

²¹ Blue Economy Report, European Commission, 2024: https://oceans-and-fisheries.ec.europa.eu/news/eu-blue-economy-report-2024-innovation-and-sustainability-drive-growth-2024-05-30_en

²² Infographics Ocean Energy Europe: <https://www.oceanenergy-europe.eu/ocean-energy/>

²³ <https://www.maximizemarketresearch.com/market-report/global-underwater-robotics-market/20175/>

²⁴ Blue Economy Observatory: https://blue-economy-observatory.ec.europa.eu/eu-blue-economy-sectors/coastal-tourism_en

²⁶ Investor Report, DG MARE, 2024: https://blueinvest-community.converve.io/upload/fck/file/Report_Blue_Invest_FINAL_7march-compressed.pdf

<p>floods alone might exceed €1 trillion per year by the end of the century in the European Union²⁵”.</p>	<ul style="list-style-type: none"> • Mitigating climate change impacts such as sea-level rise and biodiversity loss is of paramount importance to reduce EU economic and biodiversity losses.
<p>Shipping and Ports</p>	
<ul style="list-style-type: none"> • The EU ports sectors reported €76.0 billion in turnover in 2021, and a considerable increase in gross profits, which reached €12.1 billion. • In maritime transport (persons, freight, service), the European Union’s reported turnover of €176.7 billion for 2021, was a 16% increase on the previous year. <p>The EU shipbuilding and repair sector generated a turnover of €55.7 billion in 2020.</p>	<ul style="list-style-type: none"> • Ports and ships are vital nodes in our supply chains and are accelerating the pace of innovations to decarbonise and modernise. • The surge of alternative fuels (hydrogen, ammonia, ethanol, etc.) will transform the shipping industry, and companies are likely to compete for alternative fuels. <p>AI and data analytics will also enable ports and ships to optimise their operations and decrease carbon emissions.</p>

These numbers speak for themselves and show how the Blue Economy is a crucial component of the European technological leadership potential, but also a key sector that can have positive ripple effects on the European Union’s sustainable growth and strategic challenges.

²⁵ European Climate Risk Assessment, EEA, 2024: <https://www.eea.europa.eu/publications/european-climate-risk-assessment>

3 EUROPEAN POLICY ON THE BLUE ECONOMY

In 2019, the European Commission paved the way for boosting the EU economy's green and digital transition with the European Green Deal²⁷. It aims to transform the European Union into a modern, resource-efficient and competitive economy, and seeks to reach climate neutrality by 2050, effectively reducing greenhouse gas emissions by 55% by 2030 and decoupling economic growth from resource use.

In May 2021, in its Communication on a New Approach for a Sustainable Blue Economy, the European Union recognised the **Blue Economy as fundamental to delivering on the European Green Deal. Furthermore, the European Commission launched the five EU Missions as a way of bringing concrete solutions to some of society's greatest challenges and in support of key EU-led initiatives such as the European Green Deal. One of the missions is "Restore our Ocean and Waters by 2030" which is designed to deliver on the European Union's 2030 targets for protecting and restoring ecosystems and biodiversity, zero pollution, decarbonisation and reduction of net GHG emissions.**

The future of European competitiveness
<ul style="list-style-type: none">• Mario Draghi's report, "The future of European competitiveness", highlights the need for deep reforms in the EU market and priorities. Although the report does not directly mention the Blue Economy, these insights provide a foundation for fostering a more robust and innovative Blue Economy ecosystem as many of the strategic sectors mentioned in the report (clean tech, defence, AI, digitalisation and advanced technologies, and energy-intensive industries) are embedded into the Blue Economy. Below are some potential effects of the recommendations on the Blue Economy:• Draghi's recommendations emphasise strengthening the venture capital ecosystem, encouraging blended financing approaches, and increasing investment from institutional investors like pension funds. These measures could also help increase the amount of private investment within the Blue Economy, which is one of the current challenges faced by the sector (see the section "Key Findings").• The Draghi report also proposes significant investment in research and development of advanced tech industries, which includes marine and ocean tech innovations, and renewable energy generation. Furthermore, it recommends strengthening supply chains to reduce external dependencies, ensuring efficient logistics and distribution networks for seafood, maritime goods, and services, thereby stabilising markets and reducing costs. The report also emphasises boosting decarbonisation through stricter regulations which may increase demand for cleaner Blue Economy solutions.• Additionally, the report suggests fostering an innovation-friendly regulatory framework to make the European Union more attractive for corporate "unicorns", thus potentially boosting the growth of blue startups. It underscores the importance of education and training to equip the workforce with the necessary skills for emerging technologies and sustainable practices.• Promoting European leadership through competitiveness efforts in energy, clean technologies and high-tech sectors is also highlighted, benefiting ocean-related technologies which are predominantly deep and clean technologies. Lastly, the report places interdisciplinary collaboration at the centre of EU policies to foster competitiveness, noting that ocean-related technologies are well-suited for such cross-sectoral initiatives.

²⁷ https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

In terms of concrete support for the Blue Economy, the European Union has been providing various types of support mechanisms for boosting technological innovations, such as:

1. **Financial support:** Many EU programmes offer funding to the Blue Economy sector, although most of the programmes available at EU level do not target only Blue Economy sectors (see table below). These funds can help cover initial feasibility studies, R&D costs, prototype development, market research and early commercialisation efforts. Funding opportunities can take the form of grants, debt or equity.
2. **Incubator and Accelerator Programmes:** The European Union supports incubator and accelerator programmes designed to nurture and mentor early-stage SMEs. These programmes provide access to business development resources, mentorship, networking opportunities, and sometimes even seed funding to help startups grow and scale their operations.
3. **Technology Transfer and Commercialisation Support:** EU initiatives often facilitate technology transfer and commercialisation activities for SMEs. These include support for licensing agreements, intellectual property protection, and partnerships with research institutions and industry stakeholders to bring innovative products and services to market.
4. **Capacity Building and Training:** The European Union invests in capacity-building and training programmes for SMEs, helping entrepreneurs and small businesses acquire the skills, knowledge and expertise needed to navigate regulatory frameworks, access funding opportunities and compete in the global marketplace.

Regarding specific funding opportunities, Blue Economy projects can apply to a diversity of programmes. These programmes have different yet complementary objectives, and target different types of beneficiaries (public entities, private companies, research consortia, etc.), different project forms (single beneficiaries, project consortia), different project types and technology readiness levels (TRL) (research, innovation), different types of support (grants, equity, loans), different ticket sizes, etc. In total, these programmes and funds aim to support the entire Blue Economy ecosystem in Europe.

The table below lists some examples of support programmes currently available at EU level for the Blue Economy. To be noted, these funds are not directly comparable: some of them can be directly accessed by beneficiaries while others are operated by EU Member States. While some of them may have a wider green and digital transition focus, they do not exclusively apply to the Blue Economy, and they are not integrated. The table intends to classify the different supports according to the projects' TRL. Some funds may be available at different levels of maturity, and in that case, they may be mentioned several times. Links to the programmes are available to enable the reader to access further information on the scope and available budget.

Table 2: Non-exhaustive list of Blue Economy EU public support programmes

Funding	Ticket size	Network development	Scope
TRL 4-6			
<ul style="list-style-type: none"> • Horizon Europe Programme • European Innovation Council (EIC) grants • European Structural and Investment Funds • LIFE Programme • Recovery and Resilience Facility (RRF) • Just Transition Fund 	< €2 million	<ul style="list-style-type: none"> • Peers • Angel investors • Incubators • EIT knowledge and innovation communities (KICs) – such as climate, raw materials, food 	These programmes support early-stage R&D, feasibility studies, and proof of concept as well as providing other types of business support.
TRL 6-7			
<ul style="list-style-type: none"> • InvestEU Fund • Innovation Fund • Connecting Europe Facility (CEF) • Recovery and Resilience Facility (RRF) • European Structural and Investment Funds • Modernisation Fund 	<ul style="list-style-type: none"> • <€3-15 million 	<ul style="list-style-type: none"> • VC and PE networks • European Industry Partnerships (Horizon Europe) • Large corporations 	<ul style="list-style-type: none"> • These funding mechanisms focus on scaling prototypes, market validation, achieving full technological and operational maturity, as well as providing other types of business support.
Commercialisation and growth			
<ul style="list-style-type: none"> • EIB Venture Debt • Connecting Europe Facility (CEF) • European Tech Champions Initiative (ETCI) • European Circular Bioeconomy Fund • Innovation Fund 	> €15 million	<ul style="list-style-type: none"> • Large PE funds • Large corporations • Growth-stage investors 	These financial tools support commercialisation, industrial deployment, and market expansion for proven innovations with a potential stream of future revenues.
Further investment development			
<ul style="list-style-type: none"> • EIB corporate loans • InvestEU Fund • Recovery and Resilience Facility (RRF) 	> €15 million	<ul style="list-style-type: none"> • Large PE networks • Pension funds • Long-term infrastructure investors 	<ul style="list-style-type: none"> • These programmes enable mature companies to scale globally, facilitate mergers/acquisitions, or prepare for public offerings.

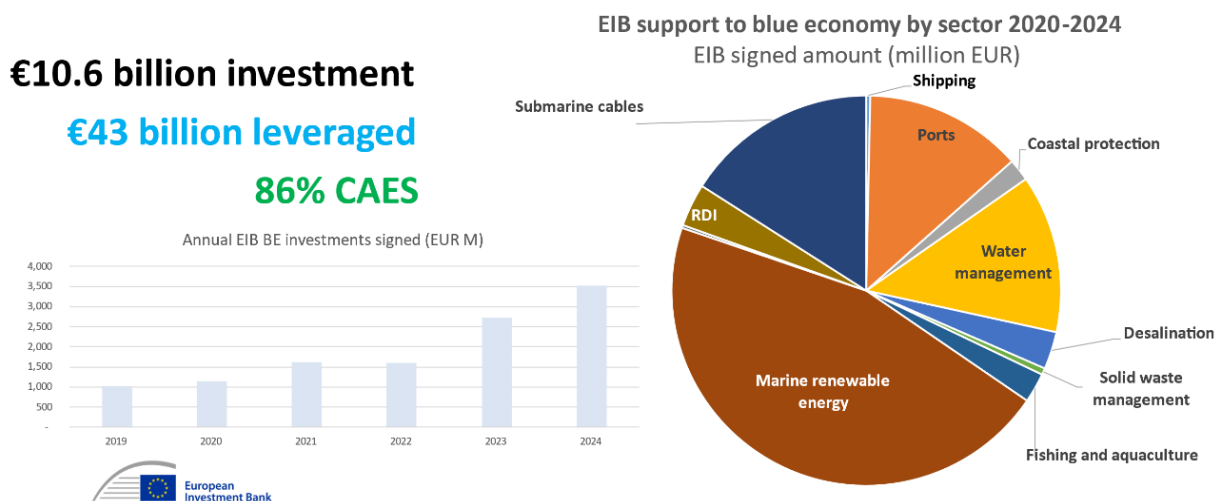
4 THE ROLE OF THE EIB

As the lending arm of the European Union, the European Investment Bank is key to contributing to the European Union’s policy objectives, which explains its increasing role in the Blue Economy. As a matter of fact, the EIB has been focusing on supporting a sustainable Blue Economy, as highlighted in its co-founding of the sustainable Blue Economy financing principles in 2017²⁸.

This has translated into considerable investments: during the period 2019-2024, the EIB had already channelled €10.6 billion of funds into the Blue Economy, leveraging investments of €43 billion²⁹.

The largest beneficiary sectors have been marine renewable energy, followed by ports, and the reduction of water-related pollution to seas³⁰.

Figure 2: EIB support for the Blue Economy by sector during the period 2020-2024



In addition to the EIB’s lending operations, the EIB Advisory Hub serves public and private clients, providing financial and technical advice, as well as capacity building across all phases of a project. EIB Advisory particularly supports projects with a strong focus on environmental sustainability, innovation and digitalisation.

Together, in the realm of the Sustainable Blue Economy, the EIB advisory and lending teams contribute to:

- the **green transition** (including renewable energy, climate adaptation and mitigation, biodiversity and the water programme);
- **R&D, education, digitalisation and technological innovation** (underwater robotics, sensors/cameras, autonomous vessels, and data analytics including underwater IoT and AI);
- **Security and defence** (some monitoring technologies serve security purposes);
- **Agriculture and biotechnology** (as a source of food and active ingredients);
- **Transport and infrastructure** (ports and shipping).

²⁸ Blue Finance Principles Unveiled to Support Ocean Health and Investment: [https://www.eib.org/en/press/all/2018-060-blue-finance-principles-unveiled-to-support-ocean-health-and-investment#:~:text=Today%20at%20The%20Economist%20World,European%20Investment%20Bank%20\(EIB\).](https://www.eib.org/en/press/all/2018-060-blue-finance-principles-unveiled-to-support-ocean-health-and-investment#:~:text=Today%20at%20The%20Economist%20World,European%20Investment%20Bank%20(EIB).)

²⁹ Clean oceans and the Blue Economy – Overview 2024, European Investment Bank: https://www.eib.org/attachments/lucalli/20240073_clean_oceans_and_the_blue_economy_overview_2024_en.pdf

³⁰ The set of actions and projects supported by the Bank, including funding and advisory services, is summarised in the EIB general briefing on the Blue Economy.

More on the EIB's activities

For additional and detailed information on the role of the EIB in clean oceans and the blue economy, please visit www.eib.org and refer to the “2024 Clean Oceans and Blue Economy Overview” [Clean oceans and the blue economy - Overview 2024](#)

5 THE BLUE CHAMPIONS PILOT SCHEME

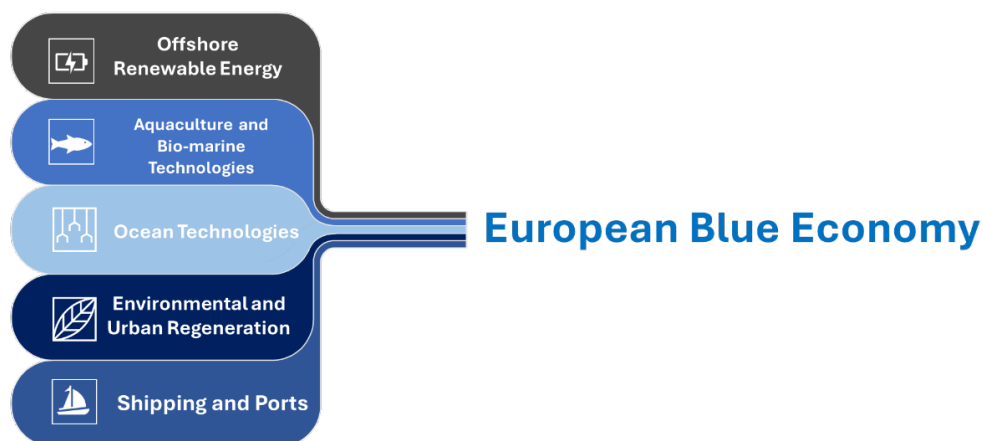
To support the EU Mission “Restore our Ocean and Waters by 2030”, the EIB in collaboration with the European Commission has launched the new pilot scheme ‘EU Blue Champions’, supported by the BlueInvest platform. This pilot aims to accelerate the technological development of innovative ocean-related technologies from demonstration to operation and scale-up.

EIB financial and sectoral experts identified 20 innovative projects, with high potential for scale-ups, based on strict due diligence criteria. To be eligible, projects need to be aligned with at least one of the Mission’s objectives (restoring marine and freshwater ecosystems and biodiversity, preventing or diminishing water/ocean pollution, decarbonising the blue economy). Other selection criteria depended on the lending product (such as venture debt, corporate loan, project finance) that the project might be considered for. These included:

- Minimum investment size, depending on the type of lending product considered. In any case, each project should have a budget of over €15 million total eligible project cost, of which the EIB could finance up to 50%.
- Having a sustainable business model and a clearly defined business plan.
- Having already raised finance from investors and currently needing a larger investment to scale up the business.

The EIB also provided financial advisory support to selected projects to help them strengthen their business case. The applications³¹ received under this pilot were grouped according to five sub-sectors:

Figure 3: Key Blue Economy sub-sectors



³¹ 73 eligible applications were reviewed.

The applications received for each sub-sector showcase substantial efforts aimed at sustainable development and environmental regeneration in marine settings. From renewable offshore energy to aquaculture, ocean technologies and eco-friendly shipping, these projects represent innovative solutions addressing challenges such as clean energy generation, efficient resource use and waste reduction.

In renewable energy, most solutions relate to offshore wind, wave and tidal power in a wide range of EU countries. These renewable energy sources are not only reshaping Europe’s energy grid but also playing a pivotal role in reducing the carbon footprint of coastal and maritime industries. In parallel, **in aquaculture and marine biotechnology, very promising solutions are related to more sustainable seafood production practices** while securing the provision of sea-related food and feed globally.

In ocean observation, robust projects propose unique data collection solutions adapted to the ocean, and sensing technologies to monitor marine ecosystems more effectively, with the dual use of these technologies being a strategic driver of business growth in the coming years. Another major trend shaping the sector is the **decarbonisation of the shipping and ports industry.**

New fuel alternatives, autonomous shipping technologies and smart port innovations are paving the way for more energy-efficient maritime logistics, reducing greenhouse gas emissions and optimising operations. Furthermore, **cutting-edge developments are emerging in areas like environmental and urban regeneration.** Blue technologies are contributing to the creation of resilient coastal cities, protecting shorelines and even restoring damaged marine environments.

Many of these innovations, particularly when scaled up, have the potential to go beyond their specific applications in the Blue Economy. The table below presents some of the technologies and/or projects presented by the Blue Champions’ selected applicants to better understand the variety of technologies embedded into the Blue Economy.

Table 3: Technical applications per sector with specific examples

Sectors	Technical application(s)	Company and project examples
Offshore blue renewable energy	Offshore wind	EnerOcean 's W2Power platform: A floating wind power system using two turbines to harness offshore wind energy more efficiently.
	Wave eEnergy	Technologies’ anchoring solution: Advanced anchoring technology that stabilises floating marine energy platforms in harsh offshore conditions.
	Tidal energy	Flowatt 's tidal farm: A renewable energy farm utilising underwater tidal flows to generate electricity sustainably.
Aquaculture and Bio-marine technologies	Sustainable aquaculture	Oceano Fresco ’s bio-marine centre: An innovative facility dedicated to breeding resilient shellfish species that support sustainable aquaculture. Inalve ’s microalgae production: Produces high-quality microalgae for use in sustainable animal feed, with applications in terms of reducing reliance on traditional fish-based sources.
	Bio-marine technologies	Alginor ’s commercial harvesting and biorefining without the use of toxic chemicals to produce

		high-quality ingredients for pharmaceutical and nutraceutical applications.
Ocean technologies	Remote sensing technologies	Smart Ocean 's X-Buoy: An intelligent buoy that monitors ocean conditions, collecting data for environmental and marine research. Wsense 's underwater wireless technology: Enables real-time wireless communication underwater for remote monitoring and data collection.
	Underwater and surface drones and robots	Blueye Robotics : An underwater drone that captures high-quality footage for research, inspection and environmental monitoring. SciDrones ' monitoring drones: Drones designed for marine and environmental data collection, providing insights into ocean health and wildlife.
	Satellites	Prométhée Earth Intelligence 's constellation of satellites aims to support the preservation of the oceans by providing advanced tools for monitoring and managing marine ecosystems and providing dual-use surveillance services to combat illegal fishing, indirectly contributing to biodiversity preservation. Unseenlabs ' satellites: Satellites that track maritime activity globally, assisting in environmental monitoring and illegal fishing prevention.
	Research vessels and centres	Mission SeaOrbiter 's research vessel: A futuristic research vessel that offers continuous, 360-degree observation of marine life and ecosystems. Digital Innovation Hub (DIH) Innovamare envisions a sustainable hub for the development, testing and validation of innovative marine technologies aimed at the digital and green transformation of the blue economy in Croatia.
Shipping and ports	Clean and smart ports	EcoSubSea 's hull cleaning device: An automated device that cleans ship hulls to reduce drag, fuel consumption, and the spread of invasive species.
	Sustainable tourism management	Compagnie du Ponant 's wind-propulsion ships: Cruise ships equipped with wind propulsion to reduce emissions and fuel consumption.
	Eco-ships/alternative fuels	DFDS ' sustainable ferries and ships: Eco-conscious vessels incorporating green technologies for reduced emissions and improved efficiency. Bound4Blue 's eSail: A wind-powered propulsion system that reduces fuel usage by harnessing natural wind on commercial ships. XShore 's 100% electric boat: An all-electric boat providing an eco-friendly alternative for short-distance marine transport.

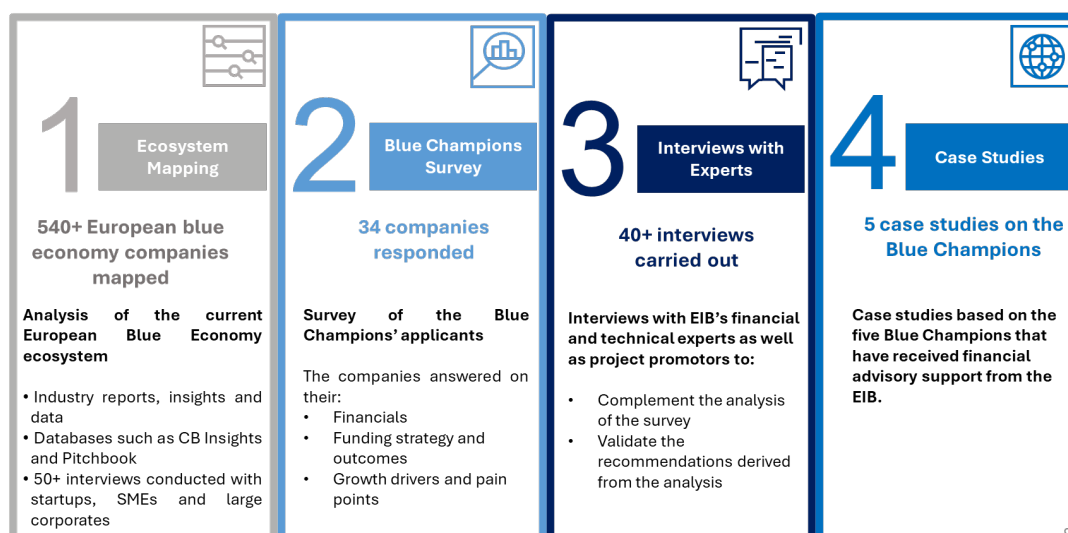
<p>Urban regeneration</p>	<p>Municipal sustainable urban regeneration</p>	<p>The Genova 2050 Action Plan for a Lighthouse City and Genova Preview initiative is part of the broader vision of the Italian Municipality of Genoa to foster sustainable and resilient urban development. This vision aims to create a deeply regenerated and interconnected city that is robust in solutions targeting blue sustainability as a cultural, infrastructural and economic paradigm.</p>
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6 METHODOLOGY

The purpose of this report is to **analyse the current market gaps** and market failures of Blue Economy scale-ups in Europe and **provide recommendations** on how these could be addressed by the EIB and other EU institutions to boost the growth of Blue Economy scale-ups in Europe, hence contributing to the growth of clean tech and deep tech in the European Union.

This study leverages the lessons learned in the **“Blue Champions” pilot scheme** that was launched in November 2023. Our methodology consisted of (i) mapping of the ecosystem of Blue Economy actors, including large corporates, SMEs, startups, Blue Economy accelerators and research centres, (ii) a survey of the applicants to the Blue Champions Pilot Programme on their company trajectory, market perspectives and funding challenges, (iii) interviews with experts and stakeholders to complement the analysis of the survey, and (iv) case studies with the five Blue Champions who received financial advisory support. Key findings and recommendations are put forth in the next two chapters.

Our Methodology



Ecosystem mapping

The initial phase of the project involved comprehensive mapping of potential companies that could participate in the Blue Champions Pilot Scheme. Leveraging platforms such as Pitchbook, CB Insights and the BlueInvest platform, along with extensive desktop research, we successfully identified and mapped over 540 companies and relevant stakeholders within the Blue Economy sector. This mapping exercise allowed us to gain a deeper understanding of the ecosystem's current state of maturity, helping to identify key players, innovations and gaps in the market.

Survey of scale-ups

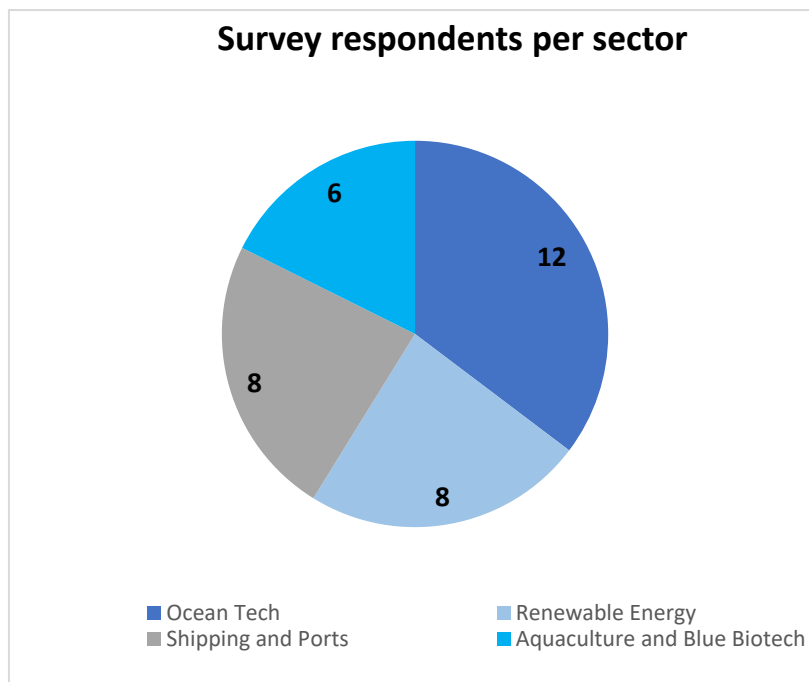
The analysis incorporates a survey distributed to the applicants of the Blue Champions Pilot Scheme. A total of 34 companies responded, all of which can be classified as self-declared scale-ups based on their participation in the programme. The respondents represent a well-balanced cross-section of sectors, with a slight

overrepresentation of ocean technologies³²-related companies, which may reflect a strong growth trajectory for these businesses, especially in the context of the EU strategic autonomy.

Respondents showed an average of 28 employees, with the vast majority residing in Europe, and with nearly half (49.5%) of their workforce dedicated to research and development (R&D). This high percentage highlights the **strong focus on innovation** within the Blue Economy sectors, emphasising their critical role in driving the "deep tech" ecosystem.

The significant R&D presence not only further proves these companies' commitment to cutting-edge technologies but also reflects **the European Union's capability to foster a thriving ecosystem of research-driven enterprises**, positioning Europe as a hub for innovation and technological advancement, especially in the Blue Economy.

Figure 4: Share of companies per sector – Blue Champions Survey



The objective of this survey was to gain a clearer understanding of each company's trajectory and ambition, as well as their primary sources of funding, challenges in securing financing, and overall market perspectives. Additionally, through the survey, companies shared their views on their main challenges and provided recommendations on reforms that could enhance their growth trajectory.

³² This corresponds to technologies spanning from remote sensing technologies to underwater drones and research vessels. More information can also be found in the BlueInvest Investor Report 2023, available here: https://oceans-and-fisheries.ec.europa.eu/system/files/2023-03/Blueinvest-Investor-report-An-ocean-of-opportunities_0.pdf

Expert and stakeholder interviews

The results of the desktop research and survey analyses have been complemented by 47 interviews, including 17 financial actors (mostly loan officers), ten technical experts related to the five Blue Economy sectors, and 20 individual project promoters. These interviews helped to nuance the survey findings, but also contributed to shaping the policy and financial recommendations.

Case studies

Finally, additional insights were gained through the financial advisory support provided to five Blue Champions. Through multiple exchanges on their strategy, main challenges and growth drivers, additional market failures were identified which helped refine some recommendations.

7 MARKET AND FINANCIAL CHALLENGES

Most scale-ups still face the “valley of death”

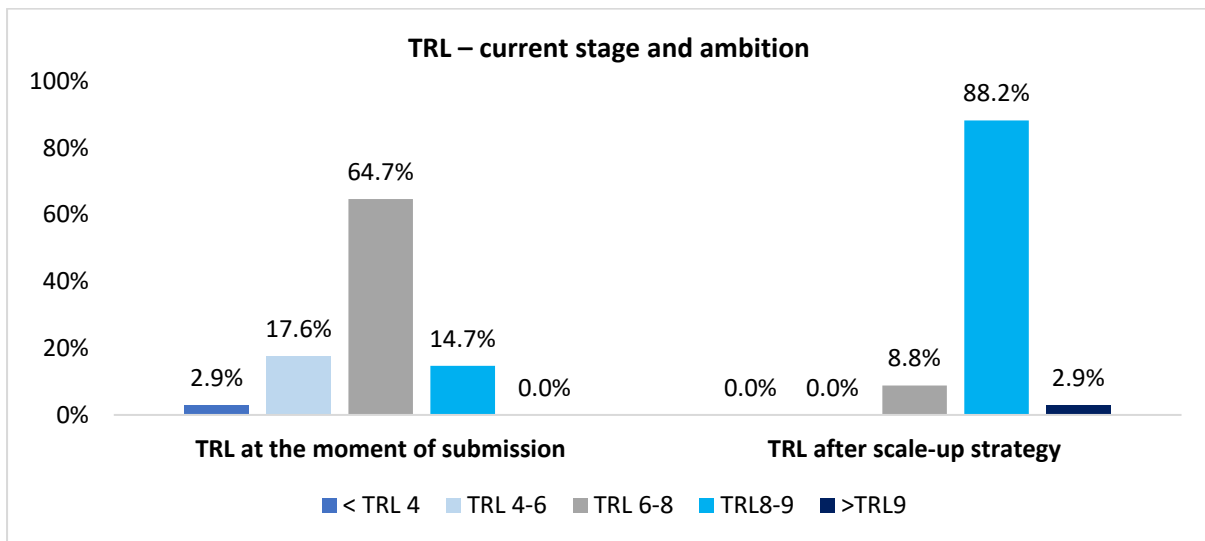
Most companies in the Blue Champions sample (64.7%) have been working on new technologies that are currently at **Technology Readiness Levels (TRL) 6-8**, and for which they need scale-up funding. Although these companies are already on the market, they still face financial challenges to introduce their newest technologies to the market. This stage (TRL 6-8) is notoriously challenging for companies as it marks **the transition from prototype operational testing to the initial commercialisation of products**.

In this stage, companies face significant hurdles such as high development costs, limited access to financing, and uncertainty about market demand, all of which can hinder their ability to bring innovative solutions to the market. This difficulty arises because **companies typically require substantial capital to advance their technology from a prototype (TRL 6) to a fully marketable product (TRL 9)**, but investors are often hesitant to commit at this stage due to the perceived risk. Many technologies never make it past this point, leading to the term "valley of death," where **innovation may stall** or even fail despite promising early-stage results.

For 88.2% of these companies, the ambition is to move to TRL 8-9 in the near future, where their innovations can be fully commercialised and can generate revenue. This requires additional funding that may come from grants, risk capital and partnerships to ease the final testing of their technologies.

Currently, some of the respondents clearly indicate their ambition to develop their technology up to scale but this requires significant capital, and the process is risky. The "valley of death" remains a risk, and the market will ultimately help move these companies up or out. Nonetheless, there is a risk that funding restrictions might prevent promising companies from truly scaling up, realising their potential, and expanding their operations. The current state of their technology, and the level of risk it entails, also indicates a lower level of financial maturity of these companies, which explains their difficulty in getting the necessary funding, especially for venture debt instruments.

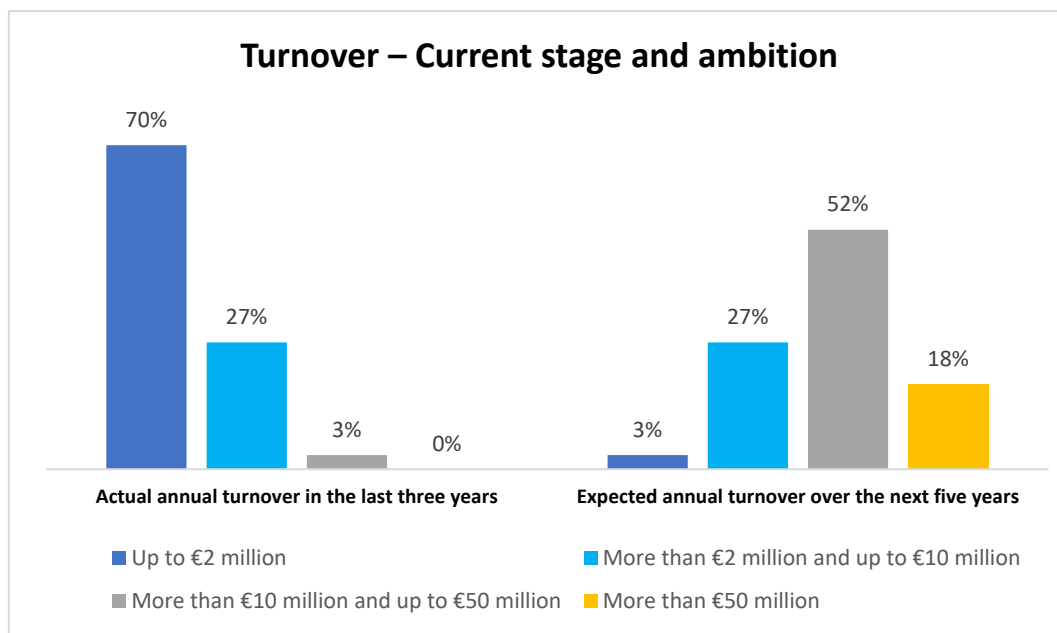
Figure 5: TRL status – Blue Champions Survey



On the other hand, survey respondents show that market growth ambitions are aligned with their technological status and objectives: most companies have an annual turnover of up to €2 million (in line with their current TRL that limits their client base). Their commercialisation goals are clear: 97% plan to have an annual turnover over €2 million, 70% expect to reach an annual turnover over €10 million, and 18% plan to generate more than €50 million in revenue.

Even though there is no indication that these forecasts have been sustained by thorough market analysis, it illustrates the typical trajectory of EU scale-ups, with a majority of them planning sustained but reasonable growth, and only a minority of them expecting exponential growth.

Figure 6: Turnover – Blue Champions survey



This ambition can be achieved if these companies are able to secure the necessary funding to advance their technologies to the next stage and expand their market reach. To meet these goals, many have outlined the following strategies, including:

- **Advancing TRL or developing new intellectual property:** Many companies are focused on moving their technology to higher readiness levels, refining their products, and creating new intellectual properties (through patents) to stay competitive and innovative in their respective fields.
- **Expanding production capabilities:** To meet growing customer demand, companies plan to scale up production, ensuring that they can deliver at higher volumes and meet market needs more efficiently.
- **Enhancing production efficiency:** Improving operational processes and adopting more efficient technologies will allow these companies to reduce costs and increase output.
- **Fostering industrial partnerships:** By collaborating with established industrial players, companies can gain access to valuable expertise, infrastructure and networks that will accelerate their growth and help bring their innovations to market faster.
- **Entering new markets:** By expanding their geographic presence or targeting new customer segments, companies aim to diversify their revenue streams and increase market share.

Each of these initiatives plays a crucial role in helping companies navigate the challenges of scaling up. However, it must be noted that, given their size, it is very complex to successfully manage all these activities in parallel. Within this context, support, which may be monetary in the form of scale-up grants with precise growth milestones, but also technical (linked to their technology or broader financial and fundraising advisory), may be crucial to maximise the chances of these scale-ups to overcome the valley of death obstacle. The willingness of companies to receive advisory support from the EIB, as part of the Blue Champions pilot scheme, clearly demonstrates the need for such support.

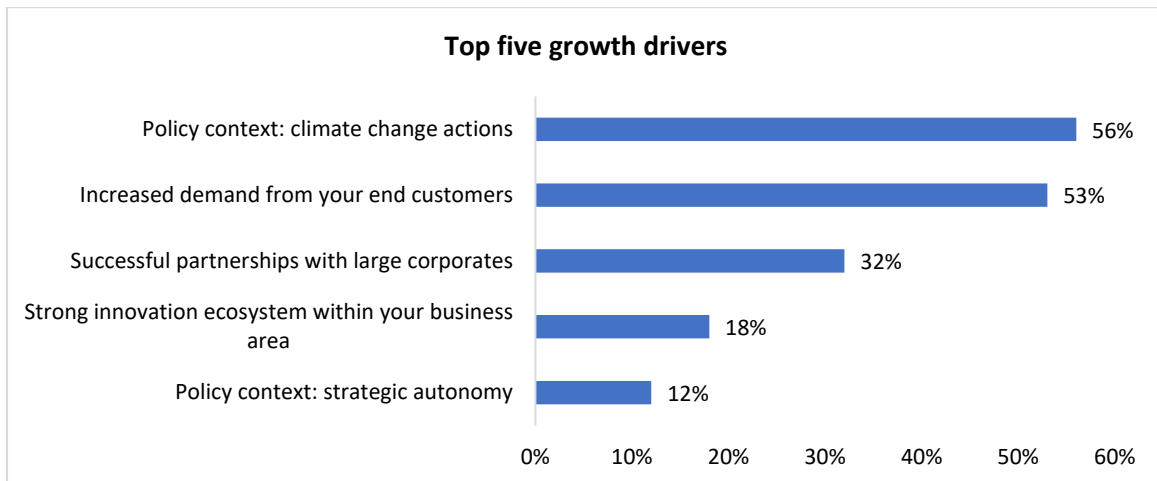
The detailed analyses of scale-up companies have clearly shown that left on their own, companies have difficulties to develop their prototype to reach commercialisation. Mechanisms of targeted support, both via grants and technical assistance, could accelerate the financial maturity of the most promising companies and provide great potential in terms of revenue growth. In fact, this report has made evident that if the European Union wants to capitalise on the innovation potential of Blue Economy companies, these new support mechanisms between TRL 7-9 are essential. From the ocean energy sector to ocean technologies, such extra support could enable possible investments of over €4 billion.

Climate policy drives customer demand and growth

The survey indicates that **climate-related policy actions and strong customer demand are key drivers** that propel these companies towards growth. Indeed, 56% of respondents declare that climate change policy is a relevant growth driver for their company business. Demand from end customers is also a significant growth driver for 53% of respondents, which suggests positive market traction for most companies.

As **European efforts to combat climate change intensify**, there is increasing pressure for industries to adopt sustainable practices, which may also correlate with a **surge in demand from end customers**. For some of the scale-ups, however, it remains complex to assess market demand when the technology is not fully mature, which can hinder the attractiveness of these businesses for private investors. Hence, helping these companies, especially when they develop strategic technologies, to secure public and/or private contracts can be a powerful mechanism to foster their growth. The next section on recommendations provides specific examples of such potential support.

Figure 7: Top drivers of business growth – Blue Champions survey (Share of respondents that have selected this growth driver as relevant/very relevant for their business)



Additionally, 32% of respondents indicate that successful partnerships with large corporates are a relevant growth driver. These partnerships provide invaluable insights for scale-ups in terms of technological validation, final testing and market demand. They not only support the technological advancement of the project but also ensure that the business plan accurately caters to the needs of end users.

Access to larger investments and regulation remain key growth barriers

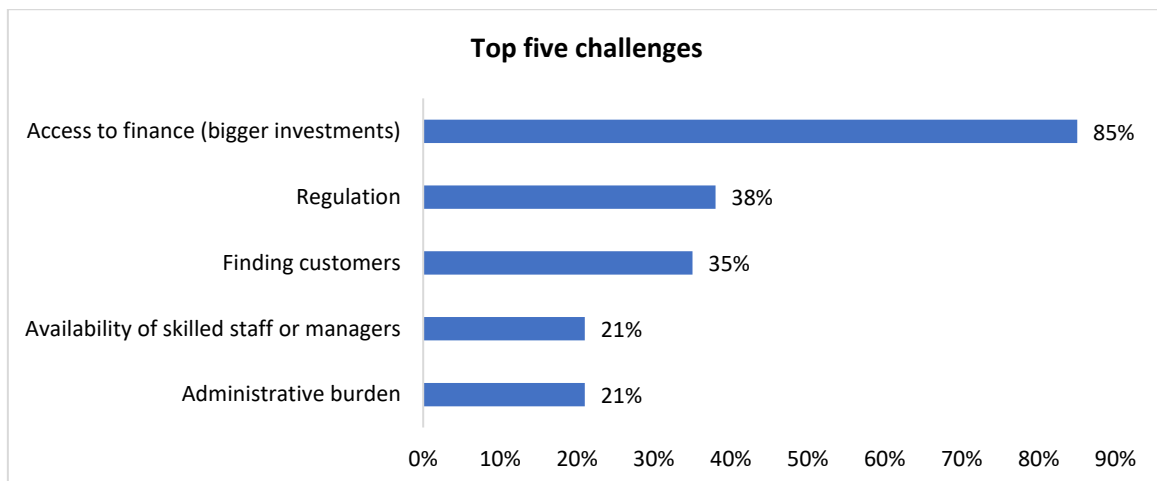
Despite their promising growth potential, many companies face significant barriers that can block their path to progress (see figure below). The most prominent challenge, cited by 85% of companies, is **access to finance** – particularly securing larger investments needed to scale their operations. In fact, several claim that obtaining the capital required to expand their business and production, to test new technologies, or to enter new markets remains a major problem. Larger funding rounds often require a strong track record and market validation, which can be difficult for companies still navigating the “*valley of death*” stage of development.

In addition to financial constraints, 38% of companies identified **regulatory challenges** as a key barrier. Navigating complex regulations, both national and European, relating to environmental standards, maritime law, or sector-specific compliance can slow down the deployment of products and services. Companies in blue renewable energy, shipping and aquaculture, but also in some areas of blue technologies, have specifically highlighted the excessively lengthy permitting processes and regulatory hurdles, which jeopardise the profitability and viability of their projects. Moreover, regulatory misalignment between regional and national policies can also increase operational costs, making it harder for companies to attract investors and customers.

Finding customers is another significant barrier, mentioned by 35% of companies, as reaching customers who are ready to adopt these new technologies can be difficult, especially when they have not yet attained the commercialisation phase. This may also indicate a certain “weakness” of these companies in terms of market intelligence compared to their technological expertise. It constitutes a key bottleneck to be addressed (see next section on recommendations).

Additionally, 21% of companies highlighted the **availability of skilled** staff as a constraint. The highly specialised Blue Economy sector requires workers with niche skills, especially on the management side, and with a high-tech background, which respondents claim is hard to find. Compounded by the fact that 21% of companies also report a **heavy national administrative burden**, these barriers can create inefficiencies that slow down growth.

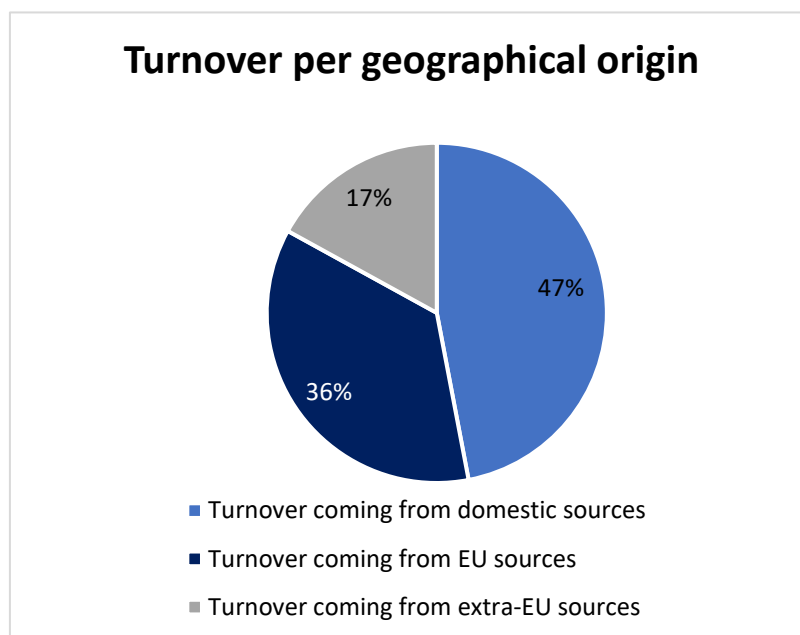
Figure 8: Top challenges for business growth – Blue Champions survey (Share of respondents that have selected this challenge as relevant/very relevant for their business)



Heavy reliance on domestic markets and public funding

On average across the full sample, 47% of the turnover of scale-ups comes from national sources (within their own country). In addition, 36% of their turnover comes from EU sources, indicating that the single market helps the natural expansion of their company. The remaining 17% comes from non-EU sources.

Figure 9: Turnover per geographical origin (average across respondents) – Blue Champions Survey



These results, complemented by interviews, indicate that most companies are primarily focused on their national markets, where they say it is easier to establish networks due to an understanding of regulatory and business environments. Once they gain a foothold domestically, many then shift their attention to the broader EU market due to the growing demand for sustainable Blue Economy solutions across Member States.

However, only a small percentage of companies are able to successfully venture into markets outside the European Union. Expanding internationally poses additional challenges, such as navigating different regulatory environments, overcoming market entry barriers and building brand recognition in new regions. Even when international expansion remains a goal, some companies mentioned that expanding outside Europe while keeping ownership of their solution is a particularly strategic challenge.

Several respondents highlighted their **early-stage reliance on European Union and national grants**. While these grants offer crucial initial support, **they are not suitable for scale-ups**, which focus on market-driven growth and revenue generation. Instead, scale-ups would benefit more from access to public contract investments, which can provide stable revenues during the transition to commercialisation and help de-risk early development phases.

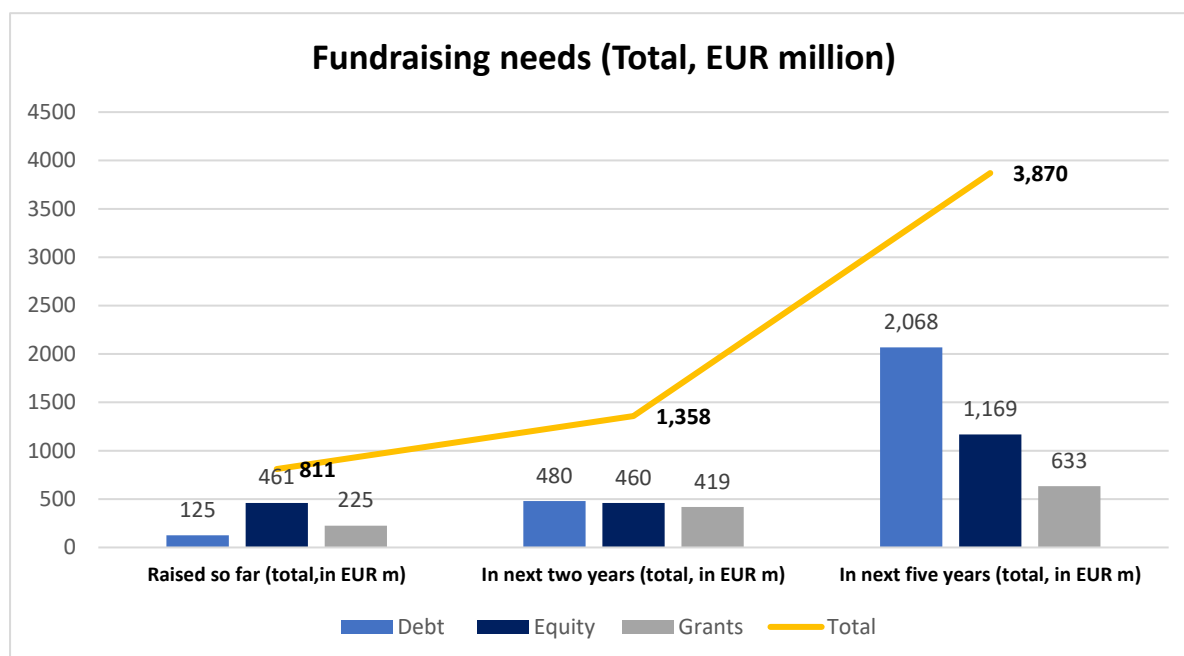
€110 million per company needed to secure growth in the next five years

Over the next five years, Blue Economy companies in our sample anticipate substantial funding needs to achieve their strategic technological and commercialisation objectives.

Over the next two years, survey respondents' funding needs amount to €1.4 billion in total. On average, this represents about €40 million per company. Furthermore, **in the next five years, the surveyed companies will need close to €4 billion in total** to securely scale up, which represents, on average, **about €110 million per company**.

*Note that these numbers express the views of the 34 respondents only and are not verified by the EIB services.

Figure 10: Fundraising needs, in the next two years vs. next five years (total amount across survey respondents) – Blue Champions Survey³³



This investment requirement reflects the **capital-intensive nature of the Blue Economy**, where significant investments are essential to move innovations from research and development stages into scalable and

³³ The funding needs in the next two and five years exclude the amount raised so far.

commercialised solutions. The projected investment needs highlight the necessity for a diversified approach to funding, spread across several key sources:

1. **Equity:** Based on survey answers, in the next two years, equity injections are expected to amount to about €461 million in total across all respondents. In the next five years, equity is projected to account for approximately €1.2 billion of the total funding requirement for all survey respondents, reflecting the need for long-term capital that supports business growth. This means that, on average, **equity needs per company will stand at €34 million**. This demonstrates the key role that venture capital funds will need to play to secure the growth of these companies. Given the technological and commercialisation risk entailed in these businesses, private investors should be provided with some kind of public support (in the form of guarantees, first loss mechanisms, technical assistance, etc.) to help de-risk these investments. Indeed, attracting investors often requires companies to demonstrate proven market demand and clear potential for returns – challenging criteria for those in earlier technology readiness levels (TRLs). Furthermore, such equity need is likely to dilute ownership if new funds invest in the company. A top-up from EU public entities can also be essential to retain an EU flag on these scale-ups.
2. **Debt:** Companies expect debt to be a major component of their financing strategy, amounting to roughly €2 billion in the next five years across all survey respondents. This represents – on average – a need of **€60 million of additional debt per company in the next five years**, based on the answers from the survey. This hides important discrepancies among companies, with some of them having a higher reliance on debt requiring a tailored financial initiative. Reliance on debt remains challenging for early-stage companies, particularly those with high capital expenditures (CAPEX) and limited cash flows. This explains why companies expect to rely on debt at a later stage – in the next three to five years when they will already be generating revenues. Debt financing offers the advantage of preserving company ownership while providing the liquidity needed to scale up. Looking ahead, if this materialises, the amount of debt linked to Blue Economy projects may also generate opportunities for the issuance of blue bonds, either by the companies themselves, or by debt providers.
3. **Public support through grants:** Grants and other forms of public support are expected to cover €419 million in the next two years, and about €633 million of the projected funding gap in the next five years in total across all survey respondents. Interestingly, reliance on grants appears to be highly concentrated in the short run when companies have not yet reached the commercialisation stage. In the longer term, the share of grants in their fundraising strategy lowers, but remains positive, underlining the critical role of non-dilutive funding in the Blue Economy.

*Note that these numbers express the views of the 34 respondents only and are not verified by the EIB services.

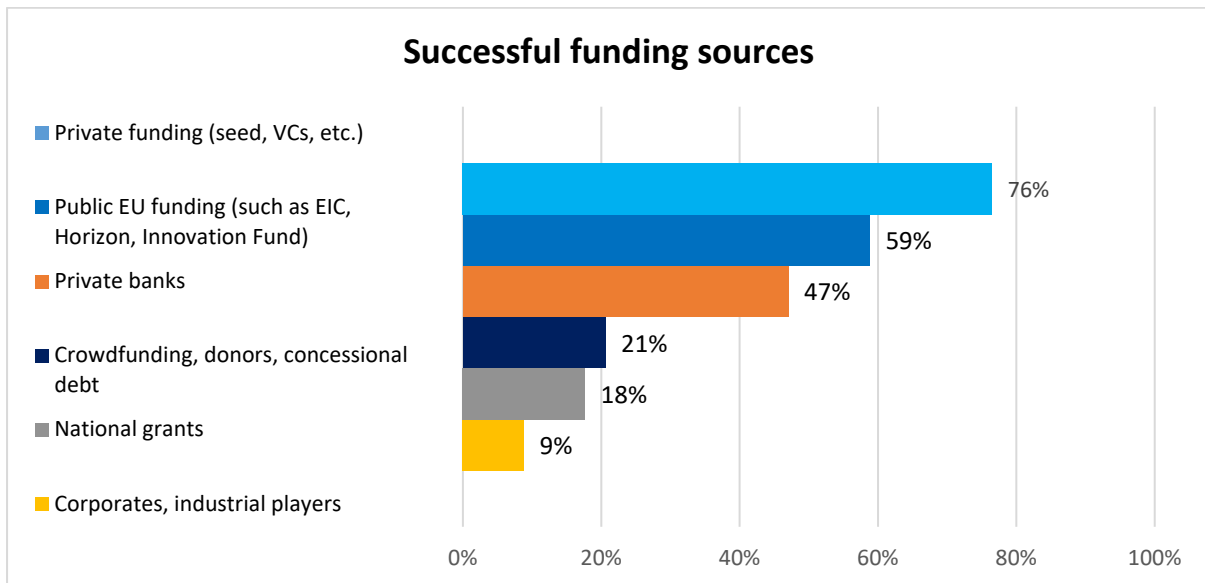
Fragmented funding landscape

As shown in the figures below, the survey reveals that 76% of companies have successfully raised funds from private sources such as seed funding and venture capital, while less than half have been able to secure financing from private banks. This underscores **the critical role of risk capital**, particularly from VC investors, in funding early-stage Blue Economy companies. In contrast, private banks are less willing to engage with companies at this phase, likely due to perceived risks due to asymmetry of information and high capital expenditure (CAPEX) requirements.

Additionally, **59% of companies have successfully secured EU funding** through grants or technical assistance, and 21% have accessed national funding. **Public grants are particularly essential for maintaining the economic viability of many of these companies**, with national and regional grants playing a prominent role in sectors like energy.

So far, corporates and industrial players have played a limited role in funding these companies, likely due to the lower technology readiness levels (TRL) of many projects. These larger players tend to become more involved once a project reaches TRL 6-8 and demonstrates greater potential for commercialisation.

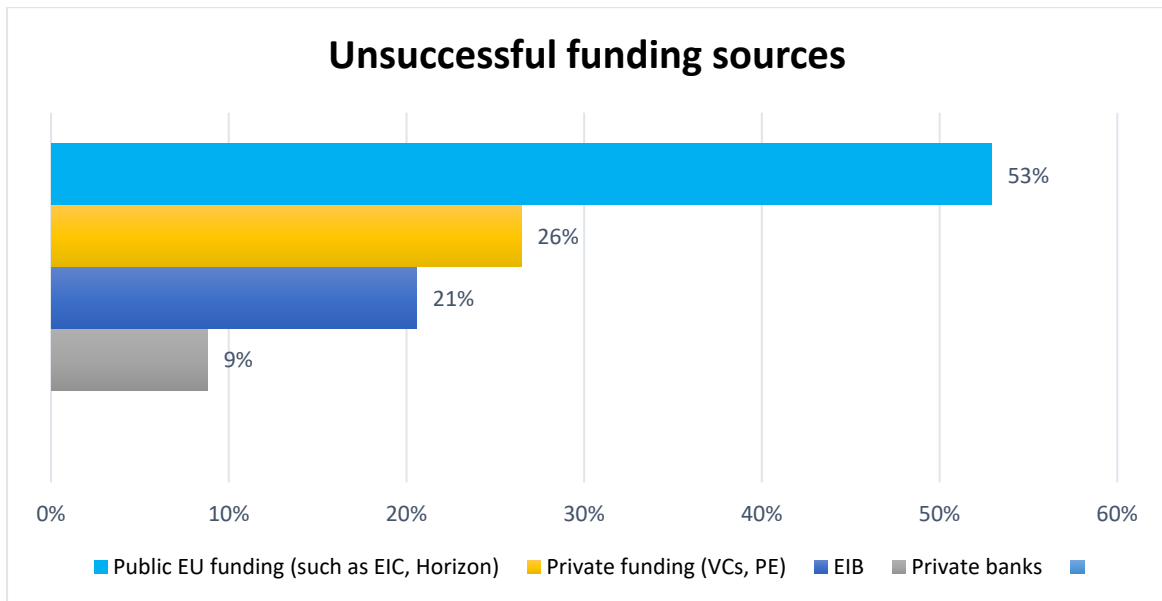
Figure 11: Main scale-up funding sources – Blue Champions survey (Share of respondents having successfully raised funding per type)



For companies that failed to secure certain funding sources, the data suggest that many pursue a broad array of public and private options. Their ability to secure some funding while facing rejection from other sources illustrates the fragmented nature of the funding landscape. Notably, 53% of companies reported unsuccessful attempts to secure EU public funding, such as the **Horizon Europe or Innovation Fund** programmes, which were described as **highly competitive**.

Additionally, 21% of companies have tried to secure funding from the European Investment Bank, with some citing the EIB’s high funding thresholds. It should be noted that venture debt instruments require companies to present a specific project whose total investment cost is more than €15 million, and the financial maturity of some companies in the Blue Economy does not match venture debt criteria.

Figure 12: Unsuccessful attempts to secure funding – Blue Champions survey (Share of respondents having unsuccessfully applied for funding per type)

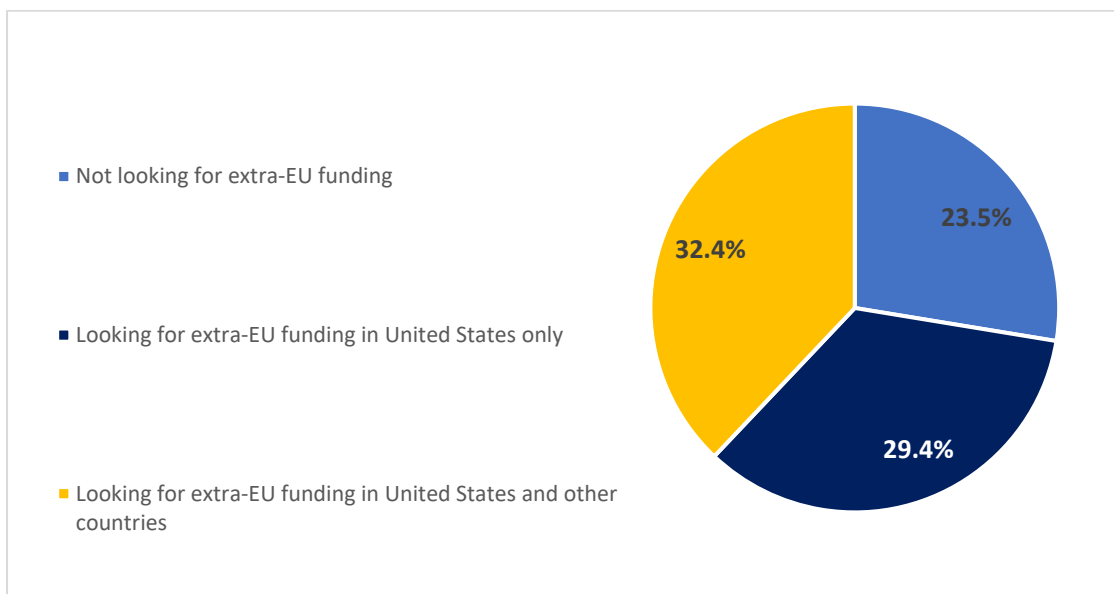


Additionally, the pie chart illustrates the funding interest of surveyed companies in relation to securing additional support outside the European Union. Among these companies, 23.5% are not looking for extra-EU funding, while 29.4% are seeking additional funding, particularly in the United States. Meanwhile, the largest portion (around 62%) is pursuing funding both in the United States and other non-EU countries (mostly China and United Arab Emirates).

This distribution indicates a **significant interest among these companies in exploring financial resources outside the European Union**, with a preference for diversifying sources beyond the United States alone. This insight reflects these companies' strategic aim to **enhance their growth potential** by tapping into a broader international funding landscape.

The primary reasons driving this interest include **the relative ease of securing funding from non-EU countries** and a strategic focus on expanding into foreign sales markets.

Figure 13: Share of respondents looking for extra-EU funding – Blue Champions survey



8 KEY CONCLUSIONS AND RECOMMENDATIONS

Boosting the growth of Blue Economy scale-ups not only supports the European Union’s ambition to restore our oceans and waters, but also contributes to the competitiveness and growth of deep and clean tech in Europe, as suggested by the highly tech component of Blue Economy scale-ups. It is therefore natural that the EIB, the European Union’s lending arm, should look at new ways in which financial instruments may help address the funding needs and gaps of these scale-ups.

The Blue Champions Pilot Programme was also supported by the European Commission (DG MARE with the Mission “Restore our Ocean and Waters by 2030”), which is currently drawing up an Ocean Pact to provide a more integrated policy framework for ocean health and EU Blue Economy competitiveness. **This report may therefore help articulate recommendations building on the analysis of challenges identified in the Blue Champions pilot.**

In the final part of this report, the key recommendations drawn from this exercise have been summarised based on the survey findings and interviews with experts and stakeholders, as well as on the experience of closely engaging with the Blue Champions. Through this last section, concrete pathways that would contribute to further enhance and nurture the Blue Economy scale-ups ecosystem are provided. We see two main recommendation areas: **Policy** and **Financial**.

Key conclusions

As stated throughout this report, **five key issues lie** at the core of the problem.

Firstly, most of the scale-ups in the Blue Economy are **highly capital-intensive and present risky technologies with complex testing phases before they reach the commercialisation phase. Based on the survey, as shown above, each company will on average need €110 million in the next five years** and will have difficulties in finding the right investors.

On the one hand, VC funds are not willing to invest large amounts due to the technological risk associated with the project, and their limited size (most VC funds in Europe are under €100 million). On the other hand, PE funds will not invest in such scale-ups before they generate significant revenues.

Therefore, **there is a gap to fill between VC and PE funding**, primarily to de-risk the project from the private investors’ perspective. In this respect, providing promising scale-ups with anchor contracts (see policy recommendations) or other forms of public support could help them secure the necessary revenues that would foster their attractiveness to investors. Indeed, and as shown above, successful partnerships with large corporates and demand from end customers are key growth drivers.

Ocean energy projects

Due to their innovative nature, ocean energy technologies face higher technological and financial risks compared to established technologies, leading private investors to demand high returns. This is driving up financial costs, slowing down investments, and thus deployments.

To fix this chicken and egg situation, Ocean Energy Europe³⁴ recommends providing guarantees for the first pre-commercial ocean energy farms. This will reduce the cost of capital and ultimately boost projects’ bankability.

³⁴ Ocean Energy Europe, Boosting private investment in ocean energy and securing the industrialisation in Europe: <https://www.oceanenergy-europe.eu/wp-content/uploads/2025/01/250128-OEE-Boosting-private-investment-in-ocean-energy-securing-industrialisation.pdf>

As a result, projects will be able to attract more private investment by ensuring higher returns for investors.

Per kWh support, such as Contracts for Difference, is also key to enable pre-commercial and commercial farms to secure financing and repay investors, as the price of electricity for innovative technologies is not sufficient yet to cover those returns without a top-up.

The level of public support will decrease as the technology moves down the cost curve with further deployments and economies of scale, as experienced with wind and solar energy (bearing in mind that ocean energy is not suitable for all locations in Europe).

Secondly, even if the demand for sustainable blue technology solutions is picking up, these companies still count relatively few employees, with a significant portion dedicated to R&D. This prevents them from focusing on fundraising and commercialisation. Moreover, companies also struggle to find the right skills, especially at management levels, which further complicates their growth at critical stages.

This is why the technical assistance and financial advisory offered through schemes such as BlueInvest and Blue Champions adds value and should be further extended (see policy recommendations).

Ocean technologies
<p>Many companies in ocean tech explained that it is difficult to recruit people with the right combination of technical and managerial skills to help them scale up their business.</p> <p>While innovations are very promising, many Blue Economy companies still lack business maturity for scale-up funding rounds. In this context, technical assistance, whenever provided, has helped them refine and strengthen their market analysis, but also solidify their financial plans. Technical assistance may be an essential first step to help boost the maturity of the project before they can be considered for venture debt.</p>

Thirdly, while most of the companies surveyed have received grants at an early stage, there are fewer funding mechanisms at a later stage. This has detrimental consequences. In fact, if grants are easily obtainable at an early stage, it helps nurture an ecosystem of startups which may not otherwise have the potential to grow. Also, at a later stage, when these companies require larger investments, there are very few available mechanisms, such as the EIB venture debt instrument.

As mentioned above, scale-ups currently struggle to attract bigger investments, leading them to seek funding from non-EU investors, which may compel some to relocate to non-EU territories. Expanding the venture debt instrument would be an essential step to ensure that EU tech champions remain under the EU flag (see financial recommendations).

Shipping and aquaculture
<p>Over the course of the Blue Champions Pilot Scheme, we have received various testimonies from companies about the interest coming from extra-EU investors.</p> <p>Non-EU investors appear to be faster in their decision-making, and have a higher level of appetite for their projects, due to a higher risk tolerance. Ensuring more EU venture capital funds for disruptive technologies to EU companies is therefore essential in the context of EU competitiveness and strategic autonomy.</p>

Fourth, regulatory barriers are preventing scale-up companies from reaching their full potential and/or creating lengthy processes that can have detrimental consequences for the business. This can relate to permits for renewable energy projects, but also to national barriers for ocean tech and aquaculture. This issue is also raised in Draghi's report, in which he states that "the EU's regulatory stance towards tech companies hampers

innovation". Hence, policy actions that concretely address these regulatory burdens are critical (see policy recommendations).

Blue renewable energy

Because ocean energy is an innovative technology, national and regional consenting authorities can lack experience in providing consent for ocean energy projects. This lengthens a process that is already time-consuming for any renewable energy project. Hence, tailor-made and streamlined consenting for ocean energy will accelerate development and reduce the costs of the process, based on various companies' testimony. Similar regulatory hurdles were mentioned by other sectors such as aquaculture, ocean tech and shipping projects.

Last, the EU Blue Economy is characterised by a high level of fragmentation. Through collaboration with various Blue Champions across different EU sea basins, it has become evident that companies face unequal opportunities based on their country of origin. For instance, Nordic countries possess a robust ecosystem of research centres, highly qualified staff and a strong network of incubators, accelerators and investors.

Southern regions have limited networks with fewer experienced researchers, limited testing facilities and a less powerful network of public and private investors. In this context, strengthening regional blue economy strategies using a smart specialisation approach could be a promising way to foster innovation in specific EU areas according to their historic advantages (see policy recommendations). This would generate clusters of excellence with positive ripple effects in the region.

Boosting blue innovation and blue technologies in Greece

An event held by the EIB in collaboration with the Aegean University in November 2024 under the Blue Champions Programme – bringing together companies, institutional and government representatives – has been an opportunity to formulate recommendations on regional clusters with a specific example for Greece.
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Greece's two major strong points are its shipping community, which has significant financial capacity and innovation needs for decarbonisation and automation, and its academic community, which is a recipient of EU funds and is active in many research initiatives. As a result, the proposals to create a centre of excellence for shipping decarbonisation in Greece or a Tech Catalyst Fund dedicated to ocean-related innovation were discussed as ways to accelerate technological development in key blue sectors.
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Policy recommendations

Boosting the European Blue Economy scale-ups requires both investment and the creation of a supportive economic environment. Five policy recommendations, mainly targeting EU institutions, Member States and regional authorities, can be identified:

Rebalance budget from early to scale-up stage

As previously mentioned, many Blue Economy startups rely on financial support from the European Union or on national grants. However, both scale-ups and investors have mentioned potential negative side effects, if grants are not provided selectively and with in-depth due diligence at an early stage, supporting companies with limited market potential, and failing to leverage public funds effectively. By limiting grants and technical assistance to early-stage entrepreneurs with the potential to grow their businesses, it is advised to partly redirect grants and targeted technical assistance to later-stage companies. This approach offers multiple benefits, including a significant multiplier effect and the potential to foster a dedicated investment ecosystem for Blue Economy scale-ups.

Moreover, technical assistance effectively helps companies through specialised support in specific areas, from approaching investors to conducting market analyses. This significantly alleviates the burden on companies, particularly those experiencing difficulties in recruiting the right competencies. Technical assistance mechanisms need to be tailored to the specific needs of growing companies, once the first demos are created, as companies need to be supported in reaching out to clients and having regulators' endorsement.

To support companies at an early stage, with investment needs below €15 million, initiatives like BlueInvest should continue. Launched in 2019 with the support of the EFSI BlueInvest Fund and InvestEU, this platform offers invaluable support to startups through technical assistance, matchmaking events, and more. The programme helps them secure private funding and has contributed to more than 65 success stories of startups raising more than €300 million of funds in total, thanks to technical assistance. Therefore, continuing the provision of investment readiness and fundraising assistance through BlueInvest is essential to continue nurturing the startup ecosystem. To have Blue Champions, we need to keep developing this Blue Invest mechanism to enable the startups to grow and get first rounds of private funding.

At a later stage, the EIC programmes or other leverages that combine grants with technical and financial advisory could be extended, along with the Blue Champions Advisory programme. Dedicated to companies with investment needs exceeding €15 million, EIB advisory support helps companies enhance their financial model, improve their market analysis and refine their commercialisation strategy, thereby boosting their growth trajectory and attracting private investors. Expanding these technical assistance programmes would be an additional way to provide necessary assistance to Blue Economy scale-ups and prepare them better for venture debt instruments (see financial recommendations below), especially for those offering key technologies but with a lower level of financial maturity.

Facilitate anchor contracts

In the European Union, anchor contracts are crucial. Interviews with Blue Champions applicants revealed that, for many of them, securing an anchor contract from a public entity or from a large corporate has often been an effective way to ensure revenue and support the final stages of product development. Concretely, some scale-ups may have managed to win the project through national procurement or may have made a deal with a large corporate to help them secure revenues for the next 2-3 years. In this context, facilitating access to anchor contracts for scale-ups is key.

Anchor contracts help scale-ups secure revenues through specific contracts rather than grants. This can increase their attractiveness to investors seeking revenue-generating startups and can foster companies' trajectory towards the commercialising phase. **These anchor contracts also serve as a signal to the market regarding the product's viability and relevance, potentially leading to further contracts.** European institutions and agencies, such as ESA, EUSPA and national players, should dedicate resources to enhancing the availability of anchor contracts. Such an approach could mimic the successful US strategy in the space industry with NASA/NOAA multi-year anchor tenancy contracts³⁵. The mechanisms of interaction of the space agencies with the private sector, in particular the way NASA helps boost innovation through collaboration with the private sector, could be a source of inspiration for the European Union³⁶.

Through fairer and more innovative public procurement processes, EU governments could ease access to public contracts for smaller and highly innovative companies procuring services at European level so as to create a critical mass. As shown by the single market scoreboard³⁷, SME access to public procurement should be further improved in many EU countries.

It should be noted that to prioritise the most market-ready companies for technical assistance or anchor contracts, **coordination with private investors and/or large corporates is key, as they are closer to the market and can provide valuable perspectives to public authorities.**

Simplify regulation

Regulation represents the second biggest challenge for Blue Economy scale-ups (see previous section). More precisely, two main sub-issues appear. On the one hand, for blue renewable projects, lengthy permit processes put into jeopardy the projects' profitability, even when end customers have already signed Letters of Intent. **Ocean Tech regulations are also extremely complex, in particular when their applications contain dual-use technologies.** On the other hand, there is **a lack of recognition of certifications across Member States.** Several Blue Champions have explained that the **time needed to obtain an authorisation or certification in another country is extremely long**, even when it has already been obtained in an EU country, which hinders fast internationalisation.

To alleviate this, two types of simplification may be envisaged:

- Simplifying permit processes for key technologies would reduce the risk of these projects from an investor's perspective. Currently, there is no single regulation concerning marine robots, autonomous vessels, electric shipping protocols, etc. Sharing best practices about protocols and rules for certification and authorisation can accelerate regulation simplification and therefore the deployment of innovative solutions across the European Union. Companies would still comply with strict rules, but a speedier process would accelerate their international deployment. As reminded by many interviewees, EU companies often face 27 different regulations, slowing down the expansion of EU Champions.

Simplifying authorisation recognition across Member States through regulatory sandboxes. These sandboxes allow firms to test new innovations under the supervision of a national regulator. In the Blue Economy context, **innovators could trial new products or services related to renewable energy, or dual-use technologies** in a real-world environment without some of the usual rules. Once the regulator approves the new product/service, a simplified procedure should allow fast recognition in another country. This would support the speedy deployment of strategic technologies and ultimately ensure that Europe remains at the forefront

³⁵ More information about the anchor tenancy contracts for NOAA is available here: <https://www.space.commerce.gov/law/anchor-tenancy/>

³⁶ Evolution of the Role of Space Agencies, European Space Policy Institute, 2019, available at: <https://www.espi.or.at/wp-content/uploads/2022/06/ESPI-Public-Report-70-Evolution-of-the-Role-of-Space-Agencies-Full-Report.pdf>

³⁷ More information on the single market scoreboard and access of SMEs to public procurement is available here: https://single-market-scoreboard.ec.europa.eu/business-framework-conditions/public-procurement_en

of marine technologies. In the remit of the Blue Champions initiative, several Blue Champions indicated that such sandboxes could be a game changer for attracting private investments, given that many investors are often reluctant to support EU companies as they typically face more regulatory constraints than their US counterparts.

Supporting alliances of ocean-testing facilities and incubation centres would help the full spectrum of EU Blue Economy tech companies³⁸. Furthermore, this would **help further reduce project costs and could benefit a wider range of actors**. Aquaculture, but also renewable energy and ocean observation technologies, would benefit from these testing facilities. These projects present high CAPEX at project level but also positive synergies. Hence, reducing the cost through simpler regulation and common testing facilities would benefit a wide range of actors.

Strengthen regional blue economy strategies

Regulatory barriers are a symptom of the fragmentation of the market in the European Union. As explained above, Blue Champions first develop domestically, with unequal chances of success, and then face barriers to develop their full potential across the European Union. Through the case studies and interviews with companies, it was highlighted that early startups face unequal access to relevant growth drivers depending on their country of origin. Nordic countries have strong networks of engineers, research centres, accelerators and investors, while the Mediterranean, Adriatic and Black Sea regions are less privileged in such areas, which hinders startup growth.

In this context, the event “Boosting Blue Innovation and Blue Technologies in Greece”, held by the EIB in November 2024 under the Blue Champions Programme, was an opportunity to formulate recommendations. It gathered companies, institutional and government representatives, and emphasised two sets of recommendations:

First, **a regional funding approach would help create regional clusters with higher impact, based on a smart specialisation approach**. This would avoid disbursing isolated funds and rather enable funds to have a more productive impact. For instance, Greece’s two major strong points are its shipping community, which has significant financial capacity and innovation needs for decarbonisation and automation, and its academic community, which is a recipient of EU funds and is active in many research initiatives. Greece has a robust ecosystem dedicated to maritime and blue technology, which is critical for the European Union’s future.

As a result, the proposal to create **a centre of excellence for smart shipping in Greece** or **a Tech Catalyst Fund** dedicated to ocean-related innovation were discussed as ways to accelerate technological development in key blue sectors. Key components of smart shipping could include autonomous and semi-autonomous vessels, IoT-enabled predictive maintenance, AI-driven route optimisation, blockchain for supply chain transparency, port digitalisation and smart logistics.

Second, to implement this vision across the European Union, relevant national/regional authorities should define **Blue Economy innovation roadmaps** with specific priorities, targets and projects. Norway’s ocean strategy, for instance, can be seen as a good practice in the way that the country successfully integrates the ocean into its strategic, industrial and environmental policies.

Effective Blue Economy innovation roadmaps should include clear funding commitments using national/regional operational programmes under the European Structural and Investment Funds, the EIB Group and/or other relevant EU funding instruments (European Innovation Fund, the European Council Fund,

the European Defence Fund, and other EU instruments) and exploit synergies. Strong contacts with the EIF, EUSPA, Copernicus Marine Service, and DG-DEFIS should be maintained and reinforced.

An immediate action from the workshop could be to establish a Triple Helix Working Group to address smart shipping technologies, AI in shipping, and related legislation. This group will foster collaboration between academia, industry and government to drive innovation and policy alignment.

In addition, it would be important to develop strategic innovation roadmaps at European level in critical ocean technologies, such as underwater drones and robotics, ocean observation and other areas of blue tech. The Waterborne Technology Platform is a promising EU example of organisation that makes it possible to successfully drive innovation in the maritime industry at EU level by aligning interests from public and private stakeholders, define the strategic priorities of the sectors and transform all this into concrete R&D investments.

Another good practice example to be highlighted here is the city of Genoa, one of the 20 Blue Champions. Genoa has developed a comprehensive [Blue Economy roadmap](#) based on a smart specialisation approach that includes a systemic vision for innovation infrastructure development, coastal resilience and urban planning. Its strategy is likely to benefit companies as the city has involved the private sector in its consultation and design, ultimately including innovative infrastructure and urban planning to attract talent. Such an example should be replicated to ensure that **emerging innovation players present in the region/country can develop to their full potential.**

Produce a consolidated European ocean data infrastructure

Access to reliable and accurate data and information on oceans is vital to achieve both a transition to a sustainable blue economy but also to harness business opportunities. Currently, initiatives such as the European Marine Observation and Data Network (EMODnet) as well as the Blue Economy Observatory exist.

However, companies as well as experts have expressed their difficulty in gathering market intelligence data on the blue economy. Such data are extremely important for companies when scaling up to estimate the market size of their products or service. For investors, these data also help in assessing the opportunities for each sector. Currently, even if an increasing number of organisations gather data on the sector (EIB, OECD and European Commission), it is rare to find information on investment amounts related to the Blue Economy. One exception is the Investor Report published under BlueInvest³⁹. Investors and companies also struggle to estimate the market size of the most innovative sectors (underwater robots in Europe, sustainable shipping, sustainable aquaculture, etc.). Moreover, as explained above, companies (and also investors backing them) struggle to identify Blue Economy funding opportunities.

In this context, a **one-stop shop** for blue economy technology and investment data would be extremely helpful for the whole ecosystem. On the one hand, this portal could gather market data on the different sub-sectors (for example, addressable market, growth trends), as well as investment into the sector (by stage of investments). To do so, more structured cooperation between EU Member State authorities on data collection would be needed. On the other hand, this one-stop shop could also host funding opportunities specific to the Blue Economy. Gathering such information would also help address the lack of integration of the funding instruments explained above. Moreover, enhancing joint procurement between Member States would help create a bigger market in Europe and enhance EU competitiveness.

Hence, a consolidated European ocean data infrastructure suitable not only for researchers and public administrations but also for businesses would help steer more private investments into the blue economy.

³⁹ There are two Investor Reports published by the BlueInvest platform available at: https://oceans-and-fisheries.ec.europa.eu/news/blueinvest-new-investor-report-features-ocean-investment-opportunities-sustainable-blue-economy-2023-03-09_en

Financial recommendations

As shown, the report concludes that **securing scalable financial solutions remains a core challenge for many companies in the Blue Economy**. These companies have high CAPEX requirements, particularly in the renewable energy, shipping and aquaculture sectors, while their projects remain risky with stringent environmental requirements. The testing of their technology adds another layer of complexity and risk, especially for ocean tech-related technologies. In total, **there is an estimated investment need of approximately €4 billion over the next five years for the Blue Economy scale-ups surveyed in the Blue Champions pilot initiative**. Currently, under the existing EU and EIB financial instruments, only one-third of this amount could potentially be supported.

The EIB is a natural partner for the European Commission in supporting the growth of deep and clean tech, which are particularly active in this sector. **The EIB is already actively engaged in the Blue Economy with specific instruments to support scalable solutions.**

The financial recommendations presented in this section are actionable steps that EU policymakers, with the support of the EIB, can take to contribute to EU objectives and further engage with the sustainable Blue Economy scale-ups.

Continue and expand blended equity instruments

The BlueInvest platform not only provides investment readiness and fundraising assistance to startups but is also working in close collaboration with the venture capital fund ecosystem in Europe through a dedicated financial instrument under InvestEU.

VC funds are essential for providing the risky capital needed by Blue Economy startups, as highlighted by the Blue Champions survey. Over the years, there has been an increase in the number of Blue Economy funds, but their size remains limited. In 2024, BlueInvest reported 30 Blue Economy funds in the European Union, with an average fund size below €100 million, which is insufficient to meet the funding needs of EU startups. The lack of a vibrant VC ecosystem extends beyond the Blue Economy. In general, venture capital financing in Europe, as a percentage of GDP, is a third of that in the United States⁴⁰. In this context, **fostering the growth of the VC ecosystem in Europe is essential.**

Through the InvestEU Blue Economy instrument, the European Union is backing several Blue Economy funds. It aims to mobilise around €230 million of EU funds for financial intermediaries investing in this sector and to crowd in €660 million of private capital. **Continuing and expanding the provision of thematic blending instruments with EU guarantees, in partnership with the European Commission and the EIF, would be instrumental in supporting the Blue Economy venture capital ecosystem's growth.**

Strengthen venture debt instruments

As a reminder, the Blue Champions pilot scheme was launched in November 2023 and the call for applications lasted until 31 December 2023. In only two months, 73 eligible applications were received, and about 80% of them were interested in venture debt, demonstrating the product's appeal. Among the 20 Blue Champions, the vast majority are interested in venture debt and while advancing the maturity of their technologies, may receive InvestEU advisory support helping projects to reach a financing stage.

The InvestEU Programme offers both project advisory and investment support for boosting innovation in the blue economy. The InvestEU Fund could further boost the EIB lending and risk-taking capacity in supporting higher-risk innovative Blue Economy projects with the aim of mobilising private capital and help the promoters

⁴⁰ [Bridging the gap: reviving the euro area's productivity growth through innovation, investment and integration](#), ECB, October 2024

to implement long-term innovation and commercialisation strategies. The EIB, with its venture debt product deployed under the InvestEU Green Transition, offers a strong financing complement to venture capital supporting innovative projects/ventures bridging an identified market financing gap. This is already a successful product enabling the EIB to work with companies in early stages of demonstration, commercialisation or scaling up. The EIB Venture Debt is designed to address high-risk investments that require long-term capital, also “fuelling” high-risk, high-growth companies. The conditions are seen to be attractive, as they are less dilutive than alternative equity financing, while investors value the EIB’s long-term commitment and stamp of approval. EIB Venture Debt addresses the challenges of fast-growing SMEs in cleantech with investment plans in the European Union. The “Impact assessment of EIB venture debt” report⁴¹ finds that **firms receiving EIB venture debt have experienced significantly larger firm growth, productivity and additional debt, suggesting a crowding-in effect.**

Against that backdrop, demand for the InvestEU Fund’s resources, including InvestEU Green Transition – EIB Venture Debt, to support the policy objectives on sustainability initiatives and investments, exceeds available funding (identified in the Interim Evaluation of the InvestEU Programme⁴²). The resources are insufficient to provide thematic finance at scale for all policy priority sectors. Further strengthening of the InvestEU Green Transition’s capacity on high-risk and high-impact financing through top-ups to InvestEU⁴³ serves as the tool for increasing the InvestEU Fund’s resources in support of identified EU strategic priorities. It could foster further innovation and investment in sustainable technologies, including for the Blue Economy. The EIB Group is already making use of such InvestEU top-ups in several key policy areas, with successful deployment to date.

Support the issuance of green and sustainability bonds to finance the blue economy

As highlighted in the “Key findings” section, scale-ups require a variety of instruments to meet their financial needs, including grants, equity and debt. In the long term, companies plan to rely to a large extent on debt (**€60 million of additional debt per company in the next five years**). In addition, the Blue Champions Pilot Programme has identified large infrastructure and municipalities/Member States projects with significant funding requirements that would be mostly financed through debt.

In this context, and among other financial instruments that can be deployed (structural funds, a mix of grants and debt), these blue bonds, which are a subset of green and sustainability bonds, present a promising avenue for raising debt that highlight financing of the blue economy, with the EIB as a valuable partner.

These green and sustainability bonds are a type of financial instrument designed to finance notably marine and ocean-based projects aimed at improving the sustainability of the world's oceans.

The new Guidelines for Blue Finance issued by the International Capital Market Association (ICMA)⁴⁴ provide market participants with clear criteria, practices and examples for lending and issuances. These guidelines define typology and eligibility criteria, suggest key performance indicators and showcase the latest case studies. This should boost the issuance of green and sustainability bonds financing the blue economy, particularly in Europe, as the latest guidelines from ICMA emphasise ocean-based marine ecosystems, which is relevant for many EU countries with sea or ocean access. Looking forward, these green and sustainability **bonds have the potential to provide a stable and predictable funding stream**, attracting institutional

⁴¹ Impact assessment of EIB venture debt, European Investment Bank, 2022.

⁴² Interim evaluation of the InvestEU Programme - Final Report, European Commission, 07.2024; https://commission.europa.eu/document/download/e67ed955-af84-4a10-a260-bb10eafb8bb0_en?filename=InvestEU_FinalReport_Clean.pdf

⁴³ InvestEU blending is used in the form of top-ups, with EU sectoral programmes contributing in the form of financial support increasing the guarantee capacity under a specific existing InvestEU product.

⁴⁴ <https://www.icmagroup.org/assets/documents/Sustainable-finance/Learning-resources/IFC-Blue-Finance-Guidance-Documents-January-2022-270122.pdf>

investors, such as pension funds and impact investors, who are increasingly interested in environmental, social and governance (ESG) investment opportunities.

This instrument would be relevant after the scale-up phase of companies. In fact, **European large corporates have successfully issued blue bonds (such as Mowi, Orsted, and La Saur) to finance specifically large blue economy projects. These issuances also meet the appetite of institutional investors such as pension funds and impact investors, who are increasingly interested in sustainable debt instruments.** Hence, this is one of the instruments that may drive more capital to the Blue Economy, and which may have positive ripple effects on the startups and SMEs able to provide relevant solutions for these projects.

On the other hand, some local and regional authorities as well as sovereigns have specific Blue Economy-related projects. For them, among other instruments (structural funds, blended instruments), the EIB could play a key role in providing technical assistance to municipalities and Member States in issuing blue bonds to finance their large projects.

Naturally, as for any new financial instrument, challenges persist, such as:

- Properly allocating the use of proceeds
- Mapping diverse projects within one Blue Economy sector
- Acquiring the right expertise on both the investor and investee sides
- Managing blue bonds' lack of liquidity due to their low volume.

In conclusion, if required to do so, the EIB could play a role in providing **technical assistance to municipalities, Member States and even large corporates to issue green and sustainability bonds for financing large blue infrastructure projects.**

ANNEX 1: SURVEY QUESTIONS

- 1. Can you please specify the name of your company and your details?**
 - Company name:
 - First name, last name:
 - Email address:
 - Role:
- 2. Where is your company located?**
 - Dropdown box for European countries (EU-27, Norway)
- 3. Does your company operate at other locations inside and outside the European Union?**
 - Yes – please elaborate, where:
 - No
- 4. In which year was your company registered?**
 - Numerical answer (four digits)
- 5. What is the main activity of your company?**
 - Renewable energy
 - Shipping and ports
 - Ocean Tech
 - Aquaculture
 - Environmental and Urban Regeneration
- 6. How many people does your company currently employ full-time?**
 - In total:
 - In Europe (EU-27, Norway):
- 7. How many of your employees are involved in R&D in %?**
- 8. Which TRL does your main project submitted for the Bank's attention have?**
 - < TRL 4
 - TRL 4- 6
 - TRL 6-8
 - > TRL 8
- 9. Have you ever attempted to raise funding or investment for your business through any of the following instruments?**
 - From private banks
 - Successful
 - Unsuccessful – Please elaborate (why?)
 - From public/promotional banks
 - Successful
 - Unsuccessful – Please elaborate (why?)

- From crowdfunding, business angels
 - Successful
 - Unsuccessful – Please elaborate (why?)
- From private funding (VCs, PEs)
 - Successful
 - From foreign investors
 - From European investors
 - Unsuccessful – Please elaborate (why?)
- From public EU funds (such as EIC, Horizon Europe)
 - Successful
 - Unsuccessful – Please elaborate (why?)
- EIB
 - Successful
 - Unsuccessful – Please elaborate (why?)
- Other – please specify
- No

Please add your comments on your funding experience, as qualitative insights of your experience are important for finding potential new solutions:

10. How much funding or investment have you managed to raise so far in total (in million euros)?

- Equity:
- Grant:
- Debt:

11. How much do you intend to raise next and when?

- Equity:
- Grant:
- Debt:
- Total:

Please add your comments on your fundraising strategy, as qualitative insights of your experience are important for finding potential new solutions:

12. How difficult/easy, based on your experience, will it be for you to raise funding in Europe:

	1	2	3	4	5	N/A
From private banks						
From public/promotional banks						
From private funding (VCs, PEs)						
From public EU funds (such as EIC, Horizon Europe)						
EIB						
Other – Please specify						

Please add your comments on your access to finance, as qualitative insights of your experience are important for finding potential new solutions:

13. Are you planning to raise funds from non-EU/Norwegian investors:

- United States
- China
- Others – Please specify
- No

14. [If above “yes”] What are your reasons to search for foreign investors:

- Not possible to raise funds in the European Union/Norway
- Less difficult than to raise funds in the European Union/Norway
- Targeting foreign sales markets
- Other – Please elaborate

15. What was the average annual turnover of your company in the last three years?

- Up to €2 million
- More than €2 million and up to €10 million
- More than €10 million and up to €50 million
- More than €50 million

16. What is the geographical distribution of your turnover in %?

- Domestic:
- Europe:
- Outside of Europe:

17. What percentage of your annual turnover is coming from:

- Sales of products/solutions:
- Grants or other public financial support:
- Of which grants:

18. What is the expected annual turnover of your company in the next five years?

- Up to €2 million
- More than €2 million and up to €10 million
- More than €10 million and up to €50 million
- More than €50 million

Please add your comments on your growth strategy, as qualitative insights of your experience are important for finding potential new solutions:

19. What are the barriers for your company growth (select a maximum of three)?

- Finding customers
- Competition
- Access to finance
- Costs of production or labour
- Availability of skilled staff or experienced managers
- Product or service development
- Regulation
- Administrative burdens

- Other – Please elaborate

Please add your comments on your main barriers, as qualitative insights of your experience are important for finding potential new solutions:

20. What are the main drivers of growth for your business?

- Policy context: strategic autonomy
- Policy context: climate change actions
- Increased demand from your end customers
- Strong innovation ecosystem within your business area
- Successful partnerships with large corporates
- Other: please specify

Please add your comments on your main growth drivers, as qualitative insights of your experience are important for finding potential new solutions:

21. Do you recommend continuing the Blue Champions initiative to follow over time your project status/growth strategy?

- Yes
- No

Please add your final comments, as qualitative insights of your experience are important for finding potential new solutions:

EUROPEAN BLUE CHAMPIONS

Charting the course
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