

Interreg
North Sea Region
PERISCOPE
European Regional Development Fund



PERISCOPE INNOVATION AND BUSINESS DEVELOPMENT SURVEY 2019-2020

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Conducted for the Periscope Network by



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Executive summary of Periscope's Innovation and Business Development Survey, 2019-2020

Successful blue growth requires companies to innovate and invest. Periscope, being a blue growth innovation ecosystem, has from November 2019 to January 2020 undertaken a survey among 107 organisations in the North Sea region's blue economy in order to better understand their innovation strategies and their perception of the climate for business innovation. The two dimensions are considered key to successful innovation performance.

The conclusions clearly point towards an innovative sector, however with some resource challenges and issues surrounding innovation being connected with customization of products for specific customer needs. Despite this, 8 out of 10 organisations do indeed have an innovation or business development strategy, and even more impressively 9 out of 10 have engaged in innovation and business development activities during the last three years. Half of the respondents claim to have made important or major breakthrough product innovations, whereas 4 out of 10 have achieved similarly for service innovations. Production process innovations, business model innovations and other forms of innovation are less important.

Four out of ten have created new products/services for new markets, but only 15% have created entirely new business areas. Most organisations undertake either incremental product/service improvements or new products/services for existing markets, and overall two out of ten have registered new patents. Markets, in particular customers, trigger innovations, next to great ideas among staff. Competitors, who are basically centred around the North Sea region, are not spurring innovation and business development work.

Addressing the external factors influencing innovation in companies, there is a tendency that the innovation capacity is limited by financial resources. Time and money are scarce, and many organisations cannot afford to invest their time in innovation actions. Half of the respondents indicate that the cost of innovation and business development is among the most pressing issues the respective organisation is facing to achieve its innovation and business development goals. 36% of the respondents also list finding pilot customers as a pressing issue, which could indicate the need to get paid for innovation and business development. It could also imply that many organisations, like in the oil & gas sector, customize products for customers. Access to finance is equally a pressing issue, like availability of skilled staff and experienced managers. Despite the lack of internal skills, many organisations are sceptical about external collaboration when innovating. Five in ten organisations say that the biggest barriers to engaging in external interaction are lack of sufficient time or financial results and secondly, loss of control over valuable knowledge and difficulty finding the right partner.

Technology, access to test facilities, access to maritime space, lack of public support, regulations and permits do not seem to be major stumbling blocks for the innovation capacity of the organisations. Diving into finance, 7 out of 10 are in need of gaining access to finance to fulfil their innovation and business development strategy. Four out of 10 respondents would need below 1 million Euro, whereas 6 out of 10 would have sufficient funding within the limit provided by the Horizon 2020 European Innovation Council Pilot, i.e. 2.5 million Euro. Only 9% would need above 10 million Euro, and around 20% are not in need of external finance.

Too high own co-funding, red tape and financing alternatives not matching the real needs are listed as the most important limiting factors to accessing finance. Grants seem to be a path many organisations have taken, with organisations preferring local, regional, and national grants over the EU grants. The challenging aspects of applying to both local/regional/national and EU grants are the same for the majority of the organisations. The application procedures and internal aspects,

such as project administration and reporting plus own co-funding, are the most relevant barriers to grants.

Organisations seek external business support to help with finance and with establishing useful partnerships. Access to finance and funding /grant proposal support are cited most frequently as the most relevant external business support to fulfil the blue players' innovation and business development. Partnership search and matchmaking follow suit, then regulatory support.

As the Periscope ecosystem seeks to accelerate emerging blue market opportunities, the survey tested the interest of the organisations for an open innovation platform to interact with other market players and stakeholders providing grants. 55% indicate that they support the main idea of the platform to be an independent digital market where the organisations can search for and procure external expertise and solutions. 66% show an interest in promoting their own expertise and solutions to external parties and to bid for contracts.

From a societal point of view, the organisations' sustainability efforts appear sales and market driven. The most relevant matters are Company philosophy and values (68%), Market growth opportunities (49%), customer / consumer demands (41%) and reputational risks / benefits (38%). CEO / Executive management interest (13%) inside the organisation has very little influence. Worthwhile noting is that 3 out of 10 organisations rate sustainability efforts as a key aspect to attract talented workers.

Climate change, health & safety / wellness, plus ethics and integrity (including anti-corruption efforts) are the top three sustainability priorities over the next three years.

Kristiansand, 6 March, 2020

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Introduction

The European Union (EU), through its policies and programmes, encourages the sustainable development of the blue economy. In the report “The EU Blue Economy Report 2019”, the EU states that by 2017 the established sectors in the Blue Economy directly employed over 4 million people, generated €658 billion of turnover and €180 billion of gross value added.

EU has encouraged all regions in Europe to achieve a long-lasting sustainable use of the ocean and marine ecosystems. The mandate has been to implement action on different fronts, as well as using new thinking and fresh approaches. The need for new thinking arises at the same time as ground-breaking discoveries, disruptive technologies, and collaborative and open innovation practices.

Although the European Commission has encouraged and promoted technology, innovation and business development in the blue economy in several regions of Europe, there is still limited literature and reports about innovation in the sector and the drivers for companies’ innovation actions and performance.

In order to gain better understanding of the innovation capabilities and the blue growth potential within the blue economy in the North Sea region, the Periscope Network, a North Sea Region partnership aiming to establish a permanent Blue Growth innovation ecosystem in the region, has undertaken an interregional online survey.

The main goal was to identify the North Sea Region **companies’ innovation strategies** and their perception of the **climate for innovation** in order to provide input to policymakers across the North Sea Region, including the EU institutions.

107 respondents from top level management and decision makers (CEO, COO, President, Business and Development Managers, etc.) of Belgium, Norway, Netherlands, United Kingdom, Germany, Sweden and Denmark, gave input to the online survey between December 2019 and January 2020.

The survey is based on the Guidelines for Collecting, Reporting and Using Data on Innovation, from the Oslo Manual 2018 by the Organisation for Economic Co-operation and Development (OECD) and the EU, and more specifically, the external factors that influence innovation in firms such as:

- Innovation strategies of the North Sea Region companies
- External business environment for innovation in the North Sea Region
- Financial needs faced by the companies
- Impact of emerging technologies in the competitiveness of the companies
- Barriers to build knowledge flows and networks in the region
- Perceived challenges of public subsidies
- Sustainability issues.

Detailed Findings

1. Innovation strategies of the North Sea Region organisations

Innovation and business development is an important activity for the organisations of the North Sea Region. The major part of the respondents have in place innovation and business development strategies, and have been active in undertaking such activities during the last three years. Organisations have been working at a larger extent in product innovation. The main triggers for embarking on innovative processes creation are customer’s specific demands and the need to remain competitive in the existing markets.

1.1 Organisation's motivations and strategies for innovation

Implementing innovation and business development strategies is an important activity for the blue economy organisations in the sample. Eight out of ten organisations have a strategy (see figure 1). Nine out of ten organisations have engaged in an innovation and business development activity in the last three years (see figure 2).

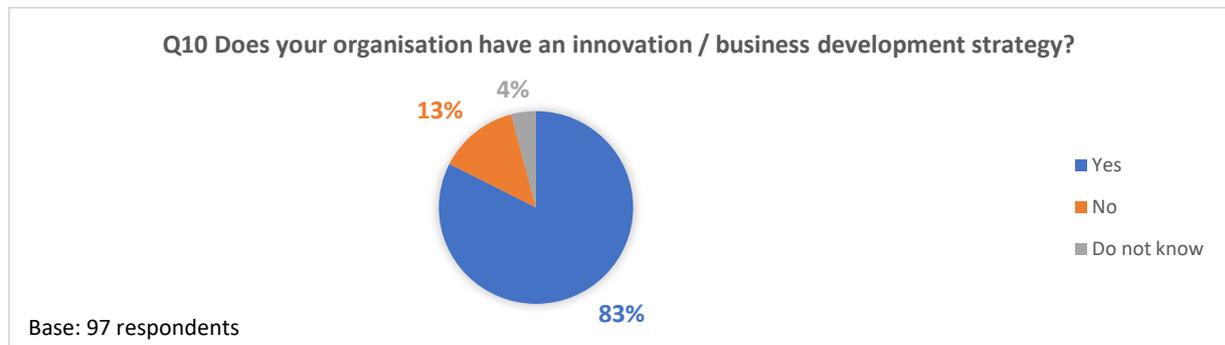


Figure 1 – Innovation and business development strategy

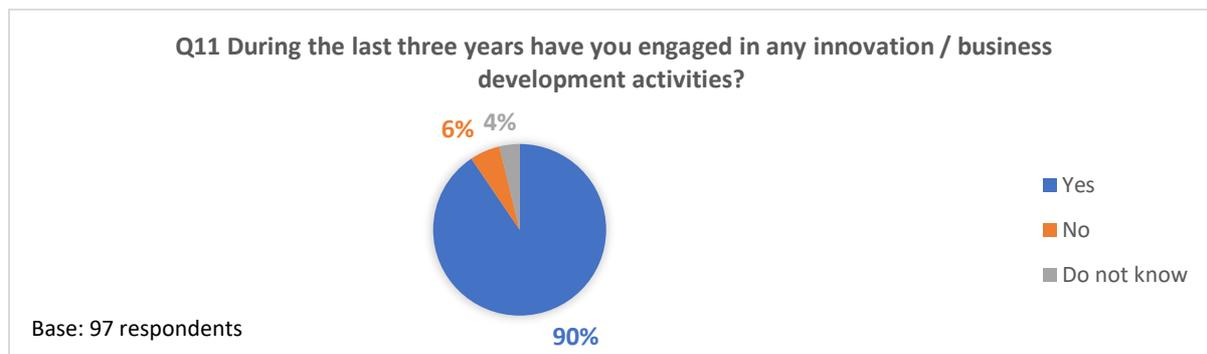


Figure 2 – Innovation and business development strategy

1.1.1 Customer's demands and internal teams trigger innovation

The organisations are split over the triggers for innovation and business development. 36% agreed that their innovations are in response to client-specific demands, whereas 30% agree that innovation comes from great ideas internally (see figure 3). Large companies with €50+ million turnover are less triggered by internal ideas, and mostly respond to client specific demands. Noteworthy is the result that almost none of the respondents are triggered by their competitors.

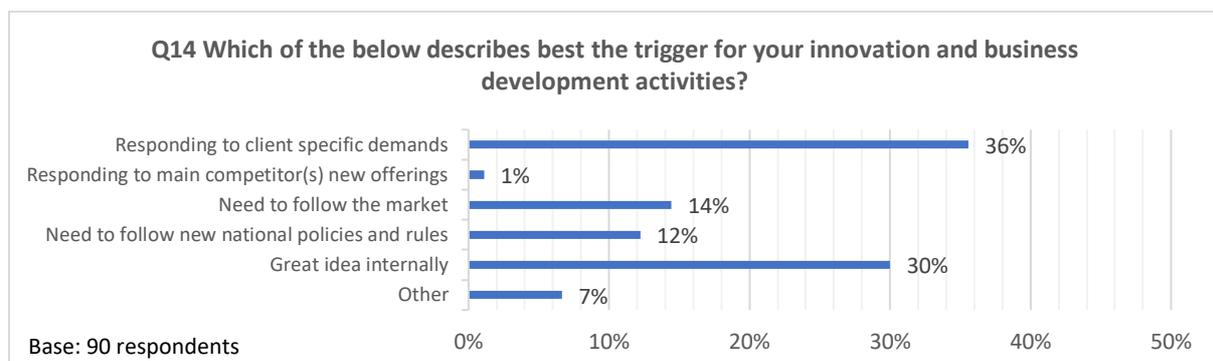


Figure 3 – Triggers for innovation

1.2 Output of innovation and business development in the blue economy organisations

The organisations declare being engaged in innovation activities in the last three years. It is important to highlight that half of them are strongly devoted to product innovation. Secondly, 42% of the organisations have undertaken service innovation activities. In third place, 35% of the organisations have been engaged in activities related to production process innovation. Innovation in other processes, like management, business models, logistics and supply chain, is less frequent. 22% report such activities (see figure 4).

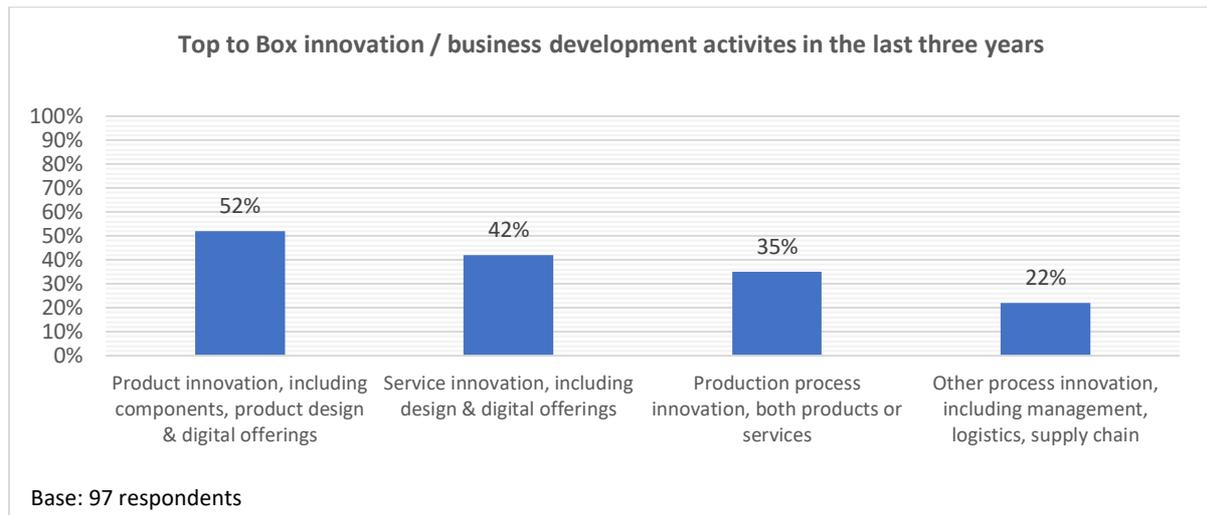


Figure 4 – Top to box innovation/business development activities in the last three years

1.2.1 Product innovation

52% of the companies report that they have made important or major breakthrough in product innovations during the last three years, with 1 out of 5 having achieved a major breakthrough. Offshore energy organisations with a turnover of €2 to €10 million are those achieving most product innovation breakthroughs. It underpins the belief that the North Sea Region is a hotspot for blue growth. Only 15% of the companies have not achieved any product innovations.

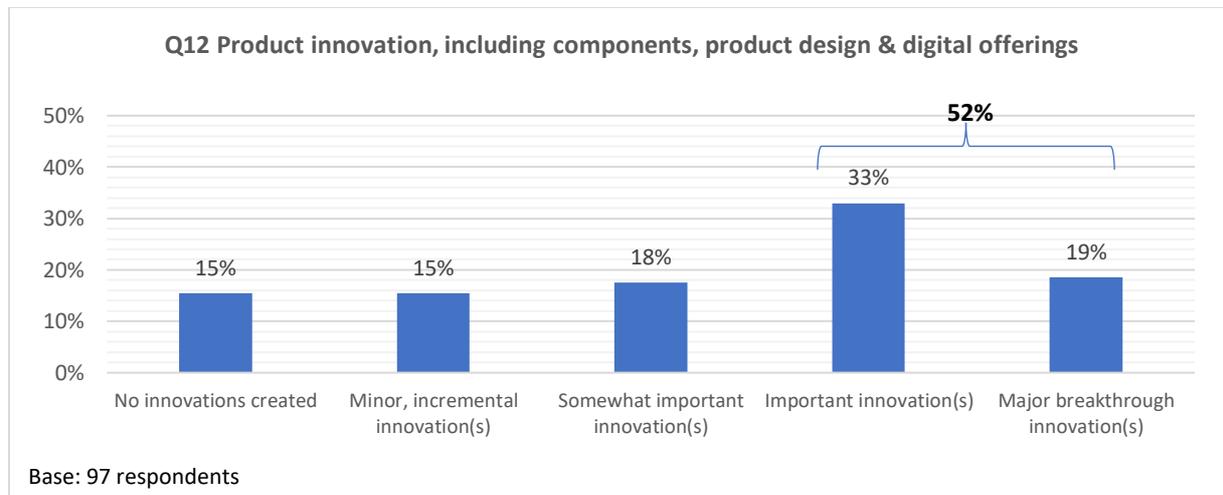


Figure 5 – Product innovation

1.2.2 Service innovation

Service innovations are less frequent and less successful than product innovations. However, still 42% of the organisations have achieved important or major breakthrough innovations. Almost 4 out of 10 have not achieved any innovations or limited service innovations, including design and digital offerings. This might indicate that many organisations are focusing on the important service innovation domain, utilizing digital technologies and responding to the Industry 4.0 transition. However, the results may also indicate that there are multiple organisations in need of support to tackle the digital challenges and respond to rapidly evolving markets.

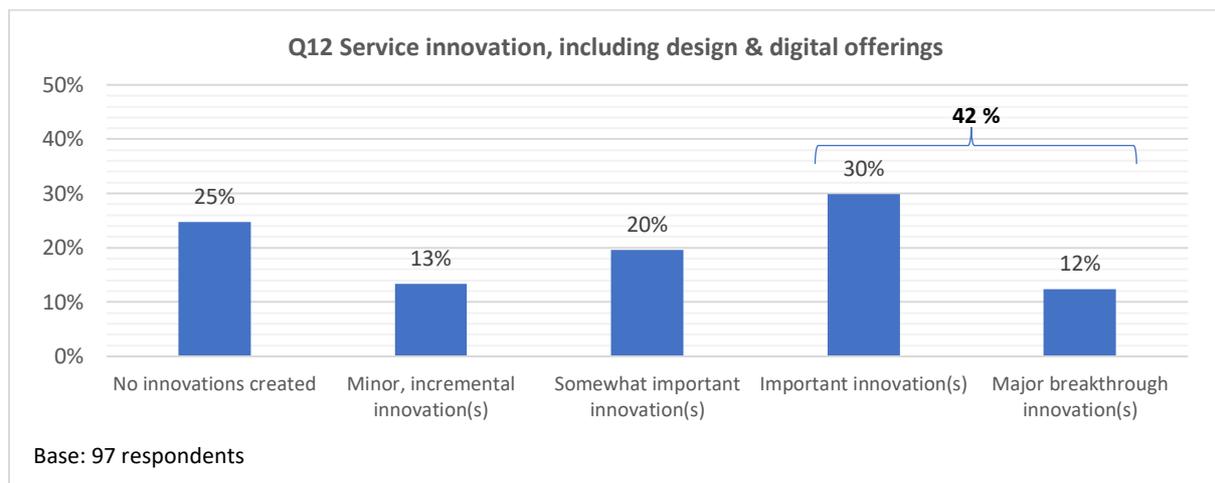


Figure 6 – Service innovation

1.2.3 Production process innovation

Moving to production process innovation, including the transition to Industry 4.0, there is a less positive picture than product and service innovations. Almost half of the respondents have not achieved any innovations or just minor, incremental innovations. It raises a question if the organisations are fit for the digital age. On a positive note, 35% have made important innovations or major breakthroughs.

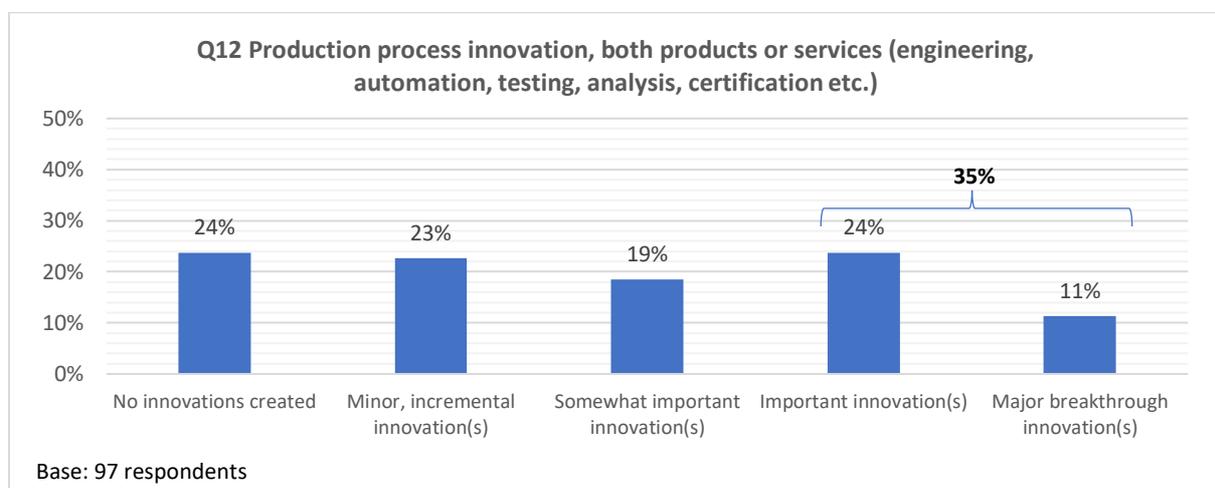


Figure 7 – Production process innovation

1.2.4 Innovation in other company processes

Organisation engagement in process innovation such as management, logistics, and supply chain is relatively low. Only 6% report major breakthrough process innovations, which could be a signal of disruptive companies with ground-breaking technologies.

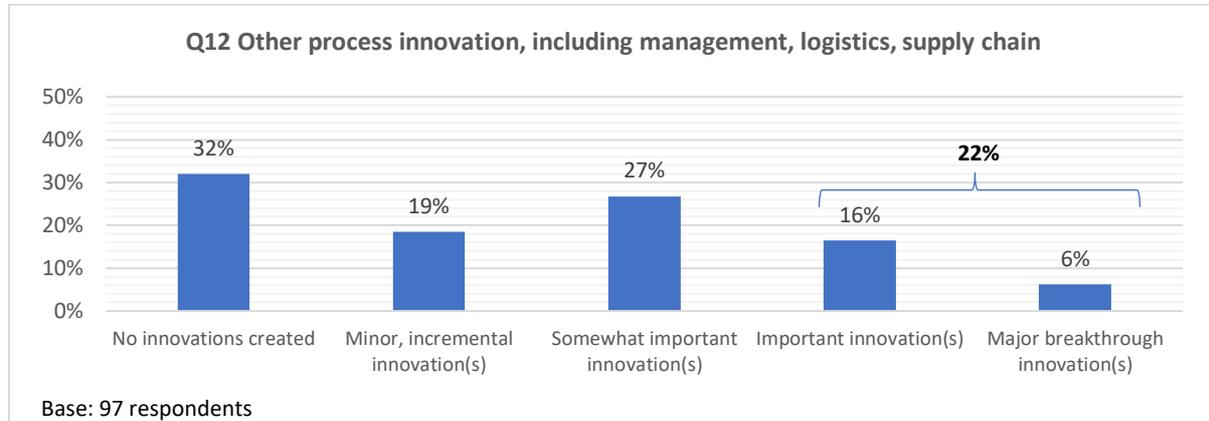


Figure 8 – Innovation in other process

1.2.5 Existing markets constitute the biggest markets for innovation

The organisations cite that innovation activities have been mainly targeted at existing markets, where 55% have improved existing product and service innovations and 54% have created a new product. However, improving operational capacity and competitiveness has scored as an important activity when implementing innovation in the organization (see figure 9). This might be an indicator of the switch to Industry 4.0.

39% have created a new product/service for new markets, whereas 15% indicate they have created entirely new businesses. These findings point towards disruptiveness and existing companies spinning out new business domains.

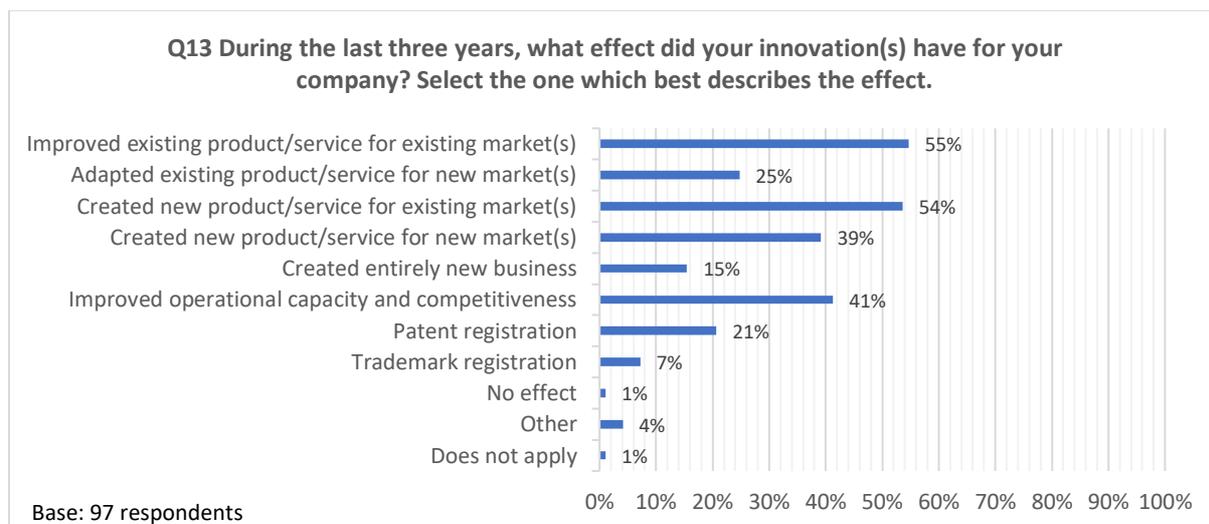


Figure 9 – Effect of innovation in the organisation

Other: 4%

- Acceptance of drone technology by Classification Societies

2. Climate for innovation and blue growth in the North Sea Region

To understand the climate for innovation in the North Sea Region, the survey covered important aspects such as: financial needs of the companies, how public support is perceived, the barriers to interact to expand knowledge flows and networks, as well as the most relevant factors for the organisations in terms of sustainability.

2.1 Financial concerns are the most pressing issues for the companies when innovating

Companies face two major pressing issues to achieve their innovation and business development. The cost of innovation and business development (53%) ranks as the most important, while in second place comes access to finance (42%) (see figure 10). More than half part of the participants of the survey agreed on needing access to finance (71%). However, it is interesting that 29% of the responding organisations are unsure or not interested to reply to this aspect (see figure 11).

Building on these findings and the innovation achievements set out above, it is not surprising to learn that the companies want to engage pilot customers in order to potentially finance the development or at least have a customer-driven innovation action. The fact that 36% of the respondents report that finding pilot customers represent a pressing innovation and business development issue, indicates the need to support those is gaining access to open innovation platforms where pilot customers (problems owners) can be found.

Lack of skilled staff or experienced managers represent another pressing challenge for 37% of the companies. It demonstrates clearly the need for upskilling existing staff, while developing talent for, and attracting relevant and highly skilled people, to the North Sea Region's blue economy.

Access to maritime space is not considered a pressing issue for the companies' innovation and business development issues. Only 3% reports it to be an issue. However, 15% report regulations and permits to be an issue, which is on the same level as lack of public support.

Despite the EU's Green Deal and the pressure to develop a sustainable society and economy, only 1 out of 10 report sustainability and going green / climate action to be an issue.

Finally, 1 out of 10 are content with the current situation and see no pressing issues.



Figure 10 – Pressing issues for innovation

Other: 4%

- Developing strong commercial teams
- Balance between time required for acquisition, turnover and R&D
- Lack of customers

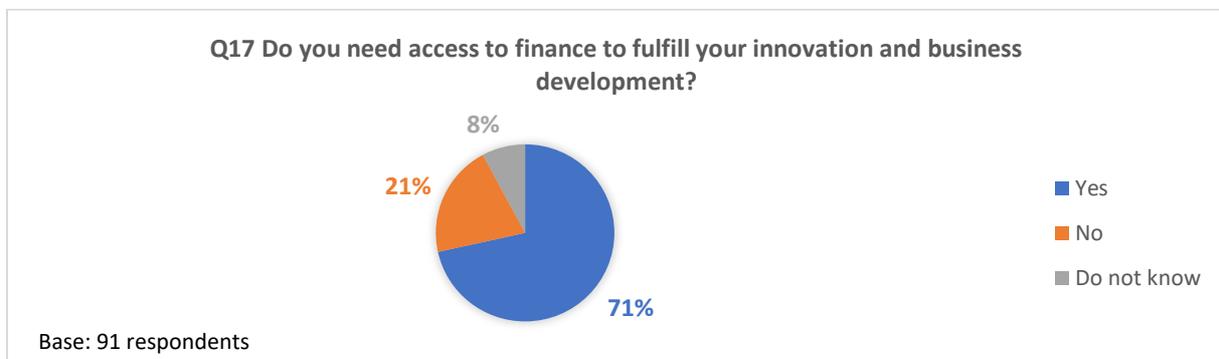


Figure 11 – Access to finance

There is no clear-cut answer to the amount of external finance needed for innovation and business development by companies in the North Sea Region. 26% claim external finance not to be applicable, mostly due to not needing it or not knowing the specific financial needs of the organisation. Another 10% needs less than €100 000, and 4 out of 10 need less than €1 million. 3 out of 10 need more than €1 million. It is evident that the number of organisations in need of external finance and the required amounts would be challenging to support through public support mechanisms, such as grants.

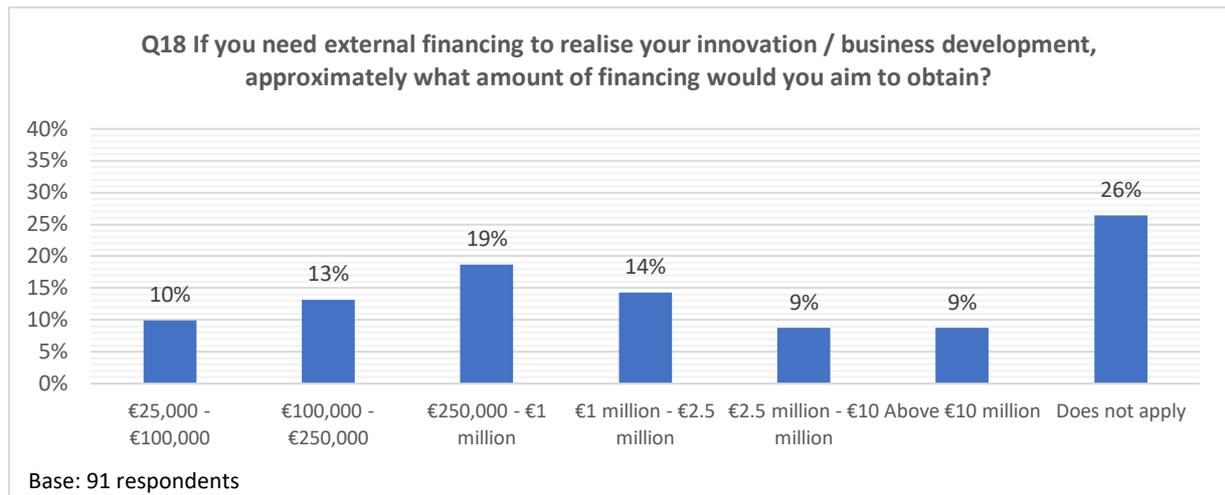


Figure 12 – Amount of financial aid

2.2 Internal factors limit the organisations to apply for financing

Organisations considered that two of the most important limiting factors to access to finance are the Own co-financing (22%) and Too much paperwork (12%) (see figure 13). 56% of the companies younger than three years find own co-financing a barrier.

Combined with the administrative costs, it is clear that most companies want less bureaucratic funding instruments which finance a high percentage of the development costs and have less reporting and formal procedures to comply with when applying and reporting achievements, activities and costs.

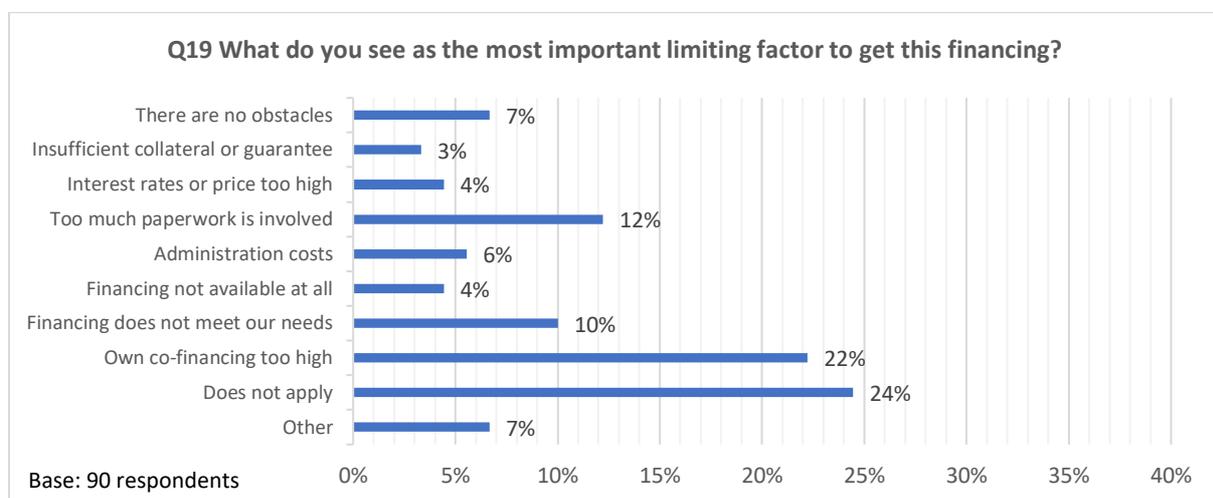


Figure 13 – Limiting factors to get financial aid

2.3 Grants are attractive financial mechanisms for the organisations

74% of the companies have applied to local/regional/national grants. 63% of the companies have applied for and succeeded in the application (see figure 14). As several organisations succeed in this process there is a higher interest to proceed with these types of processes.

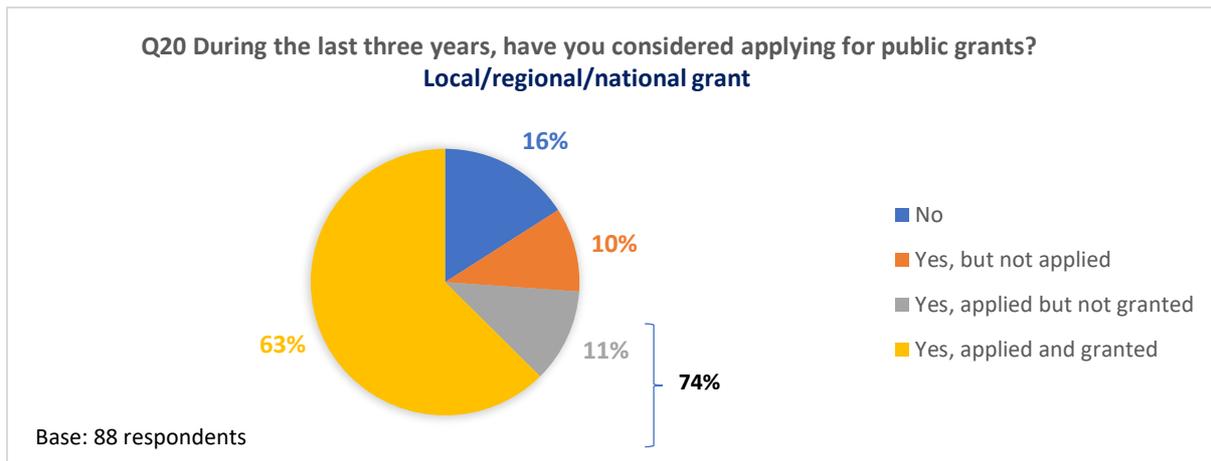


Figure 14 – Local/regional/national grant application

Five out of ten companies have considered applying for EU grants. 37% of the companies have applied for and succeeded in the application (see figure 15). Half of the companies are hesitant to apply, which might be due to the complexity of requirements and procedures, next to low success rates.

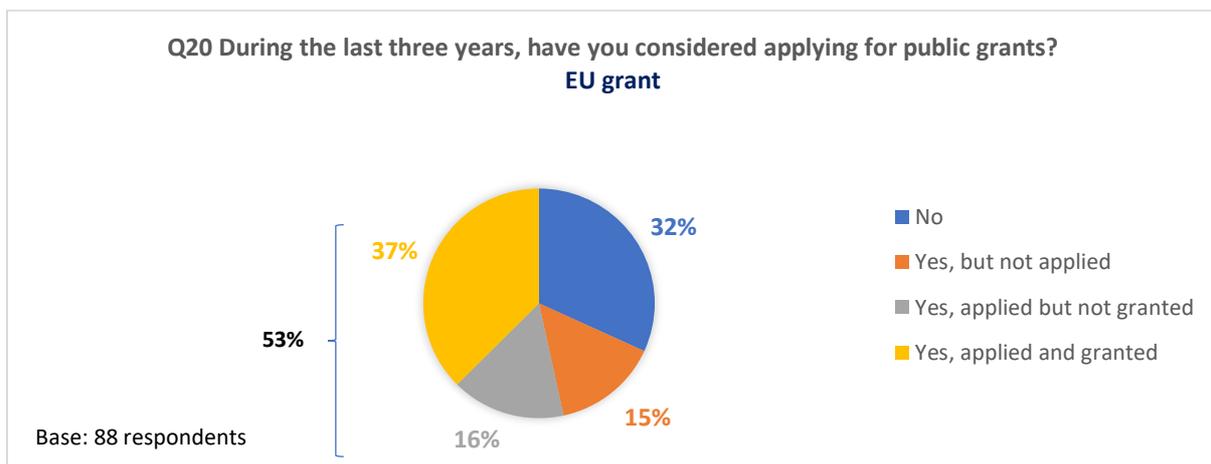


Figure 15 – EU grant application

2.4 A range of emerging and enabling technologies directly impact the competitiveness

Asking companies about which emerging and enabling technologies will directly impact their competitiveness, the responses highlight that most digital technologies are extremely important to future success and competitiveness (see figure 16). However, the issues that are slightly more relevant for the organisations are Electric and renewable fuel solutions (52%), Big data and analytics (47%), Artificial Intelligence (42%), and Automation and condition monitoring (42%). Combined with the previously presented result on lack of access to skilled staff and managers to undertake innovation and business development, the need for digital skills development is evident.

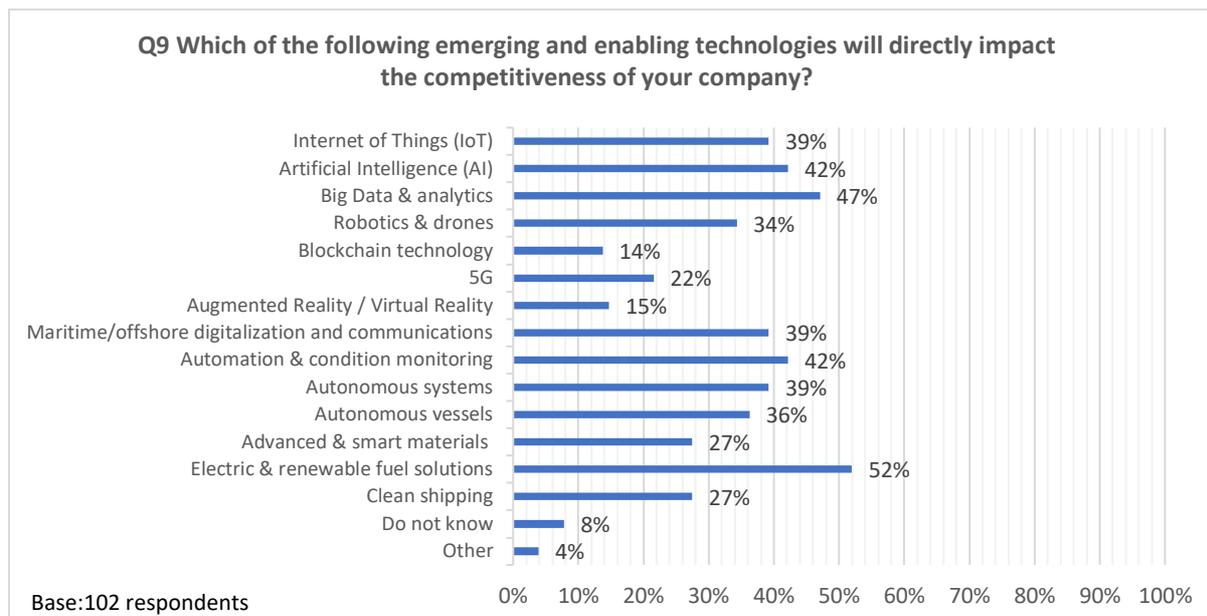


Figure 16 – Emerging technologies with direct impact on the competitiveness

Other: 4%

- Satellite Observations and numerical modelling

2.5 The barriers to build knowledge flows and networks in the region

Several barriers restrict companies from working with external partners when undertaking their innovation and business development activities. The majority of the organisations agree that Lack of sufficient time and financial resources (55%) is the most relevant, followed by various trust and cost issues (see figure 17). In order to improve the willingness, readiness and ability of companies to work together, safe, trusted and efficient collaborative platforms are needed, in which there are no barriers to entry.

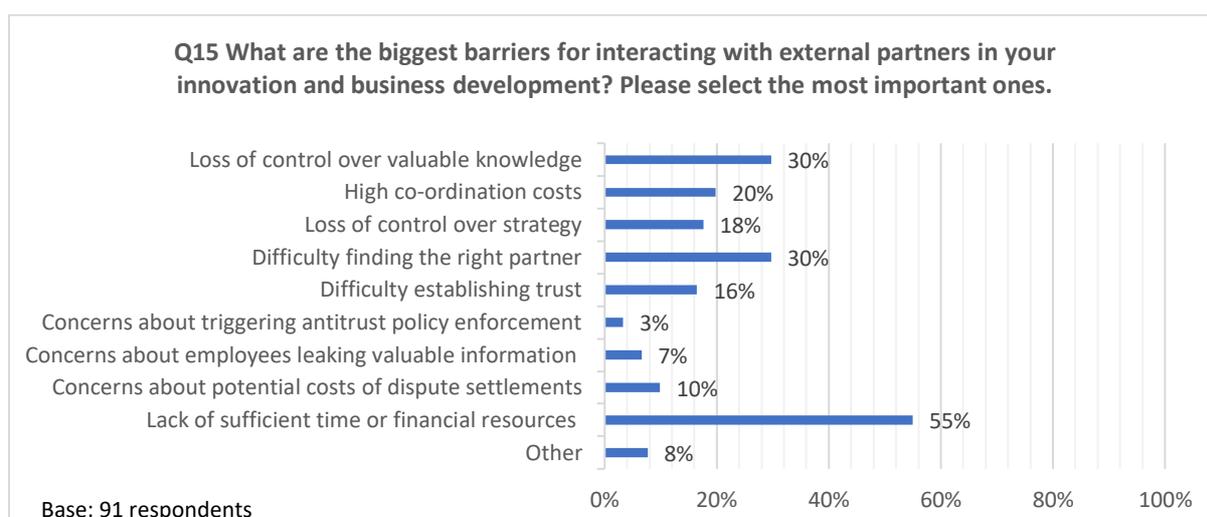


Figure 17 – Barriers to innovation

Other: 8%

- Clients understanding the innovation
- Lack of government support for tidal stream technology

- Team integration around innovation
- Unrealistic sales effect expectations

2.6 Perceived challenges of public subsidies

Public support is considered very relevant to the companies because it is a great source for financial funding. However, several internal and external factors might interfere with the will of the companies to pursue such financial support.

The challenging aspects of applying to both local/regional/national and EU grants are the same for the majority of the organisations. The application procedure and internal aspects, such as project administration and reporting and own co-funding, are the most relevant aspects mentioned by the companies (see figure 18 and 19). Application procedure, project management, reporting demand time and internal resources are aspects which some of the companies might not have available.

For young companies, own co-funding represents a more substantial issue than for the established ones. On the other side, these companies seem less burdened by the application procedures.

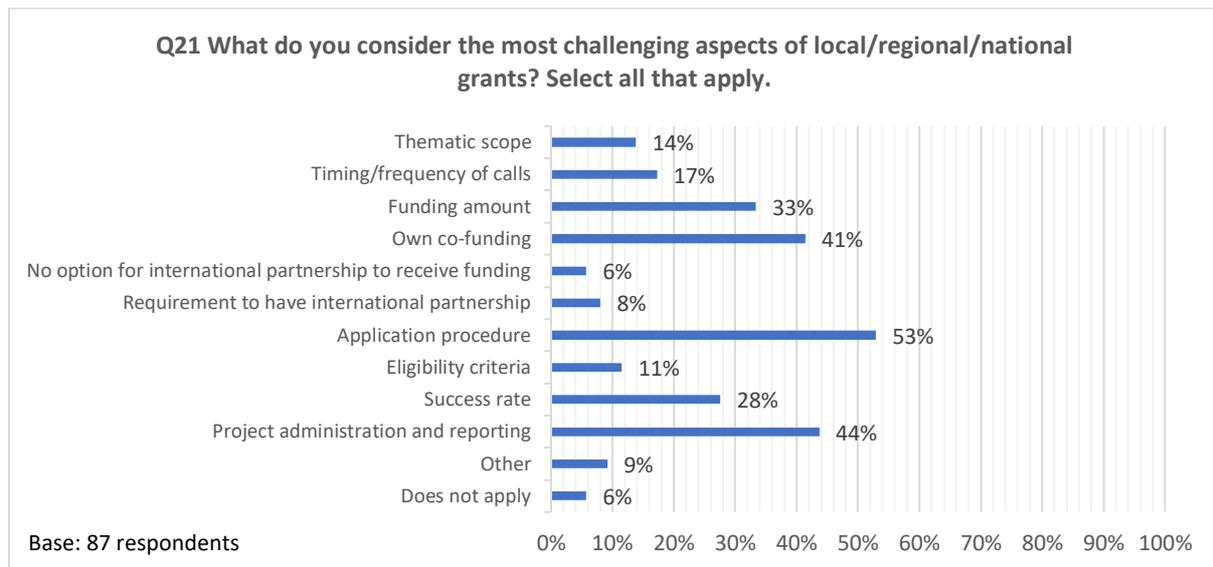


Figure 18 – Challenging aspects for local/regional/national grant application

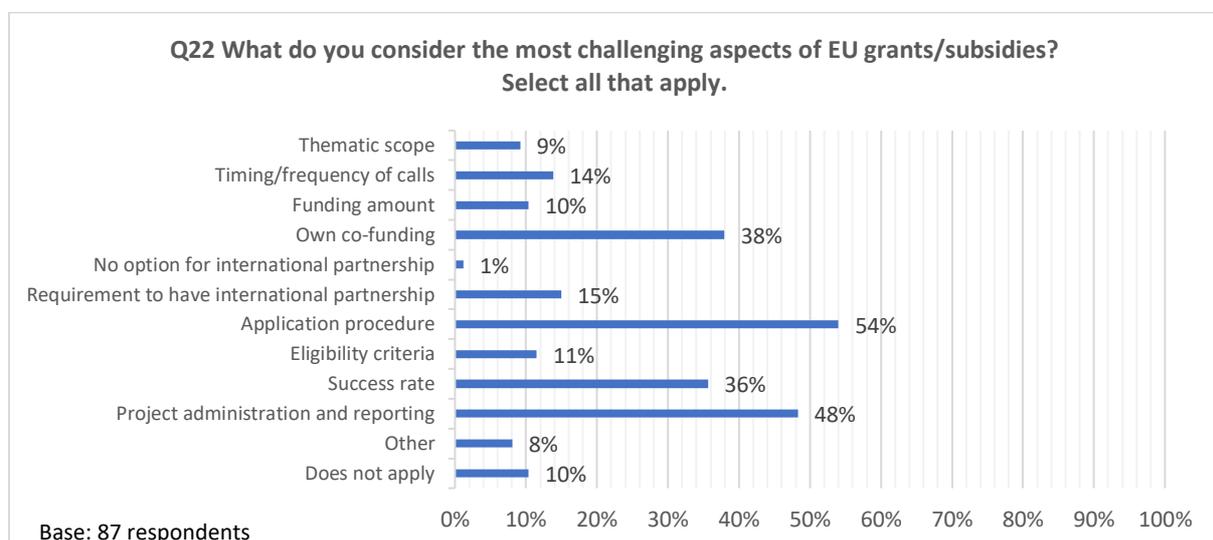


Figure 19– Challenging aspects for EU grant application

Other valuable open-ended responses to the questions on all types of grants and subsidies, raised the following issues:

- The people selected to assess applications may have conflicts of interest
- SMEs criteria
- Research institutions take too much of the funding
- The programmes are far away from reality
- Too many projects chasing too little money
- Grant industry has been captured by professional grant writers

2.7 External business support to encourage innovation and business development

External support, including public support, is an essential part of the innovation and business development climate of companies and knowledge institutions. Hence, the survey set out a question about the most relevant support companies can get. The responses gave a clear indication that the most valuable is to receive support to access finance and grants. Half of the respondents indicated such needs, with the younger organisations in most need. Partnerships and matchmaking are following suit with 3 out of 10 of the respondents. In light of the previous responses, it may be derived that support in finding pilot customers and qualified knowledge partners would be highly beneficial. The importance placed on access to laboratories, test and piloting infrastructures, in addition to business development and innovation management support plus intellectual property rights support, yields a picture that comprehensive, one-stop-shop innovation and business development support platforms would be beneficial. This is further supported by the interest in the Open Innovation platform, see below.

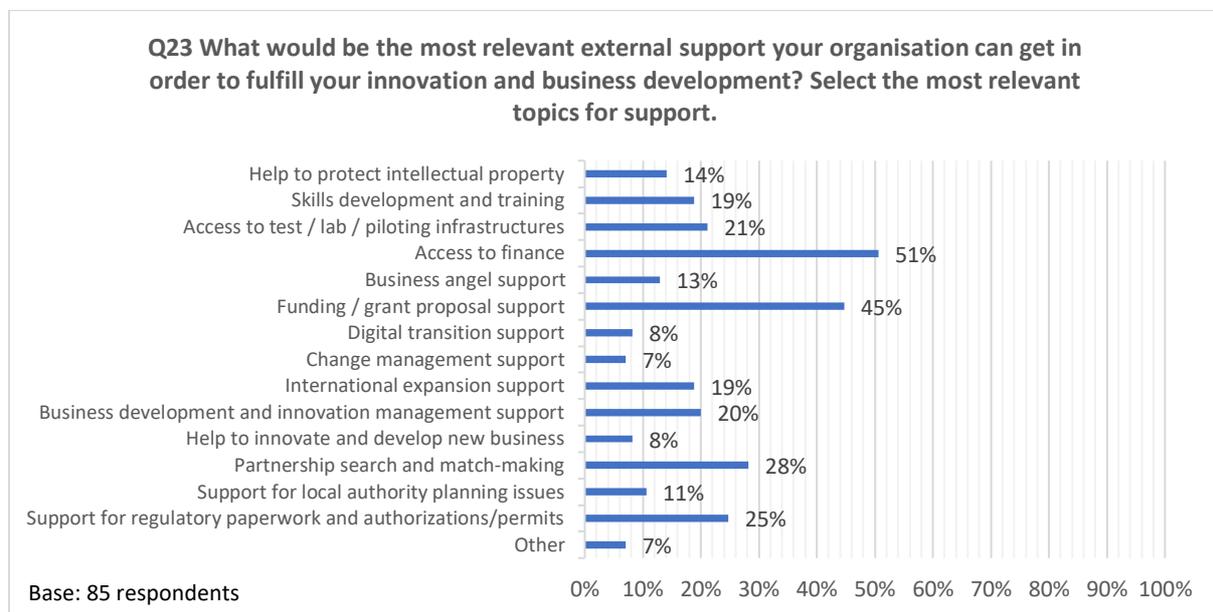


Figure 20 – External support to improve innovation and business development

One out of five companies seek skills development and training, which is in line with the findings previously set out. The same ratio is indicated for international expansion support.

Other: 7%

- Finding pilot customers
- Funding for business development activities

2.7.1 Open Innovation Platform

As the Periscope Network seeks to accelerate emerging blue market opportunities, the survey tested the interest of the organisations for an open innovation platform to interact with other market players. The main idea of the platform is to become an independent digital innovation market where the organisations can search for and procure external expertise and solutions, as well as promote their own expertise and solutions to external parties and bid for contracts.

Of the platform's two main features, 55% responded positively on the interest in using it for search and procurement of external expertise and solutions from external parties. 5% responded that they already use such a platform. The highest interest is among the small and large companies (see figure 21).

66% of the respondents claim interest in using the open innovation platform to promote their own expertise and solutions to external parties and bid for innovation contracts. 6% claim to already use such type of platform (see figure 23).

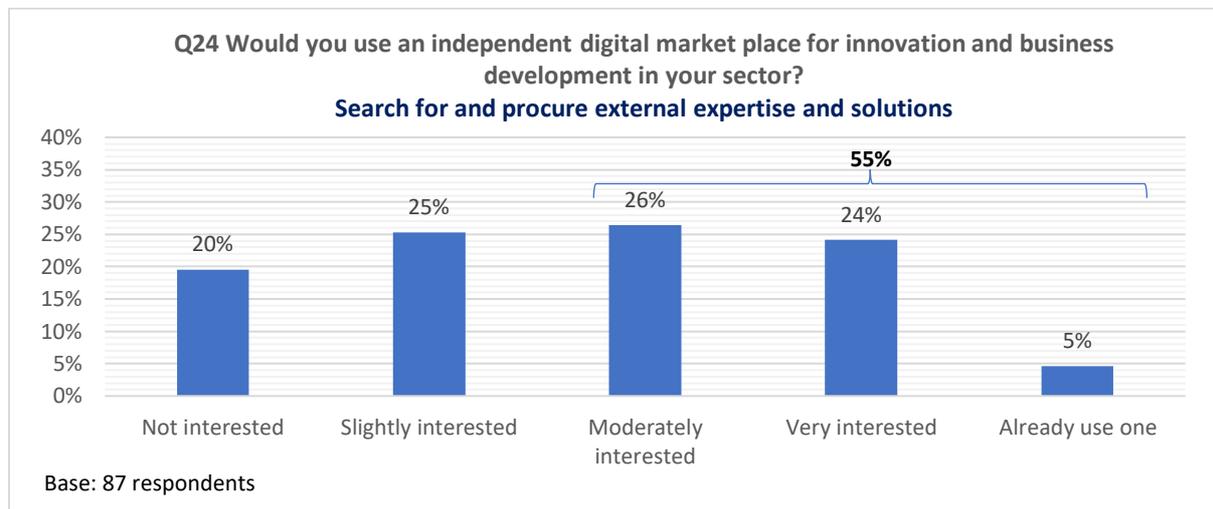


Figure 21 – Open innovation platform – Search for external expertise

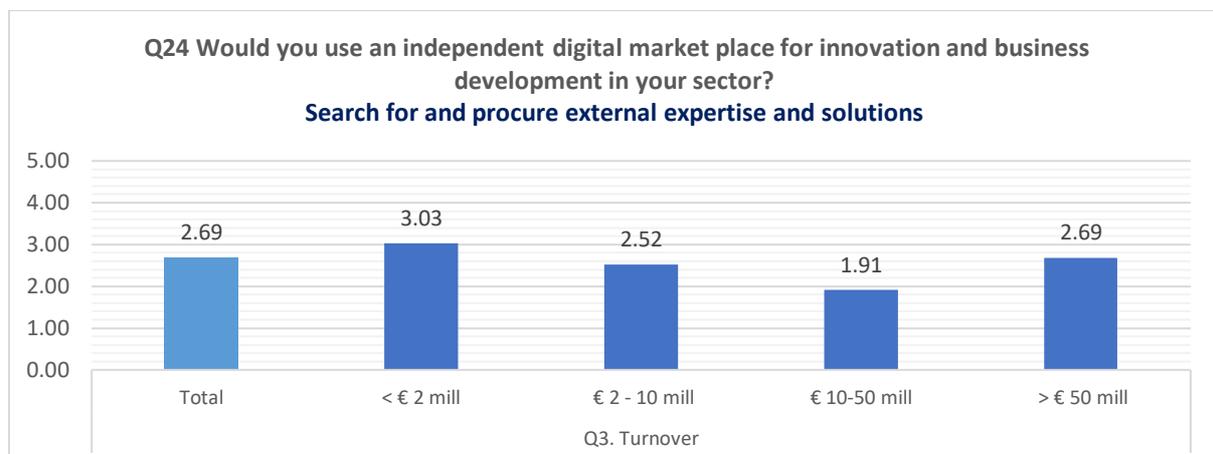


Figure 22 – Open innovation platform – Search for external expertise vs Turnover

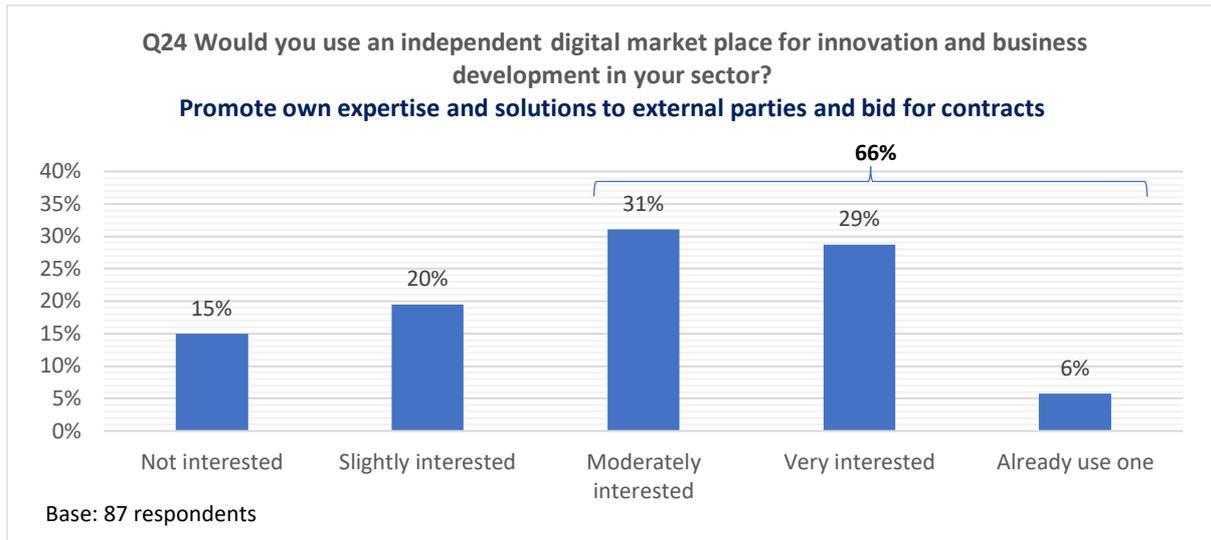


Figure 23 – Open innovation platform – Promote own expertise



Figure 24 – Open innovation platform – Promote own expertise vs Turnover

2.8 Main sustainable priorities for the blue economy organisations in the North Sea Region

Sustainability is a key issue to enable future-oriented business to grow. In order to understand the sustainability priorities of the organisations, the survey asked the respondents to rate its various sub-topics. Interestingly, all were rated important. Climate change, health & safety / wellness, plus ethics and integrity (including anti-corruption efforts) are the top three sustainability priorities over the next three years.

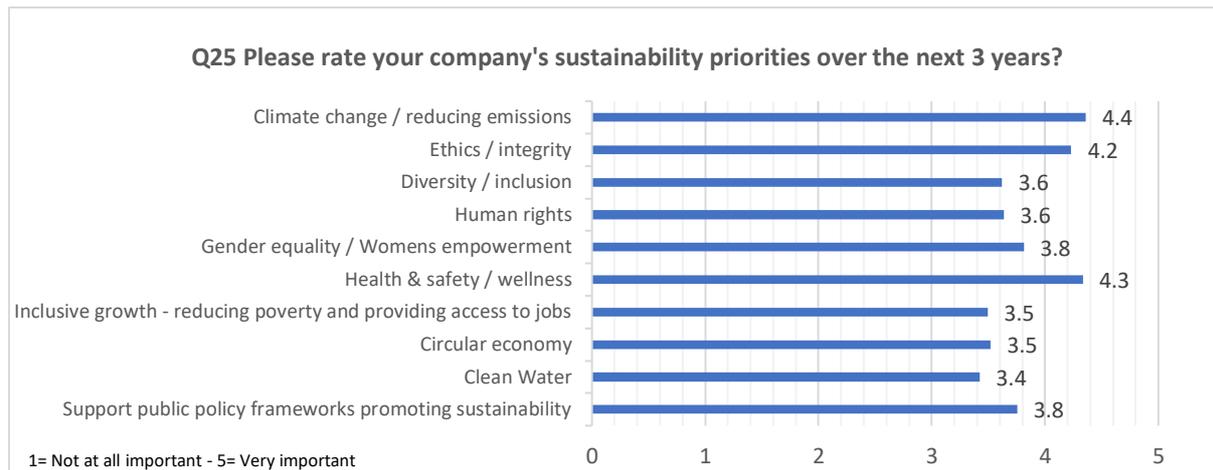


Figure 25– Sustainability priorities

Despite being a priority, there might be an issue with “The knowing – doing gap” which basically stipulates that managers find sustainability to be important, but neither incorporate it in their strategy nor business model.

In the survey, the organisations’ sustainability priorities appear sales and market driven. The most relevant issues are Company philosophy and values (68%), Market growth opportunities (49%), customer / consumer demands (41%) and reputational risks / benefits (38%). CEO / Executive management interest (13%) inside the organisation has very little influence. Worthwhile noting is that 3 out of 10 organisations rate sustainability efforts as a key aspect to attract talented workers.

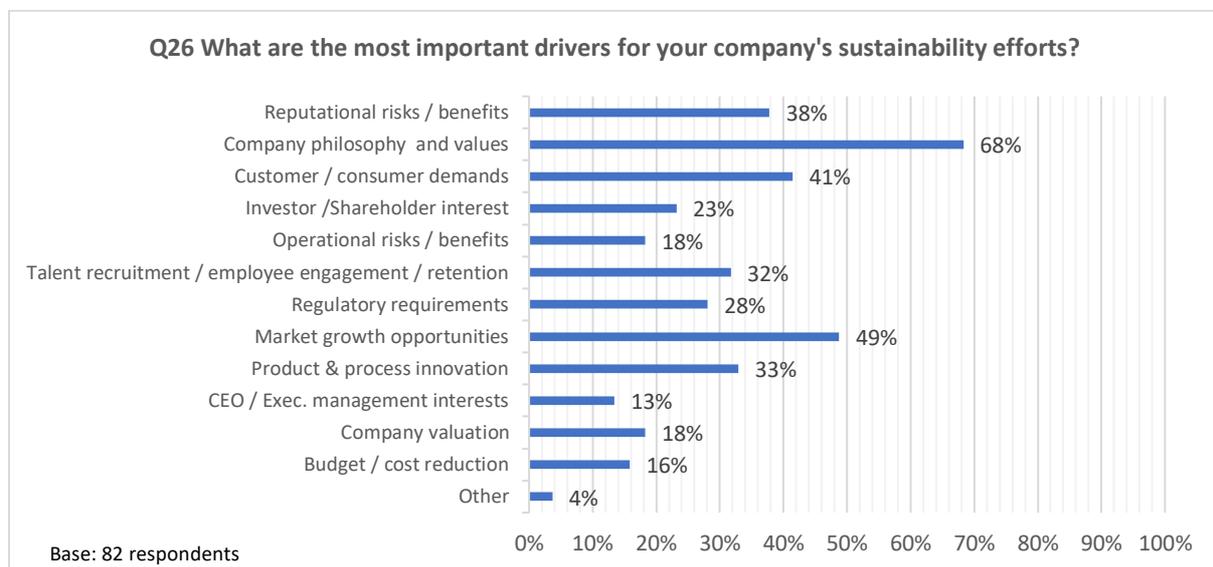


Figure 23 – Drivers to promote innovation in the company

2.9 Respondents’ recommendations to policy makers to advance a sustainable blue economy

Through the following two open ended questions, the respondents provided recommendations to policymakers.

- What actions would you recommend your government and the EU to implement in order to advance a sustainable blue economy?

- Please insert any comments/suggestions you have which would help improve your company's competitiveness or innovation and business development capacity.

The answers have been compiled in different categories that are listed below.

2.9.1 Regulation/Policy

- The EU Commission and the North Sea Commission should support energy-saving and health/environmental solutions. Downsize the electrification hype for cars and intensify the research programmes on batteries and hydrogen fuel.
- Ensure a greater harmonisation of regulation among all the regimes in Europe.
- Adjust the tax regime to be similar in the entire European Union. First, shift taxes from labour to resources. Second, transfer the existing tax support from non-sustainable activities to sustainable blue economy activities. Include a similar version of Enterprise Investment Scheme (EIS) tax relief.
- Create a Power Purchase Agreement (PPA). The difference between what is paid to the technology developer and what is gained when the power is sold by the EU onto the open market should be used as support for technology initiatives.
- Push for mandatory carbon neutrality and support to Sustainability Development Goals for 2050. Request mandatory public reporting of emissions to all the companies.
- Create an arena to involve early-stage marine energy technology developers in the policymaking process. Provide the same access to policymaking to small enterprises as to big businesses.

2.9.2 Business support

- Increase funding and grant access to the (sub) supplying part of the blue industry, such as aquaculture and underwater activities.
- Support new business models and promote matchmaking between innovators and industry, and decision-makers. Implement innovative procurement processes to acquire new services/products from innovators with shared risks.
- Provide an overview of the identification of initiatives, projects and programmes in one unique place for the North Sea Region.
- Create Blue Economy forums specialised for the North Sea Region.
- Fund more pilot projects with emerging and alternative technologies, that can be easily implemented in real businesses.
- Maintain the EU ETS for CO₂ at a higher rate to encourage the development of new sustainable technologies.

2.9.3 Procedures

- Maintain an open selection process for the people chosen to screen EU funding applications to avoid conflict of interest.
- Create an SME blue business working group for enhancing dialogue at the local political level, and with tech companies and entrepreneurs.
- Simplify the funding and grants procedures.

2.9.4 Financial

- Provide financial assistance for smaller amounts, over longer periods and at nominal interest rates.
- Provide 100% funding opportunities for early-stage research in relevant circular economy, sustainability and climate change-related areas.
- Give stronger motivations for investments in SMEs.

About South Norway European Office

South Norway European Office (SNEO) is a regional knowledge & development centre aiming to develop international possibilities for companies and knowledge institutions, enabling crossovers. SNEO runs a regional, cross-sector innovation network, Horizon South Norway.

We are also lead partner in the Periscope Network, which aims at establishing a permanent innovation ecosystem in the North Sea Region to grow transnational innovation partnerships for sustainable business development in emerging blue markets. Its work is listed as best practice in the Norwegian Government's Ocean Strategy.

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