

Embedding EUSAIR. Action Lab n.3
Higher or Lower? From different degrees of synergies to
common roadmaps

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Pillar 1. Blue Growth

Driving innovative maritime and marine growth in the Adriatic-Ionian Region by promoting **sustainable economic growth and jobs** as well as **business opportunities** in the blue economy sectors.

Priority 1. Blue Technology

Priority 2a. Fisheries & 2b. Aquaculture

Priority 3. Maritime & Marine Governance and Services

Priority	<h1>1. Blue Technology</h1>
Flagship	Fostering quadruple helix ties in the fields of marine technologies and blue bio-technologies for advancing innovation, business development and business adaptation in blue bio-economy

Specific Objectives for the Topic 1 :

To promote research, innovation and business opportunities in blue economy sectors, by facilitating the brain circulation between research and business communities and increasing their networking and clustering capacity.



EUSAIR Pillar 1: Blue Growth Focus Group on “Blue Technologies in the Adriatic-Ionian macro-region”

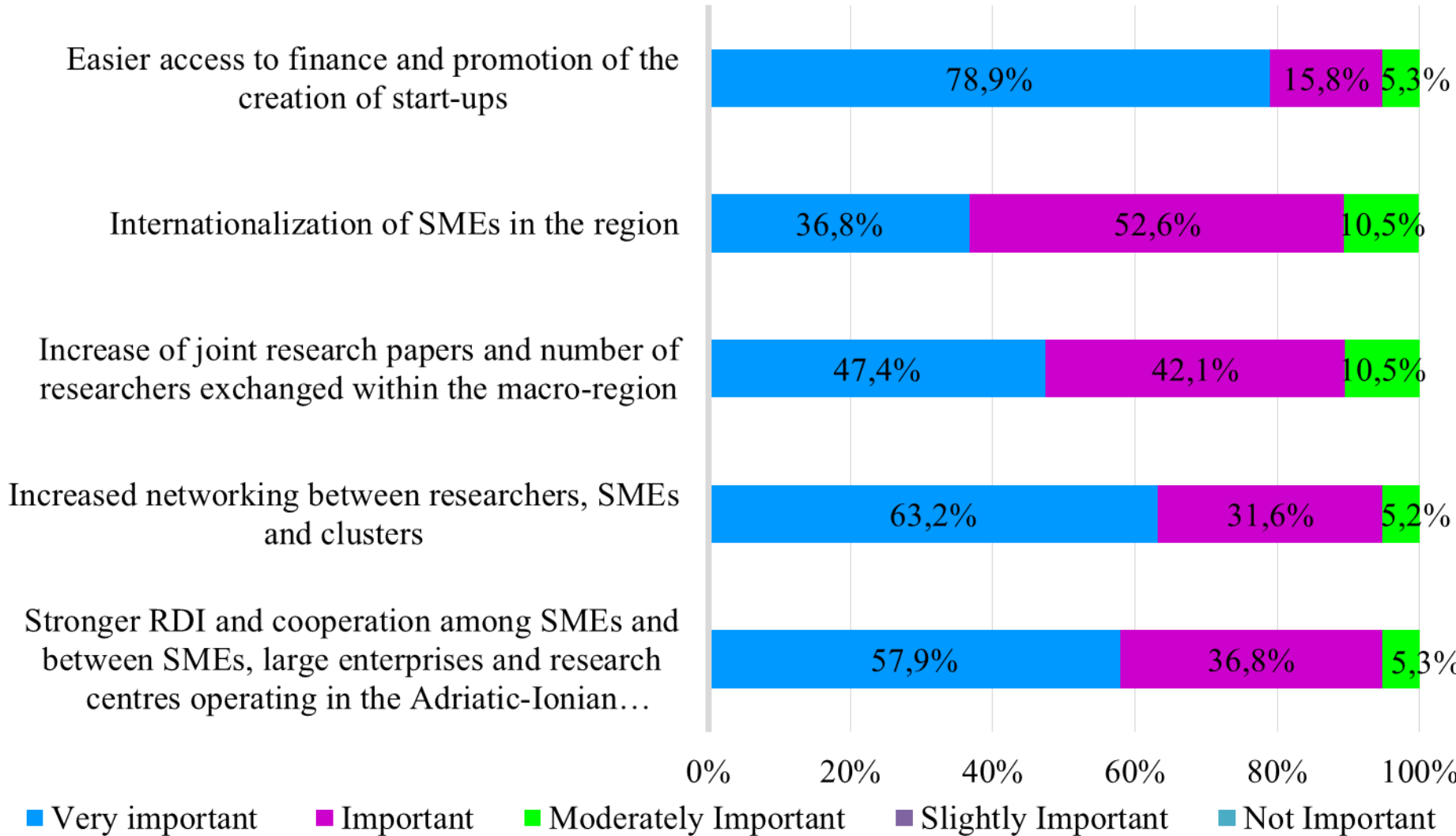
IDEAL EUSAIR Study (Pillar 1-related study)



UNIVERSITY
OF THE AEGEAN

**Focus Group
03/02/2021**

Proposed Priorities by the stakeholders in the Blue Technologies for the Programming Period 2021-2027



Source: IDEAL EUSAIR Study, Focus Group, Prof. N. Nikitakos

S.W.O.T Blue -Technologies

Strengths

- Willingness of the EC to deal with Blue Growth & Blue technologies
- Extensive experience in traditional maritime sectors (e.g. shipping, shipbuilding, offshore industry)
- Highly-specialized scientists
- Strong R&I capacity
- Strong collaboration
- Great physical potential for developing MRE
- Extended coastline

Weaknesses

- Lack/insufficient support in terms of funding & marketing operations
- Institutional
- Fragmented sector
- Bureaucracy
- Inadequate/Complex legislation/ Time-consuming & complex licensing system
- Lack/Insufficient infrastructures
- Weak R&D in small & large companies
- Weak technology transfer & relatively low innovation capacity in certain areas
- Weak exploitation of marine resources
- Lack of national knowledge & expertise in some countries (e.g. ME, BiH)

Opportunities

- Participation opportunities in EU funded programmes
- Opportunity for development of the Green Deal
- Expansion of the sector in the area
- Opportunities for the development of blue technologies in inland waters for landlocked countries.
- New jobs in manufacturing, construction & operation phase
- Innovative applications
- Plant-based energy & water alternatives for insular communities
- Load balancing in insular smart micro-grids
- Digitalization & blockchain applications
- Continuous training in techniques & skills

Threats

- Economic crisis, including Covid-19
- Increased competition from non-EU countries
- Interactions between marine technologies & ecosystem
- Sea-use conflicts due to the lack of MSP
- Lack of infrastructure & prioritization of the sector for some countries

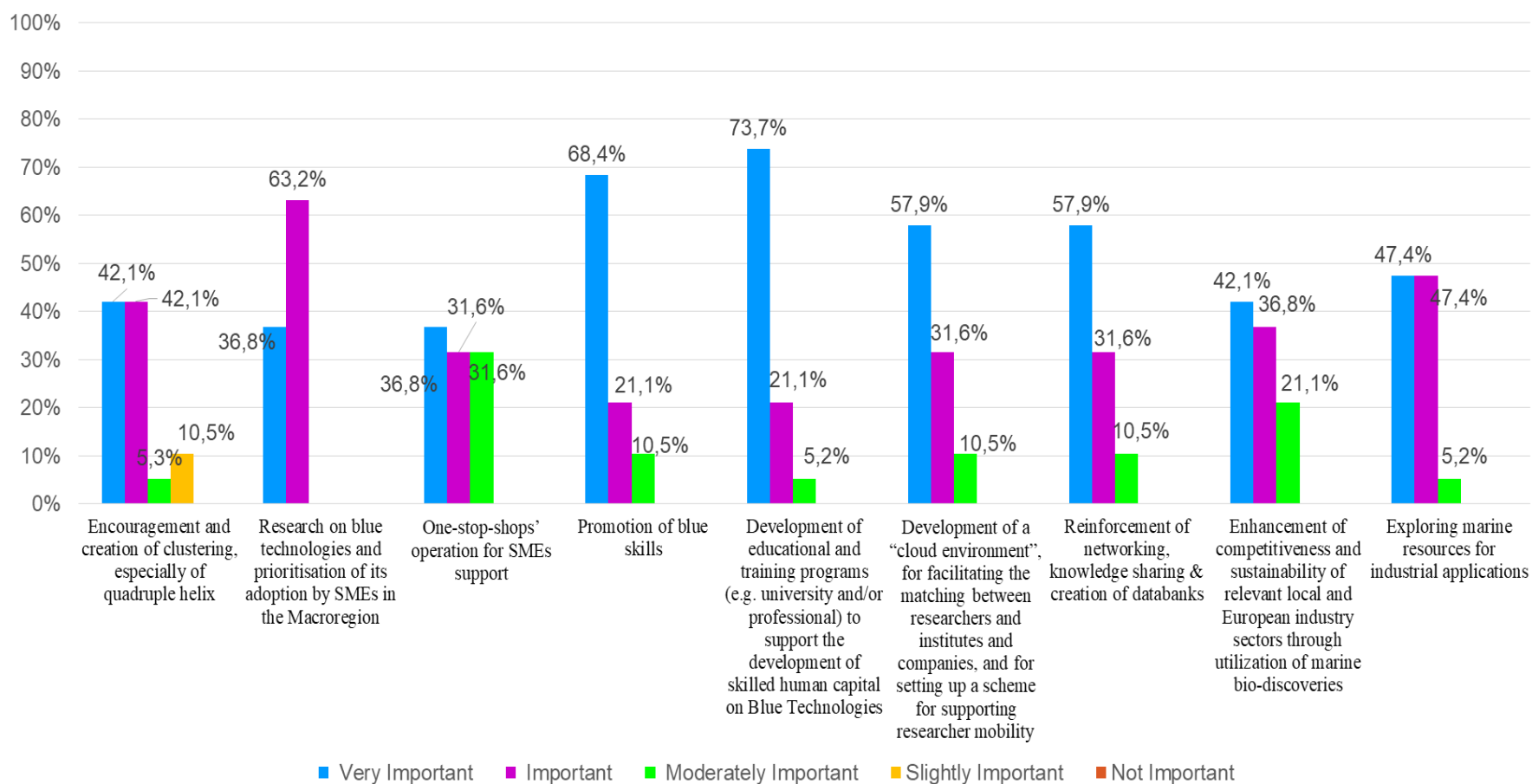
Source: IDEAL EUSAIR Study, Focus Group, Prof. N. Nikitakos

S.W.O.T Blue Bio –Technologies

Strengths	Weaknesses
<ul style="list-style-type: none"> • Long tradition in aquaculture in the macroregion, facilitating & supporting BB development • Cross-cutting issues between marine aquaculture & BB • Interest on the sector • Existing expertise & longstanding R&D activity • Research infrastructures • Territorial opportunities • Scientists & researchers are well connected through networks (e.g. Horizon projects, Ocean4Biotech, etc.) • Diverse marine wild life 	<ul style="list-style-type: none"> • Lack/insufficient support in terms of national & regional funding • Lack/insufficient marketing operations • Lack of policies/ national strategies • Lack of legal framework in the EUSAIR area, under which BB could be developed • Insufficient transfer of technology from the R&D sector into business • No efficient collaboration between research, industry & policy makers • Fragmented R&D activities • Lack of established blue bio-technology value chains • High costs of deep water exploration
Opportunities	Threats
<ul style="list-style-type: none"> • EU funding opportunities for research & innovation • New boost for investments • Employment opportunities & development of new skills • Innovative applications • Realistic basis for knowledge & technology transfer • Upgrade of infrastructures • Collaboration of legal & marketing experts: hubs/institutions in the EUSAIR region that will be available for the EUSAIR countries in order to assist & promote BB activities • Links with other strong sectors such as pharmaceutical & agri-food • BB could address societal challenges 	<ul style="list-style-type: none"> • Economic crisis, including Covid-19 • Lack of funding/From the R&D sector into business/Scale up problems • Bureaucracy • Not enough training for the next generation to deal with the sector • Lack of cooperation between different actors • Weakness in incentivizing start-ups • Rival EU States • Lack of interest from the government for some countries

Source: IDEAL EUSAIR Study, Focus Group, Prof. N. Nikitakos

Proposed Project Ideas in Blue Technologies sector for the Programming Period 2021-2027



Source: IDEAL EUSAIR Study, Focus Group, Prof. N. Nikitakos

Experts' Project Ideas

Low Emission Energy Supply & Production-Sustainability

- Production of electricity from RES in shipyards.
- Development of hybrid installations for marine & offshore wind energy combined with aquaculture, fish-farming, etc.
- Cluster of zero emission modular drone ships for fishing, aquaculture and sea operations. Provide a modular approach to ship design, allowing a manned-unmanned solution for a number of applications, considering a zero emission propulsion (H2 or fully electrical based)
- Utilization of new materials
- Production of new anti-bio fouling compounds leading to a lower energy consumption in the shipping
- Development of solutions to decarbonize all the maritime mobility activities (e.g.: fishing & aquaculture vessels, ships, yachts), including all the relevant stages (i.e.: development, operation, and end of life)

Blue Bio-technologies

- Use of marine biotechnology to develop concrete prototypes & processes in the societally relevant fields: health and wellbeing, food & feed, environment
- Development of new technologies able to produce green fuel
- Seaweed cultivation in integrated multi-trophic aquaculture
- Use of aquaculture wastewater for phytoplankton cultivation

• Digitalization & Innovation

- Creating a Mediterranean Innovation community for interregional cooperation
- Using AI and Big Data in Maritime technologies
- Digitalization of the naval industry

Source: IDEAL EUSAIR Study, Focus Group, Prof. N. Nikitakos

Experts' Project Ideas

Knowledge Transfer	<ul style="list-style-type: none">• Mapping competences & innovative skills• Establishment of a network of Blue Career Centers in the EUSAIR Countries• Elaborating innovative learning models & tools• Experiment new approaches for Knowledge transfer for innovation• Development of international Master BB Programs in the macro-region,/Models for the improvement of BB in the macroregion• Capitalization of previous project results• Seed funds to support technology transfer from innovators to traditional businesses in the field on new materials for green boatbuilding• Implementation of a Blue Innovation Voucher mechanism
Alternative Financing for Blue Technologies	<ul style="list-style-type: none">• Map access opportunities to alternative investments, such as crowdfunding or matchfunding, for SMEs who aim to invest in Blue technologies• Creation of Circular Economy Action Plans• Public private partnership
Pillar 1/Topic 1 & Other pillars	<ul style="list-style-type: none">• Green Hydrogen infrastructures in ports, inland terminals, etc. (Pillar 1/Topic 1/Pillar 2)• Research on Blue technologies and its usage by SMEs to remediate the blue environment (e.g. sea, estuaries, etc.) (Pillar 1/Topic 1/Pillar 3)• Restoration actions for environmental restoration and BB applications (Pillar 1/Topic 1/Pillar 3)• Sophisticated systems (e.g. drones/autonomous technology systems) for monitoring, collection & transmission of environmental data (Pillar 1/Topic 1/Pillar 3)

Source: IDEAL EUSAIR Study, Focus Group, Prof. N. Nikitakos

CASE STUDY ON A FLAGSHIP **BLUE TECHNOLOGIES** – CONTRIBUTION IN NATIONAL, CROSS-BORDER, and TRANSNATIONAL DIMENSION

NATIONAL	CROSS-BORDER	TRANSNATIONAL
<ul style="list-style-type: none"> ➤ Access to finance and creation of start-ups, spin-offs, collaborations for the development and testing of ideas for the exploitation of scientific results. ➤ Blue innovation voucher mechanism. 	<ul style="list-style-type: none"> ➤ Establishment of a Network of Blue Career Centres in the EUSAIR countries ➤ Creating an Adriatic and Ionian innovation community for interregional cooperation on Blue technologies ➤ Creation of Circular Economy Action Plans for the territorial deployment of innovative solutions (creating circular economies through the valorization of residual bio resource streams) 	<ul style="list-style-type: none"> ➤ Forming alliances among AI region innovation ecosystems with leading competences in the blue technologies field ➤ Development of solutions to decarbonize all the maritime mobility activities, fishing fleets e.g. new materials, shore - based supply of electricity for vessels in ports and innovative propulsion modes and fuels



Blue Growth
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Thank you!