BLUE GROWTH SMART ADRIATIC IONIAN S3

BLUEAIR

Macroregional innovation strategy for Sustainable Blue Economy

Croatian Chamber of Economy

Brussels, 20 April 2023

Fostering transregional S3-based cooperation: Advancing the sustainable blue economy through macroregional innovation collaboration

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In talking about innovation, it's easy to get lost in the "strategizing" and lose sight of the **actual customer need**. Strategy is followed by its execution, which translate strategic initiatives **into action** and get all involved actors to **embrace change.**
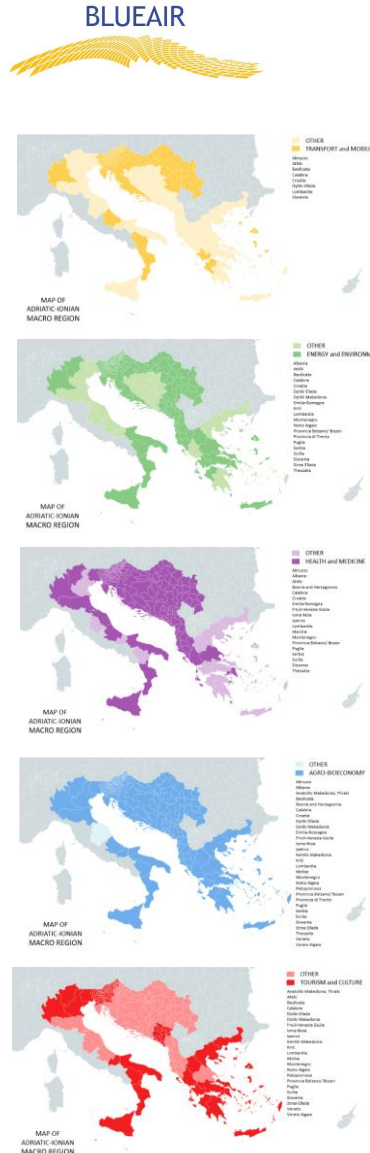
OISAIR 2018

GVC Participation

Traditional Trade

HIGH   LOW

GGI 2022   EIS 2022

	GGI 2022	EIS 2022	
CH	1/64.6	1/156.58	
IT	28/46.1	20/100.62	🟡
SI	33/40.6	18/102.8	🟡
GR	44/34.5	25/88.25	🟡
HR	42/35.6	27/73.03	🟠
RS	55/32.3	29/68.03	🟠
ME	60/30.3	33/52.44	🟠
MK	66/28.8	34/50.35	🟠
AL	84/24.4	36/46.07	🟠
BA	70/28.5	37/41.77	🟠
GN	132/11.6	UA 39/34.24	

🟡 Moderate innovator
🟠 Emerging innovator

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Transport and Mobility

Energy and Environment

Health and Medicine

Agro Bio Economy

Tourism and Culture

33 × S3

203 × TPA

20 × MRTPA

Blue Growth EUSAIR

Sustainable Tourism EUSAIR

Connecting the Region EUSAIR

Environmental Quality EUSAIR

| MRTPA1 | MRTPA2 | MRTPA3 | MRTPA4 | MRTPA5 |

NACE, Scientific domains. Policy objectives, Keywords, R&D excellence

| MRSTPA SUBTOPICS | MRSTPA SUBTOPICS | MRSTPA SUBTOPICS | MRSTPA SUBTOPICS | MRSTPA SUBTOPICS |

Methodology in short

COLLECTING

ANALYSING

CLASSIFYING

CORRELATING

IDENTIFYING

ALIGNING

STRATEGY FIT

01
CONTEXTUAL
FRAMEWORK

Interreg
ADRION **ADRIATIC-IONIAN**
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MRTPA
CLASSIFIED AS

MAIN POLICY
OBJECTIVES
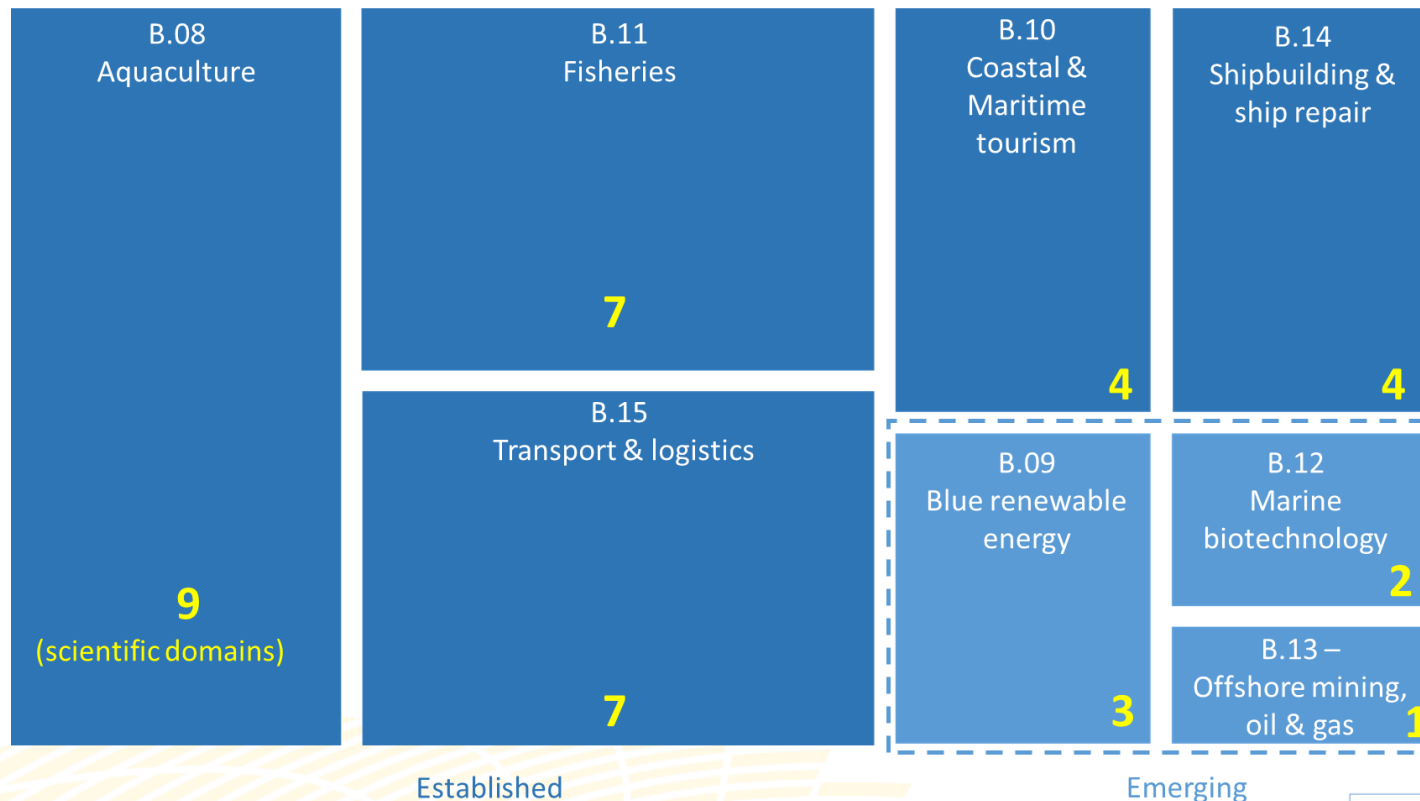
SCIENTIFIC DOMAINS FROM BLUE ECONOMY SECTORS

BLUE ECONOMY

4

2 x IT
2 x EL

BLUE GROWTH

14

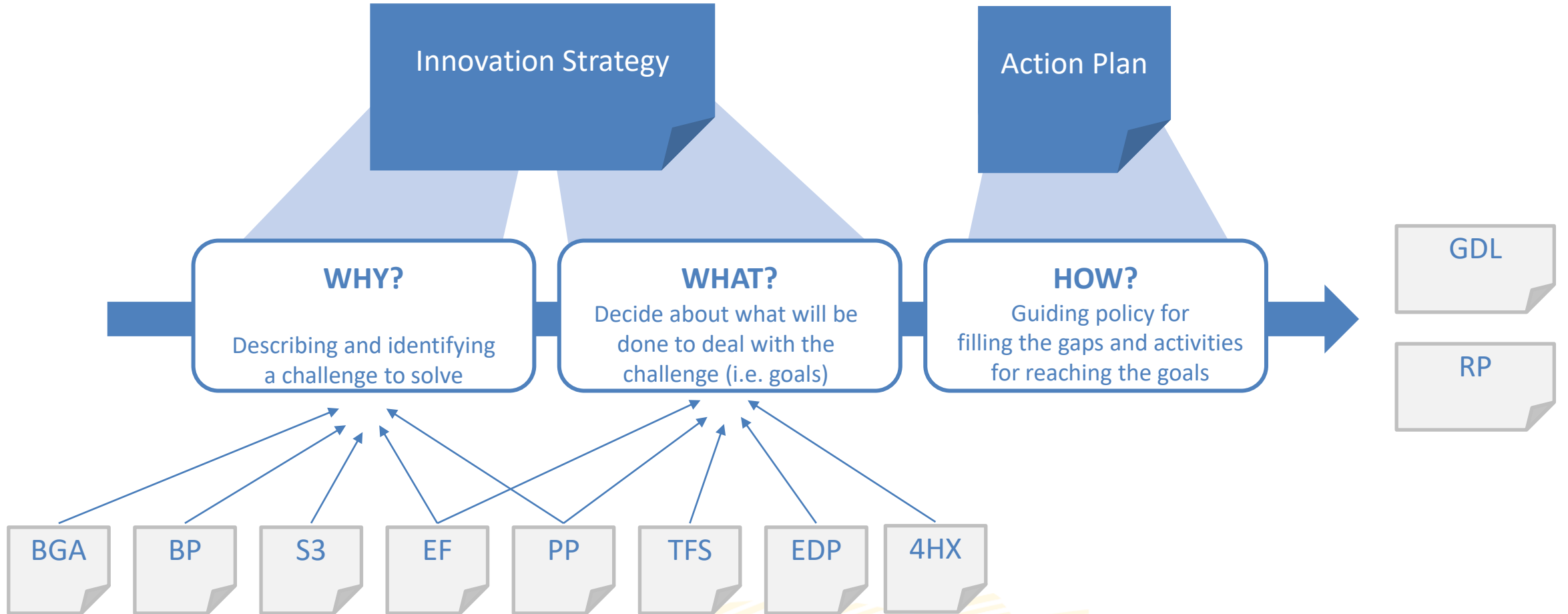9 x EL
4 x IT
1 x SL

B.08
Aquaculture

9

(scientific domains)

B.11
Fisheries

7

B.15
Transport & logistics

7

B.10
Coastal &
Maritime
tourism

4

B.14
Shipbuilding &
ship repair

4

B.09
Blue renewable
energy

3

B.12
Marine
biotechnology

2

B.13 –
Offshore mining,
oil & gas

1

Established

Emerging

01

CONTEXTUAL
FRAMEWORK

Eye@RIS3: Innovation Priorities in Europe

2014-2020

2021-2027

Source: https://s3platform.jrc.ec.europa.eu/map

BLUEAIR IS general concept

Innovation Strategy

Action Plan

WHY?

Describing and identifying a challenge to solve

WHAT?
Decide about what will be done to deal with the challenge (i.e. goals)

HOW?
Guiding policy for filling the gaps and activities for reaching the goals

GDL

RP

BGA | BP | S3 | EF | PP | TFS | EDP | 4HX

BGA-blue growth areas; **BP**-Best practices; **S3**-Smart specialisation analisys, **EF**-Evaluation Framework, **PP**-Position Paper, **TFS**-Technology Foresight; **EDP**-Entrepreneural discovery processes; **4HX**-roundtables results; **GDL**-Guidelines for blue growth improvement; **RP**-recommentadion paper;
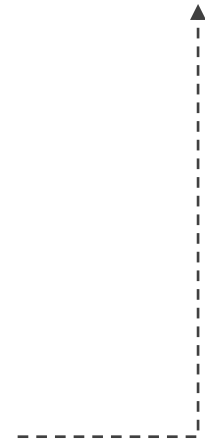
BLUE ECONOMY REPORT 2020

- MARINE LIVING RESOURCES
- MARINE NON-LIVING RESOURCES
- SHIPBUILDING AND REPAIR
- MARINE RENEWABLE ENERGY
- PORT ACTIVITIES
- MARITIME TRANSPORT
- MARINE MINERALS
- BLUE BIOECONOMY AND BIOTECHNOLOGY
- COASTAL TOURISM
- SUBMARINE CABLES
- OCEAN RENEWABLE ENERGY
- DESALINATION
- MARITIME DEFENCE

ESTABLISHED SECTORS

EMERGING SECTORS

EUSAIR PILLARS

- BLUE GROWTH
- CONNECTING THE REGION
- ENVIRONMENTAL QUALITY
- SUSTAINABLE TOURISM

AREAS OF BLUEAIR

- BLUE TECHNIOLOGIES
- FISHERIES AND AQUACULTURE
- M&M GOVERNANCE AND SERVICES
- MARITIME TRANSPORTATION
- ENERGY NETWORKS
- MARINE ENVIRONMENT
- INTERMODAL CONNECTIONS TO THE HINTERLAND
- DIVERSIFIED TOURISM OFFER

PRIORITY FOCUS AREA

SECONDARY FOCUS AREA

BLUE TECHNOLOGIES

FIELDS OF ACTIVITY

BLUE SOLUTIONS

02

GENERAL CONCEPT FOR INNOVATION STRATEGY

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BLUE TECHNOLOGIES →

- Marine technology
- Clean technology (BG related)
- ICT technology (BG related)

FIELDS OF ACTIVITY →

- Marine living resources (established)
- Waterborne* transport and port activities (established)
- Bioeconomy and Biotechnology (emerging)
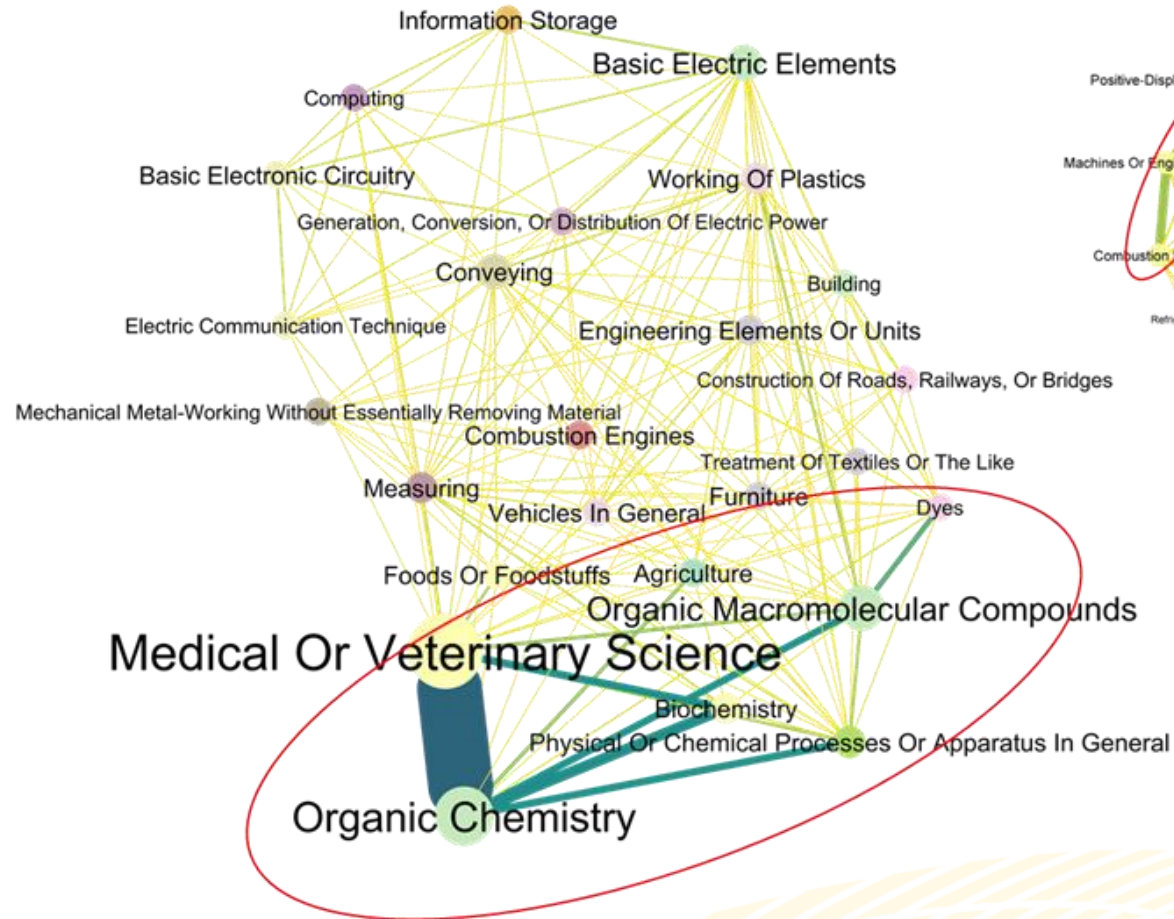- Infrastructure and marine works (submarine cables, robotics) (emerging)

BLUE SOLUTIONS →

- Maritime surveillance
- Public services and governance
- Management of marine ecosystem services

* Regarding non-coastal members of ADRION this sector could be broaden to Waterborne transport

Recap 1990-2020

1990 - 1995
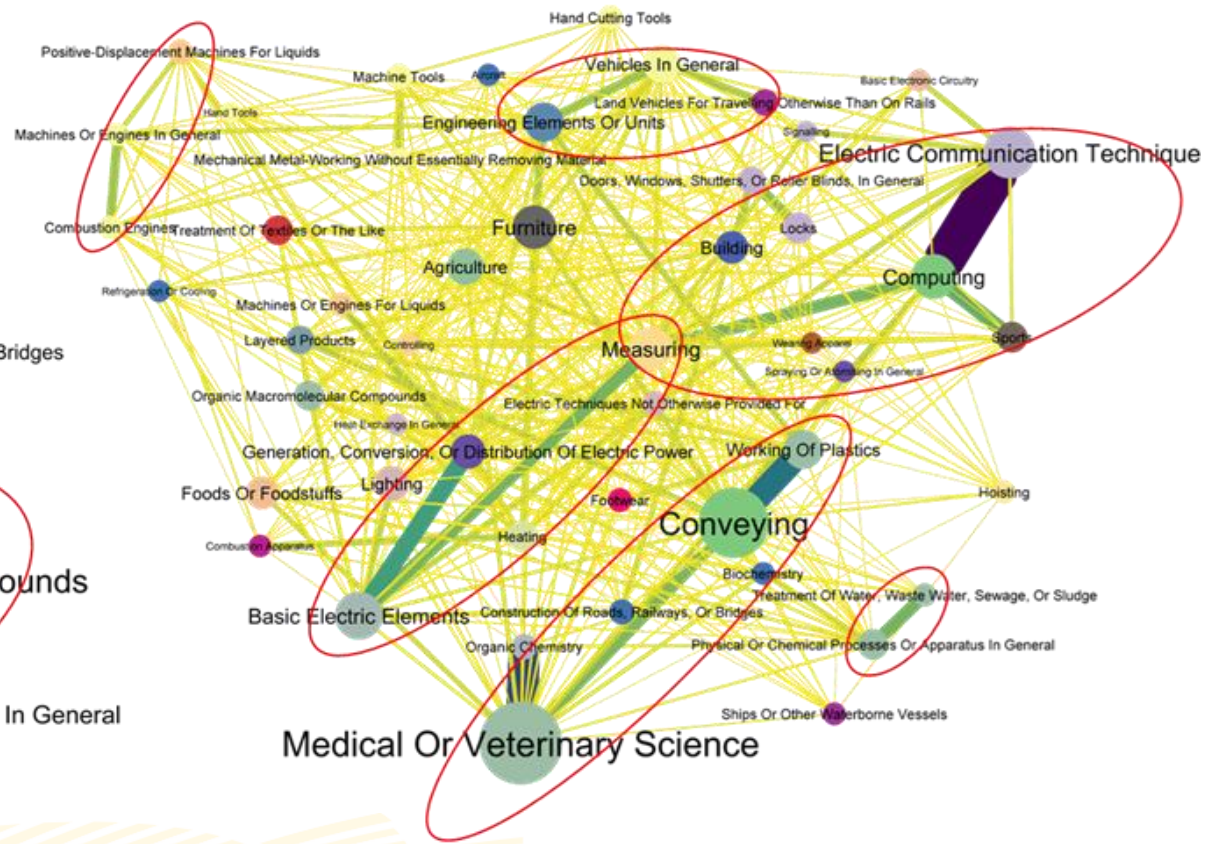
2016 - 2020

Total of **2013 participants** have entered the survey fallowing provided links from the respective invitation letters received from implementing and supporting partners.

228 valid surveys were collected across all 9 regions/countries giving the **response rate of 11%.**

Trends in the field of Blue Growth that will have the greatest impact on R&D&I activities in the following years collected from around 60 non-industy entities **are very diverse** (depending on their domains)**.**

Green transition - Digital transformation - Climate change - Blue bioeconomy & biotechnology - Fisheries & Aquaculture - Marine renewable energy - Shipbuilding and ship repair - Infrastructure and maritime works - Maritime surveillance - Public services and governance - Management of ecosystem services - Circular economy - Blue innovations - Waterborne transport and port activities - Social innovations - Skills and Education - Networking of Blue Economy stakeholders - Market trends - Coastal tourism
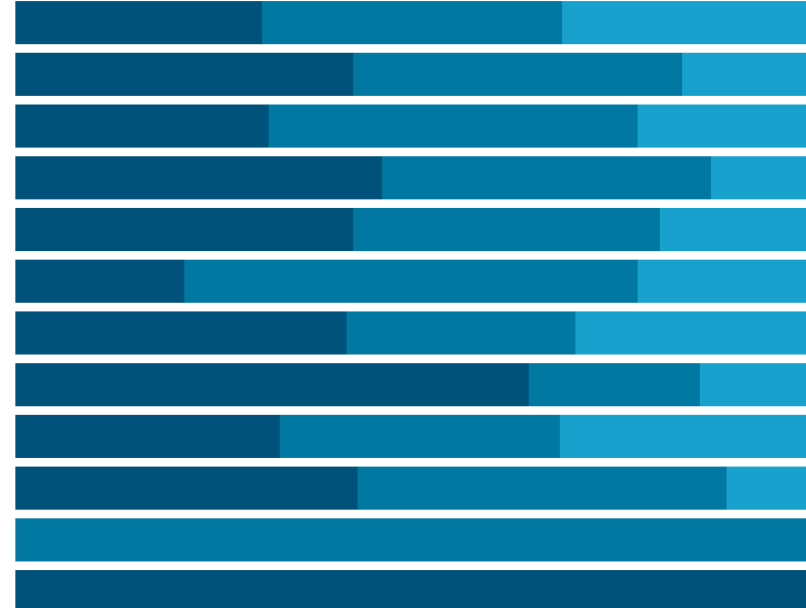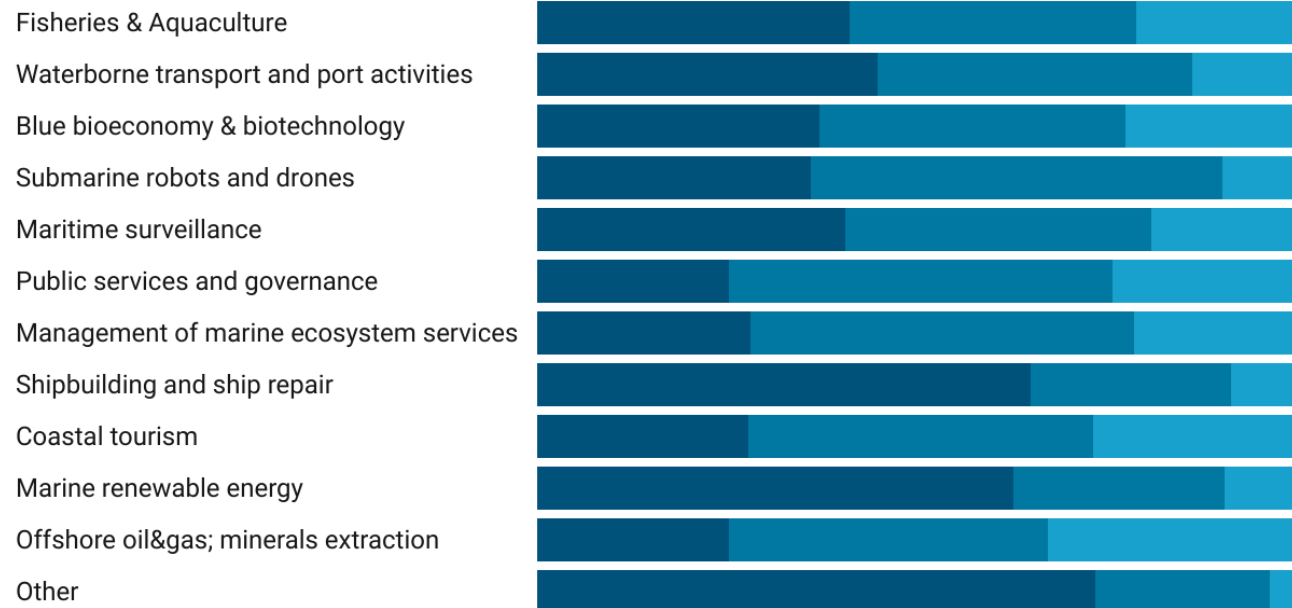
Pilot EDP for Blue growth in ADRION (2)

Affiliation with Blue Growth activities based on established and emerging sectors

The most beneficial Blue Growth areas by gradual digital transformation
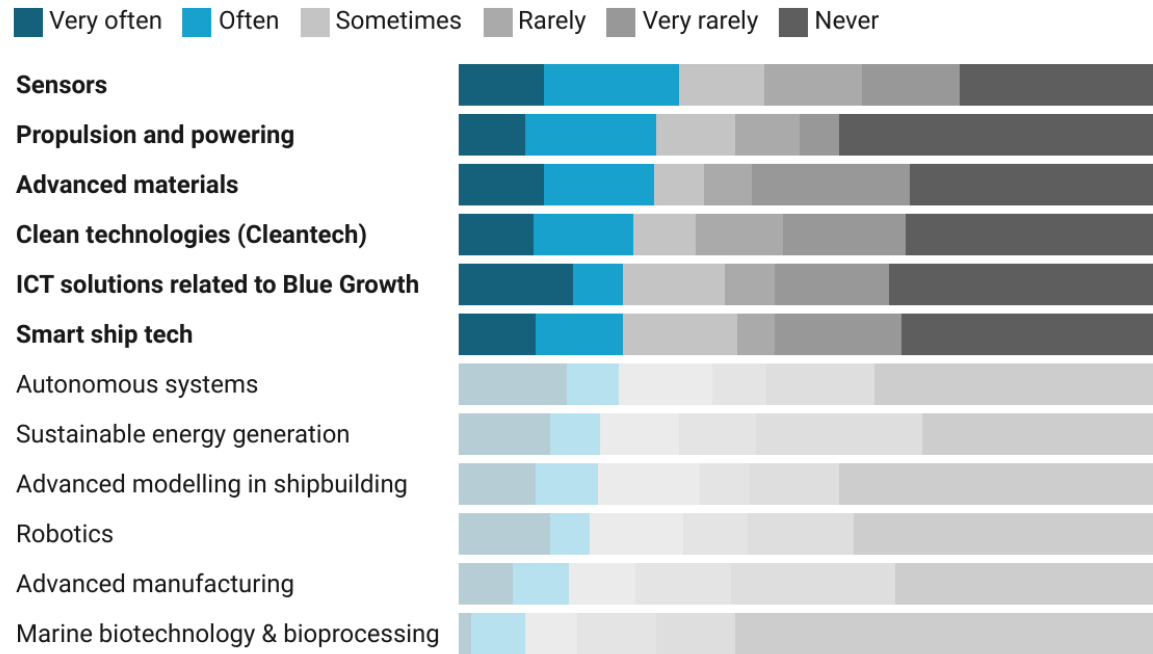
Legend: ■ IT-SI ■ HR-RS-GR ■ MN-BA-AL

- Fisheries & Aquaculture
- Waterborne transport and port activities
- Blue bioeconomy & biotechnology
- Submarine robots and drones
- Maritime surveillance
- Public services and governance
- Management of marine ecosystem services
- Shipbuilding and ship repair
- Coastal tourism
- Marine renewable energy
- Offshore oil&gas; minerals extraction
- Other

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(n=146)

(n=169)

02

GENERAL CONCEPT FOR INNOVATION STRATEGY

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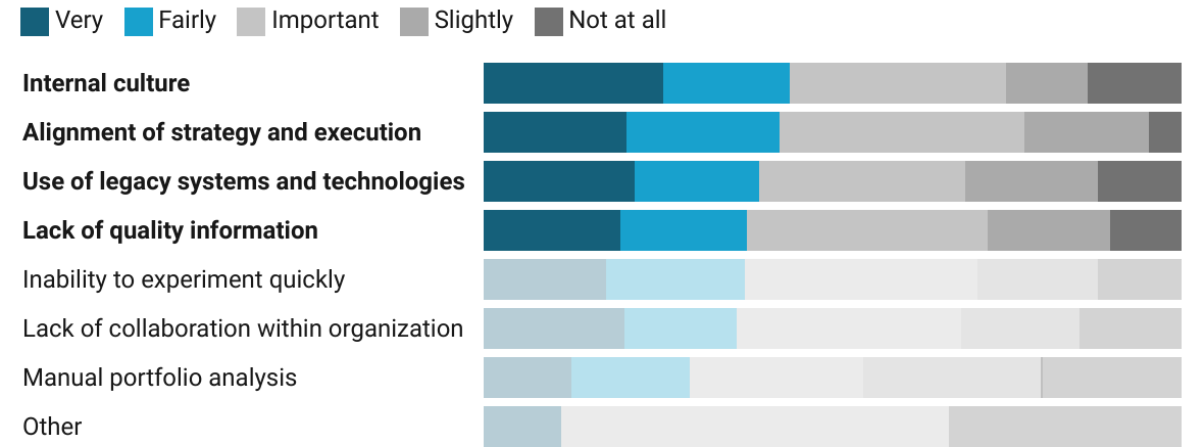**Almost half (46%, 81 entities) of ADRION region entities create their own technologies and dominant new BG-related technologies are:**

The most important barriers to entity's rapid digital transformation:

Legend: ■ Very often ■ Often ▨ Sometimes ▨ Rarely ▨ Very rarely ■ Never

- **Sensors**
- **Propulsion and powering**
- **Advanced materials**
- **Clean technologies (Cleantech)**
- **ICT solutions related to Blue Growth**
- **Smart ship tech**
- Autonomous systems
- Sustainable energy generation
- Advanced modelling in shipbuilding
- Robotics
- Advanced manufacturing
- Marine biotechnology & bioprocessing

Created with Datawrapper

(n=57)

Legend: ■ Very ■ Fairly ▨ Important ▨ Slightly ■ Not at all

- **Internal culture**
- **Alignment of strategy and execution**
- **Use of legacy systems and technologies**
- **Lack of quality information**
- Inability to experiment quickly
- Lack of collaboration within organization
- Manual portfolio analysis
- Other

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(n=148)

02
GENERAL CONCEPT FOR INNOVATION STRATEGY

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Technology foresight, in the framework of **BLUEAIR** toolbox, aims at supporting policymakers in their better-informed decision processes which consider different scenarios and outcomes while exploring alternative futures in a structured way.

1. **Robotics -** focus on *autonomous ships and vessels, port and near-shore surveillance and maintenance, offshore inspection and maintenance*

2. **Alternative fuels -** focus on *methanol, hydrogen and ammonia*

3. **ICT technologies -** focus on *IoT security, predictive maintenance and 5G*

4. **Aquaculture -** focus on *single-cell protein, insect protein, supply chain management*

5. **Waterborne transport -** focus on *low-carbon marine vessels, multimodal transport, waterborne traffic management*

Insights and results of **cross-fertilization workshops** addressing the identified ADRION's common **challenges and opportunities** related to **blue innovation** are channeled into five **recommendations**
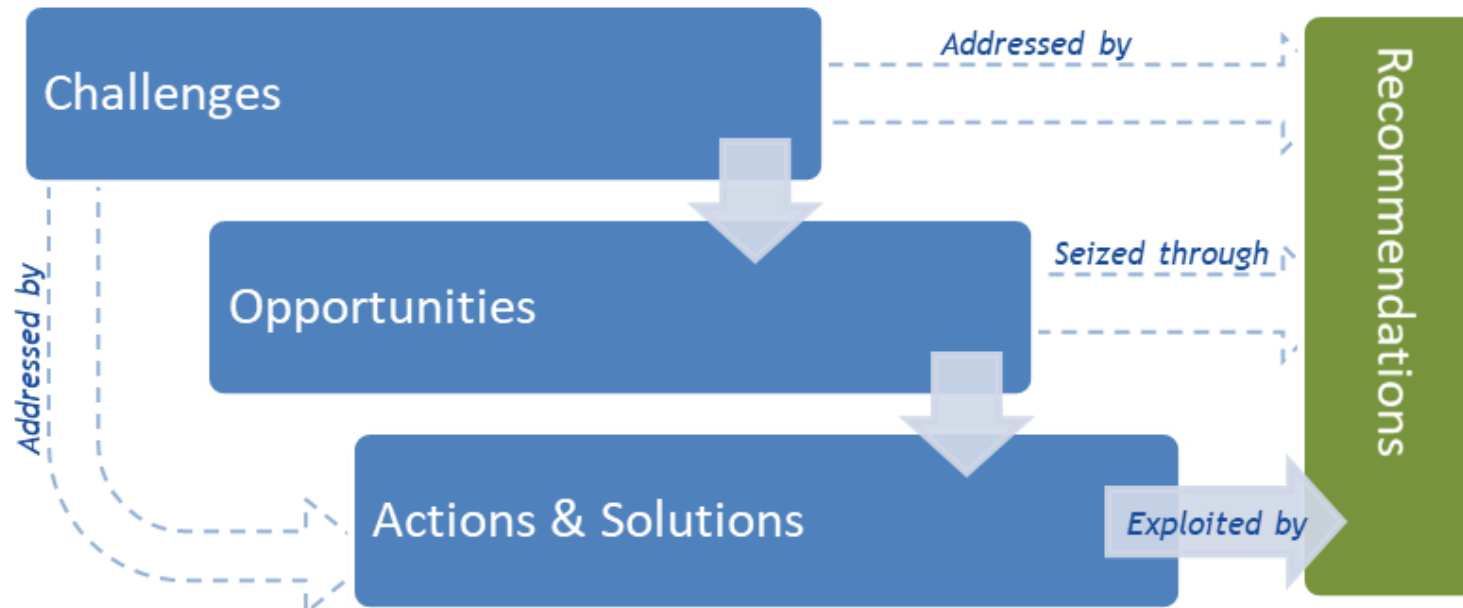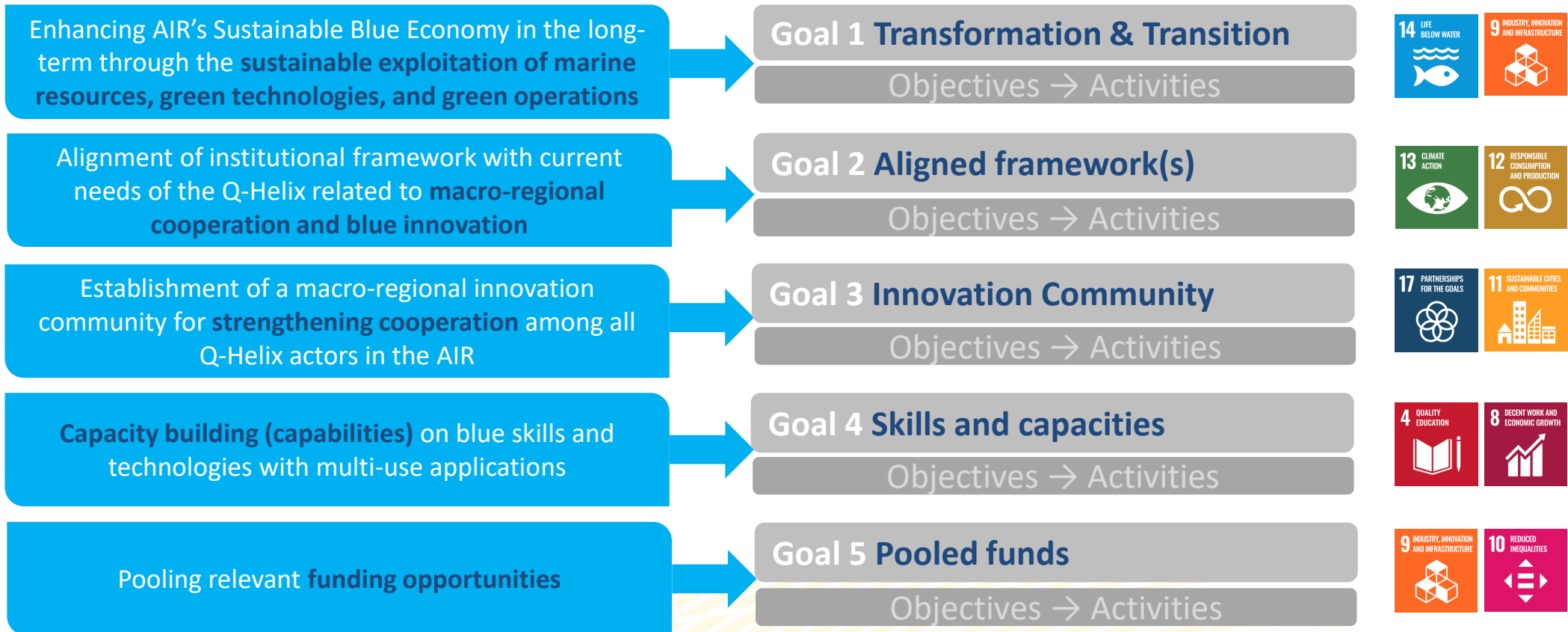
Goal 1: Transformation & Transition

Long-term goal 1 "Enhancing AIR's Sustainable Blue Economy in the long-term through the sustainable exploitation of marine resources, green technologies, and green operations" encompasses the following short-term objectives:

1. Exploitation of the available **marine resources, blue technologies and clean operations** for sustaining and enhancing in the long-term the competitive advantages of the Adriatic – Ionian Region's sustainable blue economy

2. Exploitation of **digital solutions** (i.e., Artificial Intelligence, Internet of Things, etc.) for conservation of the marine environment and enhancing blue economy sectors' sustainability.

Long-term goal 2 "Alignment of institutional framework with current needs of the Q-Helix related to macro-regional cooperation and blue innovation" entails the following short-term objectives:

1. *Development of an open* **cross-border monitoring system** *for the investigation and identification of climate change impacts on marine and coastal areas, enabling the sharing of and access to knowledge, information, data, and technologies*

2. *Adoption of* **"circular" economy** *into national and macro-regional action plans and policy/strategy frameworks of the blue economy*

3. *Development of common guidelines and tools for* **adaptation to climate change** *in blue economy*

Long-term goal 3 "Establishment of a macro-regional innovation community for strengthening cooperation among all Q-Helix actors in the AIR" is consisted of the following short-term objectives:

1. *Shared infrastructure on land or in maritime ports through **partnerships between cross-cutting blue sectors** for increasing efficiency through reduced costs and/or environmental impacts*

2. *Setting up **transnational cooperations between S3** regions/countries on common S3 priorities in blue economy for finding joint solutions that can address macro-regional challenges and opportunities*

3. *Setting up transnational **"Blue Economy Innovation Communities"**.*

Long-term goal 4 "Capacity building on blue skills and technologies with multi-use applications" entails the following short-term objectives:

1. *Skills and technologies with **multi-use applications** for sustainable blue economy value chains exploiting the potential for applying new methods (e.g. big data applications), land-sea technology and economic "cross-overs" and renewing the skills base of the blue economy*

2. *Designation of **innovation experts** for consulting on innovation and support its implementation in blue economy sectors*

3. *Establishment of a **blue career network** communities' for connecting relevant centers*

4. ***Integration** of modern blue technologies to "traditional" blue economy sectors*

5. *Building capacities of all Q-Helix actors for developing **strong international collaboration and value chain links** for strengthening Blue Growth and enhancing sustainable Blue Economy at the macro-regional level.*

Long-term goal 5 "Pooling relevant funding opportunities" consists of the following short-term objectives:

1. *Current and future **financing opportunities** for sustainable blue projects*

2. *Pooling funding from **regional programming instruments** (hub and/or virtual platform)*

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LONG-TERM GOAL 1	ENHANCING AIR'S SUSTAINABLE BLUE ECONOMY IN THE LONG-TERM THROUGH THE SUSTAINABLE EXPLOITATION OF MARINE RESOURCES, GREEN TECHNOLOGIES, AND GREEN OPERATIONS				
Expected impact - *proposal of potential indicator for monitoring (on the regional level)*					
Enhanced AIR's Sustainable Blue Economy in the long-term through the sustainable exploitation of marine resources, green technologies, and green operations – *number of innovative solutions developed for sustainable exploitation of marine resources, green technologies, and green operations*					
ROADMAP TO ACHIEVING THE LONG-TERM GOAL (solutions and key steps)					
Short-term objectives	**Initiatives (activities)**	**Expected result -** *proposal of potential indicator for monitoring (on the regional level)*	**Responsibility**	**Inputs**	**Due date**
Exploitation of the available marine resources, blue technologies and clean operations for sustaining and enhancing in the long-term the competitive advantages of the Adriatic – Ionian Region's sustainable blue economy	Development and implementation of collaborative R&D&I projects for exploitation of available marine resources, blue technologies and clean operations	Collaborative R&D&I projects for exploitation of the available marine resources, blue technologies and clean operations *(number)*	All partners	• National, regional, and EU current and future funding opportunities • Q-Helix collaboration • Human, material, operative, financial capacities and resources • Competences and know-how	2027 (recurring: frequency biennially, 2023 – 2024; 2025 – 2026)

04
ACTION PLAN STRUCTURE

Thank you for your attention!

Croatian Chamber of Economy

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