BLUEAIR PROJECT

BLUE GROWTH SMART ADRIATIC IONIAN S3

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Macro-regional S3 analysis on Blue Growth

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List of Abbreviations

ADRION	Adriatic and Ionian macro-region
EU	European Union
EUSAIR	European Union Strategy for the Adriatic and Ionian Region
NACE	Nomenclature statistique des activités économiques dans la Communauté européenne (Statistical classification of economic activities in the European Community)
NUTS	Nomenclature of Territorial Units for Statistics
R&D	Research and development
RIS3	Smart specialisation strategy
BG	Blue Growth
BE	Blue Economy
EUSAIR	The EU Strategy for the Adriatic and Ionian Region
NABS	Nomenclature for the analysis and comparison of scientific programmes and budgets

1. Introduction

Aim of this document is to explore common denominators regarding national/regional Smart specialization strategies (RIS3) in Adriatic-Ionian macro-region (ADRION) in order to support development of the pilot macro-regional RIS3 document on Blue Growth.

European union's regional innovation policy has been based on Smart specialization approach since 2014 and in essence, "encourages the selection of technological fields or sectors, on which to prioritise and concentrate investment, in order to optimise the economic benefits and impacts"[1]. Furthermore, Smart specialization process is not about reinforcing already robust economic activities, but rather about facilitating the "emergence of strategic regional sectors based on latest market and technological trends and driving cross doctoral cooperation in order to position the territory on emerging industrial value chains in which the region has differentiation assets"[2].

On the other hand, following European enlargement of 2004, EU has been "developing concept of macro-regions, as an area that includes territory from a number of different countries or regions associated with one or more common features"[3]. Furthermore, macro-regions were envisaged as areas of cooperation and synergy development for which "no new legislation, no new institutions and no new money"[4] will be provided, but instead would rely on "better alignment of funding, better coordination and new ideas"[5].

Therefore, macro-regional strategies, that were "initially launched in the 2007-2013 programming period", are meant to provide "alignment with EU's goals of inclusive and sustainable development, by enhancing synergies among neighbouring countries/regions"[6]. Fundamental premise of macro-regional strategy is to boost "complementarities and synergies among regions, by providing opportunities for cross-fertilizations across countries and domains of interventions"[7].

So, through exploration of national/regional RIS3 documents in order to identify Blue Growth sectors supported, intent is to locate common denominators in terms of economic activity, scientific domains and policy objectives in ADRION region. Furthermore, identified complementarities will be related to topics of EU Strategy for the Adriatic and Ionian Region (EUSAIR).

[1] https://www.bourgognefranchecomte.fr/sites/default/files/2021-08/RIS3_Synthese_VA.pdf
[2] Ibid.
[3] Tursie, C. (2015), Macro-regional strategies of European integration. What can the Danube region learn from the Baltic Sea Region?, Social nad Behevioral Sciences 183, 1-10 https://www.sciencedirect.com/science/article/pii/S1877042815031146
[4] ibid.
[5] Ibid.
[6] EUSALP Action Group 1 – RIS3 in macro-regional strategies: building comparative framework to learn from other regions https://www.alpine-region.eu/sites/default/files/uploads/event/1935/attachments/eusalp_action_group_1_-_ris3_workshop_25_june_2019_milan_programme_and_abstracts__2.pdf
[7] ibid.

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2. RIS3 in general

Smart specialization strategy revolves around idea of scarcity of R&D funding (or any other funding for that matter) which in turn, results in selecting key development priorities, based on nations/regions predispositions and already existing potential. Therefore, "Smart specialisation is expected to create more diversity among regions than a regime in which each region tries to create more or less the same by imitation.[8]"

Furthermore, Smart specialization strategies (RIS3) are viewed as „integrated, place-based economic transformation agendas that do five important things:[9]"

1. Focus policy support and investments on ***key national/regional priorities***, challenges and needs for knowledge-based development, including ICT-related measures;
2. Build on each ***country's/region's strengths, competitive advantages*** and potential for excellence;
3. Support **technological as well as practice-based innovation** and aim to stimulate private sector investment;
4. Get **stakeholders fully involved** and encourage innovation and experimentation;
5. Are ***evidence-based*** and include *sound monitoring* and evaluation systems.[10]

In practice, formulating and adopting the RIS3 was set as an ex-ante condition for receiving funding from European Structural and Investment Funds (ESIF). The Structural Funds are the primary tool of European Commission's Cohesion Policy for reducing socio-economic disparities between regions and Member states, as well as ensuring economic growth across Europe.[11]

Thus, Cohesion policy is also integral to the smart specialisation process.[12] It is expected that efficient use and management of ESIF as well as a view to concentrate resources on research and innovation, will maximize the impact of funding.[13] The latter should be ensured via RIS3 implementation. In combination with other sources of funding of investments, along with ESIF, through strengthening the innovation capacity, the economic prospects should be enhanced at both national and regional level. Measures are both horizontal (addressing the regional innovation ecosystem, regardless of economic domains), and vertically targeted (focused on a limited number of priority domains).[14]

[8] https://ec.europa.eu/regional_policy/sources/docgener/brochure/smart/role_smartspecialisation_ri.pdf
[9] https://ec.europa.eu/regional_policy/sources/docgener/presenta/smart_specialisation/smart_ris3_2012.pdf
[10] https://ec.europa.eu/regional_policy/sources/docgener/presenta/smart_specialisation/smart_ris3_2012.pdf
[11] Komninos, N., et al. (2018), op. cit.
[12] Foray, D., Morgan, K., Radosevic, S. (2018), The Role of Smart Specialisation in the EU Research And Innovation Policy Landscape, https://ec.europa.eu/regional_policy/sources/docgener/brochure/smart/role_smartspecialisation_ri.pdf
[13] OECD (2013), op. cit.
[14] Komninos, N., et al. (2018), op. cit

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2.1. RIS3 phases

What sets Smart specialization strategy apart from other strategic documents are its very own steps and processes, that make Smart specialization strategy unique policy tool.

Smart specialization strategies are developed and structured around six following steps:

1. Analysing the innovation potential
2. Setting out the RIS3 process and governance
3. Developing a shared vision
4. Identifying the priorities
5. Defining an action plan with a coherent policy mix
6. Monitoring and evaluating.

Development and implementation of RIS3 strategies consists of six iterative phases, which are to be implemented in close collaboration between the public authorities, academia, business community and innovation users (i.e. through the quadruple helix approach). This approach ensures that the synergic effects are utilised. The role of the private sector is to discover and produce information about new RDI activities targeting promising niches, while the role of the public sector is to provide the supporting conditions for innovation deployment and for bringing the results to markets. By doing that Smart specialization process incorporates both approaches to developing strategic documents: top -down and bottom-up, meaning that priorities selected, have been produced and discovered by those actors and stakeholders that are expected to lead activities in them.

On the other hand, RIS3 implementation requires strong institutional capacities due to the fact that Smart specialisation is a complex policy concept. These institutional resources should enable investments into projects that will bring about results that can be brought to (niche) markets, also, institutional resources are expected to trigger an uptake of innovation[15]. This task requires transformation and upgrading of the public leadership model.

Various analysis confirmed that "institutional capacities are found to be of upmost importance for RIS3 implementation. However, institutional conditions do vary across EU greatly. Moreover, institutional capacities may represent significant hindrance to effective RIS3 implementation"[16].

[15] European Commission (2017a), op. cit

[16] Foray, D., Morgan, K., Radosevic, S. (2018), op. cit.

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2.2. RIS3 in the programming period 2021 – 2027

For the next programming period, EU has addressed several issues that proved as hindrance to process of Smart specializations in various countries/regions. Therefore, "putting smart specialisation into practice requires good governance, leadership, and the capacity for policy experimentation. The idea of smart specialisation is built around an experimentalist vision of the policy implementation process, which sees implementation not as a passive translation of higher-level policies but a bottom-up, creative and experimental activity involving public, private and third sector actors.[17]"

European Commission has set up, under policy objective 1 – More competitive and smarter Europe, seven enabling conditions by which process of Smart specialization will be supported:

1. Up-to-date analysis of **bottlenecks for innovation diffusion**, including digitalisation
2. Existence of **competent regional / national institution** or body, responsible for the management of the smart specialisation strategy
3. **Monitoring and evaluation tools** to measure performance towards the objectives of the strategy
4. Effective functioning of **entrepreneurial discovery process**
5. Actions necessary to improve national or regional research and innovation systems
6. Actions to **manage industrial transition**
7. Measures for **international collaboration**[18]

[17] SMART SPECIALISATION STRATEGY (S3), A Policy Brief from the Policy Learning Platform on Research and innovation,https://www.interregeurope.eu/fileadmin/user_upload/plp_uploads/policy_briefs/Smart_Specialisation_Strategy__S3__-_Policy_Brief.pdf

[18] Towards RIS3 2.0: enabling conditions, https://errin.eu/sites/default/files/2019-10/Towards%20RIS3%202.0%20-%20Enabling%20Conditions_Marek%20Przeor.pdf

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3. Data and methodology

Data for the purpose of the analysis in this document were accessed from the single dataset published by JRC on the webpage "Eye@RIS3: Innovation Priorities in Europe"19. Data are updated, based on the inputs from EU regional and national authorities and their stakeholders (McCann & Ortega-Argilés, 2016).

For each territorial entity (national or regional level), classified according to the NUTS (Nomenclature of Territorial Units for Statistics) 2013 classification, the database contains following:

- the Region/Country Name;
- the Priority Name (a short title of the priority promoted in the RIS3) and the
- Priority Description (a longer description of the same priority);
- Source date and type (in particular: Final RIS3 Document, Draft RIS3 Document, Peer Review, Presentation at public event, other study or source),
- Date Encoded.

Comparisons of information and analysis on thematic priorities contained in RIS3 documents across ADRION macro-region, was made possible, by classification of priorities already existing in the dataset. Classification obtained with dataset are as follows:

- classifications of their economic domains (NACE Rev.2 two-digit classification),
- scientific domains (two-digit NABS 2007 classification) and
- policy objectives.

On 1st July 2021, the dataset downloaded for the analysis presented in this paper, included a total number of 205 records that refer to territorial entities of the ARION macro-region.

Methodology used in analysis of national/regional RIS3 priorities in ADRION macro-region is based on social network analysis. Social network analysis (SNA) is the process of investigating social structures using networks and graph theory[20]. It characterizes networked structures in terms of nodes (individual actors, people, or things within the network) and the ties, edges, or links (relationships or interactions) that connect them. In this case, analysis of national/regional RIS3 priorities, takes into account aforementioned classifications (economic, scientific and policy), and creates visual links between RIS3 priorities and common classifications, enabling us to better understand and "cluster" often variously named and described priority areas. Furthermore, it allows us to shed some light on focal points of Blue growth of ADRION macro-region in terms of economic activities, scientific areas and policy objectives. It allows us to identify common denominators of Blue Growth areas in terms of economic activity (NACE v.2 classification), scientific domains (NABS 2007 classification) and policy objectives. Visualizations are made using network analysis software Cytoscape 3.9.0.

[19] https://s3platform.jrc.ec.europa.eu/map
[20] http://courses.washington.edu/ir2010/readings/butts.pdf

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4. BLUE GROWTH in ADRION region

4.1 Blue Growth in general

Blue Growth as a concept is closely related to notion of Blue economy, which denotes "all industries and sectors related to oceans, seas and coasts, whether they are based on in the marine environment (e.g. shipping, fisheries, energy generation) or on land (e.g. ports, shipyards, land-based aquaculture and algae production, coastal tourism)"[21]

Importance of Blue economy as a sector is frequently illustrated with the stylized fact, that Blue economy, "if it were compared to national economy, would be 7th largest economy in the world"[22].

Blue Growth as a concept "has started from the notion that maritime economic activities cannot only be captured through a sectoral approach. The maritime (as well as non-maritime) nature of an activity is not necessarily determined by an industrial classification. Blue Growth is the *long term strategy to support sustainable growth in the marine and maritime sectors* as a whole. Seas and oceans are drivers for the European economy and have great potential for innovation and growth. It is the maritime contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth"[23].

Furthermore, Blue Growth can be thought of as space of opportunities in the broader context of the Blue economy, which opens possibility of innovative growth based on principles of sustainability and protection of the oceans and seas.

Table 1 - Sectors of Blue economy

IDENTIFIED SECTORS BLUE ECONOMY REPORT (2020)	
ESTABLISHED SECTORS	**EMERGING SECTORS**
Marine living resources	Ocean energy
Marine non-living resources	Blue biotechnology
Marine renewable energy	Marine minerals
Ports activities	Desalination
Shipbuilding and repair	Maritime Defence
Maritime transport	Submarine cables
Coastal tourism	

Source: Blue economy report 2020

[21] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0240&from=EN
[22] Ibid.
[23] https://s3platform.jrc.ec.europa.eu/blue-growth#fragment-89005-qvik

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In Table 1, are given established and emerging sectors of Blue economy as defined by Blue economy report 2020[24]. Sectors of the Blue economy are grouped on basis of their economic size and importance, with established sectors being core of blue economy in terms of revenue and employment.

4.2. Blue Growth in ADRION region

Exploration of Blue Growth policies in ADRION macro-region can be tackled from two directions. On one hand there is Strategy for the ADRIATIC-Ionian Region (EUSAIR), and on the other hand there are national/regional RIS3 documents. EUSAIR itself, is structured around 4 broadly conceived pillars:

1. Blue Growth
2. Connecting the region
3. Sustainable tourism
4. Environmental quality

Further, these four pillars are divided into more specific topics:

Figure 1 – EUSAIR pillars and topics

Blue Growth EUSAIR	Topic 1 – Blue technologies Topic 2 – Fisheries and Aquaculture Topic 3 – Maritime and marine governance
Environmental Quality EUSAIR	Topic 1 – The marine environemnt Topic 2 – Transnational terrestrial habitats and biodiversity
Connecting the Region EUSAIR	Topic 1 – Maritime transport Topic 2 – Intermodal connections to the hinterland Topic 3 – Energy networks
Sustainable Tourism EUSAIR	Topic 1 – Diversified tourism offer (products and services Topic 2 – Sustainable and responsible tourism management (innovation and quality)

Source: EUSAIR[25]

[24] https://blueindicators.ec.europa.eu/sites/default/files/2020_06_BlueEconomy-2020-LD_FINAL-corrected-web-acrobat-pro.pdf

[25] https://www.adriatic-ionian.eu/about-eusair/pillars/, retrieved: 15.12.2021.

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As, Figure 1 clearly illustrates, EUSAIR strategy limits Blue Growth to a much lesser scope, focusing only on Blue technologies, Fisheries and aquaculture and Maritime and marine governance. Furthermore, EUSAIR under Blue Growth pillar promotes specific objectives that are to be reached through selected aforementioned topics:

a) 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.
b) To adapt to **sustainable seafood production and consumption**, by developing common standards and approaches for strengthening these two sectors and providing a level playing field in the macro-region.
c) To **improve sea basin governance**, by enhancing administrative and institutional capacities in the area of maritime governance and services.

Since, "macroregional strategy can be defined as a framework of action, endorsed by the European Council, which is aimed at mobilising regional actors and institutions around common challenges faced by a specific microregion"[26], such as the need for integration of infrastructure or joint effort in preserving common natural resources. The motivation for implementation of macroregional strategy is rooted in the EUs own cohesion policy. Therefore, it is based on a common notion of simultaneous cooperation and integration at different levels. It is of great importance, that not only countries co-operate with each other, but also regions work closely with each other in order to accomplish results aligned with the needs and specificities of distinct macro-regions.

Therefore, EUSAIR, as a macro-regional strategy, to a certain extent, did define areas of intervention that are common to all countries/regions of the ADRION macro-region, and those should be considered in terms of future strategic documents.

[26] https://www.oecd.org/cfe/leed/OECD-ADRION-PHASE-II-Report.pdf

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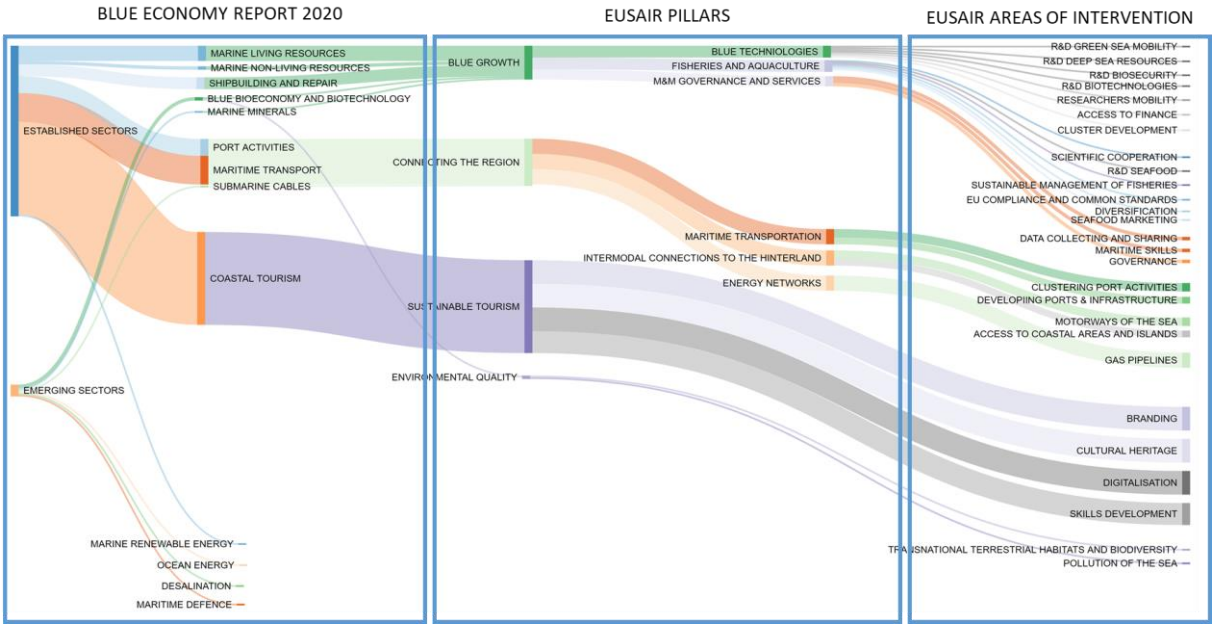
Figure 2, illustrates connections between aforementioned sectors of Blue economy as described in Blue economy report with the four pillars of the EUSAIR strategy.

Figure 2 – alignment of the Blue economy sectors and EUSAIR strategy



Source: Author's own

As it is visible from Figure 2, Blue economy sectors as devised in Blue economy report [27]are corresponding great deal to EUSAIR pillars. What is notable is that Blue Growth pillar of EUSAIR macro regional strategy, is to a certain extent limited to just a portion of sectors/activities recognized as Blue economy.

Nonetheless, omitted sectors of the Blue Economy as defined by Blue economy report are represented throughout other pillars of EUSAIR macro regional strategy. Rationale for that is to be found in institutional setting of macro-regional strategy itself. Namely, EUSAIR macro regional strategy represents a "policy framework which allows countries located in the same region to jointly tackle and find solutions to problems or to better use the potential they have in common"[28]. Furthermore, macro-regional strategies are "initiated and requested by EU Member States concerned"[29] and therefore they represent "purely intergovernmental initiatives and their implementation relies heavily on the commitment and goodwill of the participating countries"[30].

[27] Blue economy report 2021, https://op.europa.eu/hr/publication-detail/-/publication/0b0c5bfd-c737-11eb-a925-01aa75ed71a1

[28] What is an EU macro-regional strategy? https://ec.europa.eu/regional_policy/sources/cooperate/macro_region_strategy/pdf/mrs_factsheet_en.pdf

[29] Ibid.

[30] Ibid.

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Furthermore, sole topics of the Blue economy that are not covered by EUSAIR strategy are: Marine renewable energy, Ocean energy, Desalination and maritime defence.

Before, turning to analysis of policy priorities in regional/national Smart specialization strategies of ADRION macro-region, we will lay out some basic facts about Blue economy in ADRION macro-region.

In table 2 is given overview of developments regarding employment in Blue economy sectors in the period from 2015 to 2020.

Table 2 – Employment in Blue economy sectors in ADRION region ('000)

Sector	Sub-sector	2015	2016	2017	2018	2019	2020	Δ2015/2020
Living resources	Primary production	67	69	65	65	66	66	-2,0%
	Processing of fish products	12	13	13	13	14	14	17,4%
	Distribution of fish products	39	41	42	44	45	45	16,0%
Non-living resources	Oil and gas	16	7	3	3	2	2	-86,1%
	Other minerals	0	0	0	0	0	0	2,8%
Ports activities	Cargo and warehousing	17	18	18	18	19	19	7,2%
	Port and water projects	40	40	39	39	40	40	0,7%
Shipbuilding and repair	Shipbuilding	49	51	54	56	56	56	16,1%
	Equipment and machinery	4	4	5	4	4	4	0,0%
Maritime transport	Passenger transport	49	51	54	56	61	61	26,1%
	Freight transport	21	19	19	19	19	19	-8,4%
	Services for transport	22	22	23	25	27	27	24,9%
Coastal tourism	Coastal tourism	553	645	734	928	925	925	67,3%
Total BE jobs	**Total BE jobs**	**887**	**980**	**1.069**	**1.271**	**1.279**	**1.278**	44,1%

Source: https://blueindicators.ec.europa.eu/access-online-dashboard

Immediately visible is robust growth in number of jobs created in period of 5 years. Total jobs in Blue economy sector grew from 887 thousand Blue economy jobs in 2015 to almost 1,3 million Blue economy jobs in 2020, which represents an increase of 44%.

Also, we see that sector of Coastal tourism is main sector in driving employment in Blue economy, since over 70% of people employed in Blue economy is employed in sector of Coastal tourism. Furthermore, majority of the jobs gained in the Blue economy has been gained in the Coastal tourism sector (over 95% of the total jobs created in BE). So, regarding employment, sector of Coastal tourism is the largest sector and fastest growing as well.

Largest loss in employment is recorded in sector of Non-living resources, specifically in sub-sector of Oil and gas, which shrunk for 15 thousand jobs in period from 2015 to 2020, which represent decline of more than 80%.

In table 4 is given overview of developments regarding gross value added (GVA) in Blue economy sectors in the period from 2015 to 2020.

From the table is visible that total gross value added of Blue economy in ADRION macro-region grew by almost 30% in six-year span from 2015-2016, from 28,3 billions € in 2015 to 36,5 billion € in 2020.

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Table 3 - GVA in Blue economy sectors in ADRION region (million €)

Sector	Sub-sector	2015	2016	2017	2018	2019	2020	Δ2015/2020
Living resources	Primary production	973	1.326	1.449	1.239	1.258	1.085	11,5%
	Processing of fish products	599	654	617	669	730	730	21,9%
	Distribution of fish products	1.379	1.429	1.269	1.431	1.506	1.506	9,2%
Non-living resources	Oil and gas	1.471	1.366	777	861	744	744	-49,4%
	Other minerals	14	13	14	15	14	14	5,6%
Ports activities	Cargo and warehousing	739	733	743	770	804	804	8,8%
	Port and water projects	2.367	2.494	2.517	2.468	2.582	2.582	9,1%
Shipbuilding and repair	Shipbuilding	1.861	2.207	2.587	2.850	3.141	3.141	68,8%
	Equipment and machinery	222	212	308	208	211	211	-4,7%
Maritime transport	Passenger transport	2.834	2.893	3.026	3.050	3.361	3.361	18,6%
	Freight transport	2.440	2.033	2.012	2.041	2.057	2.057	-15,7%
	Services for transport	952	936	1.066	1.156	1.123	1.123	18,0%
Coastal tourism	Coastal tourism	12.445	13.796	16.366	18.801	19.197	19.197	54,3%
Total BE GVA	**Total BE GVA**	28.297	30.091	32.751	35.562	36.731	36.557	29,2%

Source: https://blueindicators.ec.europa.eu/published-reports_en

Sector that most contributed to rise in gross value added (GVA) in ADRION region is the sector of Coastal tourism, that grew by more than 50% or over 6,5 billion € in absolute terms. Again, the largest loss in period from 2015 to 2020 is recorded in sub-sector of Oil and Gas, with fall from 1,4 billion € of GVA to 744 million € of GVA in 2020, which represent fall of almost 50%. Besides, Costal tourism, shipbuilding sub-sector recorded significant increase in gross value added over observed period, increasing by almost 70%.

Table 4 – Apparent labour productivity. Blue economy sectors in ADRION region ('000€/employee)

Sector	Sub-sector	2015	2016	2017	2018	2019	2020	Δ2015/2020
Living resources	Primary production	14	19	22	19	19	16	13,7%
	Processing of fish products	50	51	48	50	52	52	3,9%
	Distribution of fish products	36	35	30	32	34	34	-5,9%
Non-living resources	Oil and gas	93	183	249	260	337	337	264,3%
	Other minerals	40	36	40	43	41	41	2,8%
Ports activities	Cargo and warehousing	42	40	41	42	43	43	1,5%
	Port and water projects	60	62	65	64	65	65	8,4%
Shipbuilding and repair	Shipbuilding	38	43	48	51	56	56	45,4%
	Equipment and machinery	57	56	63	52	54	54	-4,6%
Maritime transport	Passenger transport	58	57	56	54	55	55	-6,0%
	Freight transport	117	108	107	106	107	107	-8,0%
	Services for transport	44	43	46	47	41	41	-5,6%
Coastal tourism	Coastal tourism	23	21	22	20	21	21	-7,8%
Total BE GVA	**Total BE GVA**	32	31	31	28	29	29	-10,3%

Source: https://blueindicators.ec.europa.eu/published-reports_en

Slightly different outlook on Blue economy in ADRION region is given in table 4, which provides developments of apparent labour productivity indicator in the observed period. AS it is visible from table 4, largest productivity gains were achieved in sub-sector of Oil and Gas. Nonetheless, since sub-sector of oil and Gas has recorded large decline in employment and gross value added, we shall ignore this dramatic increase in productivity, since, it is obvious that sub-sector of Oil and Gas is facing some serious turbulence and obvious restructuring.

On the other hand, only in sub-sectors of Shipbuilding and Primary production, productivity has increased at decent level (13,7% in primary production and 45,4% in shipbuilding). Sector of Coastal tourism that has been the main driver of increase in both, employment and gross value added of the total Blue economy in ADRION macro-region in observed period has recorded decline of productivity of almost 8%.

Blue economy as a sector is expanding, in terms of value added and employment, therefore it is becoming significant actor in shaping overall economy of ADRION macro-region. Nonetheless, development regarding its unbalanced growth (almost all expansion is due to rise in sector of coastal tourism) are to be taken cautiously. As, we learned during first year of pandemic caused by COVID-19, tourism as a sector is largely dependent on general economic outlook, especially of the tourism emitting markets, and is highly sensitive to external shocks and disturbances. Furthermore, productivity gains in tourism sector are almost negligible, which gives dichotomous view on tourism sector. On the one hand, low productivity[31], in the long term, does not lead to improvement of the living standard, and reduces profit margins therefore affecting future investment in the sector, which is enough to voice concern over future of the most prolific part of the Blue economy in ADRION macro-region. On the other hand, decrease in productivity or low rates of its increase could provide opportunity for innovation and transformation of the sector, which would lead to higher productivity gains, since innovation are key driver of rise of productivity in modern economy[32].

[31] Stiroh, Kevin J., What Drives Productivity Growth?. Economic Policy Review, Vol. 7, No. 1, March 2001, Available at SSRN: https://ssrn.com/abstract=844244

[32] OECD (2015), The Innovation Imperative: Contributing to Productivity, Growth and Well-Being, OECD Publishing, Paris, https://doi.org/10.1787/9789264239814-en.

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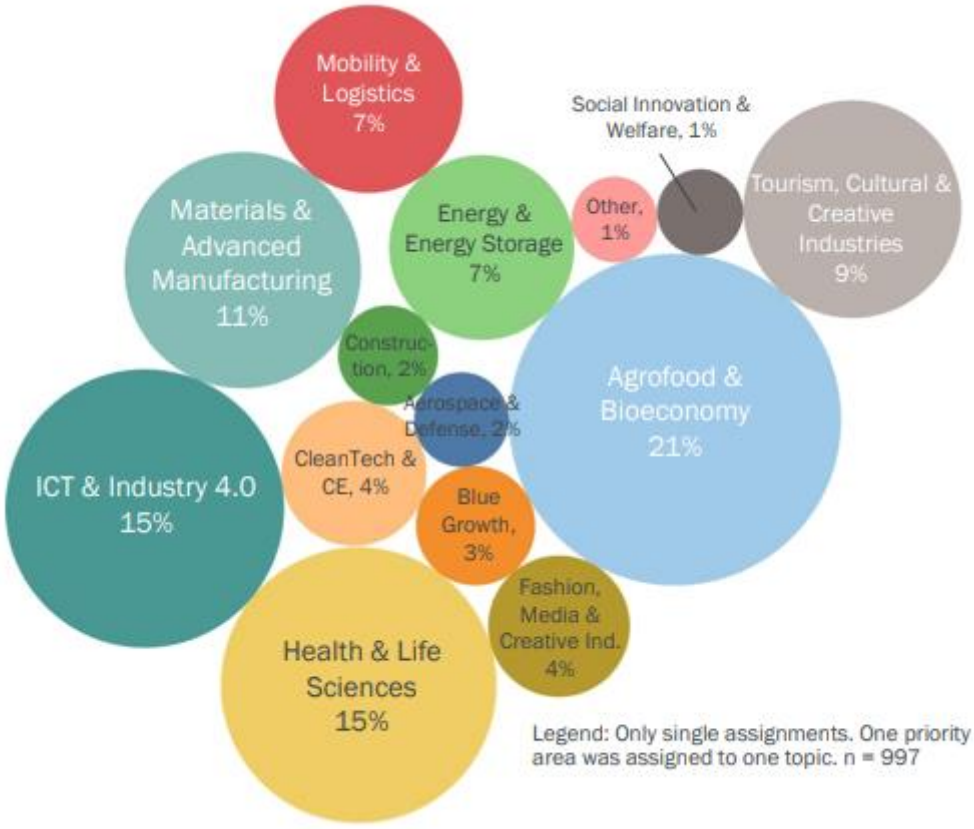
5. RIS3 priorities in ADRION region

Figure 3 illustrates grouping of the RIS 3 priority areas across EU. It is visible that Blue Growth accounts for only 3% of all priorities selected by countries/regions of European union.

Figure 3 – RIS3 priorities in EU (2014-2020)



Source: Prognos / CSIL (2021). Note: n= 185 regions.

Low count of thematic areas dedicated to Blue Growth is rather concerning, since only 4, out of 27 EU countries do not have access to the sea (Austria, Czechia, Slovakia and Hungary). Europe, being surrounded by Atlantic Ocean to the West, Mediterranean Sea to the South, Baltic and North Sea on the North, and Black sea in the East, is in a great position to explore and exploit all the opportunities and advantages of the Blue Economy.

Nevertheless, turning our attention to ADRION macro-region and Smart specialization strategies (RIS3) should give us clearer view on policy stance, regarding Blue economy and Blue Growth in ADRION macro-region.

Figure 4 illustrates, policy objectives, economic activity indicators (NACE) and scientific domains used to describe thematic areas of all RIS3 documents in the ADRION macro-region.

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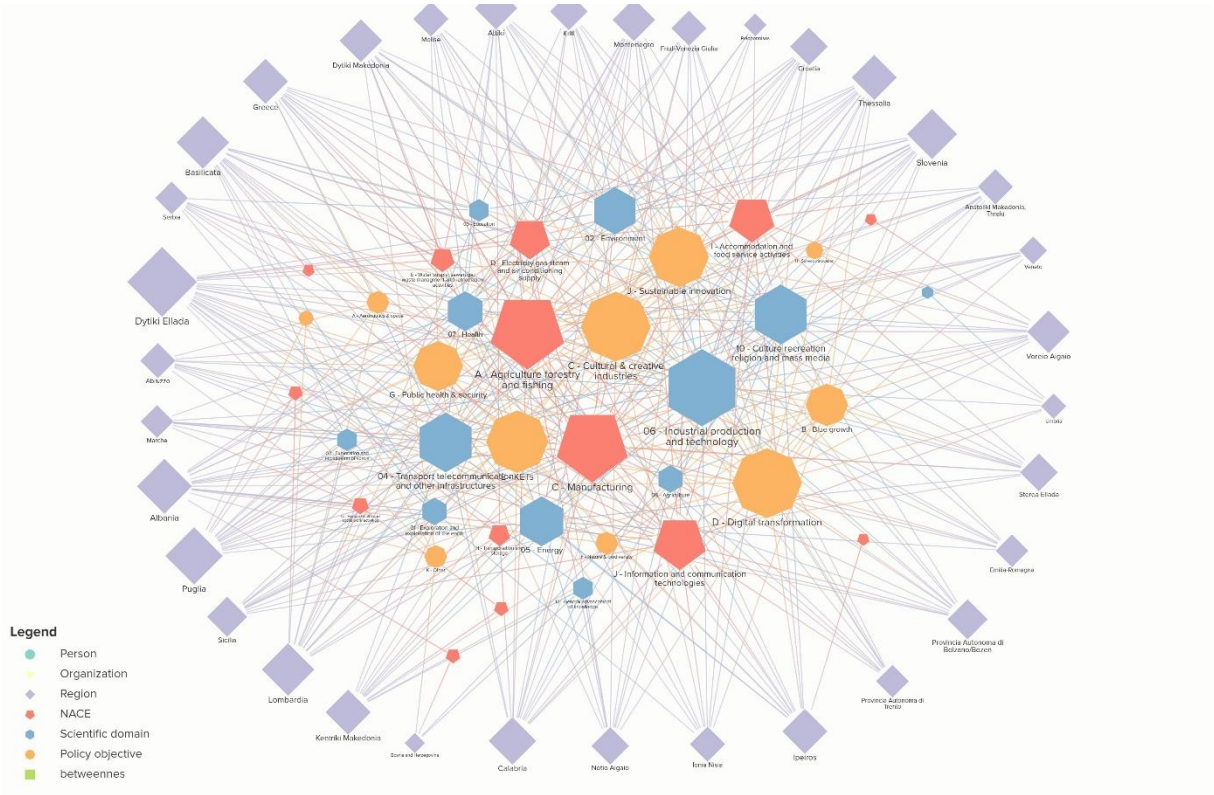
Figure 4 – National/regional RIS3 documents and policy objectives, economic activities and scientific domains



Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

As it is visible from Figure 4, most common policy objective throughout RIS3 documents in ADRION region is Digital transformation (45), which is followed by Key enabling technologies (36) and Sustainable Innovation (35). All three of these policy objective designations, by definition, are crossing sectoral boundaries and one should not view them as separate sectors. These policy objectives should be viewed as enablers of transformation of all other sectors and activities.

Therefore, if we do not consider aforementioned policy objectives, and take into account only policies that have to certain extent, firm boundaries, most common policy objectives found in national/regional RIS3 documents in ADRION macro-region are: Cultural & creative industries (31), Public health & security (18) and Blue growth (14). Less represented policy objectives in ADRION macro-region are Aeronautics & space (6), Nature & Biodiversity (5) and Service innovations (3), as it is visible in Table 5.

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Table 5 – Policy objectives of national/regional RIS3 documents in ADRION macro-region

Policy objectives	Count of Policy Objectives
D - Digital transformation	45
E – KETs	36
J - Sustainable innovation	35
C - Cultural & creative industries	31
G - Public health & security	18
B - Blue growth	14
K – Other	10
A - Aeronautics & space	6
F - Nature & biodiversity	5
H - Service innovation	3
I - Social innovation	2
Grand total	**205**

Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

Regarding scientific domains represented in national/regional RIS3 documents, most often scientific domain is Industrial production and technology (56), followed by Transport, telecommunications and other infrastructures (31), Culture, recreation, religion and mass media (26), Environment (20 and Energy (18) (Table 6).

Table 6 - Scientific domains of national/regional RIS3 documents in ADRION macro-region

Scientific domains	Count of Scientific domain
06 - Industrial production and technology	56
04 – Transport, telecommunications and other infrastructures	31
10 – Culture, recreation, religion and mass media	26
02 – Environment	20
05 – Energy	18
07 – Health	13
03 - Exploration and exploitation of space	11
12 - General advancement of knowledge	9
01 - Exploration and exploitation of the earth	7
08 – Agriculture	7
09 – Education	6
11 - Political and social systems structures and processes	1
Grand Total	**205**

Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

On the other hand, least represented scientific domains beside political and social systems structures and processes, are: Education (6), Agriculture (7) and Explorations and exploitation of the earth (7).

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Regarding economic activities foreseen as foundations of developing smart specialization in ADRION region, Manufacturing (67) and Agriculture, forestry and fishing (41) are cornerstones of specializations in ADRION macro region.

ICT (28) as a primarily horizontal sector is, as well, in focus of smart specializations throughout ADRION macro-region. Accommodation and food services (21), are fourth most common area of economic activity in smart specializations of ADRION macro-region. As illustrated in tables 4 and 5, importance of Accommodation and food services (a.k.a. Coastal tourism) is unprecedented in terms of employment and value added in Blue economy in ADRION macro-region.

Table 7- Economic domains of national/regional RIS3 documents in ADRION macro-region

Economic domains	Count of Economic domains
C - Manufacturing	67
A - Agriculture forestry and fishing	41
J - Information and communication technologies	28
I - Accommodation and food service activities	21
D - Electricity gas steam and air conditioning supply	13
M - Professional scientific and technical activities	11
E - Water supply; sewerage; waste managment and remediation activities	6
H - Transportation and storage	5
Q - Human health and social work activities	3
R - Arts entertainment and recreation	3
F - Construction	2
K - Financial and insurance activities	1
O - Public administration and defence; compulsory social security	1
P - Education	1
Grand Total	**203**

Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

Therefore, it is not surprising that RIS3 documents to a certain extent mirror economic reality of regional/national economies. Energy sector (Electricity, gas steam and air conditioning supply – 13) and R&D activities (Professional scientific and technical activities – 11), are areas of economic activity that are moderately common in description of national/regional RIS3 documents in ADRION region. Least represented areas of economic activity are Education (1), Public administration and defence (1) and Financial and insurance activities (1).

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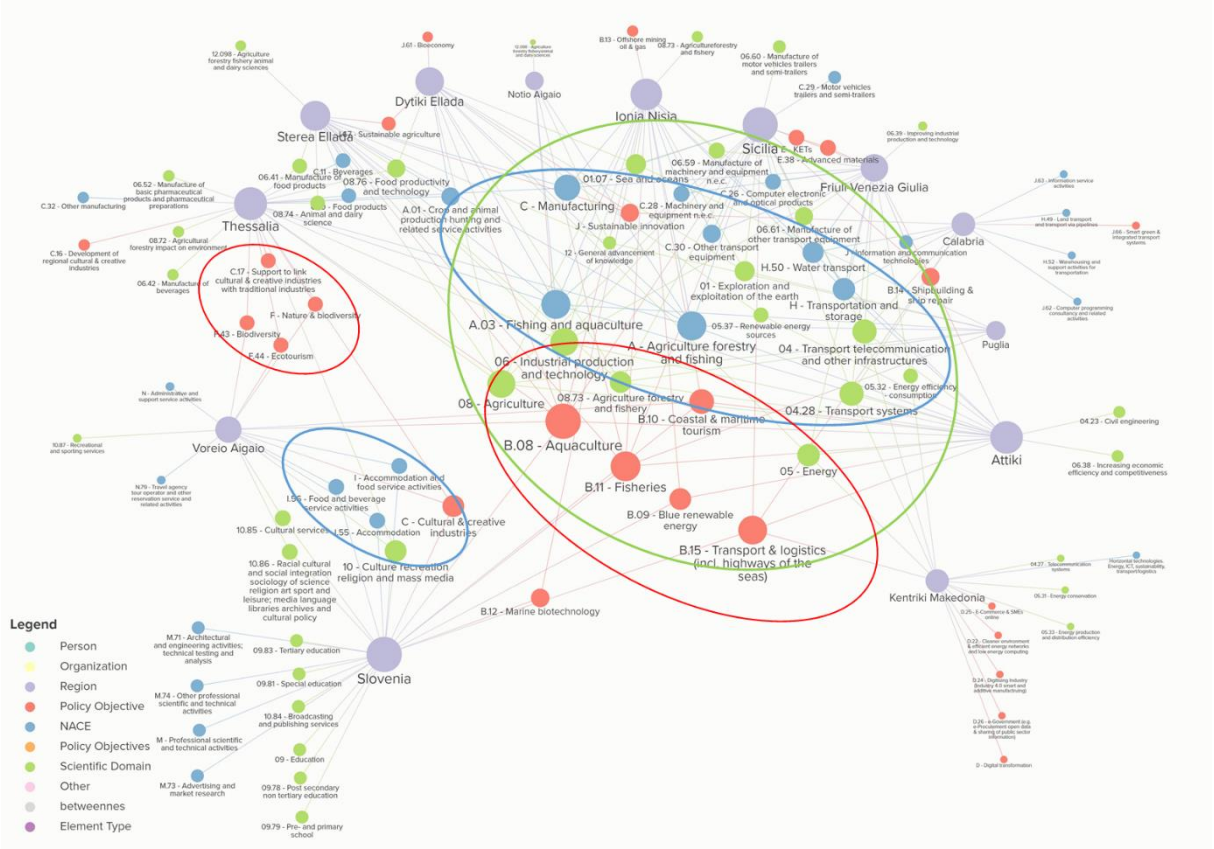
6. BLUE GROWTH priorities in ADRION region

Blue Growth as policy objective is found in 13 different national/regional RIS3 documents. Regions/countries which included Blue Growth policy objective in their RIS3 document are as follows:

1. Greece: Voreio Aigaio, Thessalia, Sterea Ellada, Dytiki Ellada, Notio Aigaio, Ionia Nisia, Attiki and Kentriki Makedonia
2. Italy: Sicilia, Friuli-Venezia Giulia, Calabria and Puglia
3. Slovenia (national RIS3 document)

Blue Growth policy objectives in ADRION region is present in 13 entities: 1 country (Slovenia) and 12 regions (8 Greek regions and 4 Italian regions).

Figure 5 – National/regional RIS3 documents and Blue Growth policy objectives, economic activities and scientific domains



Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

Figure 5 illustrates interconnectedness of various Blue Growth policies and other classifications used as descriptors of the priority areas. Size of the dots represents number of appearances of certain descriptor.

As it is visible from Figure 5, Blue Growth in ADRION macro region is mainly focussed on traditional (established) Blue economy sectors such as: Fisheries and Aquaculture, Shipbuilding and food

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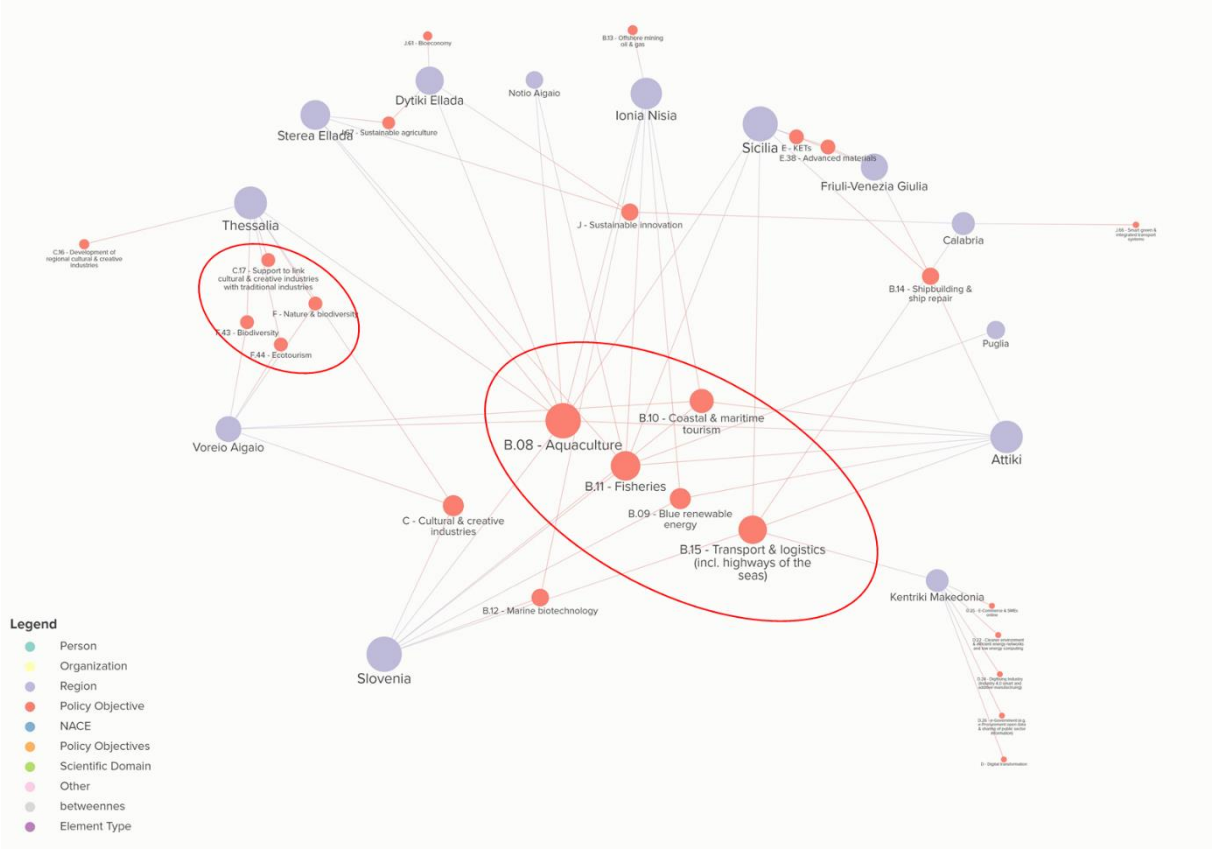
production. Furthermore, one can see there is large overlapping regarding policy objectives, scientific domains and economic activities.
Tourism and environmentalism as policy objectives and preferred economic activities are to a certain degree marginal, but nonetheless, noticeable part of Blue Growth throughout specializations in ADRION macro-region.

6.1. Policy objectives

Figure 6 – National/regional RIS3 documents and Blue Growth policy objectives



Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

Blue Growth policy objectives described in national/regional RIS3 documents of ADRION macro-region are concentrated around two common sets of policies. Larger set of policy objectives is mainly concerned with traditional sectors of Blue economy such as Aquaculture and Fisheries and maritime transport together with Coastal tourism and renewable energy. Other focal point of Blue Growth agendas in ADRION macro-region is concerned with environmental issues coupled with tourism and culture nexus.

It is safe to say that within policy objectives of Blue Growth in ADRION macro-region, predominant role is reserved for traditional economic activities of Blue economy.

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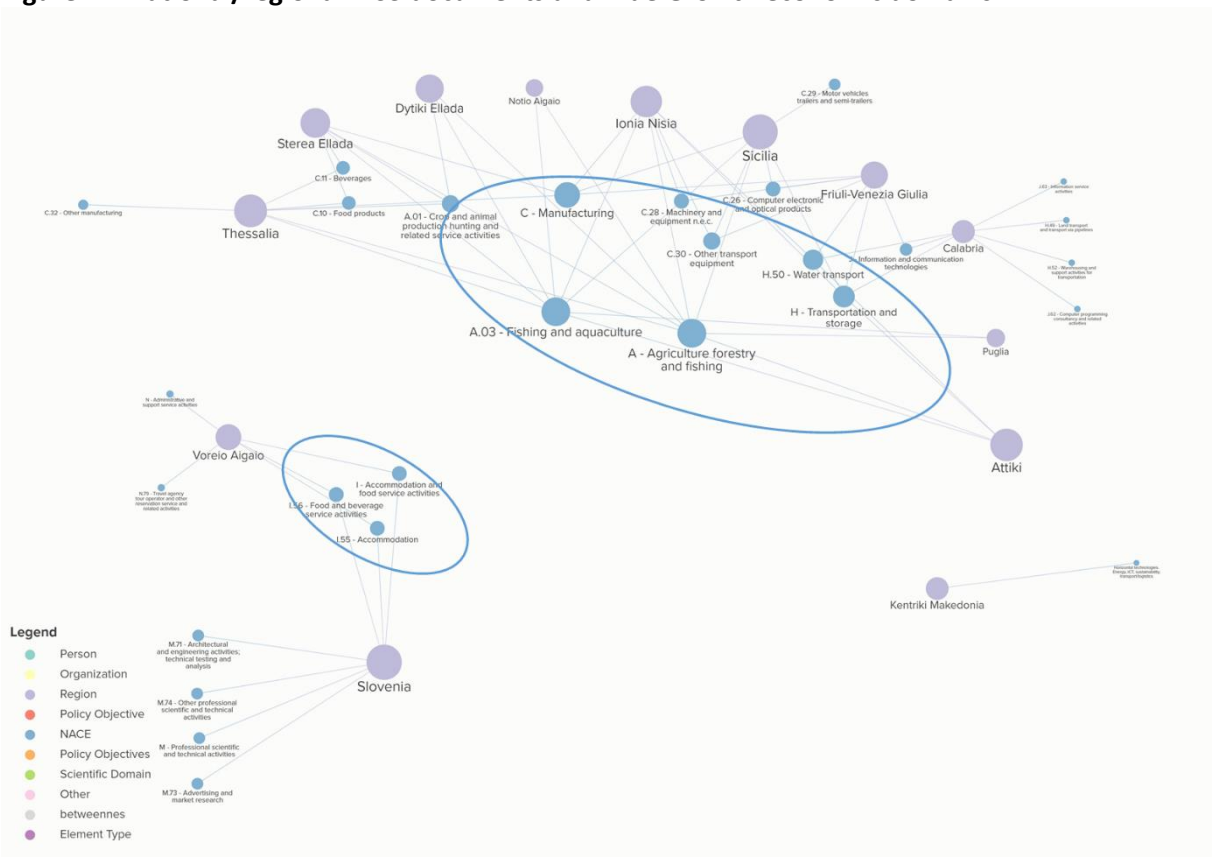
6.2. Economic domains

Figure 7 – National/regional RIS3 documents and Blue Growth economic domains



Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

Regarding economic activities that are focal point of blue Growth agenda in ADRION macro-region, as Figure 7 illustrates, there are two focal points: smaller that reflects mainly economic activities connected to coastal tourism, and larger one that incorporates mainly primary sectors of economic activity (Fishing and aquaculture and Agriculture and forestry) and manufacturing industry and transportation sector.

Once more, as tables 3 and 4 indicate, besides Coastal tourism, Maritime transportation and manufacturing (shipbuilding etc.) and primary sector (aquaculture and agriculture) are the key sectors of Blue economy in ADRION macro-region in terms of employment and value added. Therefore, enhancing Blue economy through Blue Growth agenda in ADRION macro-region is necessary based on most prolific sectors on which Blue economy is based.

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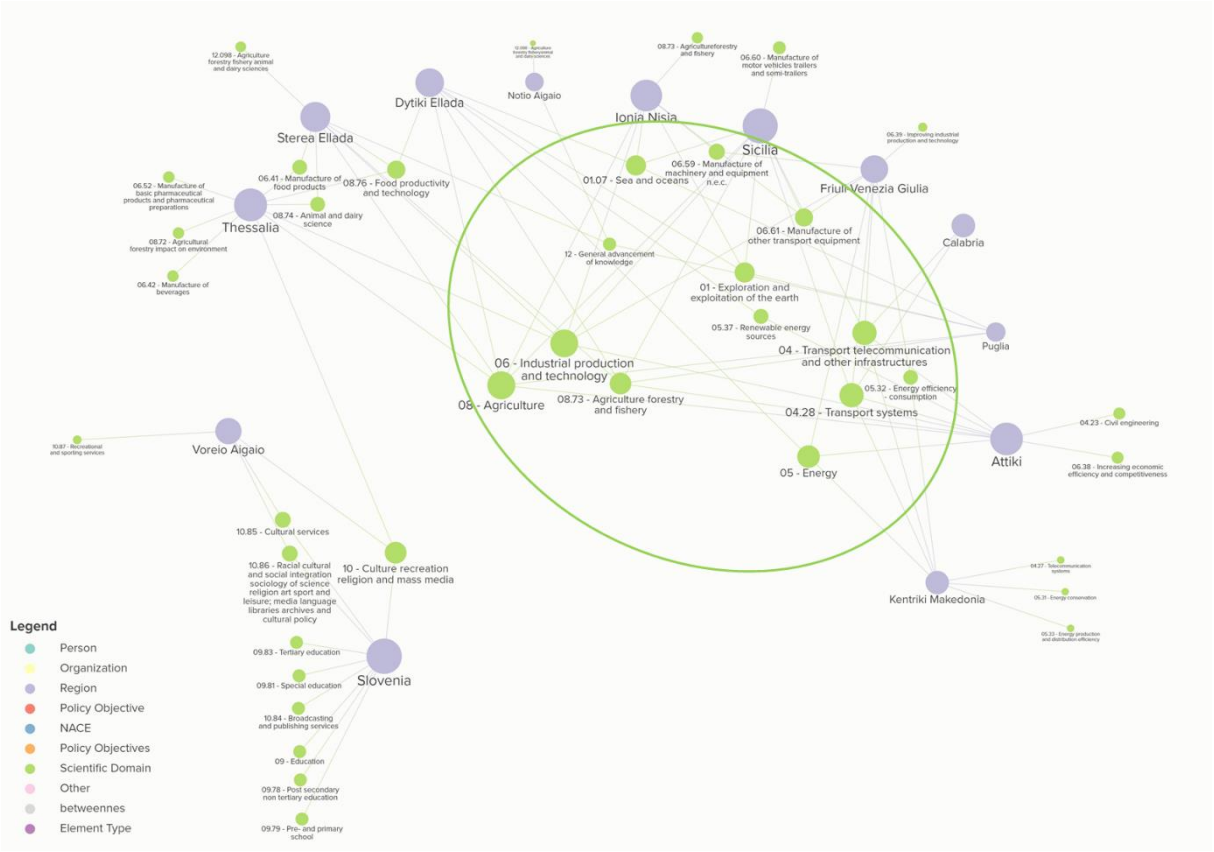
6.3. Scientific areas

Figure 8 – National/regional RIS3 documents and Blue Growth scientific areas



Source: Author's own calculation, https://s3platform.jrc.ec.europa.eu/map

Scientific areas included in Blue Growth agenda of national/regional RIS3 documents follow the pattern of Policy aobjectivers and economic activities. Most common scientific area, regarding Blue Growth agedna in ADRION macro-region are Agriculture, Industrial production and technology and Transport telecommunication and other infrastructure.

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7. FINDINGS

As already mentioned, goal of this document is to explore commonalities regarding Blue Growth agenda in ADRION macro-region by analysing national/regional RIS3 documents. Commonalities were identified using network visualisation on common classification of thematic priorities. Each thematic priority area is described through three different classification systems (NACE v.2, NABS 2007 and policy objectives). By identifying most common qualification by each of the classification systems, we were able to describe Blue Growth sector in ADRION macro-region. Key findings regarding Blue Growth in ADRION macro-region as it is envisaged in national/regional RIS3 documents are as follows:

1. Blue Growth is the **third most common policy objective** in ADRION macro-region, given that horizontal policy objective such as Digital transformation or KETs, are excluded due to fact of their cross-sectoral nature.
2. Blue Growth agenda is **supported in 13 RIS3 documents** (1 country and 12 regions) out of total of 34 RIS3 documents in ADRION macro-region.
3. Blue Growth agenda in ADRION macro-region is **heavily focused on traditional sectors** of Blue economy, such as **Aquaculture, fisheries, food production, shipbuilding and maritime transport.**
4. **Coastal tourism,** although being the largest and most important sector of Blue economy in ADRION Macro-region, is **not represented proportionally**, mostly due to fact that RIS3 documents, in their essence are R&D policy documents, and tourism, as a sector relies mostly on non-R&D innovations.

These findings, to certain extent, do not fully endorse EUSAIR strategy Blue Growth topics, but are rather aligned with other pillars of EUSAIR strategy. Whereas, EUSAIR strategy, through its Blue Growth pillar enables emerging sectors (Blue biotechnologies and marine minerals) and established sectors (fisheries and aquaculture) as defined in Blue Economy report, national/regional RIS3 documents are more focused on established sectors of Blue economy (Maritime transport, aquaculture and fisheries). This difference in approach to Blue Growth is probably result of different processes of strategy making. RIS3 documents, as already mentioned, are primarily place-based R&D policies, intended to boost innovation potential of certain region or country, on basis of already existing foundations, whereas, macro-regional strategy represent framework for national/regional cooperation aligned with EU goals for the period. Furthermore, national/regional RIS3 documents are basis for funding of R&D activities, whereas, macro-regional strategies, as already mentioned, represent a framework for cooperation and synergy development.

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ANNEX 1 – RIS 3 priorities in ADRION region

Friuli-Venezia Giulia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
The trajectories of the Intelligent Factory and Sustainable Development area of the Made in Italy supply chains			
Energy transition, circular economy and environmental sustainability			
Sustainable Waterborne area Mobility and its land connections			
Health, Quality of Life, Agri-food and Bioeconomy area			
Cultural heritage, design, creativity industry, tourism			

Veneto

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Advanced technologies for manufacturing	C - Manufacturing,		
New technologies for the creative industries	C - Manufacturing, M - Professional, scientific and technical activities,		
New technologies for sustainable living	C - Manufacturing,		
Providing healthy and safe food (agri-food)	A - Agriculture, forestry and fishing, C - Manufacturing		

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Emilia-Romagna

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
ICTs and new technologies for tourism, cultural and creative industries	C - Manufacturing, J - Information and communication technologies, M - Professional, scientific and technical activities,		
Sustainable construction	C - Manufacturing, D - Electricity, gas, steam and air conditioning supply, F - Construction, J - Information and communication technologies, M - Professional, scientific and technical activities,		
Mechatronics and the motor industry	C - Manufacturing, G - Wholesale and retail trade		
Healthy living care services and products (Life Sciences)	C - Manufacturing, J - Information and communication technologies, M - Professional, scientific and technical activities, Q - Human health and social work activities,	06 - Industrial production and technology, 07 - Health, 12 - General advancement of knowledge,	D - Digital transformation, G - Public health & security,
Providing healthy and safe food (agri-food)	A - Agriculture, forestry and fishing, C - Manufacturing, E - Water supply		

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Lombardia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Aeronautics and Space	C - Manufacturing	04 - Transport	A - Aeronautics & space
Agriculture and food production	A - Agriculture	03 - Exploration and exploitation of space	G - Public health & security
Eco - Industry	D - Electricity	05 - Energy	J - Sustainable innovation
Cultural and Creative Industries	R - Arts	04 - Transport	C - Cultural & creative industries
Healthcare Industry	Q - Human health and social work activities	09 - Education	I - Social innovation
Advanced Manufacturing	C - Manufacturing	03 - Exploration and exploitation of space	E - KETs
Sustainable mobility	H - Transportation and storage	04 - Transport	J - Sustainable innovation

Umbria

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Promotion of New Markets for Innovation	J - Information and communication technologies		
Innovative specializations in knowledge-intensive application areas	J - Information and communication technologies		
Strengthening business innovation	J - Information and communication technologies		
Strengthening of the regional and national innovation system	J - Information and communication technologies		

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Marche

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Integrated and sustainable manufacturing	C - Manufacturing		
Smart homes for smart communities	J - Information and communication technologies	06 - Industrial production and technology	D - Digital transformation
Ambient Assisted Living and health industry	Q - Human health and social work activities	07 - Health	E - KETs
New advanced industrial automation solutions for mechatronics			
ICT	J - Information and communication technologies	04 - Transport	

Abruzzo

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Healthy and innovative agri food sector	A - Agriculture, forestry and fishing,	06 - Industrial production and technology	G - Public health & security
Advanced technologies for health and living care services (life science)	C - Manufacturing, Q - Human health and social work activities,	06 - Industrial production and technology,	G - Public health & security, I - Social innovation,
New technologies and solutions for the aerospace industry	J - Information and communication technologies O - Public administration and defence		
Automotive 4.0.	C - Manufacturing	04 - Transport	E - KETs
Design driven innovation for fashion industries	F - Construction	04 - Transport	E - KETs

Molise

S3 priorities	Economic Domains	Scientific domains	Policy Objectives

Life Sciences	M - Professional	07 - Health	G - Public health & security
Cultural, Creative and Touristic Industries	J - Information and communication technologies	10 - Culture	C - Cultural & creative industries
Agri-Food	C - Manufacturing	06 - Industrial production and technology	E - KETs
Information and Communication Technologies	J - Information and communication technologies	06 - Industrial production and technology	D - Digital transformation

Puglia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Social Innovation	R - Arts	10 - Culture	
Blue and green economy	A - Agriculture	01 - Exploration and exploitation of the earth	B - Blue growth
Cultural & creative industries	R - Arts	10 - Culture	C - Cultural & creative industries
Agriculture and food production	A - Agriculture	03 - Exploration and exploitation of space	
Aerospace	C - Manufacturing	04 - Transport	A - Aeronautics & space
Bio medicine	C - Manufacturing	07 - Health	G - Public health & security
Life science and biotechnology	C - Manufacturing	03 - Exploration and exploitation of space	E - KETs
New materials	C - Manufacturing	03 - Exploration and exploitation of space	E - KETs
Advance manufacturing	C - Manufacturing	03 - Exploration and exploitation of space	E - KETs
Mechatronics	C - Manufacturing	03 - Exploration and exploitation of space	E - KETs
Tourism and heritage	I - Accommodation and food service activities	10 - Culture	
Sustainable energy	D - Electricity	05 - Energy	J - Sustainable innovation

Basilicata

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Bio based and integrated economy	E - Water supply		
Open innovation for cultural heritage and creative industries	J - Information and communication technologies, R - Arts, entertainment and recreation,	10 - Culture, recreation, religion and mass media	C - Cultural & creative industries, D - Digital transformation,
Sustainable and innovative automotive	C - Manufacturing	06 - Industrial production and technology	E - KETs
Leading edge technologies for aerospace and related application fields	J - Information and communication technologies, M - Professional, scientific and technical activities,		
Green economy.	D - Electricity, gas, steam and air conditioning supply,	05 - Energy, , 08 - Agriculture,	J - Sustainable innovation,
Environment information and observations	K - Financial and insurance activities	09 - Education	J - Sustainable innovation
Design and furniture	C - Manufacturing	03 - Exploration and exploitation of space	K - Other

Calabria

Description	Economic Domains	Scientific domains	Policy Objectives
Advanced technologies and solutions for manufacturing.	C - Manufacturing,		
Technologies for logistics.	H - Transportation and storage, J - Information and communication technologies, M - Professional,	04 - Transport, telecommunication and other infrastructures,	B - Blue growth, J - Sustainable innovation,

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	scientific and technical activities,		
ICTs and new technologies for tourism and cultural industries.	J - Information and communication technologies, M - Professional, scientific and technical activities, N - Administrative and support service activities, R - Arts, entertainment and recreation,	10 - Culture, recreation, religion and mass media,	C - Cultural & creative industries D - Digital transformation, F - Nature & biodiversity, H - Service innovation,
Sustainable construction.	C - Manufacturing,		
Reducing environmental impacts and harm from natural hazards.	C - Manufacturing, E - Water supply		
Healthy living care services and products (Life Sciences).	C - Manufacturing, J - Information and communication technologies, M - Professional, scientific and technical activities, Q - Human health and social work activities	06 - Industrial production and technology, 07 - Health, 12 - General advancement of knowledge,	D - Digital transformation, G - Public health & security
Developing the ICTs and innovative services sectors.	J - Information and communication technologies, M - Professional, scientific and technical activities	12 - General advancement of knowledge,	D - Digital transformation, H - Service innovation,
Providing healthy and safe food (agri-food).	A - Agriculture, forestry and fishing, , C - Manufacturing, E - Water supply		

Sicilia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
ICTs and new technologies for tourism and cultural industries	J - Information and communication technologies, M - Professional, scientific and technical activities, N - Administrative and support service activities, R - Arts, entertainment and recreation	10 - Culture, recreation, religion and mass media,	C - Cultural & creative industries, D - Digital transformation, , H - Service innovation,
Blue economy	A - Agriculture, forestry and fishing, C - Manufacturing, J - Information and communication technologies, M - Professional, scientific and technical activities,	01 - Exploration and exploitation of the earth, 06 - Industrial production and technology08 - Agriculture, 12 - General advancement of knowledge,	B - Blue growth, E - KETs,
Technologies for smart cities and communities	J - Information and communication technologies, M - Professional, scientific and technical activities,	04 - Transport, telecommunication and other infrastructures,	D - Digital transformation, I - Social innovation,
Technologies for clean energy and energy saving	C - Manufacturing		
Healthy living care services and products (Life Sciences)	C - Manufacturing, J - Information and communication technologies, , M - Professional, scientific and technical activities,	06 - Industrial production and technology, 07 - Health, 12 - General advancement of knowledge,	D - Digital transformation, , E - KETs, G - Public health & security,
Providing healthy and safe food (agri-food)	A - Agriculture, forestry and fishing, C - Manufacturing, H - Transportation and storage, J - Information and communication technologies, M - Professional, scientific and technical activities,	06 - Industrial production and technology, 08 - Agriculture, 12 - General advancement of knowledge,	E - KETs, G - Public health & security, J - Sustainable innovation,

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Greece

Anatoliki Makedonia, Thraki

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Restructuring and reorientation of agrifood complex	A - Agriculture		
Emerging activities dealing with growing pains	I - Accommodation and food service activities	06 - Industrial production and technology	C - Cultural & creative industries
Manufacturing technologies	C - Manufacturing	06 - Industrial production and technology	D - Digital transformation
Sustainable tourism	I - Accommodation and food service activities	02 - Environment	

Kentriki Makedonia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Agri-Food - bio-based activities	A - Agriculture		
Building materials and household equipmentt	C - Manufacturing		
Structural Materials	F - Construction	12 - General advancement of knowledge	D - Digital transformation
Electronics, electrical appliances and ICT	C - Manufacturing	04 - Transport	E - KETs
Horizontal technologies		04 - Transport	B - Blue growth
Smart textiles	A - Agriculture	06 - Industrial production and technology	E - KETs
Manufacturing of chemicals and energy	C - Manufacturing	05 - Energy	J - Sustainable innovation

Manufacturing of clothing and fashion	C - Manufacturing	06 - Industrial production and technology	J - Sustainable innovation
Manufacturing of food	C - Manufacturing	06 - Industrial production and technology	J - Sustainable innovation
Metallurgy, metal products, machinery and equipment	C - Manufacturing	06 - Industrial production and technology	E - KETs
Alternative tourism - transport	H - Transportation and storage	04 - Transport	J - Sustainable innovation

Dytiki Makedonia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Renewables	D - Electricity	05 - Energy	J - Sustainable innovation
Furskins industry, wearing apparel	C - Manufacturing	06 - Industrial production and technology	K - Other
Metals and metal products	C - Manufacturing	06 - Industrial production and technology	E - KETs
Tourism and culture industries	I - Accommodation and food service activities	10 - Culture	
Agri-Food and Livestock	A - Agriculture	06 - Industrial production and technology	J - Sustainable innovation
Integrated Waste Management	E - Water supply		

Thessalia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Agriculture and nutrition	A - Agriculture	08 - Agriculture	J - Sustainable innovation
Rehabilitation and related medical services	C - Manufacturing	07 - Health	D - Digital transformation
Metals and Structural Materials	C - Manufacturing	05 - Energy	E - KETs

Horizontal dimension		02 - Environment	H - Service innovation
Agrifood and new tourism			
ICT and water supply	E - Water supply		

Ipeiros

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Primary sector and transformation of agricultural products	A - Agriculture, forestry and fishing,	08 - Agriculture, 12 - General advancement of knowledge,	E - KETs, J - Sustainable innovation,
Health & Well-being.	P - Education Q - Human health and social work activities		G - Public health & security,
ICT linked to university research	J - Information and communication technologies, M - Professional, scientific and technical activities	04 - Transport, telecommunication and other infrastructures, 12 - General advancement of knowledge,	D - Digital transformation,
Agrifood-culture-nutrition nexus	A - Agriculture	05 - Energy	C - Cultural & creative industries
Tourism - "Experience seeking	I - Accommodation and food service activities N - Administrative and support service activities, Q - Human health and social work activities,	07 - Health, 10 - Culture, recreation, religion and mass media,	

Ionia Nisia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Blue economy	A - Agriculture	01 - Exploration and exploitation of the earth	B - Blue growth
Tourisme, culture and creative economy	I - Accommodation and food service activities	10 - Culture	

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Agrifood and gastronomy	A - Agriculture	06 - Industrial production and technology	G - Public health & security
Targeted Tourism Activities - Ëxperience tourism and image projection	I - Accommodation and food service activities	10 - Culture	
Biomedical services.	J - Information and communication technologies	07 - Health	G - Public health & security

Dytiki Ellada

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Materials - Microelectronics	C - Manufacturing	04 - Transport	E - KETs
Agrifood and Aquaculture	A - Agriculture	01 - Exploration and exploitation of the earth	B - Blue growth
Tourism-Culture	I - Accommodation and food service activities	10 - Culture	
Bioeconomy	M - Professional	12 - General advancement of knowledge	E - KETs
Eco-tourism	I - Accommodation and food service activities	10 - Culture	
Green energy	D - Electricity	05 - Energy	J - Sustainable innovation
Hydrogen fuel cells	C - Manufacturing	05 - Energy	J - Sustainable innovation
Horizontal technologies and smart cities	J - Information and communication technologies	05 - Energy	D - Digital transformation
Life Science	C - Manufacturing	06 - Industrial production and technology	G - Public health & security
Tobacco	A - Agriculture	06 - Industrial production and technology	K - Other
Tourism and ICT	I - Accommodation and food service activities	10 - Culture	
Transportation	H - Transportation and storage	04 - Transport	J - Sustainable innovation
Waste management	E - Water supply		

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Sterea Ellada

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Green innovation and renewable sources of energy	D - Electricity		
Metals and their industrial processing	C - Manufacturing	06 - Industrial production and technology	E - KETs
Agrifood and aquaculture	A - Agriculture	06 - Industrial production and technology	B - Blue growth
Experience' industry and tourism	I - Accommodation and food service activities	10 - Culture	
Metals and materials	C - Manufacturing	06 - Industrial production and technology	E - KETs

Peloponnisos

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Agrifood and gastronomy	A - Agriculture	02 - Environment	J - Sustainable innovation
Tourism and Culture	I - Accommodation and food service activities	02 - Environment	

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Attiki

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Blue economy	A - Agriculture	05 - Energy	B - Blue growth
Culture-tourism-ICT interaction	I - Accommodation and food service activities	10 - Culture	
Sustainability and quality of life	A - Agriculture	07 - Health	D - Digital transformation
Port and logistics	H - Transportation and storage	04 - Transport	B - Blue growth
Solid and liquid waste management	E - Water supply		

Voreio Aigaio

Description	Economic Domains	Scientific domains	Policy Objectives
Bio-Agro-Food	A - Agriculture	06 - Industrial production and technology	J - Sustainable innovation
Equal growth opportunities across the islands	O - Public administration and defence		
Agrifood and health/quality-of-life aspects	A - Agriculture	06 - Industrial production and technology	E - KETs
ICT and agriculture	A - Agriculture	08 - Agriculture	D - Digital transformation
ICT and processed food	C - Manufacturing	06 - Industrial production and technology	D - Digital transformation
ICT and tourism	I - Accommodation and food service activities	10 - Culture	
Innovation and local hands-on Entrepreneurship			H - Service innovation
Tourism, culture and nature	I - Accommodation and food service activities	10 - Culture	

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Notio Aigaio

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Tourism, culture and 'experience' industry	I - Accommodation and food service activities	10 - Culture	
Agrifood and nutrition/quality-of-life	A - Agriculture	08 - Agriculture	G - Public health & security
Green technologies and renewables	D - Electricity	05 - Energy	J - Sustainable innovation
Fisheries and aquaculture	A - Agriculture	12 - General advancement of knowledge	B - Blue growth

Kriti

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
The environment - sustainability nexus	D - Electricity	02 - Environment	J - Sustainable innovation
The culture-tourism nexus	I - Accommodation and food service activities	10 - Culture	
The knowledge - innovation nexus	M - Professional	09 - Education	D - Digital transformation
Technology and education especially for agro-food and culture and tourism	A - Agriculture	09 - Education	
The agriculture-nutrition nexus	A - Agriculture	06 - Industrial production and technology	J - Sustainable innovation

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Slovenia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Smart Mobility	C - Manufacturing	02 - Environment	E - KETs
Smart buildings and homes			
Development of Materials as Products	C - Manufacturing	06 - Industrial production and technology	E - KETs
SI_ndustry 4.0 - Smart Factories			
Smart Cities and Communities	C - Manufacturing	05 - Energy	D - Digital transformation
Sustainable Tourism and Creative Cultural and Heritage based Services	I - Accommodation and food service activities		
Networks for the Transition to Circular Economy	A - Agriculture		
Health / Medicine	C - Manufacturing		
Sustainable Food			

Croatia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Transport and Mobility			
Security.	J - Information and communication technologies		
Energy and Sustainable Environment			
Health and Quality of Life			
Food and Bioeconomy.	A - Agriculture		

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Serbia

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Manufacturing of Machinery and Electronic Devices			
Information and Communication Technologies			
Creative Industries.			
Food and Beverages			

Bosnia & Herzegovina

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Agricultural sciences	M - Professional	08 - Agriculture	K - Other
Engineering	M - Professional		
Humanities	M - Professional	12 - General advancement of knowledge	K - Other
Medical and health sciences	M - Professional	12 - General advancement of knowledge	K - Other
Natural sciences	M - Professional	12 - General advancement of knowledge	K - Other
Social sciences	M - Professional	12 - General advancement of knowledge	K - Other

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Montenegro

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Renewable Energy Sources and Energy Efficiency			
Sustainable Health and Tourism			
New Materials and Sustainable Technologies			
Information and Communication Technologies			
Sustainable Agriculture and Food Value Chain			

Albania

S3 priorities	Economic Domains	Scientific domains	Policy Objectives
Materials	C - Manufacturing	06 - Industrial production and technology	E - KETs
ICT	J - Information and communication technologies	04 - Transport	D - Digital transformation
Biodiversity & Environment	M - Professional scientific and technical activities	02 - Environment	F - Nature & biodiversity
Health	Q - Human health and social work activities	07 - Health	G - Public health & security
Social sciences & Albanalogy	M - Professional scientific and technical activities	10 - Culture	
Agriculture, food & biotechnology	A - Agriculture forestry and fishing	06 - Industrial production and technology	E - KETs
Water & energy	D - Electricity gas steam and air conditioning supply		

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