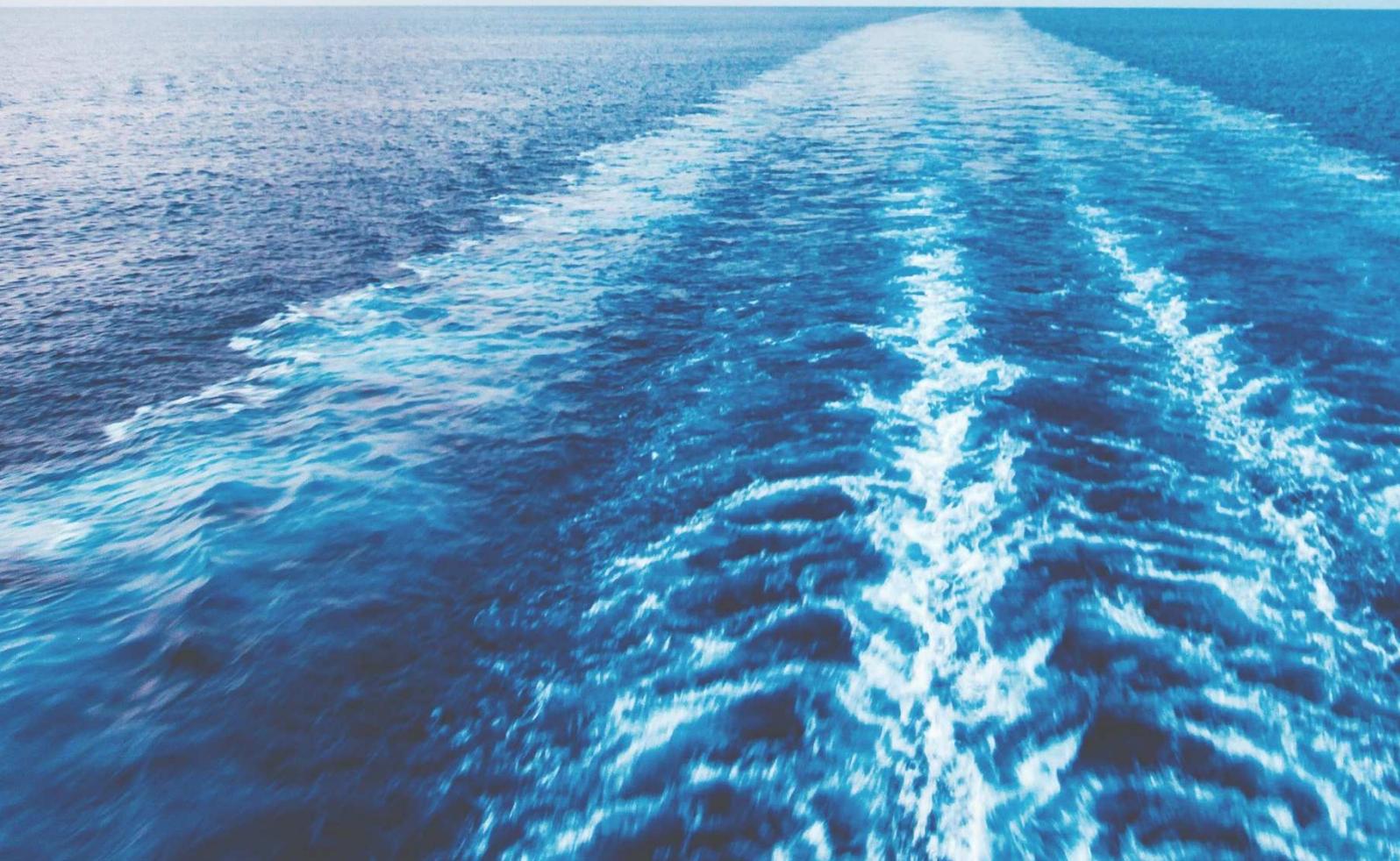


# TERRITORIAL AND SOCIO- ECONOMICAL ANALYSIS REPORT

Italy-Croatia Cross-Border Cooperation  
Programme 2021-2027



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# 1. Introduction

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The present Territorial and Socio-Economical Analysis Report has been elaborated in order to provide the necessary knowledge base for starting the process of drafting the next Italy-Croatia Cross-Border Cooperation Programme 2021-2027.

After having presented the strategic and legislative framework for the development of the cross-border area, the report provides an overlook of its current situation from the territorial, economic and social point of view.

The analysis has been performed both at a general level (Chapter 3) and at sectorial level (Chapter 4).

In chapter 4, all policy domains that can be potentially addressed by Interreg A Programmes according to the new regulatory framework (see chapter 2 for details) have been covered individually, presenting the related features of the area, in terms of weaknesses and strengths.

The core of the document is the SWOT analysis presented in chapter 5, which summarizes the results of the analysis in all domains and present them under the classic articulation in Strengths, Weaknesses, Opportunities and Threats.

Finally, an analysis of the key challenges for the development of the cross-border area is proposed, in which 31 challenges have been extracted from the SWOT and proposed for the future steps of the elaboration of the new Programme.

The findings presented in the report result from a multiple set of sources collected by the team of evaluators:

- Official Statistical sources (Eurostat, Istat, DZS, and other relevant)
- Documental analysis:
  - Strategies and policy plans at EU, macro-regional, national and regional level;
  - Sectorial studies, academic papers, etc.
- Consultation with relevant Stakeholders:
  - 2 Webinars organized in Croatia and Italy with the local stakeholders (beneficiaries and applicants of the 2014-2020 Italy-Croatia Programme, beneficiaries and applicants of the 2014-2020 ADRION Programme, EUSAIR representatives;
  - Interviews with key institutional actors (representatives of the National Authorities, of the Italian Regioni and of the Croatian Županije);
  - Interview with the Managing Authority and the Joint Secretariat.

In the elaboration of the analysis, the team of evaluators have faced two main methodological challenges:

- The limited availability of statistics at the territorial level NUTS3: while the Programme area is defined at this territorial level, statistical sources only provide limited data at NUTS 3 level. Whenever needed, we have accordingly resorted to statistics of the level NUTS 2 or, in some limited cases, if considered relevant to represent the situations and trends of the area, to statistics at national level.

- The methodological approach to be taken about the effects of the current Covid-19 pandemic situation on the economy and the society. The pandemic and the related containment and limitation measures taken by the National Governments started impacting European Countries in early 2020 and are still ongoing at the moment of the drafting of the present report; however, the large majority of statistical and documental sources of the analysis are dated before this period and represent the situation of the Programme area before it was impacted by the pandemic. On the other hand, valid statistics on the territorial effects of the pandemic are still very limited, or, for some sectors, completely absent. In this situation, the evaluators have decided to represent the situation of the territory based on the latest data and information available, so in most of the cases, prior to the impact of the pandemic. While, by taking this choice, there is a high probability that the situation presented is not corresponding to the situation in the Programme area at the present day, the analysis has anyway the advantage of presenting the long-term trends and features of the territory, suitable to be re-established once the effects of the pandemic will be over, optimistically assuming that this will happen in the short period. However, as there is no certainty about the effective duration of the containment measures at the present day, in case they will last for a much longer period of time, the need might arise to revise the present territorial analysis in the future, on the basis of the most recent information available at that time. For the policy domains most affected by the pandemic (transport, tourism, employment, SMEs) the analysis provides in any case some qualitative considerations on the effects of the pandemic on the Programme area, based on general literature about its impact on European economies.

The Territorial and Socio-Economical Analysis Report provides a comprehensive, updated overview on the situation of the cross-border area and its developing challenges in the framework of the global, European and macroregional strategic framework. It can be considered as a sound, comprehensive and independent knowledge basis for the process of preparation of the cross-border cooperation programme for the upcoming programming period.

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## 2. The Strategic Framework

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This chapter provides the general strategic framework for the Programme area at the moment of the preparation of the present document.

The context here described includes the key general reference policy or strategic documents which should be taken into account when planning the cross-border development of the area.

More detailed and sector-specific documents and strategies will be listed and described in each of the sectorial sub-chapter within chapter 4.

### **The global strategic context: the UN 2030 Agenda for sustainable development.**

Maybe for the first time ever, a programming period of the EU Cohesion Policy starts with the presence of a strong and acknowledged strategic framework at global level.

Approved by the General Assembly of the United Nations in September 2015<sup>1</sup>, the 2030 agenda for sustainable development represents an historic and unprecedented commitment taken by the nations of the world *“on a comprehensive, far-reaching and people-centred set of universal and transformative Goals and targets”*<sup>2</sup>.

The Agenda establishes a set of global priorities for sustainable development in all its dimensions, with clear directions to follow for national policies and targets established by the year 2030.

Although the Agenda comes with no budget attached and has the only a recommendatory legal value recognized by International law to the General Assembly Resolutions, its political impact has been enormous, so that national governments and international organizations have immediately started to embed its goals and targets into their own strategies and policies.

The Agenda sets a number of 17 Strategic Development Goals (SDGs) articulated in 169 concrete targets.

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<sup>1</sup> General Assembly of the United Nations, Resolution n. 70/1 of 25 September 2015 “Transforming our world: the 2030 Agenda for Sustainable Development”; [link](#).

<sup>2</sup> Therein, point 2 of the declaration.

Figure no. 1 The 17 Strategic Development Goals



One of the points of strength of the Agenda is an unprecedented and well-structured follow-up system which allows citizens to follow the progresses achieved by each country towards the SDGs and the related targets.

The follow-up system is entrusted to the High-Level Political Forum (HLPF) on Sustainable Development of the UN, and it's largely based on Voluntary National Reviews (VNRs) made available periodically by each country<sup>3</sup>. Croatia sent its VNR in 2019<sup>4</sup>, Italy in 2017<sup>5</sup>

For countries that are EU Member States, the commitment towards the 2030 Agenda is reinforced by the very strong consistency and integration that the Union has decided to give to some of its own strategic documents towards the SDGs of the UN Agenda, particularly the European Green Deal.

A more detailed analysis of the relevant SDGs and related targets will be provided for several of the sectorial analysis that will follow in chapter 4 of the present document.

### The European strategic context

The analysis of the European strategic context starts with the new cohesion policy legislative framework in which the Italy-Croatia Interreg Programme 2021-2027 will be introduced.

It is relevant here to focus on the important restructuring that the Union has given to the priority of intervention for the MFF and for ERDF in particular.

The new Common Provision Regulation (CPR), at its Art.4, introduces 5 new Policy Objectives for the MFF, replacing the 11 Thematic Objectives of the 2014-2020 period.

<sup>3</sup> The database of VNRs is available [here](#).

<sup>4</sup> Government of the Republic of Croatia: Voluntary National Review of the UN 2030 Agenda for sustainable Development Implementation. [Link](#).

<sup>5</sup> Italian Ministry for Environment, Voluntary National Review - ITALY National Sustainable Development Strategy. [Link](#)

The 5 Policy Objectives (POs), resulting from the confluence in the CPR of the strategic priorities of the Union, are the following<sup>6</sup>:

- Policy Objective 1 – a more competitive and smarter Europe;
- Policy Objective 2 - a greener, low-carbon transitioning towards a net zero carbon economy and resilient Europe;
- Policy Objective 3 – a more connected Europe;
- Policy Objective 4 - a more social and inclusive Europe
- Policy Objective 5 – a Europe closer to citizens.

All MFF programmes will have to focus their support to the European territories in the framework of these Policy objectives, which are eventually further divided in Specific objectives in the relevant Regulation of each specific Fund.

For cross-border cooperation programmes, the relevant Regulation is obviously the one for ERDF, however integrated by the Regulation for Territorial Cooperation (the “Interreg Regulation”) which, for the specificity of the programmes of territorial cooperation, enlarge the scope of intervention defined by the 5 Policy Objectives to some additional thematic areas.

The combination of the two legal basis leads to a clear list of specific objectives which can be addressed by the intervention of the Interreg Programmes of the A) strand for the period 2021-2027.

The following list represents the thematic domain to which each specific objective refers, and in this sense has been used as the list of domains in which the territorial analysis will be articulated in Chapter 4.

Thematic domain/Specific Objectives for “Interreg A” Programmes 2021-2027			
Policy Obj.		Synthetic denomination	Legal basis
PO1- smarter Europe	A	<i>Research and innovation</i>	<i>ERDF 3.1.a.i.</i>
		<i>Digitisation</i>	<i>ERDF 3.1.a.ii.</i>
		<i>SMEs</i>	<i>ERDF 3.1.a.iii.</i>
		<i>Skills for smart specialisation, industrial transition and entrepreneurship</i>	<i>ERDF 3.1.a.iv.</i>
		<i>Digital connectivity</i>	<i>ERDF 3.1.a.v</i>
PO2- greener Europe	A	<i>Energy efficiency</i>	<i>ERDF 3.1.b.i</i>
		<i>Renewable energy</i>	<i>ERDF 3.1.b.ii.</i>
		<i>Smart energy systems, grids and storage</i>	<i>ERDF 3.1.b.iii</i>
		<i>Climate change adaptation and disaster risk prevention</i>	<i>ERDF 3.1.b.iv.</i>
		<i>Access to water and sustainable water management</i>	<i>ERDF 3.1.b.v.</i>
		<i>Circular economy</i>	<i>ERDF 3.1.b.vi</i>
		<i>Protection of nature and biodiversity and reducing pollution</i>	<i>ERDF 3.1.b.vii</i>
PO3 – A more connected Europe	A	<i>TEN-T</i>	<i>ERDF 3.1.c.ii</i>
		<i>National, regional, local and cross border mobility</i>	<i>ERDF 3.1.c.iii</i>

<sup>6</sup> Council of the European Union, note n.6180/21 - Common Provisions Regulation - Analysis of the final compromise text with a view to agreement. [Link](#)

Thematic domain/Specific Objectives for “Interreg A” Programmes 2021-2027		
Policy Obj.	Synthetic denomination	Legal basis
PO4 - A more social and inclusive Europe	<i>Labour markets, employment, social infrastructure, social economy</i>	<i>ERDF 3.1.d.i</i>
	<i>Education, training and lifelong learning and related infrastructure</i>	<i>ERDF 3.1.d.ii</i>
	<i>Marginalised communities, low income households and disadvantaged groups</i>	<i>ERDF 3.1.d.iii</i>
	<i>Third country nationals and migrants</i>	<i>ERDF 3.1.d.iv</i>
	<i>Health systems and infrastructure</i>	<i>ERDF 3.1.d.v</i>
	<i>Culture and sustainable tourism</i>	<i>ERDF 3.1.d.vi</i>
PO5 – A Europe closer to citizens	<i>Integrated development in urban areas</i>	<i>ERDF 3.1.e.i</i>
	<i>Integrated development in non-urban areas</i>	<i>ERDF 3.1.e.ii</i>
INTERREG S.O. 1 – A better cooperation governance	<i>Institutional capacity of public authorities</i>	<i>INTERREG 14.4.a</i>
	<i>Legal and administrative cooperation and cooperation between citizens, civil society actors and institutions</i>	<i>INTERREG 14.4.b</i>
	<i>Build up mutual trust, people-to-people actions</i>	<i>INTERREG 14.4.c</i>
	<i>Institutional capacity to implement macro-regional, sea-basin and other territorial strategies</i>	<i>INTERREG 14.4.d</i>
	<i>Other actions to support better cooperation governance</i>	<i>INTERREG 14.4.f</i>
INTERREG SO2 – A safer and more secure Europe	<i>Border crossing management and mobility and migration management</i>	<i>INTERREG 14.5</i>

Traditionally, the priorities of intervention established in Cohesion Policy Regulations reflect the key strategic documents of the Union for the corresponding programming period.

After the achievement of the Europe 2020 strategy reference period, the Union has not renewed the tradition of adopting a decennial comprehensive strategic document, tradition started with Agenda 2000 and followed then by the Lisbon Strategy.

In the 2019-2024 period, The European Commission’s “*Recovery Plan for Europe*” is the key strategic document that sets the 6 main priorities of the Commission for the aforementioned period. The 6 priorities relate to:

- A European Green Deal;
- A Europe fit for the digital age;
- An economy that works for people;
- A stronger Europe in the world;
- Promoting our European way of life;
- A new push for European Democracy.

The highest strategic level of the Union is now represented by the European semester process, the governance cycle through which the Union sets strategic objectives for the Member States, also in connection with their commitments of financial stability, for those of them which are part of the Monetary union.

A key element of the European Semester are the Country Recommendations of the European Commission, which define the key guidelines that each Country should pursue for the incoming

years and which have to be strictly considered also when planning ESI Funds interventions. Country recommendations also provide a clear picture of the main points of weakness of a Country as seen from the Union point of view; whenever relevant, they have been considered in the analysis presented in chapter 4.

To complete the overview of the strategic framework at EU level, it is important to remind of a specific strategic framework of the EU for border regions. With its 2017 Communication “Boosting growth and cohesion in EU border regions”<sup>7</sup>, the European Commission set the framework for policies to remove obstacles affecting economy and citizens’ life of the EU border regions, and defined 10 areas of action on which to focus. Further detail about the EU framework for border regions will be provided in chapter 4 about ISO1.

Moreover, for a maritime cross-border area, the reference framework at EU level is necessarily completed by the two key EU directives related to the management of the marine environment and spaces: the Marine Strategic Framework Directive (MSFD)<sup>8</sup> and the Marine Spatial Planning Directive (MSPD)<sup>9</sup>.

### **The Macro-regional framework**

*“A 'Macroregional strategy' is an integrated framework endorsed by the European Council, which may be supported by the European Structural and Investment Funds among others, to address common challenges faced by a defined geographical area relating to Member States and third countries located in the same geographical area which thereby benefit from strengthened cooperation contributing to achievement of economic, social and territorial cohesion”<sup>10</sup>.*

Macroregional strategies are an important instrument, for territories who are sharing a common strong geographical feature (the Danube, the Alps, the Adriatic and Ionian basins), to design common priorities and to increase cooperation, especially for the purpose of an improved – yet sustainable – valorization of such feature. Macroregional strategies don’t come with a budget of their own; however, consistency of MFF interventions with the objectives of the strategies is strongly recommended and anyway monitored by the European Commission. Since macroregional strategies have cooperation among their priority purposes, the contribution of Interreg Programmes to the implementation of the strategy of the macro-region which they belong to is particularly needed.

So far, four macroregional strategies have been adopted by the Council. One of them, adopted in 2014, is the EU Strategy for the Adriatic and Ionian Region (EUSAIR) in which the Programme area is integrally included. Specific parts of the Programme area are also included, however, in the EUSALP strategy (European Strategy for the Alpine Region) and in the EUSDR (European Strategy for the Danube region).

<sup>7</sup> European Commission, Communication COM (2017) 534 final, Boosting growth and cohesion in EU border regions. [Link](#).

<sup>8</sup> European Commission, MSFD, [link](#).

<sup>9</sup> European Commission, Marine Spatial Planning, [link](#).

<sup>10</sup> European Commission, Macroregional strategies webpage, [link](#)



The EUSAIR involves 10 countries , 4 EU Member States (Croatia, Greece, Italy, Slovenia), 5 Accession Countries (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia) and one member of the Customs Union (San Marino)

The Strategy is divided into four pillars: **Blue growth, Connecting the Region, Environmental quality, Sustainable tourism**. Each pillar focuses on a selected number of topics, as follows:

Pillar	Topics
<b>1. Blue growth</b>	<ul style="list-style-type: none"> <li>• Blue technologies</li> <li>• Fisheries and aquaculture</li> <li>• Maritime and marine governance and services</li> </ul>
<b>2. Connecting the region</b>	<ul style="list-style-type: none"> <li>• Maritime transport</li> <li>• Intermodal connections to the hinterland</li> <li>• Energy networks</li> </ul>
<b>3. Environmental quality</b>	<ul style="list-style-type: none"> <li>• the marine environment</li> <li>• Transnational terrestrial habitats and biodiversity</li> </ul>
<b>4. Sustainable tourism</b>	<ul style="list-style-type: none"> <li>• Diversified tourism offer (products and services)</li> <li>• Sustainable and responsible tourism management (innovation and quality)</li> </ul>

During 2020, within EUSAIR pillars, several flagship initiatives/projects have been defined, through a multilateral and participative process. The flagships represent the translation in operational terms of an objective of the strategy: an initiative which has a macroregional span but a concrete content, so to be considered a pilot project and a symbol itself of the principles of the strategy. Flagships can find their funding in the ERDF programmes of the area, included Interreg.

The possible presence of EUSAIR flagships will be reported, wherever the case, in each of the corresponding thematic sub-chapter of chapter 4 of this document.

## 3. Geographical, economical and political features of the Programme territory

Object of the present territorial analysis is the maritime cross-border area between Italy and Croatia (the Programme area). Based on its definition for the previous programming period, the Programme area includes the Croatian and Italian administrative units, defined at NUTS III level:

- Italy: provinces of Teramo, Pescara, Chieti (Regione Abruzzo), Campobasso (Regione Molise), Brindisi, Lecce, Foggia, Bari, Barletta-Andria-Trani (Regione Puglia), Venezia, Padova, Rovigo (Regione Veneto), Pordenone, Udine, Gorizia, Trieste (Regione Friuli Venezia Giulia), Ferrara, Ravenna, Forlì-Cesena, Rimini (Regione Emilia - Romagna), Pesaro e Urbino, Ancona, Macerata, Ascoli Piceno, Fermo (Regione Marche);
- Croatia: županija Primorsko-goranska, Ličko-senjska, Zadarska, Šibensko-kninska, Splitsko-dalmatinska, Istarska, Dubrovačko-neretvanska (Adriatic Croatia region), Karlovačka (Continental Croatia region).

As such, the Programme area spreads over 85,562 km<sup>2</sup> and has a total population of 12,292,116 inhabitants<sup>11</sup>. The distribution among the two countries is shown in the following table.

**Tabel no. 1. Information about the Programme area**

Programme Area	Surface (km <sup>2</sup> )	%	Population	%
<b>Croatia</b>	28,341	33%	1,488,606	12%
<b>Italy</b>	57,221	67%	10,803,510	88%
<b>Total</b>	85,562	100%	12,292,116	100%

*Source: Own elaboration based on EUROSTAT data*

The Croatian part of Programme area has 65 towns, 177 municipalities and 3,095 settlements. Main urban areas are Split (178,102 inhabitants), Rijeka (128.624 inhabitants), Zadar (75.062 inhabitants), Pula (57.460 inhabitants), Karlovac (55,705 inhabitants) and Dubrovnik (42,615 inhabitants)<sup>12</sup>. The Italian part has 25 provinces and 1.267 municipalities while main urban areas are Bari (316,491 inhabitants). Venice (259,961 inhabitants), Padova (209,995 inhabitants), Trieste (202,351 inhabitants), Ravenna (158,923 inhabitants), Foggia (150,652 inhabitants), Ferrara (132,931 inhabitants), Pescara (120,463 inhabitants), Ancona (99,307 inhabitants), Udine (100,467 inhabitants)<sup>13</sup>.

The Italy – Croatia programme territory spreads around the Adriatic Sea, which represents a joint economic and environmental asset and a natural platform for strong cooperation. The total area of Adriatic Sea is 138.595 km<sup>2</sup>, and the north-south length of the basin is 783 km, with an average width of 170 km. Adriatic Sea is rich in flora and fauna and provides a great opportunity for the

<sup>11</sup> According to 2020 data from EUROSTAT database

<sup>12</sup> For Dubrovnik and Karlovac cities the population is taken from the 2011 census.

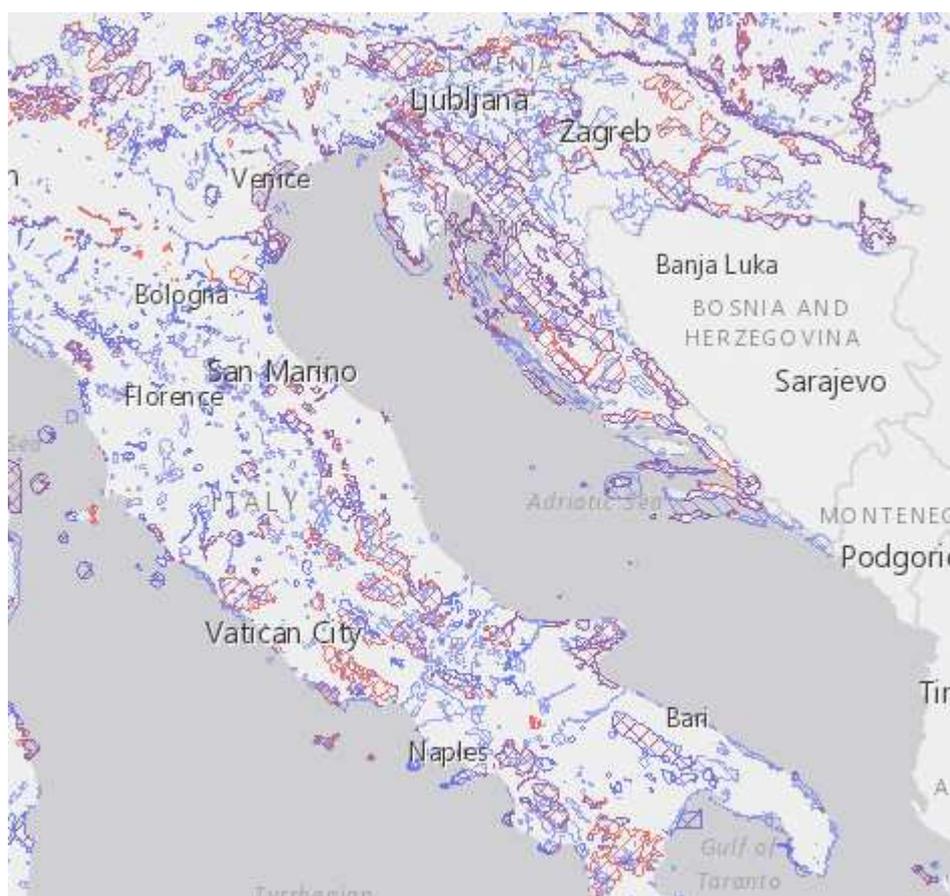
<sup>13</sup> Source: Eurostat (2020).

development of tourism and fishing. Croatia, also named "the land of a thousand islands" has 1,185 islands, islets and reefs distributed along its coast.

Most of the Croatian inland programme area is covered by Dinaric Alps, that stretch from north-west to south-east, but also by plain fields. The Programme area in Italy consists mainly of the plains, with the exception of the mountain zones of the pre-Alps and the Apennines entering in the territory of some parts of the Programme area.

Both countries are rich in national parks and protected areas, while Natura 2000 sites cover a large part of the territory, as it can be seen in the map below.

*Figure no. 2 Natura 2000 sites in Italy and Croatia*



*Source: Extract from the Natura 2000 Network Viewer*

There are 17 UNESCO World Heritage sites inscribed under the criteria of outstanding universal value in the area, altogether creating a very attractive destination for tourism (see chapter 4.21 for details).

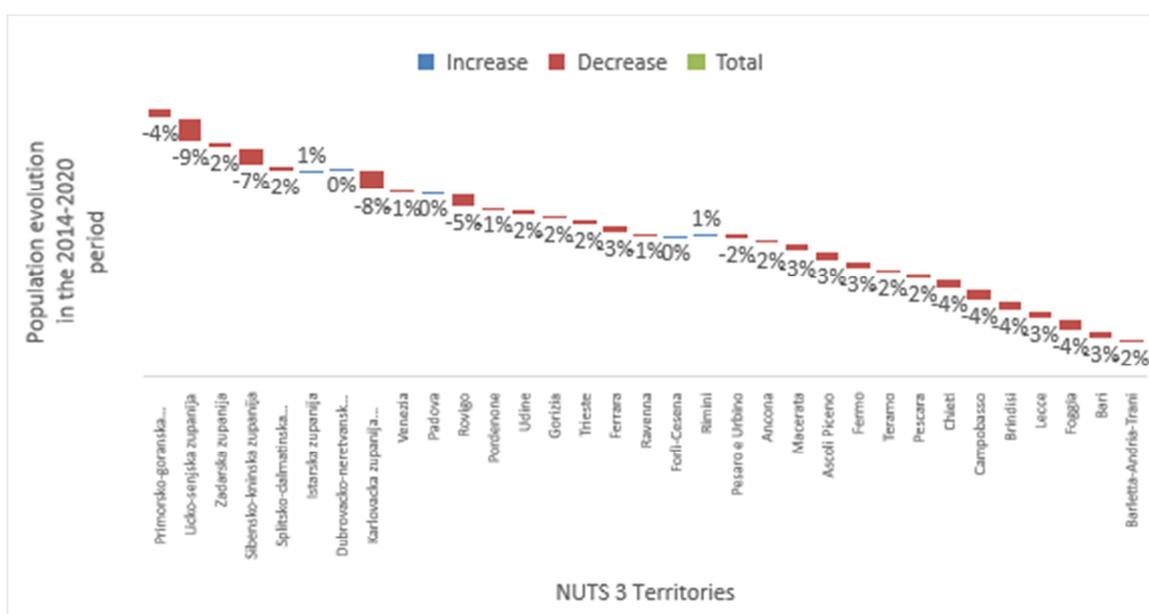
In terms of external borders, the vast majority of the Croatian programme area lies on the EU external border with Bosnia and Herzegovina, with Dubrovnik-Neretva, Split-Dalmatia, Šibenik-Knin, Zadar, Lika-Senj and Karlovac counties. Karlovac county also borders Slovenia, together with Istria and Primorje-Gorski-Kotar. Italian areas, on the other hand, border with Slovenia and Austria, in the Friuli-Venezia-Giulia region. Dubrovnik-Neretva county also share a 19 km border with Montenegro (EU external border).

### Key demographic trends

The total population in the Programme area is above 12 million people, with the majority of the population living in Italian Programme areas - around 88%. The average population density in the Programme area is 143,66 inhabitants per km<sup>2</sup>, but there are big differences between the programme NUTS 3 regions (for example, Italian programme regions have an average density of 188 inhabitants per km<sup>2</sup>, while Croatian programme regions have an average density of 52.5 inhabitants per km<sup>2</sup>).

In the 2014 – 2020 period, the population in the Programme area has undergone an overall decrease, a phenomenon recorded in both countries. Notably, only two of the programme-level NUTS 3 regions (Istarska and Rimini) have recorded an increase in the total population over the period.

Figure no. 3 Evolution of the Programme area’s population in the 2014-2020 period



Source: Own elaboration based on Eurostat data

Tabel no. 2. Population, surface and population density by NUTS 3 regions, 2020

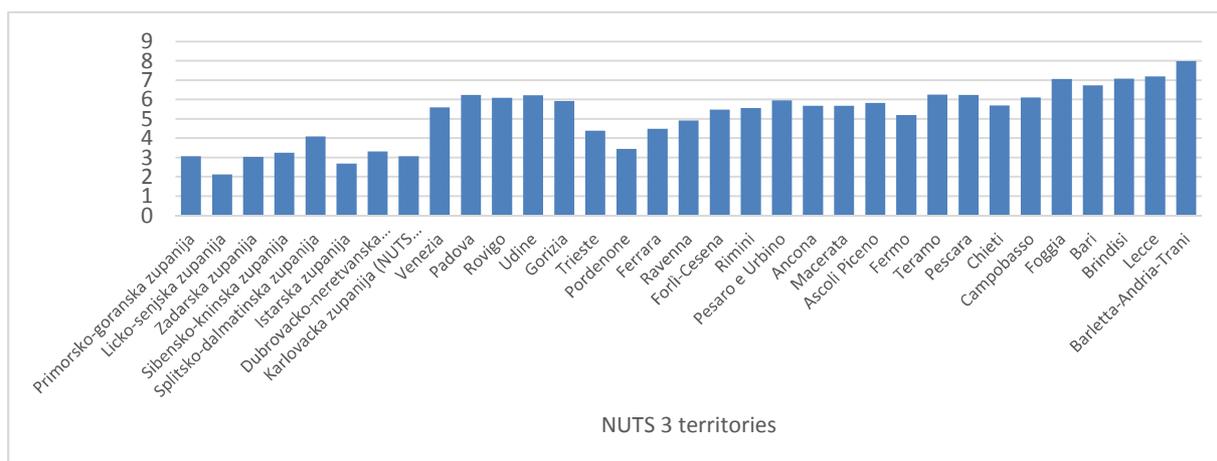
NUTS III Regions	Population	Surface	Density
Primorsko-goranska županija	281,945	3,588	78.58
Ličko-senjska županija	44,346	5,353	8.28
Zadarska županija	168,055	3,646	46.09
Šibensko-kninska županija	98,899	2,984	33.14
Splitsko-dalmatinska županija	448,153	4,540	98.71
Istarska županija	209,955	2,813	74.64
Dubrovačko-neretvanska županija	122,449	1,781	68.75
Karlovačka županija (NUTS 2016)	114,804	3,636	31.57
<b>Total Croatia Programme area</b>	<b>1,488,606</b>	<b>28,341</b>	<b>52.52</b>
Venezia	848,829	2,473	343.25
Padova	933,700	2,144	435.46
Rovigo	231,734	1,819	127.37

NUTS III Regions	Population	Surface	Density
Udine	526,474	4,907	107.29
Gorizia	137,795	467	294.98
Trieste	231,445	213	1,089.10
Pordenone	310,502	2,275	136.46
Ferrara	344,510	2,635	130.74
Ravenna	387,970	1,859	208.65
Forlì-Cesena	395,306	2,378	166.21
Rimini	336,798	865	389.42
Pesaro e Urbino	356,497	2,568	138.83
Ancona	467,451	1,963	238.10
Macerata	310,815	2,779	111.83
Ascoli Piceno	206,172	1,228	167.86
Fermo	171,737	863	199.05
Teramo	303,900	1,954	155.50
Pescara	316,363	1,230	257.14
Chieti	378,840	2,600	145.73
Campobasso	217,362	2,925	74.30
Foggia	606,904	7,008	86.61
Bari	1,230,205	3,863	318.47
Brindisi	385,235	1,861	206.99
Lecce	782,165	2,799	279.44
Barletta-Andria-Trani	384,801	1,543	249.39
<b>Total Italy Programme area</b>	<b>10,803,510</b>	<b>57,221</b>	<b>188.80</b>

*Source: Own elaboration based on Eurostat data*

Another quite uniform demographic trend is the overall ageing of the population in the Programme area, although this phenomenon is more prominent in Italy than in Croatia: in the 2014-2020 period, the median age of the population in the Italian Programme area increased by an average of 2.6 years, while the Croatian Programme area reported an increase of 1.4 years in the same analysed period. The biggest increases are observed in the southern Italian NUTS 3 territories of Barletta-Andria-Trani (+3.3 years), Lecce (+3.1 years), Foggia (+3.1 years) and Brindisi (+3 years) and, while the smallest increases are seen in the territories of Istarska (+1.2 years) and Ličko-senjska (+1.0 years).

Figure no. 4 Increase in the median age (percentage) of the population in the 2014-2020 period



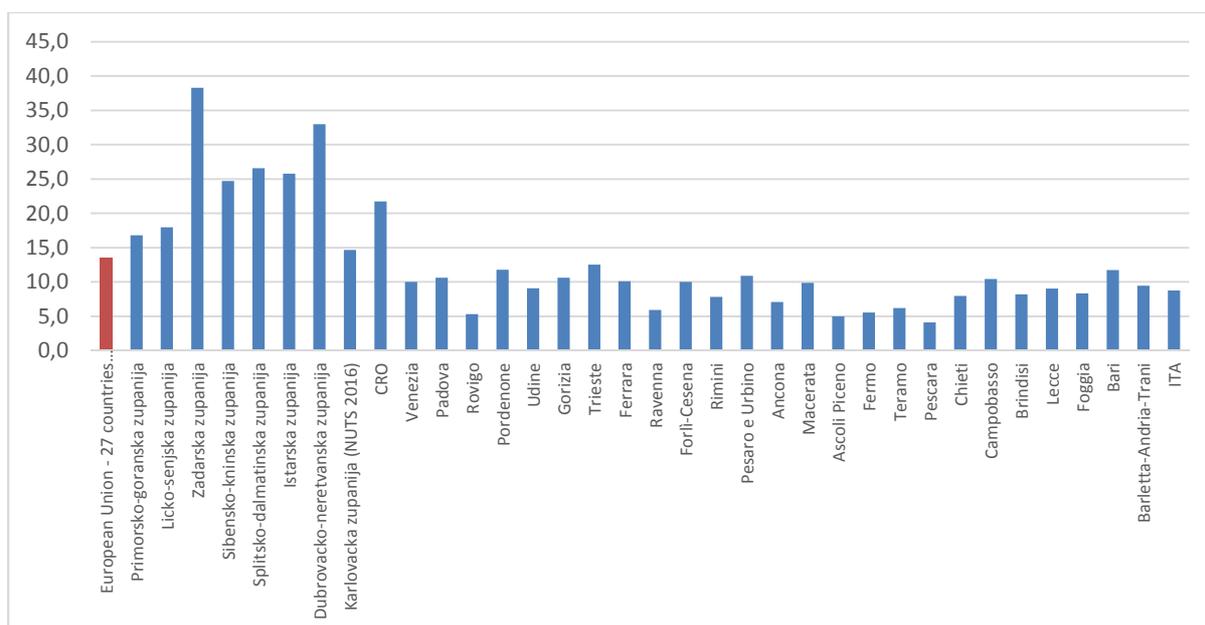
Source: Own elaboration based on Eurostat data

### Key socio-economic indicators and trends

There are a total of 23 universities in the cooperation area: there are 5 universities in Croatian programme regions: Pula, Rijeka, Zadar, Split and Dubrovnik, while the Italian Adriatic Regions host 18 public universities.

In terms of GDP per inhabitant, the Programme area has seen a net increase in all the programme territories participating in the Italy-Croatia CBC programme. For a better understanding of each NUTS 3 territory's performance in terms of GDP per inhabitant, the evolution has been considered for the 2014-2018 period in terms of percentages. We observe therefore very significant increases in GDP per capita in Zadarska (+38.3%), Dubrovačko-neretvanska (+33%), Splitsko-dalmatinska (+26.6%) and Istarska (+25.8%). In Italy, very significant increases were observed in Bari (+11.7%) and Pordenone (+11.8%). In general, the Croatian programme area reported an average GDP per capita increase of 21.7%, while in Italy, the average GDP per capita increased by 8.7%.

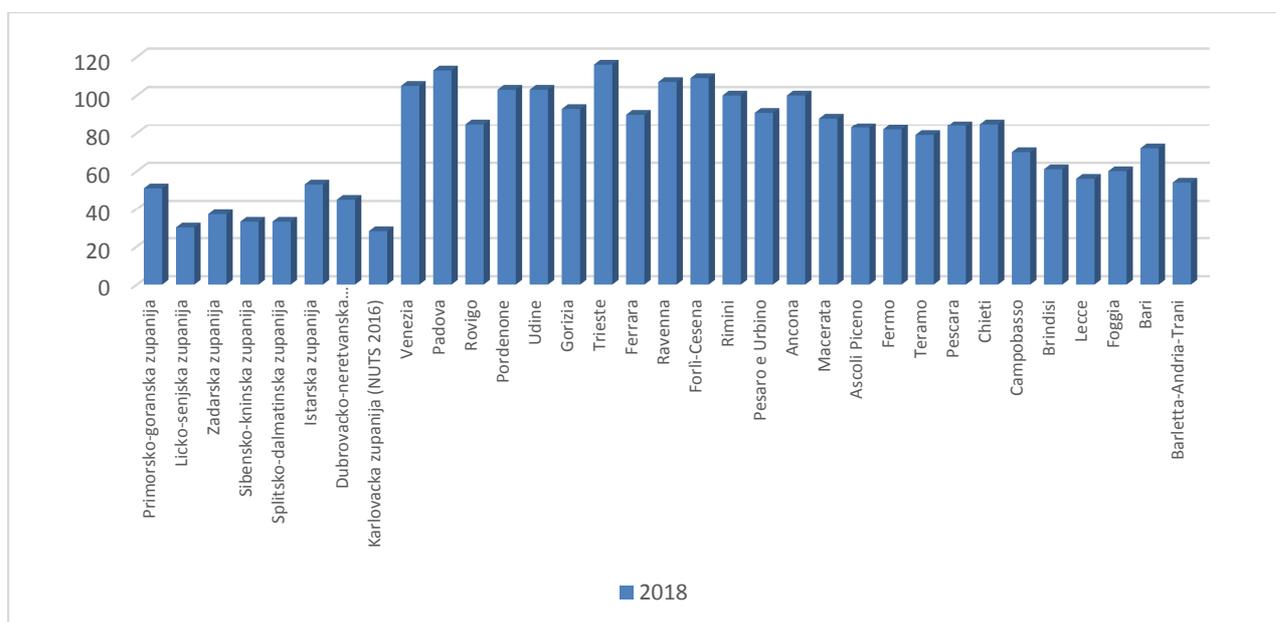
Figure no. 5 % increase in GDP per capita, 2014-2018, Programme area level



Source: Own elaboration based on Eurostat data

Nevertheless, regardless of the very significant increases that have been observed in all participating regions, there are still large discrepancies among the regions of the Programme area, and many of them still lag behind the EU average. The figure below shows the GDP per capita in the NUTS 3 regions of the Programme area (reference year: 2018) measured as a % of the EU-27 GDP per capita. The results show that – despite their steep growth of the last years - 6 out of 8 Croatian regions are still below 50% of the EU-27 average GDP per capita. Also several Italian regions stand much below the EU average, with Lecce, Foggia, Barletta-Andria-Trani and Brindisi not reaching the 60% of the EU-27 pro-capita GDP. Only few NUTS 3 regions in the Programme area outperform the EU average: Venezia, Padova, Trieste, Rimini, Ravenna and Forlì-Cesena.

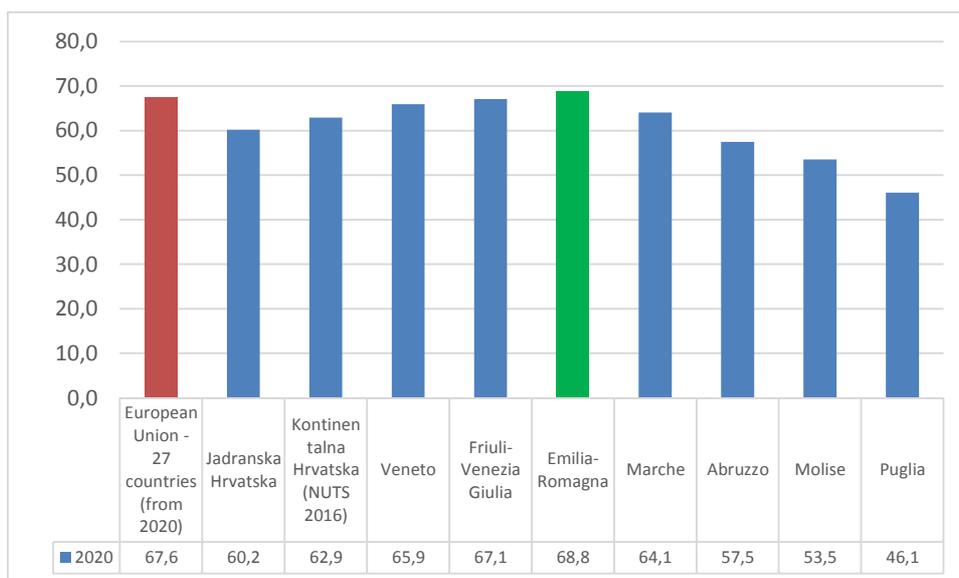
Figure no. 6 GDP per capita measured as % of EU-27 average, 2018, programme area level



Source: Own elaboration based on Eurostat data

In terms of employment, the employment rate for NUTS 2 regions was used, due to the fact that no such indicator was available at NUTS 3 level. The analysis shows that, for the year 2020, only one region in the Programme area has outperformed the EU-27 in terms of employment rate (Emilia Romagna), with an employment rate of 1.2% higher than the corresponding EU-27 average level. Worst performers are Italian southern regions, Puglia (46.1%), Molise (53.5%) and Abruzzo (57.5%).

Figure no. 7 Employment rate by NUTS 2 regions, 2020.



Source: own elaboration based on Eurostat data

Net business population growth has been strikingly different between the two sides of the Adriatic. The Croatian Programme area has actually reported an average decline of -8.10% in 2018, with the Italian Programme area reporting a marginal increasing trend of +0.24%. The NUTS 3 territories reporting the highest growth are Ascoli Piceno (+1.90%) and Macerata (+1.62%), while Šibensko-kninska reported the highest decrease (-10.92%).

Tabel no. 3. Net business population growth, NUTS III regions involved in the Programme area, 2018

NUTS III Regions	2018
Primorsko-goranska županija	-7.73%
Ličko-senjska županija	-9.75%
Zadarska županija	-6.47%
Šibensko-kninska županija	-10.92%
Splitsko-dalmatinska županija	-5.09%
Istarska županija	-8.69%
Dubrovačko-neretvanska županija	-6.66%
Karlovačka županija (NUTS 2016)	-9.51%
<b>Average Croatia Programme area</b>	<b>-8.10%</b>
Venezia	+0.09%
Padova	+0.12%
Rovigo	-1.50%
Pordenone	+0.66%
Udine	+0.22%
Gorizia	+0.29%
Trieste	-0.57%
Ferrara	-0.14%
Ravenna	+0.11%

NUTS III Regions	2018
Forli-Cesena	-0.05%
Rimini	-0.19%
Pesaro e Urbino	-0.21%
Ancona	+1.62%
Macerata	+1.90%
Ascoli Piceno	-0.08%
Fermo	+0.85%
Teramo	+1.15%
Pescara	+0.38%
Chieti	-1.55%
Campobasso	+0.14%
Brindisi	+0.84%
Lecce	+0.91%
Foggia	+0.84%
Bari	-0.06%
Barletta-Andria-Trani	+0.09%
<b>Average Italy Programme area</b>	<b>+0.24%</b>

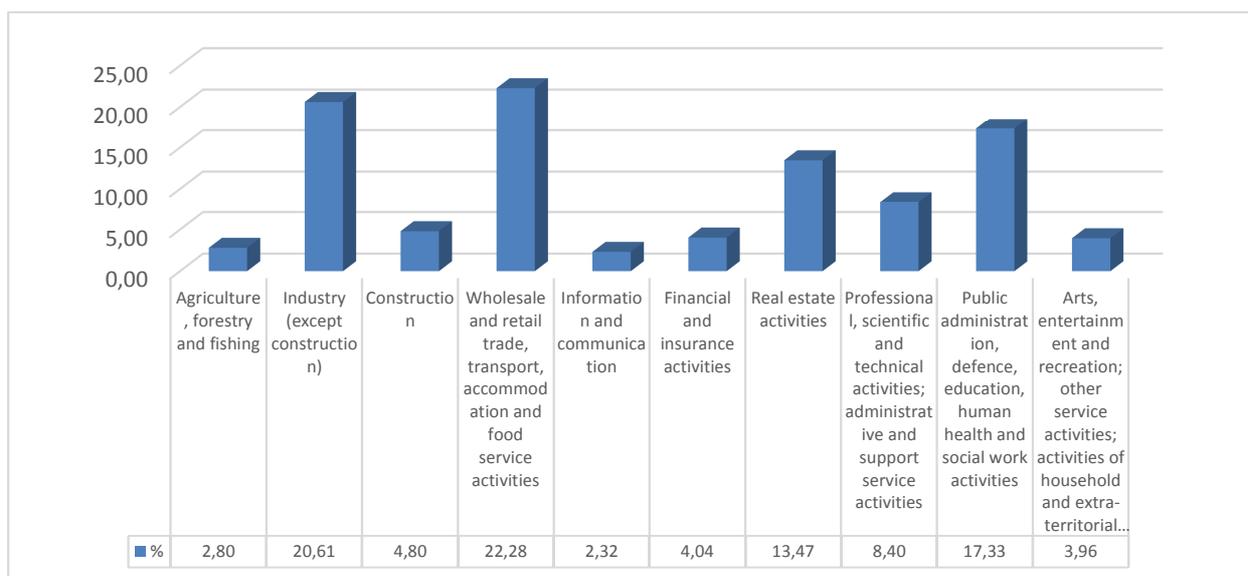
*Source: Own elaboration based on Eurostat data*

### Economic specialization

In terms of economic specialization, there are major differences between the participating NUTS 3 regions. In order to observe these differences, we analyzed the share of gross value added (GVA) created by each NACE Rev.2 sector across the NUTS 3 regions. The reference year is the latest available year at Eurostat level, 2018.

Overall, there are 3 main NACE sectors that are dominant in terms of GVA at Programme area level. The most prominent economic sector is wholesale retail trade, transport, accommodation and food services activities with 22.28% of total GVA. This is due to the fact that the Programme area in general sees a very high number of tourists yearly and some regions are highly dependent on the touristic and hospitality sectors (see also chapter 4.21 “Culture and Sustainable Tourism”). The industry sector (except construction) ranks 2<sup>nd</sup>, with 20.61% of total GVA at Programme area level. Lastly, in 3<sup>rd</sup> place is Public administration, defense, education, human health and social work activities, with 17.33% of total GVA at Programme area level.

Figure no. 8 Gross Value Added at basic prices by NACE sector, Programme area, % of total GVA, 2018



*Source: Own elaboration based on Eurostat data*

The analysis reveals that, the NUTS 3 regions most specialized in the **agriculture, forestry and fishing** activities, are Ličko-senjska (in 2018, the sector represented 12.58% of all GVA at country level), followed by Foggia (9.71% of total GVA) and Ferrara (5.83% of total GVA). NUTS 3 territories that reported the lowest GVA in this domain are Trieste (0.26% of total GVA) and Primorsko-goranska (1.01% of total GVA).

**Industry**<sup>14</sup>, is the most important sector in terms of gross value added in 15 over 33 NUTS 3 territories that participate in the Programme area, with the highest share of GVA registered in Fermo (32.13%), Pordenone (31.31%) and Karlovačka (30.90%). This sector is least developed in Dubrovačko-neretvanska (5.24%), Splitsko-dalmatinska (11.03%) and Zadarska (11.08%).

The **construction** sector is significantly more important in the Croatian Programme area than in the Italian Programme area. In this sense, the NUTS 3 territories with the highest share of GVA reported by the construction sector in 2018 were Ličko-senjska (9.93%), Dubrovačko-neretvanska (9.48%) and Istarska (8.70%). Correspondingly, the lowest GVA share reported by the construction sector in 2018 was at the level of Ascoli Piceno (2.33%), Trieste (2.99%) and Ancona (3.65%).

At local level, **wholesale and retail trade, transport, accommodation and food service activities**, is the predominant sector in terms of share of GVA in 11 over 33 NUTS 3 territories that participate in the Programme area. In this sense, the biggest shares are found in Dubrovačko-neretvanska (43.15%), Istarska (35.86%), Rimini (29.01%) and Venezia (28.29%). The sector is reportedly less dominant (even though it represents over 15% of total GVA across the Programme area) on the local economies of Pordenone (15.74%), Karlovačka (16.19%) and Chieti (18.13%).

The **information and communications** sector are the most underdeveloped economic sector in the Programme area, based on data analyzed for the year 2018. In this sense, the sector has the highest weight in local economies of Trieste (the leading region in the Programme area, with 6.62% share of total GVA), followed by Padova (4.02%), Bari (3.61%) and Istarska (3.43%). This sector is heavily

<sup>14</sup> Except construction

underdeveloped in the majority of the Programme area, with Foggia (0.74%), Brindisi (0.78%) and Barletta-Andria-Trani (0.86%) reporting the lowest share in terms of GVA.

Another marginal sector in terms of overall importance of the generated gross value added is the **financial and insurance activities** sector. The sector is highly developed in Trieste (7.92% share of total GVA), Udine and Splitsko-dalmatinska (4.85% each), as well as Rimini (4.59%). Correspondingly, the sector is least developed in Ličko-senjska (1.90%) and Brindisi (2.77%).

An important sector in terms of the share of gross value added is the **real estate activities** sector. The sector ranks in the top 3 economic sectors at the level of 7 of the 33 regions in the Programme area. It is best represented in Rimini (16.68%), Barletta-Andria-Trani (15.89%), Lecce (15.50%), Ravenna (14.43%), Forli-Cesena (14.01%), Fermo (14.09%) and Foggia (13.36%). The lowest share has been reported at the level of Karlovačka (9.63%), Istarska (9.77%), Trieste (11.95%) and Primorsko-goranska (11.44%).

**Professional, scientific and technical activities, administrative and support service activities** is a consistently important activity sector throughout the Programme area. In this sense, this sector reported the highest importance in terms of share of total GVA in Trieste (10.62%), Padova (10.43%) and Bari (9.90%). A distinctly low value was reported by Ličko-senjska (2.94%), which is the NUTS 3 territory with the least GVA by this specific sector of economic activity.

**Public administration, defense, education, human health and social work activities** is arguably one of the most important economic sectors in the Programme area. Indeed, it is reported as the top 3 economic activity sectors in 22 of the 33 NUTS 3 territories and represents the highest share in terms of GVA in Pescara (22.80%) and Trieste (21.57%).

## Blue economy

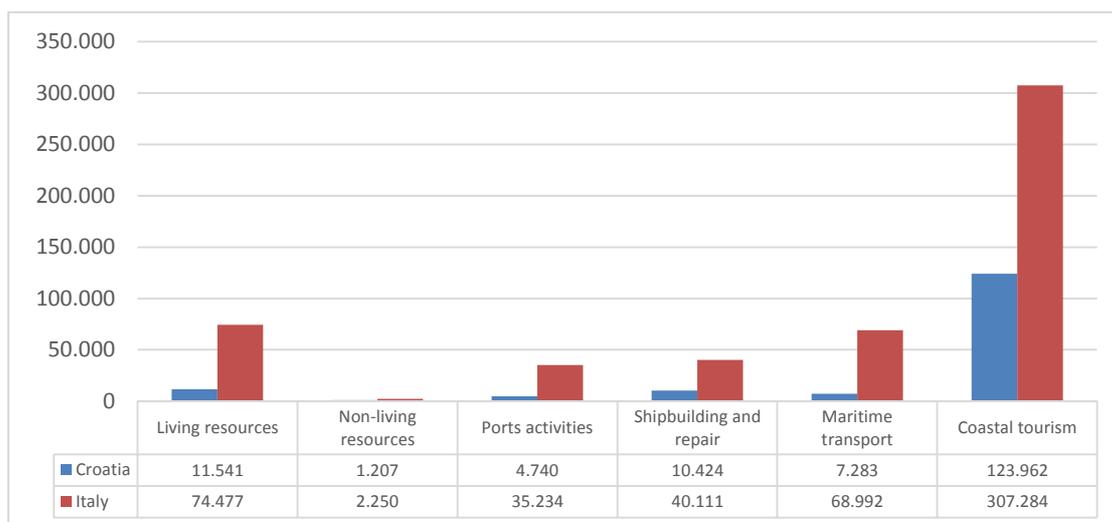
The „**Blue economy**” sectors represent a crucial element of the economy in the Interreg Italy-Croatia programme region.

The European Union published in 2020 the “EU Blue Economy Report” which offers some key indicators for the understanding of the economic dynamic in the Adriatic area. It is important to mention that only data at national level is available.

In Italy, 2,03% of active population is employed in sectors of the Blue economy (528,347 persons). In Croatia the rate is considerably higher: 8,90% (159,158 persons).

A sectorial analysis reveals that the highest share of employment in Blue Economy sectors at the level of the participating Member States is in the coastal tourism sector, where Italy records 307,284 active employees and Croatia 123,962. Collectively, port activities, shipbuilding and repair and maritime transport represent the second most important sector at the level of both Member States. No persons were reported as employed in the marine energy sector, which is a domain that appears substantially inactive in the two Member States.

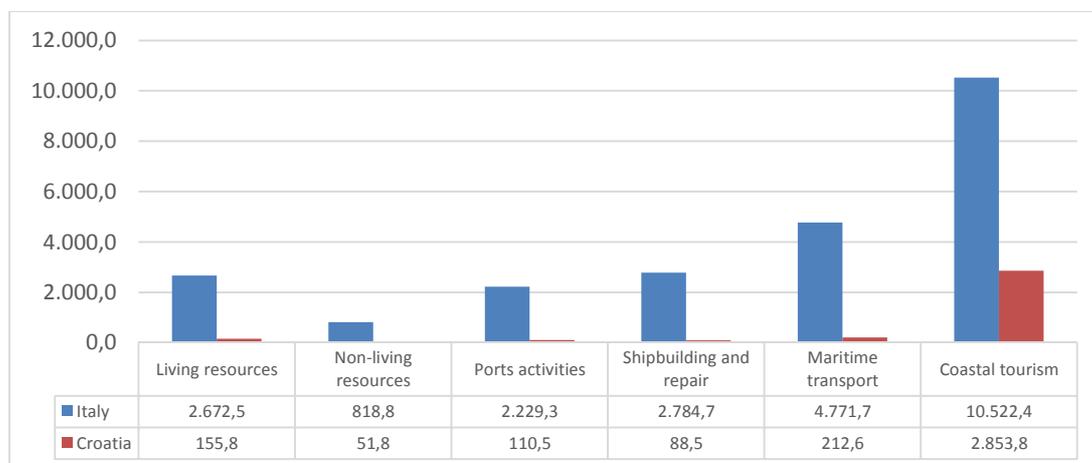
Figure no. 9 Net employment in Blue Economy sectors, Italy and Croatia, 2019



Source: European Commission (2020)

In terms of gross value added, the graph below shows the distribution of the absolute values among the various sectors. It has to be remarked that there is a very strong predominance of the coastal tourism sector over the others, especially in Croatia.

Figure no. 10 Gross value added at factor cost, millions EUR, 2019



Source: European Commission (2020)

## Conclusions

The Programme area of the Italy-Croatia CBC Programme is a very rich area in terms of natural and cultural heritage. Indeed, the Adriatic Sea, the presence of very important NATURA 2000 and UNESCO sites and the historical cultural heritage of the area makes it one of the most important touristic destinations in the European Union.

In terms of general demographic indicators, the Programme area suffers from a constant decline in population numbers, which has led to a significant increase in the median age of the population in the past couple of years.

The statistical analysis of the economy reveals that several regions of the programme area are highly dependent on very specific economic sectors, such as tourism, accommodation services, wholesale and retail trade, and real estate activities. Apart from that, specialization of the areas are quite diversified, with case of local predominance or high importance of agriculture, financial services and industry. The weight of the public sector (human health, social services, activities, defence, education and public administration), represent a significant amount of gross value added generated locally.

## 4. Territorial Analysis on Domains

### 4.1. Research and Innovation

#### 1. Policy framework and general context

The **Europe 2020 strategy** for smart, sustainable and inclusive growth<sup>15</sup> had established the “**Innovation Union**”<sup>16</sup> as one of its’ flagship initiatives to steer the progress and development of actions in the field of research and innovation at national, EU and international levels, while having in mind the goal to secure Europe’s global competitiveness and that innovative ideas can be transformed into products and services that create growth and jobs.

Furthermore, in 2018, the Commission proposed “**A renewed European Agenda for Research and Innovation – Europe’s change to shape its future**”<sup>17</sup>, which mentioned key steps to be taken in order to improve R&D and innovation at European Union level, through ensuring that Member States take the necessary steps to maximize investments in research and innovation so as to reach the 3% of GDP target. Furthermore, the document reiterated the importance of scaling up initiatives such as VentureEU, so as to boost private investment and patient capital.

The Commission also proposed “**A New Industrial Strategy for Europe**”<sup>18</sup>, which mentioned several important objectives related to research and innovation, such as seeping up investment in research and technological deployment in areas such as artificial intelligence, 5G, data and metadata analytics. This is particularly important, as the document underlines the fact that Europe’s global share of research and development spending has declined over the past five years, whereas other global players (such as the US and Chinese private sector) have increased spending in R&D and innovation.

Lastly, the European Commission’s communication COM(2020) 628 final titled **A new ERA for Research and Innovation**<sup>19</sup> aims to further progress on the free circulation of knowledge through upgrading and making more efficient the R&I system. In this sense, it aims to prioritise investment and reforms so as to acceleration green and digital transformation on one hand, and to increase competitiveness on the other hand.

**Horizon 2020**<sup>20</sup>, as the financial instrument to implement the actions established through the “Innovation Union”, coupled investments in both research and innovation for the 2014-2020 period. Horizon 2020 has been the biggest EU Research and Innovation Programme ever, covering around 80 billion euros of funding. However, to further support R&D and innovation priorities of the EU, for the 2021-2027 programming period, the Horizon Europe Programme will even increase its budget by 30%, compared to Horizon 2020.

<sup>15</sup> EUROPE 2020 – A European strategy for smart, sustainable and inclusive growth. [Link](#) Accessed on 12 April 2021

<sup>16</sup> Innovation Union – European Commission. [Link](#) Accessed on 12 April 2021

<sup>17</sup> A renewed European Agenda for Research and Innovation – Europe’s change to shape it’s future. [Link](#)

<sup>18</sup> European Commission (2020). A New Industrial Strategy for Europe. [Link](#)

<sup>19</sup> European Commission (2020). A new ERA for Research and Innovation. [Link](#).

<sup>20</sup> Horizon 2020 – European Commission. [Link](#) Accessed on 12 April 2021

The current priority goals of the Commission research and innovation policy focus on *Open Innovation, Open Science* and *Openness to the world*, which translates into favouring access to innovation processes to all the people, knowledge spreading and strengthening the international cooperation of the research community<sup>21</sup>.

Due to the geographic features of the Programme area, **blue economy**<sup>22</sup> is considered as being one of the most relevant development factors of the area, especially in terms of integrating RDI activities and processes in the field. Focusing on marine living resources, coastal and island tourism, maritime transport and even extraction of natural resources, the Commission has adopted the **Blue growth strategy**<sup>23</sup> as early as 2012. A new EU strategic framework for blue economy is expected to be issued by May 2021, linking the sector more strictly to the European Green Deal and its priorities in the area of decarbonisation, circularity, biodiversity and zero pollution. The Commission sees a double role for the European blue economy in such a framework: on one side, the blue economy can importantly contribute to the Green Deal targets, providing solutions like renewable energy, plastic-free packaging, low-impact food. On the other hand, the blue sectors themselves will have to reduce their own environmental and climate impact significantly to contribute to the overall targets.<sup>24</sup>

At **macro-region** level, the first pillar of EUSAIR has focused on Blue Growth, as such to support the development of blue technologies, fisheries and aquaculture and the deployment of maritime and marine governance and services. In this context, three flagship projects were designed to cover precisely the proposed objectives, thus focusing on: 1) developing marine technologies and blue biotechnologies with the aid of a quadruple helix; 2) using R&D to increase the sustainability and competitiveness of fisheries and aquaculture; 3) increase the capacity building for marine and maritime governance and services.

The **Italy-Croatia Interreg Programme 2014-2020** has already dedicated one investment priority specifically to R&I initiatives (Blue Innovation), and the 13 funded projects - with an overall budget of over 28 million euros - have focused – among others- on sustainability for fisheries and aquaculture, innovation and technology transfer and even on development of skills.

## 2. Territories' needs and strengths

The European Commission underlines the strong differences among the levels of development of the territories, regarding research and innovation; however, with some exceptions, the territory lies below the EU average on most indicators<sup>25</sup>.

According to the 2019 Regional Innovation Scoreboard (RIS) of the European Commission, the Programme area could be considered as being a *moderate innovator*. This overall assessment is however based on the average between territories - like Region Friuli Venezia as a “strong” innovator region in RIS, (highest regional ranking in Italy) and territories like Jadranska Hrvatska, rated as a “modest” innovator, lowest value in Croatia and in decrease compared to 2011.

The following map shows the 2019 ranking of all regions in the Programme area:

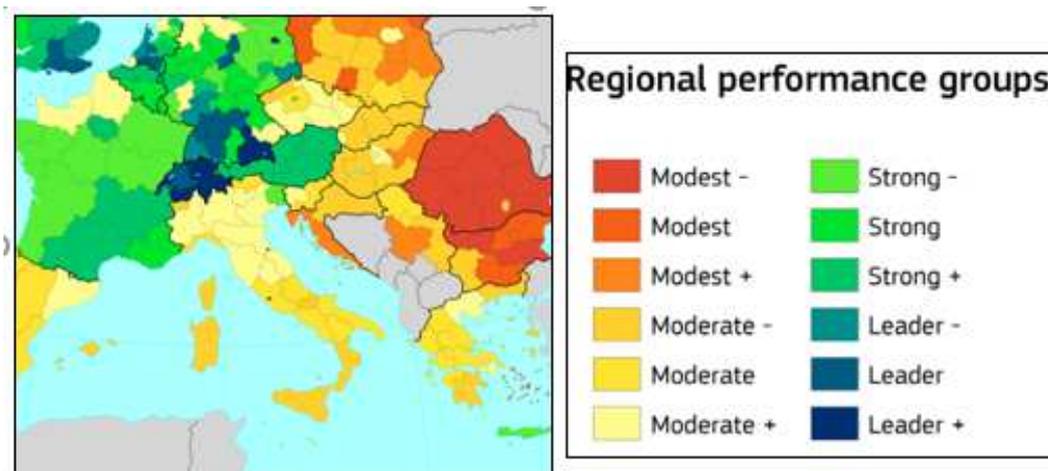
<sup>21</sup> [https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy\\_en](https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy_en)

<sup>22</sup> The blue economy: Overview and EU policy framework. [Link](#) accessed on 20 April 2021

<sup>23</sup> Blue Growth Strategy: [Link](#) accessed on 21 April 2021

<sup>24</sup> European Commission, Blue Economy Strategy, [Link](#). Link accessed 21 April 2021

<sup>25</sup> European Commission, Cross-Border Cooperation in the Adriatic-Ionian Area, orientation paper, Ref. Ares(2019)7919639 - 27/12/2019, p.22.

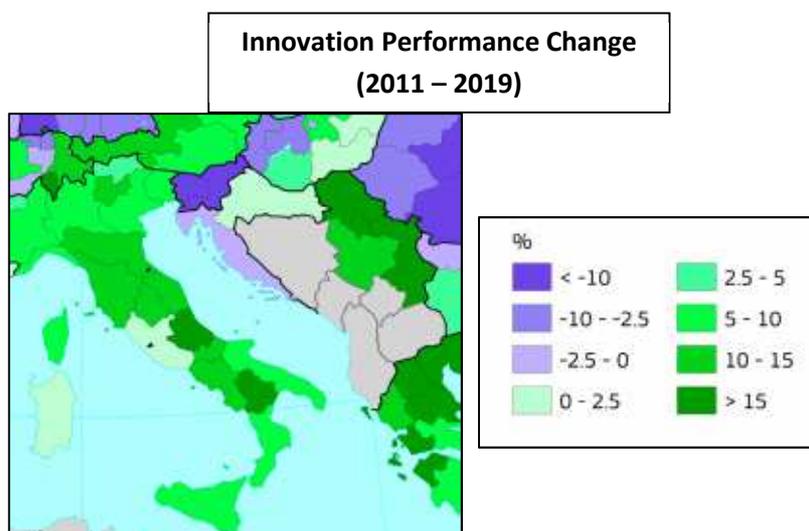


*Source: Extract from Regional Innovation Scoreboard (2019)*

As the RIS ranking is the product of the elaboration of a multiplicity of indicators related to innovation and research, it can be considered a good indicator of the intensity of the needs of the territory in these domains.

Even more, the trend of the territories' ranking from the previous RIS exercise (published by the Commission in 2011) can give an idea of the overall evolution of the territory in terms of innovation performance change.

The map on the left shows the evolution of all the Programme regions in the 2011 – 2019 period. As it can be noticed, all the regions of the Programme area have increased their performances (although with different intensities), except for Jadranska Hrvatska, which has recorded a slight



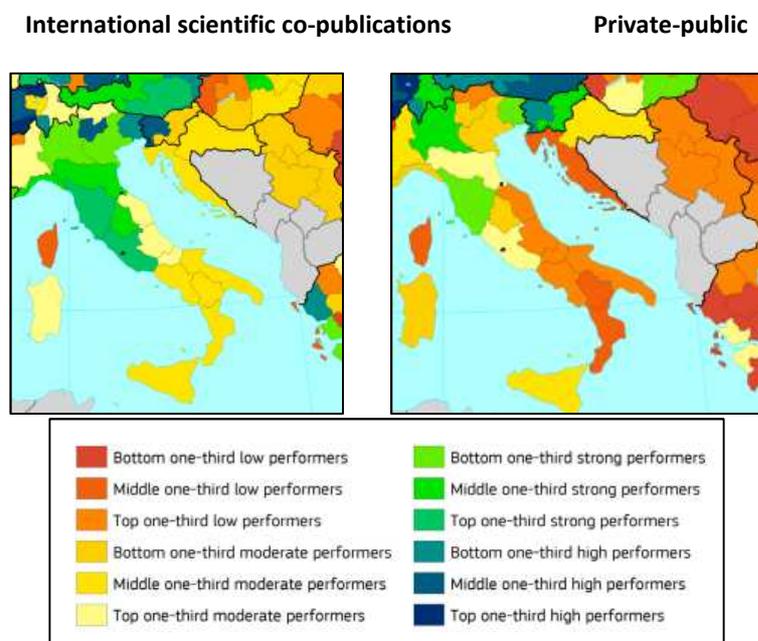
decline.

*Source: Extract from Regional Innovation Scoreboard (2019)*

Looking at the specific RIS performance indicators, some regions of the Programme area tend to perform very well – even as strong/high performers - in terms of fundamental research, a proxy of which is offered by number of international scientific co-publications per 1 million inhabitants. The top performing regions correspond to the areas where important universities or research centres are located.

On the other hand, regions are all performing much worse (low/moderate performers) when it comes to public-private collaboration, applied research and technological transfer, as represented by the indicator public-private co-publications.

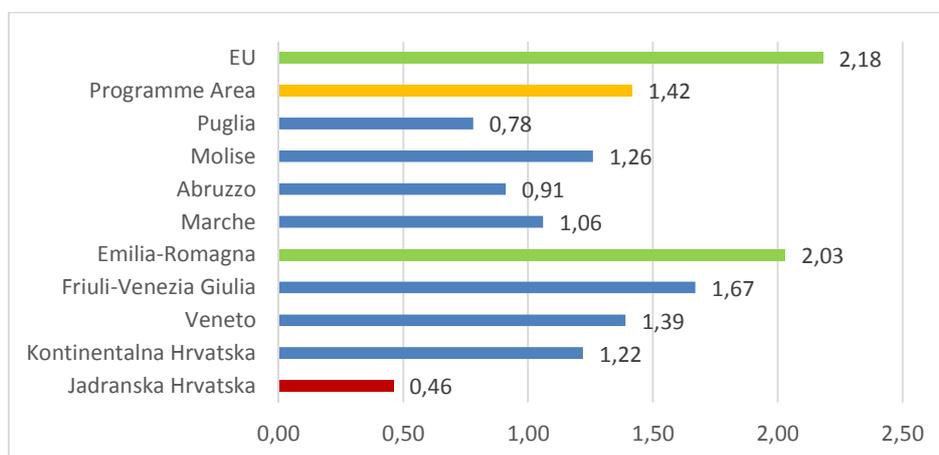
The abovementioned information is represented in the maps below:



*Source: Extract from Regional Innovation Scoreboard (2019)*

A more specific indicator of the inclination of a territory towards Innovation and Research, is represented by the level of the **R&D related expenditure**. In this regard, statistical analysis has shown that the total R&D expenditure (private and public) accounts for only a small percentage of total regional GDP within the Programme regions (around 1.42% of the overall Programme regions' GDP), which is lower than the average recorded at EU level (2.18% of overall GDP). Despite this, the evolution of the spending on R&D activities show a positive increase in the 2014-2018 period.

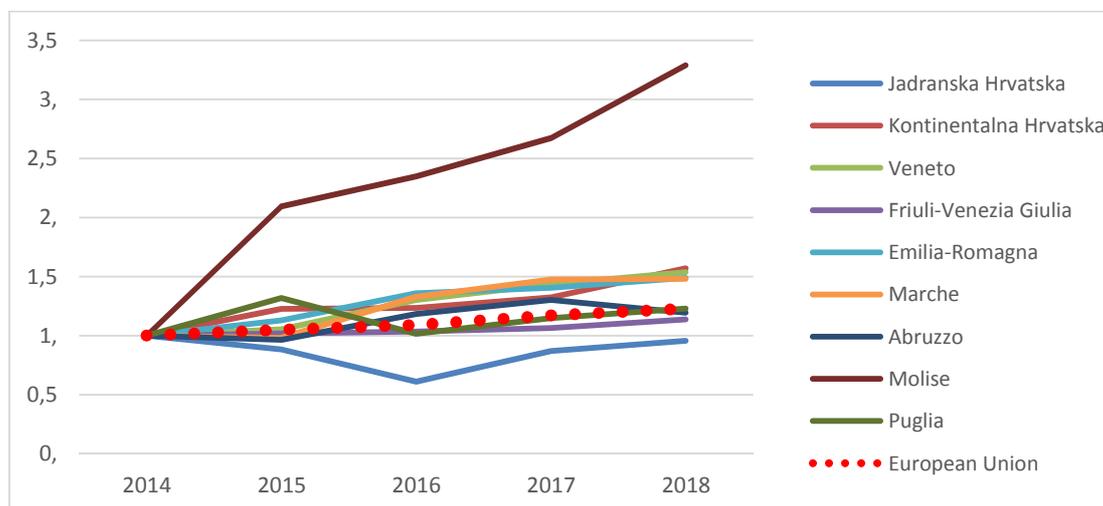
*Figure no. 11 Total R&D Expenditure as % of regional GDP in 2018*



*Source: Own elaboration based on EUROSTAT data*

Considering the **sectorial expenditure in R&D**, in the past recent years, the Programme regions have shown an increase in the spending of business enterprises sector on R&D – reaching around 5.481 billion euros in 2018. This increase represents 45% more than the R&D expenditures recorded in 2014 in the region (not uniform among all the regions), thus being higher than the increase recorded at EU level in the same period (of only +22.79%).

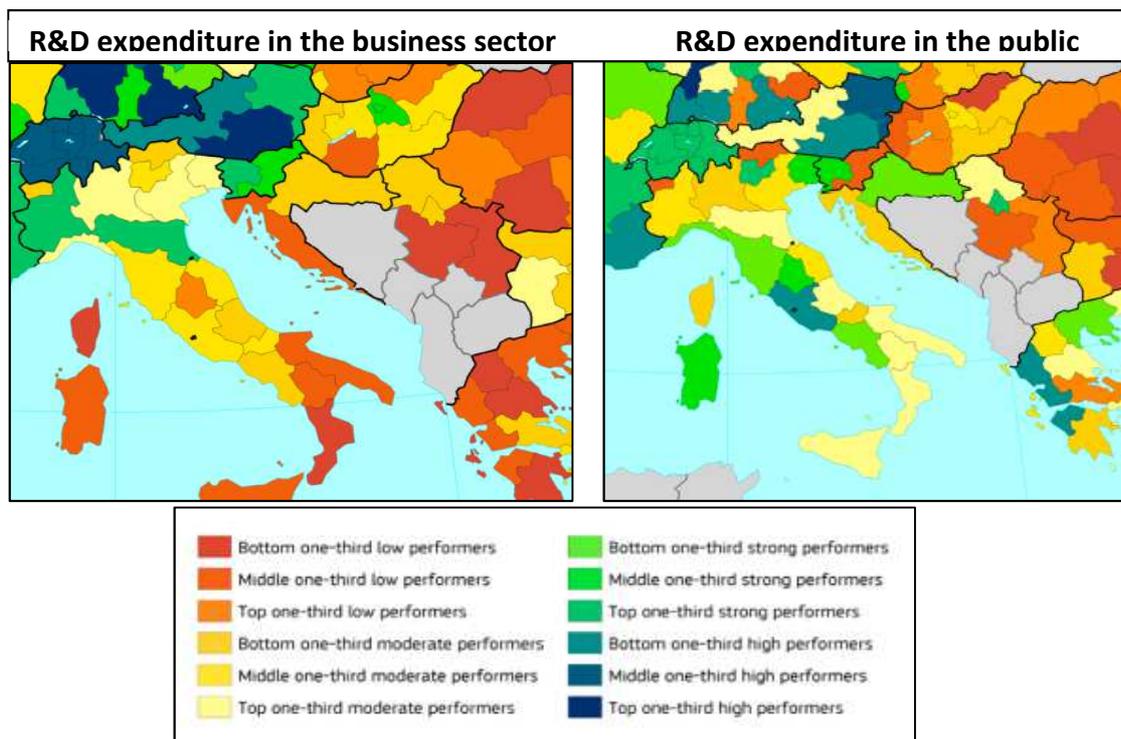
*Figure no. 12 Evolution of the spending of the business enterprises sector on R&D*



*Source: Own elaboration based on EUROSTAT data<sup>26</sup>*

However, despite the strong increase, the business expenditure in R&D remains low in the majority of the Regions, as confirmed by the Regional Innovation Scoreboard 2019 (see map below). On the other hand, the R&D expenditures in the government sector and the higher education sector, out of the total regional GDP shows a much better situation, confirming that the Programme area has a vocation much higher for public and fundamental research than for technological transfer and applied research.

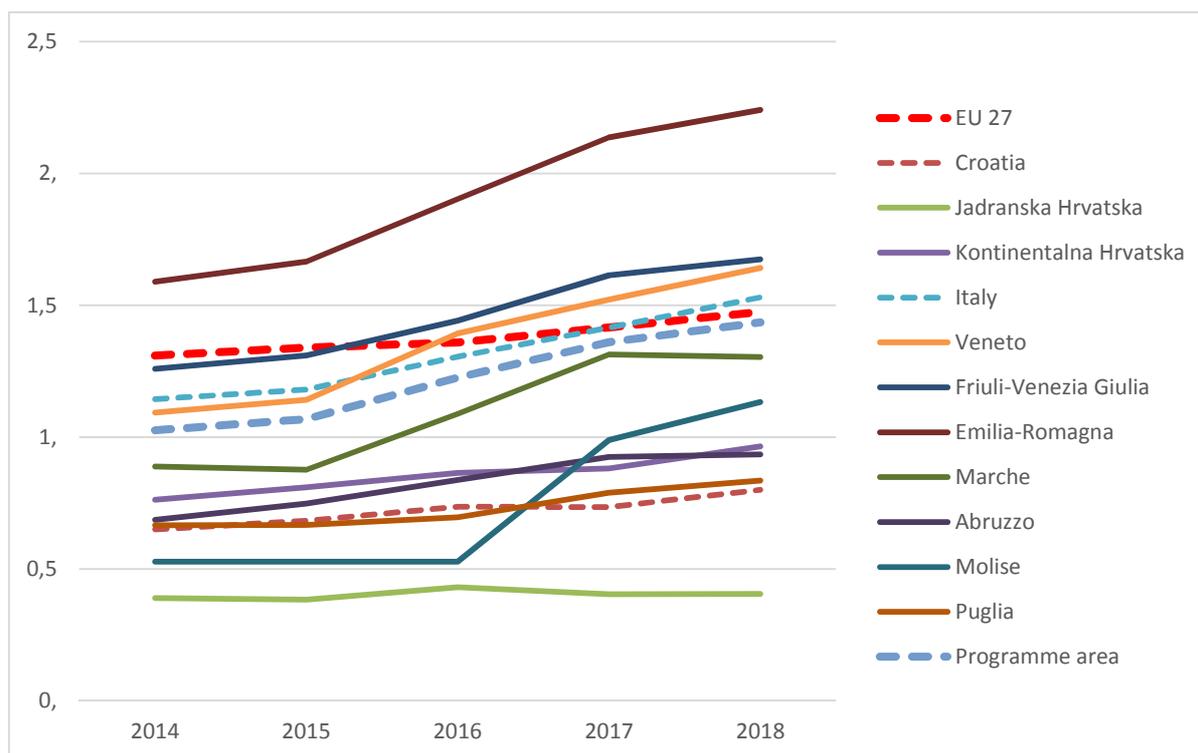
<sup>26</sup> The evolution is analysed for the 2014-2018 period. As a result, the starting point (year 2014) is considered with the value of 1.



*Source: Extract from Regional Innovation Scoreboard (2019)*

In terms of **human resources**, the percentage of R&D personnel and researchers out of total employment is slightly lower in the Programme regions (1.44%), compared to the EU average (1.47%) and even own national levels. However, this aggregated performance results from very different situations among the individual NUTS 2 regions involved in the Programme area, with the highest regional values of the indicator being multiple than the lowest ones. Despite this, the overall number of R&D personnel and researchers has increased almost everywhere in the past years, showing a clear interest of public bodies and private companies to dedicate their resources to the field.

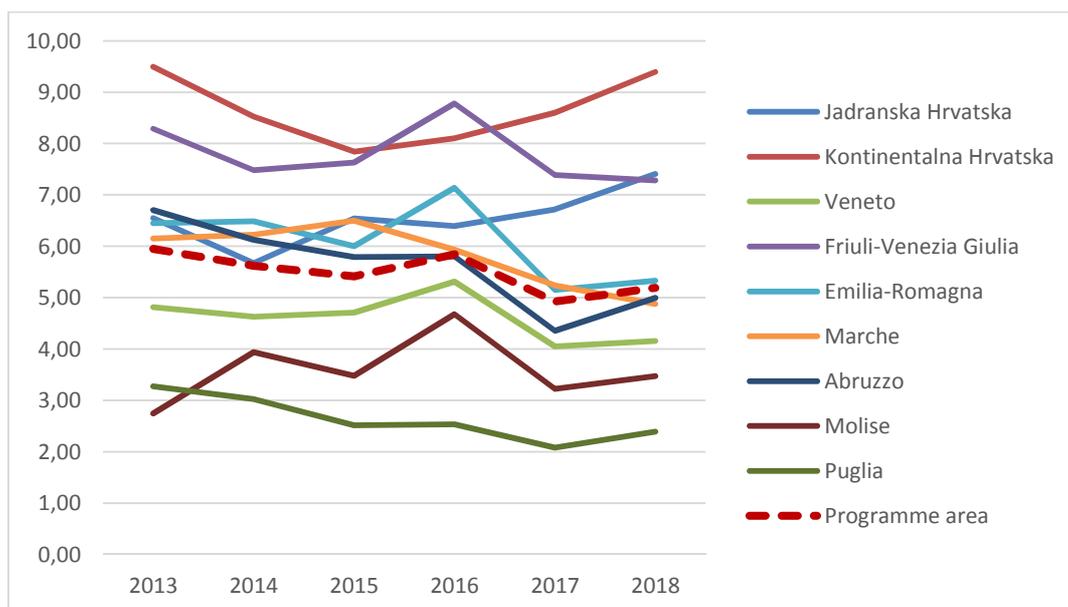
Figure no. 13 Percentage of R&D personnel and researchers out of total employment (2014-2018)



Source: Own elaboration based on EUROSTAT data<sup>27</sup>

Another important aspect relates to the number of **PhD students**, which shows a net decrease in almost every region of the Programme area in the 2013-2018 period. Moreover, as of 2018, the number of PhD students per 10.000 inhabitants is way lower in the Programme area (5.19 students), compared to the EU 27 average (14.80 students).

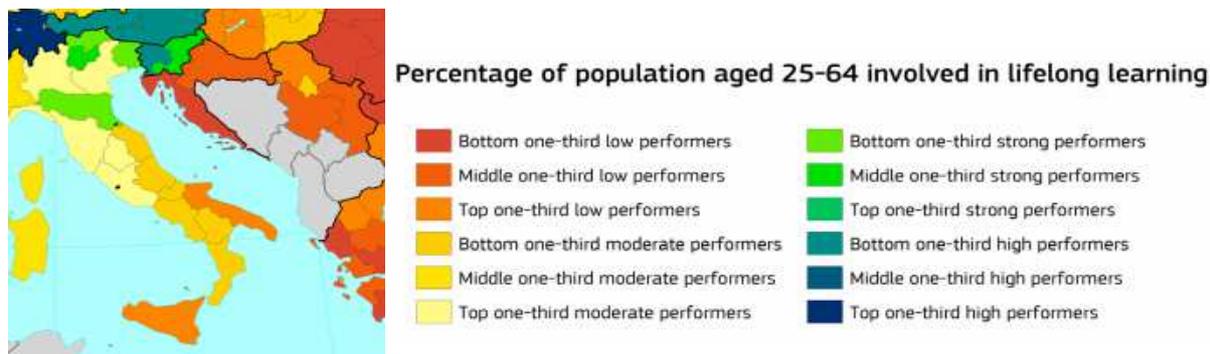
Figure no. 14 Evolution of doctoral students per 10.000 inhabitants (2013-2018)



<sup>27</sup> Data available only at NUTS 2 level, which does not entirely correspond to the Programme area as defined at NUTS 3 level.

*Source: Own elaboration based on EUROSTAT data<sup>28</sup>*

Additionally, data from Regional Innovation Scoreboard (2019) emphasize the fact that the territory is a moderate performer in terms of percentage of the population aged 25-64 participating in **lifelong learning** (formal, non-formal or informal learning aimed at improving knowledge, skills and competence). Once again, the top performers are located in regions where large university centers are located, as it can be seen in the map below.



*Source: Extract from Regional Innovation Scoreboard (2019)*

Altogether, the HR related indicators highlight potential difficulties for the regional economies to access qualified resources for R&D activities available locally.

A good indicator of the vitality of the innovation and research sector in a territory, is the degree and the success of its participation in the **Horizon 2020** instrument. To this regard, since the start of H2020, the Programme area has proposed more than 12,000 projects, out of which 1,540 have received financing, for a total value of 569 million euros. As such, the territory has submitted more applications and has signed more funding contracts than the EU pro-capita average, but the application success rate is lower than EU average and the overall value of the signed grants account for only 1% of total Horizon financing at EU level. More importantly, there is a noticeable difference between the concentration of funds between the two countries, an aspect further reflected at regional level. Moreover, the amount of financing pro-capita (per 1 million inhabitants) is three times lower in the Programme area, compared to the EU 27 average.

<sup>28</sup> Data available only at NUTS 2 level, which does not entirely correspond to the Programme area as defined at NUTS 3 level.

**Tabel no. 4. Situation of projects proposals for Horizon 2020**

Horizon 2020 Proposals/ Signed Grants	No. of eligible H2020 proposals per 1 M inhabitants	No. of signed H2020 grants per 1 M inhabitants		Value of H2020 grants per 1 M inhabitants
Programme area	982	125		46.28 mil. Euros
EU 27 area	603	73		140.39 mil. Euros
Horizon 2020 grant values		Value of H2020 grants per 1 M inhabitants	Total Value of H2020 grants	
EU 27 level		140.39 mil. Euros	62,800 mil. Euros	
Croatia (national level)		30.04 mil. Euros	121.9 mil. Euros	
Italy (national level)		87.52 mil. Euros	5,220 mil. Euros	
Croatia (Programme regions)		15.44 mil. Euros	22.98 mil. Euros	
Italy (Programme regions)		50.54 mil. Euros	546 mil. Euros	
Whole Programme Area		46.28 mil. Euros	569 mil. Euros	

*Source: Own elaboration based on CORDIS data hub*

As a further comparison to the EU averages, the territory tends to focus its H2020 investments in areas such as: Marie Skłodowska-Curie actions (research fellowship Programme) - over 84 M euros, which account for 14.81% of total regional financing, while EU average in this field accounts for 9.60% of total financing; food security, agriculture, forestry and marine research - over 51 M euros, or 9.09% of total regional financing, while EU average accounts for 4.81% of total financing; or climate action, environment and resource efficiency - over 36 M euros, or 6.37% of regional financing, while at EU average those actions account for 3.69% of total financing.

On the other hand, the Programme regions focus less on ICT investments - representing only 6.01% of total regional H2020 investments, compared to 10.87% EU average investment in the field; European Research Council projects - 13.12% of total investments, while EU average is at 19.47% out of total investments; or investments in Innovation for SME - only 1% funds granted in the field, compared to the EU average of 2.53%.

The continuation of the EU funding through Horizon Europe Programme represents a real opportunity to further capitalise on previous investments and to further support and develop the research and innovation sector.

### ***The stakeholders' opinion***

The **interviewees** have generally agreed that main **point of strength of the territory** relates to the existence of a good fundamental research infrastructure, consisting of national and sectorial research centers, academic institutions and clusters, that directly facilitate the deployment of RDI initiatives.

On the other hand, it was revealed that technology and innovation transfer is an obvious **need** of the territory, especially in relation to private companies and SMEs. To complement, many of the stakeholders suggest that there is a low degree of cooperation between the research institutes and the business sector, while it is essential that market driven research is initiated. Lastly, attention to the blue growth economy should not be neglected and there is definitely room for improvement in the cooperation between the regions of the two countries.

During the **webinar** events held with the local stakeholders (previous beneficiaries and potential beneficiaries of the 2014-2020 Programme and of the ADRION Programme) it was revealed that the most recurring territorial **needs** refer to the cooperation/ collaboration between public bodies-research institutes – private sector, together with the need of increasing the technological transfer. Separately, the stakeholders did not consider that the R&D, simplification and collaboration in the SME sector might represent the most important needs of the region.

Related to the **strengths and potentials** of the area, stakeholders generally agreed on the existing advantages related to the natural and landscape resources, together with the availability of public research institutes in the region and the innovation potential in tourism and blue economy.<sup>29</sup>

### 3. Conclusions

The RDI sector is strongly supported by the strategic and funding context at the level of EU, national and even regional policies and strategies.

Although with strong regional differences, the territory presents a high potential in basic research especially in universities and research centers, confirmed by all relevant indicators and studies and by the stakeholders' opinions.

The same sources confirm, on the other hand, a much weaker capacity of R&D in the private sector and in terms of technological transfer.

Overall, the expenditures and personnel employed in the R&D sector are still relatively low, compared to EU averages. In addition, the decreasing number of doctoral students, the low degree of knowledge, technology and innovation transfer, as well as the low level of cooperation of the research institutes with the business sector make it difficult for the territory to exploit its' full growth potential.

The need of improving the degree of cooperation among private and public actors and to channel research efforts towards a sustainable growth of the blue economy sector still appears as the main challenge of the area, despite first steps taken in this direction by the first programming period of the CBC between Italy and Croatia.

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<sup>29</sup> See Annex 3 and 4 – Results of surveys and webinars.

## 4.2. Digitalisation

### 1. Policy framework and general context

In the framework of digitalization, the cohesion policy is a key contributor to the advancement of Europe in increasing the access and usage of information and communication technologies and has already allocated significant financial resources - around 18 billion euros through ERDF and EAFDR – during the 2014–2020 period.

For the moment, the European Commission has established as one of its' main priorities for the 2019-2024 period the **EU's digital strategy - A Europe fit for the digital age**<sup>30</sup>, with the scope of becoming a global leader in the field, by focusing on technology for the people, digital economy and environmental sustainability. To this aim, by March 2021, the Commission has already presented the **Digital Compass** that sets the objectives to achieve the vision and targets for 2030 - Europe's Digital Decade. Focusing on four main points: (1) Digital skills for the population; 2) Digital infrastructures; 3) Digitalization of businesses; and 4) Digitalization of the public sector, the compass will also incorporate digital rights and principles for Europeans, international partnerships and multi-country projects, while also supporting the European Green Deal initiatives.

Another document released in 2020, **Shaping Europe's digital future**<sup>31</sup>, proposed several actions that are key to the digitisation of the European continent. In this sense, the EU aims to accelerate investments in Europe's Gigabit connectivity, in particular through a revision of the Broadband Cost Reduction Directive and through an updated plan on 5G and 6G. Furthermore, there are plans to create a comprehensive legislative framework for Artificial Intelligence, as well as building and deploying cutting-edge digital capacities in areas such as cyber security, super and quantum computing, quantum communication and blockchain. Last but not least, the European Commission aims to develop a Digital Education Action Plan, to improve digital literacy in particular at the level of youth and across all levels of education.

In addition, the **Recovery plan for Europe**<sup>32</sup> is the largest stimulus package aimed to repair the economic and social damage caused by the coronavirus pandemic and to facilitate a greener, more digital and more resilient Europe. To this purpose, EU allocates a total of 1.8 trillion euros for the 2021-2027 period, through the EU's long-term budget and Next Generation EU. As such, digitalization shares an important role in the 2021-2027 Multiannual Financial Framework.

The central financial instrument that will aim to accelerate the recovery and digital transition of Europe in the 2021-2027 period, is the **Digital Europe Programme**<sup>33</sup> - allocation of 9.2 billion euros -, which will provide strategic funding for supercomputing, artificial intelligence, cybersecurity, digital skills, and digital technologies across the economy and society.

At macro-**regional level**, the focus on digitalization has rather been transversal and not directly targeted by any EUSAIR pillar priority actions.

The same situation occurs in the **2014-2020 Italy-Croatia Interreg Programme** where none of the specific objectives were directly targeting digitalisation, but some funded projects indeed

<sup>30</sup> EU's digital strategy - A Europe fit for the digital age [Link](#) Accessed on 22 April 2021

<sup>31</sup> European Commission (2020). Shaping Europe's digital future. [Link](#).

<sup>32</sup> Recovery plan for Europe. [Link](#) Accessed on 22 April 2021

<sup>33</sup> Digital Europe Programme. [Link](#) Accessed on 22 April 2021

transversally included elements related to acquiring digital knowledge and skills, usage of digital tools and technologies, or even digitalization of certain processes.

In the **socio-economic context**, COVID-19 has highly impacted the integration of digital tools, processes and measures in almost every domain of activity and at multiple levels (individual, business/ public sectors, international or worldwide). Member States were forced to take immediate action, such as social distancing or lockdowns, that have raised the demand for digital infrastructure and services. As a result, the pandemic situation has fastened the integration of digitalization in the society. Coming next, also the recovery strategies will focus on resilient digital transformation and economic recovery, increasing even more the necessity for high-capacity networks, digital skills and use of advanced technologies.

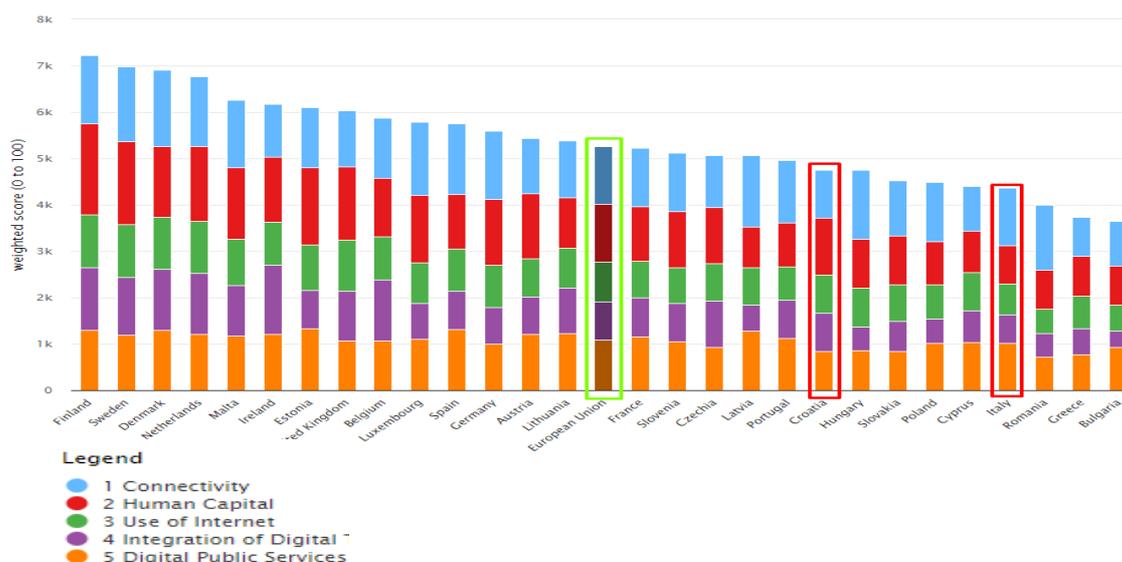
## 2. Territories' needs and strengths

The European Commission, in its “Orientation Paper”, highlights the national trends according to which, despite the high rates of population connected to the internet (see chapter 4.5 – digital connectivity) the indicators related to the actual use of electronic services by citizens are rather low<sup>34</sup>.

The Digital Economy and Society Index (DESI)<sup>35</sup> summarises the key indicators that measure the digital performance of EU countries, in terms of connectivity, **digital skills**, use of internet, **digital technology integration** and **digital public services**.

Considering all the five dimensions<sup>36</sup>, Italy scores 43.6 points, ranking 25<sup>th</sup> out of the 28 Member States, while Croatia scores 47.6 points, ranking 20<sup>th</sup> – while the EU average stands at 52.6 points. More importantly, the two countries present significant differences among the scores recorded for the different dimensions - Italy scores more in view of connectivity and digital public services, while Croatia is better at human capital, use of internet or the integration of digital technology.

Figure no. 15 Digital Economy and Society Index at EU level, 2021



<sup>34</sup> European Commission, Cross-Border Cooperation in the Adriatic-Ionian Area, orientation paper, Ref. Ares(2019)7919639 - 27/12/2019, p.23.

<sup>35</sup> Digital Economy and Society Index (DESI) – European Commission. [Link](#) Accessed on 22 April 2021

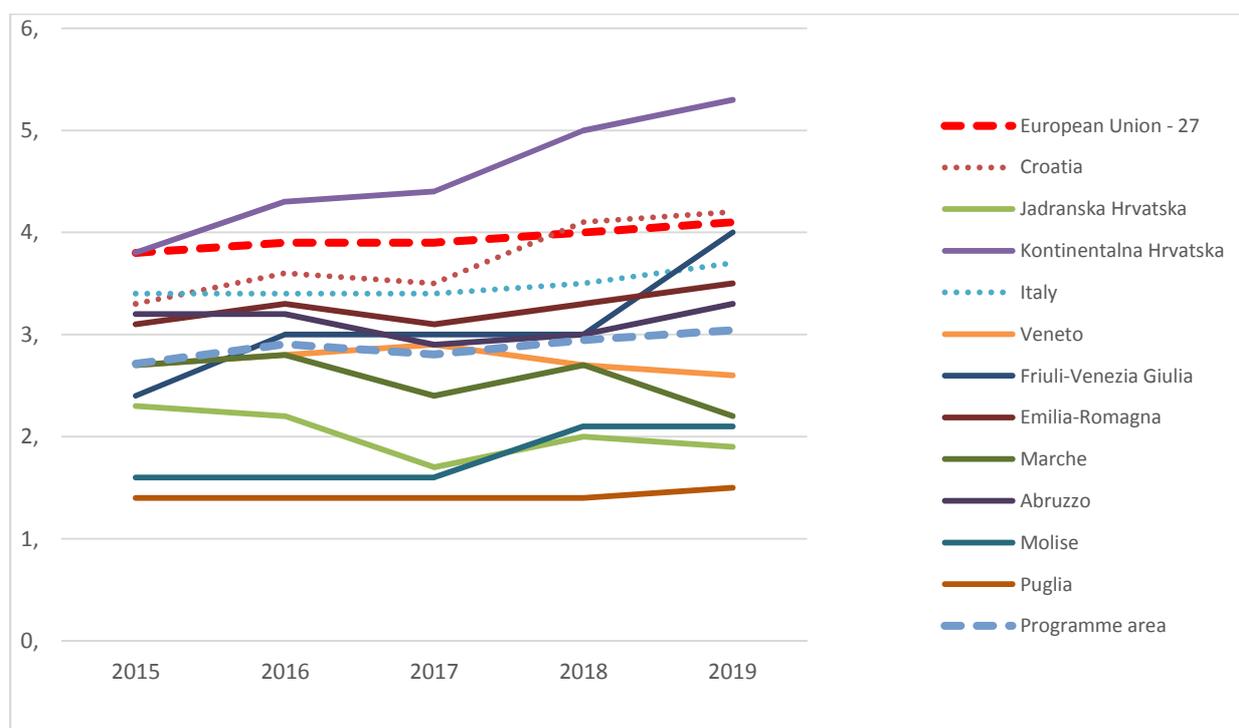
<sup>36</sup> Data available for 2020, but does not take into account the impact of the global pandemic.

*Source: European Commission, Digital Scoreboard*

Strictly related to **human capital and digital skills**, based on the DESI country reports<sup>37</sup>, Italy is ranked as the last country in Europe, with only 42% of the population having basic digital skills (58% - EU average), and 2.8% being ICT specialists (3.9% - EU average). On the other hand, Croatia is situated relatively close to the EU averages (ranked 13<sup>th</sup>), while it is noticeable that the number of ICT graduates has significantly increased in the past years – reaching 5.5% out of total population, compared to only 3.6% EU average (in 2017). Both countries have implemented reforms to integrate digital skills into education curricula and different strategies and initiatives that support lifelong learning in the field.

Another important indicator that measures the involvement of human capital in digitalization is the **employment in technology and knowledge-intensive sectors**. By 2019, the NUTS 2 Regions involved in the Programme territory employed 3% (out of total employed population) in such sectors, lower than the 4.1% EU average. The following chart presents the evolution of the employment (%) in the technology and knowledge-intensive sectors, by NUTS 2 regions, showing that the Programme territory is following the EU evolution trend.

*Figure no. 16 Employment in technology and knowledge-intensive sectors, 2015-2019*



*Source: Own elaboration based on EUROSTAT data*

In terms of **integration of digital technology in business**, the DESI index shows only a slight evolution of the relevant indicators<sup>38</sup> at national level in the 2018 – 2020 period, except for the

<sup>37</sup> DESI country report 2020 (Italy). [Link](#) Accessed on 22 April 2021

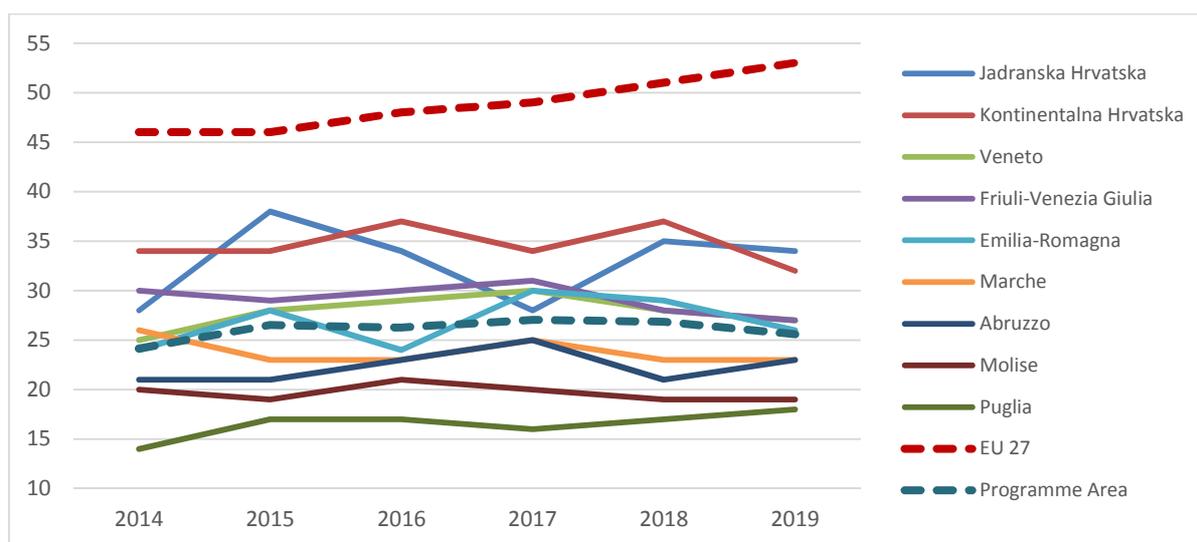
DESI country report 2020 (Croatia). [Link](#) Accessed on 22 April 2021

<sup>38</sup> DESI indicators: % enterprises using Electronic information sharing; % enterprises using Social Media; % enterprises using Big data; % enterprises using Cloud; % SMEs selling online; % SME e-Commerce turnover; & SMEs selling online cross-border.

higher increase in % of enterprises using social media and those that use online sales (valid for both countries). As positive aspects, Italy scores high in terms of enterprises using shared electronic information exceeding the EU average, while Croatia with an overall score higher than the EU average (ranked 12<sup>th</sup> among EU 28 countries) clearly outperforms in regard to percentage of enterprises using Cloud systems and of SMEs selling online. Even more, according to Eurostat, 31% of all enterprises in Croatia have had e-commerce sales of at least 1% of their turnover, being one of the best performing countries in Europe<sup>39</sup>.

Related to **digital public services**, online service completion and digital services offered to businesses are definitely strengths of the Italian public system, while in Croatia those can be considered weaknesses. In contrast, according to the DESI index and digital governmental factsheets<sup>40</sup>, the number of people interacting with e-government is way lower in Italy, compared to the ones in Croatia. The following chart details the evolution in terms of percentage of population who used the internet for interaction with public authorities, at NUTS 2 regions involved in the Programme territory. The data shows how the territory has generally maintained a similar level of interaction over the years, while the EU average has constantly increased.

*Figure no. 17 Percentage of population who used the internet for interaction with public authorities (2014 - 2019)*



*Source: Own elaboration based on EUROSTAT data*

Notably, on both sides of the border, the national authorities have taken measures (elaboration of national plans, strategies etc.) to support the digitalization of public services.

### **The stakeholders' opinion**

The **interviews with institutional territorial stakeholders** have confirmed the strong priority of digitalisation for regional and local development. The digitalisation of public services is the most recurrently mentioned **need**, with a special attention to health and education services. Digitalisation of public services should adequately take into account the use of big data and the improvement of interoperability. In the business domain, a general need of digitalisation of the enterprises,

<sup>39</sup> Eurostat database - Digital single market - promoting e-commerce for businesses Indicator

<sup>40</sup> Digital Governmental Factsheet 2019 (Croatia)  
Digital Public Administration Factsheet 2020 (Italy)

especially SMEs, has been underlined. Some respondents suggested a focus on digitalisation of the maritime logistic sector. Finally, several respondents have underlined the need for an improved digital literacy of population, especially of the elders, also in consideration of the changing living patterns due to the COVID - 19 pandemic. In terms of **strengths**, stakeholders have mentioned the fact that the public administration in the area has already a background of digital service, with several projects and realization started, also of high value; moreover, the willingness of the public sector to switch to digital solutions appear unanimous. Respondents have also reported that the area includes territories considered as local digitalisation excellences in the respective national framework, both in the public and in the private domains. Finally, several exogenous drivers have been mentioned, like the easy availability of technological solutions, the post-pandemic global push for digitalisation, and the digital literacy of younger generations.

During the **webinar** events it was emphasized on the needs of having digitalized public services, together with open data sources and interoperability of digital systems. Stated as an opportunity, it was a general consent that the socio-economic context created by the COVID 19 pandemic has created the premises for fastening the digitalization process<sup>41</sup>.

### 3. Conclusions

The EU policies and future financing possibilities focus a lot on digitalization, as a central pillar of development for the society, private and public sectors, while also considering environmental sustainability. Together with the coronavirus pandemic situation, this creates the premises for a faster integration of digital services and processes in development policies.

At the moment, both partner countries still present low levels of digital performance and competitiveness, compared to the EU average, indicating the need to take immediate action and capitalize on existing opportunities. Moreover, there are significant differences in the evolution of key indicators between the two countries, which open the field for fruitful cooperation possibilities.

The most important needs of the territory appear related to the digitalisation of the public services, especially in relation to health, education, and business-related services. The need to improve the digital literacy of citizens and smaller companies is also important, together with the need to increase their use of digital technologies. As emerging from the consultation with the stakeholders it emerged that the Programme area presents locally also cases of digital excellence, both in the public and in the private domains, which can represent an important driver for a digital development based on a cooperation logic.

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<sup>41</sup> See Annex 3 and 4 – Results of interviews and webinars.

## 4.3. Competitiveness of SMEs

### 1. Policy framework and general context

For the European Union, small and medium-sized enterprises (SMEs) are seen as the backbone of the European economy. With over 100 million people employed in SMEs, they represent 99% of all businesses throughout the EU<sup>42</sup>. They are also seen as playing an important role in innovation, climate change, resource efficiency and social cohesion.

In March 2020, the EU published its SME Strategy for a sustainable and digital Europe<sup>43</sup>, outlining the key role that SMEs will play in the transition to a sustainable and digital European economy. The strategy action plan is built around three pillars:

- Capacity building and support for the transition to sustainability and digitalisation;
- Reducing regulatory burden and improving market access;
- Improving access to financing.

At macro-region level, the EUSAIR Pillar 1 “Blue Growth” establishes two objectives relevant for SMEs related to policies focusing on the blue economy, respectively on blue technologies and fisheries and aquaculture. In their framework, two flagship projects have also been defined: the first one focuses on “strengthening quadruple helix ties in the field of blue technologies in the region” also through a stronger RDI and cooperation among SMEs and between SMEs, large enterprises and research centres operating in the Adriatic-Ionian macro-region. The second focuses on “promoting sustainability, diversification and competitiveness in the fisheries and aquaculture sectors through education, research & development, administrative, technological and marketing actions, including the promotion of initiatives on marketing standards and healthy nutritional habits”.

The Interreg Italy-Croatia 2014-2020 Programme, after having identified needs in SMEs’ R&D expenditure as well as the number of patent applications for both countries, which underlines a particular lack of competitiveness of the business sector, and SMEs in particular, has introduced Priority axis 1 – Blue Innovation in its intervention logic in order to contribute to counteract this trend. Eight of the total of twelve projects financed under this priority axis are targeting actions of development of the small businesses in the blue economy sectors.

The most recent economic context is not favourable to SMEs. The COVID-19 pandemic has hit the European SMEs to a very hard extent. SMEs represent the backbone of those sectors most hit by the lockdown, especially the services sectors, in which the recovery is slower due to a persistent lack of demand. A large number of SMEs in the EU, as a consequence, has ceased its activities or has serious liquidity problems. This is particularly true for many territories of the Programme area, the economy of which is particularly based on the tourism sector.

### 2. Territorial needs and strengths

National data from Italy and Croatia show that the role of SMEs in their economy is even bigger than the EU average. SMEs represent 99,9% of the total number of enterprises in Italy and 99.7% in Croatia, while the EU average sits at 99.8%. Significantly, SMEs employ 78.1% of the total number of

<sup>42</sup>European Commission, An SME Strategy for a sustainable and digital Europe, 2020, [Link](#) accessed 22 April 2021

<sup>43</sup>Idem

persons employed in Italy and 68.9% in Croatia, both countries employing more than the average at the EU level, namely 66.6%. Lastly, in terms of value added, SMEs bring 66.9% of the national total in Italy, while in Croatia they contribute for 59.4% (EU average is 56.4%)<sup>44</sup>.

A look of the business demography trends of the area reveals quite controversial trends. The following table shows the evolution of the overall number of enterprises, in percentage, between 2014 and 2018, at NUTS 3 level.

**Tabel no. 5. Change in population of active enterprises, NUTS-3, 2014-2018<sup>45</sup>**

NUTS 3 Region	% difference 2014-2018	NUTS 3 Region	% difference 2014-2018
Ascoli Piceno	4.67	Teramo	0.48
Foggia	4.65	Forlì-Cesena	0.41
Bari	3.95	Fermo	0.28
Brindisi	3.79	Pordenone	0.17
Barletta-Andria-Trani	3.12	Udine	0.12
Macerata	2.74	Gorizia	-0.03
Trieste	2.73	Ancona	-0.45
Pescara	2.69	Rovigo	-2.81
Campobasso	2.19	Splitsko-dalmatinska županija	-18.94
Venezia	2.1	Dubrovačko-neretvanska županija	-20.01
Rimini	1.84	Primorsko-goranska županija	-27.79
Ferrara	1.83	Zadarska županija	-28.64
Ravenna	1.57	Istarska županija	-29.63
Chieti	1.36	Karlovačka županija (NUTS 2016)	-31.74
Padova	0.98	Ličko-senjska županija	-32.4
Lecce	0.73	šibensko-kninska županija	-43.74

*Source: processing of data from Eurostat*

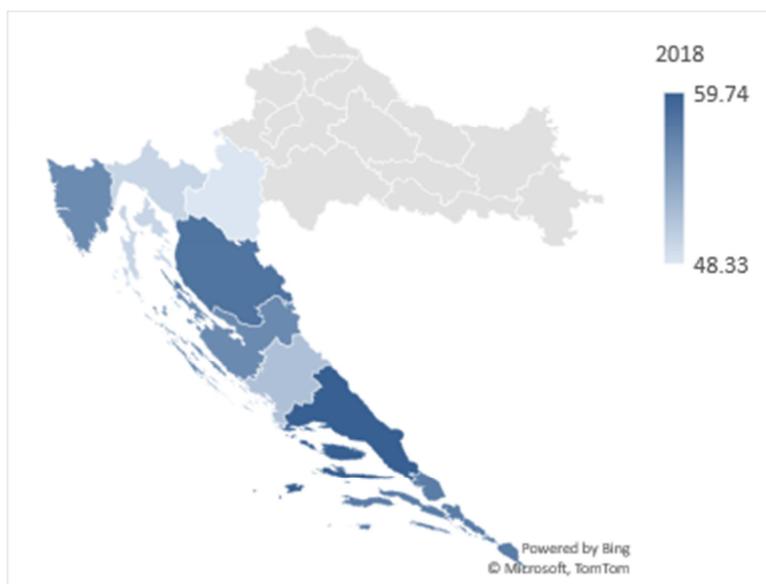
Data show a constant and significant decrease of **number of businesses** in the business sector on the Croatian side, the percentage ranging from a minimum of 18,9% in Split-Dalmatia up to a macroscopic 43,7% in Šibenik-Knin. In the Italian side of the Programme area, on the other hand, a majority of regions have registered an increase, up to 4.67% (Ascoli Piceno) in the number of active enterprises.

The business survival rate after three years is an indicator on how solid are business perspectives for more recently created enterprises. Data from 2018 show that the average survival rate for businesses at the EU-27 level is situated at 58.5%. Within the Programme area, the indicator ranges from 59.74% in Splitsko-dalmatinska županija to 48.33% in Karlovačka županija for the regions pertaining to the Croatian coast, which is considerably lower than the EU-27 average.

<sup>44</sup>Small Business Act national fact sheets for Italy and Croatia, 2019, [Link](#) accessed 22 April 2021

<sup>45</sup> For the indicators "Change in population of active enterprises" employer business demography statistics (the active population of enterprises having at least one employee) were taken into account.

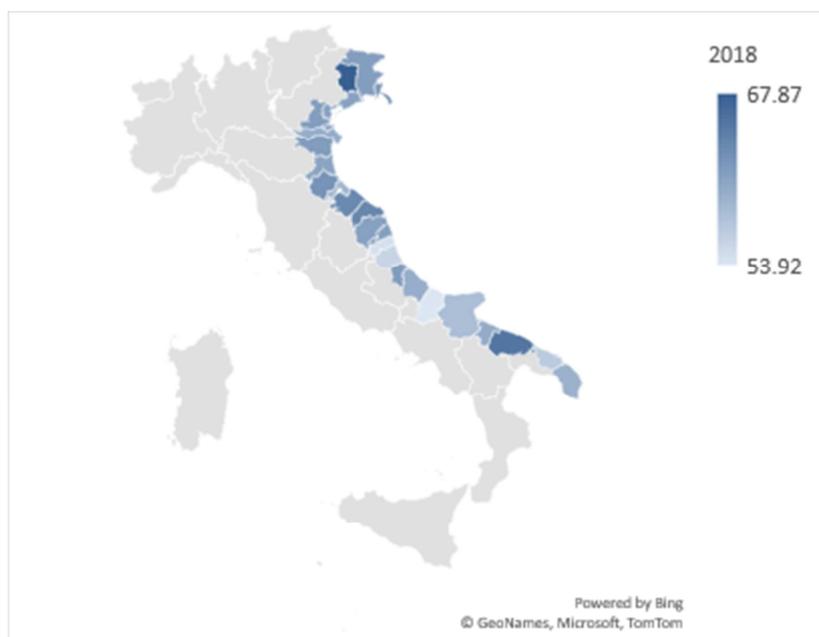
Figure no. 18 Survival rate of enterprises after 3 years, Croatia NUTS-3, 2018<sup>46</sup>



*Source: Eurostat*

For the Italian Adriatic coast, the same indicator returns slightly better results, ranging from 54% in Brindisi to almost 68% in Pordenone, around 10% better than the EU-27 average rate of survival.

Figure no. 19 Survival rate of enterprises after 3 years, Italy NUTS-3, 2018



*Source: Eurostat*

Besides the business demographic trends, it is interesting to focus on SMEs' behaviours, especially towards innovation. The European Commission Regional Innovation Scoreboard provide a series of

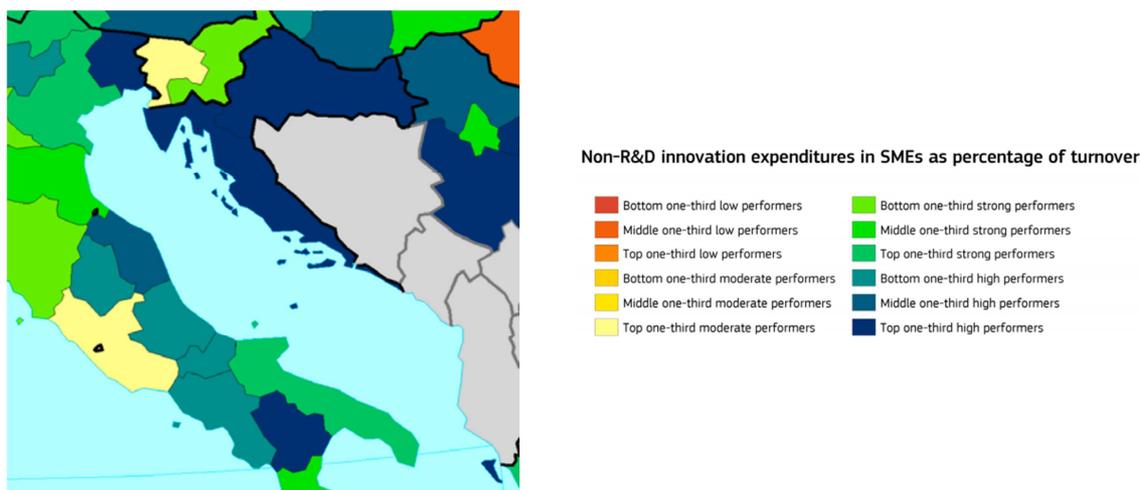
<sup>46</sup> For the indicators "Survival rate of enterprises after 3 years" employer business demography statistics (the active population of enterprises having at least one employee) were taken into account.

interesting indicators related to the inclination of SMEs of the European region to innovation, useful to understand specific patterns of innovation at territorial level.

As a first aspect, SMEs in the NUTS 2 regions involved in the Programme area are extremely inclined to dedicate budget to some form of innovation.

Most regions in the Programme area are classified as “high performers” in terms of **non-R&D innovation expenditures** in SMEs as percentage of turnover. Only three regions fall under the “strong performer category” for this indicator, which measures several of the components of innovation expenditure, such as investment in equipment and machinery and the acquisition of patents and licenses as well as measure the diffusion of new production technology and ideas.

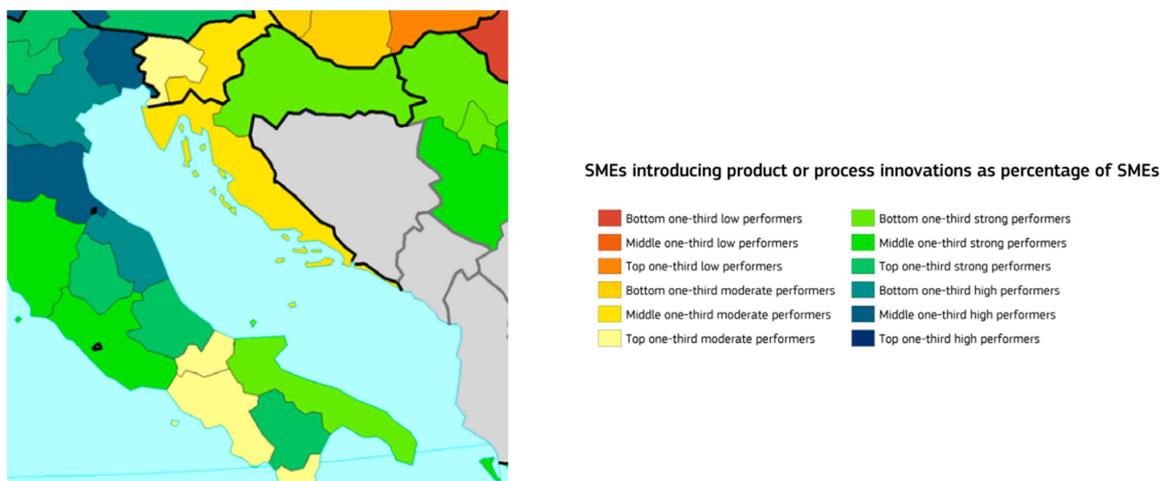
Figure no. 20 Non-R&D innovation expenditures in SMEs as percentage of turnover, NUTS-2, 2019



Source: Regional Innovation Scoreboard, 2019

Looking more in detail to the final purpose of this inclination for expenditure to innovate, the following map shows that the number of SMEs actually arriving to propose a new product or process in the market is quite different in the Programme area regions. While some territories are still ranked as high performers, the area includes here also moderate performers like Molise and Jadranska Hrvatska.

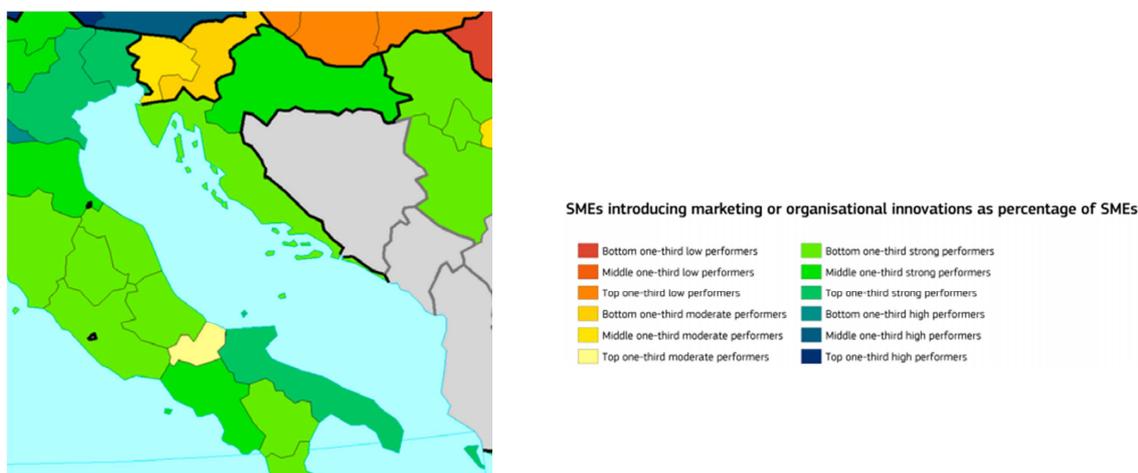
Figure no. 21 SMEs introducing product or process innovations as percentage of SMEs, NUTS-2, 2019



Source: Regional Innovation Scoreboard, 2019

On the other hand, the Programme area re-unites in the group of the strong performers, when it comes to the number of SMEs having introduced softer forms of innovation, in terms of marketing or organizational solutions. Only exception, as shown from the following map, is the Molise region.

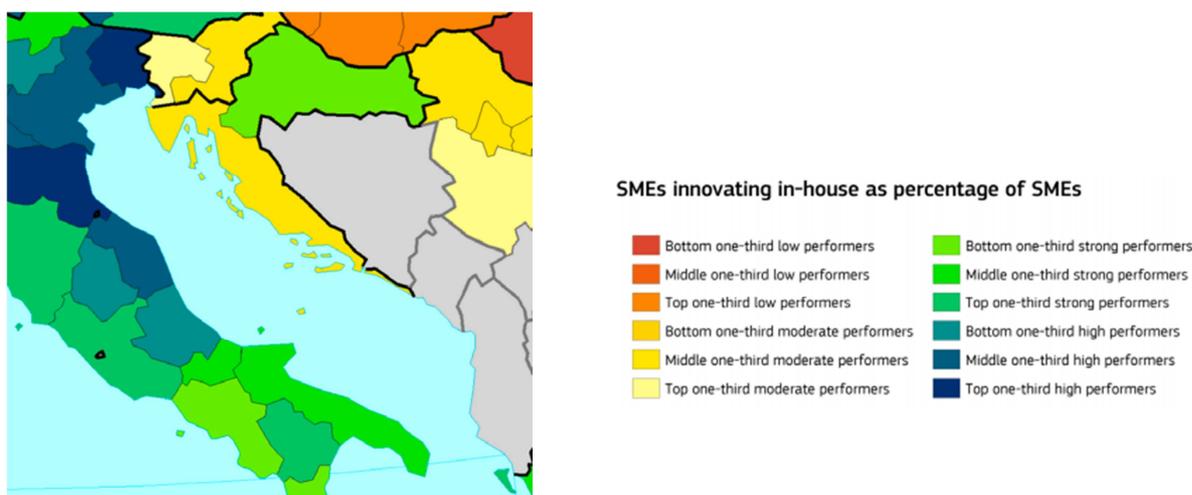
Figure no. 22 SMEs introducing marketing or organisational innovations as percentage of SMEs, NUTS-2, 2019



Source: Regional Innovation Scoreboard, 2019

In terms of the approach to innovation, large parts of the Programme area show an impressive average capacity of SMEs to count on their own resources (creativity, technology, capacity to understand the market, flexibility) to propose a new product or process to the market: the following table shows the rate of SMEs having innovated without acquiring innovation or research support on the market. With the exception of the “moderate” performance of Jadranska Hrvatska, all other regions are ranked strong or high performers, with Emilia Romagna and Friuli-Venezia-Giulia ranking among the first 25 regions in Europe.

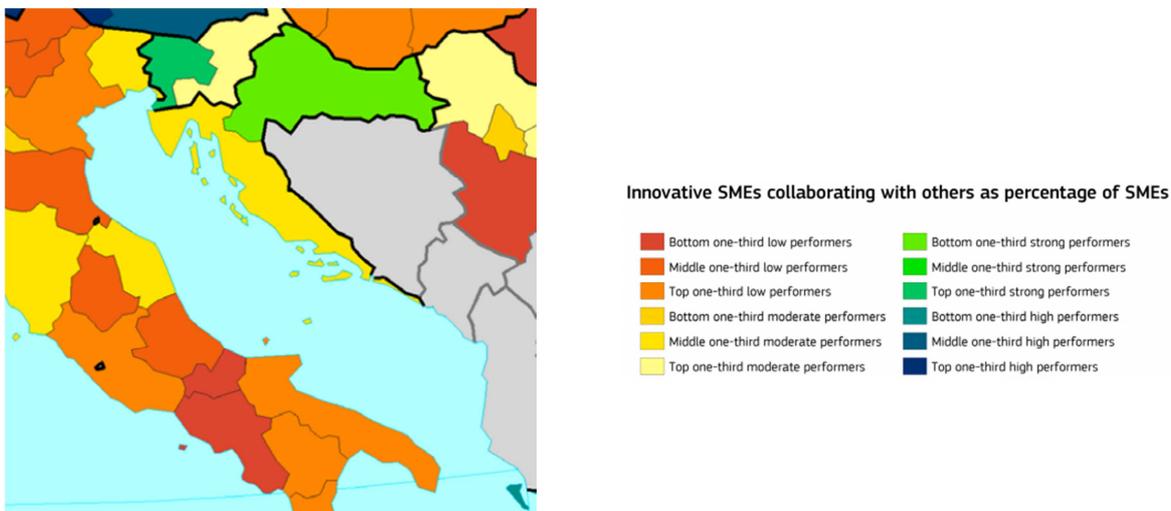
Figure no. 23 SMEs innovating in-house as percentage of SMEs, NUTS-2, 2019



Source: Regional Innovation Scoreboard, 2019

Finally, the way to innovate of the SMEs of the Programme area seems to be rather based on autonomy, independence and business mistrust. Looking at the numbers of SMEs that have signed any cooperation agreements on innovation activities with other enterprises or institutions, all regions were ranked as low or moderate performers, with the exception of Continental Croatia.

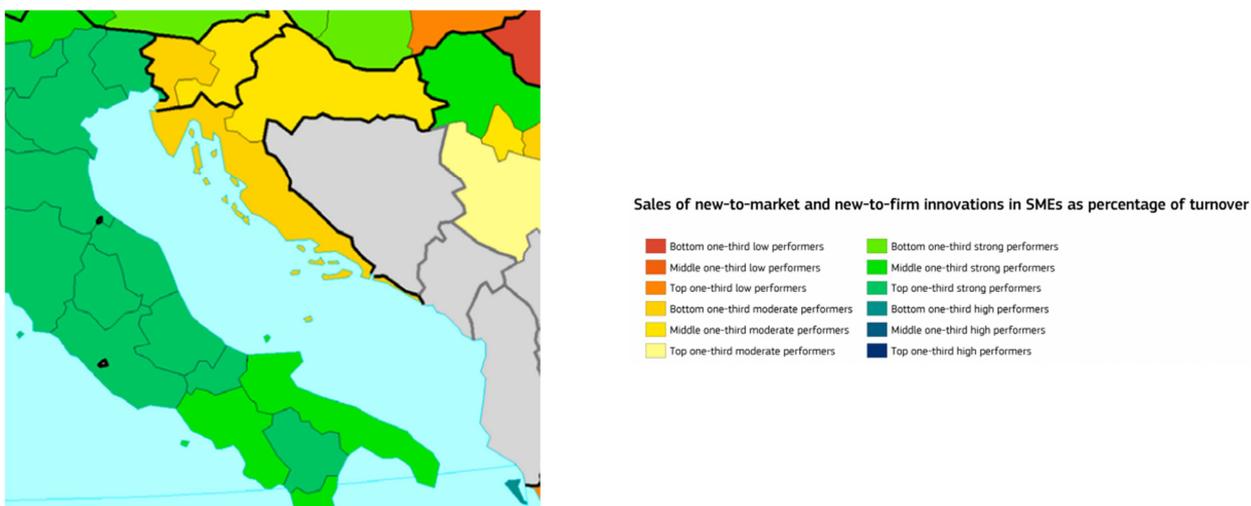
Figure no. 24 Innovative SMEs collaborating with others as percentage of SMEs, NUTS-2, 2019



Source: Regional Innovation Scoreboard, 2019

The sales of new-to market and new-to-firm in SMEs as percentage of turnover indicator also shows strong regional disparities. Here again, Italian regions are classified as “strong” while Croatian regions are “moderate”. This indicator is used to illustrate both the creation of state-of-the-art technologies (new to market products) as well as the diffusion of these technologies (new to firm products).

Figure no. 25 Sales of new-to-market and new-to-firm innovations, NUTS-2, 2019



Source: Regional Innovation Scoreboard, 2019

### The stakeholders' opinions

The interviews with regional stakeholders suggest that there are several key recurring aspects regarding the needs and strengths of SMEs in the Programme area. Two common key needs that have been identified are the need for increased collaboration between SMEs in order to improve their overall competitiveness and sustainability, but also the need for simplifying the bureaucratic framework in which SMEs operate. Also, some more regional specific needs have been reported,

with Italian stakeholders focusing the need for investments in innovation processes as well as resilience, while Croatian ones stressed the overreliance on the tourism sector which represents a vulnerability due to the seasonality which is typical of the tourist industry.

In terms of **strengths** of the region, a key aspect is external competitiveness. While the Italian regions benefit from extensive expertise in the SME sectors which can prove to be a competitive edge on the larger European market, the Croatian side underlines the continued overall development of SMEs in the region, both in terms of number of SMEs as well as networking and financing opportunities that SMEs can access.

The results of the **webinars** revealed that there is a particular **need** of collaboration between the public administration, the field of research and the private sector<sup>47</sup>.

### 3. Conclusions

The weight of SMEs in the Programme area is, in terms of number, employment and value added, higher than the EU average. Business demography indicators show important fluctuations especially on the Croatian side of the area, while the dynamics in Italy are more consolidated but still lower than the EU average for a good part of the territory, especially for what concerns the survival rate of newly created enterprises.

In terms of SMEs behaviour towards innovation, all regions of the area perform to high levels in terms of SMEs expenditure for innovation; however, while in all territories the performance in terms of marketing and organizational innovation is high, only a part of the area performs well in terms of product and process innovation.

The lack of cooperation between SMEs in innovation dynamics is a common characteristic of all territories.

The global pandemic has been a significant challenge for the survival of SMEs in most sectors. The overreliance of several regional economies on tourism left them in a vulnerable position once the pandemic struck.

Opportunities for support and recovery - due for example to the European Union Resilience and Recovery plan - might boost the economic relaunch over the following period while bringing new business development opportunities for dynamic SMEs.

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<sup>47</sup> See Annex 2 and 3 – Results of surveys and webinars.

## 4.4 Skills for smart specialisation, industrial transition and entrepreneurship

### 1. Policy framework and general context

The **Europe 2020 strategy** has already established smart growth as one of its' main priorities, together with the "**Innovation Union**" as one of the main flagship initiatives. In this context, over the programming period 2014-2020, developing a Research and Innovation strategy for Smart Specialisation (RIS3) was highly favoured. For the purpose of elaborating the RIS 3, the **Smart Specialisation Platform (S3P)**<sup>48</sup> assisted Member States in identifying niche and competitive areas, solving major societal challenges, fostering innovation and offering better coordination and alignment between private and public actors, based on the quadruple helix approach.

The new cohesion policy establishes **A Smarter Europe** as main priority for the 2021 – 2027 period, thus continuing the already initiated effort by supporting innovation, digitalization, and economic transformation of SMEs. Thus, with the aim of having a strengthened governance, international cooperation and focus on S3 skills, the smart specialisation rationale is expected to play an even more important role in the coming period.

In terms of strategic documents, the *European Skills Agenda for sustainable competitiveness, social fairness and resilience*<sup>49</sup>, which was released in 2020, helps define the European strategy to ensure that skills lead to jobs and that people are aided in building their skills throughout life. The forefront of this plan is **Action 1: Pact for Skills**, which aims at facilitating and enhancing public-private cooperation, through the development of large-scale partnerships in strategic industrial ecosystems. In this sense, stakeholders will be encouraged to pool expertise, resources and funding towards concrete actions in terms of upskilling and reskilling.

At a **macro-region** level, the first pillar of EUSAIR focuses on Blue Growth, which directly targets the smart specialisation concept. In this context, all three flagship projects designed under this pillar present a strong emphasis on smart specialisation: 1) developing marine technologies and blue biotechnologies with the aid of a quadruple helix; 2) using R&D to increase the sustainability and competitiveness of fisheries and aquaculture; 3) increase the capacity building for marine and maritime governance and services. In addition, smart specialisation is transversally covered by EUSAIR's fourth pillar through the initiatives of having tourism smart specialisation platforms.

At **regional** level, plenty of Research and Innovation strategies for Smart Specialisation<sup>50</sup> have been developed over the past years. Also, within the **2014-2020 Italy-Croatia Interreg Programme** framework, smart specialisation was directly targeted by one investment priority, which was specifically dedicated to R&I initiatives and had the aim of strengthening the Blue Innovation capacity. Thus, the funded projects have directly targeted smart specialisation, with a strong focus on sustainability for fisheries and aquaculture, innovation and technology transfer and even the development of specialised skills.

<sup>48</sup> The Smart Specialization Platform. [Link](#) Accessed on 26 April 2021

<sup>49</sup> European Commission (2020). *European Skills Agenda for sustainable competitiveness, social fairness and resilience*. [Link](#).

<sup>50</sup> In Croatia, RIS 3 has been elaborated at national level, while in Italy, RIS 3 have been elaborated at the level of NUTS 2 regions.

**Blue Economy** is meant to serve a highly important role in terms of smart specialisation of the Programme territory in the 2021-2027 period, due to its strong specialised focus on marine living resources, coastal and island tourism, maritime transport, extraction of natural resources, and even linkage to the European Green Deal initiatives.

## 2. Territories' needs and strengths

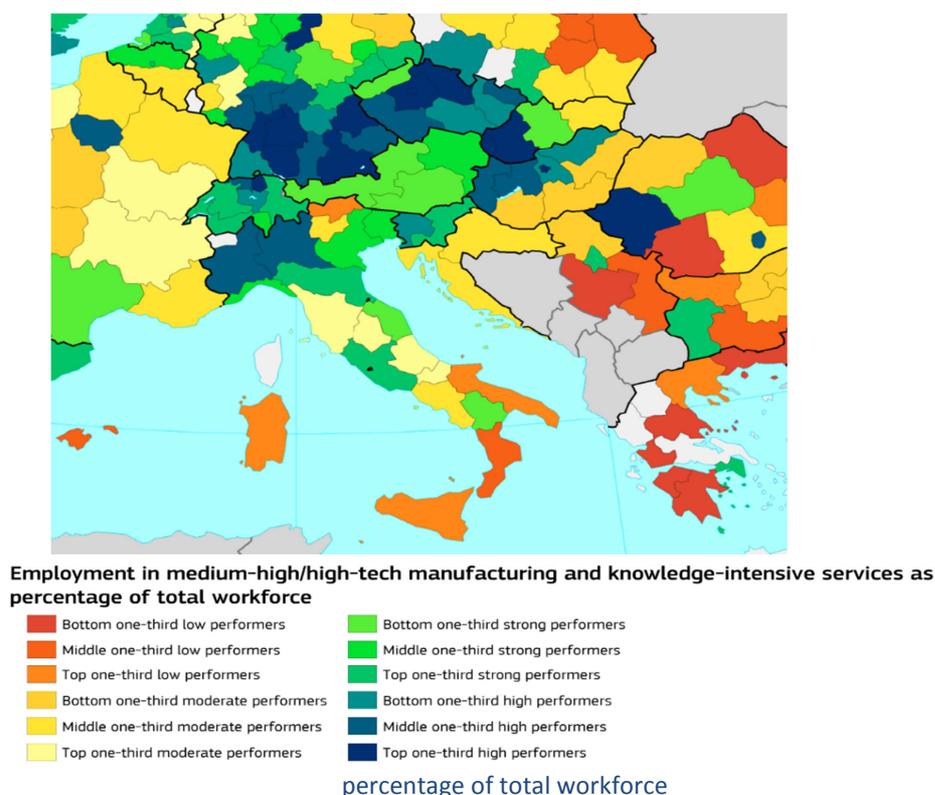
Human resources represent the most important factor that drives the success of smart specialisation in almost every field of activity, and it is unfortunately noticeable that the Programme territory is lagging much behind on this aspect, as compared to the EU averages.

In terms of percentage of **employees in high and medium-high technology manufacturing and knowledge-intensive services** out of total employment, at national level, both Italy (41.8%) and Croatia (39.5%) are situated below the EU average (46.4%), in 2020.

This aspect is further reflected at regional level: according to the Regional Innovation Scoreboard, overall the Programme territory could be considered a moderate performer, with strong internal differences.

The following map, presenting the scores of the NUTS 2 of the Programme area in terms of employment in medium-high/high-tech manufacturing and knowledge-intensive services as percentage of total workforce, highlights some important territorial imbalances: Emilia-Romagna, Veneto, Friuli-Venezia Giulia and Marche ranked as top performers; entire Croatia, Abruzzo, Molise ranked as moderate performers and Puglia region ranked as low performer.

Figure no. 26 Employment in medium-high/high-tech manufacturing and knowledge-intensive services as

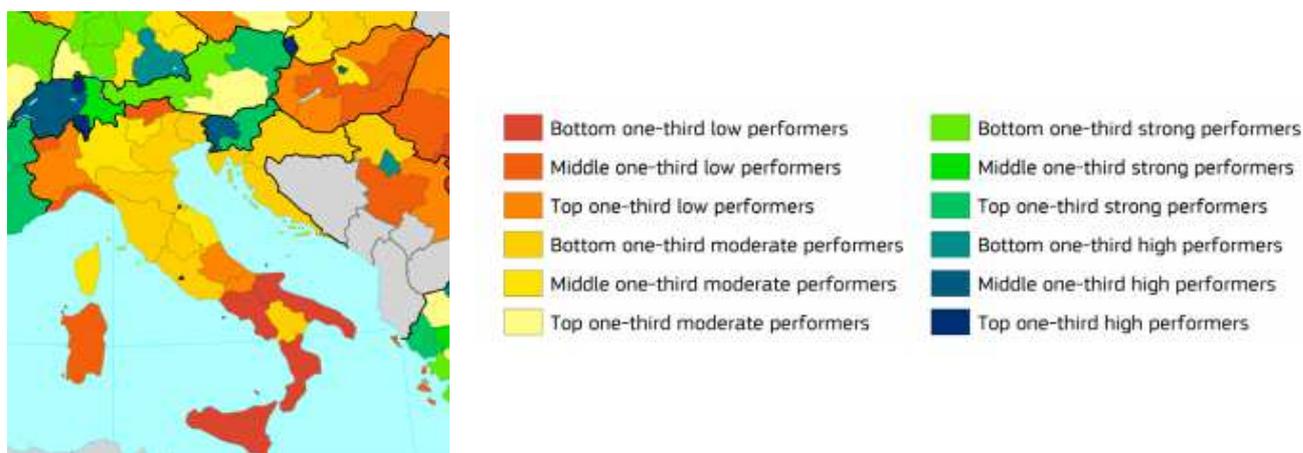


*Source: Extract from the Regional Innovation Scoreboard (2019)*

Moreover, despite the fact that both Member States have highly developed networks of high education institutions, the Programme territory shows a net decrease in the number of **PhD students** in the 2013-2018 period, leading to a total number of doctoral students per 10.000 inhabitants, in 2018, way lower in the Programme area (5.19 students), compared to the EU 27 average (14.80 students)<sup>51</sup>.

A similar situation is recorded for the percentage of **population with tertiary education**, significantly lower in the Programme area compared to the EU 27 average<sup>52</sup>. Strictly considering the percentage of population aged 30-34 who has completed tertiary education, at the level of NUTS 2 Programme regions, all areas are rated as “low” or “moderate” performers, as it can be seen in the map below.

*Figure no. 27 Percentage of population aged 30-34 who has completed tertiary education (2019)*



*Source: Extract from the Regional Innovation Scoreboard 2019*

To complement, according to the European Social Scoreboard 2020<sup>53</sup>, the participation rate of people aged 25 to 64 in education and training is lower in both Italy (7.2%) and Croatia (3.2%), compared to the EU average (9.2%).

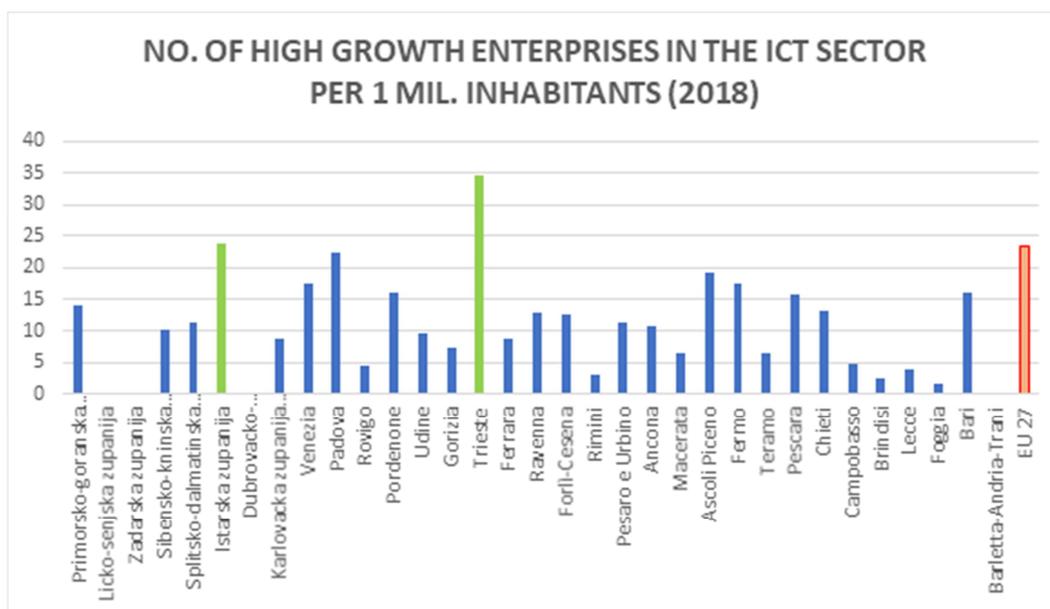
Although important in the context of digitalization, the number of high-growth enterprises in the ICT sector is still extremely limited in the Programme area, despite a 30% increase in the overall number in the 2014 - 2018 period. The following chart presents the number of high growth enterprises in the ICT sector, per one million inhabitants (in 2018), highlighting that for the NUTS 3 Programme regions the average is 11.5 enterprises/million inhabitants, against much higher national (17 for Italy and 24.6 for Croatia) and EU values (23).

<sup>51</sup> Data extracted from EUROSTAT Database at NUTS 2 level – Indicator: Doctoral or equivalent level

<sup>52</sup> Data extracted from EUROSTAT Database at NUTS 3 level, for the whole population.

<sup>53</sup> Data at NUTS 1 level - EU Social Scoreboard 2020. [Link](#) Accessed on 26 April 2021

Figure no. 28 Number of high growth enterprises in the ICT sector per 1 million inhabitants, 2018



Source: Own elaboration based on EUROSTAT data<sup>54</sup>

Smart specialization processes are under the attention of national and regional governments that try to channel them towards priority competitive sectors, identified in partnership with actors from the territory, through their Smart Specialization Strategies (S3).

In its “Orientation Paper”, the European Commission has stressed the need to consider how to “support cross-border innovation on core areas of comparative advantage, such as creative industries and sustainable (coastal and island) tourism, using the smart specialisation strategies as a point of departure”<sup>55</sup>.

The analysis of the 2014-2020 S3 strategies in force in the Programme area reveals first of all a cardinal difference of territorial governance: there is a unique S3 at country level for Croatia, while in Italy S3 are established at regional level (NUTS2). Data from the S3 platform about the priority domains chosen in the strategies, show a very low level of consistency, not only between countries, but also among the different S3 of each Italian Region<sup>56</sup>. As common ground, all national and regional S3 within the Programme area have identified among their priority domains health and life sciences and sustainable food and agri-food production and processing. Differently, in Croatia the focus is mainly on *Transport and Mobility, Energy, Environment and Cyber Security*, while the Italian S3s tend to focus more on *Productive Sectors (ICT, motor industry, mechatronics, new materials or aerospace sector), Tourism, Culture/ Heritage* and even the *Housing sector*. For the 2021 – 2027 programming period, all the Programme regions have already started the elaboration of new S3 strategies.

<sup>54</sup> Some Programme regions present the value 0, in terms of number of High Growth Enterprises in the ICT Sector

<sup>55</sup> European Commission, Cross-Border Cooperation in the Adriatic-Ionian Area, orientation paper, Ref. Ares(2019)7919639 - 27/12/2019, p.26.

<sup>56</sup> Detailed analysis about the priorities established by the S3 strategies can be found in Annex 2

### ***The stakeholders' opinion***

The **interviews with regional stakeholders** have concluded that the territory needs a stronger focus on smart specialisation in the next programming period, especially in areas such as tourism, agriculture and regional productive sectors, but also in blue economy. Even more, the respondents emphasized on the necessity of having better adapted training programs and education curricula to the needs of the private sector. Lastly, some of the respondents suggested that a better coordination and cooperation is required among the key stakeholders (both public and private entities), to better establish the priorities of smart specialization, as well as the future implementation of the initiatives.

The regional stakeholders consider the existence of S3 strategies a strength of the territory and that future financing possibilities will support the deployment of smart specialisation initiatives in the 2021-2027 period<sup>57</sup>.

### **3. Conclusions**

Smart specialisation has been and continues to be a priority of the cohesion policy, which, together with the Recovery and Resilience Facility, creates the opportunity of further development for many sectors of activity (productive sectors, ICT, education, maritime sector).

At the level of the Programme area, different data sources show a relatively low degree of preparedness for smart specialisation in terms of existing human capital and high growth enterprises – despite the recent increase recorded. Stakeholders emphasized the need to have better adapted training and education curricula to the existing and forecasted needs of the market.

While S3 strategies are expected to be a strong driver for the governance of these processes, the priorities selected within the existing S3 strategies are widely dispersed within the Programme area and thus missing an integrated territorial approach.

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<sup>57</sup> See Annex 3 and 4 – Results of surveys and webinars.

## 4.5. Digital Connectivity

### 1. Policy framework and general context

EU's digital strategy - A Europe fit for the digital age<sup>58</sup> is one of the six main priorities of the European Commission for the 2019 – 2024 period. To continue the already set initiative by the strategy on **Connectivity for a European Gigabit Society**<sup>59</sup>, that people should be able to reach and connect to each other and have access to information, digital connectivity is one of the main themes set in the **Digital Compass**. As a result, the 2030 objective - to achieve *Secure and sustainable digital infrastructures* - focuses on obtaining full coverage of households by a Gigabit network and coverage of all populated areas by 5G.

In addition, there are several other EU measures and initiatives oriented to promote WI-FI connections, 5G telecommunications systems, broadband access and even to reduce the costs of high-speed networks.

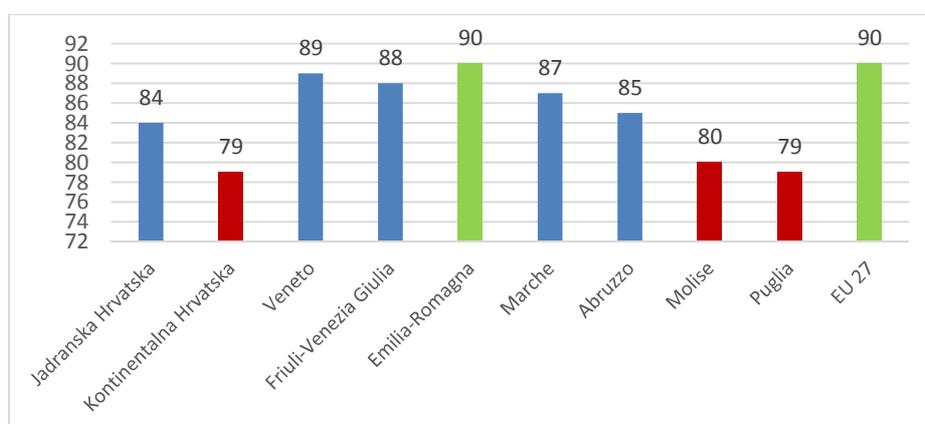
As part of the Recovery plan for Europe, the main financial instrument that will support digital connectivity is the **Digital Europe Programme**, together with the European Structural and Investment Funds and **Connecting Europe Facility Digital Programme 2021-2027**, as an instrument for financing broadband deployment.

In the **socio-economic context**, COVID-19 has highly impacted the integration of digitalization in the society. More importantly, as a result of the pandemic situation, there is a strong focus of the EU in the coming period to develop the existing digital network and to further improve the access to and use of quality information and communication technologies.

### 2. Territories' needs and strengths

In terms of easiness to connect to digital services, according to EUROSTAT, at the level of NUTS 2 Regions involved in the Programme territory, 85% of the households have internet access, slightly lower than the EU average - around 90%. Despite this, 98% of the households with internet access have a broadband connection in place, which provides a more reliable and stable connection.

Figure no. 29 Percentage of households with access to the internet at home

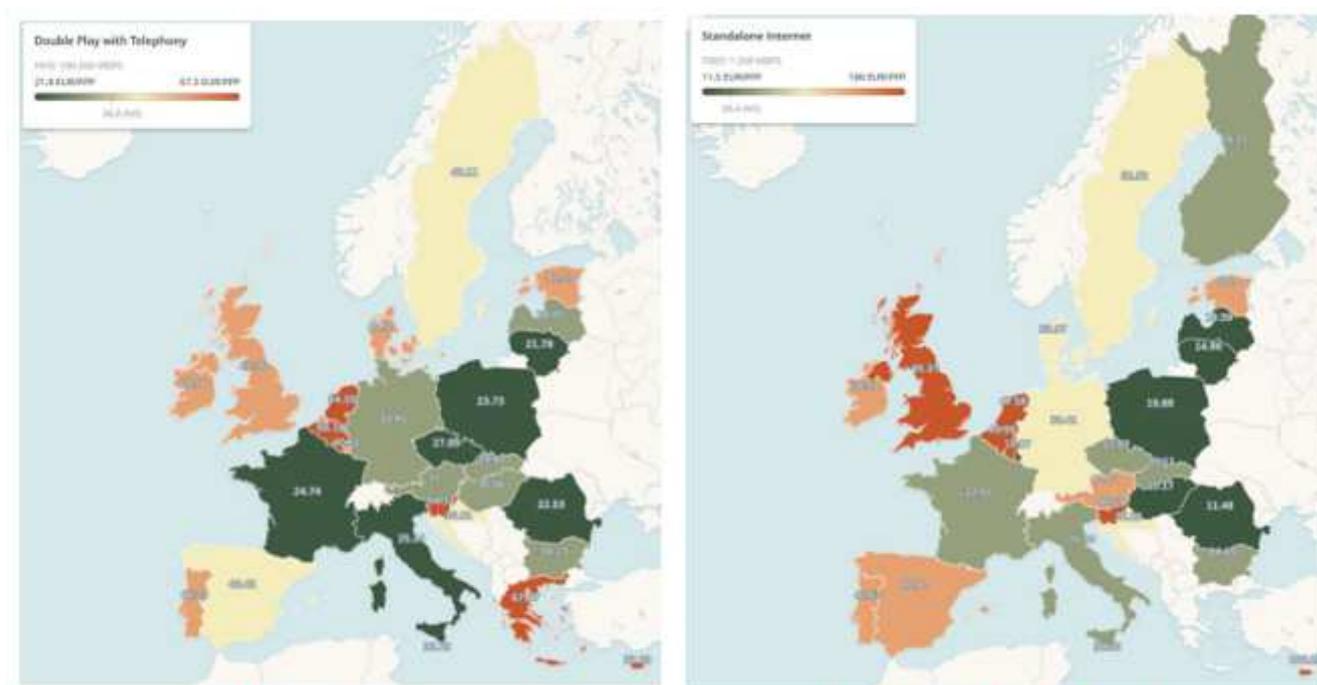


Source: Own elaboration based on EUROSTAT data

<sup>58</sup> EU's digital strategy - A Europe fit for the digital age [Link](#) Accessed on 22 April 2021

<sup>59</sup> Strategy on Connectivity for a European Gigabit Society, adopted in 2016

According to the Digital Economy and Society Index (DESI)<sup>60</sup>, which summarises the key indicators that measure the digital performance of EU countries, in terms of digital connectivity, both countries tend to score high in areas such as fast broadband coverage, 4G access and prices for the internet connection. The argument that the territory presents low prices for the internet connection is supported by the paper issued by the European Commission, Mobile and Fixed Broadband prices in Europe (2019) – as an example, the maps below show that both countries have relatively good prices for the fast internet connection classes.

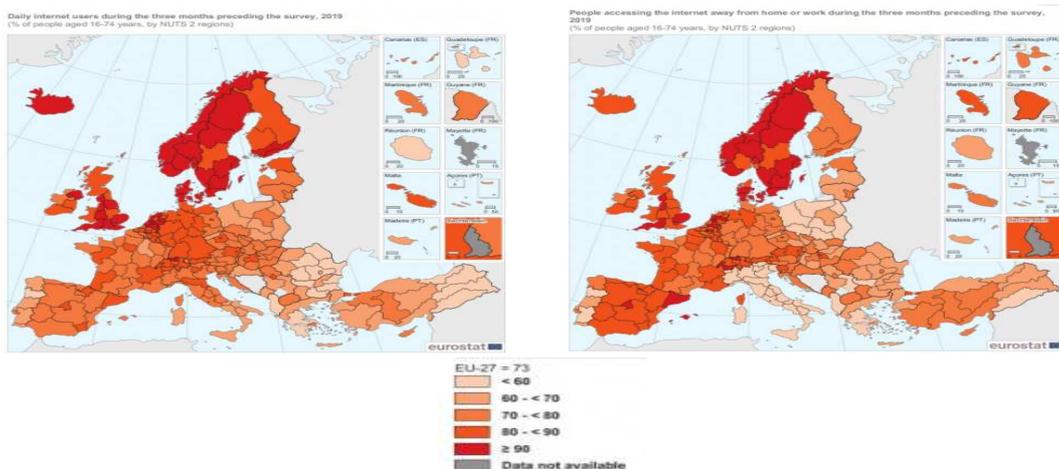


*Source: extract from the European Commission paper - Mobile and Fixed Broadband prices in Europe (2019)*

Separately, according to DESI, Italy's preparedness for 5G integration is rated as being extremely high, while on the Croatian side, this aspect is rated as being extremely low. On the other hand, both countries score low in terms of speed (100 Mbps) of fixed broadband.

In terms of internet users, the majority of the population in the Programme territory uses internet on a daily basis (as it can be seen in the graph below). However, in order to attain the objective of having a more informed and actively connected population, this aspect can be further improved in the coming period. On the other hand, the percentage of Italian population that access the internet away from home or from work is relatively lower than the EU average.

<sup>60</sup> Digital Economy and Society Index (DESI) – European Commission. [Link](#) Accessed on 22 April 2021



Source: European Commission, Digital Scoreboard

Another important aspect relates to the geographical specificity of the territory (existence of mountains, islands) and the existence of remote areas, which represent a challenge for digital connectivity, especially in terms of infrastructure set up. However, the territory has identified good practices examples related to technical solutions to connect those territories to a broadband connection.

### ***The stakeholders' opinion***

The **interviews with institutional territorial stakeholders** have confirmed the **need** of enhancing investments in digital infrastructure and of improving the internet connection speed, as an important factor that drive the success of businesses. The lack of broadband infrastructure or its low quality for more remote and rural areas has been a need reported by many respondents. Some stakeholders underlined however that the limited budget and scope of action of a CBC Programme could only allow “soft” cooperation measures to be approached in this framework.

In terms of **strengths**, some of the stakeholders emphasized on the availability of technologies for high-capacity networks, the upcoming 5G connectivity and the increasing demand of connectivity by both businesses and public services in the Programme areas.

## **3. Conclusions**

The EU policies and future financing possibilities focus on digitalization, as a central pillar of development for the society. Moreover, in the context of the coronavirus pandemic situation, the focus to increase digital connectivity is credited with an even higher importance.

The Programme territory presents the advantage of having in place good broadband coverage and 4G networks, that come with relatively low prices for the users. However, the digital divide between urban and rural areas and the absence of connectivity for more remote areas are aspects of weakness; also the digital literacy of the population – together with the number of users of the internet are aspects that show wide margins for improvement in the future.

## 4.6. Energy efficiency

### 1. Policy framework and general context

The United Nation's Agenda 2030 tackles energy efficiency through "SDG7 – Ensure access to affordable, reliable, sustainable and modern energy for all", which promotes global-level efforts to increase the energy efficiency improvement rate. The goal has been integrated in the European Green Deal, which dedicates a specific focus on the energy efficiency in the building sector.

In recent years, the European Union has taken significant steps towards improving the energy sector. An Energy Union strategy was published in 2015<sup>61</sup>. Under this strategy, the Commission aimed at diversifying Europe's sources of energy, enabling the free flow of energy through the EU by investments in infrastructure, improve energy efficiency, promote research and decarbonize the European economy.

Under this policy context, two major pieces of legislation have been issued in the domain of energy efficiency:

- The Energy Efficiency Directive 2018/2002/EU<sup>62</sup>, which built on the 20% energy efficiency target for 2020 and set a 2030 headline target of at least 32,5%.
- The Energy Performance of Buildings Directive 2010/31/EU, which aimed at the promotion of constructing "nearly zero-energy buildings", as of 31.12.2020. The directive determines nearly zero-energy buildings as *"a building that has a very high energy performance, as determined in accordance with Annex I. The nearly zero or very low amount of energy required should be covered to a significant extent by energy from renewable sources, including energy from renewable sources produced on site or nearby"*<sup>63</sup>.

Furthermore, the European Commission proposed in 2020 *"A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives"*<sup>64</sup>, which proposes a series of ambitious targets, such as the doubling of annual energy renovation rates in the next 10 years. Furthermore, the strategy aims to enhance the quality of life of people living in residential areas, reduce overall greenhouse gas emissions and create an additional 160.000 green jobs in the construction sectors across Europe.

At **macro-regional level**, the EU Strategy for the Adriatic-Ionian Region proposed several interventions that are indirectly related to improving the energy efficiency of the territory, in particular under **Pillar 2 – Connectivity**; the flagship project *"Power networks and market for a green Adriatic-Ionian region"* is expected to have a positive impact on the capacity for electricity storage, through both digitalization and smart-grids, so as to *"offer further opportunities for reducing costs"*.

<sup>61</sup> European Commission communication (2015). *A Framework Strategy for a Resilient Energy Union with Forward-looking Climate Change Policy*. COM/2015/080 final. [Link](#): Accessed on 20 April 2021

<sup>62</sup> European Union (2018). Directive (EU) 2018/2002 of the European Parliament and of the Council of 11 December 2018 amending Directive 2012/27/EU on energy efficiency. [Link](#): Accessed on 20 April 2021

<sup>63</sup> European Union (2010). *Directive 2010/31/EU of the European Parliament and of the Council on the energy performance of buildings (recast)*. [Link](#): Accessed on 20 April 2021

<sup>64</sup> European Commission (2020). *A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives*. COM/2020/662 final. [Link](#)

## 2. Territory's needs and strengths

Related to the energy efficiency targets of Directive 2018/2002/EU, the Commission has calculated the likelihood of meeting the national energy savings obligation by December 2020. In this sense, a key focus of the European Union is an increase in the energy efficiency of buildings, in the industrial sector and in the transport sector. At national level, Italy was reported as "unlikely"<sup>65</sup>, while Croatia was reported as being "very unlikely"<sup>66</sup> to meet their respective targets.

Related to the **building** sector, the latest assessment of the European Commission<sup>67</sup> concludes that *"the review of the cost-optimal minimum energy performance requirements for new and existing buildings undergoing major renovations and the implementation of the nearly zero-energy building standards are expected to improve the energy performance of the building stock in the short term"*. Also, Italy reported in its 2019 annual report that they had introduced new policy measures to speed up the rate at which the national energy savings obligation is met. In Croatia, *"major renovations and the implementation of the nearly zero-energy building standards are expected to improve the energy performance of the building stock in the short term"*.

The 2019 Commission assessment report, in relation to the **industrial sector**, states that most Member States (including Italy), have reported reductions in terms of energy intensity, but a marginal increase of 0.6% was observed at the level of Croatia.

On the part of the assessment related to the energy consumption in the **transport sector**, the report reveals an almost general increase at the level of the European Union. Significantly, Italy was amongst the seven Member States that decreased their energy consumption in this sector, with a reduction of 12%.

Focusing again on the building sector, it is evident that the commitment towards energy efficiency requires an effort towards the increase of "nearly-zero energy buildings". National data on their share of the construction market<sup>68</sup>, show relevant differences between the two participating Member States. In particular, in 2016, nearly-zero energy buildings represented over 20% of the construction market in Italy while in Croatia the 2016 value was slightly below the 20% threshold.

As the figure below indicates, both Italy and Croatia outperform the corresponding EU-28 average in terms of the total rate of energy-related renovations with significantly higher rates of renovation. Analysing in detail the trends by type of building, Italy records relatively better rates for non-residential buildings (17.40% rate of renovation), as opposed to the energy renovation of residential buildings (13.70% rate of renovation). For Croatia, this trend is reversed (21,70% vs. 18,80).

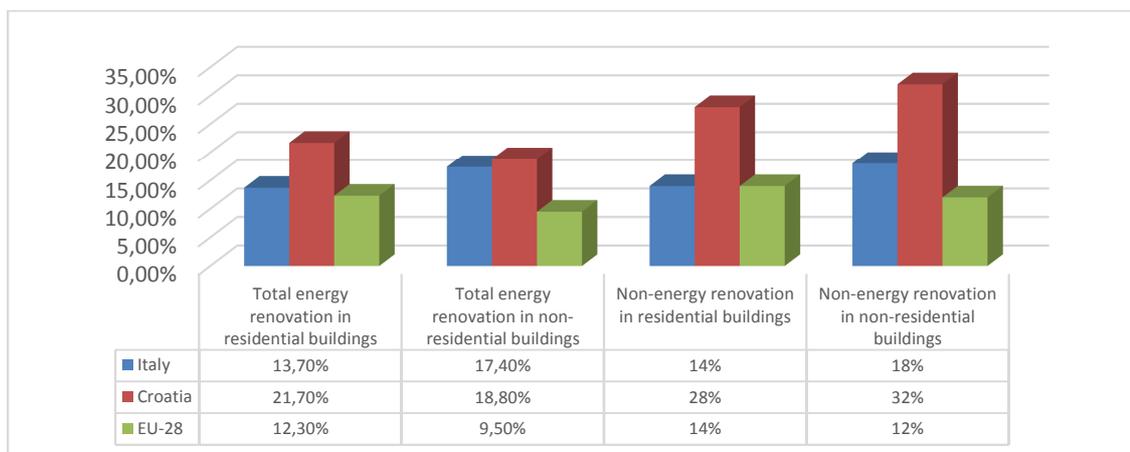
<sup>65</sup> Meaning: >75% and < 95% likelihood, according to the report under footnote no. 4

<sup>66</sup> Meaning: < 75% likelihood, according to the report under footnote no. 4

<sup>67</sup> European Commission (2020). *2019 assessment of the progress made by Member States towards the national energy efficiency targets for 2020*. [Link](#): Accessed on 20 April 2021

<sup>68</sup> European Commission (2019). *Comprehensive study of building energy renovation and activities and the uptake of nearly zero-energy buildings in the EU*. Final report. [Link](#): Accessed on 20 April 2021

Figure no. 30 Average total amount of energy and non-energy renovations in residential and non-residential buildings, 2012-2016 period.

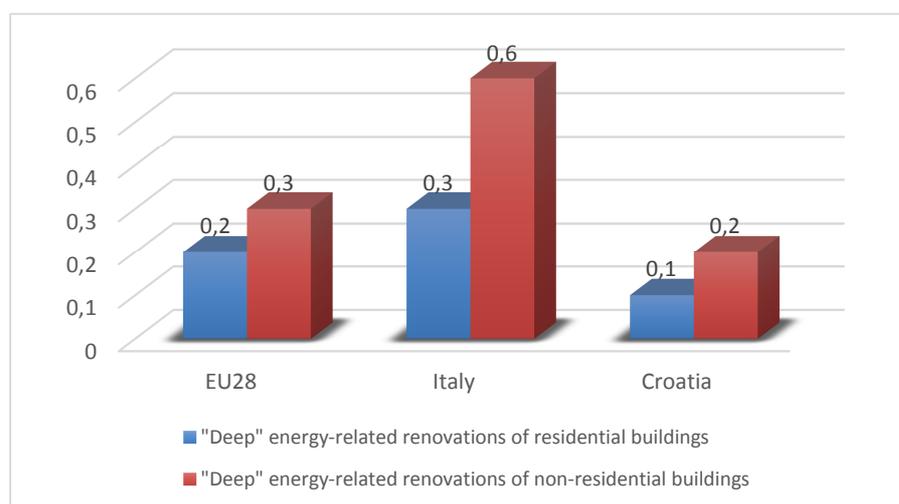


Source: European Commission (2019)

However, the European Commission’s report also distinguishes between types of renovation based on a PE-based classification. As such, “deep” energy related renovations were considered to have PE savings > 60%.

Based on this classification, only 0.2% of residential buildings had “deep” energy-related renovations in the 2012-2016 period at EU-28 level. Italy reported higher values (0.3%), while “deep” renovation rate was at 0.1% in Croatia. A similar trend was observed for non-residential buildings. In this case, the EU-28 average is 0.3%, while Croatia reported a rate of 0.2%. By comparison, Italy reported a rate of 0.6%

Figure no. 31 “Deep” energy-related renovations, 2012-2016, %



Source: European Commission (2019)

This in turn reveals that there are big differences between the two participating Member States not only in terms of the quantity of total energy-related renovations, but also in terms of quality of renovations, with Italy having an overall lower level of renovations but with a nevertheless higher rate of energy efficiency, while Croatia’s strategy is more concerned with the total output of energy-related renovation activities.

The overall long-term goal of improving energy efficiency through the promotion of nearly-zero energy buildings is the establishment of **net-zero energy districts**. A 2019 JRC technical report<sup>69</sup> provides 4 relevant case studies for the participating Member States.

In Croatia, at the level of Hvar Island, in the framework of project SOLUTION, 11 buildings were refurbished, 4 new eco-buildings were constructed, 9 photovoltaic systems with an energy production of 45 MWh/year were installed, together with 39 solar thermal systems with an energy production of 150 MWh/year and 1 biogas plant with the capacity to produce 200 MWh/year thermal and 150 MWh/year in form of electricity. The results of the projects were significant, as according to the paper, refurbished buildings managed to cut energy costs by an overall 68%, while newly constructed buildings reported energy savings of 55% compared to standard requirements.

In Italy, three projects were identified, with different areas of implementation (Turin, Alessandria and Tuscany). While none of the locations are in the programme area, the interventions reported very significant results, with measures aimed at the refurbishment of over 600 buildings (council houses, social houses, etc.), as well as retrofitting additional buildings and the implementation of a highly innovative geothermal district heating system using high-enthalpy fluid in Tuscany. Furthermore, in Alessandria, the intervention aimed at the construction of a 104-dwelling eco-village fuelled by polygeneration and solar energy, with sheltered housing for the elderly, a health centre and a kindergarten.

### ***The stakeholders' opinion***

Interviews with institutional territorial stakeholders revealed **needs** in line with the above described analysis in relation with the building sector. However, also the need of an increased efficiency of the productive sector has been underlined, particularly for the sectors of the Blue economy (ports, industries). The need of a more strategic approach, also to encourage private actors for efficiency measures (including increased recourse to ISO 50001 certification). The majority of stakeholders however underlined how the need of the sectors being mainly related to structural interventions, there is little space to intervene in the framework of a CBC Policy, if not in strict coordination with the mainstream ERDF programmes.

In terms of **strengths**, stakeholders particularly flagged the important results achieved by national/local policies and projects in some areas, the increasing awareness in the public and private domains and the increased availability for technologies to be applied. Also, the presence of positive public actions and incentives were reported.

Coming to the **webinars** held with local stakeholders, the participatory instruments applied led to the identification of the efficiency of public buildings as a particularly important need of the area. Participants also agreed that potentials of energy efficiency in the tourism and maritime sectors are particularly important for the area.

## **3. Conclusions**

The analysis revealed that, in terms of energy efficiency, the policy instruments set-up at the level of the European Union created the legislative framework for the improvement of energy efficiency activities, in particular building renovation, across the European Union.

<sup>69</sup> JRC (2019). From nearly-zero energy buildings to net-zero energy districts. [Link](#).

However, the two participating Member States have reported a trend of increasing the rate of energy-renovation of both non-residential and residential buildings, typically at values higher than the corresponding EU-level averages, but following different national patterns.

Investments in “deep” energy building renovation find the area strongly split between Italian territory, recording values much higher than the EU average and the Croatian territory, lagging behind (national values).

The stakeholder’s opinion confirmed the need of improvement in the efficiency of buildings, especially public ones. In addition, needs for efficiency – but also corresponding potentials – have been reported also for the business sector of the blue economy, especially tourism and maritime industry. While the stakeholders consider that the territory has important efficiency policies practices to share and transfer, their suitability within the framework of a CBC Programme raises several doubts, apart from the possibility of considering soft and research-related actions, possibly in coordination with the ERDF mainstream programmes.

## 4.7. Renewable Energy Sources

### 1. Policy framework and general context

Agenda 2030 and the United Nation's Sustainable Development Goals (SDG) also focus on affordable and clean energy (SDG 7). The global objectives related to renewable energy sources are particularly focused on:

- a) A general, world-wide increase in the proportion of renewable energy in total final energy consumption;
- b) A continuation of the rise in international financing for renewable energy.

At **EU level**, the Union has taken significant steps towards improving the energy sector at the level of the Union. During the tenure of the previous European Commission, the energy union strategy was published in 2015<sup>70</sup>. Under this strategy, the Commission aimed at diversifying Europe's sources of energy, enabling the free flow of energy through the EU by investments in infrastructure, improve energy efficiency, promote research and decarbonize the European economy. The strategy had a two-fold approach in significantly reducing EU-level greenhouse gas emissions. The first focus is on the general increase in energy efficiency, which was described in the previous chapter, whilst the second focus is on aggressively increasing the share of renewables in the total gross consumption of electricity at EU-level.

Developments directly related to renewable energy sources are related to the entry into force of Directive 2018/2001/EU on the promotion of the use of energy from renewable sources. As a whole, the policy document targets to reduce greenhouse gas emissions by at least 55% in 2030, throughout the European territory, but also to strengthen measures related to energy efficiency in sectors such as transport, heating and cooling<sup>71</sup>.

With the European Green Deal, the Commission has not only agreed on the establishment of the **Just Transition Fund**<sup>72</sup>, which is aimed at reducing the negative externalities which arise from the Member State's transition towards carbon-neutral economies, but also aims at prioritizing the development of a power sector largely based on renewable sources, together with the digitalization and interconnectedness of the EU energy market<sup>73</sup>.

At **macro-regional level**, The *European Union Strategy for the Adriatic and Ionian Region* tackles the deployment of renewable energy sources in accordance with the Clean Energy for All Europeans package, under **Pillar 2 – Connectivity** and within the framework of the **Energy Networks Subgroup**.

At **national level**, the *Integrated National Energy and Climate Plan for the Republic of Croatia for the period 2021-2030* aims to tackle the decarbonization dimension using two key elements: reduction of emissions and increase of renewable energy sources (RES). The main mechanism used by Croatia in aiding the development of renewable energy sources is stimulating pricing (feed-in tariffs), a

<sup>70</sup> European Commission communication (2015). *A Framework Strategy for a Resilient Energy Union with Forward-looking Climate Change Policy*. COM/2015/080 final. [Link](#): Accessed on 20 April 2021

<sup>71</sup> European Union (2018). *Directive (EU) 2018/2001 of the European parliament and of the Council on the promotion of the use of energy from renewable sources (recast)*. [Link](#): Accessed on 20 April 2021

<sup>72</sup> European Commission (2020). *Just Transition funding sources*. [Link](#): Accessed on 20 April 2021

<sup>73</sup> European Commission (2019). *Clean energy. The European Green Deal*. [Link](#): Accessed on 20 April 2021

practice which is expected to continue for 500 kW plants<sup>74</sup>. As such, Croatia estimates to achieve, by 2030, the following:

- A 63.8% share of RES in the electricity sector;
- A 36.6% share of RES in heating and cooling sector;
- A 13.2% share of RES in the transport sector.

In the case of Italy, the *Integrated National Energy and Climate Plan* also sets ambitious targets related to renewable energy sources:

- 55.0% renewables share in the electricity sector;
- 33.9% renewables share in the heating sector (for heating and cooling);
- 22.0% with regard to the incorporation of renewables in the transport sector<sup>75</sup>.

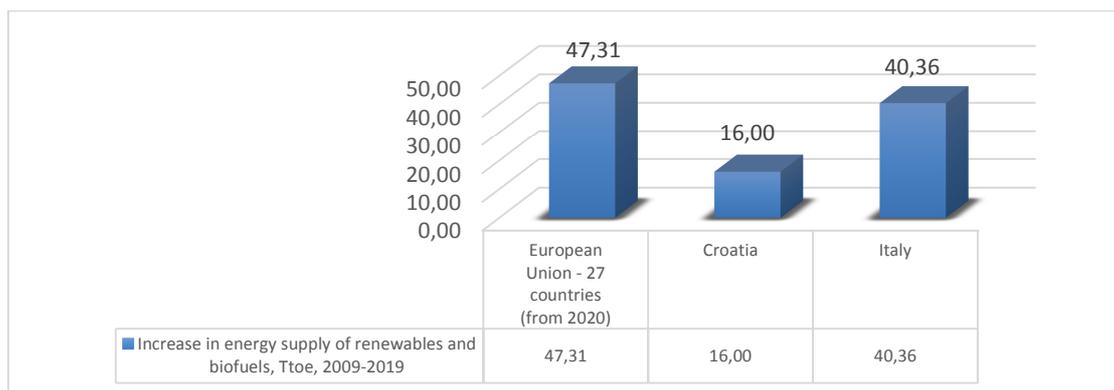
## 2. Territory's needs and strengths

According to the latest Renewable Energy Progress Report issued by the European Commission in 2019, in terms of the share of renewable energy in gross final energy consumption, both Italy and Croatia have already achieved a share corresponding to their 2020 target<sup>76</sup>.

In terms of energy supply from renewables and biofuels, data was collected at national level due to the unavailability of reliable data-sets at lower level of aggregation.

Data shows that the total supply of energy from renewables and biofuels, at EU-27 level has increased by 47.30% in the past 10 years. However, there are different rates of progress observed at the level of the participating Member States. For instance, in the same period of analysis, Italy's total supply of energy from renewables and biofuels increased by 40.35%, whereas the increase at the level of Croatia is less aggressive, at 16% over a 10-year period. Nevertheless, both Member States have made significant progress in their renewable energy supply.

Figure no. 32 Change in the energy supply of renewables and biofuels, Thousands Tonnes of Oil Equivalent, 2009-2019



Source: Eurostat

The evolution of the Croatian and Italian shares of energy supply from RES over the total EU27 shows a slight decrease in the long term: despite the increase at national level, both countries are

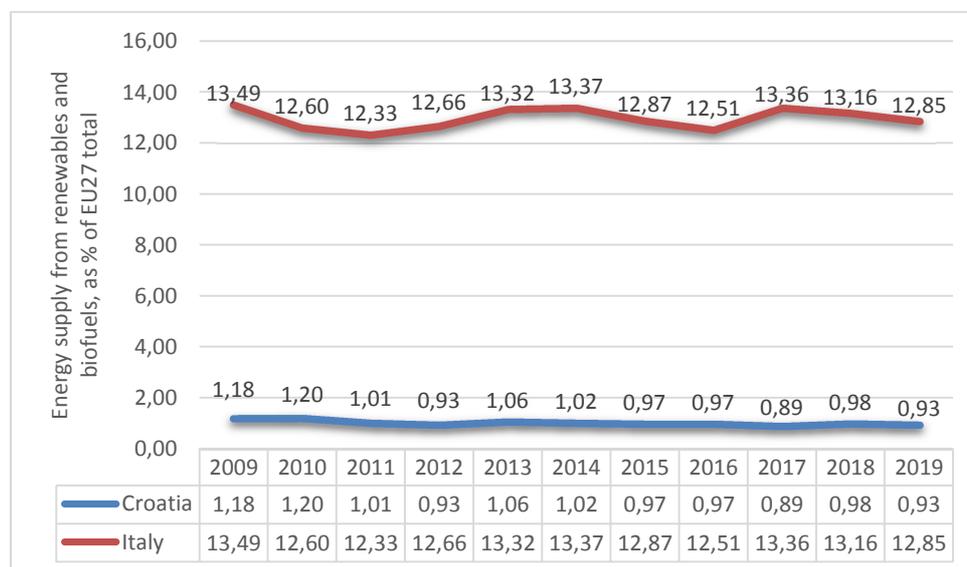
<sup>74</sup> Croatian Government (2019). *Integrated National Energy and Climate Plan for the Republic of Croatia for the period 2021-2030*. [Link](#); Accessed on 20 April 2021

<sup>75</sup> Italian Government (2019). *Integrated National Energy and Climate Plan*. [Link](#); Accessed on 20 April 2021

<sup>76</sup> European Commission (2019). *Renewable Energy Progress Report*. [Link](#); Accessed on 20 April 2021

covering a smaller share of the supply from RES in Europe in 2019, as compared to 2009: in other words, the growth of RES-based supply in the two countries is slower than the average growth at EU-27 level.

Figure no. 33 Energy supply from renewables and biofuels, as % of EU-27 total, Italy and Croatia, 2009-2019, thousands tonnes of oil equivalent (TOE)



Source: Eurostat

The “Orientation paper” of the European Commission<sup>77</sup>, considers that the area has medium potential for the exploiting of wind energy, both in and off shore. The potential of solar energy is considered to be high, while locally, hydro-power potentials are also reported to be high.

According to the *EU Blue Economy Report* for the year 2020<sup>78</sup>, the off-shore marine renewable energy sector is virtually non-existent in the Adriatic-Ionian Sea.

### The stakeholders’ opinion.

**Stakeholder interviews** revealed a unanimous need of better exploiting the huge potential of the area in terms of solar and wind energy production. A better awareness of the citizens and of the private sector are considered a need from some stakeholders. Some stakeholders underlined how the system of competences in this domain, as well as the need of heavy investments, makes it not suitable for an effective intervention within a CBC Programme, unless in strict coordination with the mainstream ERDF interventions.

The **webinars** with the participation of local stakeholders have further reiterated that the wind and solar energy potential of the Programme area is one of its key territorial strengths. On the other hand, many respondents considered that a need of the area would be to have a more comprehensive understanding of the potential of the various RES.

<sup>77</sup> European Commission, Cross-Border Cooperation in the Adriatic-Ionian Area, orientation paper, Ref. Ares(2019)7919639 - 27/12/2019, p.27.

<sup>78</sup> European Commission (2020). *The Blue Economy Report 2020*. [Link](#): Accessed on 20 April 2021

### 3. Conclusions

One of the main goals for the foreseeable future of the European Union is related to energy policy, in particular the promotion of energy generation through renewable sources. In this sense, there has been an important progress in both Member States in the total output of energy from renewable sources.

Both participating Member States have set ambitious targets for 2030 and aim to significantly improve the share of renewable energy in total gross energy consumption. However, data available at macro-regional level reveal that the marine renewable energy sector is highly underdeveloped. An important achievement is the fact that both participating Member States have achieved their 2020 renewable energy targets on-time and are perfectly positioned (in terms of geography, climate, overall potential and the extent of the current progress) to continue building on the positive developments observed in the previous years.

Nevertheless, in-depth analysis and stakeholder opinion indicates that, regardless of the progresses that have been made in terms of renewable energy generation, the Programme territory in particular is highly underdeveloped in comparison with its potential for renewable energy generation.

## 4.8. Smart Energy Systems

### 1. Policy framework and general context

The European Commission defines **smart grids** as energy networks that can automatically monitor energy flows and adjust changes in energy supply and demand accordingly<sup>79</sup>. Smart grids are typically deployed alongside **smart metering systems**, which further optimize the efficiency of the system.

At **EU-level**, the framework in which smart grids are deployed across Member States is established by Regulation No. 347/2013<sup>80</sup> which formalizes The Trans-European Networks for Energy (TEN-E) policy. Indeed, the Regulation establishes smart grids deployment amongst one of its three key policy pillars, and is intended to boost the “*adoption of smart grid technologies across the Union*”<sup>81</sup>.

At **macro-regional level**, one of the key interventions proposed by the **European Union’s Strategy for the Adriatic-Ionian Region** is directly related to smart-grids deployment and the realization of the TEN-E. **Pillar 2** aims at the development of an integrated power system and electricity market in the Adriatic-Ionian Region. The overall goal is expanding and interconnecting the national power systems, creating power market coupling while exploring opportunities for large-scale deployment of low-carbon energy sources and grid digitalization. Under this pillar, the flagship project *Power Networks and Market for a Green Adriatic-Ionian Region*<sup>82</sup> is directly related to increase energy efficiency in the area through the deployment of smart grids, together with a common digitalization effort. Amongst the proposed actions of the flagship project, it is intended to increase power market coupling and integration, as well as the digitalization of the power system, smart grids and deployment for renewable energy sources.

### 2. Territory’s needs and strengths

Available information in this domain shows relevant differences at national level between the two participation countries; however, differences can be explained not only by the different regulatory frameworks, but also by the fact that Croatia has joined the European Union in 2013, at a time when other EU Member States were already implementing smart-grid projects at a significant rate.

A 2017 report issued by the **Joint Research Center** revealed that investments in innovative smart grid-related projects differ between the two participating Member States, with Italy investing a significantly higher amount than Croatia. Indeed, as can be observed from Figure 1, in the 2004-2015 period, Croatia has been one of the lowest-ranking Member States in terms of smart grid investments.

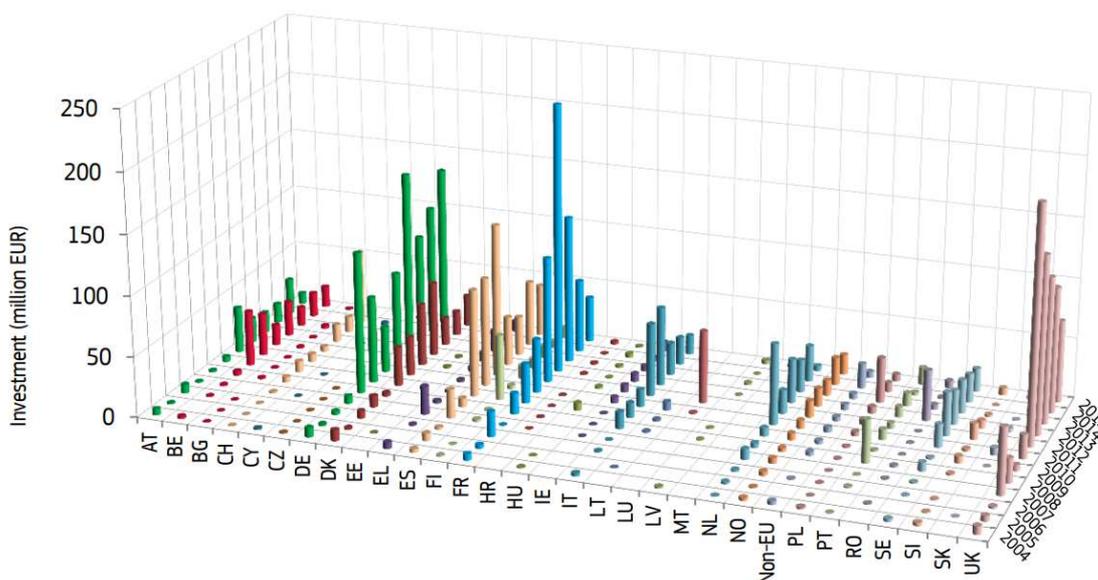
<sup>79</sup> European Commission (N.d.). *Smart grids and meters*. [Link](#): Accessed on 19 April 2021

<sup>80</sup> European Union (2013). *Regulation (EU) No. 347/2013 on guidelines for trans-European energy infrastructure*. [Link](#): Accessed on 19 April 2021

<sup>81</sup> Annex 1 of Regulation No. 347/2013

<sup>82</sup> EU Strategy for the Adriatic and Ionian Region (2020). Flagship projects. [Link](#): Accessed on 19 April 2021

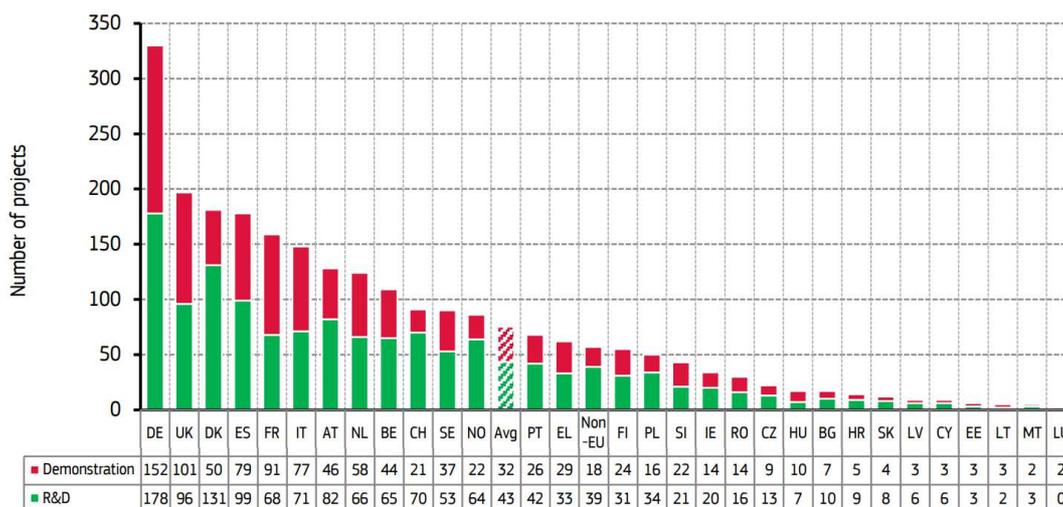
Figure no. 34 Investments in smart grid-related R&D projects by Member State, 2004-2015, Million EUR



Source: Joint Research Center (2017)

The difference in terms of investments can also be observed by looking at the number of smart grid-related projects implemented by Member State, which can be consulted in Figure 2. As it can be observed, Italy ranked 6<sup>th</sup> in the number of total projects, well above the EU-28 average, whereas Croatia was ranked amongst the lowest, but with significant numbers considering its accession to the EU of only some years before.

Figure no. 35 Number of smart grid-related projects implemented by Member State, 2004-2015.



Source: Joint Research Center (2017)

A **European Commission** report released in 2019 revealed that Italy is one of the most successful European Member States in terms of smart grids infrastructure, “as it was the first European country to introduce a large-scale deployment of remotely-read, advanced electricity meters for low-voltage end-users, and is the world’s first country in terms of the number of installed smart meters in

operation (over 35 million)<sup>83</sup>. On the other hand, the aforementioned report mentions that, despite the fact that Croatia does not have a specific legal framework for smart grids, there have been significant activities on smart grid deployments by local operators. However, in the absence of a specific regulatory framework at the level of Croatia, “up to 1/1/2018, electricity smart metering has reached a low degree of penetration in the country with only 2.3% of traditional meters replaced with smart meters”<sup>84</sup>.

### ***The stakeholders’ opinion.***

**Interviews** with territorial stakeholders revealed that indeed, there are different levels of progress present at the level of the Programme area. As such, the local stakeholders revealed a need to further develop the energy systems of the territories through smart energy systems, grids and storage, while the need is more strongly felt on the Croatian side of the Adriatic Sea. Nevertheless, some regional instances in the Southern Adriatic coast of Italy also reported a need to further develop the energy grid. Several stakeholders, however, express the concern that the type of intervention needed would not fit within the scope and the budget of a CBC Programme, unless strictly connected with the mainstream ERDF interventions.

In terms of **strengths**, some local stakeholders mentioned the positive effects of the deployment of smart grids in Northern Italy, while others indicated a positive sentiment towards the deployment of smart grids in Adriatic Croatia, both due to the growing number of new buildings, private apartments and hotels that could benefit from smart energy systems, but also due to the commencement of other EU-funded projects directly related the present domain. Lastly, the **webinars** revealed that there is an increasing need for the establishment of a strategic approach to energy policy.

## **3. Conclusions**

Smart grids are one of the most crucial energy-related topics if the European Union and its Member States desire to achieve the degree of energy efficiency that is requested by the legislative framework of the Union through its Directives and Regulations. Furthermore, there is an increasing interest in the further development of the grids, including in the macroregional strategic framework.

The analysis furthermore revealed that Italy is the leading Member State in terms of smart meters and one of the leading nations in overall smart grid deployment, in particular due to the progress registered in Northern Italy. Nevertheless, it is important that Croatia received the appropriate support to catch up with the rest of the Member States in terms of upgrading its electrical grid, as Croatia formally joined the European Union in 2013.

Nevertheless, though important progresses have been observed in the Programme area, it is important to consider that, without a strong development of the grids on both the Croatian side, and in the South Adriatic Coast of Italy, imbalances in the rate of deployment of smart grids will continue to remain observable at the level of the Programme area.

<sup>83</sup> European Commission (2019). *Benchmarking smart metering deployment in the EU-28*. Final report. [Link](#): Accessed on 19 April 2021

<sup>84</sup> European Commission (2019). *Supporting Country Fiches accompanying the report Benchmarking smart metering deployment in the EU-28*. [Link](#): Accessed on 19 April 2021.

## 4.9. Climate Change Adaptation and Disaster Risk Prevention

### 1. Policy framework and general context

United Nations' Agenda 2030 dedicate its Strategic Development Goal (SDG) n.13 to "Climate action". One of the main global targets there established is to "Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries"<sup>85</sup>.

In the framework of the European Green Deal, the EU has adopted its Climate Adaptation Strategy in February 2021, establishing the following four strategic objectives<sup>86</sup>: a smarter and more knowledge-based adaptation to better manage uncertainty, a faster adaptation, a more systemic adaptation at all governance level and economic sectors and stepping up international action for climate adaptation. The 14 actions underpinning the objectives and the commitment from Member States will be discussed in the Environmental Council in June 2021.

In the domain of disaster risk prevention, the main EU strategic framework is represented by the EU Civil Protection Mechanism, covering the three main aspects of civil protection activities which are: prevention, preparedness and response to disasters<sup>87</sup>. In this framework, starting 2009, Member States have started to report to the EU their national risk management reports, last cycle of which dates back to 2018.

At Member-State level, Croatia adopted a Draft Climate Change Adaptation Strategy for the period to 2040 with a view to 2070<sup>88</sup>, with very large interventions that are inter-connected with domains such as coastal area management, health, tourism, energy and biodiversity. A plethora of measures have been proposed, such as *Strengthening research and management capacities to assess the occurrence and risk of adverse impacts of climate change and adaptation of freshwater and marine water system in current and future climatic conditions* and *Strengthening the capacity for systematic monitoring of forest ecosystem conditions as a prerequisite for informed planning and implementation of climate change adaptation*.

The 2014-2020 Italy-Croatia Interreg Programme has well paved the way for cross-border cooperation in both domains, by dedicating to it its Priority n.2, "Supporting investment for adaptation to climate change, including ecosystem-based approaches, and to address specific risks, ensuring disaster resilience and developing disaster management systems". Under specific objective 2.1 "Improve the climate change monitoring and planning of adaptation measures tackling specific effects, in the cooperation area" 9 projects – of which 1 strategic- were funded, while under specific objective 2.2 "Increase the safety of the Programme area from natural and man-made disaster" the projects funded have been 7-2 strategic.

<sup>85</sup> UNDP, Agenda 2030 ([link](#) accessed on 24 april 2021)

<sup>86</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 24/02/2021 - COM(2021) 82 final: Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change. [link](#) accessed on 24/04/2021.

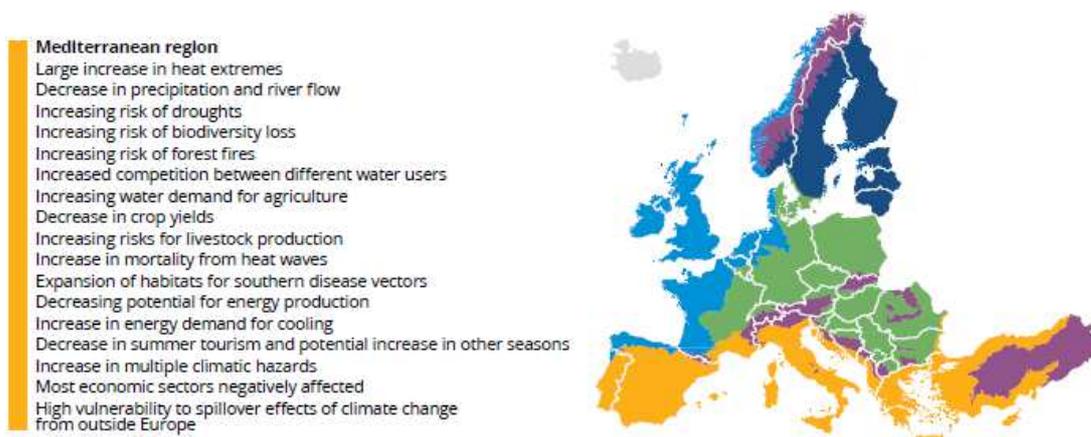
<sup>87</sup> European Commission, European Civil Protection and Humanitarian Operations (ECHO) - [link](#)

<sup>88</sup> European Commission (2020). Draft Climate Change Adaptation Strategy in the Republic of Croatia for the period to 2040 with a view to 2070 (White Book). [Link](#).

## 2. Territory's needs and strengths

The Orientation Paper of the European Commission<sup>89</sup>, reports that the area has been assessed as having medium-to-very high environmental sensitivity to climate change.

The following figure, extracted from the 2021 “Impact assessment report”<sup>90</sup> which accompanied the abovementioned Commission Communication on Climate Change Adaptation Strategy, synthesizes in the best ways the risks related to the impact of climate change in the Programme area, as part of the wider Mediterranean Region:



Source: Commission Staff Working document SWD (2021), “Impact assessment report”

However, climate change related hazards depend on global phenomena that can't be tackled at the level of the area, and the key need is related to the capacity of adaptation to such hazards.

It is important to mention that there are two main **causes** of climate change at global level. The first is related to natural processes, such as changes in Earth's orbit, biotic processes, variations in solar radiation received by Earth, volcanic eruptions, oceanic and orogenic changes due to plate tectonics, etc.<sup>91</sup> The second typology of causes are anthropogenic<sup>92</sup>. Indeed, energy production is the principal contributor to the release of greenhouse gases (GHG) at global level, in particular Carbon Dioxide, to the atmosphere with fossil fuel combustion being identified as the primary factor<sup>93</sup>. Other scientific sources identified the cattle and dairy industry as a significant contributor to the release of GHG emissions, in particularly methane<sup>94</sup>.

<sup>89</sup> European Commission, Cross-Border Cooperation in the Adriatic-Ionian Area, orientation paper, Ref. Ares(2019)7919639 - 27/12/2019, p.27.

<sup>90</sup> Commission Staff Working document SWD (2021) 25 final of 24/02/2021, “Impact assessment report accompanying the document: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 24/02/2021 - COM(2021) 82 final: Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change”, page 247, [link](#) accessed on 24/04/2021.

<sup>91</sup> Miodrag M. Mesarovic (2019). Global warming and other climate change phenomena on the geological time scale. Journal of Thermal Science, Vol. 25, pp. S1435-S1455.

<sup>92</sup> Originating from human activity.

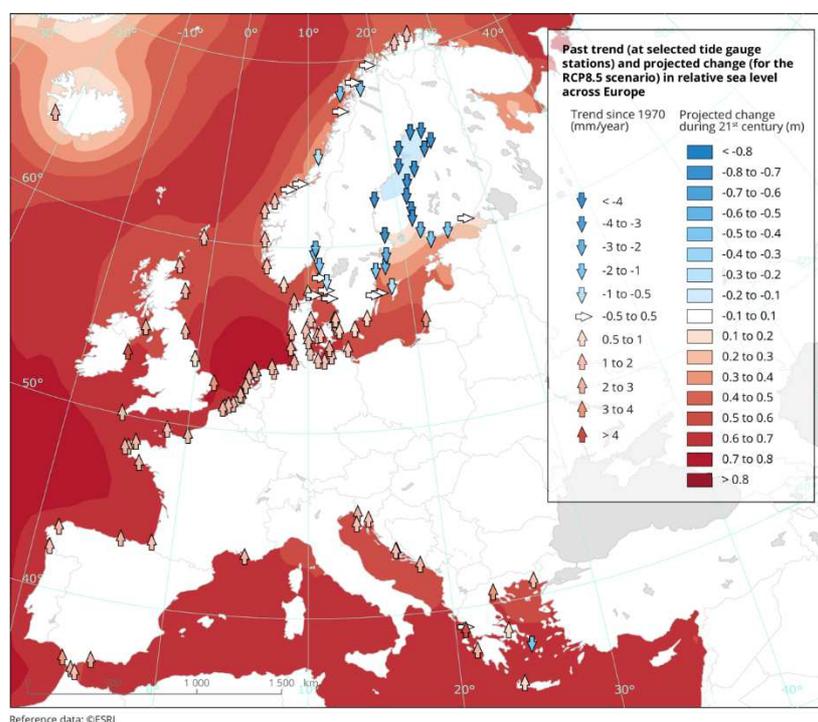
<sup>93</sup> Mikael Hook & Xu Tang (2013). Depletion of fossil fuels and anthropogenic climate change – a review. Journal of Energy Policy, Vol. 52, pp. 797-809.

<sup>94</sup> K.A. Johnson & D.E. Johnson (1995). Methane emissions from cattle. Journal of Animal Science, Volume 73, Issue 8, pp. 2483-2492.

There are, however, climate change-related negative phenomena, which include those phenomena that appear as an effect of the increase in global average temperature. A 2014 report on the possible impact of climate change described at the level of Southern Europe, which includes the programme area, described possible negative consequences in terms of hydropower generation, energy consumption, coastal flood damages, heat wave mortality and morbidity and water quality<sup>95</sup>.

One key climate change-related phenomenon which needs specific attention is the one related to the relative sea level change in the Adriatic. The following map shows the past trends and the future projection of Adriatic waters rise, also in comparison with the other seas and oceans in Europe. A relative sea level change of +0,5 m is forecasted to happen in the Adriatic by the year 2100, as compared to the 0,2/0,3 m increase already recorded between 1970 and the present day.

Figure no. 36 Past trend and projected change in relative sea level across Europe 1970–2100



Source: [EEA 2020](#)

The increase in frequency and intensity of extreme weather patterns as a consequence of climate change, is also a worrying risk: data from the European Environmental Agency show how climate-related events between 1980–2019 caused in Italy 20,735 fatalities, with losses of EUR 72,534 million, and caused in Croatia 722 fatalities, with EUR 3,202 million losses<sup>96</sup>. As an example, heavy

<sup>95</sup> Kovats, R.S., R. Valentini, L.M. Bouwer, E. Georgopoulou, D. Jacob, E. Martin, M. Rounsevell, and J.-F. Soussana, 2014: Europe. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Barros, V.R., C.B. Field, D.J. Dokken, M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L.White] . Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1267-1326

<sup>96</sup> EEA 2020 Impacts of extreme weather and climate related events in the EEA member countries and the UK (1980–2019), [Link](#), Accessed on 8 April 2021

sea storms and meteotsunamis are specific extreme weather events observed increasingly in the Adriatic<sup>97</sup>, with the Croatia registering 27 such events between 1931 and 2018.

Programme area is not exposed only to climate change related hazards. Not all of them are natural risks either. The main reference for an appraisal of the disaster risks of the area are the national risk assessment reports<sup>98 99</sup>. The following table indicates which are the risks assessed respectively for Italy and Croatia in such documents.

However, the fact that a hazard is not included in the national assessment reports does not necessarily mean that it is not covered by the national/regional civil protection systems.

The table also proposes a three-levels cross-border risk relevance assessment, resulting from combining the territorial extension of the risk in the programme area with the degree of intensity of risk as assessed (in different scales) in each country.

**Tabel no. 6. Disaster risks for the Programme area reported in Croatian and Italian national risk assessments: cross-border relevance own assessment**

Risk	National assessment for Croatia	National assessment for Italy
Floods (inland waters)	Assessed, very high risk in Lika-Seni, Split, Dubrovnik-Neretva, Karlovac; high risk in Sibenik-Knin medium risk in the rest of the Programme area;	Assessed, very high in Emilia Romagna, High in Veneto and FVG, low elsewhere
Earthquake	Assessed, high risk in Istria and Karlovac, very high risk elsewhere in the Programme area	Assessed, very high risk in NUTS 3 Udine, Pordenone, Macerata, Chieti, Pescara, Campobasso, Foggia; High risk: Gorizia, Ravenna, Forlì-Cesena, Rimini, Pesaro, Ancona, Ascoli Piceno, Teramo, Barletta-Andria-Trani.
Wildfires	Assessed, very high risk for Lika-Senj, Zadar, Sibenik-Knin, Split-Dalmatia, high risk for Istria, Karlovac, Dubrovnik-Neretva, moderate risk all other areas of the Programme area	Assessed, very high risk for whole Programme area except Udine, Pordenone, Venezia, Padova
Snow and ice	Assessed, High risk for Primorje-Gorski-Kotor, low/moderate for the rest of Programme area	Assessed, moderate risk in Marche, low elsewhere
Droughts	Assessed, low/moderate risk for the Programme area	Assessed at national level
Landslides	Assessed, high risk in Istria, Primorje-Gorski-Kotor, Lika-Senj,	Assessed. High risk areas in Marche, Abruzzo, Molise, low risk

<sup>97</sup> Ferrarin, Carraro et al., *Integrated sea storm management strategy: the 29 October 2018 event in the Adriatic Sea*, in Nat. Hazards Earth Syst. Sci., 20, 73–93, 2020

<sup>98</sup> For Croatia: Government of the Republic of Croatia, main working group of the Croatian risk reduction Platform; Disaster Risk Assessment for the Republic of Croatia, 2019;

<sup>99</sup> For Italy: Presidency of the Council of Ministers, Italian Civil Protection Department; National risk assessment – updated December 2018

Risk	National assessment for Croatia	National assessment for Italy
	Karlovac, moderate for the rest of the Programme area	elsewhere.
Plant disease	Assessed, low risk for Programme area	Not included in the national risk assessment report
Animal disease	Assessed, low risk for Programme area	Not included in the national risk assessment report
Heat waves	Assessed, high risk for the whole Programme area	Not included in the national risk assessment report
Epidemics and pandemics	Assessed, high risk for the whole Programme area	Not included in the national risk assessment report
Industrial accidents	Assessed, high risk for Programme area (7 sites with potential domino effects in Istria, Primorje-Gorski-Kotor, Zadar, Split, Dubrovnik-Neretva)	Not included in the national risk assessment report
Land salinization	Assessed, high risk for Dubrovnik-Neretva, low/moderate risk for the rest of Programme area	Not included in the national risk assessment report
Multiple hazards scenarios	Assessed,	Not included in the national risk assessment report
Nuclear	Assessed, moderate risk	Not included in the national risk assessment report
Radioactive accidents	Assessed, moderate risk	Not included in the national risk assessment report
Marine oil spills	Assessed, moderate risk	Not included in the national risk assessment report
Tsunami	Not included in the national risk assessment report	Assessed, low risk (northern Adriatic) moderate risk (southern Adriatic)

(Source: our elaboration on national risk assessments. Legend: Red – Widespread and High risk, orange – regional and high risk, yellow - localized high risk, green – moderate/low risk. Colours are resulting from our assessment based on the specific – and differently scaled – degrees of risk established in the national reports)

According to national assessments, earthquakes appear as risk with very high level, followed by landslides and wildfires.

One of the key findings when cross-analysing the national risk assessment relates to the completely different approach to the assessment itself: methodologies of assessment are different, as well as the scope of the risks assessed. In this sense, certain risks, such as tsunamis, multiple hazard scenarios and industrial accidents are included in one national risk assessment, but not in the other. The need for a higher coordination of the assessment process is evident, at least for those hazards which are common for the programme area. For example hazards related to the coastal Adriatic area need to be better analysed (tsunamis are only identified, not analysed in one of the Hazard assessments and oil-spills in the sea are not even reported in one of the national risk assessments).

A process partly related to climate change with a significance for Adriatic Sea is coastal erosion. Due to different coastal geomorphology and geology, erosion presents greater risk to Italian coasts.

Already in 2004, the EuroSION project<sup>100</sup> – still the last pan-european institutional study on coastal erosion- classified Emilia-Romagna’s coasts as with “very high exposure” erosion, while Veneto and Puglia’s coast were classified as “high exposed”.

A report from 2017<sup>101</sup> calculated that Emilia Romagna had lost 13,8 squared KMs of its coasts between 1960 and 2012, while Veneto 10,3. The two regions together represent more than 68% of the Italian coast lost by coastal erosion in the period.

### ***The stakeholders’ opinion***

The **interviews** with the territorial stakeholders confirmed that risks related to earthquakes, floods and landslides – but also coastal erosion – are the most important for the Programme area. Many respondents highlighted the **need** for a better coordination of the civil protection strategies and systems, in terms of alert management and protocols, including early warning systems, but also concerning reconstruction management. Need for better climate change adaptation strategies are also reported, not only for the society in general but also for the protection of the economy (primary sectors) and the heritage. Stakeholders from the Croatian side also underlined the need for better infrastructure and equipment to improve risk management policies. In terms of **strengths**, respondents mentioned mainly the ongoing Italy-Croatia cooperation projects, which are perceived as an important basis to build on, as well as the good governance practice in force in some of the territories. The public opinion attention and the massive funding awaited in this domain in the new Multiannual Financial Framework are two other positive factors to be trusted in.

The webinars with local stakeholders highlighted the needs for an effective risk reduction and for effective climate change adaptation plans as the most important for the area, while the area’s potential for nature-based solutions has been the positive factor mostly chosen.

## **3. Conclusions**

Natural processes influenced by climate change represent a significant threat to the entire Programme area,. The impact of climate change on the society, the environment and the economy of the Programme area requires coordinated adaptation plans. Heath waves, coastal erosion and increased frequency and intensity of extreme weather are the immediate hazards.

Although not present in all parts of the Programme area hazards such as earthquake, landslide, drought, wildfires and flood also present significant threats. While in some territories effective risk management policies are in place and cross-border cooperation has started with the important projects funded in the 2014-2020 period, there is a wide spectrum of needs that still needs to be tackled: a more effective and strategic approach to climate change adaptation plans, a stronger cooperation of the disaster risk management systems throughout all the phases:1. prevention, mitigation and preparedness, 2. response and 3. recovery..

<sup>100</sup> <http://www.euroSION.org/index.html>; lastly consulted 26 of April 2021

<sup>101</sup> Ministry of Environment, Direzione generale per la salvaguardia del territorio e delle acque L’EROSIONE COSTIERA IN ITALIA , updated 2017. [Link](#) – last accessed 26/04/2021

## 4.10. Access to Water and Sustainable Water Management

### 1. Policy framework and general context

At **European Union level**, the key enabling document related to the water management in Europe is the *European Strategy for Water Management 2008-2028*, which in general sets ambitious objectives in terms of water supply and drainage systems reconstruction and extension, strongly underpinned by funding from ERDF/CF programmes. Indeed, the Water Framework Directive<sup>102</sup> establishes some policy directions such as keeping water abstraction below 20% of available renewable water resources, keep compliance with bathing water quality and achieve a good environmental status in the marine environment by 2020.

Furthermore, Council Directive 98/83/EC on the quality of water intended for human consumption<sup>103</sup> aims to protect human health from the adverse effects of any contamination of water intended for human consumption. As such, the directive establishes minimum performance characteristics related to the presence of substances in drinking water for over 30 individual substances such as ammonium, arsenic, benzene, cadmium, mercury, etc.

### 2. Territory's needs and strengths

Council Directive 98/83/EC on the quality of water intended for human consumption also established the monitoring framework for the assessment of drinking water quality. Unfortunately, the last monitoring exercise covered the 2011-2013 period and as such, the findings of the analysis with regards to the quality of drinking water is minimal and covers only Italy, as Croatia was not a member of the European Union at the time of the monitoring exercise.

Nevertheless, the analysis shows that Italy had had over 99% compliance with all the parameters listed in the water drinking directive. In terms of microbiology parameters, Italy reported a 99.16% compliance in 2013. In terms of chemicals, the rate of compliance was reported at 99.55%, while regarding pesticides, the country had almost reported full compliance with the parameters, missing the 100% mark by 0.2 percentage points.

**Tabel no. 7. Compliance information for the parameter groups in Italy (2011-2013)**

No.	Parameter group	2011	2012	2013
1	Microbiology	99.17 %	99.29 %	99.16 %
2	Chemicals	99.34 %	99.78 %	99.55 %
3	Indicator parameters*	99.58 %	99.58 %	99.62 %
4	Pesticides (incl. short list, pest. total, pest. individual)	99.99 %	99.93 %	99.98 %

*Source: European Topic Centre (2013)*

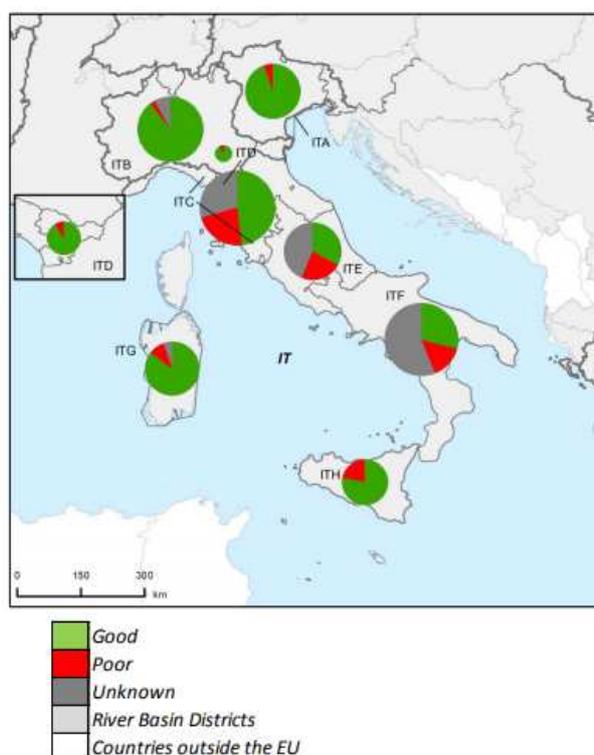
<sup>102</sup> "Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy" [Link](#): Accessed on 19 April 2021

<sup>103</sup> Directive 98/83/EC on the quality of water intended for human consumption. [Link](#): Accessed on 19 April 2021

At the level of Croatia, according to a report provided by the Croatian Institute of Public Health for the year 2017, different results were reported by different actors. Indeed, in 2017, the report mentions that public water service providers analysed 69,700 samples for chemical parameters and 47,110 samples for microbiological parameters under the self-monitoring system. The results indicated that 0.99% of those were chemically defective (did not meet the required standard laid out by Directive 98/83/EC), while 0.69% of the sample did not meet the standard in terms of microbiological parameters.

In terms of the implementation of the Water Framework Directive, Italy finished its second monitoring cycle in 2019. The report<sup>104</sup> reveals that there have been multiple progresses made by the Italian authorities regarding the implementation of the Water Framework Directive. Firstly, the report noted that there has been a net increase in monitoring sites and surface water bodies monitored for operational purposes, with an increase of 819 sites and 832 water bodies. Furthermore, the figure below shows a map of the quantitative status of groundwater bodies based on the most recently assessed status of the groundwater bodies in Italy. The map furthermore shows the big differences in terms of the quality of groundwater between northern and central/southern Italy, with northern Italy being perhaps the most developed area in terms of the quality of groundwater bodies. Lastly, in terms of water abstraction, the report mentioned that minimal progress has been made by Italy, with the exception of the adoption of National guidelines to the Regions on the methodologies for the quantification of volumes of water used for irrigation.

Figure no. 37 Map of quantitative status of groundwater bodies based on the most recently assessed status of the groundwater bodies, Italy, 2019

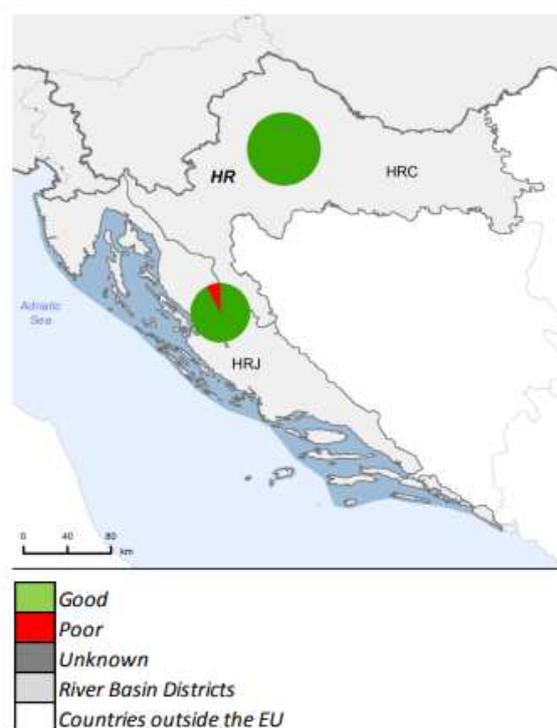


Source: European Commission (2019)

<sup>104</sup> European Commission (2019). Second River Basin Management Plans – Member State: Italy [Link](#): Accessed on 19 April 2021

For Croatia, the Commission report<sup>105</sup> reveals that the Member State has also made significant progress in the number of sites used for surveillance and operational monitoring, albeit at a lower rate of improvement. Indeed, in Croatia, the numbers of operational monitoring and surveillance sites increased only marginally, with Jadranska Hrvatska registering a net increase of 19 monitoring sites. In terms of the quantitative status of groundwater bodies, the results of Croatia are more positive. Indeed, as can be observed in the figure below, 32 out of 33 groundwater bodies at national level were reported in good status, with the only groundwater body with poor status being reported in the Adriatic Croatia. In terms of water abstraction, limited results are provided by the report. No information was reported about the fixed or required time period for water abstraction permit reviews. During the first monitoring period, the commission issued a recommendation to “Ensure that abstraction controls are in place by the time of the second River Basing Management Plans”. While the Croatian government planned to improve the water information system, to update the register of water rights and to establish verification and controls, also through imposing the obligatory installation of water meters for all abstractions, the planned measures are yet to be implemented. Therefore, the Commission considered the recommendation to be partially fulfilled.

Figure no. 38 Map of quantitative status of groundwater bodies based on the most recently assessed status of the groundwater bodies, Croatia, 2019



Source: European Commission (2019)

### Stakeholder's opinion

Stakeholders' interviews revealed that the needs of the Programme area in terms of water management and access to water are highly localized and dependent on geographical positions. Italian stakeholders confirm the results of the analysis, with multiple local stakeholders mentioning that water quality and access to water is critical in southern Italian regions, as northern Italy report

<sup>105</sup> European Commission (2019). Second River Basin Management Plans – Member State: Croatia [Link](#): Accessed on 19 April 2021

high levels of water quality. Indeed, some southern Italian regions mentioned that, due to weak and scarce water resources, they are considered net importers of water, with a huge need for the agricultural and productive sectors. On the other hand, Croatian stakeholders mentioned that rising sea levels risk affecting some primal water sources, in particular in those regions that are very close to the Adriatic sea, while the large number of permeable septic tanks makes it more easily for environmental pollution to occur in the area. In terms of **strengths**, stakeholders in both sides of the Adriatic mentioned that indeed, the programme area has an ample supply of fresh water, especially groundwater bodies that are in general properly managed

The **webinars** revealed that the adoption of smart water management systems is the most important need of the Programme area, followed closely by the need to deploy more modern infrastructure for water management. Additionally, stakeholders revealed that the Programme area has significant potential for rain and waste water reuse.

### 3. Conclusions

The analysis revealed that the Programme area and the two participating Member States have reported distinctly different progresses in terms of the implementation of the Water Framework Directive on the one hand, and on the implementation of the Drinking Water Directive on the other hand. In terms of drinking water, analysed data and reports reveal that Italy has a generally higher level of purity of drinking water reported.

On the other hand, fresh water reserves are reportedly cleaner in the Croatian side of the Programme area. Indeed, in the last monitoring cycle, only one groundwater body was identified as being of low quality in Adriatic Croatia, while Southern Italy particularly suffers from this issue.

Nevertheless, there is a common opinion amongst stakeholders (and confirmed by the analysis) that the Programme area is very rich in freshwater resources which in turn requires a high level of attention in monitoring. Indeed, modernizing the water management infrastructure is one of the most important needs of the Programme area in this domain.

## 4.11. Circular Economy

### 1. Policy framework and general context

At global level, the development of circular economy practices is recognized at the level of the United Nation's Agenda 2030, in particular under Sustainable Development Goal 12 – Reduce consumption and production. In particular, the United Nations stressed out that *“urgent action is needed to decrease our reliance on raw materials and increase recycling and circular economy approaches to reduce environmental pressure and impact”*<sup>106</sup>.

At **EU level**, the key enabling documents which provide the framework for action in terms of circular economy are **The European Green Deal**<sup>107</sup>, which is particularly focused on the policy area of *Mobilizing industry for a clean and circular economy*, which is directly correlated with the **EU action plan for the Circular Economy (CEAP) II**<sup>108</sup>, which was adopted in March 2020.

The plan contains 35 actions, which contributes to 6 main objective that have been established and that are directly related to advancing towards a circular economy:

- a) To make sustainable products the norm in the EU;
- b) To empower consumers and public buyers;
- c) To focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water and nutrients;
- d) To ensure less waste;
- e) To make circularity work for people, regions and cities;
- f) Lead global efforts on circular economy.

At **macro-regional level**, EUSAIR proposes the development of novel eco-friendly end products that serve circular economy under **Pillar 1 - Blue Growth** and the development of circular economy projects in ports finding solutions in turning waste to products due to their ideal background under **Pillar 2 – Connectivity**.

### 2. Territory's needs and strengths

The EU's monitoring framework of circular economy indicators is used to provide the statistical analysis of the present domain. However, only national data was available at the time of writing of the present territorial analysis. As such, we considered the following indicators: **recycling rate of municipal waste, circular material use rate** and **share of persons employed in circular economy sectors**.

Figure 1 presents the **circular material use**<sup>109</sup> rate at the level of the two participating Member States. As can be observed, the average circular material use rate at EU-27 level was 11.9%, which is significantly lower than the 19.3% observed in Italy. Nevertheless, Croatia is particularly

<sup>106</sup> United Nations (2020). Sustainable Development Goals Report 2020. [Link](#): Accessed on 21 April 2021

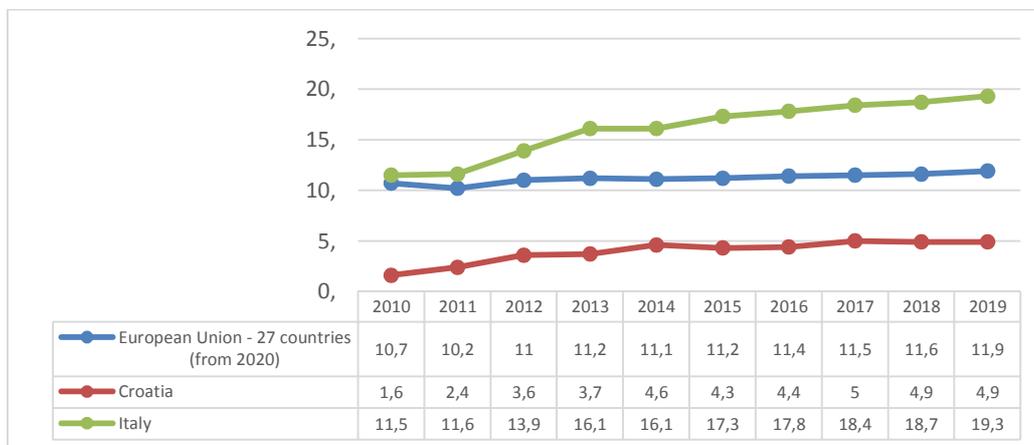
<sup>107</sup> European Commission (2020). *The EU Green Deal – a roadmap to sustainable economics*. [Link](#): Accessed on 21 April 2021

<sup>108</sup> European Commission (2020). *Circular Economy Action Plan*. [Link](#): Accessed on 21 April 2021.

<sup>109</sup> The indicator measures the share of material recovered and fed back into the economy - thus saving extraction of primary raw materials - in overall material use. The circular material use, also known as circularity rate is defined as the ratio of the circular use of materials to the overall material use.

underperforming the EU-27 average, even though it has seen significant progress in the past 10 years.

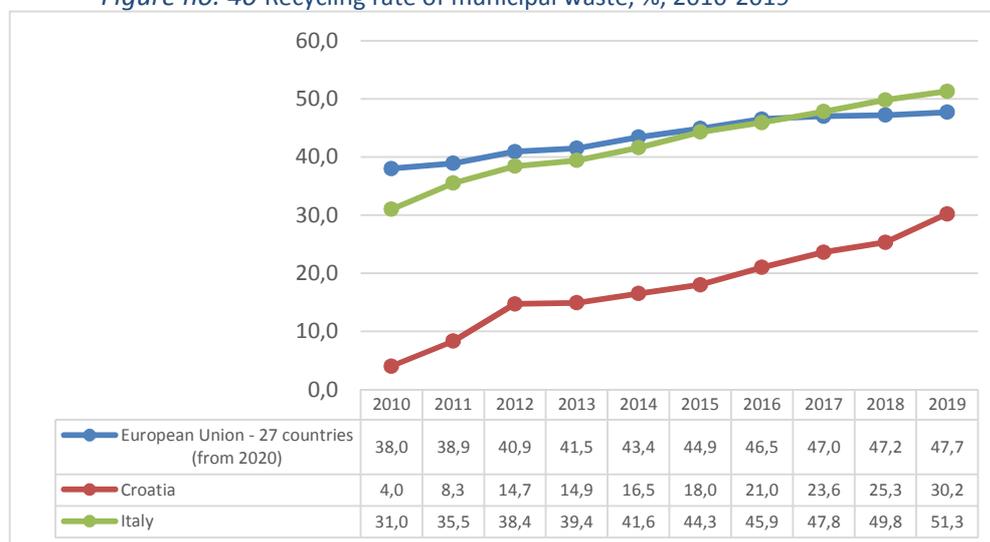
Figure no. 39 Circular material use rate, 2010-2019, Member State level, %



Source: Eurostat

In terms of the **recycling rate of municipal waste**, we can observe that, even though the two Member States were performing worse than EU average in 2010, this is not the case in 2019. This is due to the fact that both Italy and Croatia have made very significant progresses in their recycling rates and as such, Italy now sits above the corresponding EU-27 averages. In the 2010-2019 period, Italy improved its recycling rate of municipal waste by a net 20.3%, while Croatia has improved by 26.2% in the same reference period.

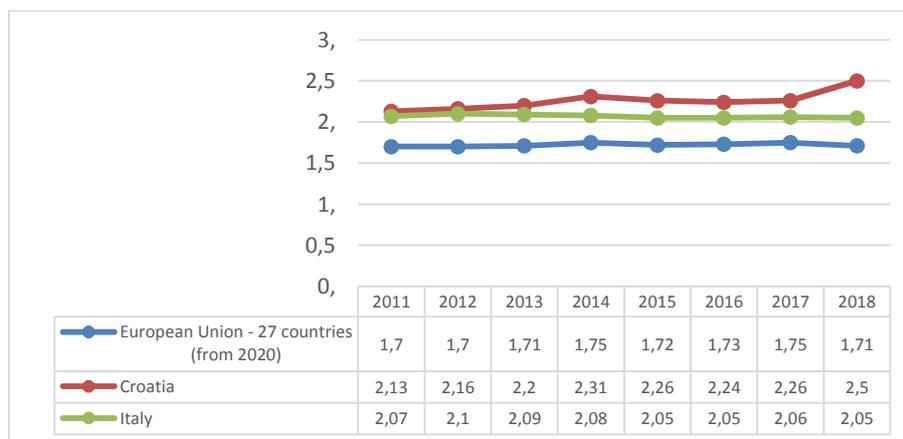
Figure no. 40 Recycling rate of municipal waste, %, 2010-2019



Source: Eurostat

Concerning the **share of employed persons in circular economy sectors**, the analysis reveals that both Member States have been outperforming the EU-27 averages for years. Indeed, at the level of year 2018, Croatia reported a share of employment in circular economy sectors of 2.5%, while Italy reported 2.05%. The corresponding EU-27 average for the same year was a mere 1.71%.

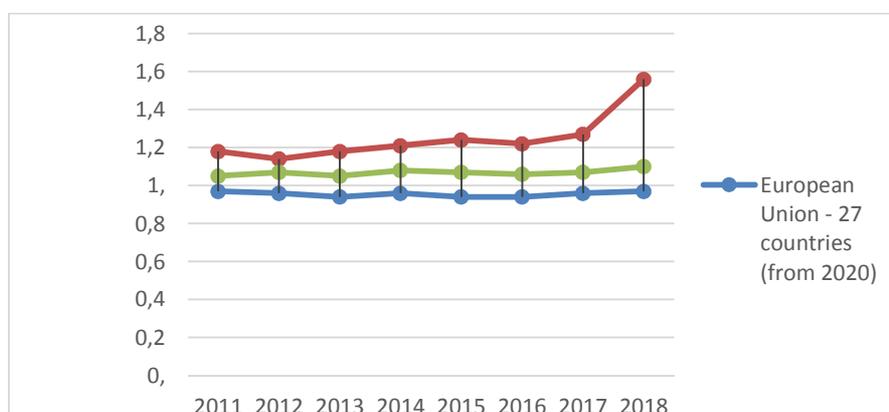
Figure no. 41 Share of persons employed in circular economy sectors as % of total employment, Member States, 2011-2018



Source: Eurostat

Lastly, trying to estimate the weight on the economy of the circular economy related business sectors, in terms of value added at factor cost, measured as percentage of GDP, the analysis reveals that both Member States outperform the EU-27 average and have been doing so since 2011. Indeed, in 2018, the value added in the circular economy sectors was reported at 1.56% of GDP, while Italy only reported a share of 1.1%, which is still above the EU-27 average of 0.97%. Furthermore, Croatia had a very significant development in the 2017-2018 interval, increasing the share of GDP of the circular economy by 0.29% in a single year<sup>110</sup>.

Figure no. 42 Value added at factor cost related to circular economy sectors, % of GDP, Member State level



<sup>110</sup> The following NACE codes were used: E 38.11 – Collection of non-hazardous waste; E 38.12 – Collection of hazardous waste; E 38.31 – Dismantling of wrecks; E 38.32 – Recovery of sorted materials; G 46.77 – Wholesale of waste and scrap; G 47.79 – Retail sale of second-hand goods in stores; C 33.11 – Repair of fabricated metal products; C 33.12 – Repair of machinery; C 33.13 – repair of electronic and optical equipment; C 33.14 – Repair of electrical equipment; C 33.15 – Repair and maintenance of ships and boats; C 33.16 – Repair of maintenance of aircraft and spacecraft; C 33.17 – Repair and maintenance of other transport equipment; C 33.19 – Repair of other equipment; G 45.20 – Maintenance and repair of motor vehicles; G 45.40 – Sale, maintenance and repair of motorcycles and related parts and accessories; S 95.11 – Repair of computers and peripheral equipment; S 95.12 – Repair of communications equipment; S 95.21 – Repair of consumer electronics; S 95.22 – Repair of household appliances and home and garden equipment; S 95.23 – Repair of footwear and leather goods; S 95.24 – Repair of furniture and home furnishings; S 95.25 – Repair of watches, clocks and jewellery; S 95.29 – Repair of other personal and household goods.

*Source: Eurostat*

### ***The stakeholders' opinion***

**The interviews with territorial Stakeholders** revealed that the reduction of waste production is still a problem affecting the Programme territories. Several respondents, especially from Croatia, are underlying the need for a wider awareness of the problem among the population and local authorities, as well the need to improve strategic capacities to plan and manage waste collection and recycling at local level. In terms of specific domains, respondents mentioned that there is a need towards promoting waste reuse of agricultural products, and limiting the waste production especially in touristic areas/seasons. In terms of **strengths**, stakeholders mentioned the existence of local practices and pilot projects aimed at improving circular economy-related activities as well some expertise and research center active in the domain in the programme area.

The **webinars** with the local actors revealed that the key need is in the waste re-use in productive sectors, followed closely by the expressed need of effective local-level strategies and policies. However, they have stated that local/regional good practices exist and that they can be implemented effectively in other regions/territories of the programme area.

### **3. Conclusions**

Circular economy, even though it has always been an important topic for the European Union and it has been under attention for well over a decade, has become a key policy area for the Union with the establishment of the European Green Deal.

The analysis revealed that the participating Member States are particularly well positioned in the transition towards a circular economy, with rapid increases in areas of underperformance in comparison with the EU-27, as well as outperformances (especially in terms of the share of the population employed in circular economy activities).

Nevertheless, stakeholders revealed that the territories still have specific needs, such as establishing a means to deal with the high waste-related pressures that stem from elevated tourism activities, as well as the opportunities to use very specific good practices at regional level to enable a uniform transition towards a circular economy at the level of the entire Programme area.

## 4.12. Protection of nature and biodiversity and reducing pollution

### 1. Policy framework and general context

At **EU level**, the key enabling document of the policy area related to the protection and preservation of nature biodiversity and green infrastructure is the **European Green Deal**<sup>111</sup>. Amongst the key policy areas, the European Green deal aims at not only establishing measures to protect the ecosystem under the biodiversity policy area, but also to intervene in other environmentally related domains, such as agriculture, energy, construction, mobility, etc.

Related to the **biodiversity policy area**, at EU-level, the key strategic document is the *EU's biodiversity strategy for 2030*, which aims at the establishment of protected areas for at least 30% of the land and sea in Europe, at least one third of protected areas – representing 10% of EU land and 10% of EU sea – should be strictly protected, with legally binding nature-restoration targets in 2021 providing stricter protection of EU forests, together with restoring the degraded ecosystems at land and sea across the EU by increasing organic farming, reducing the use of pesticides by 50% by 2030, as well as through the plantation of 3 billion trees by 2030<sup>112</sup>.

At **macro-regional level**, the European Union's Strategy for the Adriatic-Ionian Region establishes one flagship project that is directly related to the protection of biodiversity under **Pillar 3 – environmental quality**. The flagship aims at the *"Promotion of sustainable growth of the Adriatic-Ionian region by implementing both Integrated Coastal Zone Management and Maritime Spatial Planning, also to contribute to the Common Regional Framework on Integrated Coastal Zone Management of the Barcelona Convention and the monitoring and management of Marine Protected Areas"*. The project aim to contribute to the protection of the sensitive biodiversity in the Adriatic-Ionian region, through the effective use of both Maritime Spatial Planning and Integrated Coastal Zone Management.

At **Programme level**, the Italy-Croatia CBC Programme 2014-2020 listed the conservation of biodiversity as one of the key areas of intervention. Indeed, under **Priority Axis 3: Environment and cultural heritage**, Specific Objective 3.2 was particularly focused on the contribution to protect and restore biodiversity. A total number of 8 projects have been implemented in this context at the level of the Programme area in the past financial exercise. The domains of intervention of the projects varied. One contracted project aims at setting up a cross-border observatory to monitor best practices and data on Italian and Croatian wetlands, while another has to objective of establishing an ecological observing system in the Adriatic Sea, shared between Italy and Croatia, to integrate ecological and oceanographic research and monitoring with Natura 2000 conservation strategies. Indeed, an important part of the projects contracted under Specific Objective 3.2. are aimed at improving not only cross-border cooperation in the field of biodiversity, but also to strengthen the Programme area in terms of monitoring and assessment capabilities. As will be observed throughout the analysis, the lack of robust monitoring and assessments is one of the most prominent needs of the Programme area in relation to the protection of biodiversity.

<sup>111</sup> European Commission (2020). *A European Green Deal*. [Link](#): Accessed on 21 April 2021

<sup>112</sup> European Commission (2020). *EU Biodiversity Strategy for 2030*. [Link](#): Accessed on 21 April 2021.

## 2. Territory's needs and strengths

The Programme area has a rich natural biodiversity consisting of inland and marine national protection schemes (national parks, Natura 2000 sites, UNESCO natural heritage sites, Fishery Restricted Area (Jabuka/Pomo Pit) etc.) and the Adriatic Sea. This translates into quality of life, territorial attractiveness and contributes directly to the economic development of the Programme territory.

The environmental quality of the Adriatic waters is under periodic monitoring under a multiple institutional framework:

- The Barcelona Convention<sup>113</sup>, a UNEP initiative which established the Mediterranean Action Plan with the purpose of monitoring and improving the environmental protection of the Mediterranean sea; (MAP);
- The EU Marine Strategy Framework Directive (Directive 2008/56/EC) also known as MSFD, which has the purpose of protecting the sea environment in all sea basins of Europe.

Within these frameworks, the environmental status of the sea is periodically monitored, with regard to some key biodiversity and pollution aspects. Under the Barcelona Convention, the last important report is the 2017 Mediterranean Quality Status Report, while the last report on the implementation of the MSFD (which was also the first one) is dated from 2020.

Besides these reports issued in the main institutional frameworks, other institutional or academic studies complete a dataset which is indeed wide about the quality of the waters of the Mediterranean and of the Adriatic Sea in particular<sup>114</sup>. However, it is evident to any reader of such reports that the monitoring of the environmental quality of the European Seas still needs strong improvements: monitoring is often too sporadic compared to the theoretical needs, or not spread enough among the sea surface or the coast length. Methodological differences are also very strong and rely often on national choices. Finally, the reporting for the implementation of the MSFD is made by the member States, but without an imposed coordination at Sea basin level.

In the following table, a synthesis of the main findings on the environmental quality and pollution of the Adriatic is proposed, based on the reports above-mentioned and on other relevant literature.

A very synthetic, three levels assessment of the situation is presented in the last column: a **red/yellow/green labels** are proposed based on the degree with which the specific aspect is considered worrying for the Programme area

**Tabel no. 8. Main findings on the environmental quality and pollution of the Adriatic**

Finding	Source	Reference year	Interested area	Assessment
Relatively low levels of Nitrates and Phosphorus downloaded in the Adriatic, as compared to other Sea basins in EU (3rd ranked over 9)	EC report on MSFD	2019	Whole area	
2nd EU Lowest level of Phosphates and nitrates	EC report on	2019	Whole area	

<sup>113</sup> Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, entered into force in 2004 - [link](#)

<sup>114</sup> Above all: Pistocchi et aa., Water quality in Europe: effects of the Urban Wastewater Treatment Directive, JRC 2019 – hereinafter quoted as JRC 2019.

Finding	Source	Reference year	Interested area	Assessment
entering the sea from waste water treatment	MSFD			
Good level of eutrophication <sup>115</sup> situation	UNEP/MAP report	2017	Whole area	
Cadmium and mercury concentration in bivalves at good or acceptable levels everywhere	UNEP/MAP report	2017	Whole area	
Locally, levels of concentration of lead in bivalves exceed EC maximum admitted (6 stations with negative values: Split, Rimini and all 4 in Puglia)	UNEP/MAP report	2017	Whole area	
Level of contaminants in commonly consumed seafood within acceptable limits everywhere	UNEP/MAP report	2017	Italian coasts (Croatia no data)	
Over 90% of the bathing water classified of excellent quality (microbial)	UNEP/MAP report	2017	Whole area	
All coast cities equipped with waste treatment plants	UNEP/MAP report	2017	Whole area	
Level of concentration of mercury in sea sediment beyond acceptable limits in most areas (exceptions; Abruzzo, Molise and 50% of Croatian Stations)	UNEP/MAP report	2017	Whole area	
Locally (half of Croatian monitoring stations)- levels of concentration of lead in sea sediment exceed EC maximum admitted	UNEP/MAP report	2017	Whole area	
Relatively higher levels of floating litters in Adriatic see, as compared to the rest of Mediterranean Sea	UNEP/MAP report	2017	Whole area	
Relatively low levels of seafloor litter - compared to other parts of the Mediterranean <sup>116</sup>	UNEP/MAP report	2017	Whole area	
Important share of plastic (>80%) among landed debris (litters)	Isprambiente, Report MSFD 2018 -	2017	Italian coast	
Population of Caretta Caretta monitored in increase between 2010 and 2013	Isprambiente, Report MSFD 2018 -	2017	Whole area	
In every Region (except Puglia and Molise – 50%) at least 75% of rivers considered of excellent quality - coliform concentration	JRC 2019	2015	Whole area	
In every Region - except Puglia 50% - at least 76% of river waters considered of good or high quality - BOD <sup>117</sup>	JRC 2019	2015	Whole area	
In every Region (except Puglia and Veneto) at least 75% of river waters considered of good or high	JRC 2019	2015	Whole area	

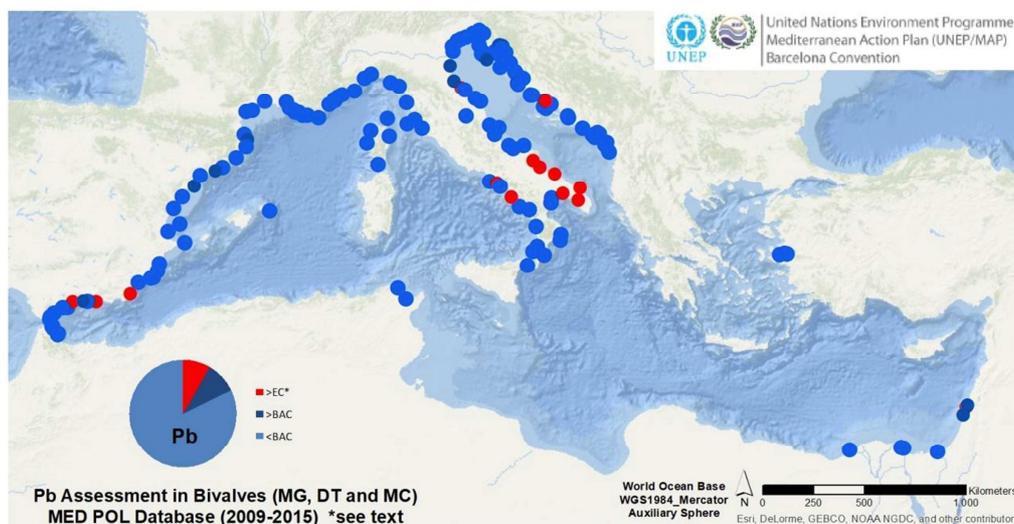
<sup>115</sup> Eutrophication is a process driven by enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, leading to: increased growth, primary production and biomass of algae; changes in the balance of nutrients causing changes to the balance of organisms; and water quality degradation (IMAP, 2017)

<sup>116</sup> 95-500 items/km2 against >2000 items of central Tirrenian sea, for instance

<sup>117</sup> BOD = biochemical Oxygen Demand

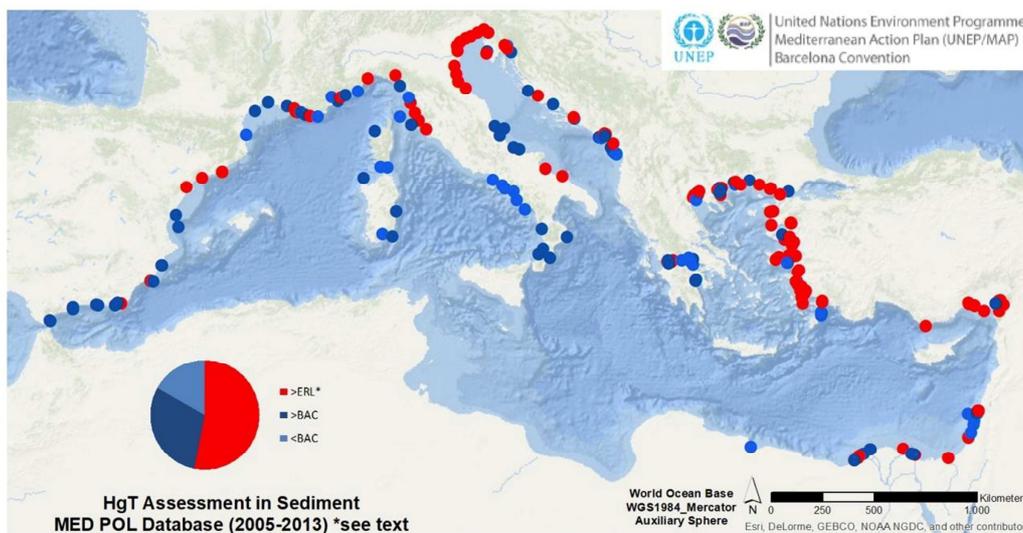
Finding	Source	Reference year	Interested area	Assessment
quality - Nitrates				
Unbalanced situation about river waters considered of good or high quality – Phosphorus: Croatian regions over 90%, Emilia Romagna below 50%, the others in-between	JRC 2019	2015	Whole area	
In every Region (except Abruzzo, Molise and Puglia – 50%), at least 75% of coast waters considered of good or excellent quality - coliform concentration	JRC 2019	2015	Whole area	
Moderate increase of alien species in sea fauna	Isprambiente, Report MSFD 2018	2017	Italy	
Most commercial fish stocks in unsustainable decrease: 57% of fish stock have decreases outside of safe parameters for sustainable reproduction	Isprambiente, Report MSFD 2018	2017	Italy	
Very low frequency of naval incidents leading to polluting effects	UNEP/MAP report	2017	Whole area	
Absence of systems to detect illicit spilling of polluting substances from ships	UNEP/MAP report	2017	Whole area	

Figure no. 43 Concentration of Pb in bivalves



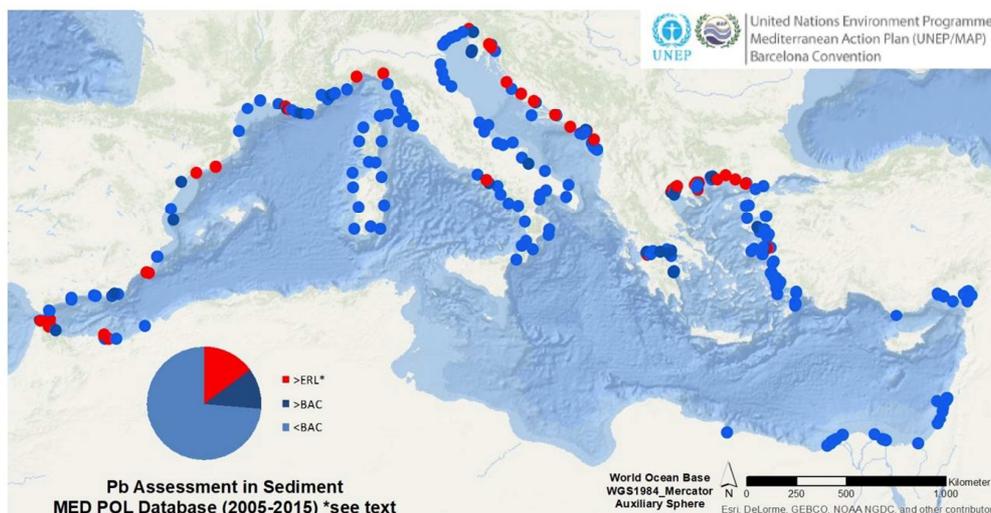
Source: [UNEP/MAP - 2017 Mediterranean Quality Status Report](#)

Figure no. 44 Concentration of Mercury in sea sediments



Source: UNEP/MAP - 2017 Mediterranean Quality Status Report

Figure no. 45 Concentration of Pb in sea sediments



Source: UNEP/MAP - 2017 Mediterranean Quality Status Report

Finally, the Adriatic Sea is also to be seen as an extraordinary biodiversity habitat in the Programme area: according to a 2015 WWF report focused on the environmental protection in the Adriatic, the sea is home to more than 7,000 species, including numerous species rated from declining to critically endangered, such as seagrasses (*Cystoseria zosteroides*), bivalves (*Gibbula nivos*a), the European eel (*Anguilla anguilla*) and the Adriatic sturgeon (*Acipenser sturio*)<sup>118</sup>. The report further mentions that there are at least 410 species and subspecies of fish in the Adriatic Sea, representing approximately 70% of the Mediterranean taxa, with at least 7 species endemic, while 64 known fish species are threatened with extinction, in particular due to overfishing in the Adriatic Sea.

<sup>118</sup> World Wildlife Fund (2015). *Blue Growth Trends in the Adriatic Sea: The challenge of environmental protection*. [Link](#): Accessed on 21 April 2021.

The current network of legally protected areas, including those under strict protection, is not sufficiently large to safeguard biodiversity.<sup>119</sup> There is also a need for improvement of connectivity and creation of a coherent network of well-managed protected areas.

### ***Stakeholder's opinion***

**Interviews** with territorial stakeholders' consultations revealed a strong attention to the topic of pollution and biodiversity, decline on a multitude of diversified needs identified by the respondents, not only with reference to the sea environment. Respondents who focused on marine habitat underlined the need of a sea-basin approach for effective measure, problems related to coastal biodiversity and the pollution due to maritime traffic – also causing the arrival of alien fauna in the basin. Other respondents underlined the need of action against land pollution, especially generated by transport and heating. Some respondents underlined the need of a stronger information system in order to adopt more knowledge-based action for biodiversity and against pollution. In terms of strengths, stakeholders generally mentioned the high number of protected areas, but also the started cooperation projects of the 2014-2020 period, as a basis to build on.

During the **webinars** held with the local stakeholders, the needs which collected the wider consent were the ones related to protecting marine habitats, improve the urban/rural relations and increase the awareness of the public. In terms of potentials, the one related to the development of responsible tourism received a massive support.

### **3. Conclusions**

The Programme territory is one of the richest in Europe in terms of natural heritage and its biodiversity, a fact that is recognized and focused upon at EU and macro-regional level, through the attention of both EUSAIR and the previous Italy-Croatia CBC Programme towards protection of the territories' natural habitat and biodiversity.

Despite the strong institutional and strategic framework for environmental protection of the Adriatic Sea (MSFD + Barcelona convention) the most important need of the area appears related to the difficulty of monitoring and assess the status of the marine species and habitats and ecosystems and its services, of the Programme area in an appropriate way, with common methods, appropriate frequency and intensity, and – especially – at the level of basin.

Environmental reports on the quality of the environment of the Adriatic present -based on the available knowledge - a general reassuring picture, with few concerning aspects anyway very localized.

Stakeholders presented a concern for biodiversity and pollution that goes beyond the strict focus on marine habitat and extended to transport, urban development and responsible tourism.

<sup>119</sup> European Commission (2020). EU Biodiversity Strategy for 2030. COM(2020) 380 final. [Link](#)

## 4.13. Green Urban Mobility

### 1. Policy framework and general context

Already in 2013, within its “Urban mobility package”, the European Commission issued the communication “Together towards competitive and resource-efficient urban mobility”, complemented by an annex setting out the concept of Sustainable Urban Mobility Plans, as well as four Commission Staff Working Documents respectively on urban logistics, urban access regulations, deployment of Intelligent Transport System solutions in urban areas, and urban road safety<sup>120</sup>.

In more recent years, climate change and environmental degradation prompted the world to reevaluate transport for the movement of people, services, and goods. After the Paris Climate Accord in 2015, the European Green Deal<sup>121</sup> set the aim to reduce 55% greenhouse emissions by 2030 and become climate-resilient by 2050. In terms of urban mobility, considering the difficulty of creating a single unitary framework that can be applied to the multitude of towns and cities across Europe, the Commission has rather published guidelines for the development and local implementation of Sustainable Urban Mobility Plans, or SUMP. The guidelines for the development of SUMP have been updated in October 2020<sup>122</sup>.

The Smart and Sustainable Mobility Strategy was drafted in order to provide a framework to municipalities to achieve the milestones and objectives defined in the European Green Deal, such as reaching 100 climate-neutral European cities, having 30 million zero-emission operational cars, a double amount of high-speed traffic, collective travel under 500 km to be carbon-neutral, deploying large-scale automated travel, and having zero-emission marine vessels ready by 2030. Other objectives which are not directly defined by the European Green Deal but help achieve the goals set out in the document are aimed at a connected and automated multimodal mobility, innovation and the use of data and artificial intelligence, reinforcement of the Single Market, fair and just mobility for all, safe and secure transport<sup>123</sup>.

Many SUMP in Europe have been developed under the CIVITAS “Cleaner and better transport in cities” initiative, which is co-financed by the EU through the Horizon 2020 Programme. CIVITAS, or City VITALity and Sustainability, is a network of cities that covers over 80 cities across Europe. The CIVITAS initiative tested and implemented over 800 measures and urban transport solutions meant to reduce both the level of traffic congestion and pollution which is prevalent in many European cities. There are 15 cities from the Italy-Croatia Programme Region which are currently part of the CIVITAS network: Galantina, Lecce, Bari, Pineto, Giulianova, San Benedetto, Ancona, Ravenna, Venezia, Treviso, Gorizia, Trieste, Rijeka, Zadar and Biograd na Moru.

According to the official website, “The project works on 10 thematic areas, related to sustainable transport mobility covering: Car-Independent Lifestyles, Clean Fuels & Vehicles, Collective Passenger

<sup>120</sup> Communication COM(2013) 913 final from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Together towards competitive and resource-efficient urban mobility; [link](#).

<sup>121</sup> European Commission (2019) The European Green Deal, Brussels, [Link](#)

<sup>122</sup> <https://www.eltis.org/mobility-plans/sump-guidelines>

<sup>123</sup> European Commission (2020) Sustainable and Smart Mobility Strategy – putting European transport on track for the future, Brussels, [Link](#)

Transport, Demand Management Strategies, Integrated Planning, Mobility Management, Public Involvement, Safety & Security, Transport Telematics, Urban Freight Logistics.”<sup>124</sup>

Throughout the European Union, the lockdown measures that were implemented as a response to the COVID-19 pandemic have had a profound impact on the use of public transport and shared mobility services. According to the rapid-response briefing “COVID-19 and urban mobility: impacts and perspectives”, public transport “decreased dramatically during and immediately after the lockdown, while citizens preferred private vehicles such as cars and bicycles, but also walking.”

In this context, the pre-existing European strategies and guidelines reinforce not only the commitments to sustainability but put transport at the core of faster response mechanisms to future crises.

## 2. Territory’s needs and strengths

According to a recent survey, transport congestion is an issue in the two partner Countries that kept growing, Italians spending 37 hours in traffic, while Croatians 23 hours by 2017<sup>125</sup>.

The transition to renewable energy in transport is still slow and not homogenous. The Programme area saw different growing trends but failed to meet the EU goals target of 10% by 2020. Market share of electric cars is still low but rising fast. Electric passenger vehicles and charging points show a constant increase in purchases, almost 10 times fold between 2014 and 2018. The development of the urban cycling infrastructure is also subjected to disproportionate progress, with Italian coastal regions having around 1.000 km of bicycle roads already built, and Croatian cities with only 50 km.

The transport sector is the largest contributor to EU greenhouse gas emissions; therefore, reducing transport emissions is key to meet emission reduction and climate change mitigation targets. Electric cars — battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) — are gradually penetrating the EU market. The number of electric vehicles (battery electric vehicles - BEV and plug-in hybrid electric vehicles - PHEV) newly registered in Italy in 2020 was 16.753, while Croatia registered 8.080 of such vehicles. This translates to a rate of ownership of 196.65 electric vehicles per 100 000 inhabitants in Croatia, versus 27.75 electric cars per 100 000 inhabitants in Italy.

In the Programme area, the public transportation (buses and railways) solutions are lagging behind, in terms of competitiveness and effective use. Most urban transport is done by private cars, of which the data shows that there are around 60 thousand vehicles per 100 thousand inhabitants in the Italian coastline regions, and more than 46 thousand vehicles per 100 thousand inhabitants in the Croatian coastline regions. The EU-27 average motorization rate is at 50 thousand vehicles<sup>126</sup>.

However, private transportation is so prevalent across the Programme region because consumer satisfaction in Italy and Croatia with urban transport ranks among the worst in the EU, with Italy ranking last among all Member States and Croatia having the 24<sup>th</sup> worst consumer satisfaction<sup>127</sup>. Specifically, this indicator measures components such as comparability, trust, problems and detriment, expectations and choice.

<sup>124</sup> <https://civitas.eu/about>

<sup>125</sup> European Commission (2020) Transport in the EU: Current Trends and Issues, [Link](#)

<sup>126</sup> [Eurostat](#)

<sup>127</sup> Consumer satisfaction with urban transport, [Link](#) accessed 27 April 2021

The generally low satisfaction with urban transport translates into an under reliance on public means of transportation. National data from 2018 shows that only 12% of passenger transport is done by bus in Croatia, and 11% in Italy. Urban trams and metros are the least used means of public transportation, with only 0.8% use in Italy and almost 2% in Croatia.

Considering the statistical data analyzed, there is a constant need for improvement, both in regard to available public transport connections (by train, airplane and sea) and on road infrastructure for private mobility. Cross-cutting opportunities for the development of the Programme region have also been identified as national strategies that are pushing for stronger cross-border cooperation in the maritime transport domain, for example. There is ample opportunity for the implementation of integrated mobility of goods and passengers, particularly in connection with the tourism sector.

### ***The stakeholders' opinions***

The regional stakeholder interviews show that there is a **need** to shift away from the overreliance on private means of transportation as a way to improve urban road traffic. More sustainable alternatives are not attractive enough, such as the underdevelopment of cycling paths, and public transportation is based on outdated solutions. In addition to this, the high price of public transportation is also perceived as a relevant factor. In most situations, travel by private car is much cheaper than public transport. Other important aspects that were highlighted during the interviews are the need to provide more sustainable multimodal connections among municipalities, as well as the issue of tourism seasonal impact on urban transport.

There is also a need for investing in the road and railway infrastructure, to primarily increase road capacity especially during tourist season but also to offer reliable and high-capacity public transportation alternatives.

The lack of urban multimodality has also been expressed as a key need for the regions in the Programme area, as a solution to the huge variances of traffic flow between season and off-season, when tourists create a big strain on the local urban transportation capacity.

In terms of **strengths**, stakeholders reported an increase in the diversification of alternative transport means as well as the presence of sustainable urban mobility tools that can aid in drafting sustainable mobility policies.

According to the results of the stakeholder webinars, a strong focus on the **need** for efficient public transport was reported, complemented by effective Sustainable Urban Mobility plans. Clean private mobility is seen by the stakeholders as being the least important need, since the impact on the overall quality of urban mobility would be lower.

The change in urban lifestyle in the postCOVID-19 context is also seen as an opportunity to have a positive impact on the sustainability of urban mobility. On the other hand, water-based mobility alternatives were seen as less viable in the region. The discrepancy in the development of the bicycle path network is also illustrated, as it is considered a strong point by the Italian side and less so by the Croatian side.

## **3. Conclusions**

There is a constant need to change the approach from private-ownership based means of transportation towards more sustainable options. However, due to the extensive economic activity in urban areas, many cities in the Programme area face several problems related to or caused by

transport and traffic. The increase of private car use has generated an increased urban sprawl and commuting, whereas the expansion of public transport networks in many cases has not been developed at the same rate.

Nevertheless, the data related to urban mobility has shown some key positive aspects, related to the fact that there is a constant will for further sustainable mobility, that will generate a smart development of the cross-border mobility within the Italy-Croatia Interreg Programme region.

Furthermore, the effects of the COVID-19 pandemic, although still need to be understood in terms of impact, have negatively affected the urban mobility in itself, since passengers were more likely to rely on private transportation in order to avoid public transport crowds. The policies that were implemented locally as a response to the pandemic can be seen as opportunities for the further development of sustainable urban mobility solutions.

## 4.14. Sustainable and Intermodal Ten-T

### 1. Policy framework and general context

The Trans-European Transport Network (TEN-T) is the policy of the European Union aimed at developing a pan-European transport infrastructure. This network will improve the interoperability between the various types of transport infrastructure, such as roads and highways, railway, inland waterways and maritime shipping. According to Regulation (EU) No 1315/2013, the network is based on a dual layered structure which comprises of a comprehensive network and a core network. Despite the fact that the network is structured mainly on land transport connections, the same regulation defines the Motorways of the Sea corridors as the maritime pillar of the network, and essentially part of the TEN-T core network, so that the interoperability between land, sea and air transport is defined as main objective to be developed by the policy.

As a funding instrument of the TEN-T policy, the 2014-2020 Connecting Europe Facility (CEF) Programme facilitated the investment of 435.5 million EUR into the Motorways of the Sea, making it the most important EU instrument in financing infrastructure interventions in maritime ports, vessels and hinterland port connections.

The TEN-T Regulation is expected to receive a proposal for revision in the second quarter of 2021.

At macro-regional level, the second pillar of EUSAIR “Connecting the Region” addresses two specific objectives relevant to the TEN-T context:

- To strengthen maritime safety and security and develop a competitive regional intermodal port system;
- To develop reliable transport networks and intermodal connections with the hinterland, both for freight and passengers.

A flagship project titled „The Adriatic-Ionian Multi-modal Corridors” was defined in 2020, under EUSAIR Pillar 2: This specific flagship aims to boost the interconnectedness and integration of the transportation system that covers the Adriatic-Ionian Region, by identifying multi-modal corridors alongside the TEN-T network.

The Interreg V-A Italy-Croatia Programme 2014-2020 has paved the way for a deeper cross-border cooperation in the field of maritime transport, with 18 projects financed under the „Maritime transport” axis; several of the projects were targeting a more innovative and green intermodality in major ports of the Adriatic coast.

Given the context of the COVID-19 pandemic lockdowns and restrictions, the transport sector is often cited as one of the most impacted, yet the extent to which the restrictive measures have impacted the transport sector in the region is still unclear. The global crisis of the transport sector as a result of the pandemic may influence the impact that policies in this sector have in the medium term.

### 2. Territory’s needs and strengths

The Programme areas is crossed by three of the TEN-T land Core Network Corridors, which overlap and intersect.

The Scandinavian-Mediterranean corridor<sup>128</sup> connects the Italian peninsula (including the ports of Bari and Ancona) to northern Europe, through the Brenner pass, both by road and rail. However, it's Italian pathway is mainly focusing on the Tirreanean shore and large part of the Adriatic Regions (Abruzzo and Molise, notably) are not covered by the corridor.

The Baltic-Adriatic corridor connects the Italian shores of northern Adriatic to north-central Europe, through the Tarvisio pass and Austria or through Slovenia., by both road and railway. All major northern-Adriatic Italian ports are involved in the core corridor: Trieste, Venezia and Ravenna. Two rail-road interports are active in the area in Padova and Cervignano.

The Mediterranean corridor is a west-east connection, going from Gibraltar, along the coasts of Spain and France, through northern Italy to Croatia and then Hungary. Again, ports of Trieste, Ravenna and Venice are connected, this time towards the rest of northern Italy and France. Only an alternative branch of the corridor connects the port of Rijeka to Zagreb, and from there to the main path.

Although good chances have been reported for the connection of other Croatian seaports (such as Ploče, Split, Šibenik and Zadar) to a core corridor in the near future<sup>129</sup>, currently the segment Rijeka-Zagreb is the only portion of core corridors crossing the Croatian part of the Programme area.

In terms of maritime connections, the Programme area is fully integrated in the Motorways of the Sea framework, especially with a corridor for intermodal connections, focusing on the ports of Venice, Trieste and Rijeka.

The 2020 MoS detailed implementation plan of the European Commission<sup>130</sup> shows that ports of the area, in terms of volumes and types of freight transport, have different dimensions and specializations (see table below):

**Tabel no. 9. Types of ports**

Port	Annual volume of freight traffic (Million Tons)	2008-2018 growth (%)	Type of cargo (most important share)	Type of cargo (Least important share)
Trieste	57,5	+4,5	Liquid bulk (56%)	Dry bulk (6%)
Ravenna	31,1	+0,3	Dry bulk (51%)	Container (9%)
Venezia	26,3	-1,3%	Dry bulk (35%)	Ro-ro (7%)
Ancona-Falconara	5,9	+1,1	Ro-ro (52%)	Liquid bulk (5%) – but 100% for Falconara
Bari	5,3	+7,8%	Ro-ro (37%)	Liquid bulk (6%)
Rijeka	2,7	-0,3%	Container (76%)	Liquid bulk, ro-ro (0%)

Source: own elaboration on data from European Commission.

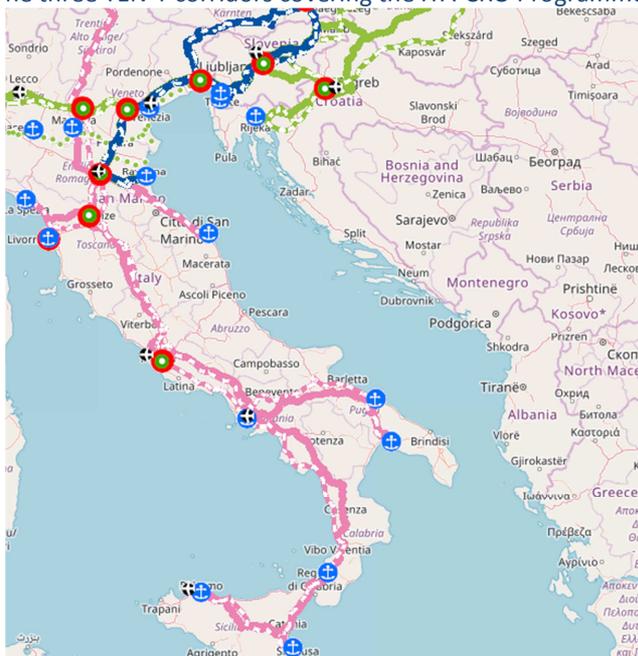
<sup>128</sup> European Commission Website: Scandinavian-Mediterranena corridor: [link](#)

<sup>129</sup> Žgaljić, Dražen; Tijan, Edvard; Jugović, Alen; Poletan Jugović, Tanja. 2019. "Implementation of Sustainable Motorways of the Sea Services Multi-Criteria Analysis of a Croatian Port System" Sustainability 11, no. 23: 6827. <https://doi.org/10.3390/su11236827>

<sup>130</sup> European Commission, European Maritime Space - Motorways of the Sea, Detailed Implementation Plan of the European Coordinator – June 2020, [link](#).

The table shows how Trieste is by far the most important port of the area, also thanks to an important growth of the last years. Its specialization is on liquid bulk cargos (ships transporting liquid goods in tanks, as oil, etc.). Ravenna and Venezia are second and third ranked, both with a specialization on dry bulk cargos (ships transporting dry goods in tanks, like cement, minerals, etc.). Ancona-Falconara (considered together) and Bari (the fastest growing port of the area) are rather inclined to Ro-ro cargos (Roll-on, roll-out: ships transporting trucks altogether with their goods). However, Falconara port is dedicated 100% to liquid bulk cargos, Rijeka, in the end, has a specialization on container cargos.

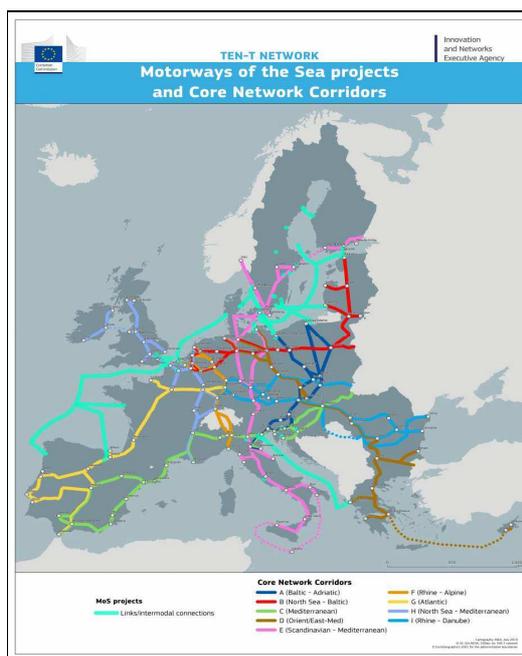
Figure no. 46 The three TEN-T corridors covering the ITA-CRO Programme area



- Scandinavian – Mediterranean corridor
- Baltic Adriatic corridor
- Mediterranean corridor

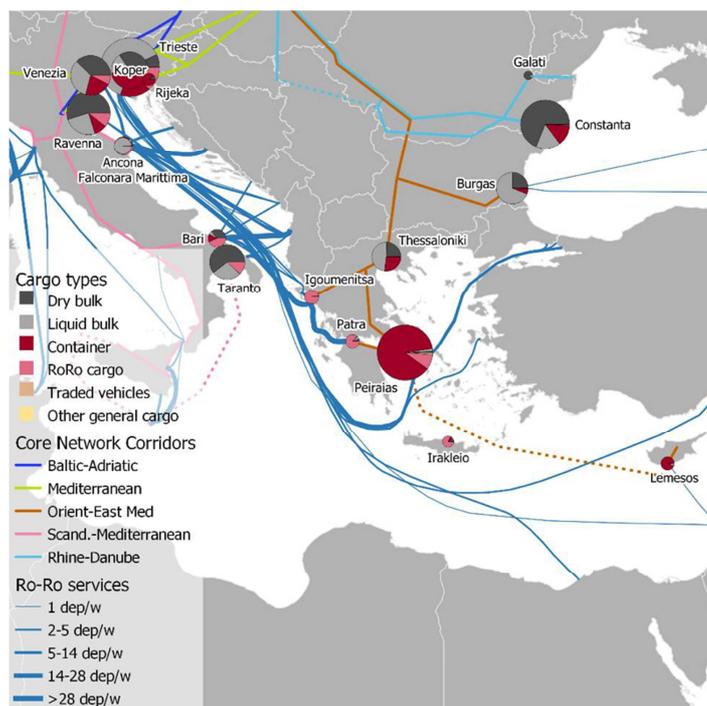
Source: European Commission, TENtec Interactive Map Viewer

Figure no. 47 Motorways of the Sea, intermodal connections



Source: European Commission, presentation "Motorways of the Sea", 2015 ([link](#))

Figure no. 48 Maritime freight connections, volume and type of freight traffic in the Adriatic area



Source: European Commission<sup>131</sup>

The Programme area shows an increased intermodality in freight transport developed in certain locations of the Italian coast, such as the ports of Trieste, Venice and Ancona, as well as the port of Rijeka on the Croatian side, which have developed an integrated modality with the rail system which

<sup>131</sup> European Commission, European Maritime Space - Motorways of the Sea, Detailed Implementation Plan of the European Coordinator – June 2020, [link](#).

connects to the rest of the European freight transport network. These ports are situated on different TEN-T corridors, which does not place them in a direct competition, and some form of cooperation also started among them, for example in the context of some ADRION and Italy-Croatia CBC projects. The ports of Trieste and Rijeka are potential examples of complementary multimodal points, connecting the Mediterranean to Central-Northern Europe and East-Central Europe respectively, thanks to their good connection to the alpine tunnels and to railways.

However, with this competitive advantage of the Programme area comes the issue of intermodal bottlenecks: due to the high volume of maritime traffic in the region, the incompleteness multimodal capabilities of some ports can lead to suboptimal performance of the maritime infrastructure.<sup>132</sup> Port towns need strong capacities to plan their spatial development in a sea-land integrated approach, in order to allow a smooth integration between the needs of the local community and those of the port logistics. From this point of view the area presents good practices in terms of legal and administrative basis<sup>133</sup>.

### ***The stakeholders' opinions***

According to the interviews and webinars organized with relevant stakeholders in the region, there is still a **need** to improve and extend the already existing TEN-T. Some Croatian stakeholders consider as a challenge the lack of access to the main TEN-T corridors, especially the Mediterranean corridor which splits in Zagreb towards Ljubljana and Rijeka but doesn't cover the southern part of the Croatian coast. Stakeholders expressed the need to extend this network further along the coast, also to tackle the issue of the poor railway infrastructure. Even on the Italian side, some stakeholders have raised the need of a better connection to the core corridors of the central Adriatic area, between Ancona and Bari, including its ports. The aspect of multimodality within the already existing network has also been raised as a key point for further development.

Despite these specific needs, stakeholders report that there has been progress in the development of the TEN-T infrastructure in the Italy-Croatia area over the past few years. The existence of already well-developed ports, such as Trieste or Rijeka, is a particular **strength** for the region, as well as the natural and geographic conditions that can further allow the increase of connections from coastal areas to the hinterland.

The results of the webinars revealed that there is a **need** to focus on developing both the railway network as well as the sustainable maritime freight transport.

An important **strength** of the sustainable and intermodal development of the TEN-T has been reported to be the potential for an improved IT-based intermodality.

## **3. Conclusions**

The presence of three core corridors of the Trans-European Transport Network and one corridor of the Motorways of the Sea is a key aspect for the development of the region. The area is not equally covered by the existing corridor, leaving part of the territory out of the planned main transport flows.

<sup>132</sup> Bešković, B. 2013. *Possibilities for Motorways of the Sea development in the eastern part of the Adriatic Sea* in Polish Maritime Research 20(1):87-93

<sup>133</sup> ESPON, MSP-LSI – Maritime Spatial Planning and Land-Sea Interactions, final report, 2020.[Link](#)

The ports currently located on the TEN-T network register a positive trend of development, with few exceptions. Moreover, they are rather specialized in terms of type of cargo traffic and -while still in competition - they are inclined to cooperate as some ADRION and Italy-Croatia projects in implementation are demonstrating.

This leads to ample opportunities for further investments in the transport infrastructure, as well as increased cooperation between the Italian and Croatian sides.

Effective multimodal infrastructure is at place in several ports, but the need for its green and ICT based development is present.

Finally, the need of smoothening the interactions between freight intermodal logistics and sustainability of urban citizens life is a challenge for port towns, to be tackled with effective integrated sea-land approaches to spatial planning, like some existing practices demonstrate.

## 4.15. National, Regional, Local and Cross-Border Mobility

### 1. Policy framework and general context

In its 2020 communication “Sustainable and Smart Mobility Strategy - putting European transport on track for the future”, the European Commission describes the fundamental role that transport plays in the sustainable development of the European space as a whole. It is estimated that the transport sector contributes around 5% of the EU GDP, while employing about 10 million workers from across the Union. The transport sector is also cited to contribute with a high proportion of the total greenhouse gas emissions at EU level, and the success of the European Green Deal is fundamentally tied to the success of reaching the goals set out in the Sustainable and Smart Mobility Strategy, such as doubling high-speed rail traffic across Europe and deploying automated mobility at large scale by 2030, or doubling rail freight traffic and setting up a fully operational, multimodal Trans-European Transport Network (TEN-T) for sustainable and smart transport with high speed connectivity by 2050<sup>134</sup>.

The second pillar of EUSAIR, “Connecting the region”, focuses on transport and contains two specific objectives:

1. to strengthen maritime safety and security and develop a competitive regional intermodal port system;
2. to develop a reliable transport network and intermodal connections with the hinterland, both for freight and passengers<sup>135</sup>.

The Adriatic-Ionian Multi-Modal Corridors represents the EUSAIR flagship for the second pillar “Connectivity – Subgroup Transport”. Its main objective is to contribute to the creation of a seamless, harmonized and competitive transport system with two particular goals: first of all, “to exploit the strategic geographical position of the AI Region, as “junction” between the Mediterranean Sea and Central Europe, intercepting the routes from and to the Far East in the context of global trades”, and second, “to facilitate regional and local connections and, in so doing, contributing to developing a cohesive and inclusive region”<sup>136</sup>.

In the previous Interreg Italy-Croatia 2014-2020 Programme, maritime transport was identified as one of its priority axes, which sought to “improve the quality, safety and environmental sustainability of marine and coastal transport services and nodes by promoting multimodality in the Programme area”. Under this priority axis, 18 cooperation projects were selected and funded, predominantly aiming at developing the maritime transport infrastructure and systems.

Transport plays an essential role for the proper functioning of a stable European market economy, as well as protecting the livelihoods of European citizens. During the COVID 19 pandemic, countries and regions have seen a glimpse of how negative is the impact that constraints on the free movement of people, goods and services within the European Union can have. So far, regarding the travel restrictions on transport in the general context of the pandemic, national data from Italy and Croatia shows that the impact has been considerable. For air transport of passengers, available data - at national level - shows a 97% decrease for Croatia and 98% decrease for Italy when comparing the

<sup>134</sup> European Commission, Sustainable and Smart Mobility Strategy, 9.12.2020, [Link](#) accessed 14 April 2021

<sup>135</sup> EUSAIR Pillar 2: Connecting the Region, [Link](#) accessed 22 april 2020

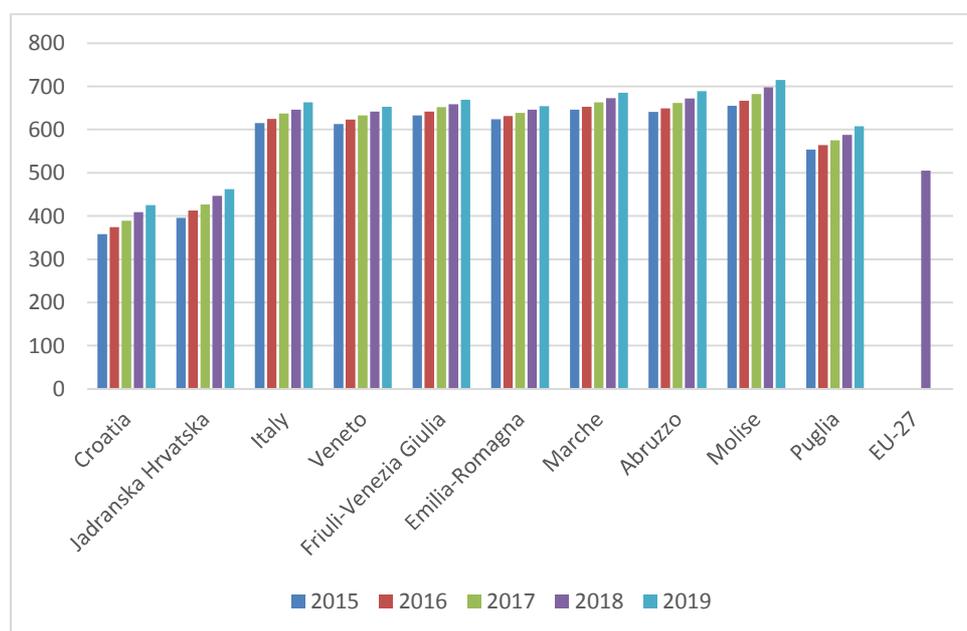
<sup>136</sup> EUSAIR Flagships, [Link](#) accessed 23 april 2020

second quarters of 2019 and 2020<sup>137</sup>. Railway transport of passengers suffered a smaller, yet still notable, decrease between the two quarters registering 67% less passengers for Croatia and 77% for Italy.<sup>138</sup> Maritime transport data shows that Croatia has been disproportionately affected by the pandemic related restrictions, registering a 70% decrease in total port calls when comparing the months of September through November 2019 and 2020, while Italy registered a considerably smaller decrease, specifically 13%<sup>139</sup>.

## 2. Territory's needs and strengths

**Local and regional mobility**, in the Programme area, appears focused mainly on private transport means, with public transportation (buses and railways) solutions lagging behind, in terms of competitiveness and effective use.

Figure no. 49 Number of vehicles per thousand inhabitants, NUTS 2, 2015-2019



Source: Eurostat

Data shows<sup>140</sup> that there are around 60 thousand vehicles per 100 thousand inhabitants in the Italian coastline regions, and more than 46 thousand vehicles per 100 thousand inhabitants in the Croatian coastline regions, compared to the EU-27 motorization rate which registered 50 thousand vehicles in 2018. Both the Italian and Croatian coastlines are slightly under their national levels, according to the data presented in the above figure. However, the Italian national statistic is well above the EU average, while the Croatian national number of vehicles per thousand inhabitants is slightly below. More importantly, data show a trend of constant and steep growth of the number of vehicles in all regions.

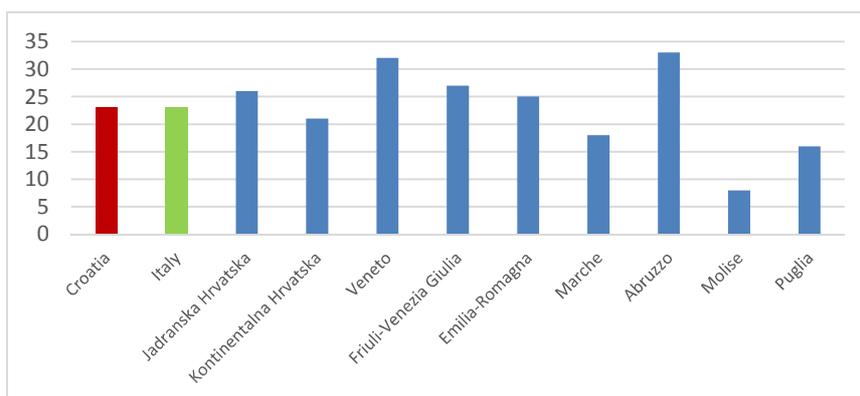
<sup>137</sup> Eurostat, [Link](#)

<sup>138</sup> Eurostat, [Link](#)

<sup>139</sup> European Maritime Safety Agency – „COVID-19 impact on shipping” report, [Link](#), published December 2020

<sup>140</sup> Eurostat - Stock of vehicles by category and NUTS 2 regions [Link](#)

Figure no. 50 Motorway density in km per 1 000 km<sup>2</sup>, NUTS 2, 2018



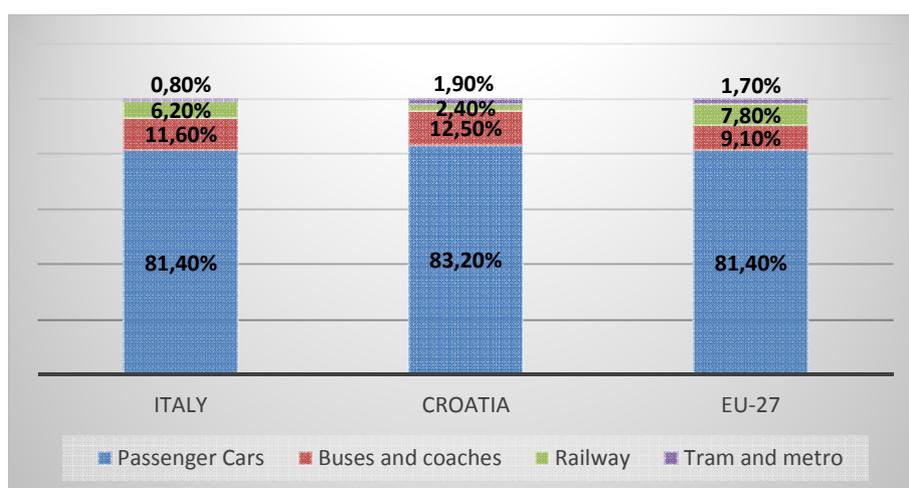
Source: Eurostat

The motorway infrastructure density in the region<sup>141</sup> registers a little above 20 kms of motorways. The regions of Veneto and Abruzzo have a higher density of motorway (30 km/ 1000 km<sup>2</sup>), while Molise is perhaps the least developed in this regard. Comparatively, the Adriatic coast of Croatia has 26 kms of motorway.

Traffic congestion measured at national level shows that in Italy people are reported to have spent almost 38 hours in congestion in 2017, compared to around 23 hours spent in Croatia according to the EU Transport Scoreboard<sup>142</sup>.

The same report also notes that, from the entire EU passenger car fleet, about 42.3% of cars run on diesel fuel and 52.9% run on petrol fuel. Only 0.8% of cars are hybrid electric, while half of that are electrically chargeable vehicles. Italy and Croatia fall short of the EU average, with 0.25% of passenger cars being electric in Italy and only 0.05% in Croatia.<sup>143</sup> National data regarding the charging points infrastructure for electric vehicles shows that Italy only has about 9.44 charging stations per 100.000 urban inhabitants, while the Croatian is better developed with around 54.25 stations<sup>144</sup>.

Figure no. 51 Modal split of passenger transportation, National, 2018



<sup>141</sup> Measured in km per 1 000 km<sup>2</sup>

<sup>142</sup> EU Transport Scoreboard, [Link](#) accessed 22 April 2021

<sup>143</sup> EU Transport Scoreboard, [Link](#) accessed 22 April 2021

<sup>144</sup> EU Transport Scoreboard, [Link](#) accessed 22 April 2021

*Source: EU Transport in figures, Statistical Pocketbook, 2020*

Statistics about the use of public means of transportation – available only at national level – show that the modal split of passengers is predominantly represented by passenger cars. According to data from 2018, only 12% of passenger transport is done by bus in Croatia, and 11% in Italy<sup>145</sup>. The railway infrastructure is also underused by passengers, with 6.2% of people in Italy and 2.4% people in Croatia having reported that they used this means of transportation, compared to the 7.8% EU-27 average.

In terms of the rail infrastructure, the Adriatic coast of Italy is fully covered by the network, for its full span between Trieste/Venice and Lecce. On the other hand, the Croatian side of the Programme area presents good railway infrastructure until Split, while railways on the southern region of the Croatian coast is particularly underdeveloped. No part of the railway networks in the Programme area includes high-speed sections, with the exception of the segment connecting Venice to Bologna, in Italy<sup>146</sup>.

In terms of quality of the railway service, both the Italian and the Croatian networks are lagging much behind European standards: in an index elaborated by the World Economic Forum and quoted by the European Commission, Italy ranks at the 20<sup>th</sup> position in EU and Croatia at the 26<sup>th</sup> (least ranked among EU countries having a railway network)<sup>147</sup>.

**Cross border transport mobility** in the Programme area shows needs for improvement, both in regard to available public transport connections (by train, airplane and sea) and on road infrastructure for private mobility. Cross-cutting opportunities for the development of the Programme region have also been identified as national strategies that are pushing for stronger cross-border cooperation in the maritime transport domain, for example. There is ample opportunity for the implementation of integrated mobility of goods and passengers, particularly in connection with the tourism sector.

**The road connection** between Italy and Croatia is currently heavily used, especially by tourists from northern and western EU countries heading for Croatian touristic destinations.

Based on the Adriatic-Ionian motorway Project, established in the framework of the Adriatic-Ionian Initiative (AII), launched as an intergovernmental agreement in the Ancona summit of 2000, cross-border road mobility on the eastern side of the Adriatic, from Trieste in Italy to Kalamata in Greece, should soon be completely channelled through connected motorways. Currently, however, several segments are still missing, forcing road traffic on national roads and creating important bottlenecks especially on tourism season. One of the key missing segments, for around 35 kms, is the connection between the Slovenian city of Postojna and the Slovenian-Croatian border: at the moment, the road connection between Italy and Croatia is hence not covered by motorway but by national roads<sup>148</sup>.

In terms of **railway connections**, there are no direct trains that travel from Trieste to the Croatian coastal cities. The fastest connection that has a daily frequency is between Trieste and Rijeka, with a

<sup>145</sup> EU Transport in Figures, statistical pocketbook, 2020, [Link](#) accessed 22 April 2021

<sup>146</sup> Source: IUC: [link](#) accessed 27 april 2021. High speed railways are normally defined by speed capacity over 250 km/h.

<sup>147</sup> European Commission, efficiency of train services: [link](#).

<sup>148</sup> Information on the Adriatic Ionian Motorway retrieved from: Žepič, Ministry of Infrastructure of Slovenia, "Adriatic-Ionian Corridor: a corridor linking two macro-regions", presentation to the 4th Stakeholder Conference The DANUBE REGION TRANSPORT DAYS, 4-5 December 2018, [Link](#)

stop in the Slovenian town of Pivka. The total duration of the travel is about four hours, with a one-hour transfer. Other railway connections are only available through the city of Zagreb, with huge increase of travel time.

There is a total of **15 active airports** in the Programme area that have scheduled services on commercial airlines: Venice, Bari, Brindisi, Trieste-Udine, Pescara, Ancona, Forlì, Rimini, Split, Dubrovnik, Zadar, Pula, Rijeka, Osijek, Brač.

Regarding **cross-border air-based mobility**, even before the COVID crisis, there were very few and only seasonal direct flights connecting the Italian and Croatian sides of the Programme area, forcing business travellers as well as tourists to use difficult connecting flights to Germany or Belgium, for example, or to resort to the use of private cars, which further amplifies the problem of the bottlenecks.

Regarding the **maritime connections** between the two sides, the documental analysis has shown that there are around 25 ferry connections, however their seasonal character contributes to an overburdening during certain periods of the year, and a lack of connections in others. The area has 29 main ports handling passenger traffic, 24 of which are in Croatia and 5 in the Italian regions. Of these, only 9 ports handle cross-border passenger ferry traffic between Italy and Croatia (Ancona, Bari, Brindisi, Dubrovnik, Poreč, Pula, Split, Stari Grad and Zadar)<sup>149</sup>. The network covers primarily the southern region of the Adriatic, while the north has considerably less options: this leads to the absence of a maritime alternative to the seasonal road traffic and bottlenecks over the Slovenian borders.

Beyond its use in CB connections, **waterway infrastructure** in the Adriatic is strongly developed in the Adriatic. This infrastructure numbers a total of 334 ports among the Italian and Croatian regions which are part of the Programme, coupled with intense maritime passenger and freight transport, as described in the previous TEN-T related chapter.

However, the issue of **multimodality** between the various modes of transportation arises here, particularly with regards to the increasing touristic cruise transport, which is not adequately backed by a multimodal infrastructure able to smoothly face the disembarking and the transport of tourists on land.<sup>150</sup>

Beside multimodality, **port infrastructure** present needs are also related to their improved **sustainability**. This need has already been tackled by a number of INTERREG projects involving regional ports, focusing on the issue of sustainability by implementing low-carbon and multimodal transport and mobility solutions within a macro-regional context, and the introduction of innovative and ICT based management solutions.

### ***The stakeholders' opinions***

**Interviews** with regional stakeholders revealed a key **need** to improve both local as well as cross-border mobility. A particular focus in this aspect is on addressing the lack of adequate maritime and air connections, but also on creating more alternatives for land transport that can help reduce the level of reliance on personal vehicles.

<sup>149</sup> Cross-Border Cooperation in the Adriatic-Ionian Area, 2019, [Link](#) accessed 22 April 2021

<sup>150</sup> ESPON, Maritime Spatial Planning and Land-Sea Interactions, Targeted Analysis, 2020, [Link](#)

In terms of **strengths**, Italian stakeholders highlighted the potential for maritime cross-border transport, as well as promotion of sustainable multimodal transports between the two sides, while Croatian stakeholders focused more on the need to further develop the motorway and the railway infrastructure.

During the **webinars**, stakeholders stressed the **need** for better national and regional railways. The issue of seasonal tourism traffic was also mentioned as a second priority, particularly by the Italian side.

The potential of the area in terms of mobility by sea was regarded by most stakeholders that participated in the webinars as being the biggest strength of the region in the domain.

### 3. Conclusions

There is a particular need to shift away from private-ownership based means of transportation towards more sustainable options such as rail, maritime or air transport. As such, the further development of existing local and regional mobility infrastructure is required to be done with a multi-modal principle in mind.

The development of the railway infrastructure is of particular importance for the Southern part of the Croatian coast, since it can alleviate part of the motorway traffic in the area and improve the connection of the region with the Continental part of Croatia. Increasing the quality of railway transport can encourage passengers to shift towards more sustainable means of transport, but this comes at considerable investment costs.

The data related to cross-border mobility between Italy and Croatia show multiple difficulties and room for improvement: the absence of rail connections, the inefficient road connections and the very limited number of air connection, would by themselves lead to an increased and well-spread use of the maritime cross-border mobility solutions. However, these latter are not developed in line with the needs: they are limited geographically, mostly seasonal and need improvement in terms of sustainability and quality. The presence of a good maritime transport infrastructure and several existing projects in this domain (also from the previous Italy-Croatia Interreg Programme), represent a good starting basis for policies in this direction.

## 4.16. Labour Markets, Employment, Social Infrastructure, Social Economy

### 1. Policy framework and general context

The strategic framework for policies of improvement of the labour market starts from the global level: the **UN Agenda 2030** dedicate its **Sustainable Development Goal (SDG)** n.8 to productive employment and decent work for all<sup>151</sup>.

In the framework of the **Europe 2020 strategy**, the European Union had proposed to reach an employment rate of at least 75% for persons aged 20 to 64 years. This objective had been incorporated into individual national targets, set at 63% for Croatia and 67% for Italy.

According to the latest **European Semester reports** (2020) related to the participating Member States, Croatia's national unemployment level is forecasted to increase to 10,2% in 2020<sup>152</sup>, while the Council issued a recommendation to the Croatian national government to "*step up its efforts to support the workforce in developing appropriate skills (e.g. digital skills), develop outreach strategies towards the inactive population and fight undeclared work*"<sup>153</sup>.

In the case of Italy, the 2020 European Semester exercise forecasted the unemployment rate to rise to 11,8% in 2020 and recover by approximately 1 percentage point in 2021. The council recommendations for Italy were related to the promotion of policies to upskill and reskill workers, as well as the continuation of development of e-services so as to combat the depopulation observed in Italian Southern regions and rural areas<sup>154</sup>.

The European Union had other far-reaching labour market objectives as well, ranging from decreasing the gender-employment gap, promoting employment of senior men and women (55-64 years of age), as well promoting more aggressive labour-market integration schemes for people with high educational attainment levels.

The 2008 economic crisis has had a profound impact on the labour market of the European Union, but recent developments in labour market indicators reveal that, in general, the European economy recovered at levels above the ones registered before the 2008 crash. The regions involved in the Programme Area presented inter-regional disparities in terms of employment rates as early as 2008 and, according to the data-analysis of various labour-market indicators, such disparities remained throughout the period of The Great Recession and up to 2019.

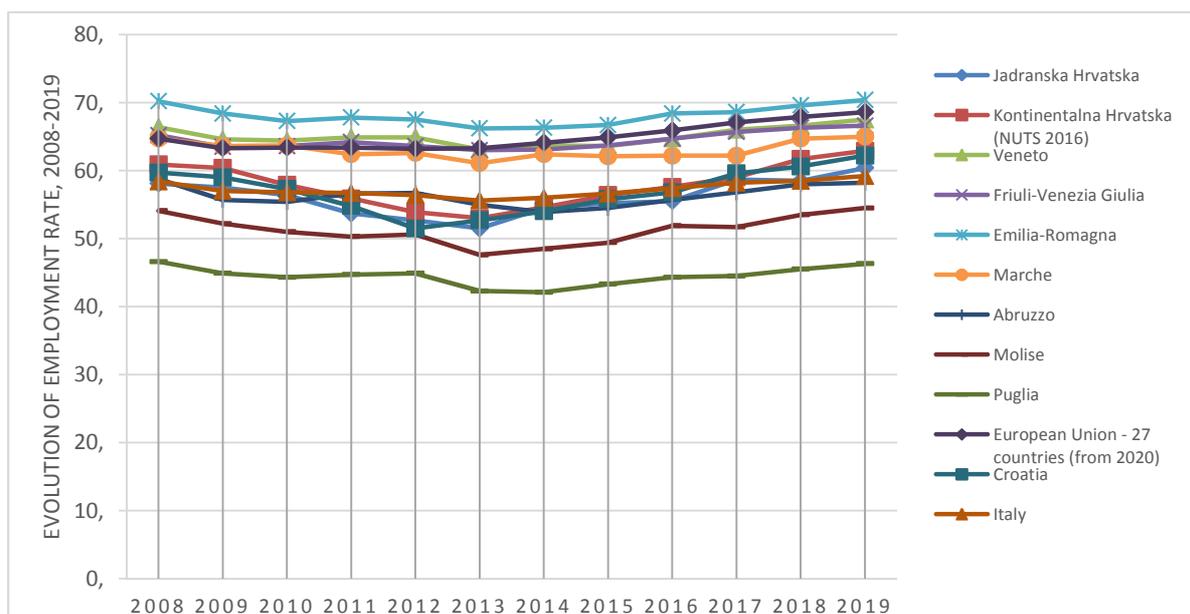
<sup>151</sup> United Nations (2020). *The Sustainable Development Goals Report 2020*. [Link](#): Accessed on 15 April 2021

<sup>152</sup> At the moment of writing, the forecast was yet to be validated by official data coming from relevant national and European institutions.

<sup>153</sup> European Semester (2020). *Council Recommendation on the 2020 National Reform Programme of Croatia and delivering a Council opinion on the 2020 Convergence Programme of Croatia*. [Link](#): Accessed on 15 April 2021

<sup>154</sup> European Semester (2020). *Council recommendations on the 2020 National Reform Programme of Italy and delivering a Council opinion on the 2020 Stability Programme of Italy*. [Link](#): Accessed on 15 April 2021

Figure no. 52 Evolution of employment rate, NUTS 2 regions involved in Programme area, 2008-2019.



Source: Eurostat

Furthermore, since the beginning of the year 2020, both the EU and the global economy have been suffering significant set-backs due to the COVID-19 pandemic and the subsequent national and regional confinement measures that were taken by the Member States as an effort to combat the spread of the SARS-CoV-2 virus. The European Commission is closely monitoring the impact of the confinement measures on the European Union labour market and preliminary results reveal that negative effects *“often concentrate on the most vulnerable and disadvantaged workers”*<sup>155</sup>. It is important to reiterate that the economic sectors that were forcefully closed by the confinement decrees issued by the national governments are typically characterized by both precarious working conditions and low wages, which may worsen the income and employment gap not only between Member States, but also within their national labour markets.

Furthermore, according to the UN Department of Economic and Social Affairs (UN DESA), the social impact of the COVID-19 pandemic is increasingly felt by the vulnerable social groups, particularly elderly persons, people with disabilities, as well as youth<sup>156</sup>.

## 2. Territory’s needs and strengths

As shown in the figure above, the Programme area has presented strong inter-regional disparities in terms of **employment rate** for well over a decade. While the regions had suffered significant set-backs in terms of employment rate due to the 2008 crisis, most have registered large positive progress in terms of labour market recovery and, in 2019, only two regions involved in the Programme area presented lower employment rates compared to the 2008 reference year<sup>157</sup>. Regardless of these differences, most of the territory is chronically under-performing compared to the EU-27 average employment rate and has been doing so for more than a decade. One outlier is

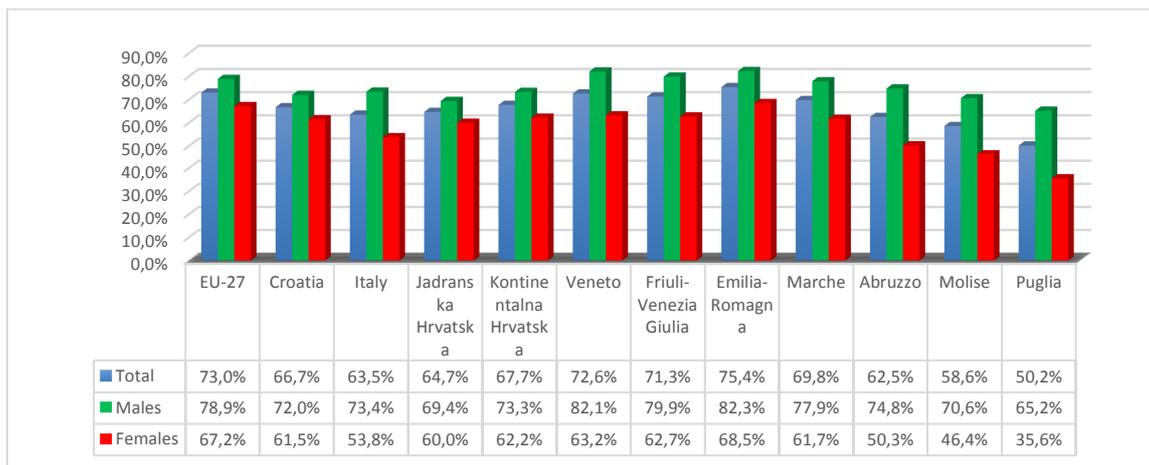
<sup>155</sup> Joint Research Centre (2020). *The impact of COVID confinement measures on EU labor market*. [Link](#): Accessed on 15 April 2021

<sup>156</sup> United Nations Department of Economic and Social Affairs (2020). *Everyone Included: Social Impact of COVID-19*. [Link](#): Accessed on 15 April 2021.

the region Emilia-Romagna, which has been constantly outperforming the EU-27 average employment rate for the past 10 years.

There are large discrepancies between the regions involved in the Programme territory in terms of **employment rate of women**. In this sense, NUTS 2 regions from the southern part of the Italian Adriatic coast are well behind not only the EU-27 average, but their respective national average as well.

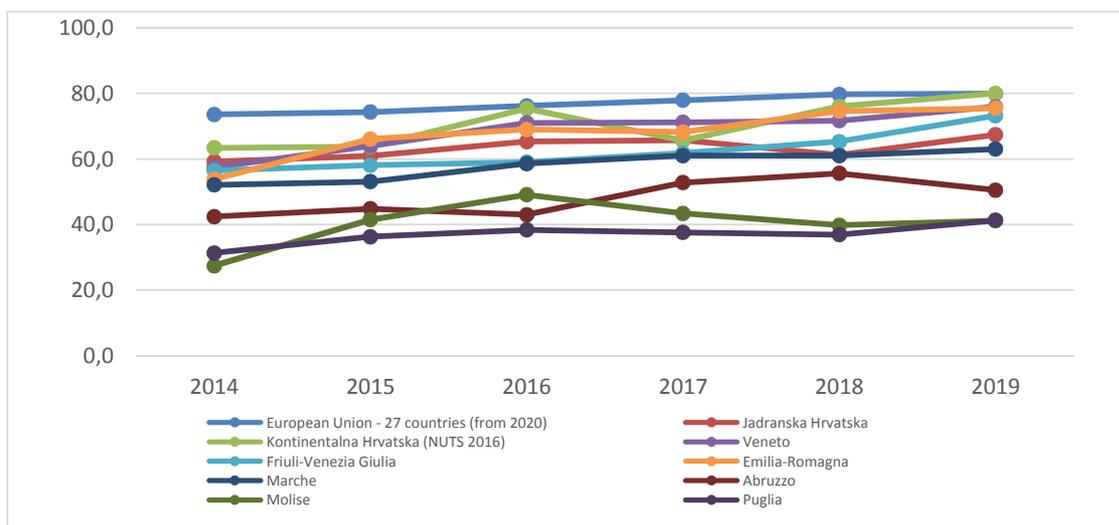
Figure no. 53 Employment rates of the age groups 20-64, NUTS 2 regions involved in Programme Area, 2019



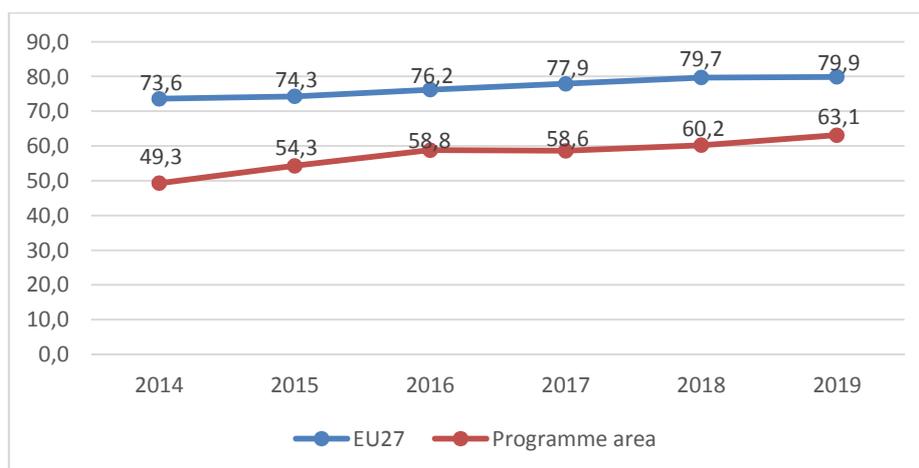
Source: Eurostat

An important topic of analysis regarding employment is the **employment rate of youth not in education, employment, or training (NEET)**. The longitudinal analysis has shown that, as a whole, regions involved in the Italy-Croatia CBC Programme Territory have significantly increased the employment rates of young NEET in the past six years and, even though it still under-performs the EU-27 average, the gap is shrinking on a year-by-year basis. While the progress has been relevant, in the absence of specific policy interventions, there is the risk that the negative effects of the COVID-19 pandemic effectively will undo the impressive improvements registered by the Programme territory.

Figure no. 54 Employment rates of young NEET, 1-3 years since completion of highest level of education, NUTS 2 regions involved in the Programme Area



Source: Eurostat

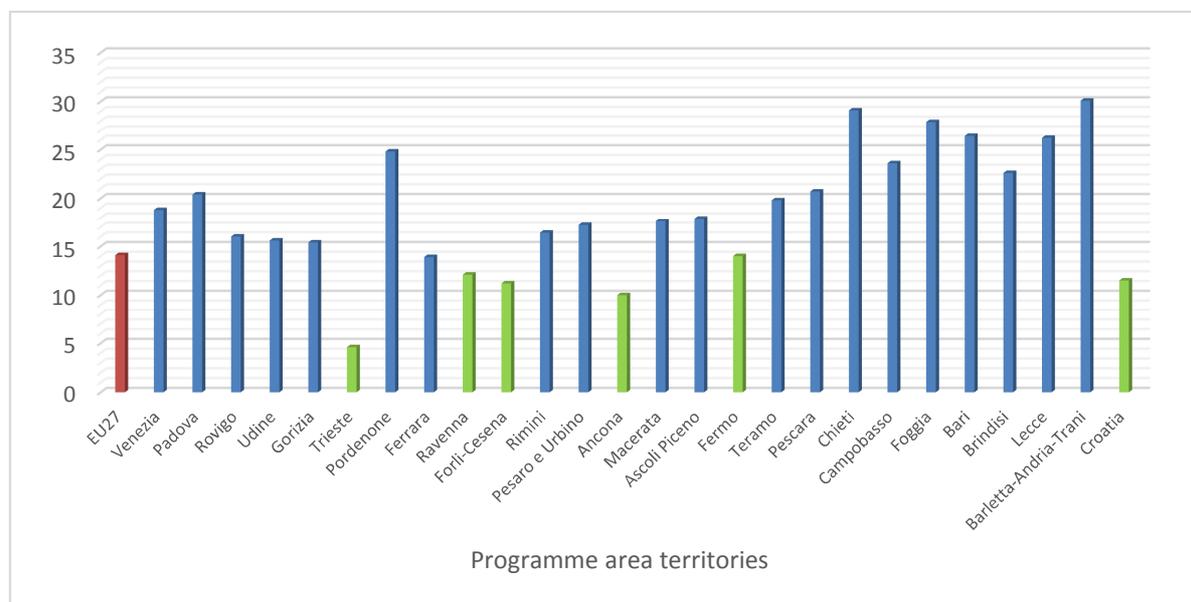


Source: Eurostat

Another sensitive issue tackled by the Europe 2020 strategy refers to the goal of decreasing the **gender pay-gap**, particularly through more targeted policy interventions aimed at increasing the employment rate and labour-market integration of women.

As can be seen from Figure 3, data analysis revealed that there are significant territorial disparities in the gender employment gap at the level of the Programme area. Unfortunately, at the time of writing, no NUTS-3 level data regarding gender pay gap were available for the Croatian territories. Nevertheless, the analysis reveals that certain territories in the Programme area (which tend to correspond to those territories where female employment rate is at a distinctly low level), are particular under-performers in terms of gender-pay gap.

Figure no. 55 Gender pay gap in unadjusted form, 2019<sup>158</sup>

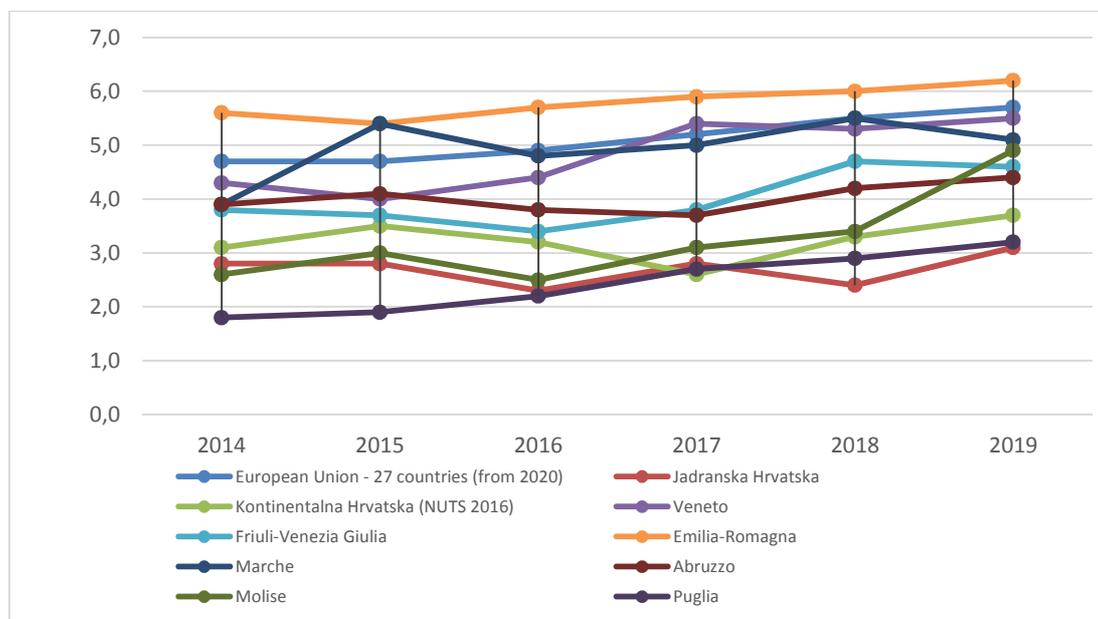


Source: Eurostat, Istat

<sup>158</sup> Data at NUTS 3 level was available for the Italian Programme Area. Due to data availability issues, national level data was used for Croatia.

Lastly, the Programme area has seen incremental but significant developments in the employment rate of elderly persons, however, it is still well below the EU-27 average. As it stands, the employment rate of elderly persons is increasing at EU level at a faster rate than what can be observed within the Programme area, which not only cements but increases the differences between the Programme area and the rest of the European Union.

Figure no. 56 Employment rates of the elderly (65+), NUTS 2 regions involved in the Programme area, 2014-2019



Source: Eurostat

### The stakeholders' opinion.

The **interviews** with the institutional stakeholders revealed a major and almost unanimous concern for youth employment. The lack of workforce with high education levels, also due to the brain drain phenomenon is also a major concern, especially in Croatian regions; stakeholders also underlined as a weak point the predominance of employment in the tourism sector, often related to seasonal and low-quality jobs. A need for a redistribution of the employment among a larger and more innovative number of sectors of the blue economy as well as of social economy has been raised. Finally, Croatian stakeholders underlined a specific need for improved, more numerous and better performing social infrastructures and systems. In terms of **strengths**, respondents mainly focused on the positive trends of job market indicators in the last years in most areas, and in the good education infrastructure.

In the **webinars**, local stakeholders identified the most important **needs** of the area in the employment perspectives for youth and in an improved coordination between the education system and the job market. On the other hand, the main potential in the domain have been identified in the possibilities offered by innovation in the touristic sector and in circular economy-related domains.

### 3. Conclusions

The Programme area presents significant regional disparities in terms of employment-related performances. However, the almost entire territory lags behind against EU-27 average for the most important employment indicators.

Trends of the last years, nevertheless, can be considered a point of strength for the Programme territory as the gap towards EU-27 is reducing for the important improvements in terms of the employment rate of the population – particularly women, young NEET– as well as in terms of gender pay-gap and employment of elderly persons.

The importance of the tourism sector in employment offers, their seasonality and being currently threatened by the pandemic situation, are aspects of serious concern which led to the challenge of diversifying the employment perspectives among more sectors of the blue economy.

Better job perspectives for youth, women and elder persons are needed, also in order to fight brain drain phenomena.

A need for more developed, numerous and efficient social infrastructures is also present, especially on the Croatian side of the area.

## 4.17. Education, Training, Lifelong Learning and Related Infrastructure

### 1. Policy framework and general context

**United Nation’s Agenda 2030, in particular Sustainable Development Goal 4,** focuses on “*ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all*”. In particular, *The Sustainable Development Goals Report 2020* highlights that, without remedial action, the effects of the COVID-19 pandemic and school closures may not only reverse years of progress in access to education, but also add to the obstacles faced by poor children in completing their education, due to their lack of access to remote learning tools<sup>159</sup>.

In 2017, the European Commission released a communication on *A renewed EU agenda for higher education*<sup>160</sup>, which proposed several priorities for action with regards to developing higher education across the Union. In this sense, the priorities revolve around:

- Tackling future skills mismatches and promoting excellence in skills development;
- Building inclusive and connected higher education systems;
- Ensuring higher education institutions contribute to innovation;
- Supporting effective and efficient higher education systems.

In the context of the Council’s strategic framework of a European cooperation in Education and Training (ET 2020), the European Union pursues **four common objectives**:

- Make lifelong learning and mobility a reality;
- Improve the **quality** and **efficiency** of education and training;
- Promote **equity, social cohesion and active citizenship**;
- Enhance creativity and innovation, including **entrepreneurship**, at all levels of education and training.

2020 Country specific recommendations issued in the framework of the **European Semester** are also relevant. In the case of Italy, the document highlights that the efforts to promote equal opportunities, work-life balance policies and the supply of affordable early childhood education needs to be continued in Italy, which still faces very strong regional gaps<sup>161</sup>.

In the case of Croatia, even though the Member State has seen significant progresses in implementing digital education, the Commission highlights that “*further developments of infrastructure and material for digital education and training of the digital skills of teachers, pupils and adults are needed*”<sup>162</sup>.

Important progresses have been made in terms of improving the quality and accessibility of education both at European level and at the level of the Programme territory; nonetheless, starting with the year 2020, significant disruptions occurred at a global level due to the COVID-19 outbreak. This has pushed education into a “forced” restructuring, as school closures have dramatically increased the use of digital learning techniques. Indeed, such an adaptation seemed to be easier for

<sup>159</sup> United Nations (2020). *The Sustainable Development Goals Report 2020*, pp. 32-34. [Link](#) Accessed on 14 April 2021

<sup>160</sup> European Commission (2020). *A renewed EU agenda for higher education*. [Link](#).

<sup>161</sup> European Semester (2020). Country Specific Recommendations – Italy. [Link](#): Accessed on 14 April 2021

<sup>162</sup> European Semester (2020). Country Specific Recommendations – Croatia. [Link](#): Accessed on 14 April 2021

those Member States where the digital education is more mature, while the significant geographical disparities in terms of access to education present at the level of both Italy and Croatia resulted in an uneven digital transition<sup>163</sup>. In this sense, some territories in the Programme area, particularly Italian southern regions, have a particular gap in terms of the rate of digitalization as compared with the rest of the Programme area.

Furthermore, according to a preliminary EU-level study, the learning loss suffered by students during the COVID-19 pandemic *“will translate into a reduction of available human capital, with negative effects on productivity growth, innovation and employment, including future lower earnings for the student cohorts directly affected by the lockdown”*<sup>164</sup>.

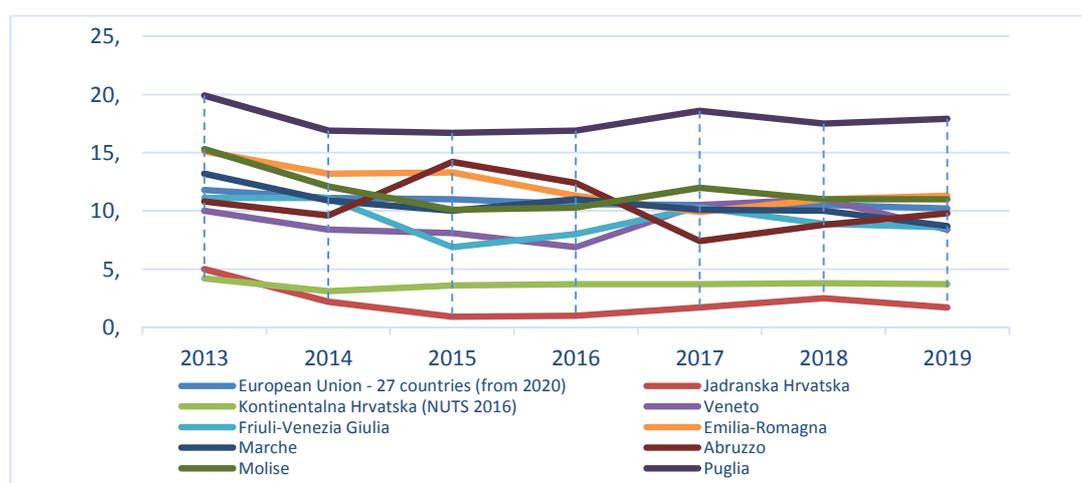
## 2. Territory’s needs and strengths

In general, the Programme territory presents strong inter-regional disparities regarding education indicators. However, in most cases, regions involved in the Programme area present worse performances than the EU-27 average.

The statistical analysis has mostly focused on indicators related to secondary and higher education. As a first phenomenon, we focused on the rate of early leavers of education and training at the level of the regions involved in the Programme area, meaning the percentage of the population aged 18 to 24 having attained, at most, lower secondary education and not being involved in further education and training.

The analysis reveals that there are major differences among interested NUTS 2 regions on a year-by-year basis. Taken together, the Programme area would outperform the EU-27 averages, but such a statistic is mainly driven by the particularly low levels of values in both Jadranska Hrvatska and Kontinentalna Hrvatska. On the other hand, Italian regions in the Southern Adriatic coast are ranked as the worst performers in the Programme area in terms of early leavers rate, with Puglia being consistently above the 15% threshold. Overall, all regions in the Programme area have reported improvements in the rate of early leavers of education in the last years.

Figure no. 57 Early leavers of education and training, %, regions involved in the Programme area



<sup>163</sup> European Commission (2020). *Education and training monitor 2020*, pp. 7-8. [Link](#): Accessed on 14 April 2021

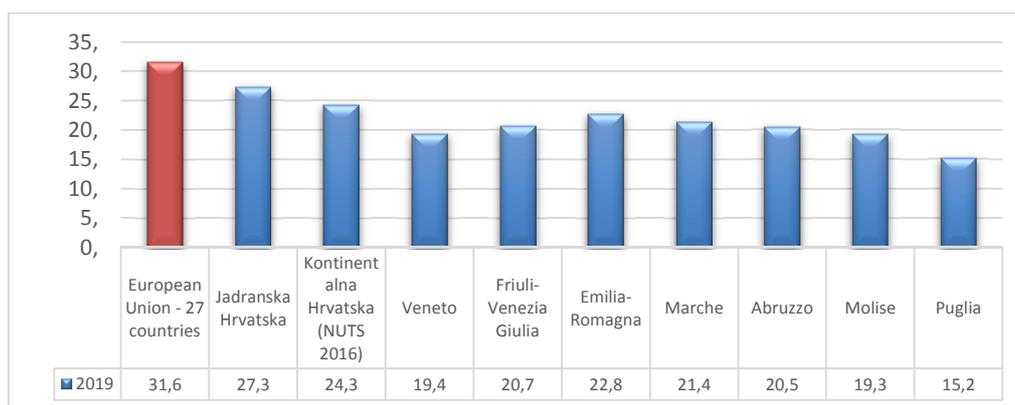
<sup>164</sup> Joint Research Center (2020). *The likely impact of COVID-19 on education: Reflections based on existing literature and recent international datasets*, pp. 4-5. [Link](#) Accessed on 14 April 2021

*Source: Eurostat*

Looking at the percentage of the population having attained tertiary education, this is, in all participating regions, lower than the EU-27 average in the last available year (2019).

Regardless of this fact, in the period 2014-2019, the regions involved in the Programme area registered a net increase in the percentage of population having attained tertiary education of 4.25%, while the EU-27 average increase is 4.50%. This indicates that, in spite of the progress made by the participating regions, the difference between the rest of the Union and the Programme territory is continuing to widen over time.

*Figure no. 58 Percentage of population having attained tertiary education, 2019*



*Source: Eurostat*

Regional values for the year 2019 presented in the above figure also show significant inter-regional disparities within the area: the rate of attainment of tertiary education in the best performing region (Jadranska Hrvatska) is almost double than the worst performing region (Puglia).

***The stakeholders' opinion.***

Interviews with institutional **stakeholders** revealed a priority concern for the need of an improved coordination between educational programmes (also in tertiary and post-university education) and the needs of regional economies and labour markets. The need of a higher attention of the education systems on knowledge related to the **blue economy** sectors and to the transition towards a more sustainable economy have been particularly underlined.

Stakeholders also mentioned the need for better systems of professional and non-formal training, especially for adults in the framework of an improved lifelong learning approach. Croatian stakeholders have also reported the need for an improved education infrastructure, a better distribution on the territory and the need for an improved preparation of teachers in more innovative knowledge domains.

In terms of **strengths**, the main aspect emerging is the presence, in several territories of situations of excellence in certain new domains of knowledge (ICT, green economy) both in terms of educational structures and successful pilot initiatives. In the **webinars** with the local stakeholders the needs for green competences and digital skills (especially in the framework of lifelong learning) were also raised by participants among the priority challenges.

### 3. Conclusions

Although the main education-related indicators have been evolving positively in the Programme territory, the area remains much distant from the EU average, especially regarding the percentage of the population achieving tertiary education.

Furthermore, there are important internal regional disparities underlined by all indicators. There is a need to close the gap between the education system and the needs of the economy and job markets, especially considering the strategic trends towards a more sustainable and ICT based economy.

Innovated blue economy sectors as main engine of the development of the area, should be more assisted by the educational systems in the provision of appropriately prepared human resources for their sustainable evolution and development.

## 4.18. Marginalized Communities, Low Income Households and Disadvantaged Groups

### 1. Policy framework and general context

The European Union, together with other international organizations such as the Council of Europe have been actively involved in the **socio-economic integration and protection of national minorities, third country nationals and marginalized communities**. Both Italy and Croatia, as Member States not only of the European Union but also of the Council of Europe, have been actively involved in promoting such policy interventions for over two decades. Italy, in particular, had a National Strategy for the Inclusion of Roma, Sinti and Caminanti (RSC) for the time-span of 2012-2020<sup>165</sup>, whereas Croatia had a National Roma Inclusion Strategy for the time-span of 2013-2020<sup>166</sup>.

Both participating Member States have ratified the **Framework Convention for the Protection of National Minorities**<sup>167</sup> as early as 1997 and have been actively involved in not only implementing policies aimed at enhancing the socio-economic integration of national minorities, but also to raise awareness and improve the protection of the human rights of these marginalized communities. Pursuant to Article 25(2)<sup>168</sup> of the Convention, both participating Member States have been monitoring and reporting their progress regarding the implementation of the Convention since 1999 and have completed the fifth monitoring cycle in 2019.

At the level of the European Union, the fight against **marginalization** is mainly funded through the new European Social Fund Plus (ESF+), in accordance with the European Pillar for Social Rights. In the context of the new Multiannual Financial Framework for 2021-2027, the European Union ESF+

<sup>165</sup> Italian Presidency for the Council of Ministers, National Office on Anti-Racial Discriminations National Focal Point, National Strategy for the Inclusion of Roma, Sinti And Caminanti Communities, [link](#) accessed on 16 April 2021.

<sup>166</sup> Government of the Republic of Croatia (2013). *National Roma Inclusion Strategy From 2013 to 2020*. [Link](#) Accessed on 16 April 2021

<sup>167</sup> Council of Europe (1995). Framework Convention for the Protection of National Minorities. [Link](#) Accessed on 16 April 2021

<sup>168</sup> Article 25(2) of the Framework Convention for the Protection of National Minorities reads: "...each Party shall transmit to the Secretary General on a periodical basis and whenever the Committee of Ministers so requests any further information of relevance to the implementation of this framework convention".

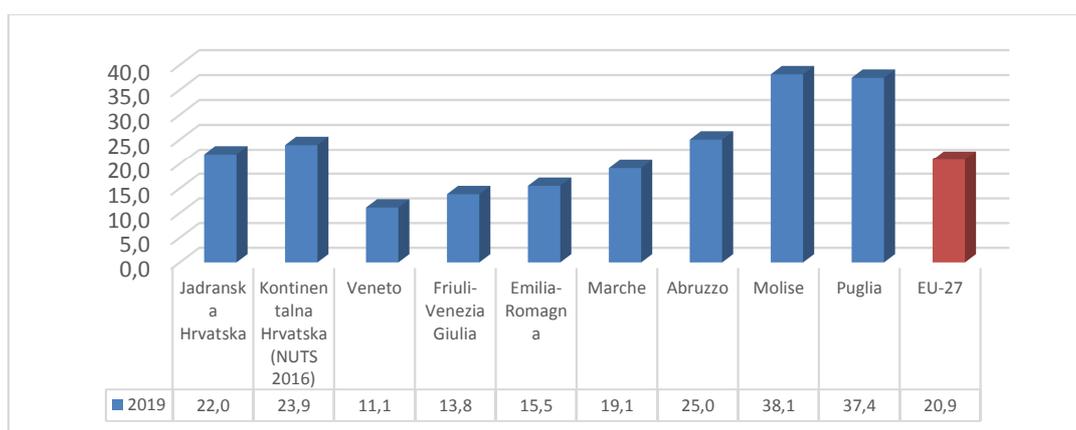
regulation will oblige Member States to allocate at least 25% of their ESF+ resources to promote social inclusion policies, so as to support the most vulnerable suffering from job losses and income reductions, and an additional 3% of their respective allocation so as to provide food and basic material assistance to the most deprived<sup>169</sup>.

Furthermore, the COVID-19 pandemic had severe negative consequences for virtually every citizen of the participating Member States, including marginalized communities. In particular, marginalized communities find it harder to respect emergency measures related to the aggressive increase in the necessity of personal hygiene and social distancing policies, due to their precarious socio-economic conditions and often sub-standard living conditions. Indeed, the pandemic has significantly increased the risks that the most vulnerable members of society have often been exposed to.

## 2. Territory's needs and strengths

There are significant disparities among the regions involved in the Programme area, particularly regarding the percentage of the **population at risk of poverty or social exclusion**<sup>170</sup>. As can be observed, there are still localized cases, in particular on the Southern Adriatic Coast of Italy, where the population at risk of poverty or social exclusion is particularly high and above the EU-27 averages, even though this trend can also be observed in Adriatic and Continental Croatia as well.

Figure no. 59 People at risk of poverty or social exclusion by NUTS 2 regions, expressed as percentage of total population, 2019

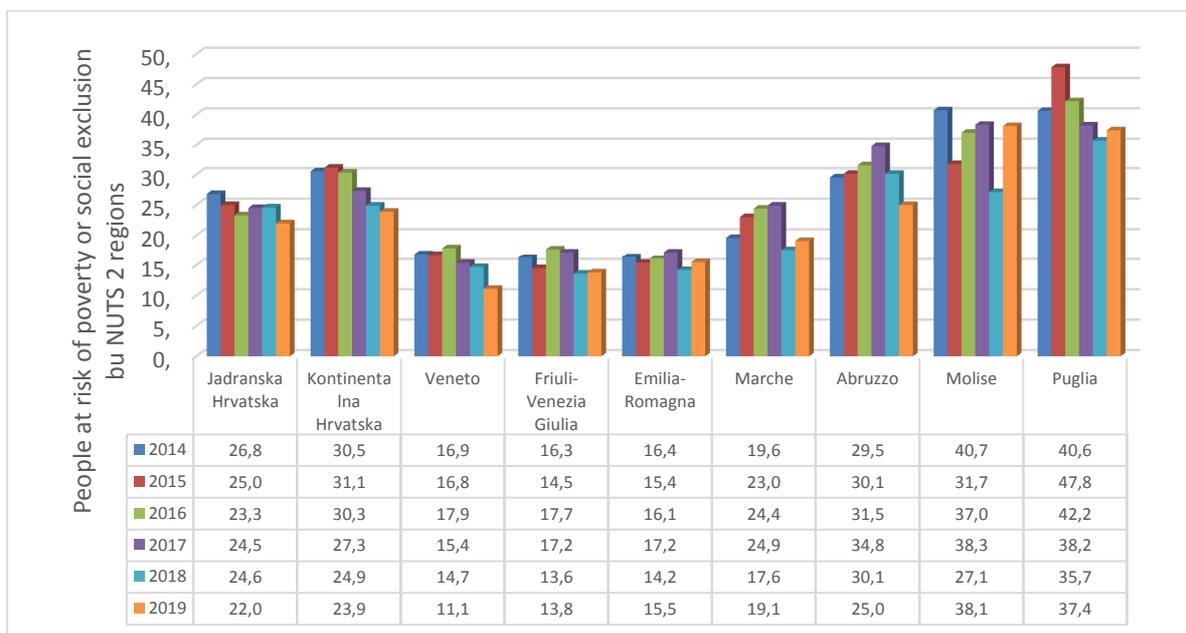


Source: Eurostat

<sup>169</sup> European Commission (2018). *A new, stronger European Social Fund Plus*. [Link](#): Accessed on 16 April 2021

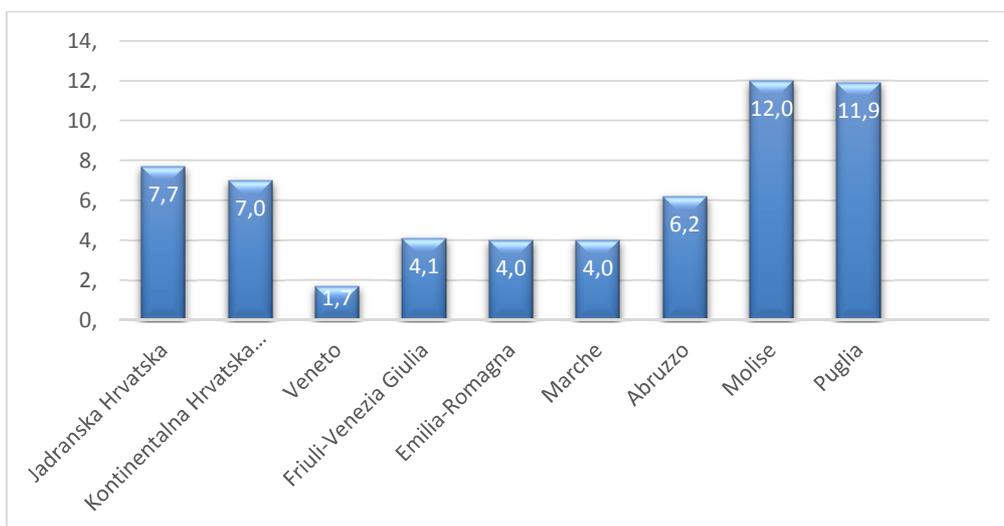
<sup>170</sup> According to Eurostat, this indicator corresponds to the sum of persons who are: at risk of poverty after social transfers, severely materially deprived or living in households with very low work intensity. Persons are counted only once even if they are affected by more than one of these phenomena.

Figure no. 60 Population at risk of poverty or social exclusion, regions involved in the Programme area, 2014-2019



Source: Eurostat

Figure no. 61 People at risk of poverty or social exclusion, NUTS 2 regions involved in the Programme area, 2019



Source: Eurostat

A recent EU-level report issued by the European Commission regarding the impact of the coronavirus measures on the marginalized Roma communities in the EU revealed that the emergency measures taken by the Member States, such as hand washing, compliance with personal hygiene recommendations and particularly physical distancing cannot be respected by marginalized Roma communities, many which are living in overcrowded Roma neighbourhoods<sup>171</sup>. According to the afore-mentioned report, Croatia has taken targeted central and regional/local level measures

<sup>171</sup> European Commission (2020). *Overview of the impact of coronavirus measures on the marginalized Roma communities in the EU*. [Link](#): Accessed on 16 April 2021

(also in cooperation with the civil society) aimed at cushioning the negative impact of the pandemic on the Roma communities, such as pandemic awareness campaigns, food coupons and provision of tablets and SIM-cards to Roma children in need. Italy as well approached the issue, by mainly focusing on target local interventions, while the central government (particularly the Minister for Equal Opportunities and Family) focused on awareness-raising campaigns.

According to the monitoring reports of Italy<sup>172</sup> and Croatia<sup>173</sup> regarding the implementation of the Framework convention for the Protection of National Minorities, there have been some significant good practices in the past five years in the Programme area. The report for Italy describes good developments in Trieste, Pordenone, Venice, Ravenna and Teramo especially about integration of Roma children and adults. Similarly, in Croatia, steps were reported to ensure the effective participation in the decision-making process of national minorities through the organizations of seminars in Zadar, Split-Dalmatia, Šibenik-Knin.

### ***The stakeholders' opinion.***

**The interviews with the territorial institutional stakeholders**, the overall highlighted need was related to the robustness of social inclusion actions, which could be improved. Specific groups for which inclusion policies should be improved have been reported being ethnic minorities, regionally war veterans, people with disabilities and elderly persons who were expelled from the job market. Local stakeholders from Croatia highlighted that, even though the government has taken steps in the integration of the Roma community, its integration still needs improvement.

Another issue highlighted by the stakeholders is the increasing rate of poverty amongst marginalized communities, since, as it was reported *“those who become poor require a long period to escape from poverty”*.

Stakeholders have also reported several territorial strengths, like the increasing social attention in the territory about discrimination of disadvantaged groups, the presence of many NGOs active in the domain, and several good local initiatives and practices for the active integration of marginalized communities and disadvantaged groups, on both sides of the border area.

During the **webinars** with local stakeholders, the **needs** getting the widest consent of the participants were the ones related to more and more effective social integration actions, and improved social infrastructure. In terms of **potentials**, participants massively converged on the idea that the development of social economy can be a potential driver of employment and inclusion for marginalized communities

## **3. Conclusions**

Regarding the integration and protection of the socio-economic status of marginalized communities, the regions involved in the Programme area have made significant progresses, although the territory is still underperforming the corresponding EU-27 averages in terms of main indicators.

Specific needs were highlighted, such as the need to continue social actions aimed at cushioning the negative effects of poverty and marginalization on those communities, with a particular focus on the elderly, Roma and other national minorities. Local stakeholders highlighted that poverty has long-

<sup>172</sup> Council of Europe (2019). *Fifth Report submitted by Italy*. [Link](#): Accessed on 16 April 2021.

<sup>173</sup> Council of Europe (2019). *Fifth Report submitted by Croatia*. [Link](#): Accessed on 16 April 2021.

term effects on these communities, as they require major efforts to move above the poverty threshold level.

The area can however count on a good starting basis in terms of awareness of the integration issue, presence of actors active in the field, and successful cases of local/regional policies and projects for active integration.

The COVID-19 pandemic is expected to have significant negative consequences not only on the socio-economic status, but also on the health-associated risks of the marginalized communities in the Programme territory and in both Member States. Indeed, it is accepted by EU-level institutions that the degree of risk of infection with the COVID-19 disease is significantly larger in marginalized and poor communities, particularly due to poor living conditions and their precarious socio-economic status.

## 4.19. Third Country Nationals and Migrants

### 1. Policy framework and general context

There are inherent differences between the two participating Member States in terms of their role and positioning on different migration routes coming into the European Union. In particular, Italy finds itself on the Central Mediterranean route<sup>174</sup> and, due to its direct border with the Mediterranean Sea, is considered to be a country of first arrival<sup>175</sup>, whereas Croatia is considered to be a transit country<sup>176</sup> for third country nationals looking to reach western Europe through the western Balkan route<sup>177</sup>.

Regarding the **Central Mediterranean route**, some important developments have been made. The Malta Declaration of February 2017<sup>178</sup>, which was primarily focused on actions to significantly reduce migratory flows, continue the fight against illegal smugglers and to reiterate one of the main goals of the European Union, which is to save as many lives as possible. Furthermore, trainings were provided for Libyan Coast Guards to improve their capacity to execute rescue operations, which significantly decreased the number of arrivals in Italy in 2017 and onwards<sup>179</sup>.

On the other hand, **Croatia, as a transit country**, with one of the longest external land border of the EU, faces different challenges than Italy. The Western Balkan route is typically utilized by refugees arriving in Greece, which then follow the route into Northern Macedonia, Serbia, Hungary, Croatia and finally into western Europe. The route has achieved its peak number of illegal border crossings in 2015 (764.033) and the numbers have since decreased significantly<sup>180</sup>. This high number of illegal border crossings had prompted the Union to reach an agreement with Turkey, which was signed during the same year and has curbed migration significantly since then<sup>181</sup>.

It is important to mention that, due to the availability of data at the time of writing of the present territorial analysis, most time-series data presented in the current sub-chapter is at national level, whereas relevant regional and local data has been collected from various reports elaborated by international/European organizations.

<sup>174</sup> Refers to the common migrants and asylum seekers route that traverse the Mediterranean Sea by departing from North Africa to reach Europe. Many of the migrants' transit through Libya, which has given rise to a smuggling and trafficking network in that state. [Link](#): Accessed on 17 April 2021

<sup>175</sup> Otherwise known as "country of first asylum" or "first country of asylum", is a country in which an applicant for international protection has either a) been recognized as a refugee and they can still avail themselves of that protection or b) otherwise enjoys sufficient protection, including benefitting from the principle of non-refoulement provided that they will be readmitted to that country. [Link](#): Accessed on 17 April 2021

<sup>176</sup> According to Resolution 2073 (2015) of the Council of Europe, "transit countries are countries that migrants cross on their way to their country of destination".

<sup>177</sup> Frontex recognizes the Western Balkan route as one of the main migratory paths into Europe, particularly used by migrants from Afghanistan, Pakistan and Iran. [Link](#): Accessed on 17 April 2021

<sup>178</sup> European Council (2017). *Malta declaration by the members of the European Council on the external aspects of migration: addressing the Central Mediterranean route*. [Link](#): Accessed on 17 April 2021.

<sup>179</sup> International Organization for Migration (2019). *Mixed migration flows in the Mediterranean. Compilation of available data*. [Link](#): Accessed on 17 April 2021.

<sup>180</sup> Frontex (2021). *Western Balkan Route*. [Link](#): Accessed on 17 April 2021.

<sup>181</sup> European Parliament (2021). *EU-Turkey joint action plan*. [Link](#) : Accessed on 17 April 2021.

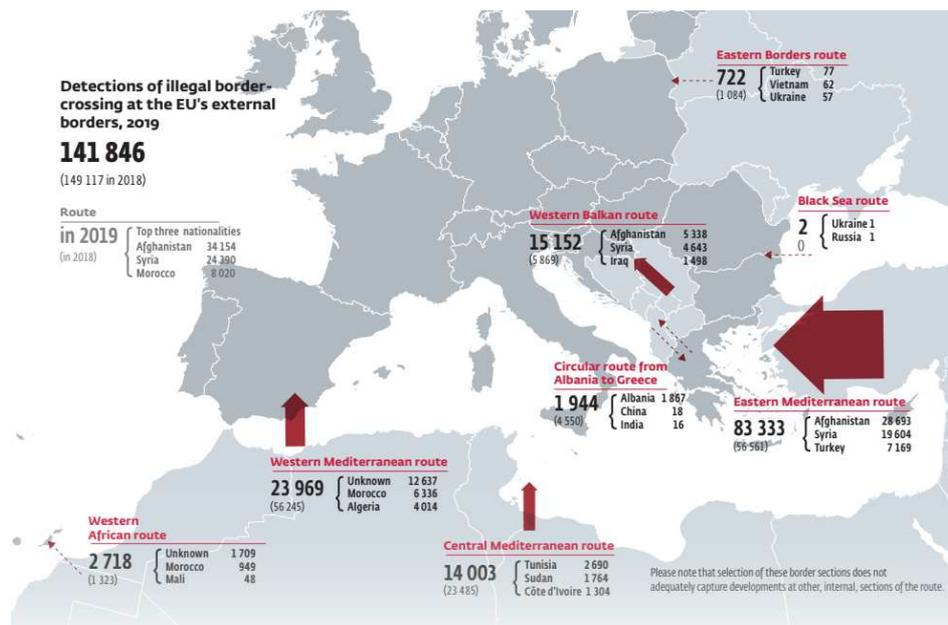
## 2. Territory's needs and strengths

According to monitoring data from the **UNHCR**, in 2021<sup>182</sup>, only 2.3% of the 8.329 refugee arrivals to Italy were registered in a region of interest for the Italy-Croatia CBC Programme (Puglia).

For the Croatian side of the Programme territory, the situation is strikingly different. As a transit country, the country's main activity is the apprehension of illegal migrants and the integration of third country nationals that had received refugee status legally. Based on data available for August 2019, 49% of the apprehensions made by Croatian national authorities happened in regions relevant to the Programme territory, as such: 28% of the migrants apprehended in August 2019 were detected in the Primorsko-Goranska county and heading into Slovenia, while 21% were apprehended in Karlovac county and were on-route to Slovenia<sup>183</sup>.

According to a risk analysis for year 2020 made by Frontex, "Migration in the Western Balkan region will continue to be influenced, to a large extent, by the size of the flows along the Eastern Mediterranean Route".<sup>184</sup> As can be observed from the next figure, according to FRONTEX, the **Eastern Mediterranean Route** represents the single largest route in terms of net influx of migrants crossing the EU's external borders. Indeed, between 2018 and 2019, the net numbers of detections of illegal border crossings on the Western Balkan route has increased almost three-fold as a result.

Figure no. 62 Detections of illegal border-crossings at EU's external borders, 2019



Source: Frontex

The immigration pressure from the Eastern Mediterranean route involves the Programme area in multiple ways. First of all, there is an important migration flows coming from Bosnia – Herzegovina and heading, through Croatia, towards Slovenia; as it can be seen from the data presented in Figure below from the International Organization for Migration (IOM). Both Karlovac and Primorsko-

<sup>182</sup> Data retrieved on 06.04.2021. Distribution may have changed slightly based on the ulterior influx of migrants and refugees.

<sup>183</sup> International Organization for Migration (2019). *Mixed migration flows in the Mediterranean. Compilation of Available Data and Information. August 2019*. [Link](#) Accessed on 17 April 2021

<sup>184</sup> Frontex (2020). *Risk analysis from 2020*. [Link](#): Accessed on 17 April 2021.

Goranska regions are facing high levels of migratory pressure and therefore report a very significant number of apprehensions of irregular migrants. Migrants typically cross into Primorsko-Goranska from Karlovac in order to reach Slovenia and continue North into Austria. Secondly, minor flows of migrants are reported entering southern Adriatic Croatian Regions from Montenegro or Bosnia-Herzegovina, arriving from Albania.

As a consequence to this pressure, there is a raise in territories' needs for an adequately balanced humanitarian and security action<sup>185 186</sup>.

Figure no. 63 Apprehensions in Croatia by region between January and August 2019



Source: International Organization for Migration (IOM)

In Italy, as it can be observed from the Figure above, the regions participating in the Programme area that have the largest population of migrants in reception centers are Veneto and Emilia Romagna, which house individually over 10.000 migrants and Puglia, which houses over 5.000. The presence of migrants in reception centers in regions Molise, Abruzzo and Marche is lower compared with the rest of Italy.

<sup>185</sup> FRA, European Union Agency for the Respect of the Human Rights, MIGRATION: FUNDAMENTAL RIGHTS ISSUES AT LAND BORDERS, report, October 2020. Available [here](#).

<sup>186</sup> “2020 Black book of pushbacks”, ([link](#)) issued by the Border Violence Monitoring Network and quoted in the quarterly bulletin (IV/2020) on “Migration: key fundamental rights concerns” of the European Union Agency for the respect of the Human Rights.

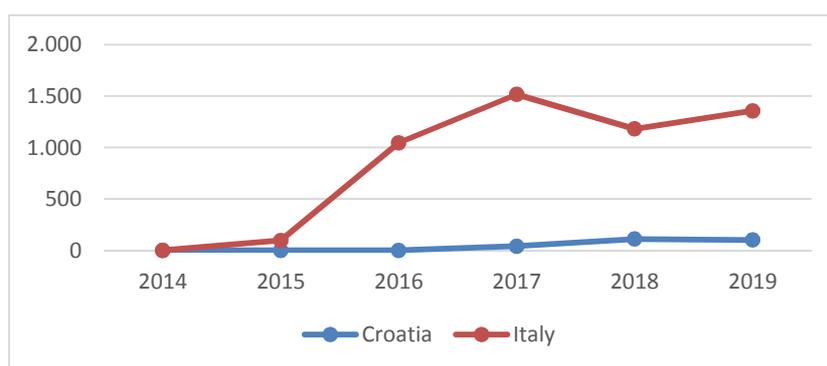
Figure no. 64 Distribution of migrants in reception centers in Italy by region, August 2019



Source: International Organization for Migration (IOM)

At national level, there are strong differences between the two participating Member States in terms of the absolute numbers of **resettled persons**<sup>187</sup>. Indeed, Italy had a striking increase in the number of resettled persons in the analysed period, as can be shown from the graph below, whereas Croatia reported only marginal increases in the same period. However, the Italian case is an outlier as, according to the data processed for the year 2019, Italy represented over 6% of all resettled persons at EU-27 level.

Figure no. 65 Evolution of resettled persons, absolute numbers, by participating Member State.



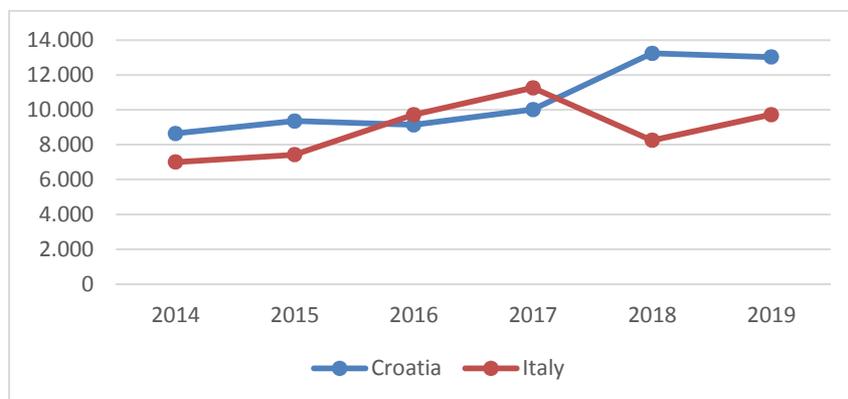
Source: Eurostat

Furthermore, regarding the absolute numbers of **third country nationals refused entry at external borders**, for the two participating Member States, similar trends have been observed. Indeed, in both participating Member States, we have observed an overall increase in the numbers of third

<sup>187</sup> Resettled persons (Eurostat definition): *Persons who have been granted an authorization to reside in a member State within the framework of a national or Community resettlement scheme, where such a scheme is implemented in that Member State.*

country nationals which were refused entry at external borders, with Croatia in 2019 having a higher number than the respective values reported by Italian national authorities.

*Figure no. 66 Third country nationals refused entry at external border, absolute numbers, participating Member States*



*Source: Eurostat*

### ***The stakeholders' opinion.***

According to the **interviews** with territorial stakeholders, there is a need to improve social action so as to positively enhance a policy of welcoming and integration of third country nationals and migrants. For the regions more subject to immigration transit, key actors confirmed the need of improved action for humanitarian and security purposes, improve border surveillance, accommodation capacity and conditions for migrants and asylum seekers. In terms of strengths, some actors reported a good background in terms of measures and structures for migrants reception, and a raising attention of local population for the humanitarian aspects of the migration management.

In the **webinars**, the consulted local stakeholders massively opted to indicate the need for “effective integration policies” as the most important; some attention was also raised by the need “better monitoring of the migration flows/situations”. In terms of potential, stakeholders mainly put their faith in the increasing cooperation among Countries at EU level; especially on the Italian side, stakeholders also flagged the presence of NGOs as a possible strength of the territories to face immigration challenges.

### **3. Conclusions**

Specific measures were taken at EU level regarding the very significant flow of migrants and refugees into the European territory in the past years. More recent developments have impacted the migrant flows into both participating Member States, even though their situations regard to migration flows are very different, as well as the related challenges. Croatian regions of the Programme area are transiting territories, laying on an external border of the EU, interested by one of the currently most important migration corridor. The Italian Regions are not a point of arrival for third country nationals, with the sporadic exception of Puglia shores, but rather a territory of first asylum.

A part of the territory, accordingly, features need of more effective actions for security and humanitarian purposes, in order to manage in a balanced way the transiting flow of migrants. Another part focuses more on the need of accommodation of migrants, their integration in the local society and possibly in the job market.

The increasing endogenous and exogenous pressure of the public opinion for effective and human management of migration flows, in all their stages, needs to be considered as a crucial factor in the political choices of the relevant authorities.

## 4.20. Health Systems and Infrastructure

### 1. Policy framework and general context

Health and health-related infrastructure is an important objective for the European Union and is recognized at the level of the **Europe 2020 strategy**. More specifically, health policy is included in EU 2020's objectives related to smart and inclusive growth<sup>188</sup>.

In 2014, the European Commission issued its **Communication COM (2014) 215 final on effective, accessible and resilient health systems**. The key priority of the Commission action in this domain have been established as follows:

1. Strengthen the effectiveness of health systems;
2. Increase the accessibility of healthcare;
3. Improve the resilience of health systems.

**United Nation's Agenda 2030, dedicates Sustainable Development Goal n.3** to the health policy dimension, with a particular focus on the reduction of maternal and child deaths, promotion of universal health coverage and an increase in medical personnel<sup>189</sup>.

The global and EU level strategic framework, however, lost any value when it left the stage to the global emergency SARS-CoV-2 pandemic which, starting 2020, affected in a deep and unprecedented way health policies at all levels. **The COVID-19 pandemic** has had severe implications not only on the socio-economic status of EU Member States and their territories but obviously also a on the healthcare systems of every European country.

OECD not only recognizes that the COVID-19 pandemic has bought public health back to the very top of the global policy agenda, but it highlights that the negative effects of the pandemic has also revealed the need to consider the resilience of health systems as an important dimension of healthcare systems performance, alongside accessibility, quality of care and efficiency<sup>190</sup>.

As it is still early to evaluate the impact of the pandemic on the health systems of the Programme area, and the consequent changes in their needs and strengths, the present analysis will make use on the most recent evolution of the sector as shown by the most recent indicators available, dating all before the start of the emergency. Conclusions drawn in the present territorial analysis may accordingly need to be revised once macro and regional-level healthcare indicators in the post-pandemic period begin to emerge.

### 2. Territory's needs and strengths

To present the situation of the health systems in the Programme Area, the present analysis has considered a set of three main indicators: the evolution in the absolute numbers of health personnel in the Programme territory, the evolution of the number of hospital beds in the Programme territory, as well as the in-patient average length of stay, measured in days. Average length of stay, in this case, is considered as an indicator of efficiency. According to the OECD, "*all else being equal, a*

<sup>188</sup> European Commission (n.d.). *Europe 2020 – for a healthier EU*. [Link](#): Accessed on 13 April 2021

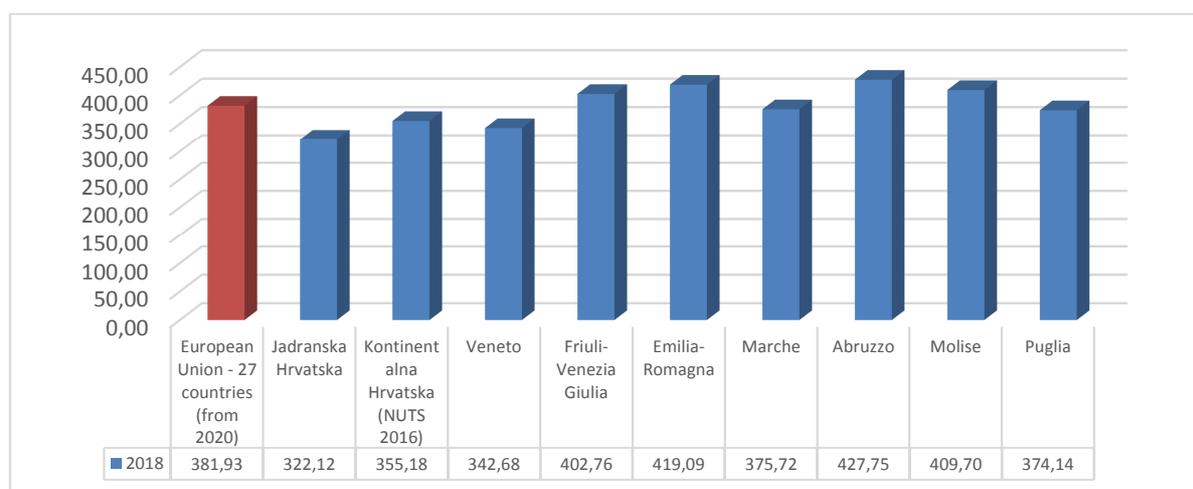
<sup>189</sup> United Nations (2020). *The Sustainable Development Goals Report 2020*. [Link](#): Accessed on 13 April 2021.

<sup>190</sup> OECD (2020). *Healthcare at a glance: Europe 2020. State of health in the EU cycle*. [Link](#): Accessed on 13 April 2021.

shorter stay will reduce the cost per discharge and shift care from inpatient to less expensive post-acute settings<sup>191</sup>.

While some regions are above the EU-27 average number of medical doctors per hundred thousand inhabitants, there are regional instances where this number is distinctly below the corresponding EU-27 value. As can be observed from the next figure, regions such as Abruzzo and Emilia Romagna are amongst the leading regions in terms of the share of medical doctors, with over 400 medical doctors per hundred thousand inhabitants. Adriatic Croatia, however, is on the lower end of the spectrum, with only 322 medical doctors per hundred thousand inhabitants, an aspect which was also underlined during the stakeholder consultations.

Figure no. 67 Medical doctors per hundred thousand inhabitants, NUTS 2 regions involved in the Programme area, 2018



Source: Eurostat

The situation regarding the number of hospital beds is more nuanced. While the analyzed data covered a rather small timeframe (2015-2018)<sup>192</sup>, the evolution is nonetheless concerning. With the notable exception of region Emilia-Romagna, every single region involved in the Programme territory has reported a net decrease in the numbers of hospital beds. While this trend is also observed at the level of the European Union, it is important to mention that some regions have reported a multiple decrease compared to the EU average., particularly Veneto (-5.96%), Friuli-Venezia-Giulia (-5.49%), Marche (-8.02%) and Molise (-25.84%).

<sup>191</sup> OECD (2017), "Average length of stay in hospitals", p.1, in Health at a Glance 2017: OECD Indicators, OECD Publishing, Paris. [Link](#): Accessed on 13 April 2021.

<sup>192</sup> Data for 2019 in terms of hospital beds was unavailable at the time of writing of the present analysis.

**Tabel no. 10. Hospital beds by NUTS 2 regions involved in the Programme area, 2015-2018, absolute numbers**

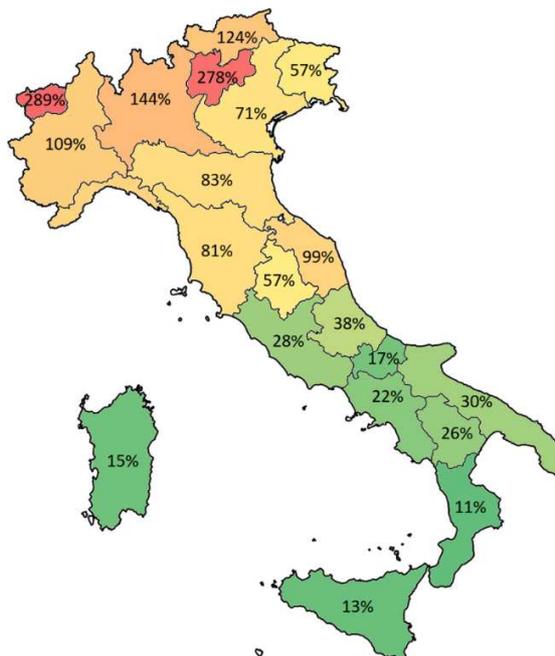
	2015	2016	2017	2018	2015-2018 Trend (%)
European Union - 27 countries (from 2020)	2,439,106	2,426,864	2,413,033	2,399,022	-1.67%
Jadranska Hrvatska	7,274	7,012	6,916	7,240	-0.47%
Kontinentalna Hrvatska (NUTS 2016)	16,135	15,905	15,962	15,720	-2.64%
Veneto	16,812	16,158	16,179	15,867	-5.96%
Friuli-Venezia Giulia	4,268	4,050	3,958	4,046	-5.49%
Emilia-Romagna	16,316	16,477	16,811	16,487	+1.04%
Marche	4,943	4,712	4,733	4,576	-8.02%
Abruzzo	4,087	4,140	4,004	3,994	-2.33%
Molise	1,130	1,102	1,029	898	-25.84%
Puglia	11,620	11,494	11,488	11,337	-2.50%

*Source: Eurostat*

However, regardless of the significant reduction in hospital beds at the level of Italian regions, the percent of routinely available beds in the Intensive Care Units (ICU) occupied by COVID-19 patients reveals that, with the exception of some regions outside the Programme area, the shift towards general hospital beds reduction has not negatively impacted the capacity of hospitals to house ICU patients. Indeed, only Marche reported a 99% occupancy in 2020. Furthermore, according to scientific literature, in Italy “there was no substantial reduction of beds in ICUs, if compared to relevant financial cuts in other wards”<sup>193</sup>.

<sup>193</sup> F. Pescaro, F. Clemente, D. Luzi (2020). *The efficiency in the ordinary hospital bed management in Italy: An in-depth analysis of the intensive care unit in the areas affected by COVID-19 before the outbreak*. [Link](#): Accessed on 13 April 2021.

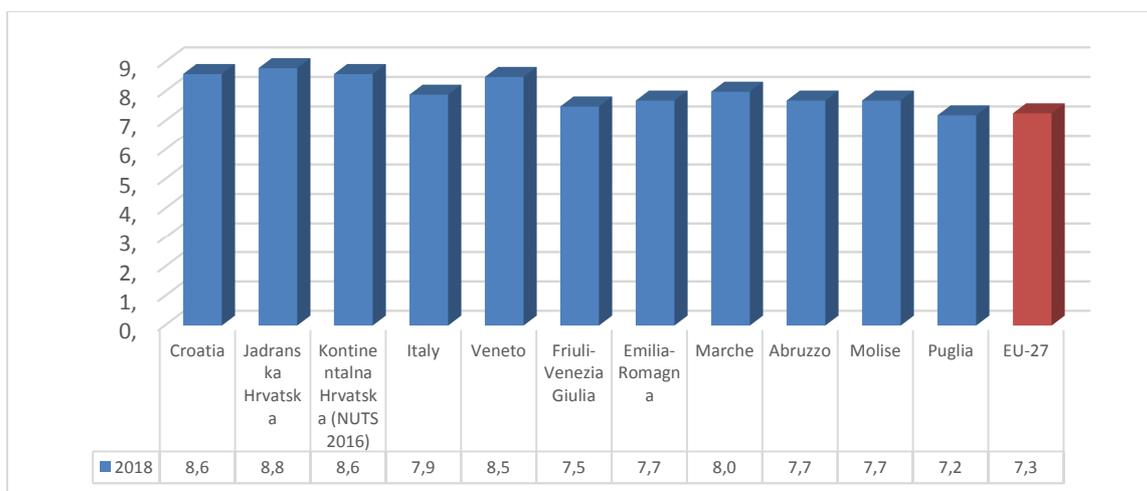
Figure no. 68 Percent of routinely available beds in the Intensive Care Units occupied by COVID-19 patients by region, 2020



Source: F. Pescaro, F. Clemente, D. Luzi (2020)

In terms of in-patient average length of stay, the situation seems to be more stable across the Programme area. Regional analysis reveals that the average in-patient average length of stay, across all regions involved in the Programme area is 7.96 days<sup>194</sup>. This is distinctly higher than the average length of stay reported at the level of the EU-27, which, for 2018, was 7.3 days. Regions Jadranska Hrvatska, Kontinentalna Hrvatska, Veneto and Marche under-perform (some marginally), while other regions, such as Emilia-Romagna, Friuli-Venezia Giulia and Molise out-perform the regional average.

Figure no. 69 In-patient average length of stay (days), regions involved in the Programme area, 2018.



Source: Eurostat

<sup>194</sup> In-patient average length of stay: lower is better.

### ***The stakeholders' opinion.***

Interviews with territorial stakeholders were performed during the COVID crisis, but they mainly reported territorial structural weaknesses and **needs**. The need for improved health infrastructure and equipment is still strong in many regions, as well as the need of a more capillary geographical coverage of the health services even in remote areas, even by the use of telemedicine facilities; Croatian stakeholders also report an important shortage of health staff, also due to emigration. Stakeholders also suggest a better alignment of the health systems with the ongoing changes of society: population ageing being a general phenomenon, medical services should be better target on the elders, and also be more prepared to face medical consequences of increasing effects of climate change on the Programme regions. In terms of **strengths**, the presence of performing communities both in the medical domain and in the responsible local authorities is considered an important driver. Several actors see opportunities in cross-border cooperation, especially for what is related to e-health systems, sharing of procedures and good practices.

Local stakeholders involved in the **webinars** have reported more territorial **needs** to be tackled: the need for a better health coverage of remote areas, the need of digitalization and better use of health data. Croatian stakeholders, also in this occasion, have stressed the need to tackle the shortage of medical staff. As for the **strengths**, webinars' participants particularly flagged the opportunities that will be given by the increasing EU funding for the sector, primarily through the EU Recovery and Resilience Fund.

## **3. Conclusions**

In conclusion, in terms of the main structural healthcare indicators that were analysed at the level of the regions involved in the Programme area, the results can be considered mixed.

The number of health personnel in the analysed regions has grown steadily over the past years, in accordance with the trend observed at the level of the European Union. However, the situation remains importantly below the EU 27 average for some regions, especially Veneto and the Croatian ones.

In terms of hospital infrastructures (number of beds), the phenomenon of a net reduction in hospital beds, stronger in some regions in the Programme area, and in these cases much stronger than the EU trend, might be partly explained by the structural re-organization of national and regional healthcare systems in the view of efficiency. Intensive care units in the Italian regions of the Programme area, seem not to have been affected by such phenomenon when facing the COVID crisis.

Health systems need however policies of modernization and alignment to the needs of a changing society: more attention to climate change, to the elders, a wider use of ICTs to make health available everywhere and to anyone are the main challenges emerging from the consultation with the stakeholders.

## 4.21. Culture and Sustainable Tourism

### 1. Policy framework and general context

The **EU priorities** in the field of **culture** are defined, for the 2019–2024 period within the *Strategic framework for the European Union’s cultural policy*<sup>195</sup>, which sets a direction for all regional or national efforts. The culture priorities are condensed into six major objectives that focus on Europe striving to be the first continent to reach climate-neutrality, empowering people through digitalization, becoming a unified and responsible global leader, promoting equal opportunities within the European Union, and reinforce its commitments to democracy.

In the field of **sustainable tourism**, the “*Agenda for a sustainable and competitive European tourism*” remains, after its publication on 2007, the main EU strategic document on sustainable tourism. According to the Agenda, the main challenges in the domain are identified in the need for a “sustainable conservation and management of natural and cultural resources, minimizing resource use and pollution at tourism destinations including the production of waste, managing change in the interests of the well being of the community, reducing the seasonality of demand, addressing the environmental impact of transport linked to tourism, making tourism experiences available to all without discrimination, and improving the quality of tourism jobs”<sup>196</sup>.

At the level of **macro-region**, sustainable tourism represents the 4<sup>th</sup> pillar of the **EUSAIR**, including, as strategic objectives:

- the diversification of the macro-region’s tourism products and services through research and development in the service of improvement of SMEs performance and growth-diversification, development of sustainable and thematic routes, and fostering Adriatic-Ionian cultural heritage;
- sustainable and responsible tourism management for the improvement of the quality and innovation of tourism offer and deseasonalization through training, education and skills in the field of tourism businesses and development of networks of sustainable tourism businesses and clusters.

Under EUSAIR’s pillar 4, a number of seven flagship projects have also been designed, to be possibly embedded within national and CBC Programmes for the 2021-2027 period; three of these projects target tourism diversification, while four are focusing on a more sustainable and responsible tourism.

While tourism as a standalone theme was not covered by the **2014-2020 Italy-Croatia Interreg Programme**, the inclusion among its intervention logic of the specific objective “Make natural and cultural heritage a leverage for sustainable and more balanced territorial development”<sup>197</sup> and the 21 projects funded in the implementation of it, represents a relevant background for cooperation policies in this domain.

<sup>195</sup> European Commission, Strategic framework for the EU’s cultural policy 2019–2024, [Link](#) Accessed on 12 April 2021

<sup>196</sup> European Commission, Communication of 19.10.2007, COM(2007) 621 final , “Agenda for a sustainable and competitive European tourism”. [Link](#) accessed on 19 april 2021;

<sup>197</sup> Cooperation Programme 2020, (Interreg V-A) IT-HR - Italy-Croatia, version 5.0, pg.25, [Link](#) Accessed on 12 April 2021

In terms of **general economic and social context**, it is important to mention that the COVID-19 pandemic hit the tourism<sup>198</sup> sector in an unprecedented way. According to UNTWO, the entire 2020, Italy saw –61% and USD 50 million drops in tourism visits compared to the previous year, while Croatia registered a drop of –68% and USD 10 million<sup>199</sup>. 2020 is the most negative year ever recorded for tourism with 74% of international arrivals dropping, an estimated loss of USD 1.3 trillion in export revenues, endangering up to 120 million direct jobs, and 90% of World Heritage sites being closed. In this context, UNTWO urges countries to recognize culture as vital to our well-being, as most of the creative industries were indispensable during confinement times. In its recovery plan, UNTWO recommends countries to reinforce previous commitments made towards creating participatory governance, consolidate on responsible tourism, use cultural products for the recovery of impacted heritage-dependent communities, reinforce the urban-rural links, safeguard nature and intangible heritage, and building resilient competitiveness through digitalization<sup>200</sup>.

## 2. Territory’s needs and strengths

The richness of the material cultural heritage of the Area is probably beyond comparison at global level: the simple presence of sites like Venice and Dubrovnik would be enough to consider this area as among the culturally richest cross-border areas in Europe.

The Programme area includes not less than 17 UNESCO World Heritage sites inscribed under the criteria of outstanding universal value.

<b>Programme area - Croatia</b>
Historical Complex of Split with the Palace of Diocletian (1979)
Old City of Dubrovnik (1979)
Episcopal Complex of the Euphrasian Basilica in the Historic Centre of Poreč (1997)
Historic City of Trogir (1997)
The Cathedral of St James in Šibenik (2000)
Stari Grad Plain (2008)
Stećci Medieval Tombstone Graveyards (2016)
Venetian Works of Defence between the 16th and 17th Centuries: Stato da Terra – Western Stato da Mar (2017)
<b>Programme area - Italy</b>
Venice and its Lagoon (1987)
The City of Vicenza and the Palladian Villas of the Veneto (1994)
Ferrara, City of the Renaissance, and its Po Delta (1995)
Castel del Monte (1996)
Early Christian Monuments of Ravenna (1996)
Botanical Garden (Orto Botanico), Padua (1997)
The Trulli of Alberobello (1996)
Historic Centre of Urbino (1998)
Prehistoric Pile dwellings around the Alps (2011)
Venetian Works of Defence between the 16th and 17th Centuries: Stato da Terra – Western Stato da Mar (2017)

<sup>198</sup> COM (2021) 350 final [https://ec.europa.eu/info/sites/default/files/communication-industrial-strategy-update-2020\\_en.pdf](https://ec.europa.eu/info/sites/default/files/communication-industrial-strategy-update-2020_en.pdf)

<sup>199</sup> UNTWO 2021, A compilation of data on inbound tourism by country, including data on international tourist arrivals, international tourism receipts and international tourism exports [Link](#) Accessed on 6 April 2021

<sup>200</sup> UNWTO Inclusive Recovery Guide – Sociocultural Impacts of Covid-19, Issue 2: Cultural Tourism 2021, [Link](#) Accessed on 6 April 2021.

3. Source: [UNESCO World Heritage List, cultural sites 2021](#)

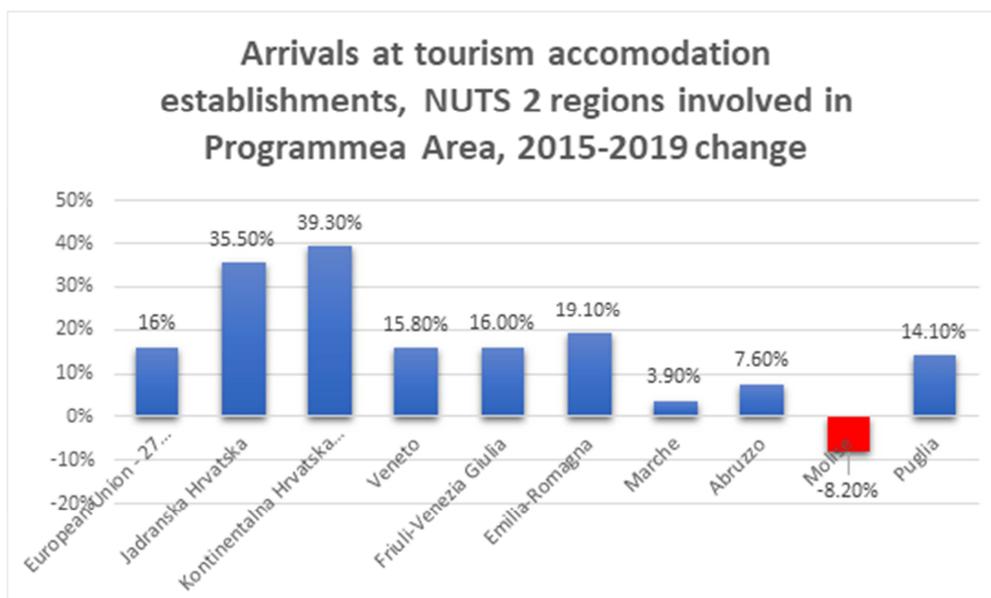
The richness extends to the intangible cultural heritage: the important history of the area, the different cultural and ethnical roots, brings together multiple traditions, precious abilities and skills. Only looking at the intangible assets acknowledged in the UNESCO World Heritage, the area includes 19 traditions, of which 2 transnational covering both sides of the border (the “Mediterranean diet” and the “art of dry stone walling”).

As far as **tourism** is concerned, the Programme area is first of all known to host many of the most popular coastal tourism destinations worldwide. The variety of the Adriatic coasts allow for a varied offer of coastal and island tourism, both from the point of view of the different types of coastal and island landscapes available and from the point of view of the number and types of leisure activities offered. The area is however also a strong cultural, natural, wellness and business tourism destination.

2018 data from Eurostat show that Adriatic Croatia had recorded the highest increase of tourism among all EU NUTS 2 Regions since 2012 (around 25 million nights increase); in the same year, the same Region was ranked 3<sup>rd</sup> in Europe for number of nights spent by tourists, outperformed only by Canary islands and Ile-de France. Regions Veneto and Emilia-Romagna ranked 7<sup>th</sup> and 12<sup>th</sup> respectively in Europe.

However, looking at the period immediately before the pandemic, the whole Programme area had seen a constant increase in tourist arrivals between 2014 and 2019, at a higher level than the EU average. Only the Molise region saw a decrease in this trend. This increase is reflected in the arrivals at the accommodation establishments as seen in figure no. 70, between 2015–2019.

Figure no. 70 Arrivals at tourism accommodation establishments, NUTS 2 regions involved in Programme Area, 2015–2019 change

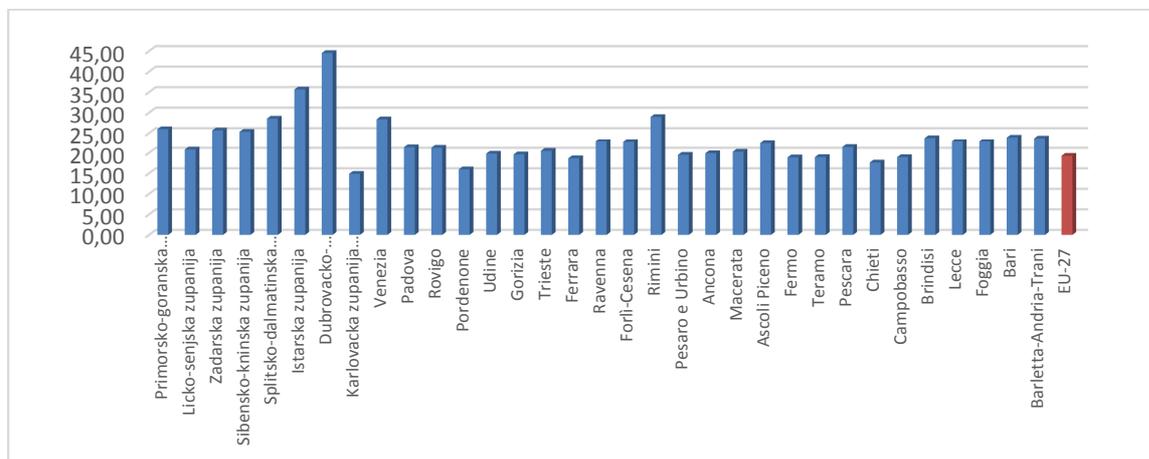


Source: Eurostat

Similar positive trends can be seen also in statistics related to the growth of touristic hosting capacities, in the same period. Tourism is also important economically: in the Programme area, tourism contributes an average of 14,46% to the GDP between 2014–2017 according to data from Eurostat.

The following figure shows the weight of the tourism-related sectors of activities (NACE Rev.2 sectors G and I) on the local value added for all the NUTS 3 regions of the Programme area – Eurostat Data.

Figure no. 71 Gross Value Added of tourism related activities (G-I NACE sector), as % of total VAB, 2017.

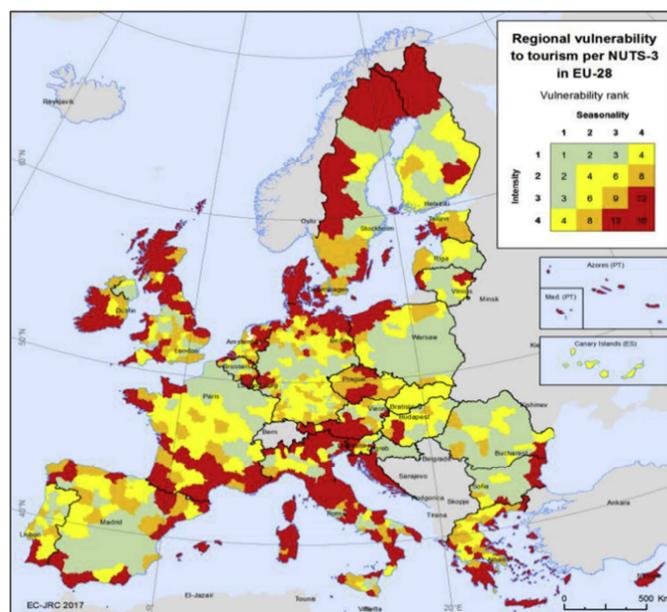


Source: Eurostat

The weight of tourism on local economy is however also a vulnerability factor, also taking into account the seasonality of most touristic flows. According to a study from the EU Joint Research Center dating from 2018<sup>201</sup>, coastal areas and islands in the NUTS-3 are popular year-round but have a significant fluctuation of tourists within the summer months, this being characterized as seasonality. On top of that, the area shows a high intensity of tourism as well, which means a significantly larger inflow of tourists compared to the resident population. At the intersection of shocks or disruption waves, such as seasonality and intensity in the tourism sector stands a third policy-relevant phenomenon called regional vulnerability. The Programme area has almost all its territory presenting the highest levels of vulnerability index at EU level, as seen in the figure below.

<sup>201</sup> Silva, Filipe & Marin, Mario & Rosina, Konstantin & Barranco, Ricardo & Freire, Sergio & Schiavina, Marcello. (2018). Analysing spatiotemporal patterns of tourism in Europe at high-resolution with conventional and big data sources. *Tourism Management*. 68. 10.1016/j.tourman.2018.02.020.

Figure no. 72 Regional vulnerability to tourism index per NUTS-3 in EU-28, 2016



Source: [European Commission, Joint Research Centre, 2018](#)

This increasing trend of the vulnerability index could be counterbalanced in several but significant ways, considering the potentials of the area. Cross-cutting opportunities may lie in the diversification of tourism offers that are supported by the inland attractions, both cultural and natural, that also hold exceptional value and some of universal significance. The presence of cultural immaterial and historic heritage can be nourished and make the area specifically attractive, counter-seasonally and also with a cross-border approach. At the moment of elaborating the current analysis, cross-border touristic offers are present mostly in massive cruise tourism, but it appears that they may be extended considerably based on the natural and cultural potentials of the area; these may include already-explored forms of niche tourism for the maritime areas (diving safari, fishing-tourism, archeo, creative and transformative tourism) as well as for the inland areas.

On a national level, addressing the seasonality aspect represents a priority for the Croatian authorities, which have already a tourism plan in place to tackle this issue. The Strategic Plan of the Croatian Ministry of Tourism 2020–2022 puts a considerable focus on the development of an alternative continental interest to the existing coastal destinations, characterized by an extended time spent on less impactful activities (biking, cultural, rural and eco tourism)<sup>202</sup>. Priorities related to a diversification and a de-seasonalizing of tourism appear in the Italian National Strategic Plan for Tourism Development 2017-2022<sup>203</sup>.

### ***The stakeholders' opinion.***

The **interviews** with institutional territorial stakeholders revealed a large variety of territorial **needs** related to culture and tourism. For culture, there is a need to further valorize, interpret, present, protect and restore the material heritage (particularly felt on the Croatian side). Moreover, a need for a more strategic planning of cultural valorization is present, leading to a more sustainable

<sup>202</sup>Strategic plan of the Croatian Ministry of Tourism for 2020–2022, 2019. [Link](#).

<sup>203</sup> Italian ministry for Cultural heritage and activities and Tourism, Piano Strategico di Sviluppo del Turismo 2017-2022. [Link](#).

distribution of visiting flows among the sites. Intangible cultural assets, especially related to linguistic and ethnic minorities, have also been reported to need protection and valorization.

As far as tourism is concerned, the local governments tend to confirm the concern for seasonality; this is also seen as connected to the lack of offers of “active, creative and thematic cultural tourism”, to turn simple overnight stays in richer and diversified activities (Croatia) and to the need of better channelling a part of the traditional touristic flows towards other attractiveness of the territory, like cultural, wellness, sport and gastronomic offers (Italy). Croatian stakeholders also stress the need to improve the level of knowledge of the human resources in the field, and to set up specific education curricula, especially for a smarter and more innovative strategic management of destinations and to improve the strategic approach to tourism.

Besides the richness of the natural and cultural heritage, interviews suggested other **points of strengths** of the territory, like the potential network connection of the small ports, the potential for a spread wellness, health, experiential, cultural and creative tourism, the involvement of rural and hinterland areas in the touristic strategies. Several stakeholders stressed the strong complementarity of the touristic potentials of the cross-border area, which could easily lead to the setting-up of integrated offers, even to address the most traditional flows of coastal and island tourism.

The **webinars** events held with the local stakeholders (previous beneficiaries and potential beneficiaries of the 2014-2020 Interreg Italy-Croatia Programme, of the 2014-2020 ADRION Programme and EUSAIR representatives) revealed that the most felt territorial **needs** refer to the protection of the material heritage (particularly felt on the Italian side), the need of innovation and digitalization in cultural tourism and the need to establish alternative and sustainable, thematically focused cultural touristic routes (particularly felt on the Croatian side). Interestingly, the competition and scarce cooperation among touristic destination were not considered an important problem s of the Programme area..

Looking at the **strengths and potentials** of the area, stakeholders massively considered the potential for sustainable tourism and the richness of the cultural heritage as the two most important<sup>204</sup>.

## 4. Conclusions

The Programme area is characterized by an overwhelming and globally renowned richness of the cultural and natural heritage, which has led it to become among the main touristic destinations in Europe. Before the COVID pandemic, all Regions of the area – with very limited exceptions – saw a vertical growth in tourism incoming flows. However, the importance of tourism in regional economies, together with the important challenges related to high touristic seasonality make the Area particularly vulnerable.

The main challenges of the Programme area are related to its capacity to valorize its natural and cultural heritage assets as drivers of alternative, more sustainable and innovative, less seasonal forms of SIT<sup>205</sup> tourism spread more evenly around the coastal zone, islands and hinterland

<sup>204</sup> See Annex 2 and 3 – Results of surveys and webinars.

<sup>205</sup> Special interest tourism - Enhancing the Competitiveness of Tourism in the EU

<https://ec.europa.eu/docsroom/documents/4670/attachments/1/translations/en/renditions/native>

destinations. The potentials of the area in this direction are so strong that the key need appears to be related to the capacity of a strategic and innovative organization of the resources and their promotion.

Cross-border cooperation appears as a potential key development factor, and potential integrated strategies, approaches and offers seem possible and raise interest among the stakeholders.

## 4.22. Integrated Territorial Development

### 1. Policy framework and general context

The draft Regulation for ERDF for the 2021-2027 period<sup>206</sup>, at its article 2.1.e, establishes the scope of the ERDF intervention in the framework of Policy Objective 5 -“A Europe closer to citizens by fostering the sustainable and integrated development of all types of territory and local initiatives” as follows:

- i) fostering the integrated and inclusive social, economic and environmental development, culture, natural heritage, sustainable tourism and security in urban areas;
- ii) fostering the integrated and inclusive social, economic and environmental development, culture, natural heritage, sustainable tourism and security in areas others than urban areas;

The same Regulation, for ERDF interventions under PO5, sets up some conditions related to the approach to the intervention under PO5, which must be integrated and territorial. Specifically, for urban areas the Regulation establishes that “[...] the ERDF should provide support under policy objective 5 in an integrated manner to the economic, social and environmental development based on cross-sectoral territorial strategies using integrated territorial development tools” while for areas other than urban it is established that “Support under policy objective 5 shall be provided through territorial and local development strategies, through the forms set out in points (a) (b) and (c) of Article 22 of the new CPR”.

In other words, PO5 -without extending the scope of intervention of ERDF in terms of thematic areas, as compared to what already provided in the policy objectives 1 to 4 – provides the ground for a different and alternative approach – territorial and integrated – to local development needs in ERDF Programmes.

To activate the intervention of ERDF in urban areas under PO5, the presence of urban cross-sectoral territorial strategies appears as a pre-condition, while in other areas, the intervention is possible only through the use of the territorial forms of intervention set out in Art. 22 of the new CPR (integrated territorial investments - ITI, community-led local development - CLLD or another territorial tool supporting initiatives designed by the Member State).

For Interreg A) programmes, these conditions naturally overlap with the traditional general requirement according to which only cross-border initiatives are subjects to funding, making particularly complex for these programmes to approach PO5.

A paper from Interact<sup>207</sup> seems to consider the accessibility of Interreg Programmes to PO5 not particularly complicated, as far as a territorial integrated strategy is existing – or can be prepared – for a specific functional area.

However, what seems in any case necessary – also in the respect of the spirit of PO5 – is that the intervention focuses on specific sub-areas, as compared to the overall Programme area, on which the Programme strategy aims to intervene with a territorial focused multi-sectorial approach.

<sup>206</sup> Council of European Union, Note: European Regional Development Fund and Cohesion Fund (ERDF/CF) Regulation - Progress report, 11 December 2020. [Link](#).

<sup>207</sup> Interact, Policy Objective 5, 18 June 2020, Bringing territoriality into Interreg, [link](#).

In the case of Interreg A Programmes, obviously this sub-areas need to have a cross-border character. While there are fertile grounds for this kind of approach in terrestrial border areas, especially after a multi-programming periods history of previous cooperation, its applicability on maritime cross-border programmes appears indeed complex.

## 2. Territory's needs and strengths

Each of the respective sides of the Programme area has a tradition and a richness of local strategies. Throughout the long history of Italy participation to cohesion policy programming periods, a wide use has been made of the territorial integrated approach (the PIT – Programmi Integrati Territoriali having been the peak of this trend in ERDF, in the 2000-2006 period). CLLD based interventions, especially in their older “Leader” form for local rural development, have been a motor of participated local governance, even beyond their specific functions and periods of activity in relation to the funding programmes.

On Croatia's side, there is a participated and effective process of designing development strategies at county level which is remarkable for a country of such recent accession to the EU. Important experiences from the previous programming period are also reported with reference to ITI and CLLD.

However, there is no evidence of the existence, in the Programme area, of any cross-border and cross-sectorial local strategy, at the moment, which could fit the definition of Art. 22 CPR.

Moreover, from the implementation of the first CBC Interreg Programme between Italy and Croatia, no clear functional sub-area has emerged and no significant claims have been collected from the territory in such direction.

The interviews with the territorial stakeholders revealed, first of all, an almost unanimous skepticism about the possibility of successfully introduce PO5 intervention within a maritime CBC Programme. For this reason, the large majority of the respondents declared themselves not in favor of the activation of PO5 in the next programming period. Needs for an integrated approach to urban - but also rural - development are indeed reported, but they are mainly seen as challenges for the mainstream ERDF programmes. Some stakeholders suggested that the area could benefit from exchanges of experience on territorial integrated development, but this is rather seen as a possible intervention under ISO1 rather than PO5.

Finally, as some stakeholders underlined, nothing prevents CBC programmes to participate, through the funding of projects under other POs, to integrated territorial strategies established under PO5 in the ERDF mainstream programmes.

## 3. Conclusions

Integrated territorial development under PO5 – A Europe closer to citizens, in the form foreseen under ERDF Regulation, opens the door for an alternative approach to programming; to quote Interact, “If actions are needed only in one sector, PO 1 to 4 are the ones to go for. If simultaneous and interlinked actions in several sectors are needed, PO 5 and the integrated development is the way forward”.

However, the cross effect of the traditional CBC conditions and the ones establishing under PO5 (existence of a cross-sectorial strategy for a specific area) make the access of Interreg A programmes to PO5 particularly complex.

Interviewed stakeholders have agreed that this complexity increases too much in the case of maritime CBC programmes, especially when they don't have a long cooperation history at their back which might have led to the identification of functional areas and the drafting of CB local strategies.

While needs for integrated local policies are present in the Programme area, these are seen mainly as a challenge for mainstream ERDF programmes.

## 4.23. A Better Cooperation Governance

### 1. Policy framework and general context

The draft Interreg Regulation<sup>208</sup>, in its article 14.4 introduces the possibility, for Interreg A programmes, to also support the Interreg-specific objective “a better cooperation governance” (ISO 1).

This specific objective extends the field of intervention of ERDF, as declined by the ERDF draft Regulation on the 5 policy objectives, to the following additional domains:

- the institutional capacity of public authorities and of stakeholders;
- the legal and administrative cooperation and cooperation between citizens, civil society actors and institutions, in particular, with a view to resolving legal and other obstacles in border regions;
- the building up of mutual trust, in particular by encouraging people-to-people actions;
- the institutional capacity of public authorities and stakeholders to implement macro-regional strategies and sea-basin strategies, as well as other territorial strategies.

The Interreg specific rules on thematic concentration (Art. 15 of the draft Regulation) impose a ceiling of the 20% of the Programme allocation to be dedicated to this specific objective. The rationale behind ISO 1 is to provide a basis for the Interreg Programmes to improve cross-border cooperation governance-related problems, to fight and solve cooperation issues which are at reach of the public administration systems of the involved countries.

To quote an Interact specific paper on the topic<sup>209</sup>, *“if unresolved governance issues hamper cooperation, if new themes in cooperation arise and capacities need reinforcement, or if Macro-regional or Sea Basin Strategies need support to their governance – then ISO 1 on Better cooperation governance is the relevant choice; [...] ISO 1 [is] a catalyst to make the cooperation in the area and programme strategies work, or make it work better and more sustainably”*<sup>210</sup>.

In this framework, ISO1 appears to contain the most genuine and cross-border related interventions that an Interreg A programme can plan. Indeed, cross-border cooperation problems might be more perceived on a terrestrial border, compared to a maritime one, but this does not mean that they are not existing, or that they are less important.

With its 2017 Communication “Boosting growth and cohesion in EU border regions”<sup>211</sup>, the European Commission stressed the need of cross-border policies and actions to remove obstacles affecting economy and citizens ‘life of the EU border regions, and defined 10 areas of action on which to focus:

- Deepening cooperation and exchanges;
- Improving the legislative process;
- Enabling cross-border public administration

<sup>208</sup> Council of the European Union, Interreg Regulation - Confirmation of the final compromise text with a view to agreement, Brussels, 11 December 2020, [link](#).

<sup>209</sup> Interact, ISO 1: Better Cooperation Governance, 01 October 2020, Version 1, Fostering governance in Interreg. [Link](#).

<sup>210</sup> Therein, page 6.

<sup>211</sup> European Commission, Communication COM (2017) 534 final, Boosting growth and cohesion in EU border regions. [Link](#).

- Providing reliable and understandable information and assistance
- Supporting cross-border employment
- Promoting border multi-lingualism
- Facilitating cross-border accessibility
- Promoting greater pooling of health care facilities
- Considering the legal and financial framework for cross-border cooperation
- Building evidence of cross-border interaction to inform decision-making

The Communication has built upon the Commission's study of the same year on "Easing legal and administrative obstacles in EU border regions"<sup>212</sup> which provided for a broad analysis of the types of border obstacles present in the EU territory. Together with the report, over 200 cases of legal and administrative obstacles have been introduced in an on-line inventory<sup>213</sup>. No specific obstacle referring to the Italy-Croatia border is mentioned in the inventory<sup>214</sup>.

Besides the improvement of cross-border cooperation governance and related obstacles, ISO1 focuses also on the governance of Macro-Regional Strategies and Sea Basin Strategies. The EUSAIR system of governance, according to the EUSAIR governance working paper of 2014<sup>215</sup>, is however covered by the support of the ADRION Programme: the working paper states that "*the ADRION programme shall support governance and implementation of the EUSAIR. To this end, the ADRION programme shall include a Priority Axis "Supporting the governance of the EUSAIR" which envisions a specific Action "Operational support to the key EUSAIR governance actors and stakeholders in their respective role"*<sup>216</sup>.

The 2014-2020 Italy-Croatia Interreg Programme did not include a specific priority or specific objective related to the governance of cross-border cooperation, despite the 2014-2020 Regulation on European Territorial Cooperation was already providing a legal basis for similar interventions<sup>217</sup>.

## 2. Territory's needs and strengths

Considering the absence of statistics and relevant comprehensive studies on the cross-border legal and administrative obstacle between Italy and Croatia, the main source of analysis for the ISO1 domain refers to the stakeholders' opinion.

### ***The stakeholders' opinion***

Interviews with institutional stakeholders have opened a view on a wide set of needs, not always directly related to cross-border issues: stakeholders reported a general need for improvement of the public administration in many regions of the Programme area, in terms of qualification of human

<sup>212</sup> European Commission, Easing legal and administrative obstacles in EU border regions, Final Report, 2017. [Link](#).

<sup>213</sup> Available [here](#).

<sup>214</sup> In change, several obstacle referring to the Croatian-Slovenian border are reported, some of them having also an impact on the Italy-Croatia dynamics, like for examples the difficulties related to road connections.

<sup>215</sup> EUSAIR, "Towards a streamlined governance and management architecture for the EUSAIR- Working Paper devised by the EUSAIR National Coordinators in partnership with the Commission", 2014. [Link](#).

<sup>216</sup> Therein, page 4

<sup>217</sup> Regulation 1299/2013 ,Art.7.1.a.iv: "[In addition to the investment priorities set out in Article 5 of Regulation (EU) No 1301 /2013, the ERDF may also support the following investment priorities: [...] enhancing institutional capacity of public authorities and stakeholders and efficient public administration by promoting legal and administrative cooperation and cooperation between citizens and institutions.". Several Interreg Programmes made use of this option, see for example Interreg CBC Romania-Bulgaria [here](#).

resources, procedures, degree of use of new technologies, efficiency and administrative burden on citizens and enterprises; in a nutshell, the quality of Public administration is perceived lower than the EU average. More related to cross-border cooperation issues, some respondents raised the need of a better and comprehensive knowledge basis about legal administrative obstacles between Italy and Croatia, which indeed is not available at the moment. The same stakeholders underlined the need to have an assessment in this direction also to understand the competent administrative levels in each country for each aspect. Specific mentions have been made about the need of a deeper administrative cooperation in the fields of risk management, fisheries and aquaculture, maritime spatial planning.

About cross-border mutual trust, language barriers are still seen as significant; people-to-people actions are seen like a possible way to start overcoming this problem together with the “lack of direct sight” issue typical of a maritime border.

About the capacity of managing macro-regional strategies, a high number of respondents underlined the need of improving the functional connection and integration between EUSAIR and the Interreg Programmes in the area, to maximize the capitalization of the results of the flagship project and of the strategic projects at sea basin level (Adrion) also within individual CBC Programmes. The need to keep all these latter on the same page with EUSAIR and Adrion on key strategic themes is considered crucial. On the other hand, the direct involvement of several regional/national authorities of Italy and Croatia in the governance system of EUSAIR is considered as a point of strength in this direction.

The webinars with the local stakeholders led to the identification of several key needs like the need to improve the capacity of local administration in dealing with EU Programmes and projects, the need to improve the use of IT-based solution for solving legal and administrative cross-border issues, the need of solutions to overcome the reciprocal different distribution of administrative powers among governance levels. An insufficient degree of involvement of the stakeholders has been considered as the key issue in relation to macro-regional strategies, together with an insufficient preparation of PA staff in strategic management and a lack of integration between macro-regional strategies and Programmes. As points of strength to improve cooperation, stakeholders flagged the very existence of Macro-regional strategies, and the fact that many actors have been involved in their governance as well as the very important role played by the first programming period of the Italy-Croatia Interreg Programme, to pave the way for an increased cooperation between the two sides.

### 3. Conclusions

ISO 1 in the new regulatory framework gives the possibility to tackle obstacles to cross-border cooperation raising from the legal and administrative systems, and to contribute to improve the governance of macro-regional strategies.

Regarding the first aspect, the main need of the Italy-Croatia border seems to be related to the lack of a comprehensive assessment of the current legal and administrative obstacles, as well as the responsible governance level to approach them in each Country. While certain domains have been emerging from the consultation needing better administrative cooperation (risk management, fishing and aquaculture) the need of better knowing each other institutional and administrative system as a first step seems predominant.

The presence of EUSAIR as a macro-regional strategy of the area is seen as a point of strength by many stakeholders. The governance of EUSAIR being covered by the Adrion Programme, there is no need to directly contribute to it with the resources of the Italy-Croatia Programme. The stakeholders consider important, however, to improve the consistency and the integration of all the Interreg programmes of the macro-region among them and with EUSAIR.

## 4.24. A Safer and More Secure Europe

Art. 14.5 of the draft Interreg Regulation<sup>218</sup>, establishes a second Interreg-specific objective, called “a safer and more secure Europe”, (hereinafter ISO 2). The objective covers actions in the fields of border crossing management and mobility and migration management, “including the protection and economic and social integration of third country nationals including migrants and beneficiaries of international protection”.

A ceiling of maximum 5% of the total ERDF allocation to the programme is established for ISO2 related interventions.

The analysis of the territory with relation to migration management and third country nationals, and related border management aspects has been provided in the sections related to the analysis of SO 4.3 and 4.4 in chapter 4, to which readers can refer also for what ISO 2 is concerned.

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<sup>218</sup> Council of the European Union, Interreg Regulation - Confirmation of the final compromise text with a view to agreement, Brussels, 11 December 2020, [link](#).

## 5. SWOT Analysis

The present chapter summarizes the key aspects emerged in the sectorial analysis carried on in Chapter 4 in SWOT matrix, presenting, for each of the domain/specific objectives analyzed, the respective points of strength, points of weakness, opportunities and threats.

According to the SWOT methodology:

- **Strengths** are verified positive qualities, assets, features, performances or situations, specific of the considered territory, which are on place and can represent an advantage for its development;
- **Weaknesses** are verified current aspects of underdevelopment, gap, disadvantage or unpreparedness of the considered territory, for which an improvement is generally seen as desirable and that could/should be tackled by public policies;
- **Opportunities** are exogenous -verified or possible- positive drivers, not related to the features of the territory or to the choices of its governance system, which can positively influence policies for its development;
- **Threats** are exogenous -verified or possible – negative drivers, not related to the features of the territory or to the choices of its governance system, which can negatively affect policies for its development.

Policy Objective 1 - A more competitive and smarter Europe			
<i>Research and innovation</i>			
Strengths		Weaknesses	
S.01.01.01	Good fundamental research infrastructure (institutions, universities, research centers) and activity, with regional cases of excellence at EU level	W.01.01.01	Applied research and technological transfer lagging behind compared to EU average
S.01.01.02	Significant increase in the private sector expenditure for R&D	W.01.01.02	Overall expenditure in R&D lower than EU average, especially due to low levels of private expenditure, despite recent increasing
S.01.01.03	Attention of the territory to R&D specific sources of funding	W.01.01.03	Very unbalanced presence of researchers in the area, with important gaps between most performing and low performing regions
		W.01.01.04	Very low number of doctoral students, lower than EU average wherever, and in decrease.
		W.01.01.05	Rate of success and fund attraction in H2020 lower than EU average
		W.01.01.06	Unsatisfactory level of

		W.01.01.07	collaboration among actors of the quadruple helix Need to focus more research efforts towards the needs of the market and the economic specialization of the area (Blue Economy)
<b>Opportunities</b>		<b>Threats</b>	
O.01.01.01	Presence of an EUSAIR flagship project in the domain		
O.01.01.02	Cross-border cooperation in the domain already started in the 2014-2020 period		
O.01.01.03	Horizon Europe will provide higher funding opportunities for R&D in the incoming period		
<i>Digitisation</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.01.02.01	Satisfactory levels of digital literacy and ICT skills of HR in Croatian regions	W.01.02.01	Both countries performing lower than EU average in terms of overall degree of digitalization (DESI index)
S.01.02.02	Good degree of utilization of ICT technologies and services by enterprises, especially in the Croatian side	W.01.02.02	Low levels of digital literacy of the population in Italian regions; need of improving digital literacy of the elders present everywhere
S.01.02.03	Good level of e-government services for enterprises in Italy	W.01.02.03	Rate of employment in ICT sector in growth but significantly lower than EU average almost everywhere
		W.01.02.04	Presence and degree of use of public e-services for citizens much lower than EU average and not significantly progressing
		W.01.02.05	Need to increase digitalization in public services related to education and health
		W.01.02.06	Scarce use of open data and interoperability solutions in public services.
<b>Opportunities</b>		<b>Threats</b>	
O.01.02.01	Pandemic has boosted digitalization spreading and development in all sectors of economy and society		
O.01.02.02	Increasing spontaneous digital literacy of the population –		

O.01.02.03	younger generations Presence of local cases of digital excellence		
O.01.02.04	Wide availability of technologies at reasonable costs		
<i>Competitiveness of SMEs</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.01.03.01	High level of innovation-related expenditure of the SMEs everywhere in the area	W.01.03.01	Significant rates of enterprise mortality and early-mortality, in many regions – before pandemics
S.01.03.02	SMEs well oriented towards product and process innovation in most parts of the area	W.01.03.02	Overreliance of certain regional business environments on tourism and related sectors
S.01.03.03	SMEs well oriented towards marketing and organizational innovation almost everywhere	W.01.03.03	Very low inclination of SMEs to collaborate for innovation, everywhere in the area
S.01.03.04	SMESs In-house innovation practices extremely spread almost everywhere in the area		
S.01.03.05	Resilience and reactivity of SMEs to market changes		
<b>Opportunities</b>		<b>Threats</b>	
O.01.03.01	Presence of EUSAIR flagship projects relevant for the domain	T.01.03.01	SMEs particularly suffering from the effects of pandemics and with uncertain perspectives in the medium period
O.01.03.02	Significant changes undergoing in the economy and society (ICT and green evolution of products and services), suitable to represent business opportunities for reactive SMEs		
<i>Skills for smart specialisation, industrial transition and entrepreneurship</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.01.04.01	Significant increase in the number of high growth enterprises in the productive sectors	W.01.04.01	Large parts of the Programme area with low levels of employment in high-technology and knowledge intensive sectors
		W.01.04.02	Very low number of persons with higher education and doctoral students, lower than EU average wherever, and in decrease
		W.01.04.03	Low rate (locally very low) of adults participating in training
		W.01.04.04	Rate of enterprises in “smart”

		W.01.04.05	sectors lower than EU average almost everywhere
		W.01.04.06	Low degree of consistency of the 2014-2020 S3s in the area Need to improve the consistency of S3s with the territorial needs of the economy (especially blue economy) even through a higher involvement of stakeholders
<b>Opportunities</b>		<b>Threats</b>	
O.01.04.01	Existence of EU funding programmes (Horizon Europe, etc.) that support the development of companies and territories inclined towards smart specialization		
O.01.04.02	All territories have started the process for the drafting of S3 for the next programming period		
<i>Digital connectivity</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.01.05.01	High rate of broadband connections among the connected households	W.01.05.01	Number of households connected to the internet lower than EU average everywhere
S.01.05.02	Internet costs lower than EU average	W.01.05.02	Geographical features of the area are challenging for connectivity: broadband availability in remote areas and islands still scarce
<b>Opportunities</b>		<b>Threats</b>	
O.01.05.01	Upcoming 5G technology spreading		
O.01.05.02	Post-pandemic recovery will be largely based on digital connectivity		
<b>Policy Objective 2 - A greener, low-carbon transitioning towards a net zero carbon economy and resilient Europe</b>			
<i>Energy efficiency</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.02.01.01	Positive/neutral trends in energy efficiency of the industrial sectors	W.02.01.01	EC assessed both Member States in delay in achieving national efficiency targets
S.02.01.02	Significant improvement of energy efficiency of the transport sector in Italy	W.02.01.02	Need to improve efficiency in the business sector especially in the domain of Blue economy

S.02.01.03	Trends in energy-oriented renovations of buildings much better than EU average. For Italy trend is confirmed also for “deep energy” renovations.	W.02.01.03	Need to improve efficiency of public buildings, especially in certain regions.
<b>Opportunities</b>		<b>Threats</b>	
O.02.01.01	Presence of EUSAIR flagship projects relevant for the domain		
O.02.01.02	Significant commitments in national policies towards achieving energy efficiency targets		
O.02.01.03	Significant technological potential for further efficiency in the blue economy sectors (tourism, maritime construction, etc.)		
<i>Renewable energy sources (RES)</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.02.02.01	Both countries assessed in line with their 2020 RES targets by the EC	W.02.02.01	RES potential of the territory largely unexploited and partly unknown.
S.02.02.02	Significant increase of supply of RES in the two countries in the last 10 years, although lower than EU27 average, especially for Croatia	W.02.02.02	Offshore RES sector practically not existing in the Adriatic
		W.02.02.03	Awareness of citizens and business sector still to be improved
<b>Opportunities</b>		<b>Threats</b>	
O.02.02.01	Presence of clear and strong commitments at national level towards increased use of RES		
<i>Smart energy systems</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.02.03.01	Good development of smart grids in Italy, in terms of investments and number of projects, however with strong imbalances between northern and southern regions.	W.02.03.01	Despite increase in the last years, Croatia is lagging behind in development of smart grids.
<b>Opportunities</b>		<b>Threats</b>	
O.02.03.01	Presence of EUSAIR flagship projects relevant for the domain		
<i>Climate change adaptation and disaster risk prevention</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.02.04.01	Important regional good practices for risk management	W.02.04.01	Risk assessments not in accordance at the at the

<p>and post-disaster reconstruction</p>	<p>W.02.04.02</p> <p>W.02.04.03</p> <p>W.02.04.04</p> <p>W.02.04.05</p> <p>W.02.04.06</p> <p>W.02.04.07</p> <p>W.02.04.08</p> <p>W.02.04.09</p> <p>W.02.04.10</p> <p>W.02.04.11</p> <p>W.02.04.12</p>	<p>Programme area level in terms of scope and methodologies used.</p> <p>monitoring data not fully available/reliable</p> <p>Multiple and important climate change-related risks for the area</p> <p>Sea level rise in the Adriatic</p> <p>Increased frequency and intensity of extreme weather</p> <p>Large parts of the area having high level earthquake risk</p> <p>Important risks of floods, landslides droughts and wildfires in specific parts of the area</p> <p>Northern Italian coasts of the Adriatic exposed to coastal erosion phenomena</p> <p>Need of a better coordination of civil protection systems, in terms of assessment, prevention, early warning</p> <p>Need to improve capacities to manage post-disaster reconstruction</p> <p>Need for a more coordinated approach to tackle climate change and elaboration of more effective climate change adaptation plans</p> <p>Need of increased investments in infrastructure to prevent negative influences on natural resources (e.g. firefighting roads, forest roads)</p>
	<p>W.02.04.13</p>	<p>Need to increase the knowledge base about climate change risks (identification, assessment) to strengthen resilience.</p>
<p><b>Opportunities</b></p>	<p><b>Threats</b></p>	
<p>O.02.04.01 Cross-border cooperation in the domain already started in the</p>	<p>T.02.04.01</p>	<p>Partly unpredictable global climate change trends</p>

2014-2020 period, with important strategic projects		
<i>Access to water and sustainable water management</i>		
<b>Strengths</b>		<b>Weaknesses</b>
S.02.05.01	Significant increase in capacity for water quality monitoring on Croatian side, with already existing monitoring infrastructure on Italian side.	W.02.05.01 Water distribution loss rates are significant in several parts of the territory
S.02.05.02	Overall, Programme area has a good level of access to water	W.02.05.02 Some rural/mountain/island location still lack access to fresh water sources, mostly due to high cost of transporting water
S.02.05.03	Better capacity for monitoring water quality has led to subsequent increase in water quality as well throughout the program area	W.02.05.03 In Croatia, local cases of fresh water not complying with sanitary and microbiological standard
S.02.05.04	Water treatment plants coverage is almost complete in the Programme area	
<b>Opportunities</b>		<b>Threats</b>
		T.02.05.01 Climate change may affect capacity of water sources in the long term
		T.02.05.02 Extreme seasonality of tourism represents a challenge for smart water management systems
<i>Circular economy</i>		
<b>Strengths</b>		<b>Weaknesses</b>
S.02.06.01	Rate of circular re-use of materials much above EU27 average in Italy and rapidly increasing in Croatia	W.02.06.01 Rate of circular re-use of materials still significantly lower than EU 27 in Croatia
S.02.06.02	Important increase in municipal waste recycling in the 2 countries, gap with EU 27 closed by Italy in the last years.	W.02.06.02 Rate of municipal waste recycling still lower than EU average in Croatia but gap is decreasing
S.02.06.03	Rate of employment in circular economy sectors higher than EU average in both countries	W.02.06.03 Awareness of population still unsatisfactory in several areas
S.02.06.04	Value added in circular economy sectors higher than EU average in both countries, particularly in Croatia	W.02.06.04 Locally, strategic capacity of waste management needs improvement
S.02.06.05	Good practices in waste management and planning at	W.02.06.05 Impact of seasonal tourism on waste collection and recycling

local/regional level.		systems is challenging	
<b>Opportunities</b>		<b>Threats</b>	
O.02.06.01	Increasing awareness of public opinion		
<i>Biodiversity and pollution</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.02.07.01	Richness of sea and land biodiversity in the area	W.02.07.01	Monitoring of the status of the species and habitats, ecosystems and its services and pollution monitoring needs important improvements in frequency, geographic distribution, standard methodologies, management of data and integration at sea basin level.
S.02.07.02	Good situation in terms of sea water pollution	W.02.07.02	Local situations of pollution of the sea-sediment and bi-valves
S.02.07.03	Excellent quality of bathing waters	W.02.07.03	High density of floating litters and – locally- of landed debris
S.02.07.04	Low frequency of oil spill accidents	W.02.07.04	Most commercial fish stocks in unsustainable decrease
S.02.07.05	High number/surface of protected areas	W.02.07.05	Local situations of urban pollution due to heating systems and traffic
		W.02.07.06	Increasing presence in the Adriatic Sea of invasive species
S.02.07.06	Satisfactory quality of river waters		
<b>Opportunities</b>		<b>Threats</b>	
O.02.07.01	Presence of an EUSAIR flagship project in the domain	T.02.07.01	Seasonal waves of tourism challenge the coast eco-systems
O.02.07.02	Cross-border cooperation in the domain already started in the 2014-2020 period	T.02.07.02	Intensity of freight transport (pollution effects and import of alien species)
O.02.07.03	Structured and multiple international institutional framework for monitoring activities	T.02.07.03	Unsustainable practices of fishing and aquaculture
O.02.07.04	Considerable potential impact of responsible tourism practices over the coast habitat	T.02.07.04	Climate change threatening biodiversity
<i>Green Urban Mobility</i>			
<b>Strengths</b>		<b>Weaknesses</b>	

S.02.08.01	Electric passenger vehicles and charging points show a constant increase in purchases	W.02.08.01	Transport congestion kept growing in the past years
S.02.08.02	An increase in the diversification of alternative transport means	W.02.08.02	The public transportation (buses and railways) solutions are lagging behind, in terms of competitiveness and effective use
S.02.08.03	The presence of sustainable urban mobility tools that can aid in drafting sustainable mobility policies	W.02.08.03	Generally low satisfaction with urban transport
S.02.08.04	The development of the bicycle path network for the Italian side		
<b>Opportunities</b>		<b>Threats</b>	
O.02.08.01	The transition to renewable energy in transport	T.02.08.01	Possible long-term impacts of COVID pandemics in the domain
O.02.08.02	Implementation of integrated mobility of goods and passengers, particularly in connection with the tourism sector		
<b>Policy Objective 3 - A more connected Europe</b>			
<i>Sustainable and intermodal Ten-T</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.03.01.01	Strategic position of the Adriatic for intermodal flows of freight transport at global level	W.03.01.01	Large parts of the Programme area not crossed by any core Ten-T corridor
S.03.01.02	Presence of 3 land core Ten-T corridors in the Programme area	W.03.01.02	Efficiency of intermodality to be improved in several ports
S.03.01.03	Presence of an intermodal corridor of Motorways of the Sea in the Adriatic	W.03.01.03	Need to further improve the sustainability and the use of ICT in port infrastructures
S.03.01.04	6 ports in the Programme area connected to core corridors, generally with complementary freight specializations and not in hard direct competition	W.03.01.04	In several areas railways are not developed to the level necessary to fully exploit the intermodality potentials of ports
S.03.01.05	Good level of intermodality in main ports	W.03.01.05	Need for a more extensive use of integrated land-sea spatial planning practices
S.03.01.06	Freight traffic growing in almost all major ports in the last years		
<b>Opportunities</b>		<b>Threats</b>	
O.03.01.01	Presence of an EUSAIR flagship project in the domain	T.03.01.01	Possible long-term impacts of COVID pandemics in the domain
O.03.01.02	Cross-border cooperation in the domain already started in the 2014-2020 period		

O.03.01.03	Existing plans to extend core Ten-T corridors to uncovered regions in the area		
O.03.01.04	Availability of ICT to improve intermodality and make it more sustainable		
<i>National, regional, local and cross-border mobility.</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.03.02.01	Main road infrastructure well developed and spread among the area	W.03.02.01	Use of private transport higher than EU average and in steep increase in the whole area
S.03.02.02	Presence of an important number of ports spread all over the Adriatic coasts	W.03.02.02	Very low diffusion of ecological private means of transportation
S.03.02.03	Presence of a relevant number of airports in the area	W.03.02.03	Use of public transport below EU average everywhere
		W.03.02.04	Railway infrastructure not equally spread in the Programme area
		W.03.02.05	Almost complete absence of high-speed railways in the area
		W.03.02.06	Quality of the railway transport services at the bottom of EU ranking
		W.03.02.07	CB road connections through Slovenia inefficient and subject to bottlenecks
		W.03.02.08	Absence of CB railway connections
		W.03.02.09	Air CB connections limited and seasonal
		W.03.02.10	Maritime CB connections mainly seasonal not sufficiently distributed among the area,
		W.03.02.11	Need to modernize CB maritime connection and make it more sustainable
<b>Opportunities</b>		<b>Threats</b>	
O.03.02.01	Presence of an EUSAIR flagship project in the domain	T.03.02.01	Possible long-term impacts of COVID pandemics in the domain
O.03.02.02	Cross-border cooperation in the domain already started in the 2014-2020 period	T.03.02.02	Seasonality of touristic flows are a challenge for transport infrastructure and plans
O.03.02.03	Geographical and technological favorable conditions to improve		

substantially CB maritime connections		
<b>Policy Objective 4 - A more social and inclusive Europe</b>		
<i>Labour markets, employment, social infrastructure, social economy</i>		
<b>Strengths</b>		<b>Weaknesses</b>
S.04.01.01	Positive trend of general employment indicators (2014-2019).	W.04.01.01 General employment situation worse than EU average and presenting huge internal disparities.
S.04.01.02	Youth employment improves faster than in the rest of Europe.	W.04.01.02 Youth employment situation worse than EU average in all areas, in some cases dramatically.
S.04.01.03	Positive trend in elderly (+65) employment.	W.04.01.03 Female employment situation worse than EU average in almost all areas, in some cases dramatically
S.04.01.04	Presence of areas where the gender pay gap is lower than EU 27 average	W.04.01.04 Presence of areas with gender pay gap significantly higher than EU average.
		W.04.01.05 Employment situation of the elders worse than EU average, in almost all areas, in some cases dramatically
		W.04.01.06 Lack of qualified workforce in many territories, also due to brain drain phenomenon
		W.04.01.07 Large diffusion of seasonal and unstable jobs
		W.04.01.08 Presence of areas with insufficient and under-performing social infrastructure
<b>Opportunities</b>		<b>Threats</b>
O.04.01.01	New employment opportunities offered from the green and ICT based transition of the economy, in particular in the sectors of the Blue economy	T.04.01.01 High level of employment in sectors highly vulnerable to the effects of the pandemic crisis.
O.04.01.02	EU Semester Country Recommendations' pressure on national governments to improve employment situation	
<i>Education, training and lifelong learning and related infrastructure</i>		
<b>Strengths</b>		<b>Weaknesses</b>
S.04.02.01	Some areas are reducing the gap with EU average on the rate of population with tertiary education , also by very low levels of early school leaving	W.04.02.01 Low rate of population with tertiary education (under EU27 average everywhere)

S.04.02.02	Existence of some local situation of excellence education in certain new domains of knowledge	W.04.02.02	Rate of youth early leaving education dramatically high in certain areas
		W.04.02.03	Scarce coordination between the education system and the needs of the evolving economy and society
		W.04.02.04	Lifelong learning and training opportunities weak in several areas
		W.04.02.05	Scarce focus of education programs on green and smart economy related topics
		W.04.02.06	Local situations of lack and unbalanced coverage of educational infrastructure
		W.04.02.07	Regional Need of infrastructure investment in early childhood education institutions (e.g.kindergartens, elementary schools...)
<b>Opportunities</b>		<b>Threats</b>	
O.04.02.01	COVID pandemic push for innovative education methods and tools	T.04.02.01	COVID pandemic effects on continuity of the education path for certain brackets of the population
<i>Marginalised communities, low income households and disadvantaged groups</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.04.03.01	Number of persons at risk of poverty or social exclusion decreasing everywhere programme area.	W.04.03.01	Number of persons at risk of poverty or social exclusion is still very high in some regions of the programme area, particularly in Adriatic Croatia and the southern Adriatic coast of Italy.
S.04.03.02	Good institutional and strategic framework for policies in favor of marginalized communities	W.04.03.02	Insufficient social measures for disadvantaged groups like minorities, elders
<b>Opportunities</b>		<b>Threats</b>	
	EU Semester Country Recommendations' pressure on national governments to improve employment situation	T.04.03.01	Pandemic and post-pandemic recovery appear to particularly affect disadvantaged groups and increase marginalization.
<i>Third country nationals and migrants</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.04.04.01	Presence of regional good	W.04.04.01	Significant transit immigration

<p>practices in receiving and integrating migrants</p> <p>S.04.04.02 In some regions, good presence of NGOs active in the domain</p>	<p>through the Western Balkan route in Croatia, as country with one of the longest external land border of the EU</p> <p>W.04.04.02 Immigration pressure on Italian regions as first asylum country</p> <p>W.04.04.03 Need of more effective humanitarian aid and security actions to face illegal immigration</p> <p>W.04.04.04 Insufficient social policies for integration of migrants in Italy</p> <p>W.04.04.05 Growing risk of human rights violations</p>
<p><b>Opportunities</b></p>	<p><b>Threats</b></p>
<p>O.04.04.01 Pressure of internal and international public opinion.</p>	<p>T.04.04.01 Unpredictability of migration flows in the short period</p>
<p><i>Health systems and infrastructure</i></p>	
<p><b>Strengths</b></p>	<p><b>Weaknesses</b></p>
<p>S.04.05.01 Increasing trend of medical staff throughout the territory</p> <p>S.04.05.02 Presence of territories where health systems are at level of excellence</p>	<p>W.04.05.01 Structural lack of medical staff in Croatian regions</p> <p>W.04.05.02 Important decrease of places in hospitals in some Italian Regions</p> <p>W.04.05.03 Efficiency of the health systems lower than EU average in several regions</p> <p>W.04.05.04 Health infrastructure and equipment inefficient and old in some regions</p> <p>W.04.05.05 Unequal coverage of health services on the territory, especially for most remote areas</p> <p>W.04.05.06 Health protocols and plans not aligned with the fast-changing society.</p>
<p><b>Opportunities</b></p>	<p><b>Threats</b></p>
<p>O.04.05.01 E-health technologies and practices more and more available, also for telemedicine solutions</p> <p>O.04.05.02 The pandemic as an occasion for a re-structuring and</p>	<p>T.04.05.01 Uncertainty due to impact of pandemics in the short period</p> <p>T.04.05.02 Population ageing and its impact on sustainability of</p>

modernization of systems		health systems	
<i>Culture and sustainable tourism</i>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.04.06.01	Impressive richness of the tangible cultural heritage, including 17 UNESCO sites	W.04.06.01	Cultural heritage still needs restoration, protection, interpretation, presentation and valorization actions, especially in Croatian areas
S.04.06.02	Rich intangible cultural and historic heritage, including UNESCO protected traditions, some with cross-border span	W.04.06.02	Visitors flow not equally distributed among sites, lack of strategic approach to manage cultural tourism flows
S.04.06.03	The Programme area is one of the most popular coastal tourism destinations worldwide	W.04.06.03	Over-dependence of some regional economies on Tourism
S.04.06.04	Coasts of various type permit different types of coastal and island tourism	W.04.06.04	Touristic flows are mainly seasonal and related to coastal tourism
S.04.06.05	Existence of local potential for certain maritime alternative forms of tourism (fish tourism, archeo-diving, wreck exploration, archeo-experimental tourism etc.)	W.04.06.05	In some isolated regional cases, tourism has been decreasing in the last years.
S.04.06.06	The area is also a strong cultural, natural, wellness and business tourism destination	W.04.06.06	Lack of structured offers of alternative and active tourism
S.04.06.07	Very strong increase of touristic flows, everywhere in the area – with few exceptions (before pandemic).	W.04.06.07	In some areas, insufficient number of prepared Human resources in the strategic management of tourism
S.04.06.08	Constant increase of tourist accommodation capacity	W.04.06.08	Scarce use of digitalization and innovation in general for valorization and promotion of the heritage
S.04.06.09	Presence of some integrated cross-border tourism offer in the area (cruises especially)	W.04.06.09	Lack of established formal and informal education (centres) for smart destination management
<b>Opportunities</b>		<b>Threats</b>	
O.04.06.01	EU Resilience and Recovery Fund may give occasion for relaunching the tourism sector after the COVID pandemic	T.04.06.01	Global touristic flows frozen by the COVID Pandemic
O.04.06.02	The post-pandemic recovery as an occasion of restructuring, modernizing and networking the sector	T.04.06.02	Post-COVID relaunch of tourist sector in the area is highly dependent on the recovery of the transport sector, which is expected to

S.04.06.03	Projects from the previous programming period have paved the way for cooperation in the domain	T.04.06.03	be structurally more complicated and long-lasting Geographic features of the area and scarcity of rapid CB connection limit the possibility of proposing integrated CB touristic offers
S.04.06.04	Consistency with EUSAIR priorities		
S.04.06.05	National sectorial strategies in line with the needs of the areas (diversification, de-seasonalizing)		
S.04.06.06	Natural environment and cultural heritage offer opportunities for diversification of alternative -and possibly complementary- tourism offer (wellness, diving, fish-tourism, creative, transformative, religious tourism, etc.)		
<b>Policy Objective 5 - A Europe closer to citizens</b>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.05.01.01	Good tradition of local territorial integrated strategies in the area	W.05.01.01	Absence of territorial cross-border and cross-sectorial strategies at the level of sub-area
		W.05.01.02	Persisting needs for integrated and territorial approaches for development of local urban and rural areas
		W.05.01.03	Cross-border sub-areas to be approached by integrated approaches have not yet emerged
<b>Opportunities</b>		<b>Threats</b>	
<b>ISO1 - A better cooperation governance</b>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.I1.01.01	High level of acknowledgment of EUSAIR also thanks to the wide involvement of national and regional administration in the governance system	W.I1.01.01	Lack of a comprehensive assessment of the extent and importance of the cross-border legal and administrative obstacles
S.I1.01.02	The first programming period of the Italy Croatia CBC open the way for stronger cooperation	W.I1.01.02	Existing administrative obstacles in the domain of risk management and fishing and aquaculture management

	W.I1.01.03	Mutual trust still to be improved	
	W.I1.01.04	Different distribution of powers between the governance level hamper cooperation	
	W.I1.01.05	Integration and consistency between macroregional strategies and Interreg Programmes to be improved	
	W.I1.01.06	Need to improve local PA capacities of dealing with EU Programmes and projects and their strategic capacities more in general.	
<b>Opportunities</b>		<b>Threats</b>	
<b>ISO2 - A safer Europe</b>			
<b>Strengths</b>		<b>Weaknesses</b>	
S.I2.01.01	Presence of regional good practices in receiving and integrating migrants	W.I2.01.01	Important transit immigration through the Western Balkan route in Croatia, as country with one of the longest external land border of the EU
S.I2.01.02	In some regions, good presence of NGOs active in the domain	W.I2.01.02	Immigration pressure on Italian regions as first asylum country
		W.I2.01.03	Need of more effective humanitarian and security actions to face illegal immigration
		W.I2.01.04	Insufficient social policies for integration of migrants in Italy
		W.I2.01.05	Growing risk of human rights violations
<b>Opportunities</b>		<b>Threats</b>	
O.I2.01.01	Pressure of internal and international public opinion.	T.I2.01.01	Unpredictability of migration flows in the short period

## 6. Challenges in the Programme Area

The present chapter provides an overview of the main challenges for the development of the cross-border area, as resulting from the sectorial analysis developed in Chapter 4 and in consistency with the SWOT analysis presented in Chapter 5.

A number of 32 challenges has been identified.

The following matrix presents each of them detailing, respectively:

- The reference to relevant Policy objective/Specific objective. Several challenges, even if primarily referred to a certain SO, have also an indirect relevance for other PO/SOs. In such case, more POs/SOs are indicated.
- The reference to the items of the SWOT from which the challenge arises: each challenge may build on certain strengths of the Programme area, fight certain weaknesses, take advantage of certain opportunities or prevent threats.

The upcoming evolution of the process for the drafting of the new 2021-2027 Interreg A Italy-Croatia Programme will further build on the matrix in order to get at the definition of possible development scenarios, based on alternative combinations of the challenges here listed.

To such purpose, the challenges will undergo a process of individual assessment, against a series of criteria which can influence the choices for the selection of the programming priorities. These criteria may include, among others:

- The degree with which each challenge would require interventions that would be in **continuity** with the previous Italy-Croatia CBC Programme;
- The degree with which it would require interventions that would be **consistent** with the strategic framework as described in Chapter 2, and with EUSAIR in particular;
- The extent to which the challenge has an effective **cross-border relevance**: some challenges might be referring specifically to a part of the territory while some others are equally important throughout the area ;
- The **suitability** of the challenge to be tackled in the framework of a **CBC Programme**. Some challenges, however crucial, should be better dealt with other instruments, coming with a more appropriate budget and more flexibility of intervention.

In this framework, the matrix below concludes and synthesizes the results of the territorial analysis developed in the present document.

At the same time, it will represent a valid starting point for the following steps of the process of defining the new Programme for the 2021-2027 period.

Challenges		Reference to POs/SOs		Reference to the SWOT analysis			
				Strengths	Weaknesses	Opportunities	Threats
n.	Description	PO	SO	<i>Builds on..</i>	<i>Fights against..</i>	<i>Takes advantage of..</i>	<i>Prevents..</i>
1	Building on the strong research capacities to activate dynamics of technological transfer especially for the sectors of the Blue Economy, through a stronger dialogue of the quadruple helix actors and attracting the available private and public financial resource for R&D.	1	1.1	S.01.01.01 S.01.01.02 S.01.01.03	W.01.01.01 W.01.01.02 W.01.01.05 W.01.01.06 W.01.01.07	O.01.01.03	
2	Attracting and maintaining a higher number of young researchers in the system by widening career perspectives towards market-oriented research and cross-border research projects	1	1.1	S.01.01.03	W.01.01.03 W.01.01.04 W.01.01.05 W.01.01.06 W.01.01.07	O.01.01.02 O.01.01.03	
3	Activating citizen-friendly public e-services, especially in the health and education domains building on regional good practices	1	1.2		W.01.02.01 W.01.02.04 W.01.02.05 W.01.02.06	O.01.02.01 O.01.02.03 O.01.02.04	
4	Improving the digital literacy of the population through cross-border and cross-generation cooperation initiatives	1	1.2 1.5	S.01.02.01  S.01.05.01 S.01.05.02	W.01.02.01	O.01.02.01 O.01.02.02 O.01.02.04  O.01.05.01	
5	Boosting the process of digitalization of the business environment by building on the cross-border reciprocal strength	1	1.2	S.01.02.01 S.01.02.02 S.01.02.03	W.01.02.01 W.01.02.03	O.01.02.01 O.01.02.03	
6	Strengthening the SMEs through increased collaboration practices and support to innovation in competitive domains	1 4	1.3 1.4 4.1	S.01.03.01 S.01.03.05  S.01.04.01	W.01.03.01 W.01.03.03  W.01.04.01 W.01.04.04 W.04.01.01 W.04.01.02 W.04.01.03	O.01.03.02	T.01.03.01
7	Intensifying the smart specialization governance processes, with more focused priorities on which investing with policies for human resources knowledge and for business initiatives	1,4	1.4 1.3 4.1	S.01.04.01  S.01.03.02 S.01.03.03	W.01.04.01 W.01.04.02 W.01.04.03 W.01.04.04 W.01.04.05 W.01.04.06  W.01.03.02 W.04.01.01 W.04.01.02 W.04.01.03 W.04.01.06	O.01.04.01 O.01.04.02	T.01.03.01
8	Fighting the still existing digital divide, giving full access to the opportunities of digitalization	1	1.5		W.01.05.01 W.01.05.02	O.01.05.01 O.01.05.02	

Challenges		Reference to POs/SOs		Reference to the SWOT analysis			
				Strengths	Weaknesses	Opportunities	Threats
n.	Description	PO	SO	<i>Builds on..</i>	<i>Fights against..</i>	<i>Takes advantage of..</i>	<i>Prevents..</i>
	everywhere in the area						
9	Improving energy efficiency in the business sector, especially in the domains of the blue economy	2	2.1	S.02.01.01	W.02.01.01 W.02.01.02	O.02.01.02 O.02.01.03	
10	Assess the potential for a sustainable but improved energy production from RES, including off-shore RES	2.	2.2	S.02.02.02	W.02.02.01 W.02.02.02	O.02.02.01	
11	Rebalance the development of smart grids in the various regions of the area through cooperation	2	2.3	S.02.03.01	W.02.03.01	O.02.03.01	
12	Improve the knowledge base for climate change monitoring and adaptation, and coordinate methodologies, processes and resources	2	2.4		W.02.04.01 W.02.04.02 W.02.04.03 W.02.04.04 W.02.04.05 W.02.04.08 W.02.04.11 W.02.04.12. W.02.04.13.	O.02.024.0 1	T.02.04.01
13	Improve the effectiveness of all the phases of the civil protection process (assessment, monitoring, alert, reaction, reconstruction) through more intense cooperation	2	2.4	S.02.04.01	W.02.04.05 W.02.04.06 W.02.04.07 W.02.04.09 W.02.04.10 W.02.04.013	O.02.04.01	T.02.04.01
14	Improving the water management infrastructure to close the gap with the average EU level	2	2.5	S.02.05.03 S.02.05.05	W.02.05.01 W.02.05.02 W.02.05.03		T.02.05.01 T.02.05.02
15	Improving the waste recycling infrastructure and systems for a more balanced performance of the area in the domain	2	2.6	S.02.06.01 S.02.06.02 S.02.06.04	W.02.06.01 W.02.06.02 W.02.06.04	O.02.06.01	
16	Improve the knowledge base and the monitoring system for policies of protection of biodiversity and fight to pollution	2	2.7		W.02.07.01	O.02.07.01 O.02.07.02 O.02.07.03	
17	Incentivate local policies for greener and more attractive forms of urban transport	2	2.8	S.02.08.01 S.02.08.02 S.02.08.03 S.02.08.04	W.02.08.01 W.02.08.02 W.02.08.03	O.02.08.01 O.02.08.02	T.02.08.01
18	Improve the intermodality capacities of main ports to make them greener, more ICT based, secure, effective and more integrated with the hinterland needs	3	3.1	S.03.01.01 S.03.01.02 S.03.01.03 S.03.01.04 S.03.01.05 S.03.01.06	W.03.01.02 W.03.01.03 W.03.01.05	O.03.01.01 O.03.01.02 O.03.01.03	T.03.01.01
19	Extend the coverage of the Ten-T core corridors on the parts of the	3	3.1	S.03.01.01 S.03.01.02	W.03.01.01	O.03.01.03	T.03.01.01

Challenges		Reference to POs/SOs		Reference to the SWOT analysis			
				Strengths	Weaknesses	Opportunities	Threats
n.	Description	PO	SO	<i>Builds on..</i>	<i>Fights against..</i>	<i>Takes advantage of..</i>	<i>Prevents..</i>
	territory not directly crossed by them			S.03.01.03			
20	Setting up rapid, sustainable and well spread cross-border connections	3,4	3.2 4.6	S.03.02.02 S.03.02.03	W.03.02.03 W.03.02.07 W.03.02.08 W.03.02.09 W.03.02.11	O.03.02.01 O.03.02.02 O.03.02.03	T.03.02.02 T.04.06.03
21	Improve the effectiveness and the quality of railway connections in the area	3	3.2 3.1		W.03.02.01 W.03.02.04 W.03.02.05 W.03.02.06  W.03.01.04		T.03.02.02
22	Improve the use of clean private means of transportation	3	3.2	S.03.02.01	W.03.02.02		
23	Fighting the low levels of employment especially of the youth, female and elders	4	4.1	S.04.01.01 S.04.01.02 S.04.01.03 S.04.01.04	W.04.01.01 W.04.01.02 W.04.01.03 W.04.01.05	O.04.01.01 O.04.01.02	T.04.01.01
24	Improve the coordination between the education systems and the local economy needs, to better focus high education programs on green, smart and blue economy related topics	4,1	4.2 1.1	S.04.02.01 S.04.02.02	W.04.02.01 W.04.02.02 W.04.02.03 W.04.02.05  W.01.01.03 W.01.01.04	O.04.02.01	T.04.02.01
25	Improve policies for the support to marginalized communities and disadvantaged groups	4	4.3 4.4	S.04.03.01 S.04.03.02	W.04.03.01 W.04.03.02  W.04.04.04		T.04.03.01
26	Improve strategies for humanitarian and security actions to face immigration pressure	4, ISO2	4.4	S.04.04.01 S.04.04.02	W.04.04.01 W.04.04.02 W.04.04.03 W.04.04.04 W.04.04.05	O.04.04.01	T.04.04.01
27	Improve and modernize the health infrastructure and make it more spread on the territory	4	4.5	S.04.05.01	W.04.05.01 W.04.05.02 W.04.05.03 W.04.05.04 W.04.05.05	O.04.05.02	T.04.05.01 T.04.05.02
28	Modernize the health system and make their protocols and plans closer to the changing society	4	4.5	S.04.05.02	W.04.05.03 W.04.05.05 W.04.05.06	O.04.05.01	T.04.05.01 T.04.05.02
29	Diversify, de-seasonalize and delocalize the touristic flows within the area.	4,1,3	4.6 4.1 1.3 2.5 2.6 2.7 3.2	S.04.06.01 S.04.06.02 S.04.06.05 S.04.06.06	W.04.06.02 W.04.06.03 W.04.06.04 W.04.06.05 W.04.06.06  W.01.03.02 W.02.06.05	O.04.06.01 O.04.06.02 O.04.06.03 O.04.06.04 O.04.06.05 O.04.06.06	T.02.05.02 T.02.07.01 T.03.02.02

Challenges		Reference to POs/SOs		Reference to the SWOT analysis			
				Strengths	Weaknesses	Opportunities	Threats
n.	Description	PO	SO	<i>Builds on..</i>	<i>Fights against..</i>	<i>Takes advantage of..</i>	<i>Prevents..</i>
					W.04.01.07		
30	Promoting new and innovative integrated offers of coastal and island tourism, to maintain the competitiveness of the sector	4	4.6	S.04.06.03 S.04.06.04 S.04.06.05 S.04.06.06 S.04.06.07 S.04.06.08 S.04.06.09	W.04.06.03 W.04.06.05 W.04.06.06	O.04.06.01 O.04.06.02 O.04.06.03 O.04.06.06	
31	Improve and modernize the policies for valorization of the cultural heritage	4	4.6	S.04.06.01 S.04.06.02 S.04.06.06	W.04.06.01 W.04.06.02 W.04.06.08	O.04.06.03	
32	Improve the knowledge base about the legal and administrative cross-border obstacles	ISO1		S.11.01.02	W.11.01.01 W.11.01.02		