D.4.4.9 EUSAIR and EUSALP discussion paper

Work Package 4	**Final version**
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Contents

1. Project background

The Green Mind project focuses on fostering economic competitiveness and innovation in the green and smart mobility industry, by strengthening regional and transnational cooperation between businesses, research bodies and authorities. Key project activities include:

- analysing the smart and green mobility industry, organising training events and engaging with SMEs to help them delivering green and innovative mobility products and services;

- supporting SMEs in finding business opportunities in the green and smart mobility industry, also by means of public funding screening and business-to-business events;

- networking stakeholders to exchange experience and create opportunities to deliver new projects, including the set-up of a permanent transnational innovation network involving authorities, businesses, and research bodies;

- transferring and promoting the project results towards policy makers in the Mediterranean area, in particular informing and supporting their Smart Specialisation Strategies thanks to policy documents presenting the project results;

- transferring the project results to non-partner stakeholders (e.g. SME-support bodies, clusters, agencies) and helping them to discover opportunities for entrepreneurial systems in the green and smart mobility industry.

The Green Mind thematic scope is wide and includes key sectors of the Mediterranean area with a rising demand for innovative products and services (e.g. transport and logistics, automotive, energy, and Information Technology) and it focuses on major objectives of the EU Green Deal (e.g. developing environmentally-friendly technologies, and cleaner, cheaper and healthier forms of private and public transport).

The Green Mind transnational approach lies in a joint learning, knowledge sharing and capacity building process for mobility innovation. The project involves eight partners from eight regions in the Mediterranean area (Ferrara / Emilia-Romagna - Italy, Central Macedonia - Greece, Andalucía - Spain, Occitanie - France, Split-Dalmatia and Istria - Croatia, Sarajevo - Bosnia and Herzegovina, and Vzhonda Slovenija - Slovenia).

This paper is part of the project transferring activities, which aim at bringing the project results to an audience wider than the one directly involved in the project. This includes engaging with the macro-regional strategies relevant to the project territorial scope (Adriatic-Ionian and Alpine macro-regions). The ambitions of this discussion paper are:

- highlighting topics and work areas which are common to the Green Mind project and the Adriatic-Ionian and Alpine macro-regional strategies (EUSAIR and EUSALP);

- providing suggestions for topics and areas for future work in EUSAIR and EUSALP, and potentially in the funding programmes relevant to the macro-regions.

2. Macro regional strategies in the European Union

The macro-regional strategies of the European Union[1] are policy frameworks to allow regions in specific geographic areas to jointly tackle and find solutions to territorial issues (e.g. in climate change and environmental hazards, transport and connectivity, economic and social development), and better use their common potentials to foster territorial development (e.g. building networks to better exploit territorial advantages). Macro-regional strategies aim at strengthening the cooperation between European regions and help them delivering more efficient policies and actions thanks to a joint effort in identifying territorial issues and potential solutions. Their aim is achieving economic, social and territorial cohesion.

EU macro-regional strategies are supported by various EU funds. They are initiated and requested by the EU Member States (located in the same geographic area - "macro-region") and endorsed by the European Council. Following the European Council's request, the strategies are drafted and adopted by the European Commission. As a result, such strategies are intergovernmental initiatives. Their implementation relies on the commitment and goodwill of the participating countries. Another important aspect is that macro-regional strategies do not come with new EU funding, legislation or formal structures: they rely on coordination and synergy, enabling the optimal use of existing financial sources including EU, national, regional and private funding, better implementation of existing legislation, and better performance of existing institutions. EU macro-regional strategies address challenges and opportunities specific to the geographical areas they concern, based on the principle that these challenges and opportunities are too local to be of direct interest to the whole EU, but too broad to be dealt efficiently at the national level.

Figure 1: Macro-regional strategies - geography
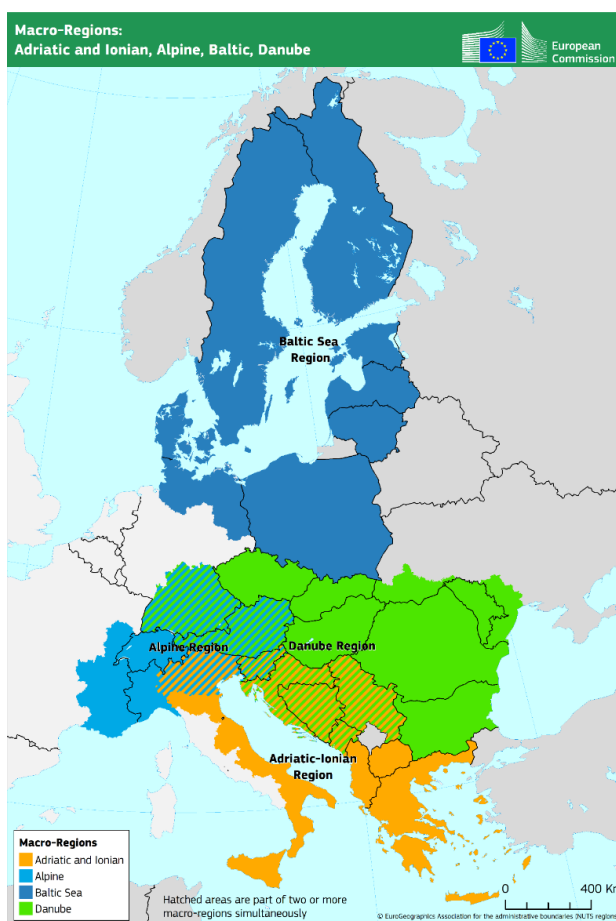

Source: European Commission (2020)

The objectives are long-term and agreed by the participating countries. They vary according to the needs of the macro-region concerned and focus on strategic issues that bring added value to horizontal EU policies. Each strategy involves a broad range of stakeholders at various levels (international, national, regional, local), sectors (public, private, and more broadly the civil society) and fields of expertise, providing a platform for consistent multi-country, multi-sectorial and multi-level governance.

To date there are four EU macroregional strategies. Each is accompanied by a rolling action plan updated regularly to accommodate emerging needs and remain relevant in a changing context:

- the EU Strategy for the Baltic Sea Region (2009);

- the EU Strategy for the Danube Region (2010);

- the EU Strategy for the Adriatic- Ionian Region (2014);

- the EU Strategy for the Alpine Region (2015).

Macro-regional strategies involve 19 EU Member States and 9 non-EU countries, a total of over 340 million people. The Figure above shows the geographical span of the macro-regional strategies[2].

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[1] Please see: https://ec.europa.eu/regional_policy/it/policy/cooperation/macro-regional-strategies/
[2] Please see: https://ec.europa.eu/regional_policy/sources/cooperate/macro_region_strategy/pdf/mrs_factsheet_en.pdf

a. The Adriatic-Ionian macro-regional strategy

The Adriatic-Ionian macro-regional strategy (EUSAIR) includes nine countries, as reported in the following Figure: four EU Member States (Croatia, Greece, Italy, Slovenia) and five non-EU countries (Albania, Bosnia and Herzegovina, Montenegro, Serbia and North Macedonia)[3]. We note its geographic scope overlaps with the ADRION transnational territorial cooperation programme and it includes most regions of the Western Mediterranean area.

Figure 2: EUSAIR geographic scope

Source: European Commission

The EUSAIR overall objective is promoting economic and social prosperity and growth by improving the macro-region attractiveness, competitiveness, and connectivity. EUSAIR focuses on four thematic pillars:

- Blue growth;

- Connecting the region;

- Environmental quality;

- Sustainable tourism.

These pillars address the core challenges and opportunities for the macro-region. The following paragraphs shortly present each pillar and identify the Green Mind relevance to EUSAIR.

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[3] Please see: https://www.adriatic-ionian.eu/about-eusair/ and https://www.adriatic-ionian.eu/wp-content/uploads/2020/04/COM_2020_132_Addendum-North-Macedonia.pdf

Blue growth

The objective of this pillar is driving innovative maritime and marine growth in the Adriatic-Ionian macro-region by promoting sustainable economic growth and jobs, as well as business opportunities in the blue economy sectors. The pillar focuses on building on the regional diversity in the macro-region and promotes pathways to innovative maritime and marine growth.

The specific objectives are:

* promoting research, innovation and business opportunities in blue economy sectors, by facilitating "brain circulation" between research and business communities, and increasing their networking and clustering capacity;

* adapting to sustainable seafood production and consumption, by developing common standards and approaches and providing a level playing field in the macro-region;

* improving the sea basin governance, by enhancing administrative and institutional capacities in maritime governance and services.

The pillar focuses on three topics: **blue technologies**, **fisheries and aquaculture**, and **maritime and marine governance and services**.

Our understanding is that despite blue technologies contribute to a more efficient and environmentally friendly maritime transport sector, Green Mind is not relevant to this pillar.

Connecting the region

The objective of this pillar is improving connectivity within the macro-region and with the rest of Europe with reference to transport and energy networks. According to EUSAIR the macro-region is facing huge infrastructure disparities, notably between "old" EU Member States and the other EUSAIR States; EUSAIR indicates that better transport and energy connections are compelling needs for the macro-region, and a precondition for its economic and social development.

The specific objectives are:

* strengthening maritime safety and security and developing a competitive regional intermodal port system;

* developing reliable transport networks and intermodal connections with the hinterland, both for freight and passengers;

* achieving a well-interconnected and well-functioning internal energy market which supports the three key energy policy objectives of the EU (competitiveness, security of supply and sustainability).

The pillar focuses on three topics: **maritime transport**, **intermodal connections to the hinterland**, and **energy networks**.

Our understanding is that Green Mind is strictly relevant to the pillar because it focuses on transport innovation and sustainability, transport service improvement and energy efficiency in transport.

Environmental quality

The objective of this pillar is addressing the issue of environmental quality in marine, coastal, and terrestrial eco-systems in the macro-region. According to EUSAIR, environmental quality is essential to human activities in the macro-region and to ensure economic and social well-being.

The specific objectives are:

* ensuring good environmental and ecological conditions of the marine and coastal environment, in line with the relevant EU *Acquis* and the eco-system approach of the Barcelona Convention;

- contributing to the goal of the EU Biodiversity Strategy, halting biodiversity loss and the degradation of eco-systems, and addressing threats to marine and terrestrial biodiversity;

- improving waste management by reducing waste, nutrient and other pollutant flows to rivers and the sea.

The pillar focuses on two topics: the **marine environment**, and **transnational terrestrial habitats and biodiversity**.

Our understanding is that Green Mind is indirectly relevant to the pillar; it does not directly address the two topics above, but it contributes to them by focussing on sustainable transport systems.

Sustainable tourism

The objective of this pillar is developing the sustainable and responsible tourism potential of the Adriatic-Ionian macro-region, by developing innovative and quality tourism products and services. It aims at promoting responsible tourism behaviours by tourism-related stakeholders across the macro-region (local, regional and national, private and public stakeholders, as well as tourists and visitors). The pillar identifies socio-economic aspects, bureaucratic obstacles removal, touristic business opportunities and SMEs competitiveness as essential elements to touristic development.

The specific objectives are:

- diversifying the macro-region's tourism products and services along with tackling seasonality of inland, coastal and maritime tourism demand;

- improving the quality and innovation of the tourism offer and enhancing the sustainable and responsible tourism capacities of tourism stakeholders across the macro-region.

The pillar focuses on two topics: **diversified tourism offer** (products and services), and **sustainable and responsible tourism management** (innovation and quality).

Mobility is a key component of the tourism business, and tourism is a key economic sector in all the Green Mind regions, and more broadly in the Mediterranean area.

Green Mind is relevant to the pillar because it contributes to sustainable and responsible tourism management thanks to green and sustainable mobility systems.

b. The Alpine macro-regional strategy

The Alpine Region (EUSALP) involves 7 countries, of which 5 EU (Austria, France, Germany, Italy, Slovenia) and 2 non-EU (Liechtenstein and Switzerland) Member States, as reported in the Figure in the next page[4]. EUSALP is a prosperous and competitive region with about 77 million inhabitants, representing 15% of the European population and 23% of the European Gross Domestic Product (GDP). The macro-region overperforms in economic indicators compared to the European average, including indicators in patents, innovation, productivity and employment. It matches agricultural, industrial and touristic vocations.

The overall objective of the EUSALP is bringing a new impetus in co-operation and investment to the benefit of all the entities of the macro-region (states, regions, civil society stakeholders and more broadly European citizens). EUSALP builds on a long tradition of cooperation in the Alps and it seeks complementing rather than duplicating existing co-operation structures. Its main objective is ensuring that the macro-region remains one of the most attractive areas in Europe, taking better advantage of its assets and seizing opportunities for sustainable and innovative development.

EUSALP focuses on four Thematic Policy Areas:

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[4] Source: https://www.alpine-region.eu

- Economic growth and innovation;

- Mobility and connectivity;

- Environment and energy;

- Governance, including institutional capacity.

These Areas address the core challenges and opportunities in the macro-region. The following paragraphs shortly present each Area (except governance which is transversal to the previous ones), and identify the Green Mind relevance to EUSALP.

Figure 3: EUSALP geographic scope
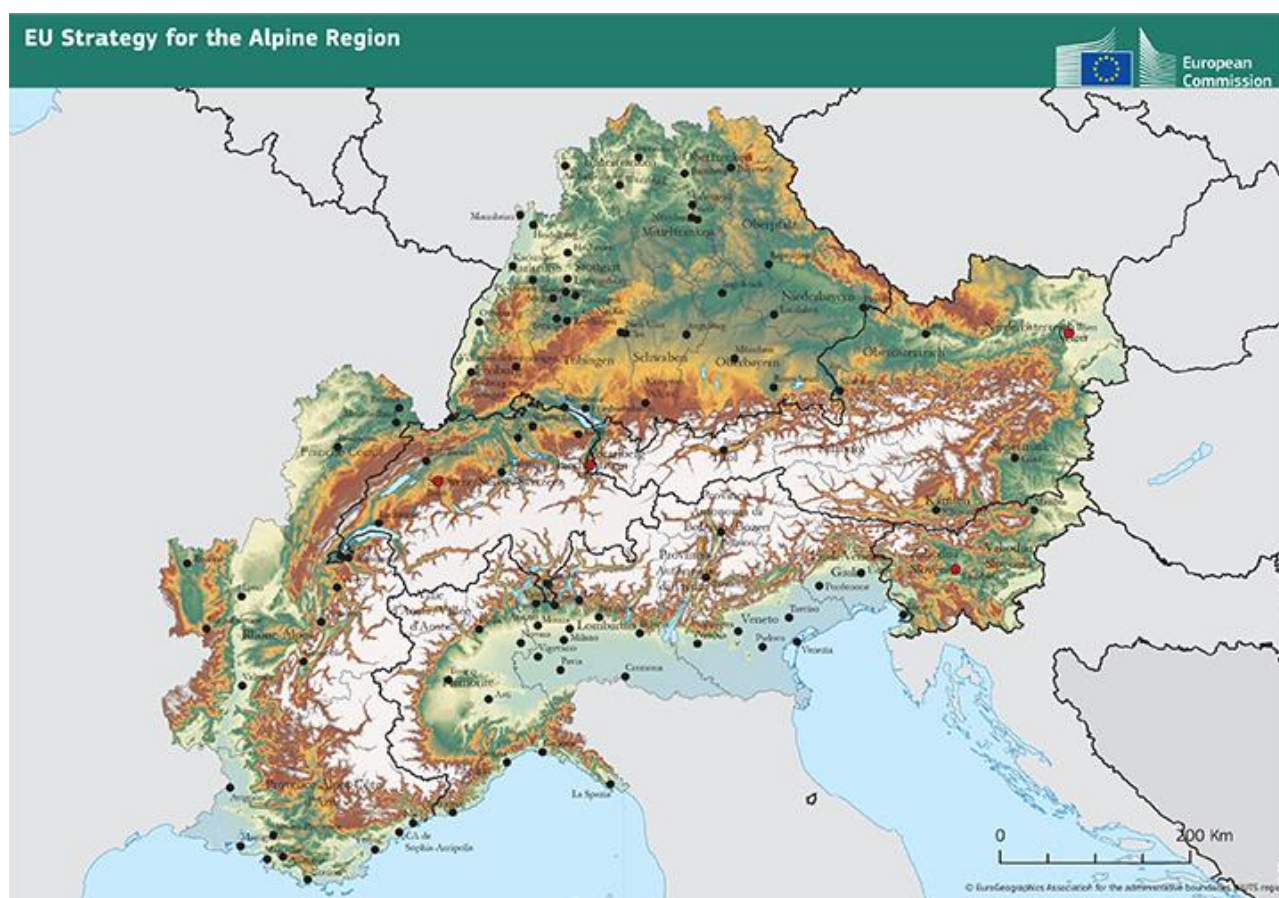
Source: European Commission

Economic growth and innovation

The EU-Strategy for the Alpine Region aims to support innovative economic development in the macro-region and contribute to a more balanced territorial development through innovative approaches which strengthen the sustainability of the region. The goal is combining economic competitiveness, prosperity, energy-efficiency and more broadly sustainability in agriculture, industry, commerce, tourism and other service sectors. The main priorities of this Thematic Policy Area are:

1. developing innovation and research capacity and transferring it into practice;

2. improving and developing new support to enterprises;

3. ensuring full employment in the macro-region.

Each priority corresponds to an Action Group with specific objectives, as reported in the following Table.

Table 1: Economic growth and innovation: Action Groups and specific objectives

Action Group	Main specific objectives
1. Develop an effective research and innovation ecosystem	• Identifying the key strategic sectors where cooperation in R&I can impact economy or society; • Mapping existing clusters and competence centres engaged in economic and academic activities; • Mapping and matching specific value chains and capabilities in key areas of competence related to national and regional Smart Specialisation Strategies; • Working at joint pilots with the industry in areas of smart specialisation and demonstrate opportunities for scaling up innovations and co-creating value chains; • Enhancing cooperation and capacity building in research institutions, infrastructure and networks.
2. Increase the economic potential of strategic sectors (e.g. Bioeconomy/Cluster development, Wood, Health Tourism, Digital Industry)	• Developing new or better value chains in sectors which are strategic to the Alpine macro-region; • Bridging the gap of disconnected value chains; • Scoping value chains and related products and services to the green economy; • Bridging policies and efforts to transform industrial structure and drive job creation and growth; • Supporting innovation by making better use of cluster initiatives.
3. Improve the labour market, education and training in strategic sectors	• Focusing on the field of dual education and in particular on dual vocational training; • Establishing a common macroregional educational area in which vocation training certificates are acknowledged at cross-border level.

Source: Green Mind analysis of EUSALP

Our understanding is that Green Mind is partly relevant to the Thematic Policy Areas because green and sustainable transport involves innovation, because it is important to the tourism sector and it involves the digital industry.

Mobility and connectivity

The Alpine macro-region is a major European crossroad and developing sustainable transport systems is a major challenge to the macro-region. A coordinated policy which can match transport needs in the macro-region, population welfare and the *equilibrium* of a particularly fragile environment is a priority to the Strategy.

Besides physical transport systems, the notion of connectivity also embraces communication infrastructures and services. Although citizens and business in the Alps are usually well connected, a higher accessibility to Information and Communication Technologies (ICT) could further bridge accessibility gaps and contribute to a more sustainable development model.

The main objective of mobility and connectivity Thematic Policy Area is the sustainable internal and external accessibility of the macro-region. The main priorities of this Area are:

1. better transport systems in terms of sustainability and quality;

2. sustainable accessibility in all the Alpine areas;

3. a connected society in the macro-region.

Two Action Groups operate within this 2nd Thematic Policy Area, as reported in the following Table.

Table 2: Mobility and connectivity: Action Groups and specific objectives

Action Group	Main specific objectives
4. Promote inter-modality and interoperability in passenger and freight transport	• Promoting inter-modality and interoperability in passenger and freight transport, with focus on infrastructure, public transport systems, transport operations, information and ticketing; • Supporting modal shift from road to rail including the harmonization and implementation of modal shift policies with a focus on toll systems. • Developing cooperation and enhanced integration between transport stakeholders and related funding.
5. Connect people electronically and promote accessibility to public services	• Proposing technical solutions with focus on ICT (Intelligent Transport Systems); • Proposing a strategic approach to the accessibility to Services of General Interest (SGI); • Establishing a permanent alpine Think Tank on accessibility to SGI; • Encouraging experience exchange in EUSALP.

Source: Green Mind analysis of EUSALP

Green Mind is relevant to the Thematic Policy Areas because it contributes to sustainable and green mobility systems to connect the region.

Environment and energy

This Thematic Policy Area aim at achieving a more inclusive environmental framework and at developing renewable and reliable energy solutions. Its strategic objective is developing ecological connectivity and thus to strengthen, improve and restore biodiversity, as well as ecosystem services. Four Action Groups operate within the Area, as reported in the following Table.

Table 3: Environment and energy: Action Groups and specific objectives

Action Group	Main specific objectives
6. Preserve and valorise natural and cultural resources	• Developing spatial planning for soil conservation; • Fostering innovation in farming and forestry; • Promoting integrated and sustainable water management.
7. Develop ecological connectivity in the EUSALP territory	• Identifying Green Infrastructure of transnational relevance, improving their governance and exploring funding opportunities; • Promoting the benefits of Green Infrastructure and bring it to the political agenda; • Enhancing resilience to climate change; • Developing solutions to halt biodiversity loss.
8. Improve risk management and manage climate change, including major risks prevention	• Enhancing governance structures and processes in the policy fields of risk/hazard management and climate change adaptation; • Identifying good practices in tackling challenges in natural hazards and in climate change adaptation policies; • Promoting, developing and implementing local, regional and international pilot projects and programs based on strategic priorities, and exploring funding opportunities at the EU national, regional and private levels.

Action Group	Main specific objectives
9. Make the territory a model region for energy efficiency and renewable energy	• Setting up an Alpine energy efficiency cluster which is a forum for cooperation and innovation (especially in the housing and mobility sectors); • Greening the Alpine infrastructure also by means of new tools for policy making; • Setting up an Alpine renewable energy cluster; • Supporting energy management systems in the Alpine macro-region and delivering and sharing energy efficiency solutions and decentralised monitoring systems; • Supporting a better use of local resources and increasing energy "self-sufficiency" to reduce impacts on climate and the environment.

Source: Green Mind analysis of EUSALP

Our understanding is that Green Mind is not directly relevant to the Thematic Policy Areas, but it contributes to Action Group 3 with reference to energy efficiency in transport.

3. Key challenges in the Adriatic-Ionian and Alpine macro-regions

This Chapter includes a summary of the key challenges in the two macro-regions in those strategy Pillars – Thematic Policy Areas to which Green Mind is relevant. In particular we focus on:

- "connecting the region" and "sustainable tourism" in EUSAIR;

- "economic growth and innovation" and "mobility and connectivity" in EUSALP.

a. Key challenges in connecting the region and sustainable tourism in EUSAIR

Connecting the region

The EUSAIR Action Plan[5] identifies connectivity as a driver of smart, sustainable and inclusive growth and it includes topics and related actions / projects to connect the macro-region[6], as reported in the following Table.

Table 4: Connecting the region - topics and actions / projects in EUSAIR

Topics	Actions / projects
Maritime transport	- Infrastructure and technologies for traffic monitoring; - Port Community Systems and Information technology to manage maritime traffics and port operations and processes; - Clean shipping; - Maritime and inland transport services integration.
Intermodal connections to the hinterland	- Road infrastructures; - Railway infrastructure and rolling stock; - Legislative reforms in the rail sector; - Air, maritime and rail routes development; - Motorways of the Sea and logistics services; - Comprehensive intermodal transport network in the macro-region.

Source: Green Mind project analysis

Most of these actions / projects strongly rely on transport innovation and modernisation as key components of better connectivity and environmental protection; moreover research, innovation and SMEs are cross-cutting themes identified by the EC Communication concerning the European Union Strategy for the Adriatic and Ionian Region[7]. The Communication also highlights that "*clusters involving business, research and the public sector are scarce*" in the macro-region. We note that addressing this issue is a key Green Mind objective.

A recent report of the EC Joint Research Centre provides a macro-level assessment of innovation capacity in the transport sector in Europe[8]. The report highlights the importance of Research and Development (R&D) activities in transport to enhance the quality of goods and services, and that R&D will drive the transport sector competitiveness. It also indicates that transport R&D is mostly privately funded (€47 billion on total €50.3 billion in 2017). Concerning public funding for R&D, we analysed the Eurostat "Total Government Budget Appropriations or Outlays for Research and Development"

(GBAORD)[9] issued in 2018[10]. We note GBAORD includes all sectors and not only transport. The GBAORD in the states of the Adriatic-Ionian macro-region amounts to €10.8 billion, equal to 10.7% of the total in the 31 States included in the analysis. The following Table reports the funding amount for each Adriatic-Ionian State.

Figure 4: Total GBAORD in the Adriatic-Ionian states
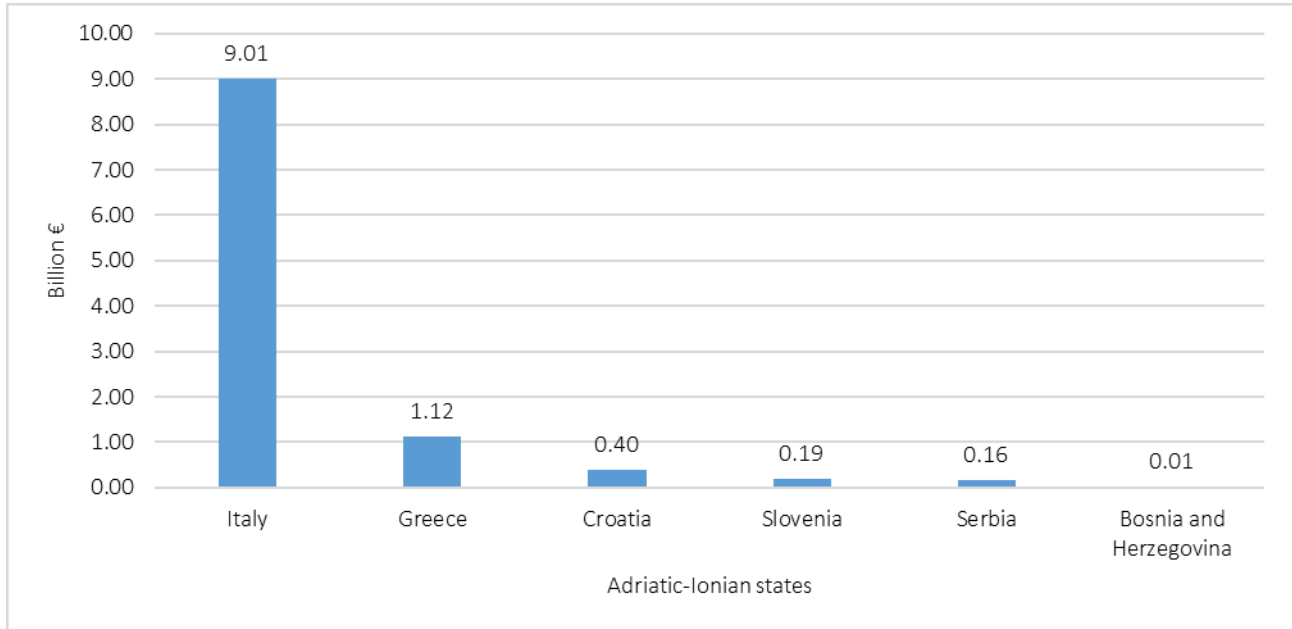
Source: Green Mind project on Eurostat

The EC Joint Research Centre analysis of the share of GBAORD in transport[11] on total GBAORD shows that the maximum percentage in the states part of the Adriatic-Ionian macro-region is 4% (in Slovenia and Greece), as reported in the following Figure.

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[9] The GBAORD measures the government support for research and development activities. GBAORD includes all appropriations given to R&D in central government budgets. It excludes EU funding.

[10] These are Serbia, North Macedonia, and Bosnia and Herzegovina. Please note that 2018 data for North Macedonia are not available and that Montenegro and Albania are part of the Adriatic-Ionian macro-region but are not included in Eurostat.

[11] This refers to the Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets (NABS 04) "Transport, telecommunication and other infrastructures".

Figure 5: GBAORD in transport as a share of total GBAORD in member states (%, 2018)

Source: EC Joint Research Centre (see footnote 7); graphic adaptation to show Adriatic-Ionian states

Note: Croatia and Bosnia-Herzegovina are included in "Others"

The analysis seems indicating that the value of public funding in transport R&D (absolute value of GBAORD by the percentage of funding to transport) in the Adriatic-Ionian macro-region is scarce compared to other EU states. The EC Joint Research Centre study also identified that main constraints to R&D in transport are the difficulty to access and manage R&D public funding and scarce visibility of certain funding options.

Sustainable tourism

This pillar is part of the wider EU policies in the tourism sector, which focus on sustainability and competitiveness[12]. The EUSAIR Action Plan identifies SMEs development and Research & Innovation as cross cutting themes which are highly relevant to the pillar. We note these are Green Mind thematic priorities. The following Table includes the Action Plan topics and related actions / projects.

Table 5: Sustainable tourism - topics and actions / projects in EUSAIR

Topic	Actions / projects
Diversified tourism offer	• Brand - label for the Adriatic Ionian touristic products and services; • Tourism quality initiatives for a sustainable tourism offer addressing diversified targets of tourists; • Maritime tourism sustainability in cruising and yachting, including mobility plans for tourists' access to hinterlands; • R&D platforms (e.g. clusters, networks) for tourism products and services innovation and diversification; • Sustainable and thematic tourist routes across the macro-region; • Stakeholder cooperation to foster the Adriatic-Ionian cultural heritage; • Tourism products and services accessibility.
Sustainable and responsible tourism management	• Engagement of businesses and clusters in identifying sustainable tourism activities; • Access to finance for new innovative tourism start-ups; • B2B and B2C European platforms to promote the Adriatic-Ionian tourism offer and tourism SMEs internationalisation; • Off-season tourism promotion, including transport services; • Training courses for tourism skills enhancement; • Tourists circulation across the macro-region thanks to improved procedures on visas and nautical licenses, plus quality standards in the tourism offer; • Sustainable and responsible tourism practices.

Source: Green Mind project analysis

The Action Plan includes mobility as a component of the Adriatic-Ionian touristic systems; nevertheless, our understanding is that mobility is only partially addressed in the Action Plan and that additional emphasis is needed on sustainable mobility services and infrastructures for tourism as part of this EUSAIR pillar.

We note that "tourism and mobility" is an important theme across Europe and that several European projects with a geographic scope on the Adriatic-Ionian macro-region received funding. We have identified examples of projects in the following table[13].

Table 6: Examples of projects with focus on mobility and tourism

Project	Funding Programme	Mobility focus
SUSTOURISMO	Adrion	Active mobility, low-carbon and shared mobility
INTERCONNECT	Adrion	Multimodal and sustainable transport
DESTINATIONS	Civitas	Sustainable transport solutions for tourists and residents
MEDCYCLETOUR	Interreg Med	Active mobility
MOBILITAS	Interreg Med	Information Technology, e-mobility and sustainable transport
LOCATIONS	Interreg Med	Cruise destinations sustainable mobility

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[13] The table does not include the Green Mind project which included the topic of sustainable mobility for tourism.

Project	Funding Programme	Mobility focus
DEEP-SEA	Interreg Italy-Croatia	Sustainable mobility at touristic ports
MOBITOUR	Interreg Italy-Slovenia	Sustainable mobility (mobility plans and e-mobility) in touristic areas
AI SMART	Interreg Italy-Greece	Multimodal transport and ports networking
CALL4SMS	EIT Urban Mobility	Living Labs for smart mobility solutions
PRO MAAS	EIT Urban Mobility	Policies and regulations to enable the MaaS concept
CITYFLOWS	EIT Urban Mobility	Decision-support system for pro-active crowd management of crowded urban areas
MOBY	EIT Urban Mobility	Impacts of electric micro-mobility on cities, traffic, safety and public areas
ISTEN	Adrion	Intermodal connections from seaports to hinterland
E-CHAIN	Interreg Italy-Croatia	Technology for intermodal transport services in port areas
SUTRA	Interreg Italy-Croatia	Sustainable mobility on the Adriatic coast and the hinterland
ICARUS	Interreg Italy-Croatia	Intermodal transport connections and coast-hinterland sustainable accessibility

Source: Green Mind project analysis

b. Key challenges in economic growth and innovation, and in mobility and connectivity in EUSALP

Economic growth and innovation

The Thematic Policy Area focuses on improving the competitiveness, prosperity, and cohesion of the Alpine Region. The EUSALP Action Plan[14] identifies the reduction of territorial disparities as the key challenge to reach these objectives.

The lack of economic, social, and territorial cohesion is indeed still a major problem in this macro-region. The Alpine orographic characteristics pose challenges to homogeneous development and reinforce disparities among territories. For example, access to social, innovation and economic services remains quite difficult in the rural areas in the core of the Alps, while the surrounding urban areas develop more easily. As a result, the capacity for innovation and growth in the Alpine Region varies greatly from one geographical area to another.

Alpine agglomerations and cities are key locations for activities that are competitive and innovative in a global economy. At the same time, however, it is important ensuring that all parts of the Alpine Region can benefit from this growth dynamic. Development opportunities must be seized in all parts of the Region, in urban as well as in remote areas, taking into account the need to improve ecosystems and their services.

This is where the Green Mind project and its methods can be of interest to the EUSALP in this Thematic Policy Area: the Green Mind partners developed different service offers aimed at bringing together complementary companies, public institutions, research bodies and other relevant actors to foster innovation and competitiveness in the mobility sector. These are described in the following parts of these paper.

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[14] European Commission, Commission staff working document, Action Plan 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 concerning the European Union Strategy for the Alpine region (COM(2015) 366 final).

EUSALP foresees three main interlinked Actions to address these key challenges for the Alpine economic growth and innovation, as described below.

Develop an effective research and innovation ecosystem (Action 1)

The EC Communication concerning the European Union Strategy for the Alpine Region[15] highlights that some of the Alpine states and regions have high levels of innovation in the Innovation Union Scoreboard and that most of them have developed smart specialisation strategies. This provides a good starting point for the development of an effective innovation ecosystem in the Alpine Region and to respond to the objectives of the Europe 2020 Agenda, which are job creation and growth. Consequently, the main goal of Action 1 is bringing together the existing potential of the Alpine Region to better exploit synergies in strategic sectors and address challenges related to innovation. The Action indicates that agriculture, forestry and tourism are strategic sectors.

Increase the economic potential of strategic sectors (Action 2)

SMEs are an important part of the Alpine Region economy and labour market. Action 2 focuses on supporting SMEs to improve the economic potential of the strategic sectors of the Alpine Region, as well as their economic and social environment. The objective is helping SMEs becoming more competitive, innovative, and sustainable in the areas of agricultural and forestry products, services throughout the value chain, bioeconomy, and bio-based products, and in the tourism, energy, health, and high-tech sectors.

Improve the labour market, education and training in strategic sectors (Action 3)

The Alpine Region has a relatively favourable labour market with high employment rates in most areas, compared to the rest of Europe. Nevertheless, the Region needs adequate strategies to improve its access to qualified workers with the right skills, to manage the brain drain from remote areas suffering from depopulation, and to facilitate access to employment opportunities for young people. The third Action aims to improve labour market, education and training, and employment opportunities in strategic sectors and to increase employment levels through joint macro-regional activities.

Mobility and connectivity

This Thematic Policy Area addresses the key challenges and opportunities related to mobility and connectivity in the Alpine Region and it has the main objective to provide sustainable internal and external accessibility.

The EC Communication concerning the European Union Strategy for the Alpine Region identifies the following major challenges:

- harmonised regulation and transport policies for freight transport;
- increasing traffic volumes;
- the large modal share of road freight transport;
- noise and air pollution.

The Alps are a very vulnerable area and ecosystem. Several areas within the Alpine Region struggle in complying with EU legal regulations on pollutant emissions. Consequently, there is an urgent need for greener transport in the Region and in particular for enhanced public and rail transport, in addition to the investments which were completed and which are ongoing in the macro-region (e.g. at Alpine cross-border rail investments). Moreover, a better alignment of regional sustainable mobility plans, regional air quality plans and national air pollution control programmes would increase synergies and deliver benefits.

Another challenge is the accessibility of remote areas in Alpine areas where public transport (mainly local railways) needs modernisation to ensure the survival of commercial activities, and accessibility to basic services, such as education,

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[15] Communication from the Commission to the European parliament, the Council, the European Economic and Social Committee and the Committee of the Regions concerning a European Union Strategy for the Alpine Region (SWD(2015) 147 final).

health, postal and administrative services. The Alpine Region suffers from an unbalanced demographic trend: cities and peri-Alpine areas grow constantly in population while remote areas suffer (in some cases significantly) from ageing and depopulation. Promoting and facilitating projects on sustainable transport could create links between the Alpine core area and the surrounding areas to the benefit of both. However, it is important to ensure balance between transport infrastructure investment and land use to protect environment and nature.

Physical transport (of passengers and goods) is not the only dimension to ensure equity between the different areas. E-connectivity (especially high-speed internet) at a macro-regional scale is an important factor to create opportunities in developing services (e.g. e-government, e-health, e-learning). Upgrading remote and mountainous areas in terms of e-connectivity is a challenge that needs to be addressed in a coordinated manner to maximise the potential benefits for the economy and the population.

Finally, the challenge of developing more sustainable transport networks in the Alpine Region should not forget the seasonality of transport flows, as the macro-regional economy is highly dependent on seasonal activities (especially winter sports).

EUSALP foresees two correlated Actions to address these mobility and connectivity key challenges, as described below.

Promote inter-modality and interoperability in passenger and freight transport (Action 4)

The environmental impact of transalpine transport must be reduced, but this objective must be coupled with good connectivity to ensure balanced economic and demographic development of the whole Region.

Therefore Action 4 aims at promoting inter-modality and interoperability[16] in passenger and freight transport. The objectives include the development of the core trans-European transport network, projects to shift traffic from road to rail, and complementary measures focussed on secondary transport networks. This can be achieved by removing infrastructure bottlenecks, bridging missing links, coordinating public transport planning and schedules (including multimodal information and planning services), upgrading infrastructure and improving stakeholder cooperation. In addition, the removal of bottlenecks in transport infrastructure must go hand in hand with the modernisation of custom infrastructure, equipment, and systems so that the processing capacity and speed of procedures are adapted to the needs of transport and the economy.

Connect people electronically and promote accessibility to public services (Action 5)

The Alpine Region is characterised by the presence of sparsely populated communities in remote areas, where the lack of investment in land-based broadband connections has had a negative impact on the service offer and led to further depopulation of these areas. Action 5 focuses on two aspects to counteract this negative tendence. Firstly, the preparation of a comprehensive strategy to manage and shape the ongoing digitisation process in the Alpine Region, and secondly the improvement of accessibility to services offered by public authorities. Technology offers new solutions (such as satellite broadband connections in the most remote areas) to meet these challenges. However, solutions need to be implemented on a sufficiently large scale to be effective. Furthermore, there is a need to increase the uptake of e-services.

The main purpose of the Green Mind project was to strengthen the green and smart mobility industry and to provide business-support organisation, clusters and networks with services for SMEs to be innovative and develop an efficient, competitive and sustainable mobility offer. Green Mind focussed both on mobility infrastructure and services (including ICT). Therefore, the Green Mind project results and methods can be of interest to the EUSALP working groups in this Thematic Policy Area.

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[16] Inter-modality focuses on the combination of several means of transport during one journey; interoperability focuses on systems integration from a physical (e.g. rail systems) and digital (e.g. ticketing) point of view.

4. Green mind achievements and relevance to the macro-regional strategies

This chapter summarises the Green Mind key achievements and relates them to the EUSAIR and EUSALP priority topics and challenges analysed in the previous chapters.

The following Table presents a summary of the Green Mind key achievements in each project territorial context, including main sectors involved and benefits.

Table 7: Green Mind key achievements

Territorial Context	Key achievement	Main sectors addressed	Benefits
Ferrara (Emilia-Romagna, Italy)	Analysis of the logistics actions included in Ferrara Sustainable Urban Mobility Plan	Logistics, Retail, Hotels, Restaurants and Catering (Ho.Re.Ca)	Assessing actions for sustainable urban freight to inform local policy actions
	Analysis of the tourism and mobility systems in the province of Ferrara	Tourism, Mobility (all modes)	Providing an overview of challenges and opportunities in mobility for tourists to inform future strategies
	Engaging local businesses in B2B events	Automotive, Trade, Information Technology, Energy, Logistics	Providing market opportunities and a discussion *forum* on innovation practices and projects
Istria (Croatia)	Identification and analysis of green mobility projects in Croatia	Mobility (including e-mobility), smart parking, logistics, tourism	Exchanging information, knowledge and ideas on opportunities for sustainable regional and urban development, with focus on the mobility sector development
	Companies engagement in project meetings	All mobility relevant sectors	Bringing green mobility into the organizational culture of companies
	Transnational networking and international cooperation	All mobility relevant sectors	Developing partnerships, new ideas and projects through knowledge exchange
Podravje (*Vzhodna* Slovenia)	Market analysis of the e-mobility sector in Slovenia and provision of business planning support tools	E-mobility, Automotive	Informing marketing strategies and supporting better business development
	Screening public funds and provision of tools to access funding	Transport, e-mobility automotive	Increasing knowledge on available financing mechanisms and better access to funds
	Engagement of local businesses in B2B events, provision of B2B matchmaking support tools	Automotive, Mobility Planning, Logistics, Information Technology	Helping businesses in finding new market opportunities
Occitanie (France)	Identification of transport and logistics companies' needs (services, technologies, tools, and partners) to engage in smarter and more sustainable transport projects	Transport and logistics	B2B matching of transport and logistics companies with solutions providers

Territorial Context	Key achievement	Main sectors addressed	Benefits
	Engagement of regional businesses in B2B events	Transport and logistics (including urban mobility), Information Technology, innovative vehicle manufacturers, energy, public authorities, economic development agencies	Providing market opportunities and creating thematic working groups to facilitate the set-up of future innovative projects
	Creation of three consortia to set up new innovative projects	Transport and logistics (including urban mobility), Information Technology, innovative vehicle manufacturers, economic development agencies	Submission of two projects (1 EU and 1 regional call for proposals) out of which one was approved
Central Macedonia (Greece)	Mapping for the first time all stakeholders relevant to mobility in the region	Urban mobility, city logistics, e-mobility, ICT for mobility	Providing local authorities a thorough analysis of the mobility ecosystem and supporting them in adapting their initiatives to territorial needs
	Development of the first business cluster in smart mobility and logistics solutions	Urban mobility, city logistics, e-mobility, ICT for mobility	Providing dedicated business services to enterprises active in mobility such as training and networking, and developing the framework for future cooperation among enterprises
	Support synergies among enterprises	Drones in mobility, mobility of disabled	Enhancing enterprises' customers and partners network and generating significant benefits to their business activities
Andalucia (Spain)	Analysis of the rail market needs and political framework at the national and European levels	e-Mobility, ICT, Mobility-as-a-Service (Maas), tourism, logistics, sustainable mobility, robotics	Identifying new business opportunities and challenges in future rail mobility; starting a collaborative initiative with a cluster (Railway Innovation HUB - RIH) to create, develop and apply innovative solutions and projects for a more sustainable and accessible rail system
	Identification of rail mobility needs of people with reduced mobility and user profiling	Mobility, Artificial Intelligence, Big Data, virtual reality	Identifying new business opportunities on inclusive accessibility with the provision of the solutions and products already developed/being developed on the market (e.g. avatars, guidance systems, luggage robots, …)
	Engaging local businesses in B2B events with major rail player at national level	Mobility (all modes), Artificial Intelligence, Big Data, virtual reality, ICT, tourism, logistics, robotics	Providing market opportunities to companies
	Analysis of future opportunities in mobility and smart transport within the European funding framework (Horizon 2020)	Mobility (all modes), ICT	Creating a discussion forum to define potential proposals within European calls

Territorial Context	Key achievement	Main sectors addressed	Benefits
Sarajevo (BiH)	Inputs for the development of the Sustainable Urban Mobility Plan (SUMP) of the City of Sarajevo and Canton Sarajevo	E-mobility, urban mobility, logistics, sustainable mobility	Presenting the Green Mind results at multiple meetings focussed on the SUMP, with the aim of creating synergies between the project and local mobility policies (the SUMP was officially adopted by the local government and the city of Sarajevo)
	Engagement of local business in the participation to EU funded projects for innovation in the green and smart mobility sector	E-mobility, urban mobility, innovation, MaaS	Preparing a guidebook on SMEs access to public funding and identifying local, regional and EU partners for the development of H2020 projects
Split Dalmatia (Croatia)	Engagement of local and regional businesses in B2B events	Information Technology in mobility (5G, Internet of Things, Smart Parking, …)	Business matching between large enterprises (e.g. Ericsson Nikola tesla d.d.) and SMEs
	Identification of green and smart mobility opportunities	Information Technology, smart city, integrated transport, ITS	Providing information to interested players on the financing and market opportunities for SMEs in the area of green and smart mobility
All partners - MED	Set-up of transnational cooperation framework in the green and smart mobility field	All sectors relevant to smart and green mobility	Creating a new permanent forum for project activation, knowledge exchange and mutual support among the Green Mind regions in exploiting project and market opportunities in the green and smart mobility industry

Source: Green Mind project

Based on the variety of project achievements we identified the following key transnational project results and their relevance to the EUSAIR and EUSALP macro-regional strategies, as presented in the following Table.

Table 8: Green Mind key transnational results and relevance to EUSAIR and EUSALP

Key transnational result	Description	Relevance						
		EUSAIR		EUSALP				
		Pillar 1 Connecting the region	Pillar 4 Sustainable tourism	Action 1 R&I ecosystem	Action 2 Economic potential	Action 3 Labour education & training	Action 4 Intermodality	Action 5 Digital connections
Comprehensive mapping of the green and smart mobility industry stakeholders and market analysis	The Green mind project partners and stakeholders reached a deep understanding of the green & smart mobility ecosystem needs and functioning; this allowed: • identifying the key strategic sectors where cooperation and innovation can have impact (economically and socially); • facilitating the setting up of future innovative projects in the mobility sector; • increasing the economic potential of strategic sectors in the MED area (including tourism).	•	•	•	•		•	
Engaging regional businesses in B2B and training events	Green Mind provided market opportunities to SMEs active in the green & smart mobility industry thanks to targeted events engaging businesses with different levels of innovation capacity and dimensions; this allowed: • exchanging experience and identifying innovation practices in mobility; • identifying business cooperation opportunities (including ICT); • providing local business visibility at international level; • strengthening local and regional mobility ecosystems.	•		•		•	•	•
Screening public funds in the benefit of SMEs, providing tools and developing capacities to access them	The Green mind partners provided information and training on the complex subject of public funding to SMEs in the green & smart mobility industry; this allowed: • improving capacities of SMEs to apply to public funding; • developing a framework for future cooperation among enterprises; • setting-up new European projects in the mobility sector.	•				•	•	
Creating a European network of SMEs, research bodies and authorities	The Green Mind project provided a permanent platform / Network engaging green and smart mobility stakeholders in the development of a research and innovation ecosystem; this allowed: • better coordinating the development of innovative mobility projects at local level; • enhancing transnational cooperation for knowledge exchange and new project set-up.	•	•	•	•		•	

5. Suggestions for topics and areas for future work

This Chapter includes priority topics that partners identified for future project initiatives. Topics derive from the Green Mind project results. They related to the EUSALP and EUSAIR strategic objectives and are key areas for future work of the Green Mind transnational Network.

Sustainable mobility and public transport

- Increasing efficiency and attractiveness of public transport services, including timetable harmonisation and integrated ticketing;

- Improving territorial accessibility for citizens and tourists, including specific projects for touristic areas;

- Analysing and exchanging best practices in innovation in urban mobility;

- Promoting active mobility projects (walking and cycling), policies (e.g. incentives) and infrastructures;

- Developing mobility hubs and micro-mobility projects in key local and regional locations;

- Fostering sustainable commuting by behavioural change campaigns and policy initiatives (e.g. tax benefits and incentives).

- Supporting sustainable touristic development thanks to mobility projects (e.g. physical and digital wayfinding, sustainable and multimodal mobility, active transport, e-mobility, …).

Transport systems interoperability and ICT

- Harmonising regional and local frameworks to select, analyse and provide mobility data;

- Developing applications (e.g. MaaS) for intermodal transportation and supporting SMEs in developing such applications;

- Deploying Intelligent Transport Systems and using digital technologies, data and artificial intelligence to make mobility systems smarter and greener;

- Exploiting technology and big data for better transport planning.

Logistics

- Developing city logistics projects for sustainable and vibrant urban areas;

- Improving traceability in supply chain thanks to harmonised logistics data and interoperable systems.

Vehicles, clean fuels and e-mobility

- Developing projects in clean fuels (e.g. electric and hydrogen) in public transport fleet;

- Analysing opportunities and needs to develop hydrogen mobility;

- Promoting e-mobility projects (fleet and infrastructure) and transition to zero emission vehicles;

- Exploring opportunities of autonomous vehicles deployment.

Rail transport

- Investing in rai infrastructure (including rolling stock, signalling and safety);

- Promoting innovation in the rail sector to make it attractive to users.

Green Mind built the foundations of a long-term cooperation in the MED area in the mobility sector, and partners are currently engaged in preparing follow-up projects in cooperation with the wider MED community.