



Inspire Policy Making with Territorial Evidence

## TARGETED ANALYSIS //

# IMAGINE

Developing a metropolitan-regional imaginary in the  
Milano-Bologna urban region

Final Report // May 2021

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#### **Coordination and Outreach**

Valeria Fedeli (Politecnico di Milano), Piera Petruzzi (ESPON EGTC)

#### **Authors**

*POLITECNICO DI MILANO - DASTU*: Prof. Valeria Fedeli, Prof. Alessandro Balducci, Prof. Ilaria Mariotti, Prof. Paolo Beria, Prof. Paolo Bozzuto, Prof. Francesco Curci, Dr. Fabio Manfredini, Dr. Dante Di Matteo, Dr. Federica Rossi, Dr. Michelangelo Secchi, Dr. Luigi Carboni, Dr. Ing. Vardhman Lunkar

*SCIENCESPO*: Prof. Marco Cremaschi, Dr. Martina Busti, MA Rebecca Fern

*GLOBUS et LOCUS*: Prof. Paolo Perulli, Dr. Livia D'Anna, Dr. Luca Garavaglia, Dr. Piero Bassetti, Dr. Francesco Galli

#### **Advisory group**

Stakeholders: Isabella Susi Botto, Carmine Pacente, Milano Metropolitan City, IT (lead stakeholder) | Silvia Bernardi, Alessandro Del Piano, Francesco Selmi, Metropolitan City of Bologna, IT | Elisabetta Pozzi, Province of Pavia, IT | Antonio Colnaghi, Vittorio Silva, Province of Piacenza, IT | Carlo Berizzi, Associazione Interessi Metropolitan, IT | Andrzej Czajkowski, City of Warsaw, PL | Henk Bouwman, METREX - network of European metropolitan regions and areas | Aurore Meyfroidt, POPSU- Observatory platform for urban projects and strategies, FR |

ESPON EGTC: Project manager: Piera Petruzzi, Financial expert: Marta Roca

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Fabio Rugge, University of Pavia | Lanfranco Senn, Bocconi University

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# Executive Summary

## Context

Experts might define today's era as one of **regional urbanization**. Urban regions are substituting cities on the international economic scene and in their roles in the world economy. New emerging hierarchies call in to play apparently distant territories, which face unprecedented and unexpected roles in the spatial reorganisation of capitalism. This fact concurs with the transcalar production of the urban and the emergence of new power relations between places. In this context, "**Infrastructural Corridors**" as the one between Milano and Bologna emerge, which compress time-space distances, influence social and economic uses on a broader scale, and become the catalyst of territorial development. Indeed, these processes of **regional reorganization are not neutral and should be critically investigated**: they produce uneven and unprecedented **geographies of differentiation** that contribute to new space of conflicts and unbalances, but also to new territorial protagonism and political dynamics. Cities and metropolitan areas are experiencing relevant processes of economic restructuring whose scale and nature are so consistent and unique that their governing authorities are hardly able to deal with both the premises and consequences of such a change. In particular in the Italian context, **the Metropolitan Cities and the former Provinces are experiencing a complex period of transition**. The first have become responsible for strategic planning, but with no clear definition of their scope and with few resources for leading the multilevel governance frameworks urban regions would need. The second ones are lacking a clear framework about their current and future role which is affecting their efficiency and legitimacy. There is a **growing gap between consolidated forms of governance and the nature, rhythm, and dimension of socio-spatial economic transformation**. **Policymakers are suffering from a lack of strategic visions** and governance framework and risk of becoming unable to react to and deal with the growing economic differentiation between places and the emergence of new forms of marginalization and peripheralization.

As it is evident, **these processes of ungoverned regionalization can seriously threaten territorial cohesion**. Moved by this concern expressed by a group of local stakeholders - led by the Milan Metropolitan City (Italy) and including the Metropolitan City of Bologna (Italy), the Province of Pavia (Italy), the Province of Piacenza (Italy), Associazione Interessi Metropolitan - AIM (Italy), the City of Warsaw (Poland), METREX - network of European metropolitan regions and areas (Belgium), POPSU- Plateforme d'observation des projets et stratégies urbaines (France) - ESPON promoted the IMAGINE Targeted Analysis. It aims at exploring the regionalization processes ongoing in the territory between Milano and Bologna, focusing mainly on the influence of the infrastructural corridor and high-speed rail, recently introduced, on social and economic dynamics.

The purposes of ESPON IMAGINE developed through three primary lines of actions.

1. First, IMAGINE created a relevant base of **spatial knowledge and identified territorial narratives** and common analytical frameworks regarding the regional urbanization processes in one of the most economically and socially dynamic urban regions in Italy, the Milano-Bologna urban area. **Despite the presence of a historical infrastructural corridor**, recently enhanced by the completion of an HSR service, **this wide urbanised area is only limitedly recognised and managed as a functional integrated urban region**. The research identified patterns of regional integration, positive trends, threats, and challenges to regional governance and planning.
2. Second, IMAGINE **developed and tested new territorial narratives and governance frameworks**, new visions, and imaginaries for the urban region Milano-Bologna through the active engagement of institutional stakeholders and territorial actors. These can **enable new opportunities for territorial alliances between places**, based upon **new integrated approaches** that might include, in a broader territorial strategy, metropolitan cities, together with in-between provincial authorities, exploring the potentialities of informal coordination and moving toward more formalized, strategic cooperation.
3. Finally, IMAGINE elaborated and generated scenarios of regionalization for the Milano-Bologna urban region to foster the **co-design of policy recommendations with stakeholders**. In this perspective, the project explored the **potential of Integrated Territorial Initiatives** as a governance tool for regionalization processes. It proposes place-based takeaways and general policy

recommendations that other European urban regions or territories characterized by the presence of infrastructural corridors could replicate.

## Key Findings

The research generated several in-depth findings that could be grouped into three main categories.

First, IMAGINE developed an **extensive territorial analysis of the urban region Milano-Bologna**, identifying with the local stakeholders the relevant spatial data to be collected and analysed. The emerging picture is somehow contrasted and contradictory. Social and economic processes that scaled up and integrated at a regional scale are associated with governance mechanisms and traditional visions that go against this hypothesis.

The elements **reinforcing regionalization** are identified in the **historical polycentrism** of the urban region, dense and rich in strategic regional and national functions that represent a basis for the deployment of regionalization **patterns. A historical urban-rural relationship has produced a complex anthropized natural landscape and common environmental challenges**, where air pollution, land consumption, and other kinds of environmental hazards are shared between metropolitan areas, intermediate cities, and inner areas. The analysis of economic dynamics highlights a **productive continuum** throughout the region and a common distribution of wealth, also confirmed by the in-depth research carried out in the **creative economy and logistic industry**, which are considered sectors with significant innovation potential.

The elements **hindering regionalization** are mainly related to growing **internal differentiation** that affects the power relations between places and influences the same narratives and imaginaries of sub-regional territories, challenging the rise of a shared vision for the macro-region and, more in general, threatening the internal cohesion of the macro-region. The primary differentiation regards the **economic competitiveness**, with most of the **inner areas and the intermediate provinces of Lodi, Pavia, Piacenza, and Cremona with overall competitiveness broadly lower than the other** provincial and metropolitan capitals of the corridor. The **Institutional fragmentation and lack of coordination and vision at the urban-region scale is** another relevant obstacle to regionalisation: consolidated institutional actors (cities and regions) tend to defend their prominent position and where innovative and more flexible territorial authorities (metropolitan authorities, reformed Provinces, river authorities, unions of municipalities) can't yet find their role in a transcalar governance framework. Regional governance is also challenged by the institutional actors' uneven financial capacity with a significant concentration of EU funds in the municipalities of the inner areas in both regions, with a narrow focus on the corridor.

Second, IMAGINE analysed the role of the **infrastructural corridor and the impact of HSR**, emphasizing a consistent process of regionalisation of mobility dynamics, which makes this urban region peculiar and challenging for the sake of the design of mobility policies. The introduction in 2008 of the HSR between Milano and Bologna generated direct visible effects of connectivity among the two regional capitals and the rest of the country, producing the expected results, even in terms of competitiveness of the HSR to the air-based offer. Unfortunately, the same has not happened regarding the national connections (and consequently the national-scale accessibility) of intermediate cities between Milano and Bologna, reduced due to the shift of most long-distance relationships to the HS line. A minor exception can be detected concerning the external intermediate station of Reggio Emilia Mediopadana AV, which is by far the most successful between extra-urban and intermediate HSR stations in Italy. Moreover, regional mobility became more hierarchised, thus contrasting with an urban region that is outstanding in Italy for its highly interconnected mobility profile.

Moreover, the contrafactual analysis shows how the introduction of the HSR has generated positive effects in terms of GVA. However, these seem to favour the two major poles rather than the whole urban region. From both the mobility and the economic development perspective, the HSR is creating new hierarchisation along the corridor, especially on its primary urban nodes.

Third, IMAGINE engaged local institutional stakeholders and functional actors in intense knowledge exchange to develop and test possible **territorial narratives and scenarios of urban development** for the Milano-Bologna region, and discuss governance mechanisms to support the co-design and implementation of regional planning strategies. IMAGINE made evident that the **Milano-Bologna urban region needs to recognize itself as a system**. In the absence of perception by local actors of belonging to the same system, constructing a shared vision is more complex and risks being only episodic. This can only be achieved with the inclusion of private actors and local communities in the governance to ensure the alignment of demand and solutions and to diffuse the awareness of the interdependences between metropolitan areas, small

cities, and marginal areas. The process of defining a common identity and vision through the Integrated Territorial Investment (ITI) could be essential to interpret the challenges of environmental and social sustainability as a chance to achieve a more efficient and fair spatial organization of social and economic functions and to build new development opportunities.

## Policy Implications

The discussion carried out with economic, functional, and territorial actors within the IMAGINE's programme of focus groups, seminars, and forums expressed **a common interest in constructing a regional scale imaginary around some key points**. Integrated Territorial Investments (ITI) have been explored as a possible framework for regional governance, getting inspiration from European best practices. The debate over a possible ITI for the Milano-Bologna region led to some indications and criteria to inspire future cooperative actions.

- **Sustainability is the basis for the development of a shared vision for the integration of the Milano-Bologna region**, requiring the redefinition of objectives and actions regarding environmental quality, land management, quality of life, the transition from linear to circular economies, as well as the ability to activate an innovative **vision of ecosystem services, recognizing the close interaction between urban territories and reserves of naturalness and environmental resources**.
- **Mobility and logistics are critical factors in the governance** of urban processes and economic competitiveness in the Milano-Bologna area in the new scenario dominated by increased mobility of people, goods, and information.
- **Research and innovation systems require more robust integration**, encouraging trans-regional innovation programmes, sharing experiences, and projects with attention to SMEs innovation.
- **Efficiency and innovation of utilities must be pursued to achieve better sustainability and quality of life**. This perspective can provide the premises to regulate the competition and favour the coherence of the offer with the planning objectives.
- **New multi-level governance models are needed to regulate the variety and complexity of the macro-region's environmental, social, technical, and institutional ecosystem**. These new models should also work on variable geometries to intervene on the different functions since neither an "optimal size" nor "optimal shape" emerges to govern the Milano-Bologna system.

As a first step towards activating an ITI for the Milano-Bologna region, the project's final event **launched the proposal to transform the IMAGINE network into a permanent forum**. This forum will foster the production of intellectual (information exchange), social (creation of trust among the actors), and political capital (alliances for future cooperative actions). The discussion encompassed the opportunity to consider **the EU Green Deal as a framework for new trans-local partnerships to regulate many of these issues**, which require actions organized at the corridor scale to produce good results. An ITI for the Milano-Bologna region, inspired by the EU Green Deal perspective, could build a common strategy for transforming urban and regional scenarios. Using resources from different European and national programmes, local projects framed by the ITI could start from identifying a critical issue to tackle with a "flagship project" (i.e., the regulation of logistics and mobility systems along the corridor).

Insights from the specific case of the Milano-Bologna region can also be generalized and also address the question of **the role of corridors and urban region in the EU integration project**:

- All in all, the **new EU cohesion policy offers urban regions and macro-regions interesting opportunities to act**; in particular, within **the ITI and Interreg initiatives**, there is space for supporting the construction of new regional imaginaries. Simplified procedures and regulations can help urban regions. **Decoupling cities from urban regions can be crucial**, and strong attention is required to grasp the interplay between the urban and regionalised urban scale.
- **Functional interdependencies and partnership** are the battlegrounds for new policy agendas and **governance frameworks to be developed** to adapt urban policies to the needs of European citizens. An integrated, participative and co-designed and multilevel governance approach shall be adopted to work on the production of regional urban commons.
- **In particular, the EU Green Deal paves the way for policy challenges that are crucial to be dealt with at the scale of urban regions and macro-regions**: and in this perspective, Member States should take into consideration the role of urban regions towards the Green Deal objectives, at least in the implementation stage

- **Urban regions and macro-regions shall take the lead** and develop a new awareness of the transcalar nature of the dynamics and processes that are restructuring the society-economy nexus, producing significant spatial changes. They **shall count on the opportunities provided at the EU and national level to promote such a “regional” turn in policymaking** to support such an endeavor and challenge.



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# Abbreviations

AD	Amministratore Delegato (Chief Executive Officer)
AdE	Agenzia delle Entrate (Revenue Agency)
AGCOM	Autorità per le Garanzie nelle Comunicazioni (Authority for Communications Guarantees)
AIM	Associazione Interessi Metropolitan
ANCI	Associazione Nazionale Comuni Italiani (National Association of Italian Municipalities)
ASIA	Archivio Statistico delle Imprese Attive (Statistical Archive of Active Firms)
BO	Bologna
CCIAA	Camera di Commercio, Industria, Artigianato e Agricoltura (Chamber of Commerce)
CEMAT	Conference of Ministers responsible for Spatial/Regional Planning
CENSIS	Centro Studi Investimenti Sociali
CEO	Chief Executive Officer
CLLD	Community Led Local Development
CNAO	Centro Nazionale di Adroterapia Oncologica (National Center of Oncologic Androtherapy)
CNCC	Consiglio Nazionale dei Centri Commerciali (Shopping Centers National Council)
COR	Committee of Regions
COVID-19	Coronavirus disease 2019
CRPE	Comitato Regionale per la Programmazione Economica
CS	Coworking Spaces
DASTU	Department of Architecture and Urban Studies, Politecnico di Milano
DEGURBA	Eurostat Degree of Urbanisation
DG REGIO	Directorate General for Regional and Urban Policy
EC	European Commission
EEN	Enterprise Europe Network
EGTC	European Grouping of Territorial Cooperation
ESPON	European Territorial Observatory Network
ESRI	Environmental System Research Institute
EU 13	European Union countries that joined after 2004
EU 15	European Union countries that were member states prior to 2004 (incl. UK)
EU	European Union
Eurostat	European Statistical Office
FR	France
FUA	Functional Urban Area
G&L	Globus & Locus
GVA	Gross Value Added
HSR	High Speed Rail
ID	Industrial District
IFAB	Big Data and Artificial Intelligence for Human Development Foundation
ISTAT	Istituto Nazionale di Statistica (Italian National Institute of Statistics)
ISUD	Integrated Sustainable development
IT	Italy
ITI	Integrated Territorial Investment
JRC/EC	Joint Research Centre of the European Commission
KIBS	Knowledge intensive business services
LAs	Local Authorities
LAU	Local Administrative Units
LMA	Labour Market Areas
MC	Monitoring Committee
MEF	Italian National Ministry of Economy and Finance
METREX	Network of European metropolitan regions and areas
MI	Milano
MIT	Italian National Ministry for Infrastructures
MNE	Multi National Enterprises
MR	Metropolitan Regions
NeWSps	New Working Spaces

NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
OMI	Osservatorio del Mercato Immobiliare (Real Estate Market Observatory)
PC	Piacenza
PIC	Piano Intercomunale Bolognese
PIM	Piano Intercomunale Milanese
PL	Poland
PNRR	Piano Nazionale di Ripresa e Resilienza (National Recovery and Resilience Plan)
POLIMI	Politecnico di Milano
PON	National Operational Programme Metro
METRO	
POPSU	Observatory platform for urban projects and strategies
PRIN	Progetti di ricerca di Rilevante Interesse Nazionale (Research projects of significant national interest)
PTR	Piano Territoriale Regionale
PUMS	Piano Urbano della Mobilità Sostenibile (Urban Sustainable Mobility Plan)
PV	Pavia
RLM	Regione Logistica Milanese (Milan Logistic Region)
RP	Regional Portrait
SC	Synthetic Control
SI	Spatial Imaginaries
SLL	Sistema Locale del Lavoro (Local commuting area)
SME	Small and Medium Enterprise
SNAI	Strategia Nazionale Aree Interne (National Strategy for inner areas)
TPL	Trasporto Pubblico Locale (Local Public Transport system)
VP	Visual Platform
WP	Work Package

# Introduction

## The IMAGINE Project

The final report offers an overview of the results of the ESPON IMAGINE targeted analysis project aimed at developing a metropolitan-regional imaginary in the Milano-Bologna urban region.

The research activity carried out between June 2020, and May 2021 has been organized into four tasks.

**Task 1** developed a conceptual and methodological framework that has been steering the research activity. This framework has been developed on top of a combination of expert and applied knowledge. On the one hand, the research questions have been built upon a review of scientific literature on urban regionalization and specialized literature on the territory interested in the analysis. On the other hand, the research focus has been oriented by the dialogue and cooperation with the project's stakeholders that have been involved together with other relevant territorial and functional actors to define objectives, co-design the analytical tools, and assess the outcome of the research. Through interviews, focus groups, and two regional workshops, various social actors have been involved in discussions around the urban region aimed at identifying territorial visions and needs and the collective elaboration of shared narratives.

**Task 2** explored the Milano-Bologna region as the outcome of regional urbanisation processes; it observed one of Italy's most economically and socially dynamic urban areas and explored more in-depth the role of the HSR corridor.

First, under this task, a **Regional Portrait (RP)** was developed and reported in the Interim Report, and then updated along the second part of the research. Chapter 2 illustrates the results of a work of interpretative description based on seven research questions, which lead the exploration of regional urbanization processes, identifying what factors are favouring regionalization and which ones are hindering it. The extended portrait is published in ANNEX I.

Second, this task researched the consequences of a lack of integrated economic development policies in the wider urban Milano-Bologna region, focusing **on the creative and innovative economy and the transport and logistics industry**.

A **Visual Platform (VP)** has been developed and implemented to support experts and stakeholders in constructing new spatial imaginaries that enable knowledge sharing and a geo-spatialised visualisation and representation of the ongoing processes.

**Task 3** explored the role played by **the HSR corridor** both in the development of an integrated functional urban region and in the production of new socio-spatial patterns of differentiation, which may counteract as threats to the envisaged territorial cohesion. The task developed a **case study on the Milano Bologna infrastructural corridor** to understand how and to what extent the HSR influenced the process of regionalization between the two metropolitan cities (direct effect) and within the enlarged area.

**Task 4** used the scientific results and the input received from territorial actors and institutional stakeholders as the knowledge base for envisioning future **scenarios for the Milano- Bologna urban region**. It deployed a step-by-step strategy to frame and co-design a process of strategic planning at a regional scale between the two metropolitan authorities and the in-between provincial bodies. This task explored the viability and opportunity of policy tools and governance strategies to manage spatial development at the Milano-Bologna functional scale. It focussed mainly on the ITI tool (Integrated Territorial Initiative) as a new form of coordination in the local territorial cooperation context. The results of this task are specific policy recommendations related to the Milano-Bologna urban region as well as general policy recommendations in the perspective of the 2021-2027 Cohesion Policy.

## Structure of the Final Report

The Final Report is structured in four chapters plus seven annexes.

**Chapter 1, *The research and policy problem***, includes an overview of the conceptual framework, of the scientific literature and of the research questions that steered IMAGINE in exploring the regionalization processes of the Milano-Bologna urban region, focusing on the demand for a new regional narrative as the basis for new vision, strategies, policies.

**Chapter 2, *Milano-Bologna, an urban region***, presents a summary of the exploration of the Milano-Bologna area as a functional urban region by developing a “Regional Portrait” (RP), an interpretative description of the processes of regional urbanisation. The chapter includes a section with selected maps from the RP. It also consists of the results of the in-depth analysis of the main dynamics and impacts of logistic activities and creative economy into the broader regionalisation process

**Chapter 3, *Milano-Bologna HSR corridor: main challenges and potentialities related to the transportation system with the functional urban area***, includes the main results of the case study on the impact of the HSR on the infrastructural corridor Milano-Bologna and its interplay with the processes of regionalization.

**Chapter 4, *“Seeing like a region”, exploring policy and governance implications*”,** summarizes the results of the activity of development of territorial scenarios carried out through the active engagement of institutional and functional stakeholders aimed at generating new visioning capacities and feed new territorial alliances between places and societies.

## Annexes

Finally, several scientific annexes provide additional information and extensive data related to the content presented in the final report:

- 1 **ANNEX 1 - *Regional Portrait of the functional characteristics of Milano-Bologna urban region***: includes an extended version of the Regional Portrait showing the functional attributes of Milano-Bologna urban region. It includes
  - the detailed methodology and all the data and maps composing the Regional Portrait;
  - an overview of the debates over urban regions at EU scale;
  - a literature review of the imaginaries on the Milano-Bologna urban region historically developed and consolidated in the public discourse.
- 2 **ANNEX 2 - *In-depth analysis of the creative and innovative economy and transport and logistics industry***: includes an in-depth analysis of the territorial impacts of the creative and innovative economy and logistics industry within the urban region that complements the Regional Portrait with detailed insights and policy recommendations.
- 3 **ANNEX 3 - *Exploring state of the art in terms of integrated mobility offer in Milano-Bologna High-Speed Corridor*** includes the detailed case study on the impact of the HSR on the Milano-Bologna urban region, as well as the counterfactual analysis.
- 4 **ANNEX 4 - *Stakeholder engagement report*** includes the detailed description of the regional Workshops involving the project’s stakeholders and territorial and functional actors. It presents how scenarios have been developed and discussed throughout the project.
- 5 **ANNEX 5 - *Imagine your ITI***: proposes an analysis of the strategic role played by constructing regional imaginaries in similar contexts in the EU into the broader action framework offered by the EU-promoted Integrated Territorial Investment tool (ITI). It also explores the possibility of setting up governance strategies for the territorial dynamics of the Milano-Bologna urban region under the framework offered by integrated territorial investment tools.
- 6 **ANNEX 6 - *Visual Platform***: includes an overview of the functions and technical features of the Visual platform used to share data and geo-spatialized visualizations.
- 7 **ANNEX 7 - *Position paper***: A working document shared with the institutional project stakeholders to summarize perspectives and visions that emerged during the dialogue and define a possible agenda of upcoming steps.

# 1 The research and policy problem

## 1.1 The restructuring of the urban: processes of regional urbanisation

Cities and metropolitan areas are experiencing relevant processes of economic restructuring, generated by both an uneven renewal of the nexus between the city and economic development and by a more general process of redefinition of the urban itself, which today by large exceeds the traditional definitions of the city inherited by the XX century. The **scale and nature of such restructuring processes** are so consistent and new that cities and metropolitan areas can hardly **deal with both the premises and consequences of such a change**. Despite the innumerable efforts produced during the last decades trying to yield new governance frameworks dealing with the wider and transcalar nature of such transformations, **the capacity to create new spatial imaginaries able to deal with such unique challenges and expectations remains quite limited, if not an exception**<sup>1</sup>. Even at the analytical level, innumerable have been efforts to produce a methodology able to grasp the nature of the contemporary urban dimension (see among others the recent studies conducted by OECD and Eurostat). Nevertheless, it remains difficult to dismiss the traditional definition of the city and **adopt a regional perspective**, able to intercept the **multiplicity of intertwined networked processes**, which produce what we once could define *the city*.

In this respect, several authors propose to define today's era as **one of regional urbanization**, one in which **urban regions are substituting cities on the international economic scene and in their roles in the world economy**<sup>2 3 4</sup>, sometimes supported by explicit policies (see the role of EU in promoting Regions and Macroregions<sup>5</sup>). While **the traditional** distinction between the urban and the non-urban is useless to study the city<sup>6</sup>, new hierarchies are emerging, calling in to play apparently distant territories, facing unprecedented and unexpected roles in the spatial reorganisation of capitalism. This fact concurs with the transcalar production of the urban and the emergence of new power relations between places<sup>7</sup>.

These processes are not neutral: they produce uneven and unprecedented geographies of differentiation that contribute **to a new space of conflicts and unbalances** but also to *new territorial protagonism and political dynamics*. On the one hand, some apparently marginal territories become strategic nodes-platforms ("operational landscapes"<sup>8</sup>) supporting the functioning of traditional urban places. On the other, we see the emergence of in-between regions<sup>9 10</sup> or societies<sup>11</sup>: once referred to as "peripheral" or "suburban": many of **"those" places are home to some critical socio-economic-spatial innovations**.

## 1.2 The changing economic base of contemporary cities: the role of corridors

According to a large stream of literature, the **economic base is still by large within cities**; nevertheless, research shows how the production of wealth has become **more and more diffused across uneven territories and distributed in long value-chains**. On the one hand, there is the city's territory; on the other, the flows (of activities made in the world, and hence perennially on the move, of the non-resident migrant population) that seem to be growing in all directions within and between territories. In this perspective, **"Corridors" are at the centre of new attention in so far they are the result of the changing economic base of contemporary cities in the direction of the "economy of speed"**<sup>12</sup>. They answer the growing need to speed up any aspect of the economic life, from production to distribution, as the new information technologies have made time compression possible in an "instant" exchange of information. Cities are opening to new geographies both of "industrialization of knowledge" and of "territorial development": the crossover between these two dimensions, which used to occur in the urban environment, today extends, on the one hand, over **new and broadened city-regional scales**, on the other, **along corridors**.

## 1.3 New regional imaginaries as social constructions

In the absence of specific recognition of these socio-economic and spatial restructuring processes, both by the research world and the policymaking one<sup>13</sup>, considerable political consequences can be envisaged or are already visible (see the discussion on the "revenge of places that do not matter"<sup>14</sup>). The **growing gap between consolidated forms of governance and the nature, rhythm, and dimension of socio-spatial economic change** can generate a **lack of both strategic visions and governance framework for**

**policymakers**, who become unable to react to and deal with the growing economic differentiation between places and the emergence of new forms of marginalization and peripheralization, coming along with new competitiveness patterns.

As a result, **territorial cohesion can be seriously at threat**. The stakeholders promoting the IMAGINE project have declared their concerns about the need to govern the effects of these trends and the need to build on a new regional narrative as the basis for new vision, strategies, policies. Recently, literature has turned to focus on the role that cities have been assuming as a reaction to the progressive hollowing out of the state; this is based on a valuable consideration of the municipalist model concerning leadership, proximity, legitimation, and efficacy-autonomy of action. Nevertheless, it is evident that today, more than ever, cities cannot be thriving if they do not take part in those complicated networks and unexpected assemblages, which go across scales and imply multiple sets of actors and forms of agency <sup>15</sup>.

Despite a significant scientific debate about new spatial imaginaries, the traditional core-periphery dialectic remains the most influential at the policymaker level. Few are, if any, the cases in which metropolitan or regional imaginaries have emerged from beyond a narrow group of experts operating within formal institutional spaces. Indeed, there is a **strong case for supporting processes of socio-political construction of new regional imaginaries** <sup>16</sup>. This also implies the capacity to go beyond the consolidated tools of a field of expertise – spatial planning –traditionally based on a pre-defined understanding of territoriality. In this respect, we may argue that being the production of spatial imaginaries mainly grounded on such kind of context, traditional knowledge of spatial planning, and the legal and normative framework under which spatial planning works, could hinder, rather than enhance, a post-metropolitan vision.

#### 1.4 The role of EU in supporting the construction of new spatial imaginaries

European community first expressed its interest in conceptualizing the emergence of a metropolitan-regional dimension since the late 1960s<sup>17</sup>. Nevertheless, EU has not definitely found a direct and sound way to support the consolidation of metropolitan governance beyond traditional administrative boundaries. The promotion of the Interreg initiatives and the possibility to support the construction of European Grouping of Interest have opened exciting opportunities, basically related to fostering transborder cooperation. Weaker have been the opportunities to support forms of urban regions and metropolitan areas towards shaping policy agendas and forms of action tackling the emergence of the policy challenges associated with processes of regional urbanisation.

More recently, the Integrated Territorial Investments (ITI) have opened a highly experimental space in this respect. **ITI, as part of the 2014-2020 Cohesion policy and of the 2021-2027 one, paved the way to the construction of new geographies of action able to go beyond traditional administrative boundaries (municipal, provincial, or even regional and national)**. As suggested by the Stakeholders promoting the IMAGINE project, ITIs could be a promising opportunity for the Milan-Bologna urban region to generate a new strategic governance framework. **In other European contexts, Integrated Territorial Investments have offered a new policy framework capable to reduce the gap between consolidated administrative geographies and the need for new geographies** of action and forms of agency, based on problems identification.



## 2 Milano-Bologna, an urban region

This paragraph presents the results of an original analysis of the Milano-Bologna urban area, focussing on the role that the HSR corridor has been playing, since its implementation, in the regional urbanisation process of this ample urban space. At the same time, it looks at the urban regional dimension as a crucial scale to develop a better understanding of the role of the HSR offer within a consolidated infrastructural corridor. In so far, it builds up a “regional portrait” of this complex urban area, which from a methodological point of view did not take for granted that the Milano-Bologna area is an urban region. Instead, it looked for signs and evidence of a functional integrated urban area.

In so far, this Regional Portrait is also inspired by a recent and challenging literature debate which goes under the name of “infrastructure turn”<sup>18</sup>, as “a new wave of interdisciplinary inquiry into how **the functions and impacts of infrastructure are shaping urban and regional space**”. The authors that refer to this strand of literature look at infrastructures not “as a set of technocratic and neutral networks” but rather as “the basis for both economic development and social equity”<sup>19</sup>. In this respect, infrastructures become a “new optic field through which we can examine the **lived dimensions of urban society**<sup>20</sup> **and the statecraft shaping contemporary forms of territorialization**<sup>21 22</sup>.”

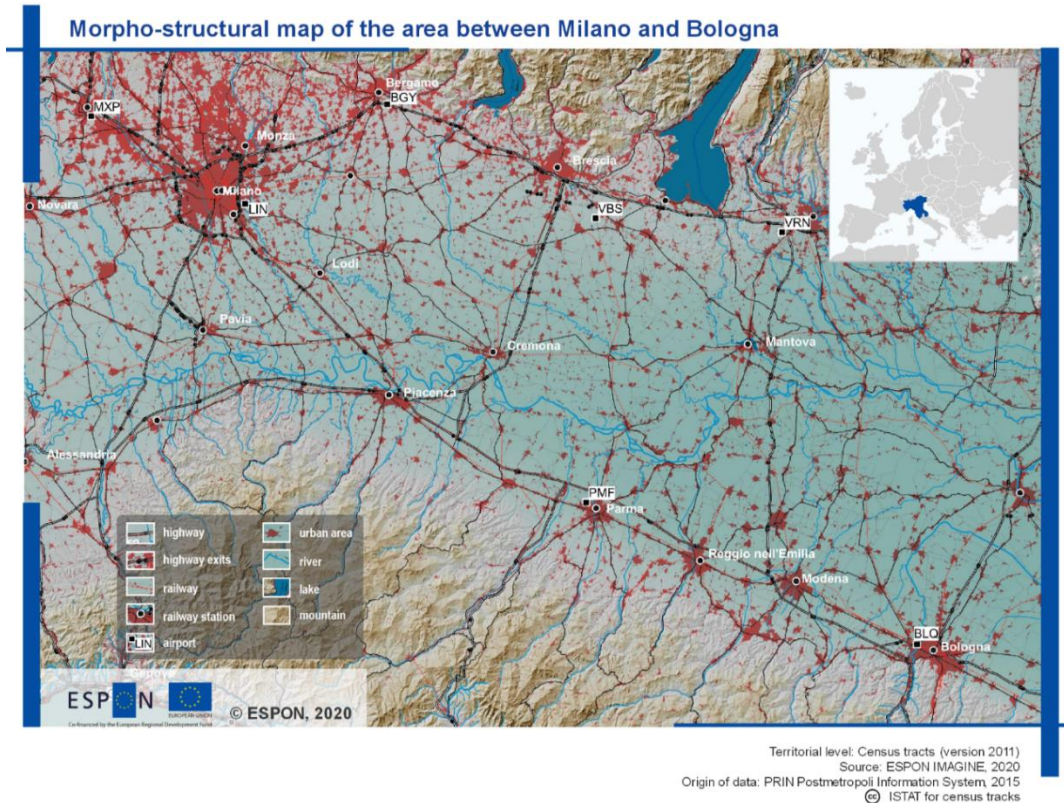
Therefore, it is crucial is looking at the “relations between infrastructure and regions (each broadly conceived) and their capacity to effect new spatial imaginaries and political subjectivities”<sup>23</sup>. In this respect Addie et al. recommend the opportunity to introduce “a regional perspective to the infrastructure turn (thinking about infrastructure through the region) and engaging infrastructure as empirical and conceptual problematic to interrogate regional processes (thinking about the region through infrastructure)”<sup>24</sup>.

Following the implications of such a research perspective, the Regional Portrait develops upon seven key questions:

- *What makes the region? (Regionalisation of the urban)* Regions are social constructions, but what are the materials that construct them in practices? “How, by whom, and through what materials is it constructed in practice?”<sup>25 26</sup>. What are the material and immaterial elements that, along the infrastructural corridor, allow a regional dimension on the life of its inhabitants?
- *Living like an urban region? (Regionalisation of mobility)* Regions are social practices, behaviours, and lifestyles structured upon a regional scale, often based on infrastructures that allow the organisation of everyday life. We investigated whether the analysis of people’s mobility supports the hypothesis of a process of regionalisation taking place in this urban area by exploring the new scale and patterns of mobility practices, focusing on the role of HSR in supporting regional mobility.
- *Is the HSR corridor a regionalisation machine? (Regionalisation dynamics)* Infrastructural corridors can be conceived as “operational landscapes”, where infrastructures are vectors of dynamics of socio-economic transformation at the regional scale. A space that produces space because of its technological function and modifies societies. The regional portrait explores trends and dynamics over the last 20 years, exploring fundamental socio-economic dynamics and trends.
- *Growing like an urban region? (Regional competitiveness)* Urban regions are substituting cities on the economic scene<sup>27</sup>: they are competitive actors, made of dense networks of relationships: companies, clusters, short and long-distance chains, crucial resources for competing under the current capitalistic organisation of the economy. Mapping the degree of competitiveness that characterises the Milano-Bologna urban region, focusing on the role of the Industrial districts within the area, the Regional Portrait explores the capacity of this area to qualify as a competitive urban region for the country and at the EU level.
- *Resources? (Public investments and resources)*. “The regional fabric that shapes how urbanization and urbanisms are constructed is mediated by investment and disinvestment in varied infrastructures<sup>28 29 30 31</sup>. The Regional Portrait explores the Milano-Bologna region as a space of distribution/investment of public resources generated under the EU and national policy framework.
- *Acting or seeing like a region? (New spatial imaginaries need /Institutional cooperation potential)*. Regions as social constructions are a political object, a policy space (if not of a political space), a policy arena populated by actors that move on a regional scale. The Regional Portrait focuses on the role played by institutional actors (cooperation networks, metropolitan governments, public

utilities, and agencies) in activating a supralocal, if not a regional scale. They are reconstructed in so far, they engender or hinder the possibility to “see like a region”, whereas “they shape how territories are constituted as functional ‘regional spaces’ and rendered visible and governed as political ‘spaces of regionalism’”<sup>32</sup>.

- *Transitioning like a region? (Environmental fragility)*. The regional environmental ecosystem is undergoing several threats that originated both internally and out of the area itself. Air pollution, soil consumption, hydrogeological risks are intertwined challenges that cannot be tackled without a transcalar strategy of ecological transition. In this picture, regions can play a pivotal role and deploy development trajectories “that aim to maximise intra-regional movement and cohesion, enhance the eco-efficiency of the processes of production, exchange, and consumption that are constitutive of regional economies, and construct more resilient regions”<sup>33</sup>.



**Figure 1 – Morphological, infrastructural, and urban structure of the area between Milano and Bologna (source: PRIN Postmetropoli Information System)**

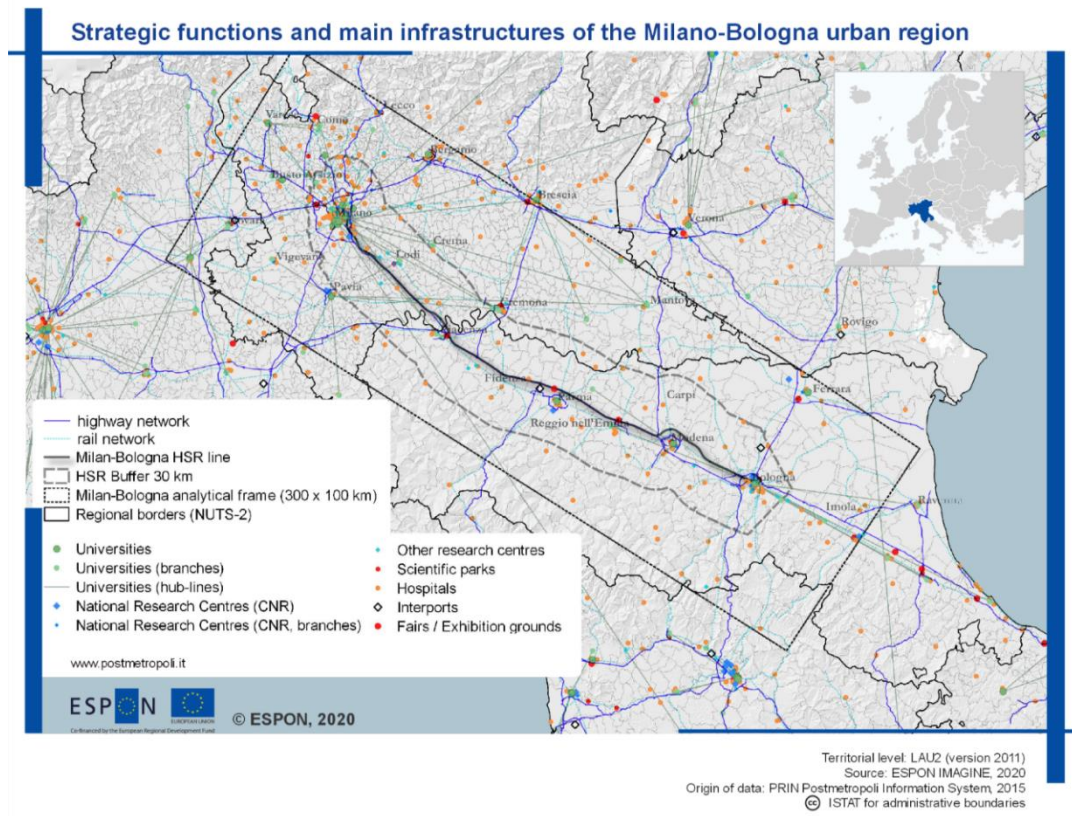
## 2.1 Main findings of the regional portrait

When reinforced by relevant infrastructural projects like the construction and activation of an HSR service like the one introduced in 2008 in the Milano-Bologna corridor, **processes of regional urbanization may act for or against territorial integration and cohesion**, producing specialization and growth, but also introducing discontinuities, fractures, and cleavages.

Following the suggestion of “the infrastructure scramble as an explanatory heuristic”<sup>34</sup> and assuming the idea that infrastructures can mobilize and even steer regionalization processes, we explored on the one hand, the general conditions under which the urban agglomeration area between and Bologna has been invested by processes of regional urbanization, producing highly interconnected polynuclear conditions. On the other hand, we investigated the direct and indirect impacts of the consolidation and development of one of the oldest and most strategic infrastructural corridors of the country in a modern technological space, potentially destined to confirm the role of this urban region as the backbone of the country and a crucial resource with the EU territorial framework.

Regionalisation processes can enable significant integration effects in large urban agglomerations, generating a positive impact on economic development, wealth, quality of life, and competitiveness. Simultaneously, the restructuring of the regional space can produce unintended adverse effects on the dynamics of contemporary urbanization, where "places and their inhabitants may not fully benefit from urban centrality (economic development, access to services, comprehensive infrastructure support). However, they are still impacted by the spatial effects of urban extension that are the counterpart to increased agglomeration in cities, receiving various surpluses such as increased traffic, waste, and pollutants. They are subject to new forms of dispossession and violence" <sup>35</sup>.

Moving from these assumptions, the Milano-Bologna urban agglomeration presents significant evidence confirming an ongoing functional integration process and regionalisation of socio-economic and spatial dynamics, even though it is characterized by processes that could attempt to to its territorial cohesion.



**Figure 2 – Strategic functions and main infrastructures of the Milano-Bologna urban region (elaboration based on PRIN Postmetropoli Information System)**

## 2.1.1 Reinforcing regionalization

### 2.1.1.1 A historical polycentric urban region, dense and rich in strategic regional and national functions, characterized by a specific urban-rural relationship

#### ***A peculiar territorial structure***

The exceptional interaction between a fertile plain, the Pianura Padana (the most fertile agricultural plain in Italy) and two mountain systems (the Alps and the Apennines), and a densely urbanized space makes it a peculiar urban region, with high proximities and connections between different settlement patterns and a diversity of natural and anthropic landscapes. The whole area is densely populated and interconnected, organized in a polycentric structure that can count on an offer of highly qualified urban and regional infrastructures. On the one hand, the urban region has been shaped and is today supported by a historical infrastructural corridor, moving from the north to the south, coupling the historical state road via Emilia, the XIX century railway lines, and the XX century highway A1, recently consolidated by the HSR offer. On the other hand, a series of regional and urban strategic functions (universities, research and development poles,

airports, exhibition areas) make it a clear example of a polycentric urban region, based upon the interaction between the Milanese urban region and the polycentric system of mid-size cities of the via Emilia corridor and as such part of the wider megaregion that covers the north of Italy (see *Figure 1* at pg. 18 and *Figure 2* at pg. 19).

### **Regionalization patterns consolidating the polycentric structure**

The overall density gradient (expressed as the ratio between demographic density and distance from the central city), considering as outliers the largest cities of Milano and Bologna, remains high along the corridor, among the highest all over EU. The same can be noticed observing the density gradient for each city (between 200 and 400 inhabitants/km<sup>2</sup>). This, on the one hand, confirms the Eurostat classification of the area as a predominant urban region mixed with a relevant intermediate region condition. It is also an indicator of potential urbanity and urban complexity distributed over a regional scale and challenging a traditional identification of cores and peripheries, marginal and central areas (see *Map 1 – RP 1.1 - Regionalization of the urban* at pg.24).

Demographic positive dynamics are evident along the entire area around the buffer (30km), with picks in Milano and (to a lesser extent) the southern area of its metropolitan city, with a trend that extends to include the provinces of Lodi and Pavia. The heart of the Emilian urban system shows a slower trend, stronger in Parma, average in Bologna and Reggio, and weaker in Modena, where it is balanced by the growth of the population in the peri-urban area. Degrowth can be detected in Piacenza and Cremona's provinces, even though concentrated mainly in the municipalities along the PO river (see. *Map 2 - RP 3.2- Regionalization dynamics (change)* at pg.25)

### **The urban-rural relationship**

The Po river course, located between the two urban macro-regions Torino-Milano-Venezia and Milano-Bologna, marks an **evident break in urban continuity**, but shall also be read for its specific nature of the Pianura Padana as an "operational landscape"<sup>36</sup>, as one of the most historical cultivated and anthropized planes in the country. On the other hand, this agricultural and naturalistic territory works as a cultural and landscape resource for the entire northern Italy macro-region. In this respect, it cannot be read as a simple void or rupture, rather than an integrated and complex anthropized natural landscape, which is the backbone of a strong history of integration between the urban and rural landscapes.

#### **2.1.1.2 A rich, competitive, and dynamic urban region**

##### **One of the richest and wealthiest areas of the country**

Supposing that we exclude some fringe areas, the remaining LAUs present at least one indicator of those composing *Map 3 - RP 4.1- Regional Competitiveness* (pg.26) above the median<sup>1</sup>. Besides, the cities located along the Via Emilia are characterized by relatively high per-capita income and relatively high average prices of residential buildings. The Milano urban region again works as an outlier.

##### **Productivity as a regional continuum**

The Milano-Bologna axis's productivity is very high, and this acts as an activator of other heterogenous spillovers for the interested areas. A clear corridor emerges, except for the municipalities of Pavia, Lodi and Piacenza, as far as the value-added per employee is concerned if compared to the other HSR corridors in northern Italy, such as Torino-Milano, Milano-Venezia, or Bologna-Venezia (see *Map 4 – RP 4.1.2- Value added per employee* at pg. 27).

**The regionalization dynamics are also partially confirmed by the localization quotient of business services**, where intermediate territories have a strong interaction with the provincial capitals and contribute to generate urbanity and quality of life for its inhabitants (see *Map RP 1.1.3 Business services location quotient in ANNEX 1*).

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<sup>1</sup> Number of active big firms, Value added per employee, Employees in high-tech sectors, see also Chapter 1.6 | ANNEX 1

### 2.1.1.3 An interconnected urban region

#### **Dense regional mobility patterns**

The Milano-Bologna area is characterized by a ratio of working trips over mobility and interconnectedness of local commuting areas (SLL) well above the median. The extra-urban areas, typically characterized by high working trips ratio and regional scale, are less present than in the rest of Northern Italy. We are in the presence of a model of everyday life organization, based on solid local and regional mobility. More in detail, we recognise the corridor, made of highly mobile and interconnected cities surrounded by similarly performing territories. The corridor looks almost continuous, not just made of city cores. Here lays the real difference with similar corridors in Northern Italy, the Milano – Venezia in particular, where mobility ratios are comparable, but much more local, i.e., more confined in the respective commuting areas (see *Map 5 - RP 2.1- Regionalisation of mobility at pg.28*).

#### **Networked institutions**

**A mix of centrality and networked attitude at the institutional level:** the whole area is characterized by the diffusion of different kinds of polarities, playing the role of service providers under other conditions (metropolitan, territorial). At the same time, some of them have developed several experiences at sovra-municipal scales to address societal challenges. However, attitude to cooperation is mainly diffused in the southern municipalities of Emilia Romagna, while quite scarce in the Lombardia region. Metropolitan governance is trying to support territorial cohesion, while new functional actors are emerging with supralocal functional geography that could generate some innovative spatial imaginaries. A relevant indicator of regionalization dynamics is related to the emergence of several patterns of sovralocal cooperation, which are both provided by institutional governance frameworks (two metropolitan cities and two provinces, as well as voluntary forms of collaboration and finally by the growing role played by public multi-utilities, which are more and more associated with a regional scale of action (see *Map 7 – RP 6.2 - Institutional Cooperation Potential at pg.30*).

### 2.1.1.4 An environment crossed by common challenges

The urban region also seems to be identified by sharing common environmental challenges of internal and external origins. The intense urbanization of this territory and its dense infrastructural corridor, the high level of air pollutants and the hydrogeological risks characterize the region picture as an environment under ecological threat. Even with internal differentiations, it is evident that common environmental challenges cross the entire macro-region, posing a claim for transcalar strategies of ecological transition that could tackle them. Indeed, the environmental challenges associated with the whole Pianura Padana are significant concerns at both EU and local level: on the one hand, the Pianura Padana is one of the Italian regions identified at EU level for their infraction to EU directives on quality of air; on the other hand, this urgent policy problem has been the object of a peculiar initiative, a supraregional agreement, signed by regional institutions of the Pianura Padana (among which Lombardia and Emilia Romagna) aimed at sharing methodologies and tools for tackling with the problems of quality of air (see *Map 9 – RP 7.1 - Environmental Fragility at pg.32*).

## 2.1.2 Hindering regionalisation

### 2.1.2.1 Growing regional differentiation and the erosion of the commons

#### **Threats to territorial cohesion**

From the socio-demographic point of view, **not all municipalities are experiencing positive growth and economic development trends** along the corridor. On the one hand, the corridor attracts more consistently wealth in its immediate surroundings, like a magnet, producing potential demographic and economic shrinkage along the Apennines and the plains. A certain homogeneity of socio-demographic trends characterizes the area, but more in-depth research unveils socio-economic differentiation patterns that contrast with its territorial cohesion. Certain territories have been benefitting more than others from the reinforcement of the infrastructural corridor. Others have been suffering from further peripheralization (see *Map 3 - RP 4.1- Regional Competitiveness at pg.26*).

#### **The environmental potential at risk**

The urbanization and anthropization dynamics, favoured by the accessibility and the economic potentials of the area, have progressively eroded the mountain areas' environmental potential and plans. Although this area, *de facto*, works as a bioregion along the Po-river hydrological basin, its environmental role is

consistently challenged by the pressure of urbanization dynamics and economic ones. Processes of regional urbanization can impact the area's territorial resilience, exposing it to critical natural risks, with impacts on the socio-economic sphere. Pollution of the soils and waters produced by industry, vehicular traffic, and intensive agriculture, and livestock farming makes it one of Italy's most problematic environmental regions (see *Map 9 – RP 7.1 - Environmental Fragility at pg.32*).

#### ***The role of intermediary spaces and new demands of urbanity***

We can notice an intermediate space between the two major cities of Milano and Bologna, and specifically in the surroundings of some provincial capitals, characterized by the availability of wealth at the individual level, with reduced living costs. We can expect that these areas can play a central role in the area's future growth and show potential frictions between the request and the offer of quality of living conditions and integration in the urban region in terms of accessibility.

#### **2.1.2.2 Growth differentials of competitiveness**

Within the 30km boundary from the HRS line, there is a spatial discontinuity when the provinces of Lodi, Pavia, Piacenza, and Cremona are considered, **where the overall competitiveness is broadly lower than the other provincial and metropolitan capitals of the corridor**. Moreover, the polycentric competitiveness of the Milano metropolitan area and the neighbouring provinces emerges. In contrast, at the other side of the corridor, higher degrees of competitiveness are visible within the linear axis of Emilia Romagna's provincial capitals of Bologna, Modena, Reggio Emilia, and Parma. Decreasing levels of competitiveness are visible both at the eastern and the western side of the HSR (see *Map 3 - RP 4.1- Regional Competitiveness at pg.26*).

#### **2.1.2.3 Conflictual relationship between local and sovralocal connectivity**

##### ***The negative impact of HSR on the regionalization of mobility***

The introduction of the HSR has powered the accessibility only in those cities directly served by HSR stations while reducing the direct national connectivity of cities that HSR stations do not support. This is particularly true along the corridor in the border contexts between the two regions and the regional capitals not supported directly by the corridor. However, the HSR impact analysis shows its negative effect on the regionalization of mobility practices. HSR has worked as an accelerator of connectivity at the national level but at the same time has limitedly improved regional connectivity. It produced a hierarchization on specific cities, at the expense of others, working like a pipeline rather than a backbone (at least in its initial phase) (see *Map 5 - RP 2.1- Regionalisation of mobility at pg.28*). More in detail, separating the rails services into three levels, Milano and Bologna's local/suburban services received most of the attention of local planners, benefiting from the capacity on conventional network released by the new line. The HS services boomed in terms of rides and passengers, mainly thanks to the beneficial effects of competition. The intermediate level of fast regional trains and intercity trains, those typically devoted to the mid-range trips between cities, remained (at best) unchanged (see *Map 6 - RP 2.3 - Changes in Potential Accessibility to Railway Services at pg.29*).

#### **2.1.2.4 Fragmentation and lack of coordination and vision at the urban-region scale**

##### ***Public resources are distributed but without a clear supra-regional strategy***

Exploring the distribution per capita of EU resources at the municipal level, the two regional profiles appear different. Data provided by *Agenzia per la Coesione territoriale* represent a significant concentration of EU funds in the municipalities of the inner areas in both regions, with a narrow focus on the corridor, excluding Emilia Romagna's border municipalities partially Lombardia. Emilia Romagna shows a significant concentration on the corridor, more concentrated in the intermediate cities than on the regional capitals (see *Map 8 – RP 5.1 - Public Investments and Resources at pg.31*).

##### ***Financial autonomy is an issue for small and big municipalities***

Exploring the financial autonomy indicator, municipalities along the corridor are more robust than in the general Milano-Bologna area, with values that seem higher in the cities around the provincial capitals. On the one hand, a careful investigation of these data could confirm the decentralization process's positive effects **on intermediate municipalities. On the other hand, it unveils the more problematic conditions under which small-medium size cities and large cities** (see *Map 8 – RP 5.1 - Public Investments and Resources at pg.31*).

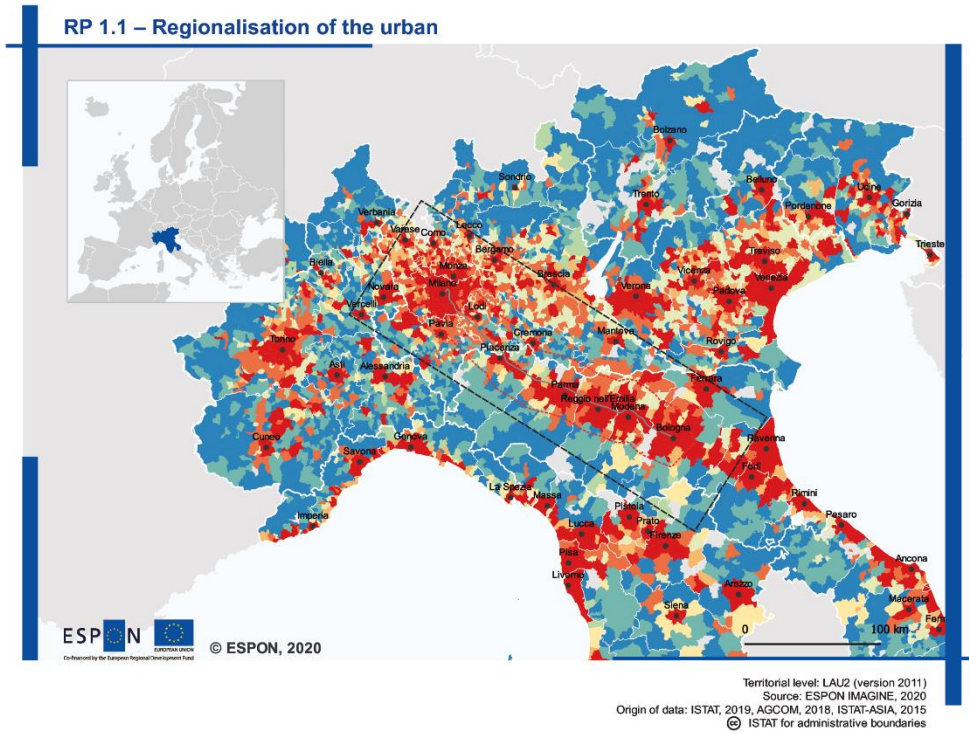
### ***Institutional fragmentation is high***

A consistent number of small municipalities are locked in and poorly networked, especially in the mountain areas in-between Milano and Bologna. Cities, in comparison, seem to be less prone to cooperate. New functional actors are emerging on a regional scale, which have limited visibility but a growing strategic role in promoting a sovralocal imaginary. At the same time, smaller municipalities have generated or have been attracted by participation in sovralocal public utilities to provide services and facilities. The whole area is characterized by the coexistence of a condition of density and centrality of municipalities localized along the main corridor. These latter are characterised by a certain degree of propension/need to cooperate, but also by peripherality and dispersion of several municipalities, which are often not even supported by a sovralocal governance framework. The corridor presents poles (either dense or diffused) and interconnected municipalities: the main exception can be noted in the Pavia-Piacenza area, where several cities and towns appear pretty loose in terms of participation in sovralocal public utilities. The municipalities located south of Milano appear more locked and dispersed, while in the Regione Emilia Romagna, they are more interconnected. The Apennines' cities and towns on the western side of the corridor are the most dispersed, locked, and peripheral, while the eastern ones in the plain are dispersed but quite interconnected (see *Map 7 – RP 6.2 - Institutional Cooperation Potential at pg.30*).

<b>Question/Portrait Chapter</b>	<b>Indicator 1</b>	<b>Indicator 2</b>	<b>Indicator 3 (optional)</b>	<b>Synthesis Map</b>
<i>1- What makes the urban region?</i>	RP 1.1.1 – Population density	RP 1.1.2 – Number of households served by high-speed Internet connection	RP 1.1.3 – Business services location quotient	<b><u>RP 1.1 – Regionalisation of the urban</u></b>
<i>2. Living like an urban region?</i>	RP 2.1.1 – Ratio between generated trips and resident population	RP 2.1.2 – Share of generated trips directed outside the local commuting area (SLL)	RP 2.1.3 – Share of generated trips with public transport or non-motorized	<b><u>RP 2.1 – Regionalisation of mobility</u></b>
	RP 2.2.1 / 2.3.1 – Road distance from active railway stations	RP 2.2.2 – Railway services		<b><u>RP 2.2 – Potential accessibility to railway services</u></b>
		RP 2.3.2 – Change in railway services		<b><u>RP 2.3 – Change in potential accessibility to railway services</u></b>
<i>3. HSR corridor as a regionalisation machine?</i>	RP 3.1.1 – Personal average income	RP 3.1.2 – Housing prices		<b><u>RP 3.1 – Regionalization dynamics</u></b>
	RP 3.2.1 – Population change	RP 3.2.2 – Change in house prices	RP 3.2.3 – Change in personal average income	<b><u>RP 3.2 – Regionalization dynamics (change)</u></b>
<i>4. Growing Like an urban region?</i>	RP 4.1.1 – Number of active big firms	RP 4.1.2 – Value added per employee	RP 4.1.3 – Employees in high-tech sectors	<b><u>RP 4.1 – Regional competitiveness</u></b>
<i>5 Resources?</i>	RP 5.1.1 – EU Cohesion policy investments (per capita)	RP 5.1.2 – Municipalities' financial autonomy		<b><u>RP 5.1 – Public investments and resources</u></b>
<i>6. Seeing like a region?</i>	RP 6.1.1 – Levels of peripherality	RP 6.1.2 – Housing dispersion	RP 6.1.3 / 6.2.3 – Number of shares in public utilities per municipality	<b><u>RP 6.1 – New spatial imaginaries need</u></b>
	RP 6.2.1 – Municipalities included in Metropolitan Cities	RP 6.2.2 – Municipalities included in Unions of Municipalities or Mountain Communities		<b><u>RP 6.2 – Institutional cooperation potential</u></b>
<i>7. Transitioning like a region?</i>	RP 7.1.1 – Consumed soil	RP 7.1.2 - Air pollution (NO2+ PM10)	RP 7.1.3 - Population in flood hazard zones	<b><u>RP 7.1 – Environmental fragility</u></b>

**Table 1 - Key indicators and synthesis maps of the Regional Portrait**

## 2.2 Selected maps from the Regional Portrait



### Urban potential



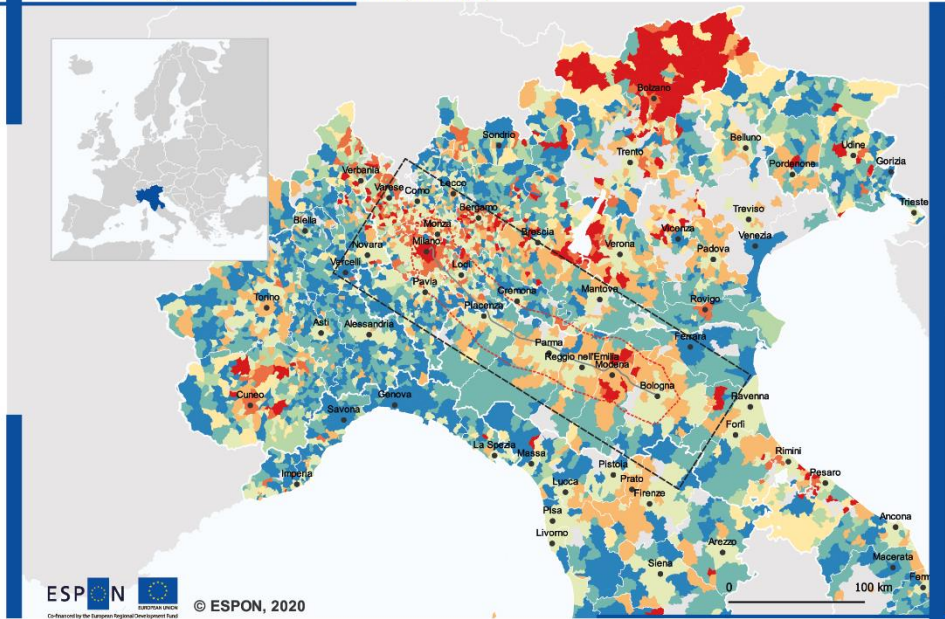
- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- Sea / Lakes
- no data / area not included in the analysis

RP 1.1.1 – Population density 2019 (> median)  
 RP 1.1.2 – Households served by fast internet 2018 (> median)  
 RP 1.1.3 – Business service location quotient 2015 (> median)

Map 1 – RP 1.1 - Regionalization of the urban



RP 3.2 – Regionalisation dynamics (change)



Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: ISTAT, 2011, 2019, AdE, 2012, 2019, MEF, 2012, 2018  
 © ISTAT for administrative boundaries

Socio-demographic dynamics

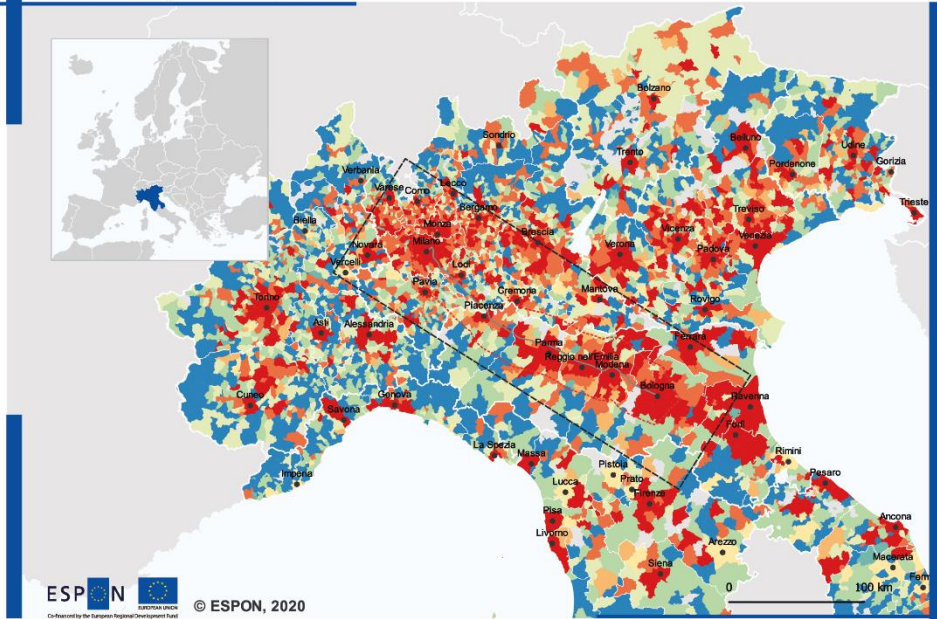
- + + + overall growth
- + + - population and real estate growth
- + - + population and income growth
- - + + real estate and income growth
- + - - population growth only
- - + - real estate growth only
- - - + income growth only
- - - - overall decline

- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- ▭ Sea / Lakes
- ▭ no data / area not included in the analysis

RP 3.2.1 – Population change 2011-2019 (+ if higher than 0)  
 RP 3.2.2 – Change in house prices 2012-2019 (+ if higher than 0)  
 3.2.3 – Income change 2012-2018 (+ if higher than median)

Map 2 - RP 3.2- Regionalization dynamics (change)

RP 4.1 – Regional competitiveness



Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: ISTAT, 2015, 2016  
 © ISTAT for administrative boundaries

Competitiveness

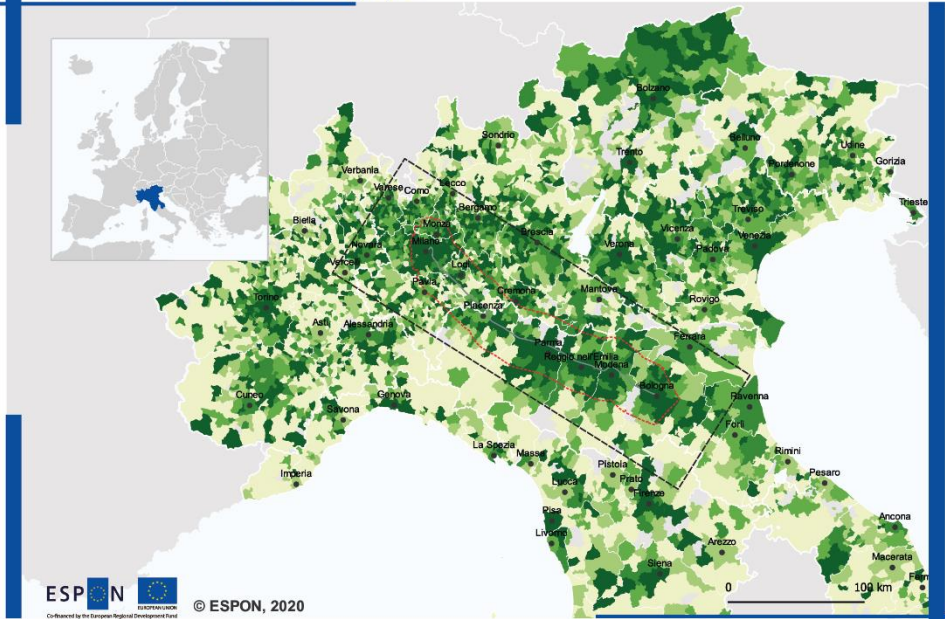
- + + + big firms - productive - hi-tech
- - + + no big firms - productive - hi-tech
- + + - big firms - productive - non hi-tech
- + - + big firms - less productive - hi-tech
- - - + no big firms - productive - non hi-tech
- - - + no big firms - less productive - hi-tech
- + - - big firms - less productive - non hi-tech
- - - - no big firms - less productive - non hi-tech

- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- ▭ Sea / Lakes
- ▭ no data / area not included in the analysis

RP 4.1.1 – Number of active big firms (+ if higher than 0)  
 RP 4.1.2 – Value added per employee (+ if higher than median)  
 RP 4.1.3 – Employees in high-tech (+ if higher than median)

Map 3 - RP 4.1- Regional Competitiveness

RP 4.1.2 – Value added per employee



ESPON © ESPON, 2020

Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: ISTAT, 2016  
 © ISTAT for administrative boundaries

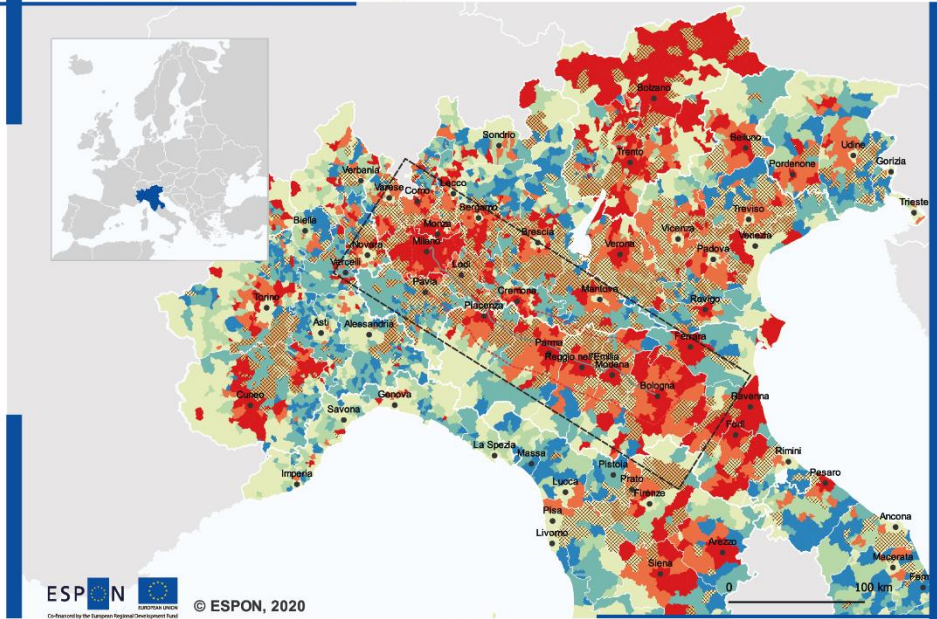
**Value added per employee 2016  
 (Euro x 1'000)**

- < 35
- 35 - 40
- 40 - 45
- 45 - 50
- 50 >

- Provincial/Metropolitan Capital
- Milan-Bologna frame (300x100 km)
- HSR Milan-Bologna (30 km buffer)
- Sea / Lakes
- no data / area not included in the analysis

Map 4 – RP 4.1.2- Value added per employee

RP 2.1 – Regionalisation of mobility



Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: ISTAT, 2011  
 © ISTAT for administrative boundaries

Mobility behaviours (commuting to work)

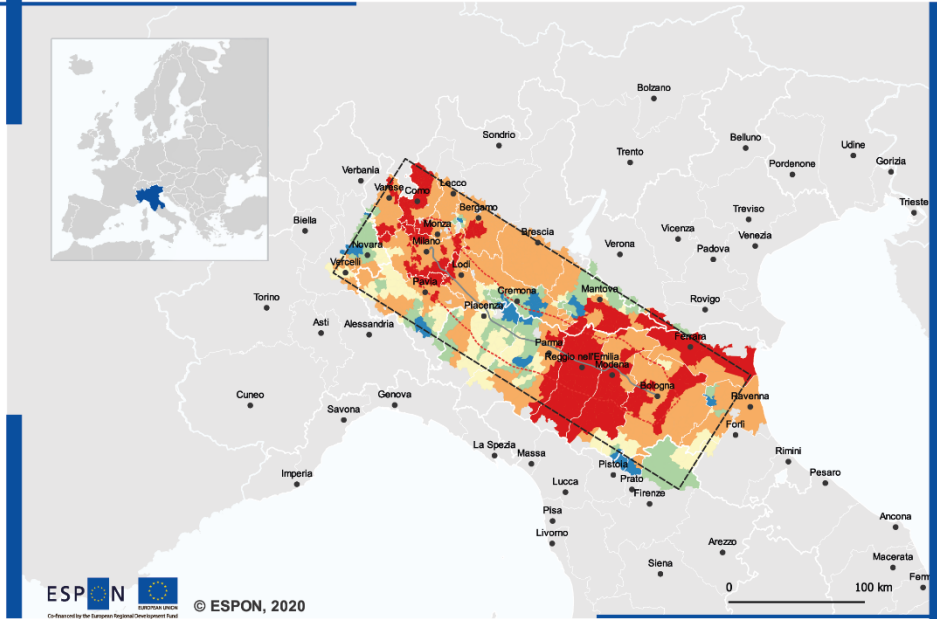
- + + + active-interconnected-sustainable
- + + - active-interconnected-unsustainable
- + - + active-locked-sustainable
- + - - active-locked-unsustainable
- - + + inactive-interconnected-sustainable
- - + - inactive-interconnected-unsustainable
- - - + inactive-locked-sustainable
- - - - inactive-locked-unsustainable

- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- ▭ Sea / Lakes
- ▭ no data / area not included in the analysis

RP 2.1.1 – Generated trips / Population (+ if higher than median)  
 RP 2.1.2 – Trips going out of their SLL (+ if higher than median)  
 RP 2.1.3 – % of pub. transp. + non motor. (+ if higher than median)

Map 5 - RP 2.1- Regionalisation of mobility

RP 2.3 – Change in potential accessibility to railway services



Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: I-TrAM META / TRASPOL, 2008, 2020  
 © ISTAT for administrative boundaries

Percentage change in potential accessibility to railway services 2008-2020 (^)

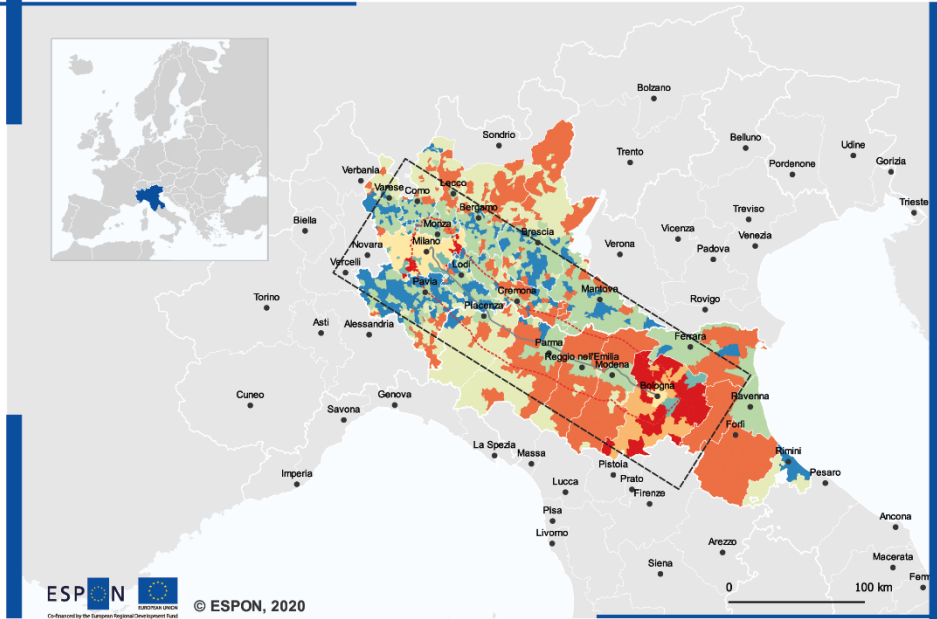
- -149.5% - -50% strong decrease
- -50% - -5% decrease
- -5% - 5% steady
- 5% - 50% increase
- 50% - 100% strong increase

- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- ▭ Sea / Lakes
- ▭ no data / area not included in the analysis

(^)  
 weighted on regional and long distance trains

Map 6 - RP 2.3 - Changes in Potential Accessibility to Railway Services

RP 6.2 – Institutional cooperation potential



Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: ISTAT, 2020, Comuniverso, 2009, Min. Interno, 2020  
 © ISTAT for administrative boundaries

Institutional cooperation potential

- Metropolitan-Cooperative-Networked
- Non Metropolitan-Cooperative-Networked
- Metropolitan-Cooperative-Locked in
- Metropolitan-Non Cooperative-Networked
- Non Metropolitan-Cooperative-Locked in
- Non Metropolitan-Non Cooperative-Networked
- Metropolitan-Non Cooperative-Locked in
- Non Metropolitan-Non Cooperative-Locked in

- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- ▭ Sea / Lakes
- ▭ no data / area not included in the analysis

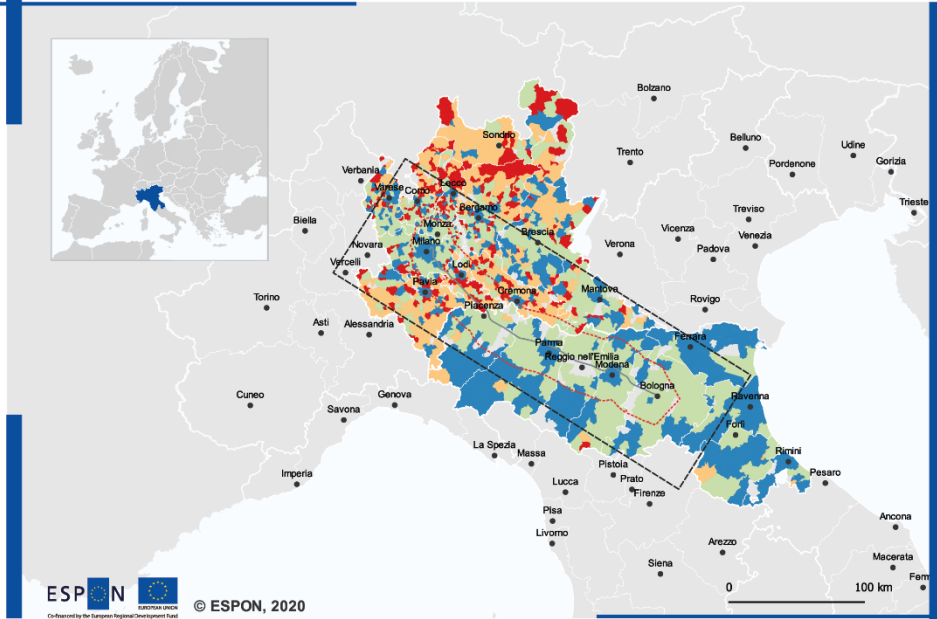
RP 6.2.1 – Included in Metropolitan Cities 2020  
 (Metropolitan / Non Metropolitan)

RP 6.2.2 – Included in Unions of Municipalities 2020 and/or  
 Mountain Communities 2009 (Coop. / Non Coop.)

RP 6.2.3 – Number of shares in public utilities per  
 municipality 2020 (Networked / Locked in)

Map 7 – RP 6.2 - Institutional Cooperation Potential

RP 5.1 – Public investments and resources



Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: OpenCoesione, 2020, OpenBilanci, 2004-2012  
 © ISTAT for administrative boundaries

Public investments and resources

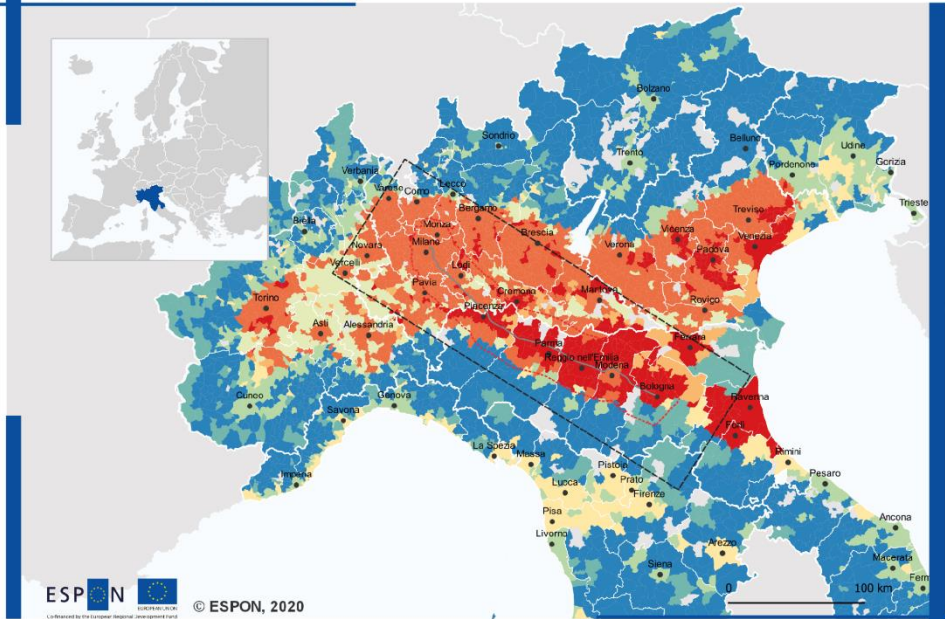
- ++ high investments - high financial autonomy
- +- high investments - low financial autonomy
- -+ low investments - high financial autonomy
- -- low investments - low financial autonomy

- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- ▭ Sea / Lakes
- ▭ no data / area not included in the analysis

RP 5.1.1 – EU Cohesion policy investments (per capita) (+ if higher than median)  
 RP 5.1.2 – Municipalities' financial autonomy (+ if higher than median)

Map 8 – RP 5.1 - Public Investments and Resources

RP 7.1 – Environmental fragility



Territorial level: LAU2 (version 2011)  
 Source: ESPON IMAGINE, 2020  
 Origin of data: ISPRA, 2017, 2018, EEA, 2016  
 © ISTAT for administrative boundaries

Environmental fragility



Consumed soil (%) of the administrative area 2018 (> median)  
 Air pollution (NO2+ PM10) 2016 (> median)  
 Population (%) in medium flood hazard zones 2017 (> median)

- Provincial/Metropolitan Capital
- ▭ Milan-Bologna frame (300x100 km)
- ▭ HSR Milan-Bologna (30 km buffer)
- ▭ Sea / Lakes
- ▭ no data / area not included in the analysis

Map 9 – RP 7.1 - Environmental Fragility



## 2.3 In-depth analysis of the creative and innovative economy and of the logistic industry

As requested by the terms of reference of IMAGINE, the regional portrait is complemented by two in-depth analyses. First, the research explored the recent changes in the creative and innovative economy, focusing on the spatial dimension of firms and workers of the urban region. Second, the study focused on the presence and diffusion of the transport and logistics industry that has been identified as a crucial driver for change.

### 2.3.1 Creative and innovative economy

The present paragraph proposes an analysis **of the creative firms, innovative small and medium-size enterprises (SMEs), innovative start-ups, and New Working Spaces (NeWSps<sup>2</sup>)** as part of the so-called creative and innovative economy in the Milano-Bologna urban region, which has been for decades the core of creative and innovative economy in Italy.

The creative industry includes a set of knowledge-based activities with basis on individual creativity, skill, and talent, including (i) traditional cultural industries (publishing, music, architecture, and engineering, performing arts) and (ii) technology-related creative industries (R&D, ICT, advertising)<sup>37</sup>.

Lombardia and Emilia Romagna **show a relevant concentration of creative firms** (local units/establishments) in **the metropolitan cities of Milano and Bologna**, followed by the province capitals of Brescia, Parma, Bergamo, Modena, Reggio Emilia, Monza and Brianza, Rimini, Ferrara, Piacenza, and Ravenna. The global city of Milano is an outlier hosting 25,557 creative firms in 2017 if compared to Bologna, with 4,755 in 2017. Nevertheless, even smaller municipalities in Lombardia such as Busto Arsizio (textile-clothing industrial district/ID), Lecco (mechanical industry ID), Sesto San Giovanni in the first ring municipalities of the city of Milano and Legnano, and Emilia Romagna such as Carpi (textile-clothing ID), Imola, Faenza (mechanical industry ID), host a significant number of creative firms. Instead, looking at the change in the number of creative industry establishments<sup>3</sup> between 2011 and 2017, **a consistent increase can be noticed particularly in the provinces of Modena and Reggio Emilia**. Specifically in the two province capitals and some municipalities hosting IDs: Carpi (textile-clothing), Mirandola, and Guastalla (mechanical industry). This phenomenon can be probably related to the new HSR supply in Reggio Emilia that enhanced the accessibility of the city on the capacity to attract creative industry, involving a large territorial section which is *de facto* the mobility basin of the Medio-Padana station, originally designed to serve, in the city of Reggio Emilia, a larger economic cluster and demographic basin.

Some additional elements can be retrieved from the analysis of innovative start-ups, while location patterns are very similar to those of the creative industry. The study highlights a **discontinuity within the Milano-Bologna region, where innovative start-ups are agglomerated within and around the Milano pole and then in the final part of the corridor (from Parma to Bologna)**. As stated for the creative industry, Milano is an outlier hosting 1,545 innovative start-ups. The other cities have considerably lower numbers: Bologna 227, Bergamo 123, Brescia 100, Reggio-Emilia 61, and Modena 55. Instead, the innovative SMEs are distributed as follows: Milano 284, Modena 28, Bologna 22, Brescia 18, and Bergamo 11.

A particular focus is dedicated to the emergence of NeWSps. Lombardia and Emilia Romagna regions host a significant number of **new working spaces or collaborative spaces hosting creative firms, freelance operating in the creative industry, innovative SMEs, and innovative start-ups**. NeWSps are defined as physical spaces that favor the development of collaborative practices among individuals who hold different educational and professional backgrounds but are co-located in the same physical premises<sup>38</sup>. They can be grouped into the following typologies: Coworking spaces (CSs), Smart work centres, Fab Labs, Open workshops, Hackerspaces, Living Labs, Corporate Labs, Coffee shops, and public libraries.

<sup>2</sup> For an overview on NeWSps see the Coast Action project CA18214 "The Geography of new working spaces and the impact on the periphery" (<https://www.nmbu.no/en/projects/new-working-spaces>).

<sup>3</sup> The index is calculated as follows:  $[(N. \text{ Creative local units in 2017} - N. \text{ Creative local units in 2011}) / (N. \text{ Creative local units in 2011})] * 100$

As of January 2018, 549 CSs are recorded in Italy, including all active privately owned and managed workplaces, and hosting users mainly specialised in the creative industry (75%). About 46.8% of CSs is concentrated in the Italian metropolitan areas (Milano with 112, Rome, Bologna with 49, Torino, Firenze, follow). The concentration of CSs in Lombardia concerns the Milano metropolitan area and Monza, Bergamo, Como, and Brescia. The other province capitals follow. **Milano is the most attractive city for CSs, because of the concentration of high knowledge-intensive sectors, creative industries, including design and fashion.** As of January 2021, 60% of CSs were located in Northern Italy (472), with prevalence in the North-West, particularly in Lombardy, which has a more substantial growth than the rest of the country (Italianco-working, 2021). In the year 2021, Milano hosted 119 coworking spaces, and in the period 2014-2021, the number of CSs increased from 68 to 119 units (+75%)<sup>39</sup>.

Unlike other regions such as Lombardy, also **Emilia-Romagna has a widespread diffusion consistent with its poly-centric tradition.** Emilia Romagna accounts for 115 NeWSps, concerning not only CSs, but also: fabLab, incubators, creative and cultural hub, business centre, polyfunctional space, and open lab. In the year 2010, there were only 13 spaces in the region, which increased subsequently until 2012 in the order of three/five spaces per year. Since 2013, however, the growth has been exponential, with the birth, on average, of about 20 collaborative spaces per year. As described by Montanari<sup>40</sup>, these new working spaces **are located in the nine cities, half of them are settled in medium-sized municipalities** (i.e. with a population between 100,000 and 300,000 inhabitants), coinciding with the provincial capitals (Forlì, Ferrara, Modena, Parma, Piacenza, Ravenna, Reggio Emilia and Rimini). While the presence of collaboration spaces in the Bologna regional capital is relevant, it is interesting to note that 26% are present in municipalities with less than 60,000 inhabitants.

In conclusion, the analysis showed that the **Milano-Bologna corridor is characterised by a significant innovation capacity, one of the determinants of the area's competitiveness and may act as an activator of other heterogenous spillovers for the interested regions. Although the dense proximity cluster networks of the larger cities are the preferred locations, even smaller and less central areas are becoming more and more attractive**, as in industrial districts (Busto Arsizio-textile-clothing ID, Lecco-mechanical industry ID, Carpi-textile-clothing ID, Faenza -mechanical industry ID). Besides, while large cities are retaining innovative and creative firms, their growth (2011-2017) has been exploited in less central areas.

Another issue worth **considering and exploring is the location of NeWSps hosting creative and innovative workers, firms, and start-ups.** Workspaces reflecting a culture of collaboration and openness have increased in the last decade and have attracted a renewed interest during the present Covid-19 pandemic. Working lifestyle has changed worldwide to guarantee social distancing, and remote working practices have massively emerged: teleworking, remote working, home working, which exhibited significant effects on workers as concerns productivity, innovation, quality of life, and well-being. The geography of work has changed, with big cities experiencing the "exodus" of knowledge workers who mainly started working from home, thus reducing commuting. Recent studies underline that the hinterland or suburban areas of significant cities gained workers. They will probably keep their attractiveness in the medium-long run<sup>41</sup> since teleworking became more and more recognised as feasible and advocated practice by both the employees and the employers. Nevertheless, when the "First place" (home) is not the most efficient working place and the "Second place" (office) cannot host the workers due to social distancing limitations, the "Third place"<sup>42</sup> represents a valuable alternative for teleworkers. Specifically, the development of NeWSps can be fostered in more peripheral locations, where CSs, may trigger entrepreneurship in regions with scant entrepreneurial settings through tailored policies and creating hard infrastructures.

### 2.3.2 Transport and logistics

The current paragraph shows the results of the analysis of the presence and diffusion of the transport and logistics industry<sup>4</sup> (from now on logistics) in Lombardia and Emilia-Romagna. Logistics, which is about managing the supply chains from raw materials to the final product and service delivery, plays a crucial role in modern economies. Globalisation, outsourcing, just-in-time, vertical disintegration, modern supply chains, and e-commerce rely heavily on efficient logistics. Logistics is also directly a significant contributor to the economy. The estimated size of the global logistics market is approximately US\$ 4,730 billion<sup>43</sup>. In Europe,

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<sup>4</sup> Transport and logistics industry concerns the following sectors -NACE rev.2-: H. Transportation and storage.

logistics accounts for about 8.1% of employment. The logistics industry has a high reliance on the highway network, particularly highways, which can lead to shorter distribution times, reduce logistics firms' operating costs, and improve delivery times and reliability. These benefits will accrue to firms because of being closer to larger labour markets, improved access to input and product markets, and increased scale and spatial concentration of other firms.

Moreover, logistics is now gaining a strategic role in successfully implementing time-based competitive strategies and facilitating the management of complex and increasingly global supply chains. The literature has also documented a bidirectional link between economic development and logistics performance<sup>44</sup>. Indeed, several countries have undertaken concerted efforts for improving their logistics sector, upgrading their infrastructure and technology to get a bigger slice of the market<sup>45</sup>. The UK Logistics Report clearly emphasizes infrastructure as key for the productivity and competitiveness of the sector<sup>46</sup>.

As it comes to Milano-Bologna urban region, Lombardia and Emilia Romagna regions show a very high transport accessibility level. As concerns, the Milano NUTS3 province, the infrastructures for transport and logistics are mainly concentrated along the main road routes towards Novara, Brescia, and Piacenza, while in the Bologna NUTS3 province, they are along the Via Emilia connecting Piacenza to Rimini. Moreover, the two regions are very interconnected; specifically, the port of Ravenna is linked to the Lombardia system because several firms have their principal logistics hub or terminal container in Ravenna. Finally, the regional platforms/ freight villages of Bologna and Parma and the Piacenza Terminal are strongly connected to Lombardia. In this perspective, they form a dense and interconnected logistic territory, supported by the presence of historical infrastructures, a dense pattern of industrial activities, and a very dense commercial basin populated by several million people.

Lombardia is served by the so-called Regione Logistica Milanese (RLM) – Milano Logistics Region – which also includes the provinces of Novara in Piemonte and of Piacenza in Emilia-Romagna<sup>47</sup>. Lombardia handles by road about 300 million tons of goods, yearly, of which 120 million IN/OUT from and to the rest of Italy and 36 million from the rest of the world. The region hosts 13 intermodal terminals (Dallari and Curi, 2020) as Busto Arsizio-Gallarate terminal, Segrate terminal, Freight village and logistics pole of Mortara in the industrial area of CIPAL (intermunicipal consortium for Alta Lomellina), and Busto Arsizio-Sacconago terminal.

In Lombardia, the Transport Regional Plan has had the aim to strengthen regional competitiveness and socio-economic development, as well as to promote environmental sustainability. Specifically, the Plan has favoured freight transport by integrating transport on medium-long distances (by rail/water) with the distribution network (by road). This has occurred both at the regional / macro-regional level (intermodality) and the urban level (city logistics). Moreover, the Plan has promoted regulation favouring logistics vehicles with reduced environmental impact, especially in the urban areas.

Milano and its hinterland are very attractive for logistics, including MNEs, because of the high accessibility to the Italian market, to the main road network, and to a rich network of services (banks, insurances, broker, lawyer offices, etc.). Specifically, the logistics activities, which require large areas to operate, are mainly located outside global or large cities, even if they are near them<sup>48</sup>. Besides, there has been no specific logistic policy promoted at regional level: this resulted in favouring the proliferation of logistic poles along main highways. This has generated a quite sprawled system, with the primary location dispersed in an area of 45 km ray around the city and a total of 14 million square meters of built-up spaces in 2017 (<https://www.al-sea.mi.it/img/RegioneLogisticaMilanese.pdf>). Large and medium-sized cities like Milano and the other province capitals attract a large share of logistics firms and workers except for Varese, Pavia, Vigevano, Legnano, and Lecco. Nevertheless, even smaller municipalities closer to provincial capitals and larger cities attract logistics firms that are probably looking for land availability with good accessibility and closer to the market.

Regione Lombardia is part of the Rhine Alpine corridor, supporting the so-called "Blue Banana", the most densely populated and economically most vital urban region in Europe. It includes cities like Brussels and Antwerp in Belgium, the Randstad region in the Netherlands, the German Rhine-Ruhr and Rhine-Neckar regions, the Basel and Zürich regions in Switzerland, and the Milano and Genova regions in Northern Italy. Annually more than one billion tonnes of freight are transported along this Corridor, that represents 19% of EU's total GDP (based on 2010 figures) and is one of the busiest freight routes in Europe (it connects the main North Sea ports of Rotterdam and Antwerp to the Mediterranean basin in Genova, while providing connections to several east-west axes).

Like Lombardia, the main cities in Emilia-Romagna and their hinterlands are very attractive for logistics because of the high accessibility to the Italian market, the main road network, and a rich network of services. Unlike Lombardia, where the logistics industry is mainly concentrated in the Regione Logistica Milanese (RLM), in Emilia-Romagna, logistic activities are located in several poles along the Via Emilia. Specifically, the main platforms/freight villages (Bologna, Parma, Piacenza) attracted the main headquarters of leader logistics operators (both national and international express couriers and third-party logistics firms) and commodity logistic operators (road transport and handling). These areas are therefore attracting also for logistics real estate players.

In Emilia Romagna, the Transport Regional Plan has reorganised the region in one logistics platform, intending to interconnect several transport modes efficiently. One of the main infrastructural elements of the platform is the railway network with the related logistics structures and nodes. The route Ferrara -Bologna-Ravenna, Bologna Interporto, and the port of Ravenna belong to the “core network” of the TEN-T networks within the Adriatic-Baltic Corridor and of the Mediterranean Corridor. In contrast, Verona-Bologna-Rimini belongs to the Corridor Scandinavian-Mediterranean. In 2018, about 19.43 million tons of goods are handled by rail, about 211 million tons by road and 26.68 million in the port of Ravenna. About 13.6% of the total handling of goods originating from Italy reaches Emilia-Romagna; on the other hand, about 13.4% of goods arising from Emilia Romagna are directed to the rest of Italy<sup>49</sup>. The port of Ravenna registers 6% of the Italian maritime flows of goods. It is in the third position after the ports of Trieste and Genova and Livorno and Gioia Tauro.

Emilia-Romagna hosts the following main intermodal terminals: Interporto Bologna (Bologna), Terminal Rubiera/Logtainer (Reggio nell'Emilia), Dinazzano/Dinazzano Po (Reggio nell'Emilia), Interporto Parma/Cepim (Parma), Terminal Piacenza/HUPAC (Piacenza), Villaselva/Lotras (Forli-Cesena), Porto Ravenna (Ravenna). The first cities attracting logistics establishments in 2017 are: Milano (5,913), Bologna (1,278), Ravenna (714) – because of the port -, Brescia, Modena, Parma, Rimini, Cesena, Reggio Emilia, Piacenza, Forlì. Instead, the areas exhibiting a growth (between 2011-2017) in the number of logics firms are: (i) the area of Reggio-Emilia and Modena, with a growth that may be related to handling and exporting of flows of goods produced by the industrial districts in textile and clothing (Carpi) and mechanical industry (Mirandola); (ii) municipalities in the southwest of Milan (Assago, Basiglio, Marimonda, Calvignasco, Lacchiarella, Noviglio, Vernate, Zibido San Giacomo); (iii) the area of Piacenza, important logistics node; (iv) the municipalities in the north of Bologna towards Ferrara. The growth in the number of firms in these areas could be related to good accessibility, lower land prices and availability of more extensive areas in comparison to big cities. Indeed, while road transportation infrastructures have attracted the location of logistics firms mainly located in metropolitan cities (Milano and Bologna), also suburban and rural areas have become attractive towards logistics firms mainly specialized inland transportation, that involves lower value-added logistics operations, requiring lower skilled labour force, and warehousing<sup>5</sup>.

As for the case of Pavia and Piacenza provinces, it is evident a trend of growth in the location of logistic activities, related to the opportunity to serve large urban areas, based on good accessibility. Nevertheless, these locations are stressing the existing infrastructures, providing a limited contribution to the job market and produce a consistent environmental impact on the local contexts. Moreover, warehousing, which is more and more active in e-commerce, exhibits an increase in both firms and employees. Both Lombardia and Emilia-Romagna are very attractive for the e-commerce because of: (i) geographical position; (ii) transport and logistics network provision; (iii) proximity to manufacturing firms and to goods that are handled online; (iv) they represent the natural logistics barycentre of a vast market (north and centre Italy, central Europe). It is, therefore, worth underlying that the location of logistics activities can contribute to local development. Still, it also raises land consumption, contributes to urban sprawl, and generates negative external costs for the community.

Therefore, a better understanding of the logistics industry and its tendencies towards sprawl or clustering is important for society to acknowledge the effects they produce at the firm level (e.g., clustering may bring about higher productivity in logistics firms) and at the local level (e.g., sprawl is associated to costs of increased inbound and outbound goods traffic). There is a need for planning the construction and development of the existing platforms because one of the more important aspects of logistics and rail platforms is to

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<sup>5</sup> Source: ISTAT - Registro statistico delle unità locali (ASIA - UL) - <https://www.istat.it/it/archivio/234627>

enhance and boost traffic concentration to increase economies of scale, thus allowing the shift from road to rail. This concerns the policies that the whole of Europe and single countries in Europe are trying to implement. Moreover, tailored policies might be developed to cope with the negative external costs for the community (e.g., air pollution and noise emissions, congestion, traffic fatalities), generated by the logistics activities.

## 3 Milano-Bologna HSR corridor: main challenges and potentialities related to the transportation system with the functional urban area

### 3.1 In-depth analysis of the Milano-Bologna Corridor

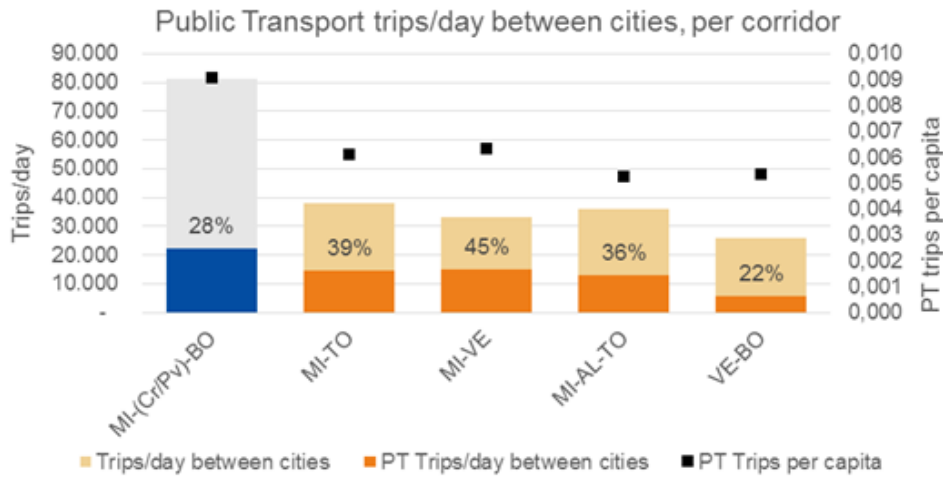
In this chapter, the results of a specific focus of analysis are presented. On the one hand, we investigated in-depth the role that the introduction of HSR has played within the Milano-Bologna urban region, both in terms of regional and national connectivity increase. The aim is to provide stakeholders the possibility to evaluate its impact and success from a regional perspective. At the same time, we offer other urban regions in Europe the opportunity to reflect on which can be the challenges and potentials related to the introduction of HSR corridors, thus contributing to the debate promoted by several European urban regions (e.g., Delta Metropolis, where the ESPON STISE<sup>50</sup> project is supporting local stakeholders in this direction). The second aim is to further analyse the role of HSR in the trajectories of economic development: how and to what extent an HSR contributes to making places more competitive in a global financial perspective? This is a second central question that helps look at EU-level transport policy from an integrated perspective. Only if infrastructural corridors offer new opportunities for functional integration and competitiveness, they become able to feed territorial platforms supportive of processes of regional urbanisation.

#### 3.1.1 Favouring or hindering Regionalisation of mobility: the role of High-speed rail corridor in a dense and interconnected urban region

The in-depth analysis of demand, supply, and accessibility in the corridor Milano – Bologna, and from it to the rest of the country and Europe was a specific objective of the IMAGINE Project. This chapter summarises the main findings and introduces policy recommendations for the local context and a broader EU perspective.

The introduction of the **HSR line and service along the Milano-Bologna corridor in 2009 followed the model of pure-high speed**: the new fast line is separate from the conventional one, and all intermediate stations are skipped. This model replicates the original French model of HSR, introduced two decades before, which was thought for the connection between far and strong poles, separated by low-density areas, as it happens – for example – between Firenze and Roma. This model has **generated critical positive effects on the integration between main Italian cities, including Milano and Bologna, which caught most of the investment benefits**. However, the impact on the Milano-Bologna urban region are more complex to be evaluated, including both positive (strengthening the connections between these two cities and the rest of the country) and negative ones (relative exclusion of second tier cities from the national network). This synthetic evaluation is also shared at the national level. The most recent projects, such as the HSR between Milano and Venezia, will adopt a different model. Lower speed, higher connectivity of intermediate cities, and, hopefully, better integration with regional transport are now considered keys to a more appropriate and influential role of HSR in the Italian context, especially in the north of the country, characterised by a dense, polynuclear and interconnected territorial and urban structure.

From the mobility of people perspective, the analysis of the Milano-Bologna urban region shows a consistent **process of regionalisation of mobility dynamics**, which makes this urban region peculiar and challenging for the sake of the design of mobility policies. The intercity mobility between the cities along the corridor is above the average of the area: it serves an interlinked and economically flourishing territory, made of compact and lively cities at a relatively short distance. However, despite the fact that conditions are ideal for rail transport at local and regional levels, the use of trains is below comparable corridors in Northern Italy: just 28% of intercity trips use public transport, vs. levels of 35-45% in other similar situations.

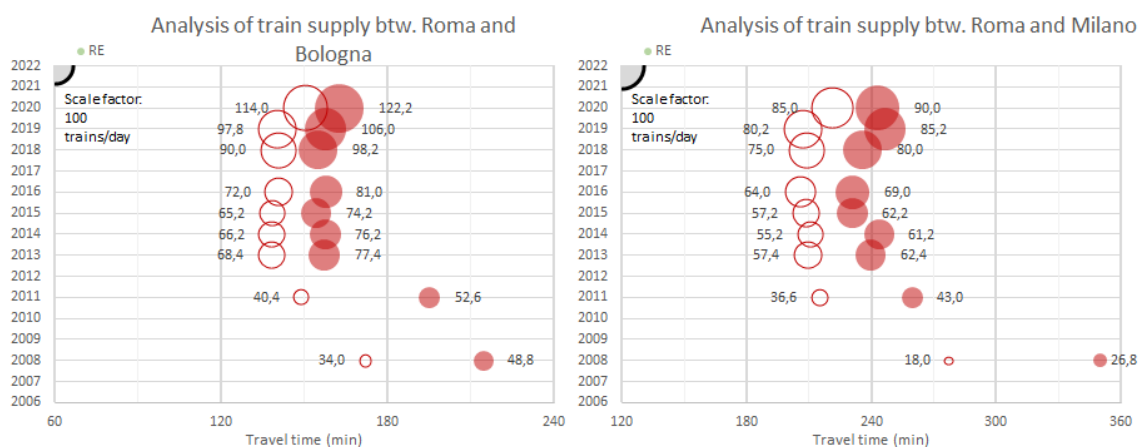


**Figure 3 – Estimated public transport trips/day between cities, per corridor, year 2016 (MI: Milano, Cr: Cremona, Pv: Pavia, BO: Bologna, TO: Torino, VE: Venezia, AL: Alessandria). Source: elaborations based on i-TraM matrix 2016.**

The cause is probably attributable to the **weakness or lack of an interregional rail policy** focusing on intermediate distances and services. The regional public actors in charge of local mobility policies essentially focused on suburban/metropolitan transport and the market ones essentially focussing on serving the demand of fast long-distance mobility. In addition, Milan, despite the introduction of an underground railway link dedicated to regional trains, keeps working as a sort of “barrier” to anything directed north of it, preventing the introduction of bypass services from Emilian cities to the northern Lombardia and Switzerland.

The two regions, Lombardia and Emilia Romagna, in different times, invested a lot in the improvement of a suburban rail system serving the regional capitals (See sections 1.4, 1.5 and 2.5 of *ANNEX 3 - Exploring the state of the art in terms of integrated mobility offer*). These systems are additional to historical services and have been facilitated by the new capacity also generated by implementing the HSR Milano-Bologna. The Lombard one, but also the Bolognese one, can be seen as success stories in terms of patronage and modal change at a smaller scale. In both cases, the two regions have been the most active in supporting regional mobility in the last decades.

The introduction of the HSR between **Milano and Bologna generated of course direct and visible effects of connectivity among the two regional capitals and the rest of the country**, producing the expected effects, even in terms of competitiveness of the HSR to the air-based offer. For example, the average travel time of faster trains from Bologna to Roma passed from 170 to 140 minutes and from Milano from 277 to 206 in 2019. But the real difference is made by the variety of connections, passed from 50 and 26 per day from Bologna and Milano respectively, to 122 and 90 in 2020.



**Figure 4 - Analysis of train supply (comparison Milano-Bologna vs Milano-Roma)**

Moreover, it must be noticed that the extra-capacity on the corridor created by the new line HSR, together with the high potential demand, is at the root of the successful Italian experience of head-on competition in

HSR between the incumbent service provider, Trenitalia, and a newcomer, Italo. The consequences have been the just mentioned huge increase in HS train frequency, a rise of load factors, and non-predatory price strategy of the incumbent (see section 3.6 of *ANNEX 3 - Exploring the state of the art in terms of integrated mobility offer*). Overall, these ingredients allowed a significant demand increase. The demand is distributed across all travel purposes. A considerable phenomenon of long-distance commuting has been observed between the two poles and the intermediate station of Reggio Emilia AV (about 20% of total demand to Milan, see below).

Unfortunately, the same cannot be said as regards the national connections (and consequently the national-scale accessibility) of intermediate cities between Milano and Bologna; **these in fact, have been reduced due to the shift of most of long-distance connections to the HS line** (see Section 3.2 and 3.3 of *ANNEX 3 - Exploring the state of the art in terms of integrated mobility offer*). In terms of national connectiveness, Piacenza, Fidenza, Parma and Modena can be considered as losers. Of course, they got a kind of benefit, together with the neighbouring Pavia and Cremona, from the HSR thanks to interchange connections. Still, their overall accessibility/connectivity rank reduced concerning comparable cities located elsewhere (e.g. Verona, Padova or even Rovigo and Ferrara). **They lost direct connections with the Centre and the South of the country and with Piemonte (and Veneto, which remains unconnected from Via Emilia cities by rail since ever)**. Overall, the **HS polarised the mobility of the corridor significantly, instead of spreading benefits around it**.

**A minor exception is found concerning the external intermediate station of Reggio Emilia Mediapadana AV**, which is one of the few extra-urban and intermediate HSR stations in Italy and by far the most successful one (See Section 3.5 of Annex 4). Its aim, from its origins, was to serve a wider regional basin, characterised by being one of the most dynamic and competitive territories in Italy based on industrial districts, which since the seventies are intensively contributing to the national economy. Its localization resulted from a vigorous and participated local debate, opposing different regional cities and interesting innovation, introducing a hybrid in the original HSR model. As for today, seven years after its completion, the Mediapadana station **still seems to serve mainly as an outgoing station (used by locals to reach other national destinations) rather than for the incoming** (few users using it as a destination and only to Reggio Emilia itself). Then, its primary merit was to *mitigate* the loss of connections of Via Emilia cities caused by the HSR model chosen for the line, rather than a real opportunity of the surroundings to become a new centrality. The city of Reggio Emilia, in this respect, is a net gainer from the HSR. At the same time, its actual capacity of attraction to the other regional capitals is still limited due to the lack of direct public transportation from Parma and Modena.

Given these premises, some broad policy suggestions can be advanced, focusing mainly on mending a powerful territorial machine. They all go in the direction of tightening its internal and external natural relations, mainly by recognising the continuity of the corridor rather than its dipolar structure.

### 3.1.2 Main challenges and opportunities for a new role of the HSR in support of the Milano-Bologna Urban Region

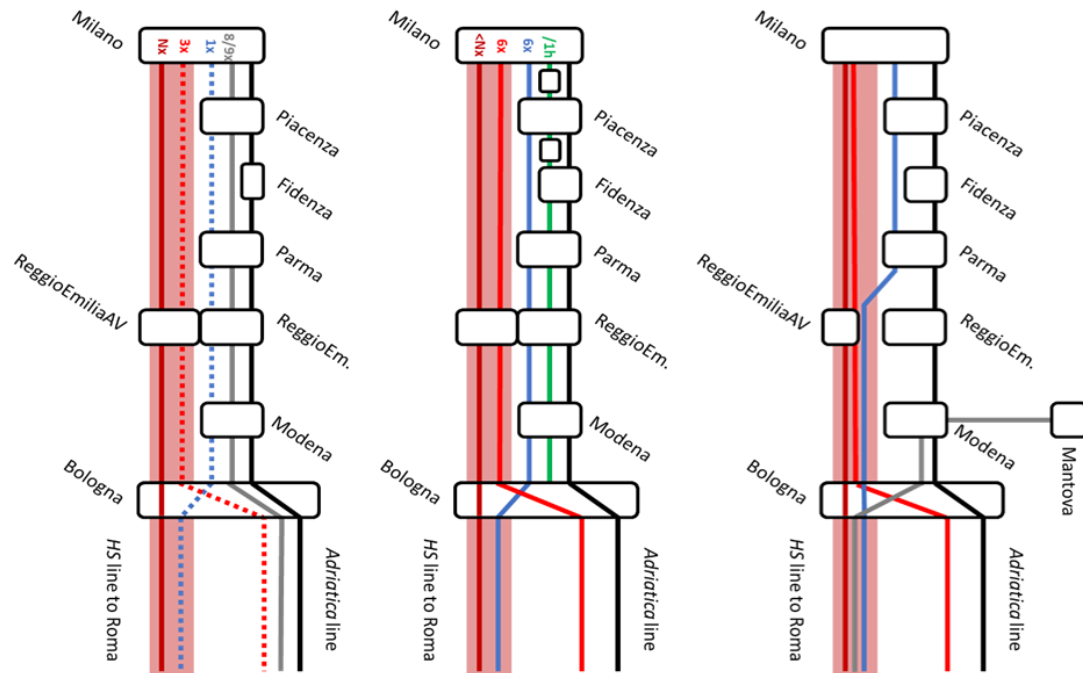
The Milano-Bologna corridor – due to its urban-territorial and socio-economic structure is nearly a continuum of mobility. This situation contrasts with a typical HS line service, based on a few HS stations as the one here adopted, which naturally creates a “tunnel effect”. As a result and evidence of this mismatch, local communities push at least to replicate the experiment of Reggio Emilia AV also in other cities, for example, in Parma. Evidently enough, this is a sub-optimal solution within the existing model. Extra stops are, in fact, incompatible with the level and type of fast services expected, and a new station would cannibalize the role now played by Reggio Emilia. Moreover, this would require significant investments in mass transit at the local level.

#### 3.1.2.1 From a pipe to a backbone: a new service model for HSR

This first and most significant challenge and limit to the role of HSR within the Milano-Bologna region could be tackled by rethinking the opportunities to use better the numerous interconnections possible (but rarely used) between the HS line and the ordinary ones. This could allow for the introduction of mixed-HS services (widely used by both operators elsewhere in the country: Bergamo/Verona/Bolzano – Roma, stops in Chiusi and Terontola, extensions to Potenza/Reggio Calabria/Taranto) to re-establish and improve the connections between the intermediate cities of the corridor to the capital and the south of the country. This kind of service



could deposit benefits of the HS line also in the towns excluded from the network up to 2020, without worsening the performance of Milan's fastest direct trains to Rome.



**Figure 5 – Schematisation of current and proposed rail services in the corridor.**

As explained in Figure 5 the current scheme of services on the line (excluding regional trains) is illustrated: the trains heading to Rome use the fast line between Milano and Bologna, while the trains to Ancona and south along the Adriatic corridor use the conventional tracks between Milano and Bologna serving the intermediate cities. Recently three trains/day per direction branded Frecciarossa, use the HS line until Bologna and then pass to the Adriatica line, reducing approximately one h in the travel time between Milano and cities south of Rimini. This happens, once again, at the expense of intermediate cities along the Emilia corridor. Just one HS train to Rome is using the conventional line serving all regional capital cities.

A different scheme could introduce the first set of opportunities to mild the hierarchisation effects produced by the HSR introduction: all the trains from the Adriatica line (serving Ancona, Pescara, etc.) could pass to the HS line, saving one h and significantly improving the accessibility for distant destinations. Instead, the Emilian cities would be served by more numerous HS trains entering the HS line in Bologna and following to Rome and South. In this scheme, the only lost direct connections are those from the Adriatica to the Via Emilia cities, but these connections (less meaningful than to Milano and Rome, both improved for all) would remain guaranteed by IC trains and RegioExpress trains (e.g., Piacenza-Rimini). There is also room to specialise the RegioExpress trains Milano- Bologna (see next section) in this scheme.

To be evaluated in terms of demand and sustainability, a further scheme considers the opportunity to split the trains from the Emilian cities to Roma and use the interconnections. For example, some rides could start in Milano and proceed along the conventional line to Parma and pass to the HS line up to Rome. A second service could serve Mantova, Modena, and Bologna, where the fast line is reached.<sup>6</sup> This option makes travel time to Rome even more competitive but could be unsustainable for companies due to limited demand and must therefore be assessed more carefully. It must be noticed that the operators could have *already* applied this scheme from Via Emilia to Rome, but did not, except for one couple of trains/day. This can mean that this solution could be more effective in terms of revenues and margins to force those passengers to interchange in Bologna rather than serving them directly or losing them. To overcome this problem, local communities, which could benefit from faster direct services, could subsidise the operator to cover the extra costs of the stop (e.g., Arezzo or Chiusi) or of the extension (e.g. Taranto). This solution is, however, non-

<sup>6</sup> Of course, Reggio Emilia does not need to be served directly, thanks to the external station. Similar schemes could be assessed (even if demand and travel time could be not competitive) to also reach Alessandria, Cremona, Pavia, Brescia, coherently with the concept of *Alta Velocità di Rete* already present in the national programmes.

efficient as it is independent of the actual number of users and could generate an over-subsidization. An alternative solution could be a semi-market solution: a subsidy per passenger (and not per km) is given to any operator providing a particular service to stimulate the ramp-up of these services and at the same time provide a service that is more suited to the needs of most of the travellers.

### 3.1.2.2 A new interregional connectivity: A new model for an integrated regional offer

The mobility along the Milano-Bologna corridor is not just concentrated between the two capitals. The role, size, and distance of all intermediate cities require an intermediate level of service between HSR and regional trains that is guaranteed by market trains with compulsory booking (Frecciargento and Frecciabianca) by ineffective regional trains.

The ten regional fast trains linking Milano and Bologna are slow not only because of calling at smaller towns but also because serving as suburban trains within the Bologna metropolitan areas. While Lombardia Region chooses to specialize (where possible) suburban trains from RegioExpress ones within the regional borders, the same did not happen with the interregional trains in Emilia Romagna. The result is that Regio-Express trains are up to Parma, but then call at every station, including some very minor ones, and becoming ineffective for both demand segments (the interregional because of low speed and the suburban because of low frequency). A reorganization of these trains, which could probably also include an increase of frequency at least to hourly schedules, would be functional to support the everyday mobility of the corridor, which is perhaps inhibited also by the price and by the need to reserve the seat in advance. The corridor presents the best conditions for fast regional trains: very compact and near cities, no sprawl, a very interdependent territory, high-rank functions in all towns (universities, headquarters, etc.). Moreover, the possibility to extend some of these trains to the most significant cities north of Milano (Monza, first of all), via the urban stations of Rogoredo and Lambrate, skipping Milano Centrale station, could serve many sparse and unserved relations, now hidden by the already mentioned “dam effect” of Milano.

### 3.1.2.3 Better integration with local transport

While the focus of HS-centred policies is mainly at the regional scale, also local public transport holds a vital role in amplifying the territorial effect of investment. The case of Reggio Emilia AV is extremely clear: the station works mainly for outgoing traffic since the incoming one – which cannot count on a car – must rely on public solutions. Taxi is functional just to short-range business destinations, and buses proved insufficient to spread the accessibility to destinations different from Reggio Emilia city centre. No mass transit investment can be conceived to serve as a feeder for long-distance demand – because demand is too scant for it and because it would be difficult to justify the public investment in the line and service. However, important projects are already at stake and could be pushed and designed in a better-integrated manner:

- a) Bologna is starting a 4-lines plan to reintroduce modern tramways. A reliable and frequent mass transit network – even if not comparable to a metro network – can effectively distribute travellers in the urban area. Line 1 is going to serve the fairground and the city centre.
- b) Milano is working to improve the integration of stations served by long-distance trains with urban and regional transport. A new circle line should distribute passengers from the gate-station of Rogoredo to the periphery of the city and to the north, in the newly developed research-university and business pole of MIND, where another HS station is already present being realised to serve Expo2015 (Rho-Fiera AV). In Segrate, East of Milano metropolitan area, a new gate station for the Milano-Venezia HS line is in the final design phase. All of them are connected with the centre of the city by metro and by rail to the peripheral areas, broadening significantly the catchment area of HS. In all of them, HS services can be introduced which go beyond the line they are built on. For example, in 2020 trains from Torino to Rome calling at Rho Fiera and Rogoredo (but not Centrale) have been introduced. A similar scheme could be applied to the other directions.
- c) Reggio Emilia, similarly to Bologna, is building a tram line to connect the HS station with the centre.

However, other solutions could be considered for their relative simplicity and little cost.

- d) Reggio Emilia AV can be equipped with a passing bus station directly accessible from the highway, making it a very effective intermodal node. This station could allow extremely efficient stops for north-south coaches and the restructuring of dedicated express buses (Freccialink and Italobus) as HS feeders from Cremona/Parma and Modena/Mantova further.



**Figure 6 – Schematisation of proposed bus connections with Reggio Emilia AV motorway interchange node.**

- e) The same Reggio Emilia AV is connected with a station of the regional line to Guastalla/Mantova. Infrequent and slow services serve the line, and the effect is negligible: too irregular from Reggio Emilia, too slow from northbound, and unconnected with Mantova. A general reconsideration of the line's service could look more at mid-distance relations (e.g., Mantova). It could also be attractive as a feeder instead of as a local line slowly serving smaller municipalities.

### 3.1.3 Lessons learned: how infrastructural corridors can better support urban regions

Every line and corridor are different from the others, and the findings' transferability must be considered having in mind the case's peculiarities. Nevertheless, some of our results for the Milano-Bologna HSR can be extended and generalised to other corridors serving other similar urban regions:

- 1) *Territory matters.* The characteristics of the territory crossed matter a lot in explaining successes and failures. The main lesson learned from the Milano – Bologna case is that the trade-off between higher speed and loss of connection for intermediate cities must be carefully weighted. While most of the rest of Italian HSR involves cities which are separated by low-density areas (e.g. Rome – Napoli or Rome – Firenze) or adopts a different model (e.g. Milano – Venice will serve all intermediate cities), the Milano – Bologna is adhering to the fully separated HS logic which is not appropriate for the areas crossed. Given that, in the range of 100-200 km, the time gain of a line running at 300 km/h vs. one at 200-250 km/h is in the range of minutes, the bypass of intermediate destinations must be carefully addressed. A flexible (but more expensive) solution made of a more permeable line with interconnections, could be considered in similar conditions. Several international experiences are going in this direction<sup>7</sup>, see for example the recent case of Switzerland and Germany, but also the French and the Spanish context<sup>51</sup>.
- 2) *The tunnel effect can be superseded with an integrated mobility offer.* HSR shall be part of a larger train mobility offer. In terms of benefits, the Milano – Bologna HSR was successful because of the contemporary presence of two conditions: speed, but also saturation of the conventional line. If both exist (and not only speed) we can expect benefits also for the unserved cities thanks to the improvement of conventional services. If the conventional line is underused, the switch to the HS line of fast services will give benefits to the extremities, but few or no benefits (or even losses under some circumstances) will deposit in the intermediate territories.
- 3) *Intermediate cities can be integrated in the HSR offer.* Extra-urban HSR stations have been used extensively in Europe, for various reasons. Sometimes just political, some other as a part of a structured accessibility strategy involving multimodality and interconnections and differentiated objectives (for example within policies for promoting tourism and cultural-entertainment attractions). Reggio Emilia AV is a success story for patronage because serves a populated and economically very lively territory and is well accessible by motorway. This success is however limited by the lack of effective interconnections with the enlarged area. In particular, it is not served by regional trains (except a very secondary line) so it is less used by travellers to/from the neighbouring cities that prefer to remain on conventional service. In a broader perspective, HSR corridors can highly benefit

<sup>7</sup> It is always important to remember the regulatory context: HS is usually a market service, so no planner can force an operator to serve intermediate cities unless a PSO is imposed (at a cost). So, the use of interconnections to serve intermediate cities remains, at the moment of design, a possibility and not a guarantee.

from intermediate stations when part of a wider mobility policies, offering the opportunity to diversify the offer and the service.

- 4) *Long-term commuting can be a resource or a threat to labour market.* Under some conditions (that for the line are represented in particular by the attractiveness of important urban poles, like Milano) the phenomenon of HS commuting could become relevant, reaching shares of 10-20% of total travellers or more. The rise of such mobility pattern should be assessed carefully: if involving weak cities and territories, this could become a serious threat for them, exacerbating the already existing territorial disparities. To the contrary, in corridors characterised by a balanced profile of economic competitiveness, it represents a healthy way to extend labour markets, at benefit of the enterprises. This is especially important in some sectors, like creativity and cultural activities, which can benefit from reducing the costs of distance, while capturing the value of quality of life.

### 3.2 Favouring regional competitiveness? A Counterfactual analysis to explore how and if HRS has produced an economic impact

The transport infrastructure **boosts the places' accessibility and firms' agglomeration process, prerogatives to enhance regional productivity**<sup>52</sup>. However, **potential effects for the areas receiving a transport policy intervention are neither automatic nor systematic**<sup>53</sup>. The location choice of high-speed rail (HSR) infrastructure may lead to considerable heterogeneity in policy effects. Economic growth, regional productivity, employment, and commuting dynamics are among the primary potential outcomes commonly studied in such literature. The main evidence arising from evidence-based studies is that the opening of a high-speed (HS) infrastructure generally encourages positive effects towards the economic performances of the county hosting the HS station concerned<sup>54</sup>. Still, sometimes places not directly within the HSR network also benefit from an HSR programme outset<sup>55</sup> ( see ANNEX 3 for a reconstruction of the debate).

In Italy, the **opening of multiple HSR lines as early as the first decade of 2000s has reinforced the rail transport accessibility of many central cities** (capitals, or regional capitals within larger urban areas), through the upgrade of the traditional stations into multifunctional and/or intermodal HS stations, sometimes but the introduction of the brand-new station. Among the various active lines, the corridor Milano-Bologna started operating in 2008 with the dipole HS stations of Milano Centrale and Bologna Centrale. In 2012, the other Milano station of Porta Garibaldi was introduced and, more recently, the Rogoredo Station (south of Milan). In 2013, the Reggio Emilia station (Mediopadana) was opened along this line as a new intermediate stop: it represented a newness for the Italian HSR framework, since never before an intermediate city was appointed to enter into the HSR programme. The Mediapadana station thus became the first HS station not located in a large city. More recently, based on the Next Generation EU (NGEU) programme, the European plan of financial interventions to face the Covid-19 aftermath, the Italian PNRR programme (Piano Nazionale di Ripresa e Resilienza) has allocated over 30 billion euros to the transport infrastructure investments for sustainable mobility. 4.64 billion will contribute to set new HSR connections in Central and Southern Italy (passengers and freight), and 8.57 billion should strengthen the HSR routes in Northern Italy to ease relations with central Europe. This opens new opportunities to further extend the existing offer over the country and produced new interest in understanding which role HSR can play in fostering local economic development. In this respect, it becomes particularly timely to provide elements to evaluate the impact of the HSR on the production of gross value added (GVA).

#### 3.2.1 A counterfactual analysis to estimate the impact on regional productivity

The focus on the Milano-Bologna corridor developed **consisted in measuring the impact in terms of regional productivity at NUTS 3 level**, by considering the **per capita gross value added (GVA) as main outcome of interest**. The research strategy availed of a quasi-experimental design through applying the synthetic control method (SC). A panel data at NUTS 3 level was gathered, and the period 2000-2018 was considered to exploit an adequate number of pre-and post-treatment periods concerning the bandwidths indicating the time of the programme outset (see ANNEX 3)

The main reason for applying an evidence-based procedure is driven by the need to have good and practical information about previous interventions to design future effective policies. The focus exploits the potential of the counterfactual evaluation, which relies on the comparison between an observed outcome and its artificial synthetic one if the programme had never been applied. The difference between the two observations reflects the effects of the policy intervention. Once the research design is randomized as much as

possible based on the best pre-treatment covariates choice, any potential causation can be ascribed, *ceteris paribus*, to the program's effect. Thus, the counterfactual methodology helps **to measure the HSR policy effects on the territories within the Milano-Bologna macro-regional corridor, compared to other similar areas in Italy** that did not directly receive the same policy in the same period. In particular, we studied the impact of HSR on the NUTS 3 regions of Milan, Bologna, and Reggio Emilia, because they hosted the localisation of three HS stations along the corridor. Based on closely related literature, the GVA was considered the main outcome variable of interest because it approximates regional productivity<sup>56</sup>.

The major baseline evidence of the SC is that the HSR has positively impacted the regional productivity at NUTS 3 level over the macroregional corridor Milano-Bologna. However, as expected, some heterogeneities arise. If the pole areas of Milano and Bologna exhibit a higher magnitude in effect, the impact is slightly noticeable in the intermediate area of Reggio Emilia. In the case of Milan, immediately after the programme outset (2008), **the outcome starts to diverge (in positive) compared to its synthetic counterfactual**. Moreover, considering 2012 as alternative time bandwidth, which is the year of the second HS station starting operated (Porta Garibaldi), the trend is being consolidated. In nominal terms, the gross value added, as a proxy of NUTS 3 productivity, accounted for a difference of about 20,000 euros per capita due to the introduction of the HSR transport infrastructure. The case of Bologna is very close to the **Milano one, where a substantial difference in outcome between the treated and the synthetic value is visible**. Since 2010, a constant increase in the outcome variable is observed. The policy effect emerges to the extent of around 3,000 euros per capita GVA - apart from 2009 when a parallel downturn is followed. Things are partly different in the case of **Reggio Emilia. Although a slight positive effect emerges, it seems that the HSR programme is still far from boosting the NUTS 3 productivity**. Reasons can be multiple. One can be ascribed to the periods of observation: if we consider that the effects of a transport infrastructure investment may require some years to come forward, it might be supposed that the actual effects of the HSR, opened in 2013, will be recognisable only down the line. Another facet may regard the functional role of the Mediapadana HS station: it is more an intermodal station than a multifunctional one. Its location in an outside area of the Reggio Emilia city centre, makes it mainly a landmark of many short and long-distance commuters that may have their business hubs in other neighbour provinces or even in other regions.

### 3.2.2 Conclusions

These three insights seem to lead to an underlying assumption: the HSR may push specific development pathways already established in the place receiving the programme. The location of HS stations in higher-ranking central places (cities, metropolitan areas) is likely to enhance the service intensity as a sectoral part of GVA (like in the case of Milano and Bologna). In contrast, the choice to localise HSR investments in second-order places may drive other types of economic activities (manufacturing, industrial, tourism), depending on the place's distinctiveness (as in Reggio Emilia). These findings suggest that location choices of transport investments should be place-led<sup>57</sup>, and the role of institutions is paramount to avoid white elephants<sup>58</sup> and negative returns on investments. Many of the other provinces within the corridor that are excluded from the programme, are only partially interested in the sprawl effects of HSR. Their indirect effects are more difficult to evaluate. For this purpose, we argued that the PNRR provides for better integration between HSR and the regional transport systems. Together with a reinforcement of intermodality, it may represent an opportunity to make the whole corridor more effective.

## 4 “Seeing like a region”, exploring policy and governance implications

### 4.1 Building a local roadmap, contributing to a general reflection

This final chapter aims to contribute to support urban regions throughout the EU to develop and consolidate new governance/policy approaches inspired by a regional spatial imaginary.

This chapter first **illustrates the organisation and main results of a process of interaction** with the functional and territorial actors of the Milano-Bologna urban region to build the conditions for the activation of new spatial imaginaries able to inspire a new governance framework and a new policy agenda. Describing such a process and its main achievement, we outline **a possible space for the Milano-Bologna urban region** to put the basis for taking the lead and proposing at national, as well as regional level, the opportunity to candidate this territory for the experimentation of an Integrated Territorial Initiative. Paragraphs 4.2, 4.3, 4.4 provide, in this first perspective, elements for local stakeholders to go in this direction.

In so doing, the chapter responds to a second objective: it **illustrates a process and a methodology that can be reproduced in other urban regions to follow a similar process of activation towards an ITI or similar governance/policy frameworks able to support** new regional spatial imaginaries.

Finally, Paragraph 4.5 **aims at fulfilling the third objective**, opening a window for reflection on how the EU so far and in the next cohesion policy is providing potential spaces for a governance/policy approach able to build on a regional spatial imaginary. The last paragraphs **highlight opportunities for the EU to further support urban regions in the EU integration project, and for urban regions to better profit from the EU integration project.**

### 4.2 Experimenting with a regional forum for Milano-Bologna urban region

The basis for developing the objective of the ESPON IMAGINE in fostering the construction of a spatial imaginary was a process of stakeholders' engagement: it was implemented since the beginning of the research activities, through different kinds of meetings and events: interviews, Focus Groups and Regional Workshops. Due to the Covid-19 pandemic emergencies, most engagement activities have been organized online (via meeting platforms like Teams, ZOOM, Skype, etc.). Nevertheless, they registered intense and lively participation.

In June 2020, the research team held the first round of 15 interviews to project stakeholders' representatives. In the following months, from September to December 2020, local Stakeholders' engagement activities have been organized in two **Focus groups** to extend the discussion on regional imaginaries to a broader number of actors, representing social, economic, and territorial functions of the Milano-Bologna area. Forty high-level representatives of the two Regions' main institutional and economic actors, belonging to 36 different institutions, were involved. In each focus group and interviews, the stakeholders have been asked: a) to explain their "vision" of the Milano-Bologna wide-area territorial system; b) to describe the ongoing or planned projects concerning this system or parts of it; c) to mention the strategic collaborations with other stakeholders and institutional subjects; d) to discuss the obstacles or problems to the regulation of the functions that are organized at a trans-territorial level in the Milano-Bologna system.

Two regional workshops intending to validate and discuss the research team's work with the IMAGINE stakeholders. The first one, the **Regional Thinking Workshop** held on September 11th, 2020, presented and discussed a map of existing spatial imaginaries, producing an initial picture of the stakeholders' political objectives and policy needs. Considerable space has been given to the discussion with the project stakeholders focusing on the most significant opportunities for the Milano-Bologna urban region from the EU Recovery fund agreement. This was also the base for constructing the stakeholders' map and the chance to reflect on experiences from international stakeholders. The second event, the **Regional Portrait Workshop** took place on November 13th, 2020. It was dedicated to presenting the first results from the data analysis carried out on the Regional Portrait (Annex 1). Focusing on representing the major economic and socio-spatial dynamics of the Milano-Bologna urban region, the Regional portrait explored the corridor's main features and characteristics empirically, looking for emerging signals of functional urban integration. The third

event, the **Regional Scenario Workshop**, was held on February 12th, 2021, and saw the participation of the stakeholders supporting IMAGINE, who discussed the scenarios and corresponding territorial implications developed by the ESPON research team (see ANNEX 4 for full details).

A **Regional Forum** and a **Regional Design workshop** have been organized, respectively, on January 21st, 2021, and on March 30th, 2021, to discuss and validate with **stakeholders** and **functional and territorial actors** the feasibility of a new governance and policy approach based on a new regional imaginary and scenarios (both by Zoom). The Regional Forum, “*The Milano-Bologna Region: Scenarios and Perspectives*”, saw the participation of 65 stakeholders from 43 different organizations, including urban, metropolitan, provincial, and regional authorities, Chambers of Commerce, industrial associations, universities and research centres, Bank foundations, the Po river basin Authority, train operating companies, and logistic operators, firms belonging to the sectors of public utilities, retail, fashion and advertising. Participants were asked to comment on the data and scenarios of the Regional Portrait developed by the IMAGINE research group, in three parallel sessions respectively dedicated to the **institutional context**, **economic networks** and **functions**, and the **system of research and innovation**. The *Regional Design Workshop* saw the participation of about 40 stakeholders belonging to 32 different organizations, launching a debate on the scenarios, policies, and tools underlying the elaboration of a strategic vision for the development and governance of the Milano-Bologna urban macro-region (see ANNEX 4 for full details).

The **Final Regional Forum** consisted of an interactive workshop held on May 18th, 2021, organized by the IMAGINE research team in collaboration with the IMAGINE stakeholders (Città Metropolitana di Milano, Città Metropolitana di Bologna, Provincia di Pavia, Provincia di Piacenza, AIM, Associazione Interessi Metropolitan, Metrex, POPSU and Warsaw metropolitan area), to showcase and discuss if and how the ITIs (Integrated Territorial Initiatives) have been fruitfully implemented concerning new regional imaginaries and the general objective of the 2014-2020 Cohesion Policy, The final aim was to generate new knowledge towards the development an integrated territorial initiative in the Milano Bologna urban region, as well as in other urban areas. Over 90 stakeholders, researchers, experts, and researchers joined the event (see ANNEX 4 for full details). In the following paragraphs, we provide a synthetic overview of the main contents and outcomes of the discussion. Based on that, we outline a roadmap for consolidating these results at local level, proposing at the same time general considerations which could inspire other urban regions in Europe to follow a similar process. Finally, we also conclude with some general reflections about the implications at the EU level about reinforced support to “regional thinking”.

### 4.3 Envisioning possible futures for the Milano-Bologna urban region: spatial scenarios at the regional scale

The process of stakeholders’ engagement generated by the activities mentioned above aimed at creating proper ‘usable knowledge’ to working as starting base for envisioning possible futures and creating new horizons of meaning for decision-makers towards a Milano-Bologna urban region. This process is crucial to be activated when actors are asked to be the protagonist of a forward-looking reflection about the future, adopting new lens and perspectives. Scenario-making exercises are ways forward speculating on possible futures, working with quantitative and qualitative variables, and using creative imagination to define and describe (in words and pictures) multidimensional images capable of exploring how changes may play out over the coming decades. Scenarios are argumentative forms, narrative (hi)stories of the future, persuasive and constitutive storytelling about possible futures supported by robust arguments to argue their plausibility. The way these stories are told will determine their acceptability and capability to create new horizons of meaning and address material and immaterial resources<sup>59</sup>.

The IMAGINE Project adopted a methodology **based upon a semi-participatory approach, as a strategy for involving stakeholders in the scenario building process, to establish mutual learning dynamics and to produce ‘usable knowledge’**<sup>60</sup>, combining the research activities with stakeholders’ expectations and goals, to increase the effectiveness of the envisioning training. This approach was conceived to generate an extensive debate and use scenario-making exercise as a resource to build upon and consolidate a regional imaginary for the Milano-Bologna region.

Scenario-making exercises are **also a resource to deal with the radical uncertainty of the contemporary world** deriving from plural factors (development potentials, drivers, bottlenecks, resistances, threats) to which is added the unprecedented historical moment of the Covid-19 pandemic. In a recent book, Kay and King advance the argument that the use of the narrative and respect for diverse views can generate a better understanding of “what’s going on here” than an overreliance on rigid econometric models. At the same time,

they propose that radical uncertainties give rise to entrepreneurial opportunities. This was crucial background argument for the IMAGINE project development, taking place in the acute phase of the COVID-19 crisis.

The current global **crisis was not foreseeable as such when the IMAGINE project was conceived and funded, despite many of the dynamics accelerated by the Covid-19 pandemic were already peeking out for a few decades in the scientific debate about the effects of re-negotiation of space within a cycle of deep economic restructuring.** Creeps and cracks which COVID-19 has been developing at an unprecedented pace and need in-depth exploration. As a matter of fact, during the COVID-19 crisis, we have witnessed the worsening of forms of social differentiation and distancing. Personal distancing has resulted in a temporary interruption of social ties and has further contributed to generating new cleavages and fractures between people and places. The incompressibility of some operational landscape and practices has appeared with impressive strength, such as the vulnerability and growing differentiation between people concerning their relationship with jobs, the inequalities related to material access to digital and technological infrastructure, or their capacity to use them. As well as we have been faced with the accelerated re-organisation of the economic functions: the rise of “smart working” and distance learning, the acceleration of growth in e-commerce, the renewed attention to the foundational economy model, the crisis of the real estate in the core areas of world global cities, the shrinkage of tourism, leisure and cultural activities consequential of urban regeneration processes based on the rise of the platform economy, the drastic reduction (and sudden resurgence) of pollutants related to the implosion of people mobility, a new desire for rarefaction and low density. These phenomena have confirmed and exacerbated existing cleavages and unbalance, confirming and reshuffling demographic and social divides. COVID-19 crisis in this respect shall be seen as the most recent in a series of crises that have hit the contemporary urban world at an accelerated path, as a consequence of and a premise to the new restructured forces of capitalism, which altogether have produced an ultimate form of capitalism, indebting the future of society <sup>61</sup>.

These dynamics, trends, and variables could be interpreted according to two diverse perspectives. They can be seen either as an **exceptional and historically limited phenomenon within a short period, destined to end in the following months/years** (thanks to the diffusion of vaccines, etc.). They will not radically change the structural conditions within which development policies and projects have been designed and implemented. Or as a **phenomenon that reified a situation of structural risk for the future**, for which it is necessary to prepare and concerning which significant changes will be needed.

Within these two different perspectives, some fundamental conditions for the future could significantly change: the forms of individual mobility, public transport, and commuting; the forms of working, education, and other training; the settlement choices of people, families, and companies; the economies related to different forms of rent, etc.

The first perspective, which we may define as ‘ordinary,’ tends to interpret the pandemic phase as a moment of “suspension,” at the end of which (given the socio-economic consequences to be managed) the consolidated dynamics will be able to resume as before. It is the general framework within which it is now possible to envision possible futures based on the knowledge produced during the first phase of the IMAGINE project.

The second perspective, which we may define ‘paradigm change,’ constitutes a framework within which, now, it is only possible to construct hyperbolic images. Ones that can highlight boundary conditions whose territorial declinations are scarcely arguable at the regional and local scales, starting from the knowledge base produced by IMAGINE, given the lack of precise scientific and technical data and information.

Therefore, ESPONE IMAGINE's choice was **to envision possible futures for the Milano-Bologna urban region by adopting mainly the first ‘ordinary’ perspective but combining it with some of the relevant consequences of the pandemic highlighted by stakeholders.** Especially: a new widespread awareness for the potentialities of remote working practices (teleworking, remote working, home working), and for the negative impacts of the enormous phenomena of daily commuting; a new awareness for the importance of everyday outdoor activities in personal and collective well-being; the fast growth of e-commerce and its logistics dynamics; etc.

ESPON IMAGINE research team built three different draft scenarios based on the Regional Portrait document's outcomes and the mentioned Stakeholders' engagement activities. Scenarios are multidimensional ‘images’ of possible futures capable of exploring how changes may play out over the coming decades. They are also argumentative forms: narrative (hi)stories of the future, persuasive and constitutive storytelling



supported by robust arguments to argue their plausibility. The elaboration of the three scenarios was also inspired by the ESPON project “Possible European Territorial Futures”<sup>62</sup>.

#### 4.3.1 SCENARIO 1: The corridor as a magnetic pipe

The scenario envisions the permanence of the HSR Milano-Bologna as a pipe that connects the historical territorial systems: the Lombard radio-centric polycentrism (with the inclusion of Novara, in Piemonte region) having Milano at its centre, and the Via Emilia's linear polycentric urban system from Rimini to Piacenza, in Emilia Romagna context.

- Through sustainable mobility (public transport plus non-motorized), the corridor guarantees effective short-distance relations within each of the two territorial systems and long-distance relations to the main poles. Still, mid-distance relations are weak and, therefore, the urban potential of the intermediate poles (especially Piacenza and Cremona) decreases. Motorways and roads remain the main physical networks, vehicular traffic and pollution increase.
- The in-between area that develops along and around the Po river remains less integrated in the economic system and gradually assumes the role of a *caesura*. It reinforces the dipolar structure of the corridor, and it further emphasizes the presence of the regional administrative border as a limit and an obstacle to the different forms of integration of urban policies.
- Wealth is diffuse along the corridor but remains concentrated in the main provincial capitals. At the same time, people choose to relocate in the in-between municipalities, which provide less expensive housing opportunities, thus bringing in new land consumption pressure without any positive effects on the overall territorial structure.
- In demographic terms, the medium-sized cities along the corridor keep a crucial role as poles. Internal areas lose population and wealth, especially those near the Apennines suffering from slow and continuous shrinkage.
- Logistic activities occupy intermediate locations, accessible by main infrastructures, but impact places that have limited capacities to take advantage of their presence.
- Huge public companies substitute traditional multiutility companies in the field of energy, water, waste disposal; this allows better service provision and feeds a regional perspective but at the same time limits the capacity of institutions to orient these sectors strategically.
- Metropolitan areas play an essential role at the local level, with limited capacity to generate other inter-institutional alliances. Intermunicipal cooperation develops intensively in the Emilia Romagna part of the corridor while remaining quite limited in Lombardia.

#### 4.3.2 SCENARIO 2: The corridor as a backbone

The scenario envisions the corridor's development into a more integrated and balanced polycentric territorial system, avoiding the polarisation between regional capital cities, medium-sized cities, small towns, and inner areas.

- Improved integration between the regional mobility systems of Lombardia and Emilia Romagna regions can lead to enhanced inter-regional train service and railway network (acquired through a strong and determined interaction between the main regional stakeholders and the actors of the national/regional railway systems). In this way, the corridor guarantees long-distance relations to the main poles and local accessibility and effective mid-distance relations between the intermediate poles (especially Piacenza and Cremona). Therefore with impact in terms of urban potential.
- The inner areas of the corridor and the in-between space that develops along and around the river Po, although maintaining their environmental and economic specificities, are more integrated with the corridor dynamics and attractiveness. In demographic terms, medium-size cities are complemented by intermediate poles able to reconnect the inner areas with main regional centralities.
- Wealth is diffuse along the corridor and more homogeneously localized, partially rebalancing the polarization between regional capitals and medium-sized cities. Resources are redistributed, and fiscal compensation helps to support territorial cohesion.

- Logistic activities are reorganized according to a new sectoral vision, shared by Lombardia and Emilia Romagna, aimed at creating a joint logistics inter-regional multipolar platform to reduce the adverse effects of logistics settlements in peri-urban areas.
- Public multiutilities become vectors of regional innovation.
- Metropolitan areas can play as a pivot of territorial cohesion; along the regional boundaries, new forms of inter-municipal cooperation become crucial for fostering a new cohesive image for the Milano-Bologna urban region.

### 4.3.3 SCENARIO 3: From a corridor to a territorial platform

The scenario envisions a radical change in the corridor structure, occurring by the increased attractiveness of the Apennines foothills and plain 'middle' areas for families and business companies.

- Through the wide diffusion of broadband internet networks and affordable forms of new mobility and smart logistics (autonomous vehicles and delivery drones), the corridor experiences the declining of agglomeration advantages and cost of distance. Increasing links between the global, the local, and the more decentralised locations create a kind of 'post-urban regional economy'.
- The inner areas of the corridor, especially the ones located on Apennine's foothills and the in-between area that develops along and around the river Po, become remarkably attractive for families escaping from the high social costs of living in cities (lack of affordable housing, traffic, pollution, etc.). Following a trend already set by part of the creative economy, the firms and industry that are predominantly digitised relocate themselves to the 'middle' or inner areas.
- Urban sprawl and land consumption increase, together with renovation processes in small towns and villages. It creates the need for bridging the gap in reorganisation of services related to health and education, increasing the costs of public intervention in these fields.
- Wealth is diffuse also outside the corridor, triggering new processes of local, sustainable development.
- Public multiutilities must reorganize themselves to deal with a new and more strategic orientation of territorial demands towards sustainability and circular economy.
- Rural-urban partnerships are redesigned from the circular economy and effective ecosystem services, while energy production and consumption focus on renewable sources. An overall balance is established between new environmental issues generated by land consumption and opportunities arising from the new territorial configuration.

The three scenarios were intended not as 'organic,' alternative, and standalone images of a possible future, but as coherent clusters of dynamics and trends, helpful in triggering discussion and orienting reflection towards a potential combination and integration of issues and topics, to define an adequate shared vision for the future: not a simple set of desirable intentions but a tangible framework for shared action towards constructing a new idea of the Milano-Bologna urban region.

### 4.3.4 Testing and validating the scenarios: The Regional Scenario Workshop

The three scenarios were tested and discussed with stakeholders during the **Regional Scenario Workshop** held on February 12th, 2021, which registered the participation of the main stakeholders supporting the project: the representatives of the Metropolitan Cities of Milano and Bologna, the Municipality of Cremona (Comune di Cremona), the Association of the Metropolitan Interests of Milano (Associazione Interessi Metropolitan di Milano) and the European partners of the research. The results of this first meeting were further discussed during the Regional Design Workshop with the participation of about 40 stakeholders belonging to 32 different organizations (including metropolitan, provincial and regional chambers of commerce, industrial associations, universities and research centres, banking foundations, the Po River District Authority, railway transport companies, logistics operators, multi-utility companies, retail, fashion, and advertising) (see ANNEX 4 for full details).

After a short presentation and explanation of the three scenarios, stakeholders were asked to briefly react, identifying the most challenging elements from their personal/institutional point of view. Then, the debate was opened to discussion and comparison of each scenario, aiming to identify the fundamental drivers for

each hypothesis and the relative certainties and uncertainties. The second session introduced ITI as policy tool that might favour the creation of a possible common strategy for the future.

The debate that emerged from the different sessions highlighted numerous strategic issues in developing the Milano-Bologna system. The primary outcomes were:

- Stakeholders' preferences focused mainly on scenarios 2 and 3 from which elements already present in the discussions on metropolitan plans and sustainable mobility had emerged. The positions taken on this matter were different: some stakeholders showed particular interest in the possible management of **a scenario oriented towards polycentrism and redistribution**. Other stakeholders highlighted the difficulty of control and regulation inherent in the third scenario, which provides an extreme distribution of functions and polarity throughout this vast area.
- The importance of having **a broad knowledge of current dynamics to recognize current trends**, but also to promote a consistent reaction to changes. In this process, the scenarios illustrated by the research team can provide essential guidance indications.
- The hypothesis of **a possible integration of scenarios 2 and 3** was put forward - to be implemented progressively - promoting an evolution towards diffusion (it is essential to imagine new functions presently absent). A new paradigm is emerging concerning territorial networks and mobility systems, allowing new forms of territorial distribution of functions thanks to new technologies.
- The third scenario was considered the most challenging, mainly due to the role of metropolitan areas concerning smaller centres. **The attractiveness of peripheral and mountain areas was considered a critical issue** due to the difficulty of locating services typical of urban areas. Nonetheless, the scenario could open alternative prospects for action and focus on new economies and new systems of territorial protection.
- **Metropolitan areas as places of experimentation for the construction of policy**. The tendency towards greater integration and polycentrism can be a strongly characterizing element in the policies of metropolitan areas (also favoured by medium-sized cities). This aspect still shows signs of uncertainty, especially if not supported by a strengthening of the institutional role of metropolitan cities. Therefore, the ability to generate inter-institutional collaborations through more effective administrative tools must be reinforced, starting from the promotion of experiences of agreements and alliances of a larger scale (which have already given good results)- i.e., for the promotion of territory and tourism or for managing the air-pollution affecting all the Pianura Padana. Or by considering urban regeneration as a transversal driver that includes metropolitan areas and intermediate poles, able to offer an alternative to new buildings and stem the possible dynamics related to the generative effect of sprawl. The expansion of agreements between different territories and institutions must include public and private stakeholders and consider consultations a foundational element of dialogue.
- **Mobility becomes central in the development of scenarios**. Mobility systems are the subject of numerous projects already underway and present significant possibilities for innovation pertaining to sustainable urban mobility and local and regional transport systems. The relationships between the different regional mobility systems shall be reinforced, requiring greater integration and capacity to support a highly interconnected urban region. To establish a renewed relationship between urban and rural areas, the redesigning of services and public facilities' offers must follow the reorganization of mobility systems.
- The **topic of logistics** was dealt with mainly in the second scenario. The development of this scenario can positively contribute to bridging the lack of a "culture of governance" in this sector, inserting it into a more comprehensive framework of reflection and rethinking called for by the consequences of the Covid-19 pandemic.
- **Multiutilities can play a unifying role in resource management**. Water management policies and projects have been mentioned as a fascinating field of experimentation showing how metropolitan and regional scale multiutilities can facilitate collaboration between subjects within a fragmented cooperative framework. Extended over an interregional scale, these functional actors can become very relevant in encouraging greater integration between territories but might face considerable resistance due to vital local interests. To this end, it is necessary to identify actors capable

of innovatively orienting the provision of service towards a new engaged demand, helping multiutilities modify their supply and service models within the territory.

- A question of territorial balance was raised, evidently seen above all as a risk factor in the first scenario and present in the others. **The relationship between urban and rural has acquired greater strength following the pandemic: starting from the natural heritage of the peripheral areas (mountain or river plain), which signifies innovatively focussing on the ecosystem and eco-territorial services** that territories can offer. Metropolitan institutions are already sensitive to the development of new relationships within most marginal areas, thanks to the assignment of new competencies to metropolitan cities in relation to rural areas.
- **Putting the question of identity at the centre of corridor policies.** The importance of identity as a founding factor for territory is emphasized in addition to the more traditional factor of competitiveness. But, given the historical differences along the corridor and the path-dependencies patterns, developing a shared identity may not be an easy task. To this end, somebody suggested considering common problems (for example, those concerning relations between urban and rural areas) as a starting point for addressing the identity issue. The construction of shared identity can also come about by defining a common vision that the process of applying for an ITI could generate. However, to obtain concrete results, it is necessary to establish clear objectives as a basis for the implementation of different planned actions.

Throughout the sessions, the participants recognized and brought to attention the presence of critical, unclear, and difficult-to-manage aspects of the hypothesized scenarios:

- **The tendency towards concentration is perceived as the main threat** to peripheral areas. The first scenario puts the distribution of wealth at greater risk to the detriment of the more fragile mountain or lowland areas and the difficulty of adopting adequate tools that allow metropolitan areas to act in favour of redistribution of urban planning interventions within the territory.
- **The complex logistics system still carries numerous uncertainties** even though it represents an essential aspect for developing the Milano-Bologna urban region. Some difficulties have been encountered in coordinating and managing logistical dynamics insistent on medium distances towards the smaller poles, reflected in a more casual and less organized distribution of logistical nodes and with a lower capacity for governance from central areas. In support of this necessity, the risk was pointed out that a more polycentric scenario (also from the point of view of logistical nodes) could create more soil consumption problems than benefits.
- Parallel to the logistics issue is the one of **governance of the local and regional transport system.** Currently, the railway system is almost completely removed from integration with other carriers. The Regions manage the local railway system, and the vectors (TPL, Local Public Transport) are governed by mobility agencies on an urban basis (by bodies and entities that have complex governance). Consequently, when cities think about sustainable mobility issues, it is challenging to integrate transport systems with the rail system governed on a larger scale (regional and supra-regional) and by the need for economic efficiency. A greater capacity to incorporate these systems would favour a more effective and flexible service for the benefit of people. The third scenario also requires a profound reflection on public transport opportunities so that the possibility of re-inhabiting the Apennines (or more generally, the marginal areas) does not become a generator of private traffic and pollution.
- The concept of a "territorial platform," hypothesized in the last scenario, has been debated in relation to the uncertainties and risks underlying widespread urbanization when unregulated. A need was expressed to avoid the **distribution of well-being translating into the disfigurement of the territory's elements of value** caused by undisputed urban sprawl and land consumption. Nevertheless, the real estate market trends - towards a lower use of work and production spaces in the central areas - are still unclear, and new ways of providing work (especially for the tertiary sector) are still a novelty to be evaluated. To this end, the risks of environmental degradation imaginable in this scenario are difficult to predict, given the ever-evolving situation of the pandemic.

The outcomes of the discussion of the three territorial scenarios paved the way for a first shared reflection on the opportunity to create an ITI (Integrated Territorial Investments): a multidimensional tool for regional integration.

## 4.4 Governance scenarios for Milano-Bologna urban region: ITI as an opportunity

### 4.4.1 ITI as a framework to support a new governance space for the urban region

The ITI (Integrated Territorial Investment) was introduced in the context of Cohesion Policies as a territorial tool, a mechanism for the "delivery" of structural funds, helpful in implementing integrated development strategies. Thanks to its flexibility, the ITI has been used to help to implement different projects at different scales and with structural value strategies. This flexibility enhances its function of territorial "aggregator," capable of providing a reference framework for identifying and networking local authorities and their requests. In the context of the ITI it is possible to rethink the delegations and governance balances concerning priority and shared projects. Moreover, in an economic sense, the ITI has the real potential of providing funding security to innovative measures, both in terms of content and management, promoting new forms of aggregation between authorities and beneficiaries. Like any tool, however, the ITI does not have a life of its own, and it requires a strategic effort at the base, capable of giving strong content to a shared governance/action framework.

To define the challenges and the opportunities for ITI in the Milano-Bologna urban region, this research went through: a) a review of the literature and an exploration of the data at disposal from the European Commission; b) an analysis of the main potentials for the ITI application in the study area; c) seven case studies analysed through interviews and official documents; d) three possible scenarios of application of ITI in the emerging Milano-Bologna urban corridor (see ANNEX 5).

The research analysed the data available from STRAT-Board database<sup>8</sup> and the literature, looking for the crucial success factors related to the ITI. The mechanism's ability to aggregate different funds on the same strategic project raised experts' expectations on its consequent capacity to innovate both governance and contents of the urban strategies submitted to EU structural funding. Its newness, though, fuelled the discussion on the difficulties in efficiently managing a brand-new procedure without a proper capacity-building process.

The official figures available for the 2014-2020 programming period partially confirmed these initial observations and led to three primary considerations:

- **ITI is the most used delivery mechanism in less developed regions**, where the amount of funding is higher and crucial for the realisation of the strategy. However, also "in transition" regions used the ITI for implementing their territorial strategy.
- We can consider its **high diffusion a success mainly in respect to its novelty** – and probably due to it; unexpectedly, it is only partially related to its financial outreach (only 11% earmarked more than €100 M., the relative majority of cases (38%) ITIs collected less than €25 mln of ESIF for each strategy).
- A clear tendency is **to use ITI in urban/metropolitan contexts**, with some interesting exceptions in the contexts of newly formed, experimental and non-institutionalised territories.

We also identified patterns in the use of the ITI and selected cases with overall representativeness through our analysis. Led by experts' knowledge, collected with several interviews with academic and EC practitioners (see ANNEX 5), we singled out seven cases showing distinct approaches and results regarding: territorial focus, governance structure, design, and implementation of strategy and projects. Those cases are: Danube Delta strategy (RO); Egnatia Odos Cultural Route strategy (GR); EGTC Gorizia-Nova Gorica strategy (IT-SI); Limburg Salk strategy (BE); Melun Val de Seine Agglomeration strategy (FR); Six Cities strategy (FI); and Warsaw functional urban area strategy (PL).

Three main successful characteristics emerged from the sample:

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<sup>8</sup> <https://urban.jrc.ec.europa.eu/strat-board/>

- **The potential for territorial collaboration:** ITI proved to be a "reliable" framework (that of European funds) to base a targeted partnership open to solicitations from below.
- **The experimental attitude** of the tool has prompted many local actors to put new expectations into play and try approaches different from traditional fund management, often using it as a complement to more structural policies.
- **The occasion for enhancing local capacity-building:** ITI highlighted diffused shortcomings in territorial development approaches and accentuated essential issues, like an endemic mismatch between local needs and top-down decisions. In this way, it helped move the "cognitive" barriers of the actors involved towards new imaginaries by expanding the knowledge available to them and stimulating interventions that tend to shift public action.

#### 4.4.2 Recommendations for urban regions moving towards an ITI

**ITI effectiveness lays mainly in its capacity to put together a shared territorial project.** The analysed cases showed that a successful ITI process is most probably rooted in collaborations already in place and benefits from complementary projects carried in parallel with the ITI, although in the same direction (Gorizia-Nova Gorica). Another set of recommendations coming from the sample of cases regards the embedding of ITI projects in existing plans and overall frameworks (Limburg) and the use of local funds to complement ITI-funded activities (Gorizia-Nova Gorica, Egnatia Odos ITI, Six Cities strategy), including also non-public actors and resources. Attracting the attention and trust of medium-sized and small municipalities, seeking additional economic resources and a seat at a bigger decision table can be critical in developing a large area project. In this sense, cooperation can benefit from capacity-building activities and Technical Assistance, coming from the dedicated TO11 or involving external partners, which can help LAs, especially the least skilled on EU applications (Warsaw, Melun Val de Seine), to acquire autonomy and motivation. Smaller cities and rural areas' responsibility can also be enhanced by embedding in the ITI collaborative instruments dedicated to bottom-up participation at micro-scale (CLLD) (Danube Delta), especially if the ITI joins urban-related funds to those coming from the EAFRD funds (see ANNEX 5).

The fact that local authorities should always be included since the design of the strategy, in different ways according to the structure chosen for the process, is also recommended in respect to the **governance geometry**. If the ITI initiative involves an infrastructure of national importance (Danube Delta), the risk is that the large scale overshadows territorial needs, causing difficulties in local management. A **national/inter-regional project should thus be subordinated to the bottom-up and shared identification of priorities** (Limburg). **Flexibility in decision-making procedures** (allowing to enlarge the group of stakeholders easily) and creating consultation moments with all participants will also help foster the affinity with the regional project (Six Cities, Egnatia Odos).

Finally, ITI effectiveness depends strongly on a **clear strategic focus**. Implementing an integrated strategy for an interregional area, ITI **should combine long-term visions** (at least the six years of programming period) and **medium/short-time policies, action plans and projects**, to be realized at different scales. This claims for the existence of a "boundary object"<sup>63</sup>, raising widespread attention and overcoming political alternation at three different levels (region, metropolitan areas, city). ITI has the potential to stimulate a discussion that links Cohesion Policy objectives, UN Agenda, Next Generation EU, to local resources and possibilities, without the claim to be the only implementing instrument. In many cases, administrations have successfully used ITI **to carry on specific and more complex sides of the broader strategy** (Limburg, Egnatia Odos, Six Cities). Moreover, ITI can **constitute a platform to identify and gather a portfolio of projects** (Gorizia-Nove Gorica, Six Cities, Danube Delta).

Besides all differences, the cases show how ITI is often combined with attempts **to act on the economic base of the regions involved**. If this does not reveal a specific capacity of the ITI, it shows a shared need of European territorial institutions. The strategic effort is not always sufficient and effective. We have analysed some of the circumstances that interfere with its success - for instance, the balance between national/regional and local perspectives. However, the improvements on the three components of collaboration, experimentation, and local capacity are the three directions towards which regional governance should steer its efforts in building a scale economy, pushing on the synergies and opportunities offered by EU cohesion funds.

#### 4.4.3 Three governance scenarios for a Milano-Bologna ITI proposal

The ITI could be an effective instrument in more than a phase of the strategic process and in multiple ways. Based on the analysis realised by the IMAGINE research team, a non-univocal approach based on three scenarios of ITI can be assumed and was conceived to raise attention and involve stakeholders in the exploration of ITI as an opportunity for Milano-Bologna urban region.

- 1) **A unique interregional ITI:** the construction of a unique ITI can be facilitated by the delegation of operative functions to a single ad hoc agency/structure with legal personality, relieving the pressure on involved administrations and enhancing the efficiency of the process. A super-partes body will help obtain the trust of all stakeholders and concentrate the efforts on common interests. The compresence of such an intermediary actor, of a common imaginary and a strategy focused on few central issues, could be the cornerstone of this ITI. In an initial phase of the regionalisation process, the interregional ITI could have an explicit experimental attitude. The scope could enhance the relationship between public bodies and generate a collaborative strategy on selected relevant themes, with both global and local importance. Looking at the UN and EU agendas, crucial issues characterise the region, which need collaborative efforts, such as the climate change challenge, the pollution in urban and rural areas, the maintenance and protection of natural resources, or, for instance, in the Po ecosystem. A macro-regional strategy can also work as a framework for different programmes, support the coherence of additional funding resources and help to establish synergies between macro-regional actors<sup>64</sup>.

This approach needs a strong effort at the funds' coordination level but can help gather a significant amount of resources, drawing funding from multiple OPs in both regions.

- 2) **Two regional ITIs:** the possibility of two separated regional ITIs has an advantage in terms of initial organisation but implies a substantial political and administrative complementarity. Creating an ITI office for inter-regional cooperation inside the current administrations for managing multiple funds could be a strong advantage. At the same time, the creation of forums and appointments for exchanging information appears crucial. The management infrastructure would also benefit from identifying intermediate bodies to have a closer relationship with the local authorities. The office could be located in the two metropolitan cities involved. The central aim of this ITI is the harmonisation and complementarity between the two regions on specific topics and projects. In this case, the strategy should be designed through regional agreement, rooted in the common priorities listed in the related operational programmes. The advantage of two separated ITIs is selecting indicators and organising project competitions more tailored to each local context. A portfolio of joint projects financed in separate tranches by the two ITIs could give continuity to the funding flux to guarantee a seamless project.

Finally, bilateral acts in the framework of the ITI could allow (or even foster, using selection criteria) groups of public and private actors from both regions to apply as beneficiaries and propose joint projects, having a unique representative. This approach will help to reduce the competition among actors and help an equal distribution of funds according to each regional budget allocation. At the same time, it tackles the problem of territorial interdependence (cross-regional issues and territories), whose circumstances are often excluded from programmes<sup>65</sup>. Further attention should then be given to indicators: each strategy will consider spillovers and complementarity with the policies and plans in areas outside the ITI limits. Even the two operational programmes could recommend a budget for territorial cooperation and specify how each ITI contributes to this aim as a mandatory selection criterion.

- 3) **Multiple ITIs at the local scale:** the common element among the ITIs presented in the two regions could not be a specific issue but a scale of planning to entrust ITI design. For instance, the Unions of municipalities, of the Zone Omogenee (as identified by the metropolitan cities reform) or on purpose agglomerations of cities, borrowing the system in place for Internal Areas of Italian SNAI). In this case, the urban region strategy could give funding and decisional power to the less advantaged territories from the presence of the high-speed railway, redistributing the regional resources for development in a similar way. These ITIs would need a strict complementarity between policies in urban and non-urban territories, between more and less accessible areas, enhancing cohesion among any other attributes. This approach implies an introductory phase of dialogue between management bodies and more decisive technical assistance to build the capacity of the involved municipalities. In this way, the ITI would have a

collaborative aim, fundamental to stimulate bottom-up proposals, and an operative dimension, fostering the autonomy of second-tier administrations to realise their projects. In this sense, the ITI could be linked with CLLD and the creation of local action plans.

A more fragmented panorama of ITI does not mean a less focused commitment: every ITI application could be subordinated to the conformity with specific indicators, for instance, the existence of more than one beneficiary, or the inclusion of actors from the other region, or the inclusion of topics of inter-regional interest. Finally, although more traditional, the design of the governance infrastructure will benefit from the existence of formal agreements between regions and the presence of specially dedicated axes in each ERDF OPs to set clear expectations for each local strategy.

The choice to proceed with one or more of these scenarios simultaneously depends on the actors' will and existing organisational capabilities. Indeed, the ITI is a complementary instrument, necessarily rooted in political will, both because it is embedded in a complex bureaucratic framework and lacks a thorough definition of its contents and finalities. For these reasons, the ITI appears at the same time as a flexible and destabilising tool. ITI's economic, innovative, and strategic potential is thus subordinated to the actors' capacity to enter the discussion on new forms of territorial management and commit considerable resources to the effort.

As a general conclusion, going beyond Milano-Bologna urban region, notwithstanding these demanding features, the ITI still **results in an appropriate tool to accompany a regionalisation able to align needs and expectations from the European regions to the global challenges raised by the EU cohesion policies.**

#### 4.5 Policy scenarios for Milano-Bologna urban region: proposal for promoting an ITI

The Regional Forum final event, held on May 2021, contributed to filter and select materials to develop a final scenario-making exercise, addressing both governance and policy challenges, based on the recognition of common problems but also shared aspirations towards a strategic regional action framework.

##### From the governance point of view:

- There is a clear need to govern the strong interdependencies between territories along the corridor; however, **administrative fragmentation** makes it very difficult to produce effective governance and policies for this trans-territorial system. Despite the reforms of the recent years, the boundaries within which the regulations of territorial systems are built have remained the same: issues regarding mobility, logistics, education, tourism, and environmental protection are dealt with at the municipal level, even when they extend well beyond. Fragmentation of governance also affects economic functions, producing competition and duplications in the offer of local collective competition goods and impacting the competitiveness of companies and businesses in international markets. A critical area is the innovation sector: the research networks of Lombardia and Emilia-Romagna are not exchanging information and contacts, limiting their capacity to produce alliances that can compete in the European scenario.
- There is urgent scope for regulating functions organized at a trans-territorial scale: logistics, mobility, utilities, environmental functions need to reflect and act beyond the municipal and regional scale. The main obstacles to **the innovation of utilities** are those arising from the fragmentation of territories, which limit efficiency and cause a massive delay in the diffusion of new technologies. Moreover, their potential of innovation in policy design can be highly hindered by their reduced scale of action.

##### From the territorial point of view:

- **the role of medium-sized cities** in the regional scenario needs to be recognized and enforced. Medium-sized cities are affected by the growing attractiveness of the metropolitan areas: Milano and Bologna have recently experienced significant growth, but at the same time, the intermediate cities along the axis have expressed a slower dynamic. The challenge for the future will be trying to find a way to redistribute development, reducing the imbalance between territories, before competitive advantages still available in the smaller centres are consumed by the competition of the two larger cities. All stakeholders agreed that the competitiveness of these actors is to be enforced and supported to grant the replication of polycentricity that is an essential element of the Milano-Bologna system.



- **The attractiveness of peripheral and mountain areas** is a critical issue due to the lack of infrastructures and services: the tendency towards concentrating functions in metropolitan areas is perceived as the main threat to peripheral areas. The integration of the marginal regions in the corridor is also affected by the **fragility of small municipalities**, where an absence of technical skill in the public administration severely limits the ability to understand and implement the aims set by regional and European programming and to insert local planning within the frame of a system covering a vast area. There is a strong need for forms of communication and diffusion capable of transferring the results of debates on the Milano-Bologna area even to the smaller municipalities.

#### From the policy point of view:

- **Mobility is a crucial factor for integrating the corridor:** the high-speed railway line seems to have led to drops in terms of accessibility in the areas not covered by its stations due to the lack of interregional trains able to guarantee the connection to the HSR. This already complex picture further suffered from the Covid-19 crisis, which has changed the demand for mobility and the pace of commuting.
- Regarding **logistics systems**, the corridor's strategic importance for freight flows brought to congestion, land use, and competition between hubs. There is a need for a more vigorous dialogue between the worlds of logistics and institutions governed by different logics and rhythms: the rigidity of institutional assets does not allow for the upgrades of infrastructure systems that would be necessary to accompany the change of economic geographies.
- Finally, all stakeholders agreed that an integrated vision of the Milano-Bologna area should consider the system not only **as a large metropolitan region but also as a large bioregion**, in which to investigate the possibilities of **integration between the natural system** (starting from the Po river, which is the essential ecologic corridor in the area, and from rural areas) **and the urban system**, leading in the direction of better sustainability. An issue became more urgent during the Covid-19 crisis, demonstrating the correlation between environmental quality, quality of life, and public health.

#### 4.5.1 A draft basis and a roadmap to developing an ITI under the Green Deal perspective

Starting from these critical issues, the discussion carried out by economic, functional, and territorial actors within the IMAGINE's programme of focus groups, seminars, and forums expressed **a common interest in the construction of a regional scale imaginary around some key points**: sustainable development, a contrast to climate change, reduction of soil consumption, mobility, but also new issues exacerbated by the Covid-19 pandemic, like urban logistics, use of public spaces, changes in residential dynamics (See ANNEX 7, a Position Paper was prepared for the stakeholders to present the main results of the project and advance towards an ITI).

##### *A roadmap to an ITI*

Based on these assumptions, it has been first discussed the opportunity to consider **the EU Green Deal as a framework for new trans-local alliances to regulate many of these issues**, which require actions organized at the corridor scale to produce good results. Indeed, the Green Deal seems to offer an opportunity for this urban region to act along with its main objectives. At the same time, qualifying itself under the EU Green deal framework as a pilot territory, working at it from a regional perspective, seemed a unique and challenging opportunity to show how the sustainability objectives supported by the Green Deal can find in the regional scale crucial level of action.

Secondly, it was agreed that new multi-level governance models are needed to regulate the variety and complexity of the macro-region's environmental, socio-technical, and institutional ecosystem. The increasing mobility and evolution of functions in the Milano-Bologna corridor and the challenges of sustainability, contrast to climate change, the transition from linear to circular economy, highlight the mismatch between functions and institutions. These issues demand a glocal approach: changes in the institutional framework are required to govern issues organized transversally to administrative boundaries. The organic connection between local and global levels requires, in fact, the ability of the territory to reorganize itself through a "political" compromise with its functions. Many local stakeholders already started horizontal networks to regulate functions surpassing administrative boundaries: chambers of commerce and industry association for the governance of economic functions; urban and metropolitan institutions, and ANCI, for the governance of urbanization processes; the Po River Basin Authority and Bank foundations for environmental functions. Yet, the lack of funds and institutional tools for governance of trans-territorial issues is a critical problem.

Nevertheless, both Metropolitan institutions and provinces experience substantial limitations to support the kind of multilevel approach needed to go in this direction. The changes in the functional scenario require a revolution of the institutional practices towards an improved capacity of the administrations to work together on common goals. New multi-level governance models are needed, based on the distribution of power among different levels and on strong cooperation between public and private actors both on the horizontal and vertical axis. These new governance models should also be able to work on variable geometries to intervene on the different functions, since neither an “optimal size” nor “optimal shape” emerges to govern the Milano-Bologna system. A shared vision of urban development must necessarily allow open territorial aggregations, responsive to specific needs, recognizing the value of differences and variety.

**Third, to go in this direction, a shared identity and vision for the Milano-Bologna region is a prerequisite for successful cooperation between local administrations and stakeholders.** The Milano-Bologna corridor needs to recognize itself as a system. In the absence of perception by local actors of belonging to the same system, constructing a shared vision is more complex and risks being only episodic. Building a subjectivity of the territorial system, helping stakeholders and local actors develop a sense of sharing and belonging, is a crucial prerequisite for a greater density of collaboration. This can only be achieved with the inclusion of private actors and local communities in the governance: not only to ensure the alignment of demand and solutions but also to diffuse the awareness of the interdependences between metropolitan areas, small cities, marginal areas.

The process of defining a common identity and vision through the ITI tool could be fundamental to interpret the challenges of environmental and social sustainability **as an opportunity to achieve a more efficient and fair spatial organization of social and economic functions and to build new development opportunities.** Developing a sense of territorial identity will also allow the Milano-Bologna system to dialogue with public institutions at the national and European levels. The IMAGINE project can therefore represent a starting point for the development of strategic networks and programmes able to govern the transformation of urban and regional scenarios both within the Milano-Bologna corridor as well as by acting as a model for other corridors, in line with the European Union’s urban and regional development policies.

Fourth, as a first step towards the activation of an ITI for the Milano-Bologna region, **the final event of the project launched the proposal to transform the IMAGINE network into a permanent forum**, to foster the production of intellectual capital (information exchange) social capital (creation of trust among the actors) and political capital (alliances for the future cooperative actions). An ITI for the Milano-Bologna region, inspired by the EU Green Deal perspective, could produce a common strategy for the transformation of urban and regional scenarios. This can be the base for local projects, each taking resources from different European and national programmes, could be based, starting from the identification of one or more critical issues to be fronted with “flagship projects” (i.e., the regulation of logistics and mobility systems along the corridor).

#### ***The contents of an ITI***

The possible contents of an ITI for the Milano-Bologna region, aimed at the production of a common strategy on which local projects could be based, have been discussed, leading to the agreement of some indications and criteria to inspire future cooperative actions, which can provide a solid basis for an incremental process which could lead to an ITI.

- I. **Sustainability as the basis for the development of a shared vision for the integration of the Milano-Bologna region.** Sustainable development requires the redefinition of objectives and actions regarding environmental quality, land management, quality of life, the transition from linear to circular economies, and the ability to activate an innovative vision of ecosystem services, recognizing the close interaction **between urban territories and reserves of environmental resources.** To define a coherent programme for sustainability, new spatial arrangements, different from those defined by the current administrative borders, must be made. Many local governments and stakeholders in the Milano-Bologna corridor already organized actions towards improved sustainability based on horizontal cooperation: Regions, Metropolitan cities, Bank Foundations, the Po River Basin Authority. These actors could play a pivotal role in creating a new model for integration between the natural and anthropogenic system at the corridor scale, generative of a **new partnership between the urban/rural.** Still, the inclusion in the governance of other public actors and private stakeholders (i.e., utility providers, mobility providers, third sector) will be critical to allow the gathering of intelligence and resources (including the ones made available by the PNRR) needed to build and implement an effective strategic plan for sustainability.

- II. **Mobility and logistics are key factors in the governance** of urban processes and economic competitiveness in the Milano-Bologna area. In the new scenario dominated by increased mobility of people, goods, and information, mobility and logistics became crucial issues. The debate highlighted the need to move from a “corridor” to a “platform” approach in mobility governance to provide an efficient answer to the changes in the demand generated by the Covid-19 breakout. Around the skeleton of the corridor, where infrastructures and functions are concentrated, a “nervous system” must be built to assure that the people can get to their destination in a reasonable time (this will be also functional to the revitalization of marginal areas). Such a system requires better utilization of existing assets and more intense use of intermodality (both in regional and urban mobility). Local governments should define common objects and criteria to allow operators to organize their projects and efficiently integrate their mobility offer. Similarly, logistics systems require the definition of common rules and objectives at the corridor level, surpassing local and regional differences to foster the integration and efficiency of the existing platforms, to create new services and infrastructures (i.e., urban distribution systems, new logistic hubs), minimizing their impact on human and environmental systems, to pursue traffic concentration as a mean to achieve a better connection to the Mediterranean ports, to increase train use, to reduce load breakings.
- III. **Research and innovation systems require more robust integration.** An essential part of the northern Italy production system is concentrated between Milano and Bologna, with numerous supply chains oriented towards innovation and export and multiple university institutes, research centres, and technopoles engaged in developing and disseminating new knowledge and technologies. Yet, each region has its platform for sharing projects and created different styles of governance for the innovation system. This situation causes duplications and competition between research centres. Trans-regional innovation programmes should be encouraged to share experiences and projects between the two regions regarding the innovation of SME (starting from functional networks already operational such as the EEN SIMPLER consortium). Stronger integration between the innovation networks of Lombardia and Emilia-Romagna could help the research system front the challenges posed by climate change, circular and foundational economy.
- IV. **Efficiency and innovation of utilities must be pursued to achieve better sustainability and quality of life.** In the Milano-Bologna system, three out of the four leading national public utility operators are currently engaged in a strategic effort towards the resilience of networks and services, improving the quality and capillarity of their offer reduction of climate-altering emissions. Thanks to these operators and the presence of important research centres, the Milano-Bologna area can become a laboratory for the development and experimentation of sustainable innovations of utilities, especially if an action by the institutions accompanies the efforts of the individual actors. This perspective can provide the premises to regulate the competition and favour the coherence of the offer with the planning objectives.

## 4.6 Urban regions and corridors: which role in the EU integration project?

### 4.6.1 “Seeing like a region”, a new season of experimentations

In the last decades, several territories across the EU have been developing a regional vision, based on new spatial imaginaries, built upon on a macro-region or urban-region scale. It is the case of the **Interregional Alliance for the Rhine-Alpine Corridor EGTC**<sup>9</sup>, constituted in 2015 with the aim to strengthen cross-border cooperation along the main North-South transport route in Europe and to activate a capacity to develop integrated spatial planning along the infrastructural corridor. It is also the case of the **STRING Network**<sup>10</sup>: it is a cross-border political organisation, whose objective is to create a new green megaregion in the North of Europe. It candidates itself to being an acknowledged Green Hub and a leading implementer of sustainable infrastructures to contrast climate change while improving the lives of its citizens. On a more analytical level, the **METREX / Nordic-Baltic Space project**<sup>11</sup> is based on developing a macro-regional analysis. The final

<sup>9</sup> <https://www.egtc-rhine-alpine.eu/>

<sup>10</sup> <https://stringnetwork.org/>

<sup>11</sup> <https://www.eurometrex.org/activities/metrex-expert-groups/nordic-baltic-space/>

objective is to promote coordination in regional policies and processes at a city-region scale upon strengthened spatial planning solutions expected to benefit the wider macro-region.

It is also the case of the **SURE network**<sup>12</sup>, which has started as an informal network among cities and territories in the *Eurodelta* and provides “a platform for exchange of knowledge, expertise and experience among practitioners in the field of urban and spatial planning on the scale of the Eurodelta”. It covers a densely urbanised megaregion where 45 Million inhabitants live, sharing a common history but also different stories and culture, supported by a network of international transport corridors and based on the collaboration between small, medium-sized cities and large metropolitan areas in the delta of the river Rhine, Scheldt, and the Meuse<sup>13</sup>. Moving from an informal activation, it has recently published a roadmap, in which it declares its ambitions to develop an informal alliance, possibly to evolve into a common public body, i.e., a European Grouping of Territorial Cohesion able to deliver a common vision, also through the organisation of events and possibly in 2030 a conference able to discuss a spatial-economic strategy for the Eurodelta, to be operationalised into a programme and regional key projects by 2050. An ambitious but also incremental programme that shows awareness of the complexity of ‘seeing like a region,’ especially at the transnational level.

All in all, these examples, mentioned in the RoadMap that the SURE network has recently published, show the urgency and possibility of activating new spatial imaginaries to reduce the gap between traditional administrative geographies and the nature of contemporary urban processes all over Europe.

Evidently enough, this is not simple at all. As the ESPON SPIMA project<sup>66</sup> has argued, for the metropolitan collaboration to work, **political commitment is crucial and political leadership**. Moreover, achieving a common understanding among actors can be essential than establishing the details. Still, for this to happen, **local actors shall be able to see the advantages of coordination**. This is even more important and difficult when going beyond the metropolitan scale, which somehow received an official endorsement in some contexts. Transport and mobility, together with economic development and economic functions, and environmental challenges, can more easily generate common ground for coordination, especially at regional level. At the same time, **specific and short-term projects** can help to produce awareness and interest: for this to happen, there is **both the need for institutional capacities and adequate policy tools**, which as the ESPON SPIMA project has shown, can be not always available at the metropolitan level: “these relate to the capacity to ensure effective communication processes, multilevel governance interplay, legal and financial capacities and the capacities of actors to think ‘out of the box, collaborate and commit’<sup>67</sup>. But, clearly enough, there is also **the need for flexible and fluent governance**, based on a combination of top-down and bottom-up initiatives; collaboration between authorities; involvement of stakeholders and transparency, support, and cooperation at different scales from higher levels of government<sup>68</sup>.

**Is there any real momentum for such a regional/macro-regional turn in the EU context?** Together with the opportunities provided by the Green Deal and the Resilience and Recovery national plans, the new cohesion policy cycle could generate momentum for a more explicit attention on metropolitan regions, which have remained quite in the shadow in the EU debate, particularly from an operational perspective. The following paragraph aims at providing an overview on how and if urban regions, like the one explored by the IMAGINE project, shall expect to find support in this direction in the new cohesion policy and EU integration project.

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<sup>12</sup> SURE, the Strategic Urban Region Eurodelta is an offspring of METREX: Network for European Metropolitan Regions and Areas. The SURE group constitutes of a broad network of spatial and policy practitioners and contributes to stronger partnership between the cities and regions in the Eurodelta, this by the exchange of knowledge, experience and projects on the Eurodelta scale. <https://www.eurometrex.org/activities/network-groups/sure-eurodelta/>

<sup>13</sup> The territory of the Eurodelta consists of the river delta from the Rhine, Scheldt and Meuse and the urban polycentric network of smaller, medium and larger sized cities, such as: - in the Netherlands: Metropolitan regions: North-, South-Holland and Brabant; the cities: Amsterdam; The Hague; Rotterdam; Eindhoven - in Germany: Metropolitan region Rhineland and cities: Cologne; Düsseldorf; Aachen; Bonn- in Belgium: Metropolitan region Brussels and the cities: Brussels; Antwerp; Gent- in France: the Metropolitan region Lille, and Paris (Paris is only participating). - furthermore, the Dutch Deltametropolis Association, a think-tank on metropolitan development in Northwest of Europe is a partner.

#### 4.6.2 An unaccomplished quest: metropolitan cities and urban regions at the core of the EU integration project

From a conceptual perspective, the European Union's **first interest in conceptualizing the emergence of a metropolitan-regional dimension can be detected in the late 1960s**, when under Jacques Cros, the Directorate-General for Regional and Urban Policy (DG REGIO) started funding research on spatial scenarios. The studies conducted by Franco Archibugi in those years - and alighting the exploratory work of the new DG <sup>69</sup> - unveiled the emergence of large urban areas in different member states and an overall phenomenon of metropolisation sweeping across member states and generating effects of concentration and economic imbalances.

In this respect, the overall EU integration project has allowed since its origins the opportunity to read urban dynamics at a transnational level, contributing to **identifying a metropolitan or regional-urban dimension and its impact on territorial cohesion and economic development**. This is evident in the conceptualisation of a European megalopolis by the Council of Europe—Conference of Ministers responsible for Spatial/Regional Planning (CEMAT) at their meeting in 1970. That meeting can be seen as the first time Europe started expressing concerns related to the concentration and agglomeration effects generated by the consolidation of a large urban formation across the European Community back then. The EU has recognised the issue pertaining to metropolitan agglomeration proposing several policy tools for intervention, but without being able to support new governance frameworks able to counterbalance or govern the consequences of metropolisation. By the early 1970s, urban regions centered on small- and medium-sized cities have come to the fore as the alternative to monocentric agglomerations. The solution was then identified in the **development of polycentric regions, as a more preferable scenario** than the previously held megalopolis agglomeration scenario. The **contra-position between megalopolis and polycentric urban regions** framed the debate around the 'European Spatial Development Perspective' <sup>70</sup>.

This debate was upgraded following the Lisbon Treaty in 2007, which introduced 'territorial cohesion as a fundamental objective of the EU. Since then, **the EU has promoted several initiatives explicitly focused on the urban/regional dimensions**. Studies promoted by ESPON, alongside projects such as URBACT and INTERREG, have emphasized the potential relevance of the metropolitan and regional dimension in EU policymaking beyond the simple city-related perspective. Even though the Europe 2020 Strategy did not 'specifically take metropolitan regions and areas into account, the efforts of ESPON, the Joint Research Centre (JRC), and EUROSTAT (jointly with the OECD) **have substantially contributed to developing a metropolitan imaginary, especially from the analytical point of view**.

**Nevertheless, the analytical, scientific interest for Metropolitan Areas has not been followed by an equal involvement of the corresponding institutional level in the actual EU decision-making**, leaving them as a somewhat vague level for decision-making, especially in the context of the EU Cohesion Policy. This can be explained in part by the difficulty the EU faces when attempting to engage with the multiplicity and fragility of metropolitan government forms present across member states — for example, their different status and role in other member states as well as the various roles that cities, urban agglomerations, polycentric regions, small and medium towns play in those territories.

More recently, EU **macro-regional strategies** have paved the way for innovative spaces of action. They can be initiated and requested by the EU Member States concerned via the European Council, to be then adopted by the European Commission. Strategies have to be defined, and the process of construction of the Macro-region is part of the result: they do not necessarily generate special funds or formal structures, but indeed they need the collaboration of actors and places and aim at better use of any resources, better implementation of legislation and better use of existing institutions. "EU macro-regional strategies address challenges and opportunities specific to certain geographical areas which are too local to be of direct interest to the whole EU, but too broad to be dealt with efficiently at the national level. In other words, they act as a bridge between EU and local policymaking"<sup>71</sup>. The experiences of the Baltic Sea Region, the Danube Region (2010); the Adriatic and Ionian Region (2014); and the Alpine Region (2015) show the crucial role of such strategies, supported by the Interreg initiatives.

Some support has also been given to urban regions by **EGTC, European Grouping of territorial cooperation**, which provided a legal instrument aimed at facilitating and promoting territorial collaboration, "including one or more of the cross-border, transnational or interregional strands of cooperation, between its members (...), to strengthen the union economic, social and territorial cohesion. They aimed at reducing barriers to territorial cooperation: "The Member States or authorities at the national level, regional authorities, local authorities, public undertakings, undertakings entrusted with operations of services of general economic

interest and even national, regional or local authorities, or bodies or public undertakings from third countries (neighboring one of the Member States, including its outermost regions)” can take part in EGCT<sup>72</sup>.

The introduction of **Integrated Territorial Investments (ITI)**, as we have pointed out in the previous paragraph and the Annex dedicated to exploring this tool (see ANNEX 5), has opened some additional space for experimentation with metropolitan institutions. ITI allowed the construction of territorial geography beyond administrative boundaries, where the starting for metropolitan governance is no longer space and territory but practical policy problems. In Poland or the Czech Republic, for example, ITIs have been used to enhance metropolitan governance. This is a significant trend because it creates space for the transfer of the metropolitan dimension from the analytic-interpretative sphere to a more explicit normative and policy extent.

More recently, the debate raised by preparing the EU’s New Urban Agenda has **relaunched the idea that the metropolitan scale can play a crucial role in dealing with the current societal challenges**. In particular, the recommendations of the Habitat III Policy Unit 4 in Urban Governance, Capacity and Institutional Development state that “strong metropolitan governance is a key component of new urban governance”. Furthermore, according to Habitat III Policy Unit, ‘strategic spatial planning that observes functional rather than administrative boundaries is needed to deal with the expansion of metropolitan areas’<sup>73</sup>.

Nevertheless, metropolitan/urban-regions governance forms have had little space and role in **Cohesion Policy**. A few national Operational Programmes (e.g., the Italian NOP Metro) have invested in it. Most national policies kept replicating a traditional model, where metropolitan areas are seen as the engine for development while peripheral areas need economic support. While a few member states have taken the opportunity to experiment or reinforce institutional reforms mirroring new territorial spatialities, most refer to old imageries reducing the innovative potential for place-based policy. The result is that the NOP inspired by the Cohesion Policy cycle 2014-2020, which have considered the metropolitan perspective, if not the regionalisation of the urban perspective, have concentrated their attention and resources to capital cities within metropolitan areas and cities.

This is producing a paradox: on the one hand, metropolitan areas and regions are the places where the largest number of EU citizens are living, nevertheless, **they are still relatively underrepresented in EU policy making, both at policy design level and policy-management level**. This can severely threaten the more considerable political effort put forward by the EU integration project. Metropolitan areas and cities could play a more strategic important role in consolidating the aims and principles of the EU integration project. Counterintuitively to the principle of subsidiarity and to the place-based approach, policies are still too often designed far from the places that suffer the most. This can result in the limited effectiveness of policies at the local level and **a more general threat** to territorial cohesion.

As a result, metropolitan associations such as EUROCITIES, the European Metropolitan Authorities (EMA) and the Network of European Metropolitan Regions and Areas (METREX) have **clearly expressed their desire to have a more central role in current debates over the design and implementation of EU Cohesion Policy post-2020**. In December 2020, EMA in a specific position paper, lamented, once again, that “The original RRF regulation refers only to the Member States; there is no explicit obligation or requirement for subnational authorities to be involved (the European Parliament has criticized this)”<sup>74</sup> and in particular highlighted the potential impact of the role of metropolitan cities in three directions: the renovation of the built environment focus, linking the renovation of the stock with social measures, in particular with the opportunities to job creation; the re-organisation of mobility system destined to consistently collective mobility in large urban areas; finally focussing on digital innovations and skills which are crucial for citizens. Based on these three main policy foci, the document concludes on the need for the “European institutions to recognise municipalities as key allies in our joint fight for a resilient future. First, we urge the EU to mandate Member State governments *to engage cities better when shaping country-level recovery plans*. Second, we find it crucial that the EU opens up parts of *the Recovery and Resilience Fund directly to local governments*.” Concerning the latter, the European institutions are called to adopt the proposed amendment in the European Parliament to dedicate an important budget in the RRF for local and regional levels to cover the special metropolitan needs. European Metropolitan Authorities are strong actors within the realm of Local and Regional Authorities (LRA). They claim that all results achieved in favour of cities to enhance their role in the EU recovery programmes should also be valid for metropolitan areas, providing that the municipalities of these areas agree to act together, and the area has a suitable metropolitan government structure”.

In this respect, EMA asks for a clear identification of metropolitan cities as collaborative institutions, distinct from cities, and expresses the need to identify their roles precisely. In contrast, they have played a pretty residual function in the previous cohesion policy cycle (see ESPON METRO<sup>75</sup>).

#### 4.6.3 Seizing the momentum: enacting a “regional” turn

The opening of the new cohesion policy cycle 2021-2027 seems to provide space and inspiring opportunities for metropolitan and regional spatial imaginaries.

##### The New Leipzig Chart: can urban regions become pillars for a just, green, and productive future?

On a general level, the **New Leipzig Chart** <sup>76</sup>, approved in late 2020, provides an update to the Chart that was first adopted in 2007, offering the EU perspective on the role of cities for the future of the European Union. According to the new charter, cities have a “transformative power” to support sustainable development by developing an integrated approach to “just, green and productive dimensions.” These three foci shall provide cities with pathways to deal with social, economic, and ecological challenges. The document also stresses the need to think about cities simultaneously at different scales: building viable and integrated neighbourhood scale; investing in the role of local authorities; and at the city scale to provide leadership through coordination and cooperation. In this respect, governance is the central issue to develop new legal frameworks and conditions, new investment capacities, new expertise and skills to steer material and immaterial infrastructure. Finally, the Charter stresses the role of a renewed “active and strategic land policy and land use planning” and “actively shaping digital transformation”. This requires support from the national and European levels through funding, policies, and programmes concerning urban issues. On a more general and methodological level, the Charter supports the idea of the **EU as a learning platform, built through networks and initiatives that enable knowledge exchange and co-production built on good practices and innovative approaches**. This looks particularly in line with the need to support regionalization processes to develop new understanding of the complex dynamics they are experiencing, particularly helping them develop new transcultural exploration, which are difficult to achieve based on administrative boundaries. The Charter stresses how “Sustainable and resilient urban development occurs **within a regional or metropolitan context and relies on a complex network of functional interdependencies and partnerships**. This is exemplified by the functional area as stated in the Territorial Agenda 2030 <sup>77</sup>. In parts, this covers a metropolitan area or a combination of other territorial entities. To adapt urban policies to people’s daily lives, towns and cities need to cooperate and coordinate their policies and instruments with their surrounding suburban and rural areas on policies for housing, commercial areas, mobility, services, green and blue infrastructure, material flows, local and regional food systems, and energy supply, among other”.

A final important element is provided by the claims related to the **need to work on the public commons, with an integrated, participative, and co-designed, multilevel governance approach and a place-based approach**. This requires specific attention to the opportunity and need for spatial planning to support polycentric development, based on compact and dense urban models, provided with a solid functional mix. But also to reduce mobility needs, fostering cooperation beyond administrative borders, based on coordination of “spatial planning in functional urban areas, taking into account urban-rural linkages”. Implementing such principles and indications<sup>78</sup> requires a strong commitment by Member States, the Commission, the COR, but also BEI to support the main achievements of the thematic partnerships’ workflow under the EU Urban Agenda. The need to develop for example “financial instruments and financing approaches in support of the strategic principles of the New Leipzig Charter, working together with other international financial institutions and promotional banks; to work with urban stakeholders to design and implement circular and innovative business models required to achieve climate-neutral, socially sustainable and productive cities” is again identified.

##### Cohesion Policy 2021-2027: can urban regions play a role for a Europe closer to citizens?

The new EU Cohesion Policy cycle, on the same path, provides an overall framework for cities and regions to act. The five pillars identified in particular, as per the declarations of several experts and actors in the

construction of the new framework, consider cities and urban areas in a holistic perspective<sup>14</sup>, as the 'challenge' for four of the five main objectives: a **Smarter Europe**, through innovation, digitisation, economic transformation and support to small and medium-sized businesses; a **Greener, carbon-free Europe**, implementing the Paris Agreement and investing in energy transition, renewables and the fight against climate change; a more **Connected Europe**, with strategic transport and digital networks; a more **Social Europe**, delivering on the European Pillar of Social Rights and supporting quality employment, education, skills, social inclusion and equal access to healthcare. Moreover, the fifth objective is a Europe closer to citizens by supporting locally led development strategies and sustainable urban development.

In particular, Objective 5 announces the twofold objective of **supporting agglomeration economies and positive spill-overs** towards wider functional urban areas and rural areas close to cities, together with that of addressing adverse effects of urban concentration (traffic congestion, pollution, urban sprawl, affordable housing, poverty etc.). While for the rural contexts, the aim is to overcome the negative effects of low density and peripherality, based on promoting compensatory measures for rural areas and local communities to build on their potentials and specific assets. Cohesion Policy in general terms confirms the importance of fostering and supporting **locally-led development strategies** and **empowering local authorities in the management** of the funds.

In this direction, the urban dimension of Cohesion Policy is strengthened, with **8 % of the ERDF dedicated to sustainable urban development at the national level**, and a new networking and capacity-building programme for urban authorities, the **European Urban Initiative was included, together with the confirmation of the URBACT initiative. Sustainable Urban development is confirmed**, focusing on using ERDF to support integrated territorial development based on territorial strategies, focusing on urban areas and functional urban areas.

The main tools to take action are confirmed from the previous Cohesion Policy cycle, as the Integrated **Territorial Investments (ITI)**, which become necessary when territorial strategy receives funding from multiple priorities or even programmes, funds, or policy objectives. **Community-led Local Development (CLLD)** is preferred to support a participatory approach. The additional opportunity is given to rely on any nationally developed tool aimed at the same objectives, thus making it easier for contexts in which the process and framework of coordination have solid roots to keep feeding it, instead of restarting the process and generating new complicated governance frameworks.

**Moreover, Interreg is confirmed as the primary tool for facilitating interregional and cross-border cooperation**, and they are reinforced to allow for Interregional Innovative investments, able to activate alliances between different regions in order to support pan-European clusters in priority sectors, such as big data, circular economy, advanced manufacturing, or cybersecurity.

### **The EU GREEN DEAL: are urban regions central to reconciling economy and sustainability?**

**Within this general framework**, the *European Green Deal*, offering a unique opportunity to act locally, promoting integrated sustainable development, provides essential fields of action for urban regions. The challenges identified are strongly consistent with a sovralocal scale of action and cannot be achieved as the result of fragmented, unilateral, and individual actions.

On the one hand, the Green Deal defines a roadmap and an action plan in several policy fields, like clean energy, sustainable industry, building and renovating sustainable mobility, biodiversity, from farm to fork, eliminating pollution, and climate action. The main objective of the Green Deal is to reconcile economy and sustainability, decoupling **economic growth from resource use**. At the same time, making the transition possible and as inclusive as possible for all European Union citizens. It represents the EU **Commission's strategy to implement the United Nation's 2030 Agenda and the sustainable development goals**.

The goal of an EU economy climate neutral is the core of the plan, which aims at generating and implementing a strategy of adaptation to climate change able to expand economic activities based on a sustainable, as well as job-intensive model. **The circular economy** is, in this respect, proposed as a strategic opportunity

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<sup>14</sup> Urban dimension of cohesion policy 2021-2027 - URBAN INTEGROU ONLINE EVENT, visible at <https://www.youtube.com/watch?v=AIDZF3DR2s>,



to renovate the industrial sector, which is *in primis* the interlocutor of the plan. A second pillar is related to a **new sustainable approach to energy production and consumption**, which impacts in a new attention for the built environment and its performances. A third pillar is **a strategy that aims at favouring the shift to sustainable and smart mobility**, reducing greenhouse gas emissions generated by transport and people/freight mobility: multimodality, automated and connected mobility, reducing emissions, urban congestion, and improving public transportation. **A fourth pillar is related to a redesign of the food system, ought to be fair, healthy, and environmentally friendly: new opportunities for operators in the food value chain, within the framework of circular economy, taking action on transport, storage, packaging, and food waste, promoting sustainable food consumption and promoting affordable and healthy food for all.** The fifth pillar is the **preservation and restoration of ecosystems and biodiversity**. In particular, forest ecosystems should improve quality and quantity to reduce the pressure generated by climate change: afforestation, forest presentation, and restoration are vital actions, together with a sustainable blue economy. The aim to achieve **a zero-pollution action plan for air, water, and soils**, goes through the necessity **to restore the natural functions of ground, surface, and water, preserving and restoring biodiversity** in lakes, rivers, wetlands, estuaries and preventing and limiting floods.

**All these objectives will be supported by important regulation and planning efforts**, but also by significant investments by the EU budget and other streams of fundings, involving private and market actors, but also **'greening' national budgets**, also based on **tax reforms able to boost economic growth as well as resilience**. A crucial role is also highlighted for research and innovation, but also for education and training, which shall activate schools, training institutions, and universities towards a successful transition <sup>79</sup>.

### EU Corridors, from transportation policies to crucial diverse for change

2021 is the railway year. But as the SURE network reminded in a recent position paper <sup>80</sup>, little space seems to be assigned even in the Green Deal to the role of the Ten-T, the network of rail corridors that the EU has decided to invest in since 1996. Indeed, as the document reminds us, a recent study committed by the European Court of Auditors, most of the Ten-T network remains a dream <sup>81</sup>. Despite many countries have developed high-speed railways offer, these remain mainly nationally oriented, and there is little evidence of an EU network. This is particularly problematic in the eyes of the SURE partners because the absence of such a network affects the efficiency and functioning of the macro-regions that compose the EU. That would much benefit from an integrated system of mobility able to connect people and places at the appropriate scale.

The Ten-T, Trans-European Transport network was introduced in 1996 with the aim to produce a high-capacity transport and communication infrastructures system as the backbone for the polycentric development of EU territories, as envisaged in the Territorial Agenda 2020. However, it is clear since then that the TEN-T success relies not only in the capacity to enhance a transport and mobility policy coordinating member states but supporting an integrated spatial strategy. It needs “two crucial components (...): an institutional framework for collaboration at a larger (i.e., transnational) scale as well as across scales, and a more action-oriented approach” <sup>82</sup>. Indeed, the TEN-T policy **is a policy for “spaces and projects of European importance,”** as Bernd Scholl has brilliantly defined them, indicating how the infrastructural corridors cannot simply be thought of as transport corridors, but the tools for “territorial integration in Europe”, thus requiring the capacity of coordination and interdisciplinary cooperation: “hence, such a development cannot be pursued based only on quantitative technical parameters, such as those associated with transport infrastructure improvement or on abstract spatial visions, formal planning instruments and regulatory mechanisms. On the contrary, changes in both the policy-making process and its implementation are required<sup>83</sup>. Actually, in 2020, a review if Ten-T is ongoing, destined to revise the policy strategy based on a revision of both the concepts and its operational aspect. Several territories and stakeholders have been participating in this consultation, highlighting the need to rethink the transportation policy and strategy for the EU.

What is more interesting in our perception is the need to reconsider how the TEN-T strategy can better concur in supporting a more integrated understanding of corridors as **crucial test-fields for a cohesion policy to reconcile the relationship between space and time in the contemporary organisation of the economy. Following the logic of logistics and fast delivery and mobility, space must be compressed and annihilated**, to support the competitiveness of places; however, space is not a point-to-point. It is a complex relation between production and living. Corridors in this respect shall be seen as crucial drivers for change, moving beyond their simple identification as hardware and infrastructure, but looking at how they support the emergence of new territorial formations, serving actively or passively the new logics of the economy of flows.

### Final remarks and implications for a new dialogue between EU and urban regions to contribute to the EU integration project, based on territorial cohesion objectives.

- *All in all, the **new EU cohesion policy offers urban regions and macro-regions interesting opportunities to take action**; in particular, within the ITI and Interreg initiatives, there is space for supporting the construction of new regional imaginaries. Simplified procedures and regulations can help urban regions. At the same time, EU cohesion policy shall probably support national authorities to provide spaces for urban regions to play a role and invest in them, as well as they have been investing in the role of cities in the Cohesion policy 2014-2020. **Decoupling cities from urban regions can be crucial**, but strong attention shall be made to grasp the interconnected relationship between the urban and regionalised urban scale.*
- *In particular, the **EU Green Deal paves the way for policy challenges that are crucial to be dealt with at the scale of urban regions and macro-regions**: more clear support to them could be envisaged than the one now evident, at least in the subsequent implementation phase, while asking the Member States to take into consideration the role of urban regions towards the Green Deal objectives.*
- *The Leipzig Charter as such clearly points out the relevance of a new transcalar approach to the urban. **Functional interdependencies and partnership are the battlegrounds for new policy agendas and governance frameworks to be developed** to adapt urban policies to the needs of European citizens. To work on the production of **the public commons, an integrated, participative and co-designed, and multilevel governance approach and a place-based approach** shall be adopted. This can support an overall reflection on urban regions and corridors, going beyond traditional metropolitan and urban imaginaries and sectoral policy treatment of corridors as infrastructure.*
- ***Urban regions and macro-regions shall take the lead** and start processes to develop a new awareness of the glocal and transcalar nature of the dynamics and processes restructuring the society-economy nexus, producing significant spatial changes. To do that, they **shall count on the opportunities provided at the EU and national level to promote such a “regional” turn in policymaking** that can support such an endeavor and challenge. Engaging in scenario-making exercises, both focusing on governance and policy challenges inspired by a regional imaginary, can create the ground for playing a new role at the local, national, and European levels. At the same time, they shall build road-maps able to build upon the momentum provided by the EU: regional visionary exercises and soft governance spaces supported by flagship projects can help them in this effort.*
- *Implementing such principles and indications requires a strong commitment from places and Member states, the European Commission, the Committee of the Regions, and the European Investment Bank.*

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4 rue Erasme, L-1468 Luxembourg

Grand Duchy of Luxembourg

Phone: +352 20 600 280

Email: [info@espon.eu](mailto:info@espon.eu)

[www.espon.eu](http://www.espon.eu)

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