

# TRANSPORT AND LOGISTICS NODES

Sectoral Strategic Guidelines



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## THE 10 FIELDS OF ACTIONS OF CDP 2022-2024 STRATEGIC PLAN



ENERGY  
TRANSITION



CIRCULAR  
ECONOMY



SAFEGUARDING  
THE TERRITORY



SOCIAL  
INFRASTRUCTURE



CAPITAL MARKET



DIGITISATION



TECHNOLOGICAL  
INNOVATION



SUPPORT TO  
STRATEGIC SUPPLY  
CHAINS



INTERNATIONAL  
COOPERATION



TRANSPORT /  
LOGISTICS NODES

## KEY MESSAGES

- **Italy's strategic geographic position**, at the crossroads of four of the nine multimodal Trans-European Transport Networks (TEN-T) and in the heart of the Mediterranean Sea, **can represent a comparative advantage over other European economies** if properly accompanied by an efficient, reliable and innovative transport and logistics system.
- The **logistics and transport system is a pivot and enabling factor for the competitiveness of our productive sector and in general for the growth of the country**. An adequate development of the sector would not only facilitate access to foreign markets for our companies, but could also qualify Italy as an entry hub for Europe from non-EU markets, intercepting strategic traffic flows. The widespread diffusion of transport infrastructure and mobility services is also crucial for **bridging territorial gaps** and supporting the growth of the country's economic peripheries.
- In this context, **three areas of focus are identified, linked to as many macro-objectives**, that could increase the competitiveness of the integrated transport system and logistics nodes, both at the local level and of the economic system as a whole:
  - ▶ **adapting and improving the efficiency of networks**, to increase transport capacity and ensure the safety and proper modernisation of infrastructure. In particular, it will be important to promote the upgrading of rail infrastructure for long-distance mobility, with safety adjustments and technological improvements, on the one hand, and the strengthening and maintenance of the motorway network, with measures to streamline and decongest traffic flows, including the digitisation of road infrastructures (smart roads), on the other;
  - ▶ **the strengthening, development and efficiency of nodes** in order to improve the performance of the logistics system as a whole. In this regard, it is appropriate to support a greater accessibility and efficiency of port and airport infrastructure, fostering the development of intermodality and the use of integrated logistics systems;
  - ▶ **the development of sustainable urban mobility and local public transport (LPT)** aimed at fostering the modal shift from private to public transport, also in order to decongest traffic flows and make Italian cities more liveable, with particular reference to the green renewal of public transport, the strengthening of rail infrastructure (underground, trams) and mass rapid transport systems, the construction and maintenance of bicycle networks, and the digitisation of the LPT, also through the implementation of Mobility as a Service (MaaS) solutions.
- The effective pursuit of the strategic priorities outlined above is linked to **at least four enabling factors**, which concern all the areas of focus considered, i.e. the pursuit of an **organic and systemic approach to the development of the various sectors, the streamlining of bureaucratic procedures** in the various phases of planning, programming and implementation of infrastructure, to ensure that projects are set in motion in a rapid and certain timeframe, the **timely and accurate census of existing infrastructure** for a more effective planning of maintenance and modernisation works, and the proper **development and implementation of Special Economic Zones (SEZs)**.
- In this context, CDP can intervene, according to **additionality and complementarity criteria, helping to accelerate the interventions eligible for the purposes of the National Recovery and Resilience Plan (PNRR), to fill the investment gaps** in sectors and territories where market operators fail to mobilise adequate resources, or where the needs go beyond the planned state allocations, also **providing support to Public Administrations** in planning actions and in setting in motion projects.
- To ensure **transparency and accountability** of decision-making processes, CDP aims to measure the quality and impact of the supported actions. To this end, CDP uses a **set of KPIs** for monitoring and evaluating each field of intervention.

The background image shows a port scene with a blue sky, a body of water in the foreground, and industrial structures. A prominent feature is a tall, cylindrical tower with red and white horizontal stripes. To the left, there are blue cranes. In the middle ground, there are various industrial buildings and structures, including a large blue gantry crane. The overall scene is a busy port environment.

# 1. Context

**1.1  
International  
framework for transport  
and logistics nodes**

**1.2  
Italy's positioning:  
strengths and gaps**

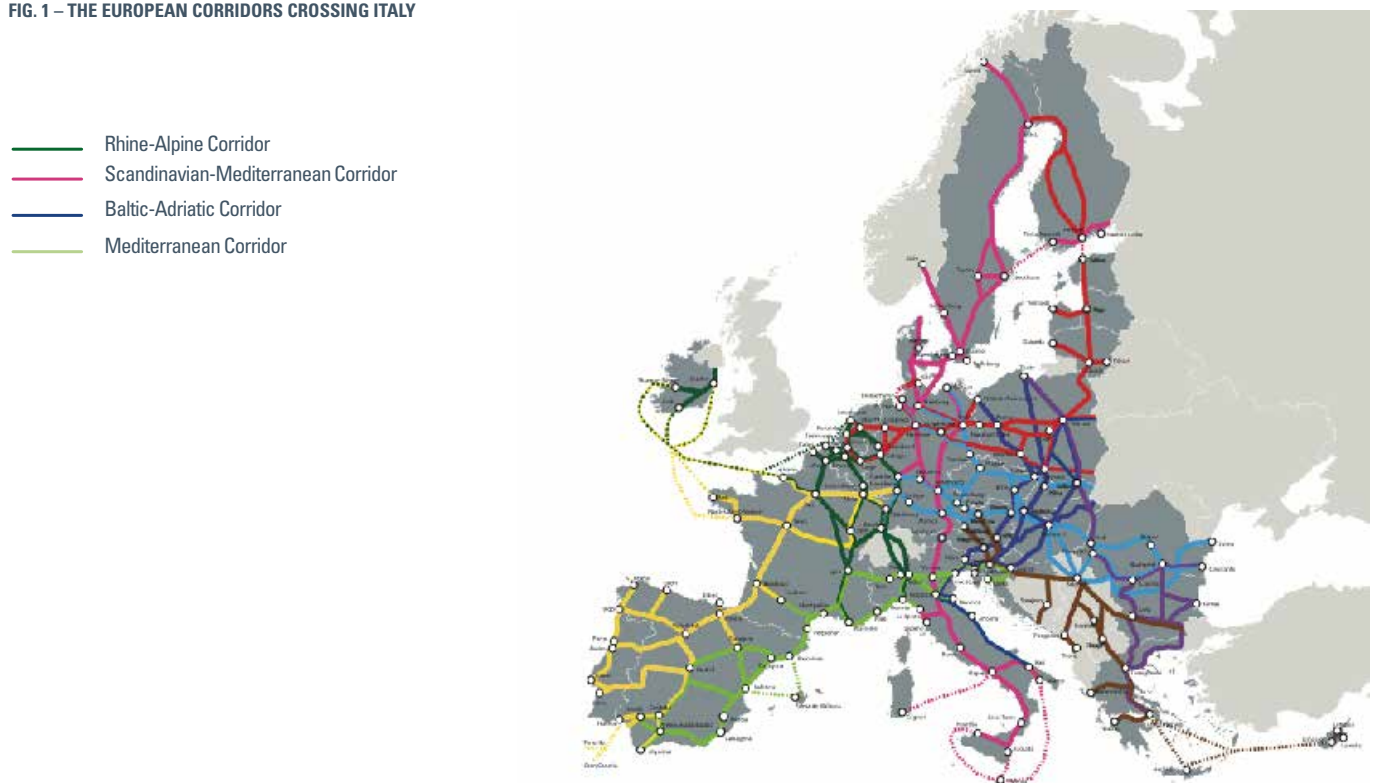
# 1. CONTEXT

## 1.1 INTERNATIONAL FRAMEWORK FOR TRANSPORT INFRASTRUCTURE AND LOGISTICS NODES

Italy enjoys a **strategic geographical position** at the crossroads of four of the nine trans-European multimodal transport networks (TEN-T) and in the heart of the Mediterranean Sea. The proper integration of EU networks responds to the need to facilitate the free movement of persons and goods, which is one of the founding elements of the European Union. In particular, the Italian peninsula is crossed by the following corridors (figure 1)<sup>1</sup>:

- **Mediterranean**, which "borders" the Mediterranean Sea starting from western Spain, crosses from West to East the northern Italian regions and cities, with the aim<sup>2</sup> of reaching the eastern borders of Europe, also connecting Hungary and Ukraine;
- **Rhine-Alpine**, connecting the ports of Belgium and the Netherlands with the Ligurian Sea via the port of Genoa, partly intercepting the nodes of the Mediterranean corridor (Milan, Novara);
- **Scandinavian-Mediterranean**, which crosses Europe from North to South, from the Scandinavian peninsula to the coasts of Puglia, Sicily and Calabria;
- **Baltic-Adriatic**, which connects the ports of Poland with the northern Adriatic coast (Trieste, Venice, Ravenna) via Austria and Slovenia. Following the latest revision, the corridor envisages the extension of the Adriatic backbone<sup>3</sup> to Bari.

FIG. 1 – THE EUROPEAN CORRIDORS CROSSING ITALY








Source: European Commission, 2021

<sup>1</sup> Here, reference is made to the 9 corridors originally established as "Core Network Corridors" which, with the revision of December 2021, are integrated with the 11 "Rail Freight Corridors" directly into the (9) "European Transport Corridors". It is a change that unifies under a single nomenclature the different transport modes (rail, inland waters, road) making planning and implementation more synergistic. Specifically, the system intercepts 9 urban nodes (Rome, Bologna, Cagliari, Genoa, Milan, Naples, Turin, Venice and Palermo), 11 airports (Milano Linate, Milano Malpensa, Roma Fiumicino, Bergamo-Orio al Serio, Bologna-Borgo Panigale, Cagliari-Elmas, Genova-Sestri, Napoli-Capodichino, Palermo-Punta Raisi, Torino-Caselle and Venezia-Tessera), 14 maritime ports (Ancona, Augusta, Bari, Cagliari, Genoa, Gioia Tauro, La Spezia, Livorno, Naples, Palermo, Ravenna, Taranto, Trieste and Venice), 5 river ports (Cremona, Mantua, Ravenna, Trieste and Venice), 15 freight villages: Jesi (Ancona), Marcellanise (Naples), Nola, Bologna, Cervignano, Pomezia nodo di Roma, Vado (Genoa), Milano Smistamento, Novara, Orbassano (Turin), Bari, Prato (Florence), Guasticce (Livorno), Padova, Verona.

<sup>2</sup> Objective of the extended network (2030).

<sup>3</sup> Inserted in the Extended Core Network, which, along with the Core Network, represent the most strategic and high-added-value sections that must be completed by 2040 and 2030 respectively.



-  Also in light of the energy and digital transition, to ensure greater efficiency **the regulation defining the TEN-T network system was updated in December 2021**. In addition to a remodelling and extension of the infrastructure, the revision requires the achievement of specific standards (i.e. electrification of networks, increase in high-speed rail routes, transport capacity for railways and inland waterways) and provides for a boosting of intermodal nodes. In fact, the new version of the regulation insists on increasing the number of transshipment terminals, as well as on increasing the handling capacity of individual nodes, reducing waiting times and pursuing a higher degree of intermodality, in order to allow lorries to travel on the rail network<sup>4</sup>.
-  **The review of Europe's trans-modal networks is part of the European Green Deal climate objectives**, which places a strong focus on the transport sector, due to its high environmental impact. Today, around a quarter of total EU greenhouse gas emissions are attributable to transport, and they will have to be reduced by at least 90% by 2050<sup>5</sup>. The modernisation of infrastructure and the increase in its efficiency, a better integration of networks and the use of less polluting means of transport are the main development objectives which will make it possible to pursue this target, allowing also for a smoother mobility of goods and people.
-  **The logistics and transport system is, in fact, a pivot and enabling factor for the competitiveness of our companies and in general for the development of the country**. A more efficient system would not only facilitate access to foreign markets for our companies in terms of exports, improving the exchange of raw or semi-finished materials, but could also qualify Italy as a hub of entry for Europe from non-EU markets, intercepting strategic traffic flows travelling by sea or air.
-  In this context, the growing role of Mediterranean trade and the geographical position are factors that Italy must be able to fully exploit. Forecasts about future international maritime trade dynamics suggest that the relevance of the **Mediterranean basin** – which weighs for almost one third of the world's ship liner services, compared to a sea area of 1% - **will consolidate in the coming years**, recording one of the best performances in terms of container traffic growth (+5%), second only to China (+6%)<sup>6</sup>.
-  The consequences of the pandemic, also in terms of **regionalisation of the value chains and reshoring of companies**, in fact, could contribute to transform the Mediterranean - which has historically held the leadership in Short Sea Shipping (SSS) - "from sea of transit to sea of competition<sup>7</sup> by intercepting international flows."


<sup>4</sup>European Commission, "Questions and Answers: The revision of the TEN-T Regulation", December 2021.


<sup>5</sup>European Commission, 2022.


<sup>6</sup>2020-2024 average annual variation of the Eastern Mediterranean and Black Sea basin. Source: SRM, "Porti, rotte, noli e shipping: specchio di un cambiamento globale", 2021

<sup>7</sup>Massimo Deandreis, SRM, 2021.

## 1.2 ITALY'S POSITIONING: STRENGTHS AND GAPS

 <b>Strengths</b>	 <b>Gaps</b>
<p>Strategic <b>geographic position</b></p> <hr/> <p><b>Excellences</b> among <b>freight villages</b></p> <hr/> <p>One of the <b>safest</b> and most <b>electrified railway</b> system in the <b>EU</b></p> <hr/> <p>Leadership in <b>Short Sea Shipping</b></p>	<p>Low incidence of <b>transport by rail</b></p> <hr/> <p>Lack of <b>intermodal</b> and last-mile <b>connections</b></p> <hr/> <p><b>Low environmental sustainability of ports</b></p> <hr/> <p><b>Limited</b> development of the cargo industry compared to the size of the economic system</p>


 The strategic geographical position of Italy can be fully exploited as a comparative advantage on other European economies only if properly supported by an **efficient, reliable and innovative logistics system**, whose competitiveness depends, first and foremost, on the **degree of development and integration of transport networks and infrastructure nodes**.

 From this point of view, it is essential that **the rail and road networks are widely and rationally distributed throughout the country**, ensuring in particular the interconnection between nodes (especially with reference to rail transport) and the **connection of ports and airports** with the destination and origin areas of traded goods (last and penultimate mile). Furthermore, in order to be fully competitive, nodes and networks must meet **appropriate infrastructure standards**, in particular in terms of environmental sustainability and safety, and offer **high quality services**, especially in digital terms, functional to the needs of businesses and households.

 Finally, from a system perspective, the implementation of a modern and efficient transport network also depends on the development of the urban mobility sector, with regard to both **urban accessibility from suburbs and metropolitan areas, and mobility within cities themselves**. The growth and sustainable development of urban mobility need to be supported in order to guarantee citizens an adequate level of transport services for daily travel, ensuring the protection and preservation of territories and the environment<sup>8</sup>.

### 1.2.1 Networks

 From the point of view of networks, **Italian railways are among the most electrified in Europe** - accounting for 72% of the total, against an EU average of 56% - and **the safest** - 0.19 significant accidents per million kilometres, against the EU average of 0.49<sup>9</sup>. However, rail transport still accounts for only 12% of freight transport and 6% of passenger transport, marking a gap compared to the European average of 5% and 2%, respectively<sup>10</sup>.

 **Transport, in our country, is in fact strongly unbalanced towards the road system**, a more polluting mode that generates high levels of congestion and accidents. In this context, rail services are penalised by lower infrastructure extension than the European average, with less than 300 km of network per million inhabitants compared to over 450 km at EU level, but also by the ageing of the road fleet, especially with regard to passenger transport at regional level. The most critical issues are found, in particular, in the South of Italy, where average age of trains is particularly high (19.2 years compared to 11.7 in Northern Italy), with peaks in Molise (21.9 years), Abruzzo (21.4) and Calabria (21.3)<sup>11</sup>.

<sup>8</sup> For further information, please refer to the document of Sectoral Strategic Guidelines relating to the Energy Transition and the Safeguarding of the territory and the protection of natural resources.

<sup>9</sup> Italian Ministry of Sustainable Infrastructure and Mobility, Strategy Paper on Railway Mobility of Passengers and Freight, 2021.

Significant accidents are defined in the Appendix to Annex 1 of Legislative Decree No. 50 of 14 May 2019, as "any accident involving at least one railway vehicle in motion and causing at least one death or serious injury, or significant damage to material, tracks, other installations or the environment (i.e. damage quantifiable in 150,000 euro or more) or a prolonged interruption of traffic (i.e. railway services on a main line are suspended for six hours or more), excluding accidents in workshops and warehouses." (Court of Auditors, 2020).

<sup>10</sup> Eurostat, 2019.

<sup>11</sup> Legambiente, Rapporto Pendolaria, 2022.



 The particularly complex orography of the national territory certainly has a negative influence on these dynamics and currently **the transport system does not fully cover the "last mile"**, showing strong territorial differences and a modest level of integration between the different modes. Consider, for example, that the national railway network in Italy is directly connected to only two fifths of ports (41%) and less than one fifth (17%) of airports (Figure 2).


FIG. 2 – INTEGRATION OF THE RAILWAY NETWORK WITH THE OTHER TRANSPORT HUBS IN ITALY




Source: Ministry of Sustainable Infrastructure and Mobility, 2021

Note: National railway infrastructure means the Italian railway network in its entirety excluding the lines identified as isolated railways.

 Given the importance of the road sector both in terms of modal transport share and as a crucial factor for accessibility throughout Italy, it is **essential that the infrastructure is adequate, especially in terms of safety**, with particular reference to the maintenance of works that are part of road and motorway networks (e.g. bridges, viaducts, tunnels).

 The **Italian road network is particularly complex**, partly due to the morphology and orography of the Italian territory (suffice it to say that 60% of tunnels in the TEN-T networks are located in Italy) and suffers from **a significant degree of obsolescence** (80% of the motorway network was built before 1980<sup>12</sup>). The shortcomings in network maintenance can be attributed, in part, to the **fragmentation of competences**, which has made the context particularly complex<sup>13</sup>. According to the latest available data, indeed, the national road network belongs, for about 80%, to the Municipalities<sup>14</sup>, of which about 8% to the Provincial Capital Municipalities, while the regional and provincial network covers just over 16%. Finally, a residual part concerns motorways (0.8%) and "other roads of national interest" (Anas Network, 3%)<sup>15</sup>.

 All these considerations highlight the need to plan, implement and monitor **constant maintenance works throughout the national territory**. Looking ahead, **the implementation of IT systems** (connected and "smart" vehicles) and **the evolution towards the smart road model** (i.e. traffic detection and forecasting systems, dynamic signalling, IoT devices for monitoring and maintenance) also represent an opportunity to guarantee better levels of safety and a higher quality of service for citizens and businesses.

<sup>12</sup> Saltari, L. and Tonetti, A. "La realizzazione e la gestione di infrastrutture: il regime giuridico delle concessioni". IRPA Working Paper – Policy Papers Series No. 2, 2014.


<sup>13</sup> Fondazione Filippo Caracciolo, "Il recupero dell'arretrato manutentorio della rete viaria secondaria una priorità per il paese", 2018.

<sup>14</sup> Data as of 2004, last available survey at municipal level. Ministry of Infrastructure and Transport, National Census of Infrastructure and Transport, 2004.

<sup>15</sup> Ministry of Sustainable Infrastructure and Mobility, National Census of Sustainable Infrastructure and Mobility, 2021.



## 1.2.2 Logistic hubs

 The international positioning of our economy, with reference to both the ability to serve the national production system and to intercept strategic traffic flows, depends to a great extent on the competitiveness of the logistics system, and in particular of logistics nodes (ports, airports and freight villages).


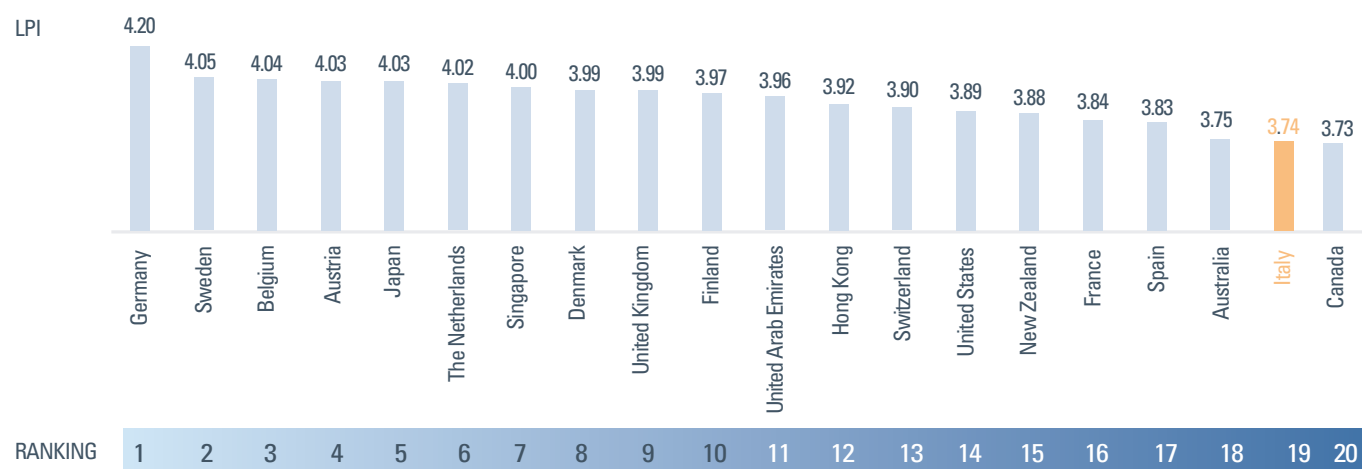

 **Italy has ample room for improvement on the logistics front** when compared to other economies with respect to the World Bank's indicator Logistic Performance Index (LPI), which considers time and costs associated with logistics, but also the transparency of processes and the quality and reliability of services offered. In fact, our country ranks 19th in the world, while the top three countries are Germany, Sweden and Belgium<sup>16</sup>.


CHART. 1 – TOP 20 COUNTRIES FOR LOGISTICS COMPETITIVENESS (LOGISTIC PERFORMANCE INDEX, 2018)



Source: CDP on World Bank data, 2019

 Improving logistics services and infrastructure is also necessary to support the competitiveness of the economic system. To date, **Italian companies bear logistics extra cost of 11% compared to the European average**<sup>17</sup>.

 Although foreign trade flows show an excessive use of road transport (21% of imports and 43% of exports), **the central role of the maritime and port sector** is evident. Indeed, more than two fifths of exports and more than half of imports travel by ship<sup>18</sup> (Table 1).

 Talking about ports, Italy **shows an excellent performance in short sea shipping**, ranking first in Europe in terms of goods handled, with about 300 million metric tonnes in 2020<sup>19</sup>, confirming its historically prominent position in trade in the Mediterranean and Black Sea area. This is not the case for long-distance trans-ocean trade, where domestic ports are unable to fully intercept potential flows of goods by sea, for two reasons:

- the historical competition of the great ports of the Northern Range: the port of Rotterdam alone registers a container traffic greater than that of all the Italian ports (approximately 13 vs 12 million TEUs)<sup>20</sup> ;
- the most recent and increasing competition of the western Mediterranean ports (Valencia in the first place with approximately 5 million TEUs), those of North Africa (Tanger Med in first place with 4.5 million TEUs) and of the East Med (Piraeus in first place with over 5 million TEUs)<sup>21</sup>.

<sup>16</sup> World Bank, 2019.

<sup>17</sup> Confartigianato, Osservazioni e Proposte di Confartigianato Trasporti su (Doc. XXVII, n. 18) Proposta di Piano Nazionale di Ripresa e Resilienza (PNRR), 2021.





















<sup>18</sup> Bank of Italy, "Indagine sui trasporti internazionali di merci", 2021.

<sup>19</sup> Eurostat, 2020.


<sup>20</sup> Eurostat, 2020.


<sup>21</sup> SRM, "Scenario economico del Mediterraneo in ambito trasporti, la ricaduta per l'Italia nel futuro", MedComForum 2020.


TABLE 1 – VOLUMES AND VALUE OF FOREIGN TRADE IN ITALY BY TRANSPORT MODE (%)


Transport mode	Import volumes	Export volumes	Import value	Export value
 SHIP	 54.7%	 43.0%	 29.4%	 26.6%
 ROAD	 20.6%	 42.9%	 42.4%	 48.3%
 RAIL	 11.4%	 13.7%	 15.8%	 14.3%
 AIR	 0.2%	 0.3%	 9.9%	 10.8%


Source: Bank of Italy, 2021

 **The Italian port system attracting and intercepting goods passing through the Mediterranean Sea could also represent an opportunity for non-European partners**, with a potential reduction in time and fuel costs, with consequent advantages in terms of environmental impact, at least until the use of green fuels prevails. By way of example, the Shanghai-Genoa commercial route implies five days less of sailing than the Shanghai-Rotterdam route (via the Suez Canal). If provided with adequate infrastructure and properly connected to the hinterland, therefore, **Italian ports could represent a valid alternative for international trade traffic, making the country an access hub for Europe**<sup>22</sup>.

 While part of the competitiveness is lost due to the absence of Italian logistics operators of sufficient size to compete internationally, many of the inefficiencies can be traced to the **high costs and transit times of our port system**. The latter can be linked to factors such as the lack of adequate last-mile connections (mainly by rail) - which is affected not only by the absence of infrastructure per se, but also by track quality and layout, which determine the length of the trains that can be managed in the port - the excessive number and variability of parties involved in foreign trade processes (i.e. customs offices) and the high costs of ship support services (i.e. technical nautical services)<sup>23</sup>.

 The enhancement of maritime-rail intermodality is crucial for the development of inland areas to increase the capacity to handle large traffic volumes. From this point of view, the central role of **freight villages** is evident, where **Italy presents several excellences**, whose territorial distribution is, however, highly uneven. Indeed, six Italian freight villages, a quarter of the total (24), rank among the first twenty at a European level for logistics performance, in line with Germany and above Spain (2)<sup>24</sup>. Still only one of these Italian excellences, the Interporto Campano of Nola, is located in the South of the country.

 The development of port and inland areas cannot be separated from sustainable modernisation, starting from the implementation of **green ports which include the electrification of docks** (cold ironing). As highlighted in the National Recovery and Resilience Plan, the system has significant room for improvement: currently there are no ports with onshore power services (OPS system) against the six of Sweden, the best performer in December 2020<sup>25</sup>.

 The other fundamental axis of the national transport system is the air sector which, with reference to **passenger traffic**, is an enabling factor in one of the sectors historically relevant to our economy, namely tourism (40% of visitors entering the country pass through airports<sup>26</sup>), as well as a fundamental element of accessibility in island contexts.

<sup>22</sup> SRM, "The Arctic Route, Climate change impact, Maritime and economic scenario, Geo-strategic analysis and perspectives", 2020.

<sup>23</sup> Ministry of Infrastructure and Transport, "Piano Nazionale della Portualità e della Logistica", 2015; Confindustria, "Progetto Mare", 2022.


<sup>24</sup> The six Italian freight villages are Verona, Parma, Bologna, Padua, Nola and Turin. The ranking takes into account the top 100 European freight villages. Oláh, J., Nestler, S., Nobel, T., Popp, J., "Evolution of Freight Villages and Dry Ports from the Macro Logistics Perspective Based on European Benchmarking 2020", 2021.

<sup>25</sup> European Environment Agency, "European Maritime Transport Environmental Report 2021", 2021.


<sup>26</sup> Ipsra. 2018.


Margins for improvement can be identified, in particular, in the southern airports that are not included in the long-haul routes, but that can intercept national and European routes, also from the perspective of proximity tourism favoured by the Covid crisis<sup>27</sup>.

 Air transport is also becoming increasingly important in **freight traffic**. Of particular importance, in this perspective, is the phenomenon of **e-commerce**, accelerated by the Covid crisis, for which a 50% increase in global sales is expected from 2021 to 2025<sup>28</sup>, closely linked to the development of the **cargo sector** (80% of extra-national e-commerce traffic travels by air<sup>29</sup>). A major strength of air freight is, in particular, the propensity to transport luxury goods: against a share of 0.5% of volumes between import and export, the share of goods that travel to and from Italy every year amount to over 20% of the total value<sup>30</sup>.


 In cargo transport, Italy suffers from a significant gap compared to its main peers, ranking sixth in Europe with a 6% share of volumes, compared to 30% of Germany alone and around 15% of France and the UK. A lack of development in the sector also penalises Italian companies, which are estimated to divert **their goods up to more than 50% of potential traffic to other European airports**, with a consequent increase in total transport costs, to the benefit of operators outside national borders<sup>31</sup>. Also in this segment, in fact, **airports are penalised by the absence of an integrated and advanced intermodal system**, which is lacking in particular in terms of: (i) infrastructural equipment (runways, customs services, ICT); (ii) services offered (special cargo handling, speed of execution); (iii) airport accessibility and intermodal connection.

### 1.2.3 Urban mobility and LPT

 In the urban context, mobility and transport play a major role in the quality of life of citizens, to overcome both congestion and pollution problems in Italian cities. Urban mobility, which requires a sustainable approach<sup>32</sup>, suffers from a **historical modal imbalance towards private transport**: in Italy, collective transport is the first option for daily travel for 11% of the population, the lowest share among the major European countries, while the use of private transport (57%) is 5% higher than the European average<sup>33</sup>.

 The Italian LPT sector lags far behind other European countries with an **underground and tram network which is significantly less extended than that of its main peers**. To date, for example, the extension of the metro system at the national level - with less than 250 km distributed among 7 cities - is lower than that of the Madrid area alone, which reaches almost 300 km<sup>34</sup>. In this sense, a major obstacle is the long time to complete the works, which, in the case of major projects in the field of transport, are close to 17 years<sup>35</sup>.

 The **strong modal imbalance skewed towards road transport is ascribable, at least in part, to such infrastructural deficiencies**: ranking last compared to the United Kingdom, Germany, France and Spain in terms of km of undergrounds, trams and railways, Italy ranks first when it comes to the percentage of passenger-km using road transport, with about 64% against an average of about 40% of other European countries<sup>36</sup>. It is clear that the context of mobility presents important margin for improvement and change, starting from the strengthening of infrastructure, but also from the development of an integrated intermodality system that can promote a more efficient organisation of transport, an appropriate **development of soft mobility**, up to a general rethinking in terms of "**Mobility-as-a-Service**" (MaaS) thanks to new digital services functional to the spread of so-called **infomobility**.

 The current inadequacy of supply may leave part of the potential demand unsatisfied, which would be ready for the modal switch to public transport. **Intervening in the field of public road mobility, while promoting its electrification**<sup>37</sup>, is therefore one of the priorities to be addressed, **being it the predominant mode in local public transport**. The percentage share of places/km on road compared to other modes, in fact, is 95% and this number is lower only in metropolitan areas, which register anyway a significantly high value, equal to 74%<sup>38</sup>.

<sup>27</sup> In this regard, future assessments will have to take into account the indications contained in the National Plan for Airports, which is expected to be published by the end of 2022.

<sup>28</sup> IATA, "E-Commerce Monitor", 2022.

<sup>29</sup> IATA, "The e-commerce Impact on Air Cargo Operations", 2020.

<sup>30</sup> Bank of Italy, "Indagine sui trasporti internazionali di merci", 2021.

<sup>31</sup> National Plan for Airports, 2012.

<sup>32</sup> For further information on the electrification of (public and private) transport, please refer to the Sectoral Strategic Guidelines on Energy Transition.

<sup>33</sup> Special Eurobarometer 495, Mobility and Transport, 2020.

<sup>34</sup> Legambiente, "Rapporto Pendolaria 2022", 2022.

<sup>35</sup> Agenzia per la coesione territoriale, NUVEC, 2018. Reference is made to projects with a cost class of 100/mln or more.

<sup>36</sup> ASSTRA, "Aspetti di rilievo per il settore del trasporto pubblico locale", 2021.

<sup>37</sup> For details on the electrification of the LPT, please refer to the Sectoral Strategic Guidelines on Energy Transition.

<sup>38</sup> Bank of Italy, "Il trasporto pubblico locale: passato, presente e futuro", 2021.





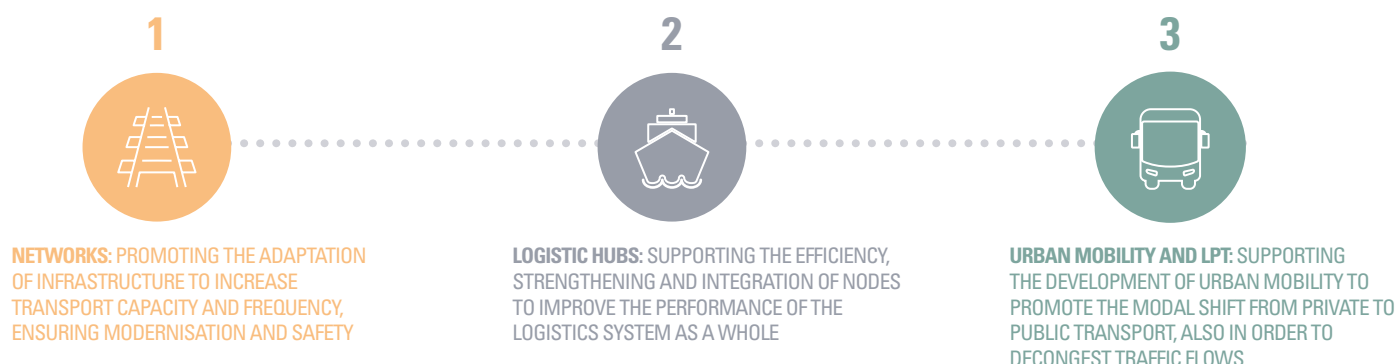
## **2. Areas of focus and strategic priorities**

**2.1  
Networks**

**2.2  
Logistics nodes**

**2.3  
Urban mobility and LPT**

## 2. AREAS OF FOCUS AND STRATEGIC PRIORITIES



- The transport and logistics nodes system must be adequately strengthened and developed in order to fully play a pivotal role for the competitiveness of the national economic and productive structure and to ensure the efficient mobility of goods and people. In this context, **three cross-cutting factors** have a decisive influence on the definition of the focus areas and the strategic priorities for intervention:
  - ▶ **sustainability**, to be understood as the promotion of a modal shift towards the least polluting transport carriers, as well as a general and widespread increase in the efficiency of the various modes of movement of people and goods, in order to reduce the environmental impact of the entire sector and achieve the objectives set at European level<sup>39</sup>;
  - ▶ **digitisation**, which calls for the modernisation of existing network and node infrastructures, but also for the implementation of smart logistics services aimed at reducing system inefficiencies and ensuring proper coordination of the various players;
  - ▶ **intermodality**, which aims at a virtuous integration of the different types of transport and at strengthening the interconnections between networks and logistics nodes for recovering efficiency and rebalancing demand towards sustainable transport systems.
- In pursuing such strategic priorities, it is important to consider that one of the challenges of the transport sector is the **reduction of territorial imbalances** in terms of infrastructure and mobility services for both goods and people. This is a crucial aspect in our country, which presents significant disparities in terms of availability and quality of transport infrastructure<sup>40</sup> (table 2).

TABLE 2 – TRANSPORT INFRASTRUCTURE AND ACCESSIBILITY INDEX

	ROADS	RAILS	AIRPORTS		PORTS	
			GOODS	PASS.	GOODS	PASS.
<b>NORTH</b>	106	109	171	133	123	86
<b>CENTRE</b>	105	104	124	135	124	127
<b>SOUTH AND ISLANDS</b>	94	92	35	61	73	101
<b>ITALY</b>	100	100	100	100	100	100

Source: Bank of Italy, 2021

<sup>39</sup> For details on the transport energy efficiency targets, please refer to the Sectoral Strategic Guidelines on Energy Transition document.

<sup>40</sup> Bank of Italy, "I divari infrastrutturali in Italia: una misurazione caso per caso", 2021. The indicator is based on criteria for accessibility, connection times and the quantitative availability of infrastructures on the territory.



- In this context, despite the considerable amount of available resources for priority investments in the National Integrated Transport System, coming in particular from the National Recovery and Resilience Plan and from the Complementary National Plan, which add to resources from existing funding lines (for a total volume of 209 billion euro), a **residual need for priority actions** persists, **estimated at 70 billion euro**<sup>41</sup>.
- In light of these considerations, it is possible to define **three areas of focus** that aim respectively to achieve three macro-objectives which, by improving the efficiency of the transport and logistics nodes, could contribute to the competitiveness both at local level and for the economic system as a whole:
  - ▶ **the modernisation and efficiency improvement of the networks**, aimed, on the one hand, at reducing travel times and, on the other, at ensuring the safety of infrastructures;
  - ▶ **the enhancement and efficiency of the nodes** with the aim of improving the performance of the logistics system as a whole;
  - ▶ **the development of urban mobility and local public transport (LPT)** to encourage a modal shift from private to public transport and to promote more environmentally sustainable transport modes.

## 2.1 NETWORKS

- Efficient and resilient transport networks are essential to optimise the management of extra-urban traffic flows, also in order to reduce the environmental impact of road transport, and to ensure accessibility from logistics hubs on the territory. In this context, actions on both the railway network and the road and motorway network must meet two main needs: (i) the **reduction of travel times** and (ii) the **increase in safety levels**. In particular, interventions on the road network should aim at improving the safety of citizens and reducing traffic congestion, with particular attention to measures to mitigate environmental impacts without slowing down the transition to more sustainable transport modes. Based on these considerations, investments should target four strategic lines of action:
  - ▶ **modernisation of the rail network with safety adaptations and technological improvements of existing facilities at regional level**, for which there is an additional investment need, on top of the already allocated state funding, equal to 371 million euro on regional lines not operated by RFI (Italian Railways)<sup>42</sup>, also to promote the conversion of networks to the use of innovative carriers (e.g. hydrogen);
  - ▶ **enhancement, maintenance and adaptation to safety standards of the road and motorway network**, also through the development and use of **smart systems for monitoring infrastructure** (e.g. applications based on artificial intelligence algorithms), with special attention placed on road works (e.g. bridges, viaducts, tunnels). Actions must aim not only to improve the climate and seismic resilience of infrastructure and reduce the accident rate, but also to ensure accessibility to inland and peripheral areas. The need for additional investments, compared to the already allocated state funding, for priority programmes to upgrade and adapt the roads to functional safety standards is estimated at approximately 3.4 billion euro, while the investments required to ensure the extraordinary maintenance of works on the secondary road network and to guarantee the accessibility of inland and mountainous areas amount to 0.5 billion euro and 3.8 billion euro respectively<sup>43</sup>;
  - ▶ **strengthening of the road and motorway network** in order to **decongest and rationalise traffic flows and improve the accessibility of nodes in terms of intermodality** (e.g. lanes widening, construction of new connections). With reference to metropolitan areas, additional investment needs for decongesting road sections and motorway interconnections, in addition to the allocations already foreseen, are estimated at over 2.1 billion euro<sup>44</sup>;
  - ▶ **technological enhancement and digitisation of road and motorway sections (smart road)**, through the introduction of solutions for the observation and monitoring of traffic flows, in order to optimise travel times and increase network capacity, reducing congestion and, consequently, the volume of polluting emissions. The resources necessary for the completion of priority infrastructural measures in the field of smart roads, to be found in addition to the already foreseen state allocations,

<sup>41</sup> Ministry of the Economy and Finance, Economic and Financial Document 2022, Annex, "Dieci anni per trasformare l'Italia. Strategie per infrastrutture, mobilità e logistica sostenibili e resilienti".

<sup>42</sup> See note 41.

<sup>43</sup> See note 41. These estimates refer to the needs related to the priority programmes identified by the Ministry for Sustainable Infrastructure and Mobility and do not take into account the additional ones related to priority actions, which for the road and motorway network amount to approximately 8.4 billion euro.

<sup>44</sup> See note 43.

amount to about 600 million euro<sup>45</sup>. It should be remembered that the development of smart roads requires, in addition to the necessary adaptations of the networks, the renewal of the vehicle fleet, through the progressive diffusion of vehicles capable of communicating with smart infrastructures.

## 2.2 LOGISTIC NODES

- The development of **efficient, sustainable and integrated logistics nodes** within national and European transport networks is crucial to overcome the delays that negatively affect logistics performance and, more generally, the **competitiveness of the country**, such as the lack of intermodal connections and the excessive use of roads for freight transport. In this context, actions must aim at two main objectives: (i) increasing node **accessibility and capacity** and **strengthening intermodal connections**; (ii) the promotion of an **integrated, sustainable and digitised logistics chain**, aimed at reducing the costs and times of logistics services.
- Based on these considerations, the following strategic priorities are outlined:
  - ▶ **enhancing the accessibility and efficiency of ports and inland infrastructure.** Actions must focus, in particular, on the **adaptation of infrastructure to the evolution of the international port standard** (deepening of the seabed, expansion of docks, approaches and yards, upgrading of handling and storage structures), for which the need for investments is estimated at a total of 300 million euro<sup>46</sup>, and on the **efficiency of the ports from a green perspective** (infrastructural measures for the activation of cold ironing and the use of renewable energies in ports), also to accommodate LNG or dual-fuelled ships; at the same time, it is necessary to provide for the **adaptation of vessels** whose cost, with reference to the need to enable the power supply, oscillates between 0.5 and 1 million euro per ship<sup>47</sup>;
  - ▶ **enhancing the accessibility and modernisation of airport infrastructure**, in order to meet the expected increase in traffic flows, both with regard to **passenger transport** (national traffic expected to grow to 300 million people by 2035<sup>48</sup>), and **cargo traffic** (flows in strong growth due to the e-commerce boom), which is also necessary to **recover the share of air cargo traffic transported by lorry**<sup>49</sup>;
  - ▶ **upgrading of infrastructure for intermodality**, through the **development of last-mile and penultimate-mile connections** to integrate ports, airports, freight villages and inland terminals into the transport network - in particular the rail network - by designing or adapting infrastructure to the need to accommodate increasingly long trains. The need for additional investments for maritime-rail intermodality, particularly crucial for the development of inland areas, especially where the expansion of ports of call is precluded by their location within urban agglomerations, is estimated at over 140 million euro<sup>50</sup>;
  - ▶ **development and enhancement of the role of freight villages** as key logistics infrastructure for the collection, storage, consolidation and relaunch of goods from a long supply chain perspective, but also as infrastructure for the first transformation and processing of products and for the management of last mile services, with particular reference to the **urban distribution of goods** (city logistics). To this end, actions must be oriented to ensure an **effective integration of freight villages with main national harbours** (e.g. development of dedicated railway services, creation of customs corridors) and to encourage **specialisation processes consistently with the characteristics of the territory and with the positioning along the logistic chain** (e.g. construction of warehouses with controlled temperature and cold rooms for freight villages in areas in which the agri-food sector plays an important role)<sup>51</sup>;
  - ▶ **promotion of integrated logistics** in order to **improve the quality of services in terms of timing, reliability and energy consumption**. The actions must aim to develop, in particular, (i) the **digitisation of the logistics chain**, both with reference to the hardware (e.g. implementation of broadband and 5G within the nodes) and software component (e.g. electronic tracking of information relating to the movement of carriers and goods, leveraging innovative technologies such as blockchain; develop-

<sup>45</sup> See note 43.

<sup>46</sup> The need for investments refers to the resources to be found for the completion of the priority projects in the field of maritime accessibility, in addition to the public funding already allocated. Source: Ministry of the Economy and Finance, Economic and Financial Document 2022, Annex, "Dieci anni per trasformare l'Italia. Strategie per infrastrutture, mobilità e logistica sostenibili e resilienti".

<sup>47</sup> Enel X, Legambiente, "Porti verdi: la rotta verso uno sviluppo sostenibile", 2021.

<sup>48</sup> ENAC, "Piano Nazionale degli Aeroporti, Aggiornamento e Revisione – Linee Guida", 2021.

<sup>49</sup> This is the freight traffic managed by air carriers but which is forwarded through other European airports, reached by land, due to the lack of adequate logistical services at Italian airports.

<sup>50</sup> See note 41.

<sup>51</sup> See Confindustria, "Progetto Mare", 2022; Metropolitan City of Bologna, "Analisi nazionale e transnazionale delle piattaforme logistiche con efficiente ed efficace movimentazione merci su ferro", 2019.

ment of interoperable systems between the various entities and actors of the logistics chain)<sup>52</sup> and (ii) **the aggregation of logistics operators**, to overcome the fragmentation that historically characterises the sector (in which over 100,000 companies operate, with an average of less than 10 employees<sup>53</sup>), favouring the **dimensional growth of companies**, also in order to promote a more adequate vertical integration of the sector.

## 2.3 URBAN MOBILITY AND LPT

- Increasing people's accessibility to integrated long-distance and local transport systems and reducing gas emissions and pollution levels as required by the EU. These are among the main reasons for the **rethinking of urban mobility services**, both with reference to **passenger transport and freight handling**, facilitating the development of **efficient and sustainable urban logistics**, also in order to **decongest city traffic flows**. In particular, it is necessary to promote the use of collective transport (in Italy the motorisation rate is 66%, the highest among the main countries of the European Union<sup>54</sup>), focusing on:
  - ▶ **the renewal and expansion of public transport vehicles**. To this end, it is necessary, on the one hand, to **replace old buses and underground trains with new, more efficient rolling stock and innovative traction modes** (electric, hydrogen, hybrid), for an estimated need of around 3,400 low-emission buses by 2026<sup>55</sup>. An opportunity, in this sense, is also represented by Bus Rapid Transit (BRT), which makes it possible to reduce travel times while ensuring higher transport capacity. On the other hand, it is necessary to **increase the stock of vehicles in circulation** to allow an intensification of frequencies and a further decongestion of traffic, so as to reach European standards of speed and frequency (transits every 4 minutes during peak hours in the cities of Rome, Naples, Milan and Turin, target commercial speeds of at least 17 km/h) and increase the number of daily trips on regional and subway trains from 6.1 to 10 million<sup>56</sup> from 2019 to 2030;
  - ▶ **upgrading and modernising rail infrastructure with adaptation of existing facilities and infrastructure for safety and technological improvement**. In order to bring the urban rail networks, in relation to population, up to the levels of European peers, 260 km of new underground lines, 570 km of trams and 560 km of suburban railways are needed<sup>57</sup>. The National Recovery and Resilience Plan moves in this direction, aiming at the construction of 230 km of network equipped for mass rapid transport, focusing mainly on metropolitan areas;
  - ▶ **construction and maintenance of bicycle networks** both in urban areas - through a network of safe routes connecting neighbourhoods with intermodal nodes - and extra-urban areas to facilitate daily journeys and intermodality. Overall needs for the maintenance and construction of bicycle networks have been estimated at 570 km in urban areas and 1,250 km for tourist routes<sup>58</sup>, for resources amounting to more than 2 billion euro<sup>59</sup>. Action is especially required in Southern Italy cities, **where the density of cycle paths is particularly critical** (in 2019 there are only 5.4 km of cycle paths per 100 square km, 10 times lower than that recorded in the provincial capitals of the North<sup>60</sup>);
  - ▶ **digitisation of LPT and implementation of Mobility as a Service for a new approach to local mobility**. Urban mobility should follow a systemic approach that not only integrates the different modes of transport, but also provides digital services for the direct use of citizens for a proper efficiency of time and space and an adequate level of satisfaction of the experience for end consumers. This includes innovations ranging from the promotion of app-based one-stop ticketing services, to the implementation of smart displays and the development of real "Living Labs"<sup>61</sup> to test new technologies and models (safety systems for driver assistance, autonomous driving, car connectivity to the network). In this context, **support for municipalities and local authorities will be necessary for the correct planning, management and organisation of timeframes and for setting in motion resources**.
- The National Recovery and Resilience Plan has already paved the way with pilot projects in metropolitan cities (sub investment 1.4.6 "Mobility as a Service for Italy").

<sup>52</sup> More information on these issues can be found in the Strategic Guidelines on Digitisation of Technological Innovation.

<sup>53</sup> Confetra, "Almanacco della Logistica 2021", 2022.

<sup>54</sup> ISFORT, 18° Rapporto sulla mobilità degli italiani, 2021.

<sup>55</sup> See note 11.

<sup>56</sup> See note 55.

<sup>57</sup> See note 55.

<sup>58</sup> See note 55.

<sup>59</sup> See note 41.

<sup>60</sup> ISFORT, 18° Rapporto sulla mobilità degli italiani.

<sup>61</sup> It is "a user-centred, open innovation ecosystems based on a systematic user co-creation approach integrating research and innovation processes in real life communities and settings" (ANNEX 4 National Recovery and Resilience Plan - Definitions). The first "Cooperative, connected and automated mobility" Living Lab was awarded to the city of Milan.



### **3. Enabling Factors and CDP's role**

**3.1  
Enabling factors**

**3.2  
CDP's role**



### 3. ENABLING FACTORS AND CDP'S ROLE

#### 3.1 ENABLING FACTORS

- The effective pursuit of the strategic priorities outlined above is linked to at least four enabling factors that cut across the areas of focus considered.
  1. The implementation of a **coherent and organic development strategy in the different sectors**. The fragmentation of competences and responsibilities, which are spread among multiple institutional stakeholders, even within the same sector, is a major obstacle to the definition of a single system vision, as well as to the effective use of available resources. Consider, for example, the case of LPT, characterised by a rather complex multi-level governance that sees the overlapping of regions and local authorities in financing, programming and planning, with consequent diseconomies of scale<sup>62</sup>. Consider, likewise, the case of ports, where the absence of a strategic direction defined at the national level is reflected in an accentuated competition among the 16 Port System Authorities to the detriment of an organic design<sup>63</sup>. Overcoming these critical issues is necessary on the one hand to avoid potential situations of conflict between individual ports, in an era in which competition is between transport systems and supply chains; on the other hand, to strengthen the mechanisms for involving local stakeholders for the prevention of NIMBY (Not In My BackYard) and NIMTO (Not in My Terms of Office) syndromes, which hinder investments in the territory, with particular reference to the expansion of port areas.
  2. The **simplification of procedures** at the various stages of **infrastructure planning, programming and implementation**, in order to speed up the timetable for setting investments in motion, especially those related to the completion of the TEN-T network (in northern Italy alone, in 2021 more than half of the priority infrastructure sites had progressed below schedule or were at a standstill<sup>64</sup>) and the development of port and inland infrastructure. In the case of ports, simplification should address, among other things, the procedures for the implementation of dredging, with particular reference to those related to the characterisation of sediments and their disposal. It is also key to **streamline bureaucratic procedures** in the logistics sector, in order to reduce the time, costs and uncertainty associated with them (in Italy there are over 400 administrative procedures, compared to a European average of less than 80, which affect freight traffic and carriers, falling under the responsibility of 19 public administrations<sup>65</sup>), as already provided for in part of the new provisions set out in the National Recovery and Resilience Plan<sup>66</sup>.
  3. The **timely and accurate examination of existing infrastructures**, in order to ensure effective planning of maintenance and modernisation works. This aspect is particularly relevant for road network, for which information on the actual state of existing works (bridges, tunnels, viaducts) is incomplete and fragmentary, precluding a precise diagnosis of required actions. The NRRP Complementary Plan moves in this direction allocating 450 million euro for the improvement of infrastructure security through the census of 12,000 works of art on the main road network.
  4. The **correct development and implementation of the Special Economic Zones (SEZs)** is an opportunity not to be missed to respond to the territorial imbalances of the South of Italy compared to the central-northern parts of the country. Indeed, the key elements of SEZs, such as administrative simplification, the application of a favourable economic and the provision of fiscal/financial incentives, may allow to attract **greater productive investments**, contributing to the development of the local economy, in a logic of greater integration between industry and logistics.

#### 3.2 CDP'S ROLE

- In this context, CDP can contribute to bridging the gaps highlighted, intervening **additionally and complementarily** with the market, taking into account the critical issues that characterise the transport sector as a whole, such as:
  - ▶ the **presence of positive externalities**, which limit the ability to fully capture the benefits generated by investments, particularly in the area of public transport, and **negative externalities**, which limit the costs associated with unsustainable choices and behaviour (e.g. lack of measures to reduce air and noise pollution by air and sea carriers);

<sup>62</sup> See note 55. The financing of LPT services is the responsibility of the state, but regions and local authorities contribute significant shares. Similarly, the planning and scheduling of LPT services is a responsibility of regions, but local authorities, especially larger cities, provide for the planning of mobility and territorial policies that necessarily also concern actions and works on LPT infrastructures and services.

<sup>63</sup> See The European House - Ambrosetti, "Verso Sud. La strategia europea per una nuova stagione geopolitica, economica e socioculturale del Mediterraneo", 2022.

<sup>64</sup> OTI Nord – Osservatorio Territoriale Infrastrutture, "Rapporto 2021", January 2022.

<sup>65</sup> Confetra, 2021.

<sup>66</sup> The National Recovery and Resilience Plan provides for the simplification of logistics procedures in the import/export field, through the effective implementation of the Single Control Desk, and the digitisation of transport documents (M3C2.2, Reform 2.1 and Reform 2.3).





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- ▶ **suboptimal expenditure rates and investments** for infrastructure **modernisation and maintenance**, which can be observed in areas which tend, by their nature, to be **monopolistic**, as in the case of transport networks, in the absence of effective incentive schemes;
  - ▶ the existence of **information barriers** on the risks and opportunities of investing in infrastructure projects, linked to the lack of data and empirical evidence with respect to costs, return and socio-economic impact, which hinder the deployment of private capital, especially in areas that require massive initial contributions of resources and long times for the recovery of capital, as in the case of port and airport nodes.
- In particular, CDP may act - also depending on the degree of autonomy it may enjoy in the various markets/sectors and the specific characteristics of the different counterparties - in order to:
    - ▶ **contribute to bridging the investment gap** in sectors and territories where operators are unable to mobilise adequate volumes of resources, including through the use of **blended finance** instruments and in **complementarity with already allocated public resources**;
    - ▶ **promote investments** in areas that require **long-term commitments**, also with respect to the planning of public programmes, acting as a catalyst for other parties' resources;
    - ▶ **provide support to Public Administrations** in the management of authorisation processes, also in order to contribute to their **simplification and/or acceleration**, in the **planning** of actions, in **setting in motion** projects and in their **monitoring/evaluation**, with particular reference to the measures provided for by the National Recovery and Resilience Plan and the Complementary Plan;
    - ▶ **improve the technical quality of investments**, through the promotion of actions linked to facility management plans aimed at ensuring effective management and maintenance of works over the years.
  - To specifically assess the relevance, priority and strategic coherence of actions in the focus areas identified, CDP is inspired by **additionality and complementarity** criteria, identifying the most appropriate operational instruments based on the characteristics of the counterparties (type, geographical location, etc.) and the characteristics of the sector (e.g. degree of maturity, profitability).

An aerial view of a large aircraft fuselage in a factory. The fuselage is light green and has a large rectangular opening. The factory floor is grey and has various pieces of equipment, including red and yellow scaffolding, toolboxes, and a yellow cart. The scene is brightly lit, with shadows cast on the floor. Two large, solid blue rectangular overlays are present: one on the left side, partially covering the fuselage and the floor, and another on the right side, covering a significant portion of the fuselage and the floor. The text '4. Recommendations' is written in white on the left blue overlay.

## 4. Recommendations

## 4. RECOMMENDATIONS

For each of the areas of focus, the **specific strategic guidelines to prioritise** (although not exhaustively) CDP actions in the field of **Transport and Logistics Nodes** are summarised below.

AREAS OF FOCUS	 <b>NETWORKS</b>
STRATEGIC PRIORITIES	<p><b>A.1</b> Supporting the <b>expansion and modernisation of rail infrastructure for intercity mobility</b></p> <p><b>A.2</b> Promoting the <b>maintenance and adaptation to safety</b> standards of the road and motorway network</p> <p><b>A.3</b> <b>Supporting the strengthening of the road and motorway network</b> in order to <b>decongest and rationalise</b> traffic flows and improve the accessibility of nodes in terms of intermodality</p> <p><b>A.4</b> Promoting the <b>technological enhancement and digitisation of road and motorway sections</b> (smart roads)</p>
AREAS OF FOCUS	 <b>LOGISTIC HUBS</b>
STRATEGIC PRIORITIES	<p><b>B.1</b> Supporting the <b>upgrading of the accessibility of harbour and inland infrastructure and the efficiency of the ports and fleets from a green perspective</b></p> <p><b>B.2</b> Strengthening <b>accessibility and promoting the modernisation of airports</b> with infrastructural measures, especially for the development of the <b>cargo sector</b></p> <p><b>B.3</b> Enhancing <b>infrastructure for intermodality</b>, through the development of <b>last/penultimate mile</b> connections (especially on rail)</p> <p><b>B.4</b> Promoting the development and enhancement of <b>freight villages</b> through integration with ports/airports and specialisation routes</p> <p><b>B.5</b> Supporting the <b>digitisation of the supply chain</b>, both on the hardware side (e.g. broadband within the nodes) and on the software side (development of interoperable systems)</p> <p><b>B.6</b> Fostering <b>the aggregation of logistics operators</b>, promoting the <b>dimensional growth</b> of companies in the sector</p>



## URBAN MOBILITY LPT

**C.1**

Supporting the **renewal and expansion of the circulating fleet**, through the adoption of new, more efficient rolling stock with innovative traction modes, also to increase transit frequency and passenger volumes

**C.2**

**Enhancing and modernising rail infrastructure for interurban mobility**, with particular reference to mass rapid transport

**C.3**

Promoting the **construction and maintenance of bike paths** to ensure safe connections and routes for everyday travel with an intermodal perspective

**C.4**

Promoting **the digitisation of LPT** and **the implementation of Mobility as a Service** for a new approach to local mobility

cdp 