



# DRIVING MODAL SHIFT AND THE ROLE OF DIGITALISATION


**Rhine-Alpine Corridor Conference  
Vital Links - Resilient Network  
from North Sea to Mediterranean**



UNIONTRASPORTI



## CONTEXT AND DIGITAL TRENDS

- Higher level of **automation**;
  - Better and broader **connectivity (Ultra broadband and 5G)**;
  - Main **digital technologies and solutions**: Internet of Things, cloud computing, big data analytics, automation and robotics, Artificial Intelligence;
  - **Digital platforms** become a new business model, which enable innovative transport services or more efficient supply of services and increase tradability of services;
  - **Data-driven approach** become dominant for both businesses and regulators;
  - **Digital synergies** between transport/logistics services and other service sectors: digital transformation of transport and logistics services relies on the support of other services (telecom, CRS, construction and engineering, energy, environment, and other business services).
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## DIGITALIZATION IN ROAD TRANSPORT

- **Higher levels of automation:** platooning, autonomous vehicles
- **Intelligent Transport System (ITS):** real-time and fine-grained tracking so as to enable better management of vehicles and loads.
- **Digital freight brokerage services:** Load-matching platforms, e.g. Uber freight
- **Digital information and transport document:** electronic Freight Transport Information (eFTI) and eCMR (electronic version of the consignment note)



Digital Freight Matching (DFM) platform is similar to a marketplace of shippers and carriers. It allows shippers to match their consignments to load capacity of carriers available on the platform. Carriers, on the other hand, are able to secure loads from shippers. Thus, both parties are able to easily and efficiently secure their operations. However, the effectiveness of the DFM platform is based on its portfolio of shippers and carriers.

## DIGITALIZATION IN RAIL TRANSPORT

- **Autonomous trains**
- **Signalling and traffic management (ERTMS)**
- **Digital train control (ETCS)**
- **Digital platforms for matching supply and demand (e.g. EasyRailFreight)**
- **E-ticketing**



Digital development provides a unique **opportunity for rail operations** to become an integral part of the transition toward a greener and more sustainable public transport mode. Digitalization of the rail sector can improve the **performance, competitiveness, safety, and security of the railway systems**. Digital solutions also increase the **efficiency and cost-effectiveness of rail operations**.

## DIGITALIZATION IN MARITIME TRANSPORT

- Online booking and online cargo management
- Tracking and tracing of shipments
- Routs optimization
- Autonomous vessels



**PCS** is a high-capacity electronic platform which offers the full range of services in digitalization, data exchange and tracking systems, in addition to the integration of administrative, commercial and operational activities for the import, export and transhipment of cargo

Some of the **key benefits** of digitalization include improved efficiency, reduced costs, increased transparency (by reducing the risk of errors and fraud), enhanced customer experience (by providing real-time tracking and visibility of shipments) and better cost allocation.

## DIGITALIZATION IN URBAN TRANSPORT

- **Digital technologies** (e.g. AI, IoT, automation, Big Data Analytics, etc.) provide possibility to address chronic urban transport problems, e.g. traffic congestion; lack of choice for consumers; inefficient utilization of vehicles and space; pollution; etc.
- **Data collection and data analytics** help better identify causes of problems and find solutions;
- **Data-driven new public transport services:** e.g. Via Van (now "Via"), US-German joint venture, on-demand, dynamic, data-driven public mobility;



- **Digital platform enabled innovations,** e.g. Ridehailing (Uber) and Sharing Mobility (Car/bike/scooter sharing and Carpooling)

# THE SOUTH OF NSRM CORRIDOR IS READY FOR THE TWIN TRANSITION?



- Electric charging stations
- Smart roads



- Technological equipment
- Custom efficiency
- Green transition



- Integrated mobility in stations
- Railway electrification
- GSM-R coverage



- Technological equipment
- Intermodality
- Airport Carbon Accreditation



- Modal integration
- Green Transition
- Safe parks



- Mobile coverage (5G)
- Actual average download speed
- Digital maturity of the big cities

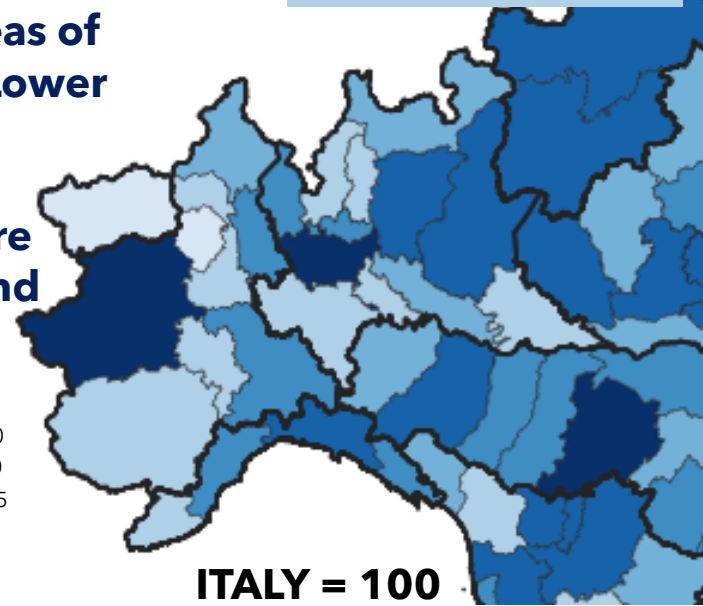
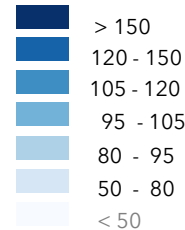


- CO<sub>2</sub> emissions
- Energy production from renewable sources
- Trend of production from renewable sources

**For KPI Green&Smart (by Uniontrasporti), Northwest regions are positioned above the national average, with the exception of the Aosta Valley, some areas of Lower Piedmont and Lower Lombardy.**

**In TOP5 areas, there are Milan (1°), Turin (4°) and Genoa area (5°)**

<b>NORTH WEST</b>	<b>104,8</b>
<b>NORTH EAST</b>	<b>121,0</b>
<b>CENTER</b>	<b>98,0</b>
<b>SOUTH</b>	<b>85,0</b>





## DIGITAL TRANSFORMATION IN TRANSPORT AND LOGISTICS: POLICY IMPLICATIONS

- **Data is crucial** not only for the operation of business, but **also for governance and policy-making** in the age of digitalization;
  - **Some other issues also become prominent: interoperability** between different systems, **harmonization** of individual digitalization initiatives, **standardization, safety, cybersecurity**, etc.
  - **Synergies with other sectors require a global digital strategy** to build a supportive ecosystem;
  - **Disruptive effects of digitalization on incumbent services and service suppliers require balancing policies and regulations;**
  - **Policies and regulatory framework should promote innovations** which are not only sources of competitiveness, but **also beneficial to public good**
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An aerial photograph of a complex highway interchange with multiple lanes, overpasses, and ramps. The image is overlaid with a semi-transparent blue grid of lines and nodes, resembling a network or data flow. Numerous circular icons are scattered across the scene, each containing a white symbol related to transportation or technology. These icons include a cloud, a satellite, a traffic light, a car, a bus, a location pin, a road, an airplane, a battery, a Wi-Fi signal, and a ship. The text "Thank you for attention" is centered in a bold, blue, sans-serif font.

**Thank you for attention**