

# **VERKKO WORKPACKAGES**



# SMART AND SUSTAINABLE CITIES & PORTS



# AS CITIES AND PORTS ARE CONSTANTLY EVOLVING, THE ADOPTION OF DIGITAL SOLUTIONS IS CRUCIAL TO CREATING SMARTER, MORE CONNECTED AND SUSTAINABLE TRANSPORT SYSTEMS FOR EUROPEAN PROSPERITY.

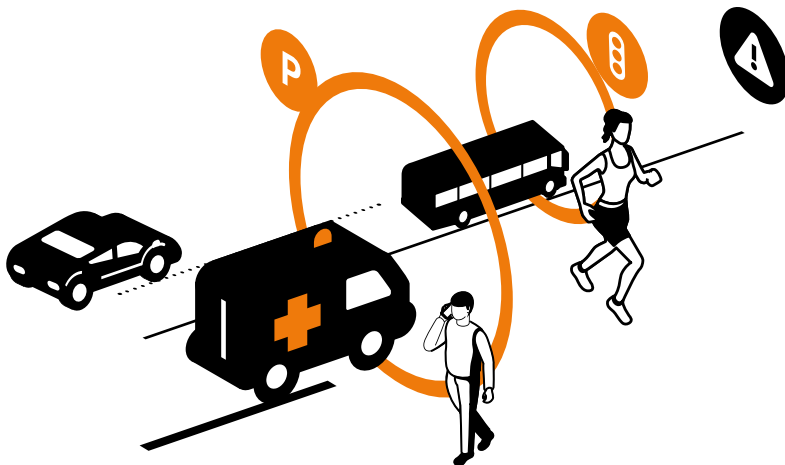
Digitalisation is changing the landscape of intermodal and urban mobility, offering unprecedented opportunities to improve road safety and traffic flows and to optimise infrastructure.

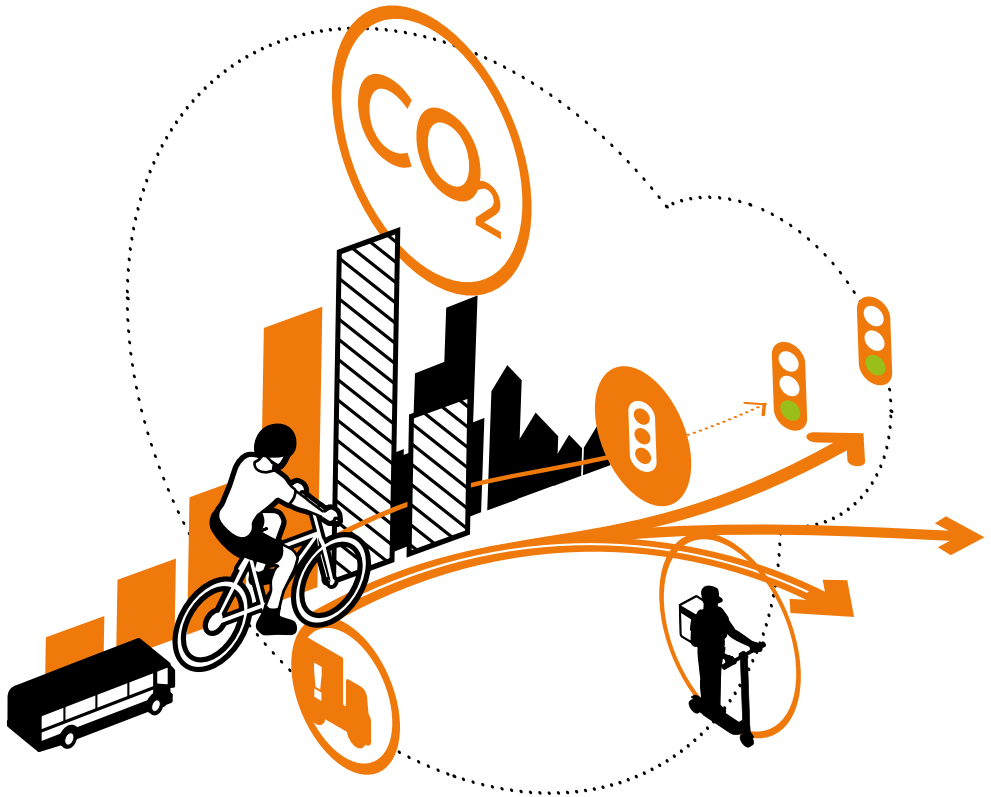
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**By using advanced technologies such as connected and intelligent applications C-ITS and ITS, Internet of Things (IoT), artificial intelligence and data analytics, authorities can prioritise modes of transport and emergency services, reduce environmental impacts and improve the overall mobility experience.**

# THE EUROPEAN COMMISSION EMPHASIZES THE NEED FOR LOGISTIC HUBS, CITIES AND PORTS TO ADOPT SMART TECHNOLOGIES TO IMPROVE URBAN LIVING, ENHANCE SUSTAINABILITY AND FOSTER ECONOMIC GROWTH.

Key requirements include the development of Smart Urban Mobility Plans (SUMP) and participation in the Climate-Neutral and Smart Cities program to achieve climate neutrality by 2030 through innovative technologies and sustainable practices.

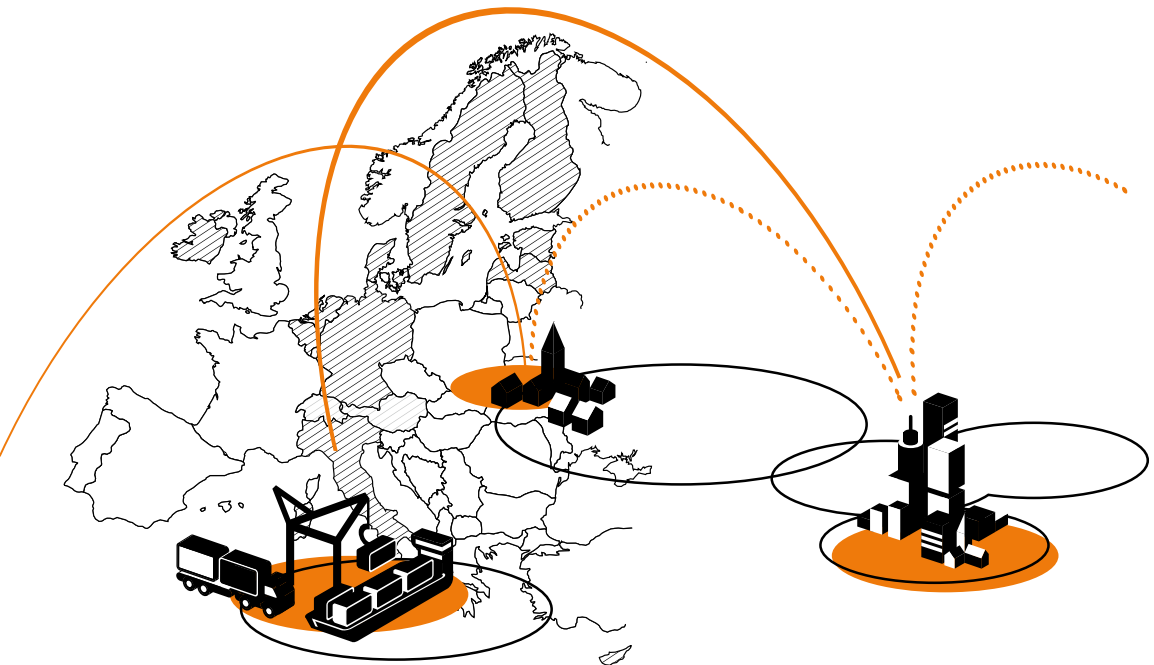




The Climate-Neutral Smart Cities program supports cities in achieving climate neutrality by 2030 through the adoption of innovative technologies and sustainable practices.

# **PORTS IMPLEMENT SMART TECHNOLOGIES TO OPTIMISE LOGISTICS, REDUCE ENVIRONMENTAL IMPACTS, AND IMPROVE CONNECTIVITY WITH URBAN AREAS AND THE TEN-T NETWORK.**

The TEN-T regulations focus on developing a comprehensive and integrated transport network across Europe, including the deployment of ITS to enhance the efficiency and sustainability of transport corridors.



# **THE VERKKO PARTNERS WILL IMPLEMENT AND TEST THE USE OF INNOVATIVE IT SYSTEMS IN URBAN AREAS AND PORTS.**

- **innovative Cycling Information Systems for monitoring and managing cycling data**
- **implement Digital Traffic Regulations**
- **develop models to predict and manage mobility demand**
- **integrate cycling data for Sustainable Urban Mobility Plans (SUMPS) and smart cycling initiatives**
- **install mobility sensors to monitor pedestrian and cyclist movements**
- **pilot advanced information exchange for HGVs and optimise predictive flows for the ports**

VERKKO applies the climate-neutral mobility strategies and urban integration models developed in SPINE, URBreath, and HADRIAN. It enhances last-mile traffic data exchange between ports and cities, and contributes to smart cycling initiatives through active participation in NAPCORE X and the work already done in MERIDIAN. The project also builds on SMART E263/E77's corridor-level coordination to improve multimodal connectivity.

The revised ITS Directive (EU) 2023/2661 outlines the framework for the deployment of ITS across Europe, emphasizing interoperability, data sharing, and the integration of new technologies to improve transport systems.

The project also builds on SMART E263/E77's corridor-level coordination to improve multimodal connectivity.

## WORK PACKAGE 5

### **SMART AND SUSTAINABLE CITIES & PORTS**

10 Projects



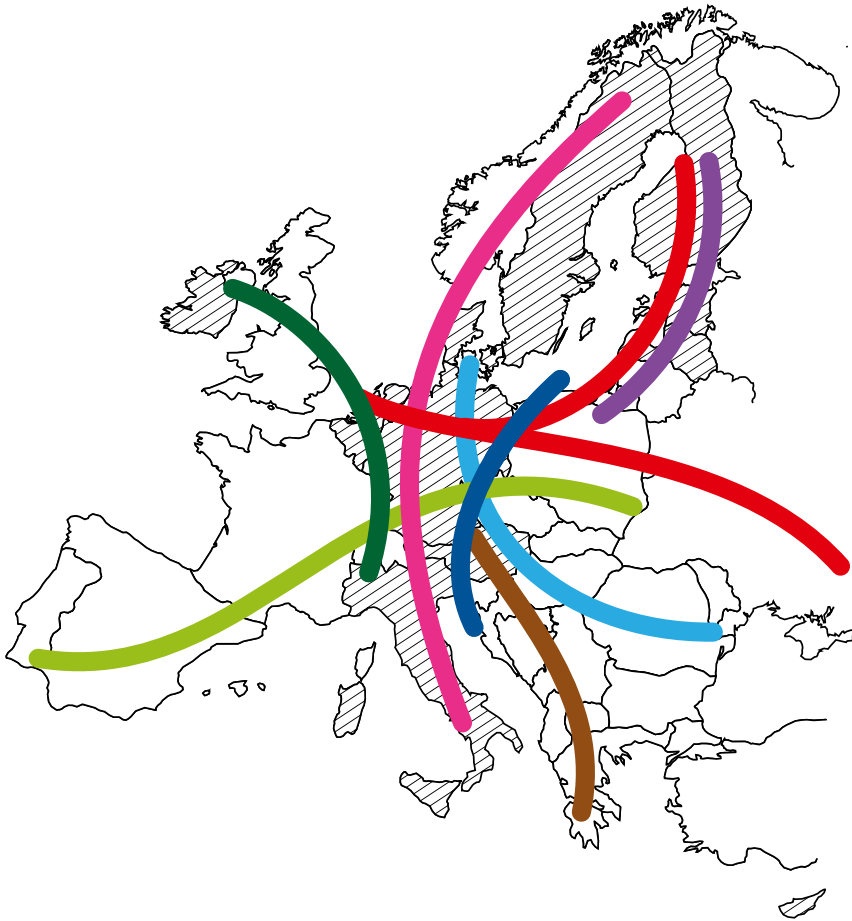


**ONE OF EUROPE'S STRENGTHS IS ITS HIGHLY EFFICIENT ROAD SYSTEMS. THE CONTINUOUS IMPROVEMENT OF THIS INFRASTRUCTURE IS ESSENTIAL TO MAINTAIN ECONOMIC GROWTH AND FACILITATE THE FREE MOVEMENT OF GOODS, SERVICES AND PEOPLE THROUGHOUT THE EUROPEAN UNION.**

VERKKO focuses on efficient transport and logistics systems important for the smooth functioning of the single market and for enhancing economic cohesion between the EU member states.

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**Advancing the deployment of innovative ITS solutions along the TEN-T corridors will improve safety, redundancy and efficiency.**



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Trans-European Networks, or TENs for short, are a contribution of the European Union to better networking in the internal market, to the standardisation of transport systems, and to the improvement of the energy and telecommunications infrastructure.

## **6 INNOVATIONS TOWARDS SMARTER ROADS IN IN EUROPE, VERKKO WILL FOCUS ON TRANSPORT AND LOGISTICS SYSTEMS FOR EU ECONOMIC COHESION.**

- **implement advanced mobile information systems and enhance traffic management**
- **deploy systems to warn drivers of traffic queues**
- **evaluate and enhance Intelligent Speed Assistance (ISA) systems**
- **develop and deploy systems to dynamically manage traffic and enhance road safety**
- **upgrade and manage smart road and tunnel infrastructure for improved safety and efficiency**
- **upgrade infrastructure for dual civil and military mobility use**

The VERKKO deployments will adhere to the specifications and principles outlined in the ITS Directive (EU) 2023/2661 Annex II, ensuring compatibility with C-ITS and addressing the, Military Requirements for Military Mobility within and beyond the EU (11373/19/2020).

Additionally, WP4 activities will comply with the TEN-T regulations (2024/1679, Art. 48) to enhance the network's efficiency and reliability.

VERKKO leverages these deployment methodologies and corridor-level coordination models from WP4 Tasks to implement ITS infrastructure along TEN-T corridors.

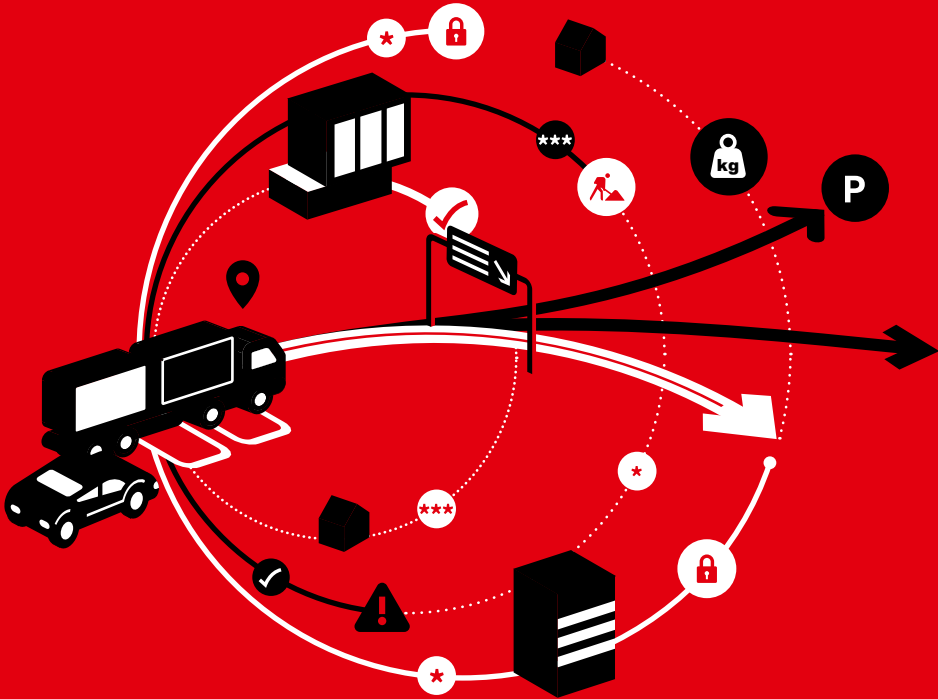
WORK PACKAGE 4

## TEN-T ITS DEPLOYMENT

18 Projects



# MOBILITY DATA



**THE EUROPEAN COMMISSION  
EMPHASIZES THE IMPORTANCE OF  
PROVIDING ACCURATE AND PROMPT  
REAL-TIME TRAFFIC INFORMATION (RTTI)  
TO IMPROVE ROAD SAFETY AND  
USER EXPERIENCE.**

Ensuring seamless exchanges of data between different systems and stakeholders to improve data integration and interoperability is of crucial importance. Protecting the integrity and confidentiality of transport data is essential, which highlights the need for enhanced cybersecurity measures, in line with the General Data Protection Regulation.

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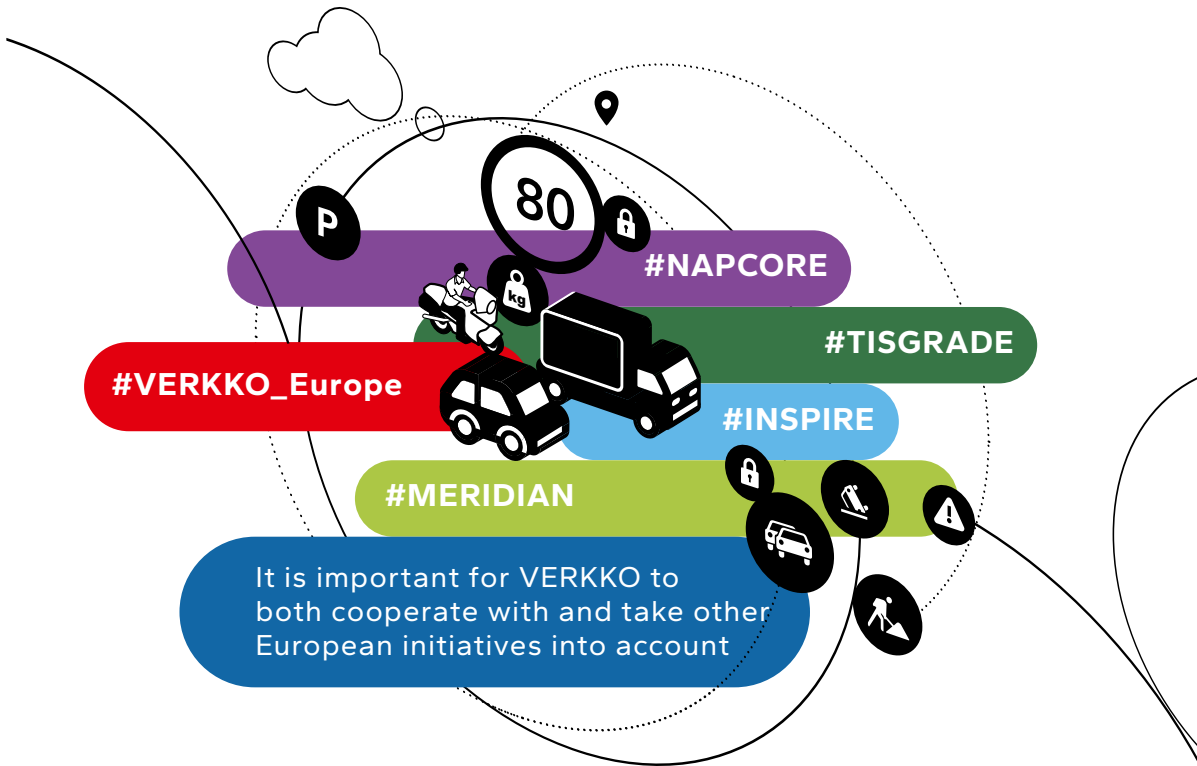
**Promoting eco-friendly transport solutions is vital to reduce emissions and support environmental goals, contributing to sustainability.**

# **VERKKO MOBILITY DATA**

## **KEY OBJECTIVES**

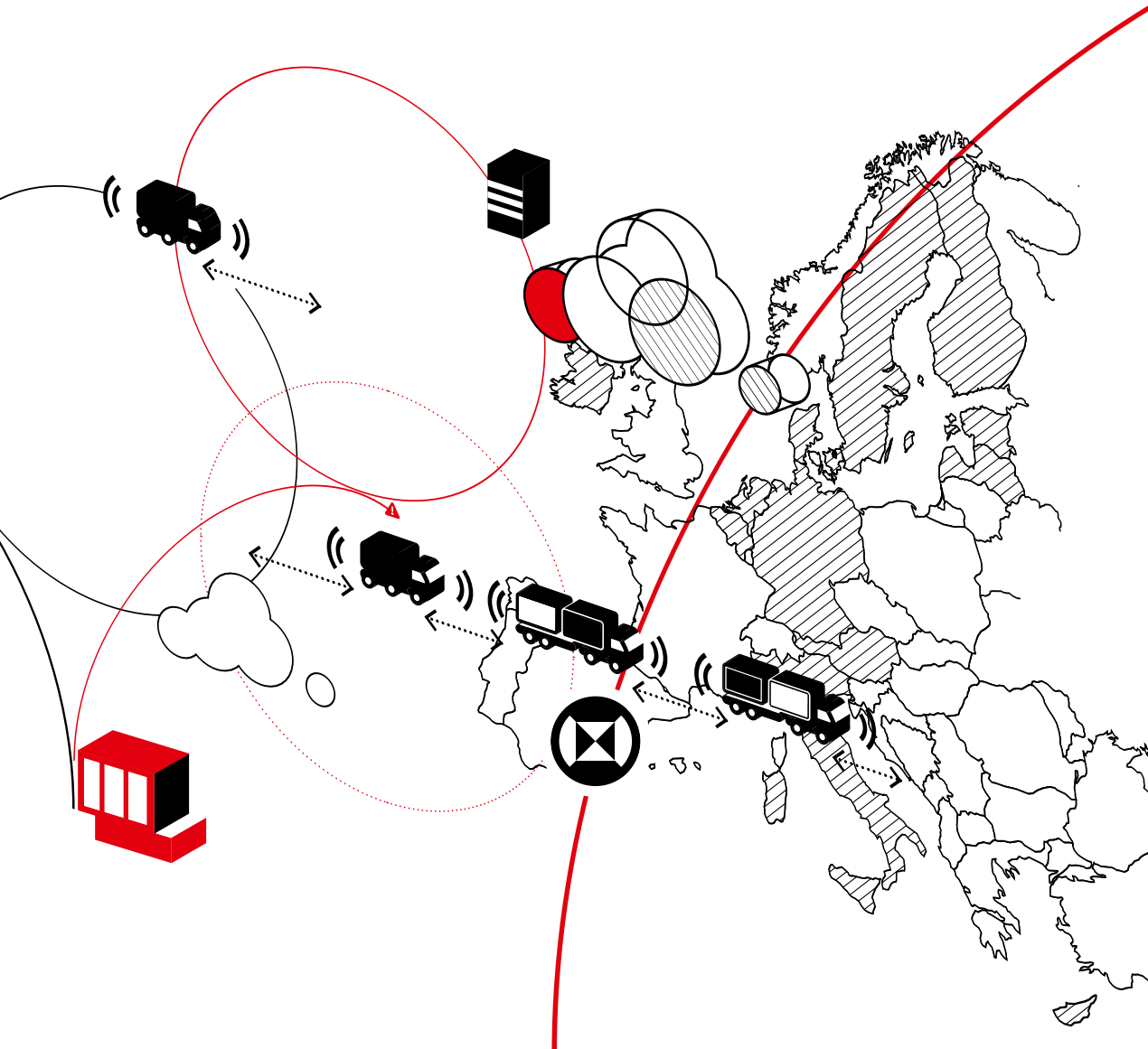
- **enhance traffic management, optimise traffic flows and enhance road safety through real-time data, predictive analysis and advanced communication technologies**
- **improve the integration and interoperability of various data sources ensuring interoperability between different systems**
- **support the development and deployment of autonomous and connected vehicle technologies by providing the necessary infrastructure and regulatory frameworks**
- **contribute to environmental sustainability by reducing congestion, optimising traffic flows and promoting the use of eco-friendly transport options**

- **enhance the user experience by improving the travel experience through the provision of real-time information, planning tools for journeys and roadside assistance, helping users make informed travel decisions**
- **digitalise and modernise traffic management and road infrastructure, so to enhance the efficiency and reliability of transport systems and support the transition to a digitalised road network**
- **enhance cybersecurity in logistics and transport systems to protect data integrity and confidentiality, ensuring the secure operation of digital infrastructure**
- **promote cross-border cooperation and harmonisation of traffic management systems to support the seamless integration of transport networks across Europe**



**FACILITATING THE HARMONISATION OF TRANSPORT SYSTEMS ACROSS EUROPE IS IMPORTANT FOR ENHANCING CONNECTIVITY AND EFFICIENCY THROUGH CROSS-BORDER COOPERATION.**

The European Commission encourages the development and deployment of advanced transport technologies, including autonomous and connected vehicles, to drive innovation in the transport sector.



Directive 2010/40/EU 24  
Associated with document  
Ref. Ares(2025)8523734 –  
08/10/2025  
Project: 101232899 –  
24-EU-TG-VERKKO –  
CEF-T-2024-SIMOBGEN.

WORK PACKAGE 3

## **MOBILITY DATA**

18 Projects

General Data Protection  
Regulation (GDPR)  
(Regulation (EU) 2016/679).

Directive 2014/94/EU  
on the deployment of  
alternative fuels infrastructure.

Regulation (EU) 2020/1056  
on electronic freight  
transport information.

INSPIRE Directive  
(Directive 2007/2/EC)



# C-ITS AND DIGITAL INFRASTRUCTURE

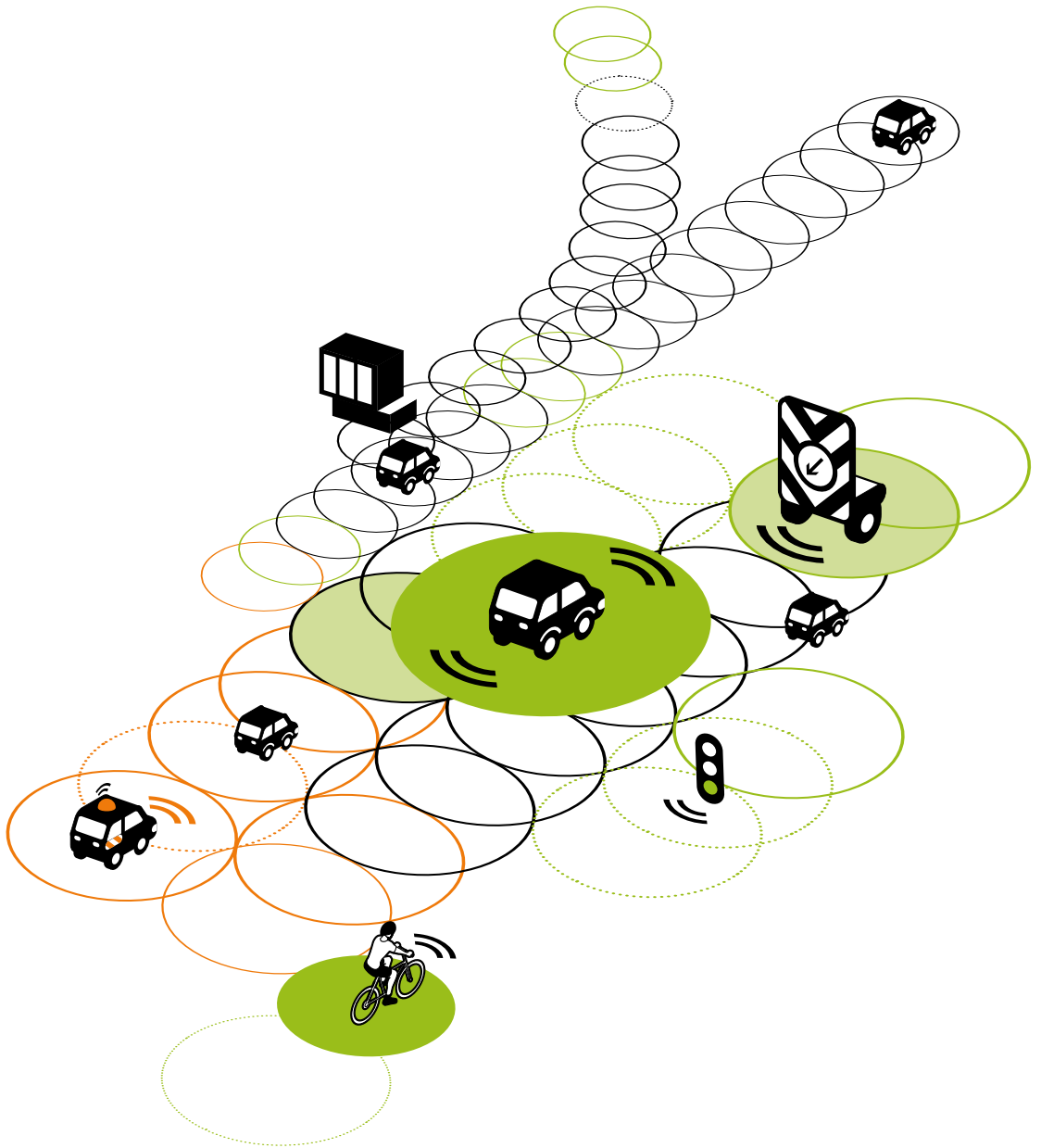


## **FACILITATING INTERACTIVE TRAFFIC MANAGEMENT WILL ENABLE THE OPTIMAL USE OF THE ROAD NETWORK CAPACITY FOR THE MOBILITY OF PEOPLE AND GOODS.**

VERKKO will support the deployment of C-ITS services and digital road infrastructure at the national, regional and local levels to solve existing traffic problems. 50% of the VERKKO budget is allocated for C-ITS deployment for All in all, this will improve road safety and network throughput. In this way, we will enable clean, safe mobility on the TEN-T core, as well as comprehensive road networks, urban hubs and multimodal connections.

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**The modernisation of ITS infrastructure and the expansion of C-ITS services according to the requirements of the revised EU-ITS-Directive are essential for reducing accidents, ensuring road safety and making travel more efficient, safer, and sustainable.**



VERKKO will focus on digital infrastructure deployments at various levels, ranging from individual traffic signal systems to traffic management centres, to the whole national road network infrastructure based on the maturity of digitalisation and the implementation needs. VERKKO will ensure that the vision of the digital transformation of road transport system operations is achievable in the short to medium term.

**THE APPROACH OF VERKKO TO C-ITS IS TO APPLY THE PRINCIPLE OF SHARING GLOBALLY TO BENEFIT LOCALLY.**

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VERKKO uses the C-Roads Platform specifications and expertise to ensure the European cross-border interoperability of C-ITS services to solve the major transport problems within the VERKKO region in an optimum way.



## **THE KEY OBJECTIVES: A EUROPEAN C-ITS AND DIGITAL INFRASTRUCTURE.**

- **deploy C-ITS technologies and services across various regions**
- **create and enhance digital infrastructure to support C-ITS**
- **integrate C-ITS into traffic management Systems that combine traffic management with C-ITS**
- **implement innovative mobility technologies and solutions**
- **enhance Road Safety Measures for road users e.g., by deploying C-ITS on maintenance and police vehicles**
- **roll out intelligent road networks based on V2I (Vehicle-to-Infrastructure) and V2X (Vehicle-to-Everything) communication technologies**

VERKKO will adopt the harmonised specifications and security frameworks developed in the C-Roads Platform and validated through national deployments.

The WP2 deployments will make use of the European C-ITS expertise and experience by liaising with the C- Roads Platform.

It will contribute to implementation-driven feedback to the C-Roads Platform.

ITS Directive (EU) 2023/2661

WORK PACKAGE 2

## **C-ITS AND DIGITAL INFRASTRUCTURE**

22 Projects







ITS LINKING TRAFFIC  
ACROSS EUROPE

