FRONTIER
FUTURE MOBILITY

FACTS & FIGURES

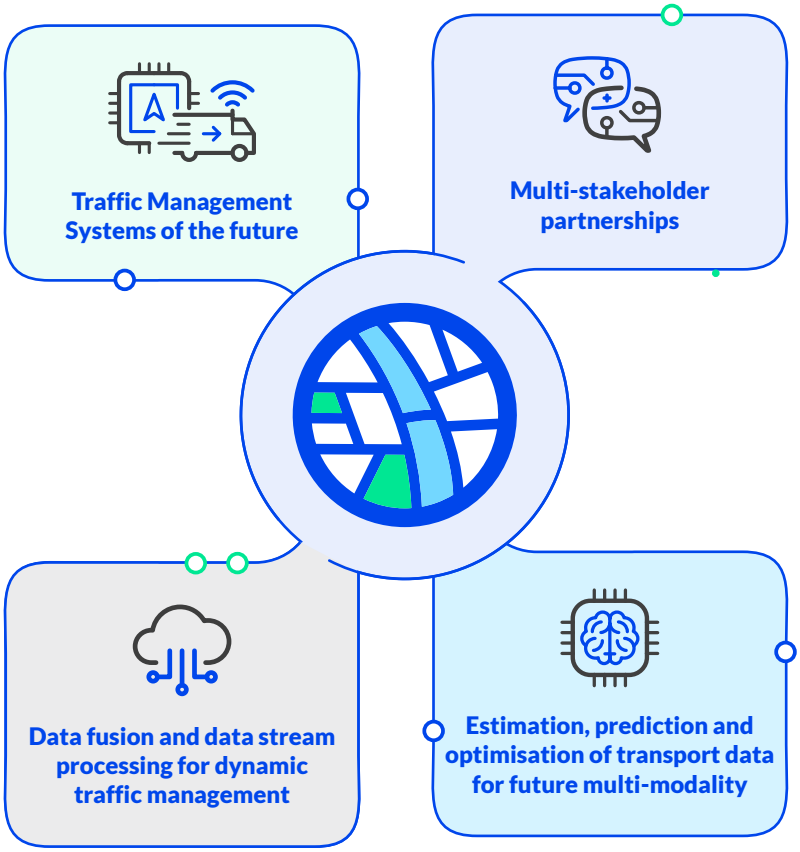
Factsheet #1, March 2022

THE CHALLENGE

Mobility is undergoing unprecedented transformation that is being shaped by growing urbanisation, increased connectivity between transport modes and the emergence of new business models. As the world's population grows, there is a need for more efficient transport that at the same time contributes to tackling climate change. Traffic management can play a crucial role in overcoming challenges such as minimising transport emissions, improving transport safety, and streamlining transport links.

Against this backdrop, the EU-funded FRONTIER project is proposing a new era in Network and Traffic Management by introducing new systems and techniques to better manage traffic on transport networks.

THE SOLUTIONS



PROJECT INFORMATION

Project name

Next generation traffic management for empowering CAVs integration, cross-stakeholders collaboration and proactive multi-modal network optimization.

EC grant Agreement No

955317

Topic

Network and traffic management for future mobility
(EU Horizon 2020 ID: MG-2-11-2020)

Duration

1/05/2021 – 30/04/2024

EC Contribution

€ 4,998,963.50

Coordinator

EURECAT, Spain

19 partners

8 European countries

3 pilot sites

4 solutions

PROJECT FIGURES

2 General Assembly meetings held

3 Scientific papers submitted

The FRONTIER WEBSITE

www.frontier-project.eu

4 European and international events attended by the consortium where FRONTIER was introduced

Over 2 300 unique users on the FRONTIER website

Top users by country

COUNTRY
Greece
United Kingdom
Spain
United States
Belgium
France
Netherlands

3 PILOT CITIES

TEN-T CORRIDOR, Oxfordshire, UK

pilot taking place on the North Sea-Mediterranean TEN-T corridor

greater region consists of the city of Oxford and four other districts

home to 683 200 residents

The Oxfordshire County Council boasts an Urban Traffic Management & Control system that features a common database to collate highway related data from different systems within the council and beyond. This offers important support to the CAV pilot project, which is taking place at the Millbrook-Culham Urban Test Bed (RACE). The test bed offers 10 km of roads that emulate rural and urban environments and provide an ideal setting for live traffic management scenario testing and validation.

At the Oxfordshire pilot, FRONTIER is studying **centralised, decentralised and hybrid traffic management approaches for CAVs**, in addition to developing a digital system that enables two-way communication between CAVs and traffic management centres. The pilot is investigating the effects of CAV-specific traffic management under different conditions (e.g. weather, terrain, time of day), technically known as Operational Design Domains (ODDs). It is looking at how to transfer vehicle control to the driver where necessary and exploring the use of CAVs to control traffic.

In addition, the RACE testbed is helping to **validate the pilot project's proposed smart infrastructure classification index** by experimenting with different infrastructure configurations or systems and measuring their impact on CAV operation.

ATTIKI ODOS MOTORWAY, Greece

pilot taking place in the EU's 6th most populous capital city

involving Attiki Odos, a 70 km-long urban motorway, with sections that are part of Orient/East-Med TEN-T corridor

motorway links airport to city centre, major urban arteries, main intercity motorways, urban rail network, Athens Metro and other public transport means

The different actors currently managing the multimodal transport network in Athens operate independently from one another. This leads to shortcomings regarding the technical and organisational interfaces needed to achieve more holistic and streamlined multimodal network management.

In this vein, FRONTIER is developing **comprehensive plans** to reinforce efficient operation across Athens' transport network and to foster **sustainable mobility practices**.

It is implementing **measures to manage traffic** based on the needs and objectives of different stakeholders. At the same time, it is ensuring the resilience of the network during disruptions and optimising traffic planning. The pilot is also examining what impact **CAVs and future mobility services** will have on traffic management, demand management, and **interoperability** among transport systems, business models and traffic control mechanisms.

ANTWERP PORT, Belgium

pilot represents the starting point for major freight transport via inland waterways

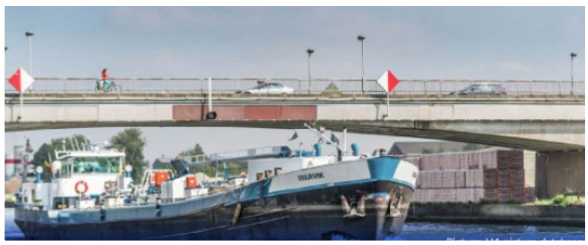
critical location as 80% of all companies in Flanders located less than 10 kilometres from a navigable waterway

port responsible for transporting millions of tons worth of freight (a total of 239,7 million tons in 2021)

FRONTIER is developing solutions that can **reduce freight transportation costs and increase the flexibility and reliability of the freight transport system**, relieving traffic congestion on overloaded road networks in Flanders and in other densely populated regions nearby.

The pilot is working on **models and algorithms** that will introduce key network capacity and traffic management data to improve supply chains and freight logistics. This involves the integration and merging of data related to inland waterways and road transport.

FRONTIER is also supporting the integration of **automated vessels** as part of the overall multimodal management solutions for freight and developing **supply-demand optimisation tools** with emphasis on water/road interurban and last-mile urban logistics. The pilot is also **extrapolating future demand from current supply chain cost models** needed to meet users' needs in the coming years.



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