

## RESEARCH & INNOVATION TO DRIVE EFFICIENT & GREEN MOBILITY

December 2021

The European Green Deal package on efficient and green mobility will help **EU transport policy** to deliver on the EU's ambitious 2030 climate targets and help make transport sustainable for all. If Europe is to become the world's first climate-neutral continent by 2050, then transport policy must contribute to the 2030 target of reducing greenhouse gas emissions by at least 55%, compared to 1990 levels. R&I will enable the **efficient and green mobility package** to reach its objectives in four areas:

**1. THE REVISED TEN-T REGULATION** will support the successful uptake of zero and low emissions vehicles, vessels and aircraft technologies that depend on efficient and widespread electric, hydrogen and alternative fuels distribution infrastructures along the Trans-European Transport Network (TEN-T). Ongoing and new R&I actions with the European Partnerships on [Zero-Emission Road Transport](#) (2Zero), [Zero-Emission Waterborne Transport](#) and [Clean Aviation](#) will directly support it e.g. in ports, airports and in urban nodes. The [Cities Mission](#) will provide an important framework to ensure that R&I actions do not remain isolated in the transport sector, but instead are fully valorised and integrated in wider plans for climate neutrality in urban nodes.


**2. THE REVISED DIRECTIVE ON INTELLIGENT TRANSPORT SYSTEMS** will address the availability and accessibility of data, leading to the development of new ITS services. The European Partnership on [Connected, Cooperative and Automated Mobility](#) (CCAM) will support the development and testing of the next wave of Cooperative-ITS services, to increase traffic efficiency, enable connected cooperative automated mobility, and improve road safety. The Joint Research Centre Living Lab for Future Mobility Solutions will also support this process.


**3. THE NEW EUROPEAN URBAN MOBILITY FRAMEWORK** will be an important new policy framework to focus R&I on more sustainable, liveable cities and urban spaces. The Cities Mission will catalyse ambitious R&I to solve long-term systemic challenges in transport as well as other policy areas, with planned investments of €359.3 million under Horizon Europe over the next three years. The European Partnerships 2Zero, CCAM and [Driving Urban Transitions](#) (DUT) will all contribute to integrate zero-emission and digital mobility solutions for urban and peri-urban areas. [Mission Innovation](#) and its Urban Transitions mission, launched during COP26, will contribute to the international outreach of the Cities Mission.


**4. THE ACTION PLAN TO BOOST LONG-DISTANCE AND CROSS-BORDER PASSENGER RAIL** will benefit from key inputs delivered by the new [European Partnership Europe's Rail](#). R&I on rail will concentrate on digital and automation solutions for increasing freight and passenger capacity, better reliability, lower costs, and eliminating barriers for interoperability of railway systems. EU Rail will develop unified operational concepts and functional system architecture for integrated European traffic management, command, control and signalling systems. This will ensure that R&I is targeted on commonly agreed and shared customer requirements and operation needs.

# SELECTION OF HORIZON 2020 PROJECTS CONTRIBUTING TO EFFICIENT AND GREEN MOBILITY


## Revision of the Regulation on the trans-European transport network (TEN-T):


 The **MORE** project (budget €5.5 million) has delivered tools that assist cities to more efficiently design road space. This will help local authorities to radically redesign busy urban streets, reducing traffic and promoting sustainable mobility and improved liveability. These tools were co-designed with citizens and tested in five urban nodes of the TEN-T network.

 Participatory citizen science can provide rich data to local authorities for better design of transportation policy. The **WeCount** project (budget €2 million) empowered citizens to take a leading role in the production of data, evidence and knowledge around mobility in their own neighbourhoods, and at street level.

 The **NEMO** project (budget €6.5 million) will develop a solution to measure CO2 emissions and noise levels from passenger cars. This new solution will be fitted into existing infrastructure such as tolling or access systems in order to identify noisy and polluting vehicles.


## Revision of the Directive on Intelligent Transport Systems:


 Connected-ITS services will allow road vehicles to communicate with other vehicles, traffic signals, roadside infrastructure and other road users. The **C-MOBILE** project (budget €15 million) has deployed safe and reliable C-ITS services in eight pilot sites and has developed a common framework for large-scale deployment in Europe, elevating pilot sites to deployment locations for sustainable services, supported by local authorities. C-Mobile can reduce fuel consumption and CO2 emissions by between 5-25%.

 The **ICT4CART** project (budget €10 million) will be testing in real life conditions an innovative ICT infrastructure that will support connected and automated driving. Connected, Cooperative and Automated Mobility (CCAM) will increase safety, reduce environmental impacts and foster inclusiveness.


## New European Urban Mobility Framework:


 The **CIVITAS ECCENTRIC** project (budget €19 million) has developed innovative solutions for sustainable mobility of people in suburban city districts and emission free freight logistics in urban centres. The solutions have been implemented in five living laboratories. To reach CO2 free city logistics by 2030, ECCENTRIC will test clean vehicles and fuels, formulate new regulations and services and develop consolidation solutions in close partnerships with the private sector.

 Improving energy efficiency, and developing standards and protocols for electric vehicles charging infrastructure was achieved by **ASSURED** (budget €23 million) through the deployment of public electric buses with high power charging interoperability in five European cities.

 Sustainable Urban Mobility Plans (SUMP) are strategic plans designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. The **SUMPs-Up** project (budget €4 million) accelerated the take-up of SUMP across Europe. It reached out to 600 cities and facilitated development of 100 SUMP through tailored capacity-building, technical support, and SUMP monitoring and evaluation.

## Action plan to boost long-distance and cross-border passenger rail:

 The **RUN2RAIL** project (budget €2.7 million) develop train design innovations leading to a more reliable comfortable and lighter journeys, that are also less noisy and less damaging to the track, making long distance rail travel more attractive.

 The ongoing **X2Rail-4** project (budget €41 million) aims to improve the performance of the railway system through new functionalities and standards, such as advanced signalling, automation and communication systems that will revolutionise interoperability of rail operations.

More information on the projects funded by Horizon 2020 is available at [cordis.europa.eu](https://cordis.europa.eu)