

CECE on the EU's new InfraROB project, investing in new research on robotised building processes

# The road to robotics

InfraROB is a European Union's Horizon 2020 funded project, running 42 months from September 2021 until February 2025. The innovation it wants to develop aims to reduce workers' exposure to live traffic and construction machines, to increase the availability of the transport network, to reduce the cost of repetitive tasks, and to increase the safety of road users. It plans to do that by promoting significant advances in automating, robotising, and modularising the construction, upgrade, and maintenance of the road infrastructure.

Notably, the project aims to achieve a 50% reduction of fatal accidents and 20% reduction of traffic disruption due to maintenance work as well as reduction of routine maintenance costs and improvement of network capacities.

InfraROB is driven by a European consortium of 18 partners, including companies, tech-centres, and consulting companies of eight countries – Spain, Portugal, Italy, Belgium, Germany, Austria, Swiss and

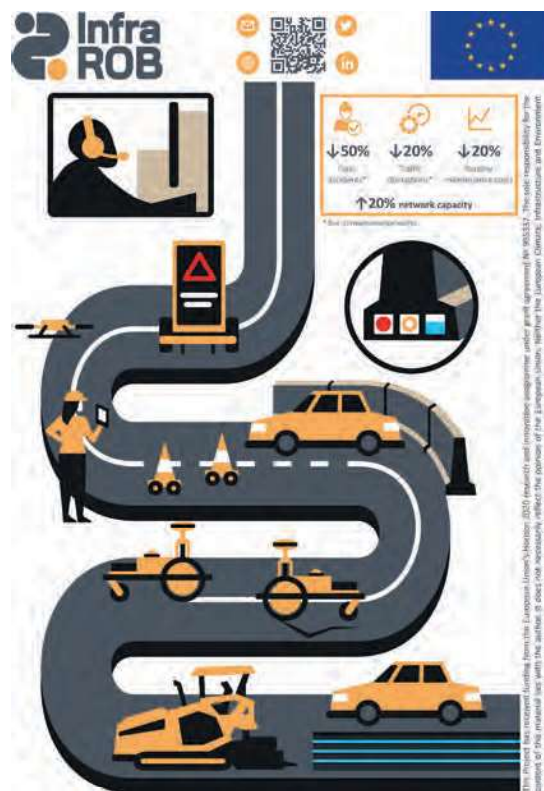
Denmark – with GeoTECH Group, a member of CINTECX at the Spanish University of Vigo as project coordinator. CECE is one of the partners involved in the project's communication and dissemination activities. Moreover, CECE is responsible for creating and managing the project's social media.

The InfraROB project is structured in two phases. The first one focusses on research and technical development, the second on demonstration, validation, and outcomes in a fully operational environment in Austria, at 'Graz Living Lab', a pilot test site on the Austrian motorway network A2 in the south of Vienna that is managed by ASFINAG. The project has been granted with EU funding of 5 million euros.

## WHAT IS IT ABOUT?

Road transport is the most widely used mode of inland passenger transport in most European countries today, strongly contributing to ensuring the mobility of people but also of goods across the EU. Thus, proper road infrastructure management is essential for both economic growth and the achievement of the Sustainable Development Goals.

The main value of road infrastructure lies in the network capacity, which needs to be ensured through assets' maintenance, and, upon necessity, expanded through new construction and upgrading. Road infrastructure maintenance is therefore essential, and, alongside maintenance works, special emphasis must be put on work zone safety.



**How InfraROB aims to use robotics to reduce human exposure to hazards on road construction projects**

The need to improve safety of both construction workers and road users in relation to work zone areas remains a priority, as 4% of accidents take place in work zones. Workers engaged in roadworks are exposed to high risk, whereas many repetitive construction or maintenance tasks could be replaced by robotised systems.

Yet, even if robotics has reached significant technological maturity and thus implementation levels in many industrial sectors, it has not reached the same implementation levels in road infrastructure management. A coordinated effort at the European level is therefore needed to boost the introduction of automation, robotics, and greater modularization in this field.

Pavement is probably the most representative and critical element of roads. Even if other engineering structures like bridges or tunnels are also important, pavement is the fundamental 'continuous' engineering structure with the duty to carry road traffic throughout kilometres of road infrastructure.

By focussing on roadbed and pavement, and particularly on roads paved with asphalt – the most widely applied type of pavement in Europe with 90% of all paved roads and highways – the project will develop

autonomous robotised systems and machinery for paving and repaving, repairing cracks and potholes in the road surface, and line marking.

It will also develop collaborative robotised safety systems to ensure safety of workers and road users. It will then also develop an all-in-one multi-functional precast concrete element applicable as roadside safety barrier and as road construction element at the same time, serving a major degree of modularization in road design, construction, and upgrade.

To cope with safer operations and maintenance, the project will furthermore upgrade existing traffic management systems as well as maintenance management systems to provide for the safe and coordinated deployment of automated road maintenance robots.

## HOW DOES IT WORK?

The project partners meet every month to stay updated on the evolution of the different activities.

A stakeholders' group will be set-up by February 2023 to provide non-binding advice to the project as well as engage in the dissemination-oriented activities.

Parties interested in supporting the project should visit [www.infarobproject.com](http://www.infarobproject.com) or contact CECE in Brussels.



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