



INTELLIGENT ROAD ASSET MANAGEMENT PLATFORM

16

Project
partners

7

European
countries

5

Demonstration
cases

Demonstrations

OMICRON needs to ensure that its solutions are ready to be deployed in real-life situations. Thus, the project will execute five demonstrations:



1. Virtual demonstration:
A2 Porto, Portugal



2. Technical demonstrator:
A-2 Guadalajara, Spain



3. Technical demonstrator:
A-92 Seville, Spain



4. Technical demonstrator:
A-7 Valencia, Spain

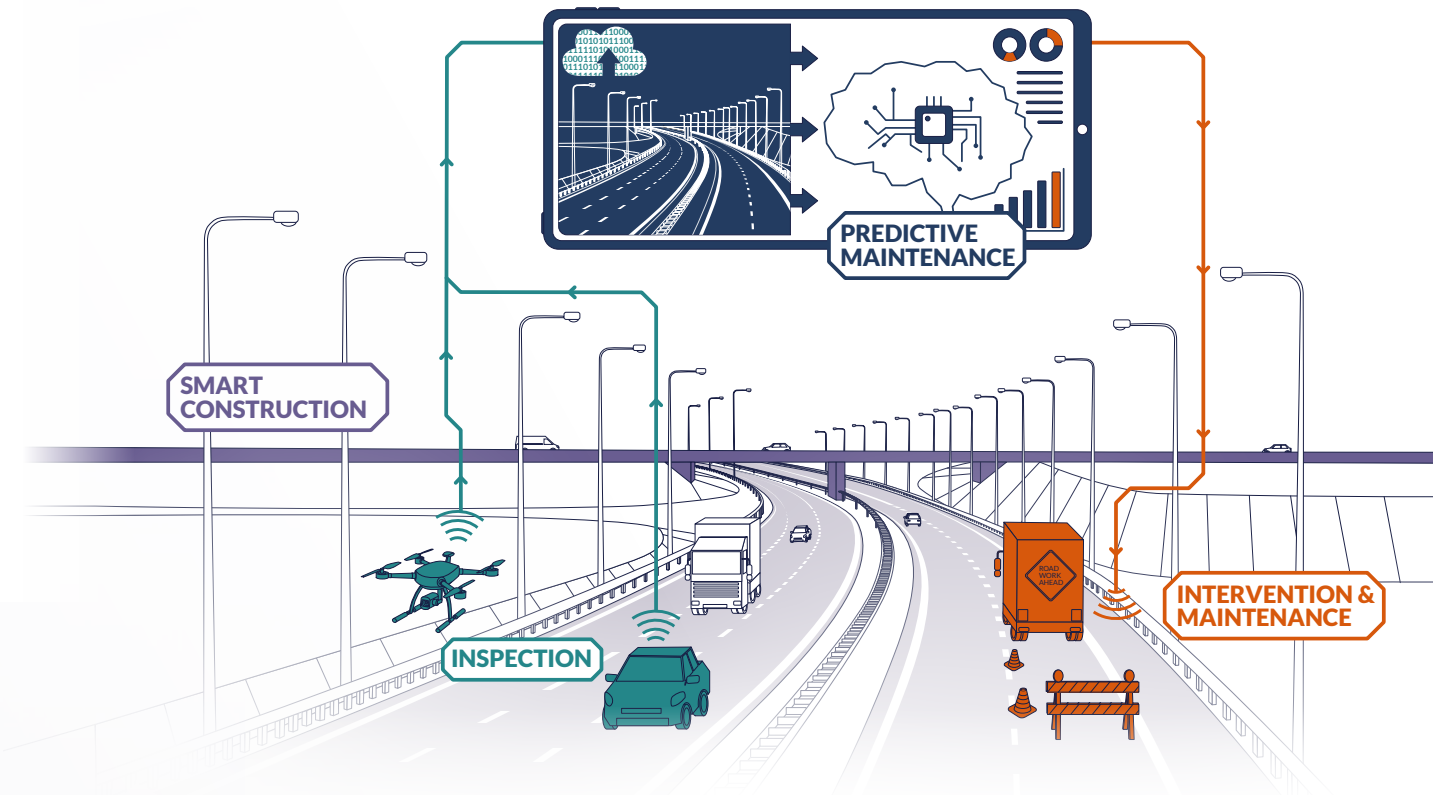


5. Final demonstrator:
A1 Florence-Bologna, Italy



The OMICRON Concept

Imagine a world where roads are always in exquisite condition, maintenance works are quick and efficient, driving is safe and uninterrupted, and all of this is achieved by robots and digital twins! This is exactly what the OMICRON partners have envisaged but to accomplish it, we need technologies that are quick, efficient, safe and reliable. OMICRON provides a portfolio of solutions that fulfil all criteria with the help of robots and digitalisation technologies.



DIGITAL INSPECTION TECHNOLOGIES

OMICRON develops an array of robotic solutions with drones and automatic inspection vehicles to make road inspections safer for workers and faster for users.



Unmanned Aerial Vehicles – drones



Dedicated Terrestrial Inspection Vehicles



V2X communication



SMART INTERVENTION AND MAINTENANCE

OMICRON uses robotic, automation and digitalisation technologies to enhance road maintenance works. This area of the project develops and demonstrates various technologies.



Modular Robotic Platform



Virtual Reality and Augmented Reality technologies



Smart Pavement Rehabilitation



PREDICTIVE MAINTENANCE

A Road Digital Twin is built from the information captured by inspection technologies and IoT devices. The Decision Support Tool, aided by Artificial Intelligence, optimises the management of road intervention actions.



Road Digital Twin



Decision Support Tool



SMART CONSTRUCTION

OMICRON develops pre-manufactured structural components and connections for road and bridge construction as well as automation technologies to support the process.



Modular Bridge Construction

Expected Impacts



Increase safety in road intervention actions for road users and personnel



More efficient road intervention processes and reduction of traffic disruptions



Overall reduction of maintenance costs



Increase in road network capacity

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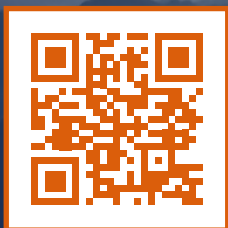
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