OMICRON

Intelligent Road Asset Management Platform

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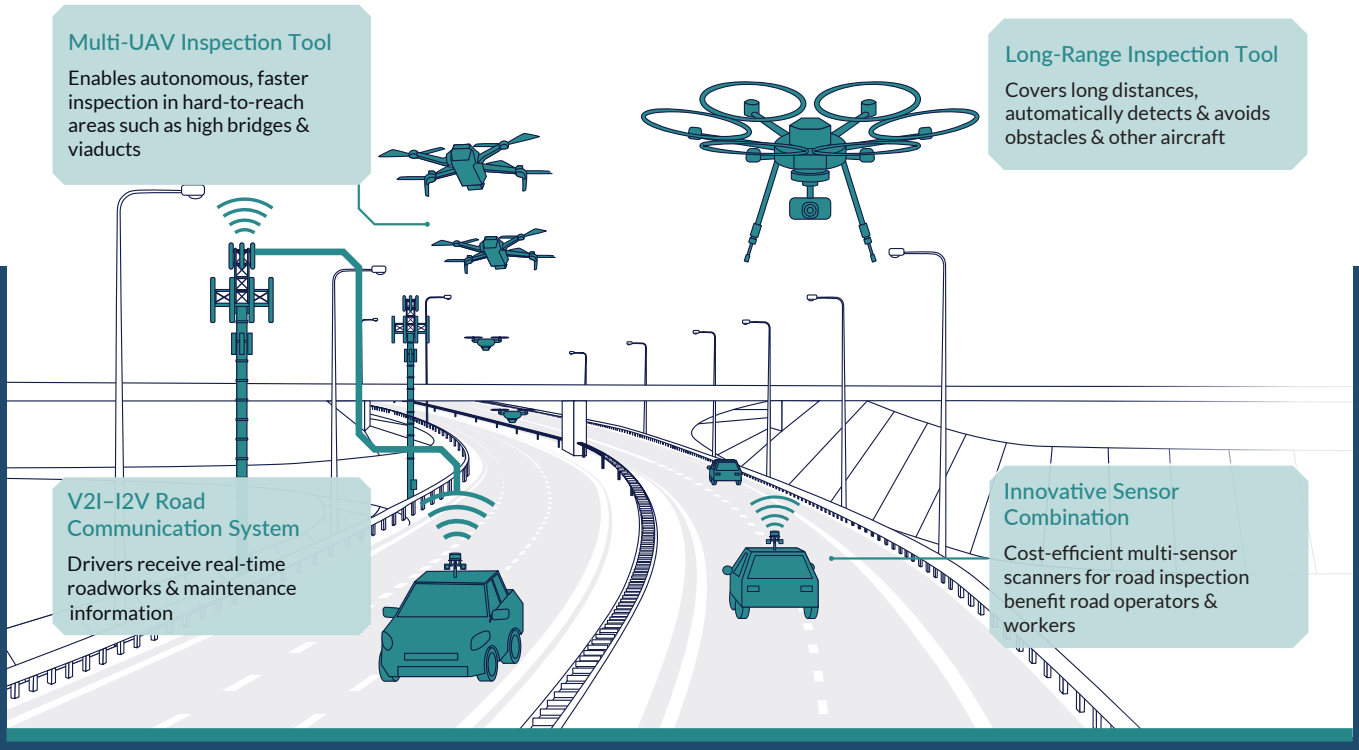

OMICRON inspection solutions

The EU-funded OMICRON project developed 4 solutions for digitalised and automated road inspection: a multi-UAV inspection system, a long-range UAV inspection system, a V2I-I2V road communication system and an innovative inspection sensor combination system. Being tested in real-life demonstrations in Italy and Spain, these have the following expected impacts:

- ↘ **65% reduction in time that road workers and users are exposed to hazards derived from inspection tasks**
- ↘ **50% reduction in traffic disruptions due to inspection tasks**
- ↘ **10% lower maintenance and inspection activity costs**

All solutions are at TRL 6 or 7

To read more about OMICRON activities, solutions, benefits and the relevant contact partners, turn the page or visit the OMICRON website.

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Multi-UAV inspection system

Our multi-Unmanned Aerial Vehicle (UAV) inspection system is based on a team of autonomous UAVs with an enhanced Human Machine Interface (HMI) that allows users to monitor the inspection.

Output: Point cloud of a road section including its assets, based on high-quality images.

Key value: Enables fast, autonomous inspection in hard-to-reach areas (bridges and viaducts).

TRL: 7

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Long-range UAV inspection system

Our long-range, low-altitude inspection system provides safe use of Unmanned Aerial Vehicles (UAVs) in the airspace to perform long-range flights. It includes a new Detect and Avoid (DAA) system that fits new European drone regulations.

Output: Point cloud of a road section including its assets, based on high-quality images.

Key value: Security in airspace allows operation of air inspection vehicles thanks to DAA system. Possibility to inspect over long distances.

TRL: 7

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Innovative sensor combination system

Our road asset inspection system consists of a combination of innovative sensors, including a laser scanner, RGB camera and mini near-infrared (NIR) camera. Can be easily integrated into an inspection vehicle.

Output: 3D point cloud data, high-resolution RGB images and NIR data. Captured data is processed by computer vision-based algorithms.

Key value: Higher accuracy of scans, cheaper solution than available scanners on the market.

TRL: 6

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V2I-I2V road communication system

Our vehicle-to-infrastructure (V2I) and infrastructure-to-vehicle (I2V) communication system uses a key innovative element to focus on road maintenance information The platform informs road users about maintenance unit locations, the state of traffic, safety warnings, weather, smart routing and vehicle speed limits, among other details.

Output: Information / warnings sent to drivers.

Key value: Drivers are aware in advance of any roadworks, improving safety and their efficient mobility.

TRL: 7

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