

TRA
TRANSPORT RESEARCH ARENA
LISBON 2022

OMI(RO)N
Intelligent Road Asset Management Platform

Jose Solís Hernández, Project Coordinator

cemosa
Ingeniería y Control

1

TRA
TRANSPORT RESEARCH ARENA
LISBON 2022

OMICRON Consortium and Value Chain

UNIVERSITY OF CAMBRIDGE

ESCI

ARMANDO RITO

indra

Tekniker

TEIXEIRA DUARTE

REGENS

UNIVERSITY OF LISBON

CATEC

EIFFAGE

PAVASAL

LMS Laboratory for Manufacturing Systems & Automation

cemosa Ingeniería y Control

AISCATSERVIZI

INSTITUTO DE PARQUEAMENTO

Road Operators & Owners

Road Contractors & Civil Eng. Experts


Dis., Com. And Ex. Experts

ICT Integrators

Research Institutions & Technology Developers

OMI(RO)N

2

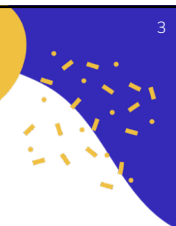


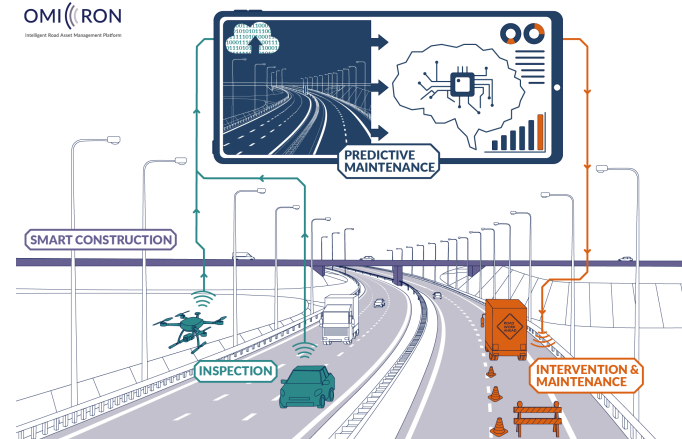
TRA
TRANSPORT RESEARCH ARENA
LISBON 2022

OMICRON Objectives

In a Nutshell

3






OMICRON
Intelligent Road Asset Management Platform

Objective
Road Intelligent Asset Management Platform.


Four Pillars

1. Smart Construction.
2. Digitalised Inspection.
3. Automated Intervention.
4. Predictive Maintenance.

OMICRON



3







TRA
TRANSPORT RESEARCH ARENA
LISBON 2022

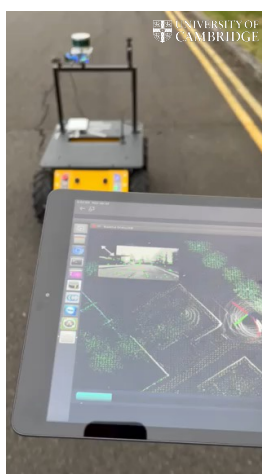
Key Technologies & Progress

Inspection, V2X and User Support

4




 <p>UAVs Management Tool</p>	<ul style="list-style-type: none"> ✓ Multi-UAV Inspection ✓ Long-range Capabilities
 <p>Terrestrial inspection vehicle</p>	<ul style="list-style-type: none"> ✓ Innovative Sensor Combinations ✓ Automation of Inspection Process
 <p>V2X Communications</p>	<ul style="list-style-type: none"> ✓ C-ITS Systems and user support



UNIVERSITY OF CAMBRIDGE

OMICRON



4

5



Key Technologies & Progress

Automation of Intervention Actions

-  Robotic Modular Platform
-  Rehabilitation of surface pavement layers
-  AR & VR for Intervention Support



Augmented Reality Instructions



5

6



Key Technologies & Progress


Modular Construction

-  Modular Construction of Bridge Overpasses

- Enabling the use of prefabricates
- Reducing construction times
- Reducing Traffic Disruptions
- Improving Safety
- Improving circularity





6



Key Technologies & Progress


Predictive Maintenance





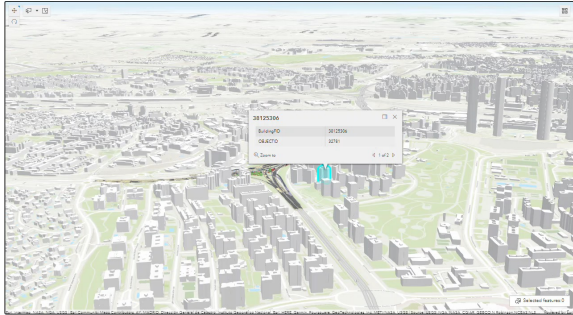
Road Digital Twin


- BIM-GIS oriented digital representation of roads.
- Integration of relevant sources of data and analytics.




Road Decision Support Tool


- Assessment of road condition state.
- Optimisation of road maintenance actions.









7







OMICRON Demonstration






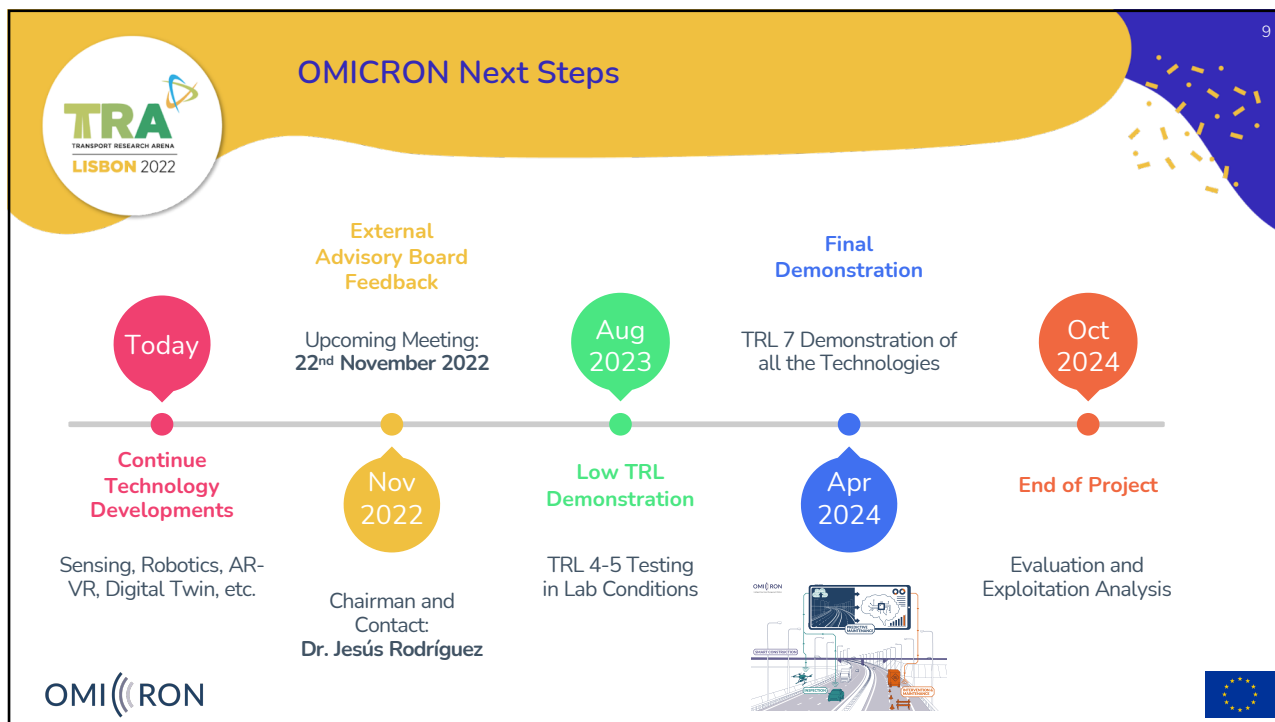
Demonstration Stages

- 
Stage 1
 Preliminary TRL 4-5 Testing.
- 
Stage 2
 Technical Demonstration. TRL 5 to 7.
- 
Stage 3
 Final Demonstration of the Platform. TRL 7.





8



9

TRA
TRANSPORT RESEARCH ARENA
LISBON 2022

Thank you for your attention

Jose Solís Hernández, jose.solis@cemosasa.es
+34 610 76 87 93

OMI((RON
Intelligent Road Asset Management Platform

cemosasa
Ingeniería y Control 50 YEARS

- f** Traconference
- in** Transport Research Arena (TRA)
- tw** @TRA_Conference
- ig** traconference2022
- yt** TRAconference

traconference.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 955269

10

10

HOSTED AND ORGANISED BY:



CO-ORGANISED BY



IN COOPERATION WITH:



TOGETHER WITH:

