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# Sensor network for management of Smart Roads

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Smart Mobility – Spoke 2/WP4 Task 4.1

**SAMOTHRACE 2<sup>nd</sup> Year:  
Experimental Prototypes Demo Showcase**

SAMOTHRACE PROJECT ECS00000022

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## THE PROBLEM TO BE SOLVED

- **Problem Definition:** Current road monitoring lacks real-time data on infrastructure conditions and driver physiology, affecting safety and maintenance efficiency.
- **Target Audience & Unmet Need:** Road authorities, transport companies, and ADAS manufacturers need an integrated, real-time monitoring system.
- **Why Existing Solutions Fail:** Fragmented systems focus separately on infrastructure or driver safety. Lack of real-time data and high costs limit adoption.
- **Market Opportunity:** Aligned with EU and PNRR initiatives. Growing investments in smart infrastructure and predictive maintenance.



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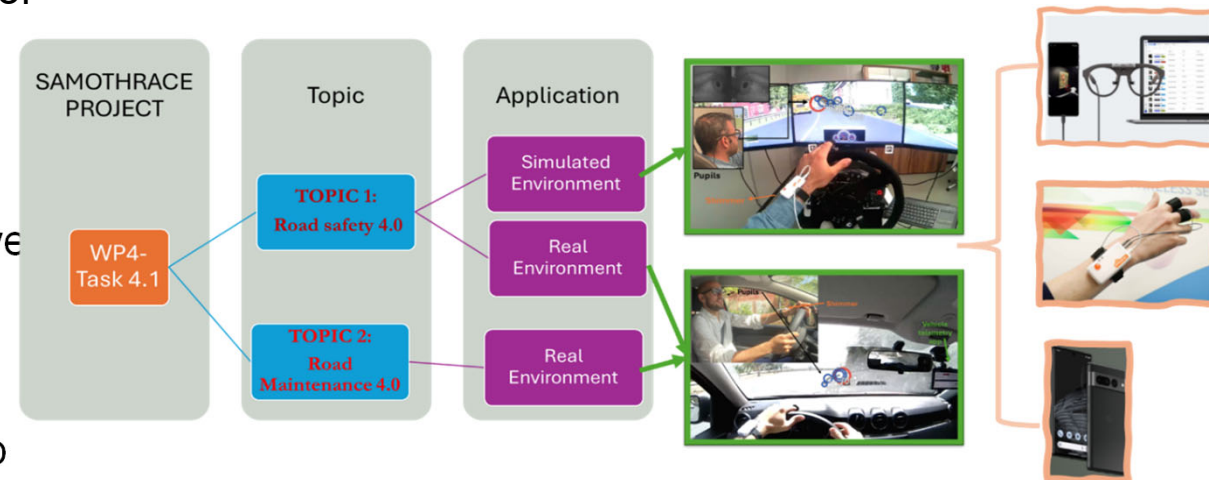
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## YOUR SOLUTION

- How the Solution Addresses the Problem:**  
 Smart sensor network for real-time monitoring of infrastructure and driver status. Edge-Cloud system for efficient data processing.
- Superiority to Existing Solutions:** Combines infrastructure and driver data for comprehensive road safety. Scalable, real-time, and cost-effective.
- Key Validation Result:** TRL 4: Successful lab and real-environment tests on vehicle telemetry and driver physiological data.



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## DEVELOPMENT PLAN UNDER SAMOTHRACE ECOSYSTEM

- **Starting Point (Initial TRL):**

Early concept phase with sensor selection and initial system architecture.

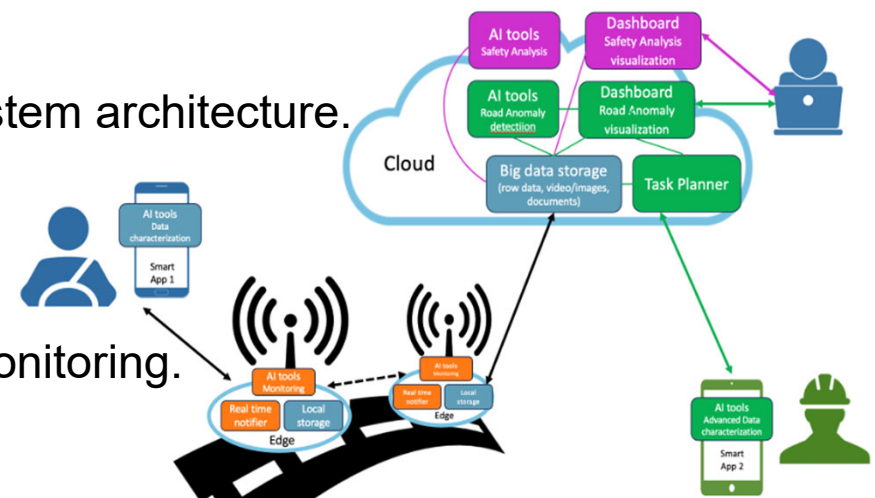
- **Achievements with Samothrace Funding:**

Ethical protocol approved (No. 0007570/2024).

Sensor network validated for infrastructure and driver monitoring.

Optimized Edge-Cloud data processing system.

**Current TRL: 4.**



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## NEXT STEP UNDER SAMOTHRACE ECOSYSTEM

- Key Milestones by End of Project:**

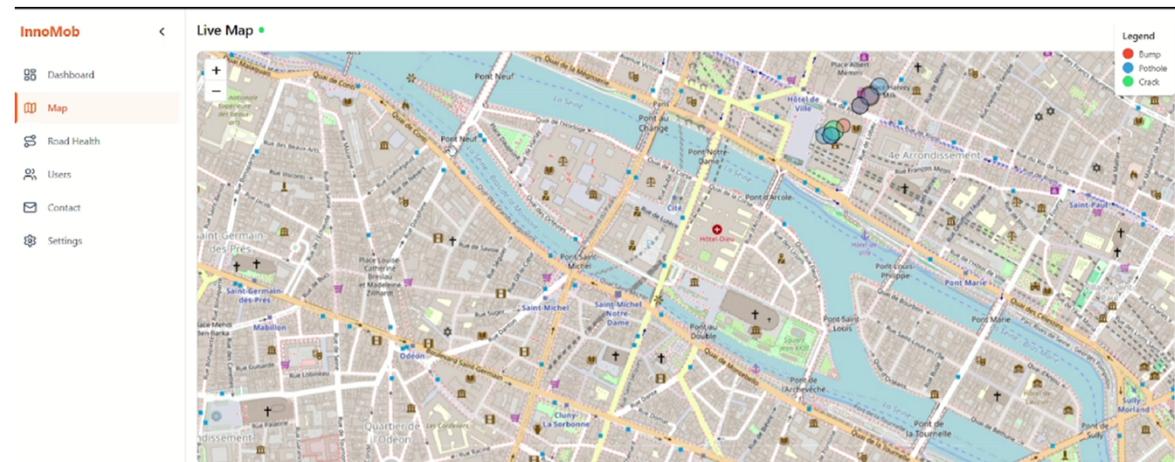
Advanced data algorithms for predictive maintenance and safety.

Web-based platform for data management.

- Target TRL & Planned Advancements:**

Vehicle integration, data refinement, and validation in complex scenarios.

**Target: TRL 6.**



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# THANK YOU

## VISIT OUR DEMO AT BOOTH N. 76

UNIME-Spoke2 WP4 Task4.1  
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