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## PROJECT INFORMATION NOTE

### “Open Innovation Autonomous Vehicle Development and Testing Platform” OPINA Project

#### WHAT IS OPINA?

#### OPEN INNOVATION AUTONOMOUS VEHICLE DEVELOPMENT AND TESTING PLATFORM

- OPINA is an open innovation platform aiming at supporting innovative SMEs, start-ups, R&D companies/organisations, academicians and researchers in the development, integration, prototyping and testing of their connected and autonomous vehicle software.
- OPINA offers performance evaluation, automotive standard compliance and pre-certification conformance services to its users during the productisation phase of their autonomous vehicle software prototypes.
- OPINA enables open innovation with the aim of enhancing the functionality of the international, national and European ecosystem for the development of innovative autonomous vehicle applications.
- OPINA brings SMEs, entrepreneurs, experts, researchers, suppliers and automotive OEMs together and improves the university-industry collaboration to develop innovative technologies and products in a synergistic fashion.
- OPINA aims at active coordination and collaboration with local, international and European stakeholders in line with the project sustainability.
- OPINA features advanced collaboration tools to encourage and enable the co-development of connected and autonomous vehicle software by cooperation of multiple companies/organisations in the ecosystem.
- OPINA is supported by a web portal for communicating developments and activities related to OPINA and to access OPINA services. This portal will constitute a holistic communication and dissemination infrastructure that will enable inter-operation and collaboration with local, international and European initiatives related not only to autonomous vehicles but also smart and clean mobility, in conformance with the European Strategy for a Sustainable and Smart Mobility announced as part of the European Green Deal.
- OPINA provides its users with a comprehensive tool chain to develop software components for their own innovative autonomous vehicle applications, test them in a complete lab-based verification process as well as field tests and integrate them with the platform. Moreover the Platform also ensures, testing the correct functionality of the developed hardware for supporting the companies with their hardware and sensor development capability.





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- OPINA functions as a testbed, where developed software can be tested on a MIL/SIL testing environment, the overall application can be tested on a HIL environment and the human/driver factor in autonomous driving can be accounted for using state-of-the-art DIL facilities. OPINA further provides facilities for the testing of the developed autonomous software and hardware components in field trials with suitably equipped autonomous vehicles.
- OPINA provides its users a training and mentoring facility related to connected and autonomous vehicles.

### OPINA's Backbone

### **INNOVATE, INTEGRATE, TEST!**

The backbone of OPINA is the availability and effective usability of an operational software and systems development platform for connected and autonomous vehicle applications that will enable systems developers to innovate, integrate and test a diverse body of software and have their products certified for inter-operability on OPINA.

#### **OPINA includes;**

- Open Innovation,
- Clustering,
- A communication and dissemination infrastructure that entails inter-operation and collaboration with European and international initiatives for smart and clean mobility,
- Software development and testing for connected and autonomous vehicle applications,
- Support for agile software development lifecycle,
- A mentoring and training center for connected and autonomous vehicle development,
- Collaborative and cooperative software development tools,
- Integration of developed software with OPINA platform software,
- MIL/SIL testing,
- HIL/DIL testing and rapid control prototyping,
- Automotive Standards (Autosar) and Functional Safety (ISO 26262) compliance mechanisms,
- On-vehicle field testing,
- Pre-certification conformance and certification support,
- Cyber security support.





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## Contracting Authority of the Project



Ministry of Industry and Technology

## Project Implementation Period

01/06/2020 -31/05/2023

## Target Groups

Players active in the field of intelligent and communicating vehicles like:

- Small-sized (micro) enterprises,
- Researchers,
- R&D companies,
- Start-ups,
- OEMS, (Original Equipment Manufacturers)
- Software developers,
- Automotive suppliers,
- Electronics manufacturers,
- Universities,
- Sectoral NGOs.

## Project Partners

- İstanbul Okan University (ERA)
- MARKA (East Marmara Development Agency)
- TAYSAD (Automotive Suppliers Association of Turkey)
- TESİD (Turkish Electronics Industrialists' Association)
- YASAD (Software Industrialists' Association)

## Geographical Area to Be Covered

Base area is Istanbul and Marmara Region. However in line with the Open Innovation Concept, the Platform is open for both European, international and local user communities.

## Purpose of the OPINA Project

To create an industry-university-SME innovation and collaboration ecosystem by increasing the functionality of the Innovative Autonomous and Communicating Vehicle Technology Development and Clustering Center.

## Overall Objective of the OPINA Project

To create a science, technology and innovation ecosystem for the universities, industry and SMEs to foster innovative and high technology and high value-added new technologies and products, which supports the economic and social development of the region and European Union increasing the overall knowledge level and competitiveness.

## Expected Project Results

- Formation of sustainable organisation structure.
- Development of Open Innovation Collaborative Autonomous Software Development Platform (OPINA) conforming to relevant automotive software, hardware and system standards.
- Formation of the autonomous vehicle software/hardware simulation and testing system.
- Establishment of training and mentoring center for autonomous vehicle software development.





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## **Project Activities**

Communication, Dissemination and Clustering Plan.

Development of OPINA Clustering and Coordination Portal.

Detailing of OPINA Business Plan and Technology Roll-out and Commercialisation Road Map.

Preparation of Procedures, Certification and Legislative Frameworks for Operating OPINA.

Legal Assistance, Patent Management and Financial Management for OPINA Operation.

Development of Open Innovation Collaborative Autonomous Software Development Platform (OPINA).

Providing 'USER NODE' to Users for Developing Their Own Autonomous Application Softwares.

Integration of MIL/SIL/HIL Systems with the Sensor Fusion System.

Preparation of In-Vehicle Testing Environment and Related Detailed Plan and Specs.

Formation of Autonomous Vehicle Software/Hardware Simulation , Certification and Testing System.

Establishment of Training and Mentoring Center for Autonomous Vehicle Software Development.

Training & Mentoring of Start Ups and Development of Technological Entrepreneurship.

