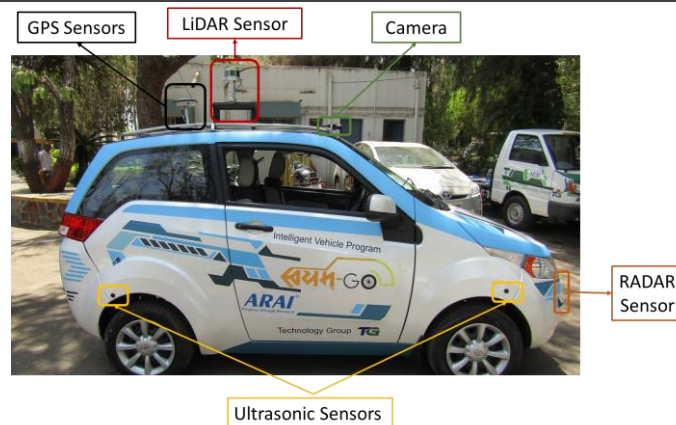


Autonomous Vehicle Deployment Platform



Technology

Autonomous Vehicle Development Platform

Technology Readiness Level: 7 (System prototyping demonstrator in an operational environment)

Features

- For a typical electric 4-wheeler (Car, LCV, SUV segment) with full drive by control capability
- CAN / TCP-IP option for communication with vehicle controller
- Actuation Systems for Steering, Brake, Accelerator
- Sensors for ADAS/Autonomous functions/Data monitoring
 - Vision system
 - Stereo camera for Object Detection
 - Mobileye Camera for Blind spot detection
 - Integration of reference Cameras (up-to 6)
 - Radar system
 - Mid-range front collision warning radar
 - Short and long range radars For Adaptive Cruise Control and Driving in close vicinity
 - LiDAR
 - 16 channel LiDAR for Objects and Obstacles Detection
 - GNSS (Global Navigation Satellite System) for localization
 - IMU (Inertial measurement unit)
- Complete hardware and vehicle package ready for Autonomous / ADAS deployment
- Safety mechanisms
- Selective Auto or manual drive capabilities

Application

- Complete platform package for development of ADAS / Autonomous vehicle functionality
- Useful for On Road trials and validation
- Useful for Traffic data acquisition

Scale of Validation Achieved

The current package is ready with selected sensors and is being used for ARAI's internal program of Intelligent Vehicle Development.

Intellectual Property

NA

Abstract

The Automotive Research Association India is working on internal R&D program titled “SwayamGO”. The main objective of this program is to work on improvement of safety making use of latest electronic and software technologies. As part of this program, ARAI has made prototype of Autonomous vehicle using standard electric passenger car. The actuators of the vehicle (accelerator pedal, brake and steering) have been automated. The sensors like GPS, cameras, RADARs and Lidar have been integrated. This prototype is being used for on road trials of developed control systems.

This ARAI's autonomous vehicle deployment platform offers complete packaged solution for customers to jump start their ADAS/AV functionality development. It offers options for sensor selection as per customer's specific requirement. The platform can be used for on road deployment, development and validation of ADAS/AV functionality.

This complete packaged vehicle prototype can be offered as solution to interested parties. It will help customers to jump start their ADAS/AV functionality development.

Beneficiary Industry

- OEMs
- Tier 1 industries
- Service Industries
- Research Institutes/Academies/Universities
- Startups