

ADAS Sensor Fusion HIL Test System

Testing and Calibration in a Closed Loop

About the Cooperation

Konrad Technologies collaborated with a metrology Institute to successfully develop an ADAS HIL system integrated with Camera Simulator (Mobieye 630), Keysight Radar Simulator, analog ECU and driving algorithm. The ADAS HIL testing and the calibration were implemented in a completely closed loop.

Project Scope

Challenges

- Implement self-developed AEB, LCA and other driving algorithms in virtual ECU.
- Integrate scenario simulation software (PanoSim) and Keysight Radar Simulator.
- Calibrate camera in the Camera HIL system.

Objectives

- To develop ADAS algorithms such as AEB, LCA etc. in consideration of Chinese traffic scenarios.
- To enable the automatic testing by calling simulation software and experimental management software on NI TestStand platform.
- To ensure system scalability to fulfill various future testing requirements.

Solution

Konrad Technologies designs and develops a completely functional ADAS HIL test bench supporting sensor fusion including camera, radar, etc.:

- **A Complete Functional HIL Test System:** A solution that integrates a Keysight Radar Simulator and Konrad Technologies Camera Simulator, combining the self-developed algorithm to support relevant testing requirements.
- **Software Integration:** Integrating PanoSim scenario simulation software and experimental software into the automated test system with NI access to create a seamless and efficient automated testing environment.
- **Easy Configuration and Calibration:** The test scenarios can be easily configured and calibrated.

Customer Benefit

- **Efficient Testing Capabilities:** Enables rapid model import into the testing system to verify performance across various traffic scenarios efficiently.
- **Independent Sensor Testing:** Separates the system into stand-alone Radar and Camera Simulators to conduct functional tests on individual sensors.
- **Optimized Testing Efficiency and Cost-Effectiveness:** Facilitates batch testing with automatic test report generation, reducing overall test time and minimizing costs.

Our Know-how

- **Expertise in System Construction:** Extensive experience in designing and building custom testing systems tailored to specific needs.
- **Comprehensive Testing:** Conducted thorough functional sensors tests to guarantee the highest quality and reliability.
- **Ensuring High Compatibility:** Delivered a tailored integration solution to ensure seamless compatibility across diverse systems.

