KT ADAS/AD Sensor Fusion HIL Test Workbench

The KT ADAS/AD Sensor Fusion HIL Test Workbench is a configurable, PXI-based sensor and chassis HIL test workbench that enables Automated Driver Assistance Systems (ADAS) and Autonomous Driving (AD) functionality to be reliably and safely tested in a lab environment. Combinations of sensors and Electronic Control Units (ECU), with ADAS/AD algorithms can be tested together in a hardware-in-the-loop (HIL) test configuration. The workbench can be configured for multiple radar, camera, LiDAR, and ultrasonic sensors with connectivity to most 3rd party modelling and simulation software and hardware platforms available in the market. Users can implement test scenarios for regulatory standards such as NCAP.

The KT Advantage

- Future-proof your test plans with a modular and scalable validation test workbench.

- Reduce development time and costs with in-lab regression and repeatability tests.

- Optimize ADAS/AD function by validating component, sub-system, and system level ADAS/AD performance with a single workbench before drive tests.

- Test ADAS/AD functions for corner cases in a safe, controlled environment.

Application Requirements

- Reliably verify functional performance of ECU hardware, ADAS/AD software, and sensor package effectiveness in a controlled environment.
- Scalable for different sensor packages consisting of multiple radar, lidar, camera, and/or ultrasonic sensors with connectivity to NI and/or other 3rd party HIL hardware platforms.
- Safely implement regression and repeatability tests for ADAS/AD sub-systems before drive tests.

KT Solution

Combine sensor measurements with object identification for reliable ADAS/AD functional tests in the lab, and scale test to production.

Modular architecture to scale for different sensors and sensor combinations with connectivity to 3rd party software and hardware simulation platforms for open and close loop HIL tests.

Connects ADAS/AD sensors, sub-systems, ECUs and Body and Chassis components for component tests and total vehicle safety feature performance evaluation in a lab for HIL, DIL, and VIL testing before drive tests.

KT ADAS HIL Test Workbench Increases Efficiency at CAERI in China

"*As CAERI leads the ADAS test and certification efforts in China, this modular and scalable Konrad system is an industry leading sensor fusion test bench that is anticipated to reduce our overall test development and implementation by up to 20% of total project time. The Konrad ADAS HIL Test Workbench allows us to quickly and efficiently implement a variety of test protocols for sensor and module level test for ADAS functions for certification and product development purposes.*"
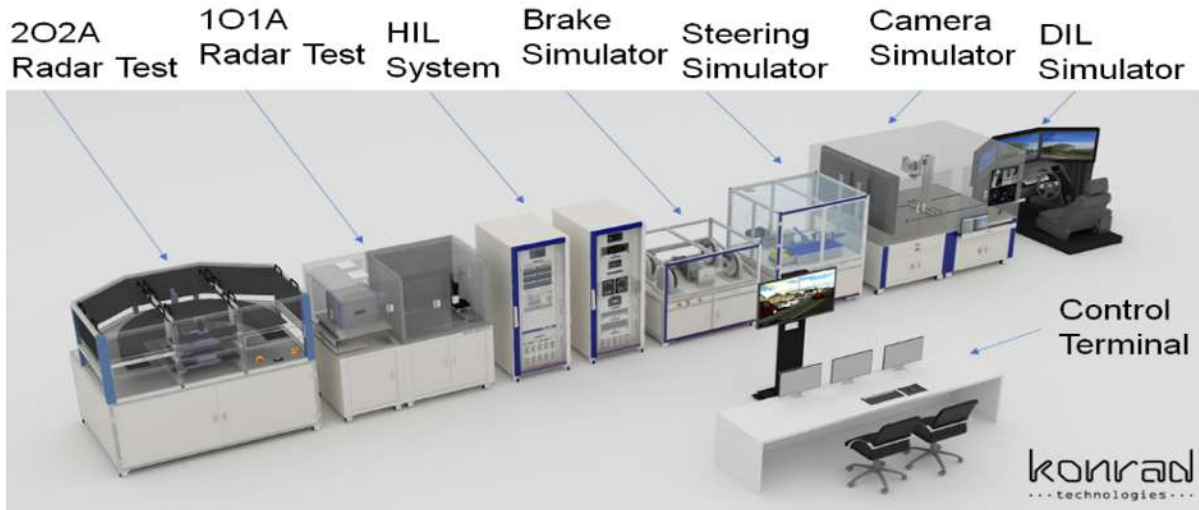
ADAS AD Sensor Fusion HIL Test Workbench from Konrad Technologies

Key Specifications

Number of Sensors	Configurable for radar, lidar, camera, and ultrasonic sensors.
HIL System	NI HIL or 3rd party system.
Bus Communication	CAN, FlexRay, and Ethernet AV.
Type of Tests	Over the Air, Data Injection, Parametric Measurements, and Object identification.
Connectivity to 3rd party Simulation tools	Connectivity to multiple simulation packages including IPG CarMaker© , VI-grade CarRealtime©, Vires VTD ©, monoDrive © etc.
Vehicle Component Simulators	Steering, Brake, Custom as needed.
Wireless Test	V2X, GPS, Bluetooth.

System Integration on Your Terms

NI offers a variety of solution integration options customized to your application-specific requirements. You can use your own internal integration teams for full system control or leverage the expertise of our worldwide network of NI Partners to obtain a turnkey system. To learn how you can increase product quality and shorten test timelines, contact your account manager or NI at (888) 280-7645 or info@ni.com.

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