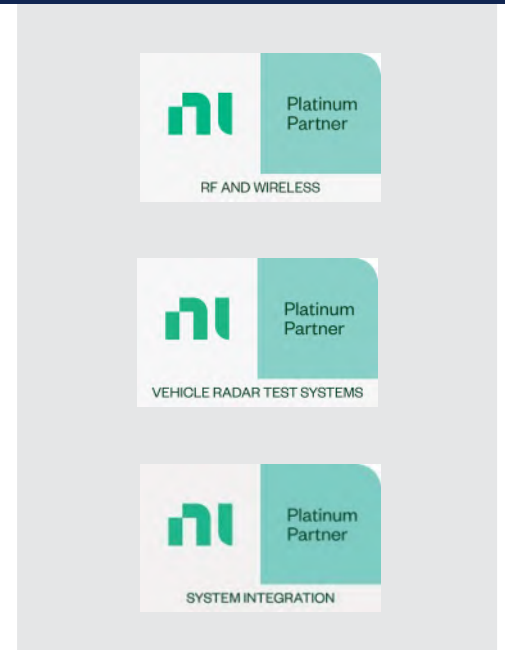


**EXPERTISE AND INNOVATION  
IN AUTOMOTIVE TEST SOLUTIONS**

### About Konrad Technologies

Konrad Technologies has served as a trusted provider of test systems and services to Tier 1 automotive suppliers and OEMs for over 30 years. Our solutions include battery, ECU, EV, camera assembly, and ADAS test systems.

Our subject matter experts integrate into our customers' teams with minimal friction and provide test engineering, consulting, and support services on an on-going basis.



Konrad Technologies is one of a handful of NI Platinum Alliance partners in RF and wireless test, vehicle radar test systems, ADAS record and replay, and system integration. We integrate COTS products to minimize time to delivery and streamline system maintenance. In the United States, 75% of Konrad employees are technical engineers and 40% hold at least one NI certification.

Whether your company is looking to outsource test system development or simply searching for additional resources for in-house test, Konrad Technologies can help.

### Our Expertise



Custom and Turnkey System Development



Integrated Project Management Teams (FlexIPT)



System Retrofit and Upgrade



Hardware and Software Integration



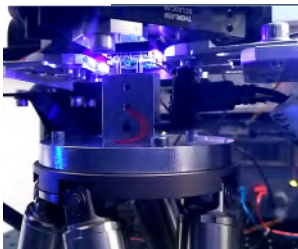
Engineering Information Management



Proficiency Across Multiple Industries and Applications

# ADAS Testing Capabilities

Konrad Technologies partners with companies that manufacture various ADAS sensors to support both validation and production sensor test. We have expertise in testing ADAS sensors across the entire product development cycle. Konrad Technologies' automation experience allows us to create test systems that are fully or semi-automated, thus reducing our clients' test lead time and the overall cost of test.



## Sensor Validation Test - Performance

- Radar (RF and electrical)
- Camera (Optical and electrical)
- LiDAR (Optical and electrical)

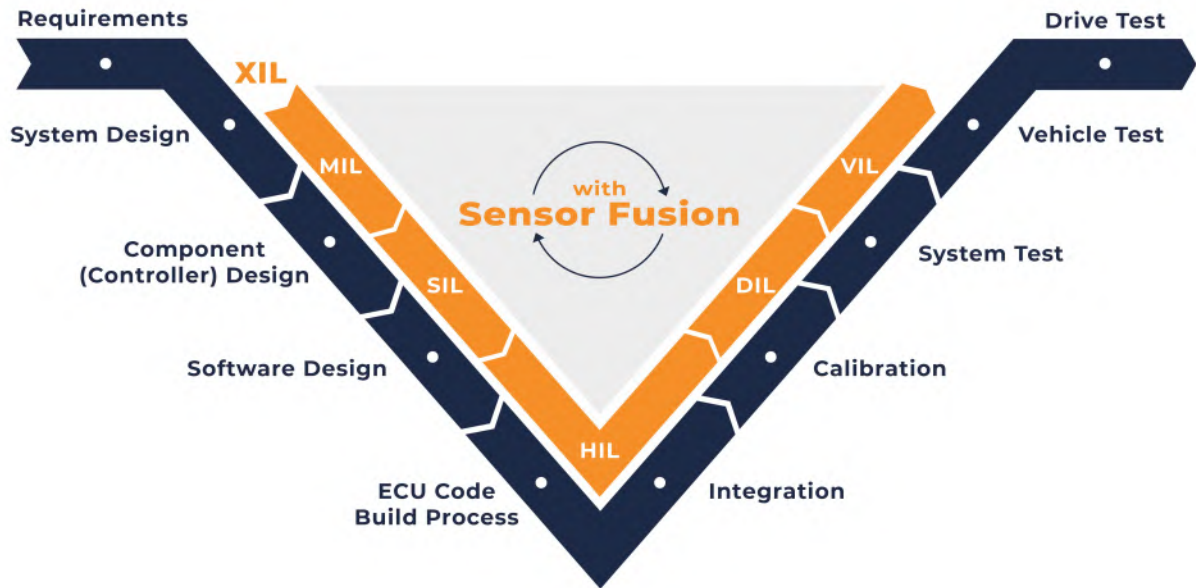
## Sensor Validation Test - Environmental

- Temperature
- Humidity
- Example: Custom RF Transparent Thermal Enclosure for Radar Sensors

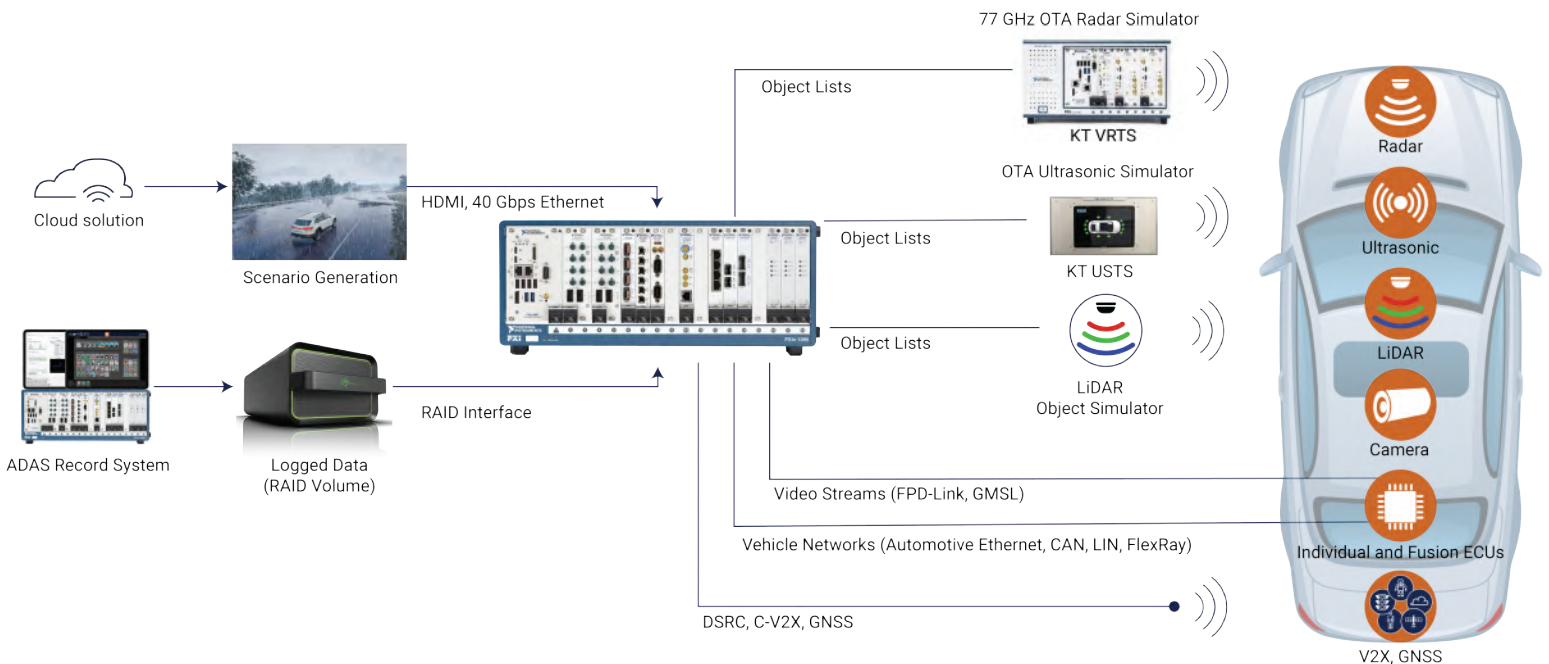


## Sensor Production Test

- Alignment
- Calibration
- Built Quality Verification

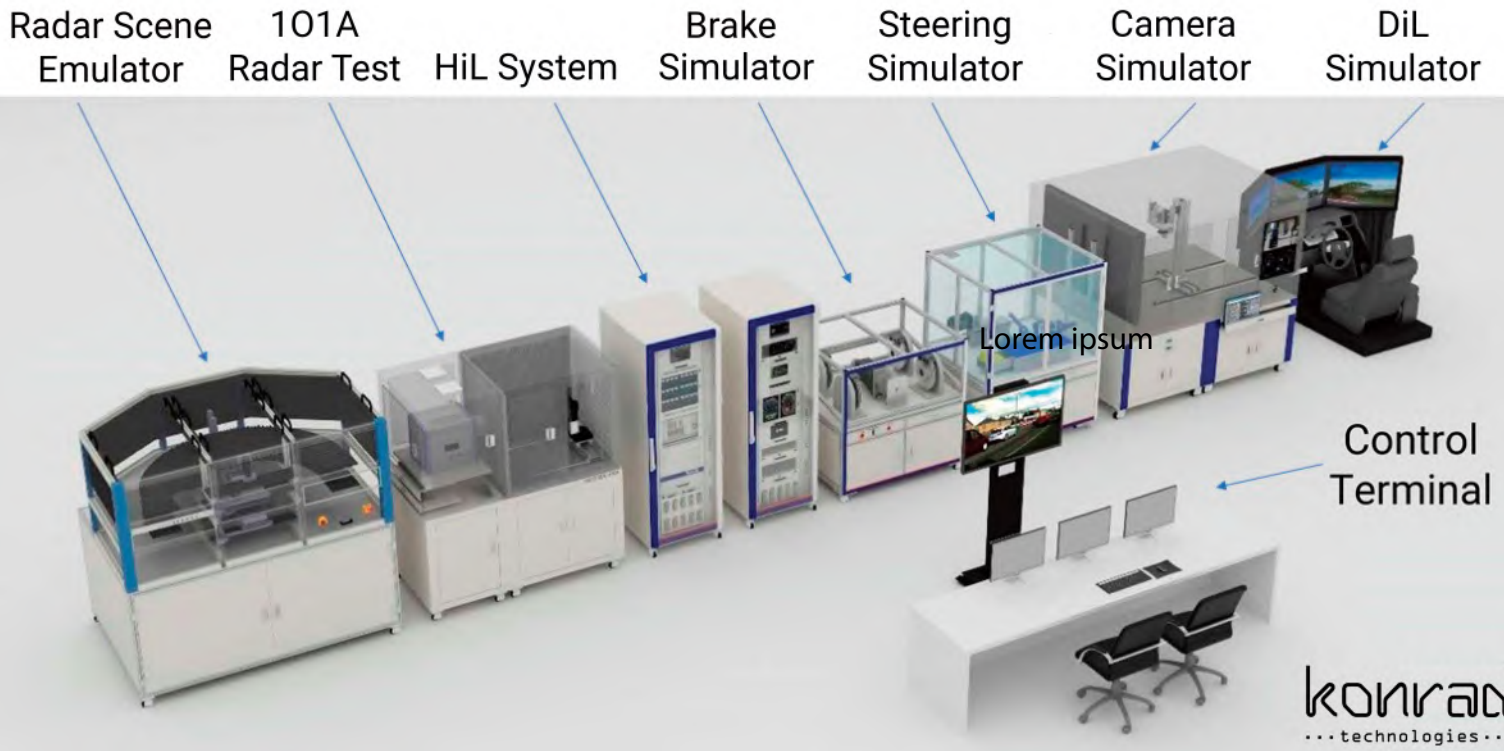


Konrad Technologies' Sensor Fusion approach combines ADAS sensors with Hardware in-the-Loop testing. The customer's preferred virtual environment simulator can be integrated with the systems developed by Konrad Technologies to present sensor data to the ECU through over-the-air (OTA) or direct injection technologies using the NI PXI platform. Alternatively, data from a Konrad ADAS Record System may be injected into the ECU.



### AD/ADAS Sensor Fusion XiL Test Workbench

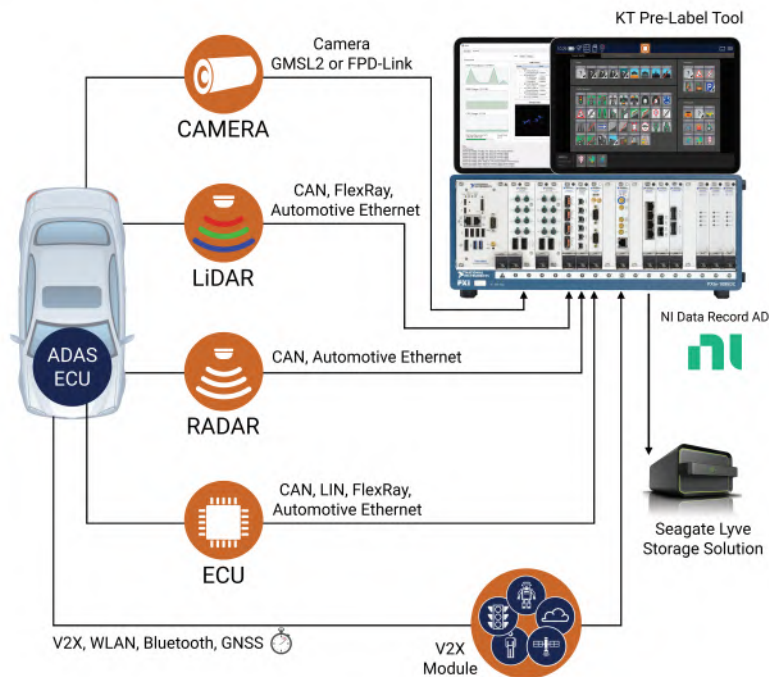
KT ADAS/AD Sensor Fusion XiL Test Workbench is a configurable, PXI-based sensor and chassis XiL test workbench that enables Automated Driver Assistance Systems (ADAS) and Autonomous Driving (AD) functionality to be reliably and safely tested in a lab environment. Combinations of sensors and Electronic Control Units (ECU), with ADAS/AD algorithms can be tested together in a Model, Software, Hardware, Driver, and Vehicle In the Loop (XiL) test. 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.



## Record and Replay

As the industry progresses toward fully autonomous driving, more high-quality sensor data must be recorded during test drives. The Konrad ADAS Record system captures raw sensor data, object data, other automotive network traffic, and relevant metadata to disk with hardware-timed synchronization. These data can then be uploaded to an on-prem or hosted cloud for subsequent analysis, and/or used as test scenarios in the lab for data replay via direct injection into an ADAS ECU in an XiL system.

### In-Vehicle ADAS Recording





This ADAS Record System combines NI PXIe instrumentation, Seagate storage, and the NI/Konrad Data Record AD software. Konrad Technologies' Pre-Label Tool allows the user to collect and label the metadata during a drive test for a post event analysis. The user can pick from a library of the event labels or create custom labels and fields to locate specific data quickly. Configurations and drive scenarios can be stored and reused.

# CONTACT US



## US Headquarters

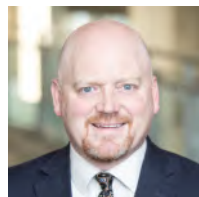
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