Ansys and Cognata Enable Robust ADAS/AV Sensor Testing on Microsoft Azure

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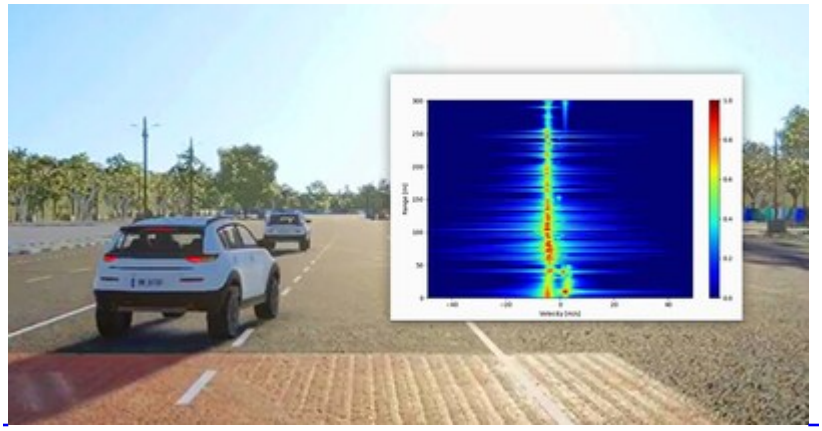
Ansys is collaborating with Cognata and Microsoft on a web-based platform enabling users to test and validate ADAS/AV automotive sensors in a virtual environment that mimics real-world conditions

/ **Key Highlights**

- Ansys AVxcelerate Sensors™ simulation software will bolster the Automated Driving Perception Hub (ADPH) platform, managed by Cognata and running on Microsoft Azure, with high-fidelity radar and electromagnetic (EM) wave propagation simulation capabilities
- The platform is powered by AMD EPYC™ central processing units (CPUs) and Radeon™ PRO graphics processing units (GPUs) for machine learning inference and visualization workload
- ADPH hosts a library of manufacturer-certified virtual sensor models, including thermal camera, radar, and LiDAR systems

PITTSBURGH, Jan. 2, 2025 /PRNewswire/ -- Ansys (NASDAQ: ANSS) today announced AVxcelerate Sensors is accessible through Cognata's Automated Driving Perception Hub. The ADPH platform runs on Microsoft Azure and 4th Generation AMD EPYC™ processors and Radeon™ PRO GPUs. ADPH gives original equipment manufacturers (OEMs) easy access to certified, web-based sensor models from manufacturers, enabling collaborative testing and validation of advanced driver assistance systems (ADAS) and autonomous vehicle (AV) functions using a high-fidelity simulation platform with virtual twin technology.



The ADPH allows OEMs and sensor manufacturers to test and validate certified sensors against diverse industry standards, including those put forth by the National Highway Traffic Safety Administration (NHTSA) and the New Car Assessment Program (NCAP). The platform currently includes Cognata sensor models for thermal cameras, LiDAR, RGB cameras with varying lens distortions, and leverages Deep Neural Network (DNN) technology that enables photorealistic images and simulations.

With the addition of Ansys AVxcelerate Sensors, users have access to physics-based radar models that reproduce EM wave propagation — accounting for material properties within high frequencies — to enhance signal strength and accuracy. The radar simulation provides raw data that can be used to test and improve the algorithms that process radar signal interference, like small changes in frequency caused by moving objects (doppler effect). When connected to a virtual model from a radar supplier, AVxcelerate Sensors produces a virtual twin of the sensor, enabling OEMs to evaluate its performance with enhanced predictive accuracy.

"We are excited to integrate Ansys' radar simulation technology into the ADPH platform, bringing OEMs and tier-one suppliers an unmatched level of accuracy in sensor validation," said Danny Atsmon, founder and CEO at Cognata. "Ansys' ability to simulate complex EM wave interactions enhances our platform's ability to deliver precise, real-world insights for radar-based ADAS and AV systems. This collaboration significantly advances the industry's ability to test and refine sensor performance under diverse conditions."

Cognata's generative AI transfer technology, enabled by AMD Radeon PRO V710 GPUs, enhances the RGB camera simulation platform by delivering high-fidelity virtual sensors. It accurately captures and replicates the real-world behavior of sensors within the simulation.

"Ansys' AVxcelerate Sensors platform includes real-time radar capabilities for accurate modeling of radar interactions in complex environments," said Shane Emswiler, vice president of products at Ansys. "By offering the solution on Cognata's ADPH platform, we are enabling customers to design for real-world operations to meet strict regulatory standards. As the industry works toward fully autonomous driving, safety validation is paramount, and the joint effort between Ansys and Cognata streamlines this typically long and complicated process."

"We're pleased to collaborate with Ansys and Cognata to enhance automated driving validation and simulation on Microsoft Azure," said Nidhi Chappell, Vice President, Azure AI Infrastructure at Microsoft. "By integrating Ansys' advanced radar simulation technology, we're empowering OEMs and tier-one suppliers with high levels of accuracy in sensor validation. This collaboration underscores our commitment to providing leading-edge

cloud infrastructure that supports the development and validation of ADAS and autonomous vehicle technologies."

/ About Ansys

Our Mission: Powering Innovation that Drives Human Advancement™

When visionary companies need to know how their world-changing ideas will perform, they close the gap between design and reality with Ansys simulation. For more than 50 years, Ansys software has enabled innovators across industries to push boundaries by using the predictive power of simulation. From sustainable transportation to advanced semiconductors, from satellite systems to life-saving medical devices, the next great leaps in human advancement will be powered by Ansys.

/ About Cognata

Cognata provides cutting-edge autonomous driving technologies with its end-to-end solutions for autonomous platforms. Other than an advanced engine creating a photorealistic simulation platform, Cognata offers the know-how of the market offerings, product integration, and a comprehensive V&V walkthrough, end-to-end. Working with some of the largest autonomous vehicle makers tier 1's in the world, Cognata accelerates the autonomous and ADAS engineering capabilities, and brings the unique power and expertise of artificial intelligence and computer vision, taking off years of the development process.

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