Ansys Collaborates with Sony Semiconductor Solutions to Advance Next-Generation Simulation of Automotive Image Sensors

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Precise modeling accelerates time-to-market through improved simulation fidelity and streamlined workflow

/ Key Highlights

- Ansys solutions can now integrate with Sony Semiconductor Solutions' sensor models, optimizing and accelerating the development of camera features for autonomous vehicle (AV) and advanced driver assistance system (ADAS) applications
- The technology collaboration enables camera and perception system developers to speed up development and validation time by implementing virtual prototyping and testing

PITTSBURGH, Nov. 9, 2023 /PRNewswire/ -- Ansys (NASDAQ: ANSS) collaborated with Sony Semiconductor Solutions (Sony) to enhance high-fidelity image sensor simulation and camera-based features in next-generation automotive applications, including AV and ADAS. Ansys Speos can now seamlessly integrate with Sony's sensor models to streamline development and validation with more precise modeling.

Automotive image sensors must continuously evolve to deliver safer, higher functioning ADAS capabilities. To meet this demand, Ansys developed a novel software interface compatible with Sony's sensor models, which are based on the internal architecture of image sensors used in camera systems. The interface enables high-fidelity virtual camera testing in various scenarios and contexts, reducing the need for ad-hoc physical camera testing and accelerating verification times.

The users of Sony's image sensors will now have access to end-to-end automotive-grade simulation fidelity for spectral effects, high dynamic range (HDR), and LED light flicker mitigation. Users can also reproduce image sensor phenomena, such as motion blur and rolling shutter.

"The collaboration between Ansys and Sony will provide an automotive-grade, end-to-end spectral simulation pipeline from lens models to sensor models for the ADAS perception system developers," said Kenji Onishi, deputy senior general manager, automotive business division, Sony Semiconductor Solutions Corporation. "Sony has prepared a sensor model based on the internal architecture of the image sensors used in camera systems to achieve automotive-grade fidelity."

Physical prototyping and validation are time consuming, costly, and do not offer the bandwidth that simulation and virtual testing provides. Pairing Ansys simulation with Sony's sensor models alleviates these challenges through virtual testing. This is particularly beneficial for edge-case scenarios, such as when exiting tunnels.

"The Ansys and Sony technology collaboration facilitates rapid development and verification of camera features for AV and ADAS applications," said John Lee, vice president and general manager of the electronics, semiconductor, and optics business unit at Ansys. "As a result, the joint workflow yields more robust simulations, greater predictive accuracy, higher-fidelity images, and, ultimately, more reliable AV and ADAS applications."

/ About Ansys

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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.

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