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AMD Powers Aisin Next-Generation Automated Parking Assist System

—— AMD Zynq UltraScale+ MPSoC automotive platform with deep learning processor advances low-latency, AI-based image processing for automated parking system ——

SANTA CLARA, Calif., Nov. 16, 2022 (GLOBE NEWSWIRE) -- AMD (NASDAQ: AMD) announced today that the AMD Xilinx Automotive (XA) Zynq® UltraScale+™ MPSoC platform has been selected to power the Aisin Automated Parking-Assist (APA) system. The highly adaptable XA Zynq UltraScale+ MPSoC platform enables the next-generation Aisin APA system to detect pedestrians, vehicles and free space efficiently and at extremely low latency. The Aisin APA system will begin shipping in model year 2024.

The XA Zynq UltraScale+ MPSoC platform — deployed in the cameras within the Aisin APA system — combines a high-performance Arm®-based multicore, multiprocessing system with ASIC-class programmable logic containing custom co-processors that can be optimized to meet system needs, including a deep learning processor unit for convolutional neural network (CNN) processing. This enables machine learning-based scene segmentation and object detection for the Aisin APA system. The XA Zynq MPSoC platform delivers maximum processing efficiency and is capable of offloading critical functions, such as graphics and video pipelining, to dedicated processing blocks to enable low-latency image processing.

The Aisin APA system uses four cameras and 12 ultrasonic sensors mounted on the vehicle to recognize the surrounding environment and calculate the driving route. The system then controls the vehicle according to the calculated route to park itself. In addition, the Aisin APA system also automatically performs automated emergency braking in the event of a potential collision.

“Aisin’s APA system leverages complex AI and requires an SoC delivering high performance and low latency, which led us to choosing the AMD Xilinx XA Zynq UltraScale+ MPSoC platform,” said Morito Oshita, president, Chassis and Vehicle Safety System Company, Aisin Corporation. “Basic surround-view systems reduced some of the challenges of manual parking for consumers, whereas APA systems can now significantly ease the stress of parking in tight spots. We are pleased to start development and bring this solution to consumers.”

“As surround-view systems evolve from basic video stitching and graphic overlays that visually assist drivers, to cars now being able to use AI to park themselves — we see a huge opportunity to support the needs of this market with our adaptable Zynq platform,” said Hanneke Krekels, corporate vice president, Core Vertical Markets, AMD. “Aisin is leading the pack with its innovative approach, designing this APA system with the flexibility to adapt the specifications depending on the specific requirements of different automakers. This is a

perfect example of how the adaptability of the AMD Zynq MPSoC provides an upgrade path to increased feature capability in future designs."

AMD in Automotive

As the pace of innovation continues to accelerate in the automotive industry, the need for high-performance compute, accelerators and graphics technologies is increasing. AMD is at the forefront of this inflection point, with the industry's broadest line of high-performance CPUs, GPUs, FPGAs and adaptive SoCs. From powering in-vehicle infotainment systems to advanced driver-assistance systems, autonomous driving and networking applications where functional safety is of paramount importance, AMD provides carmakers with a one-stop shop for silicon and software solutions. Visit here for more information.

Supporting Resources

- Learn more about the Zynq UltraScale+ MPSoC product family

About AMD

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Contact:
David Szabados
AMD Communications
(408) 472-2439
david.szabados@amd.com

Suresh Bhaskaran
AMD Investor Relations
(408) 749-2845
Suresh.bhaskaran@amd.com

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