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AMD Robotics Starter Kit Kick-Starts the Intelligent Factory of the Future

- *Kria KR260 Starter Kit enables rapid development of hardware-accelerated applications for robotics and industrial automation —*
- *Delivers nearly 5X productivity gain, up to 8X better performance/watt and 3.5X lower latency compared to competitive GPU-based solutions —*

SANTA CLARA, Calif., May 17, 2022 (GLOBE NEWSWIRE) -- Today AMD (NASDAQ: AMD) announced the Kria™ KR260 Robotics Starter Kit, the latest addition to the Kria portfolio of adaptive system-on-modules (SOMs) and developer kits. A scalable and out-of-the-box development platform for robotics, the Kria KR260 offers a seamless path to production deployment with the existing Kria K26 adaptive SOMs. With native ROS 2 support, the standard framework for robotics application development, and pre-built interfaces for robotics and industrial solutions, the new SOM starter kit enables rapid development of hardware-accelerated applications for robotics, machine vision and industrial communication and control.

“The Kria KR260 Robotics Starter Kits builds on the success of our Kria SOMs and KV260 Vision AI Starter Kit for AI and embedded developers, providing roboticists with a complete, out-of-the-box solution for this rapidly growing application space,” said Chetan Khona, senior director of Industrial, Vision, Healthcare and Sciences Markets at AMD. “Roboticists will now be able to work in their standard development environment on a platform that has all the interfaces and capabilities needed to be up and running in less than an hour. The KR260 Starter Kit is an ideal platform to accelerate robotics innovation and easily take ideas to production at scale.”

With industry analyst firm Omdia forecasting the robotics components market to grow at a compound annual growth rate (CAGR) of 20.4 percent between 2019 and 2025, with the overall world markets revenue to increase to approximately $126 billion by 2025[1], the Kria KR260 end-to-end adaptive robotics platform is expected to deliver nearly a 5X productivity gain over competitive, Nvidia GPU-based solutions[2]. Additionally, by accelerating the design cycle compared to chip-down design, the Kria SOM portfolio typically offers up to a nine-month savings in time-to-deployment, meaning getting started becomes quick and easy for all kinds of developers with no FPGA expertise required.

Complete Industrial Solution

The KR260 hardware platform provides pre-built interfaces for robotics and industrial solutions that, combined with a growing list of accelerated applications delivered via the AMD-Xilinx App Store, enable easy evaluation and a seamless path to deployment.

Central to the KR260 design experience and making the benefits of adaptive computing more accessible to the robotics community is the Kria Robotics Stack (KRS), an integrated set of robot libraries and utilities that use hardware to accelerate the development,

maintenance and commercialization of industrial-grade robotic solutions targeting Kria SOMs. The low-latency, adaptive computing architecture of Kria SOMs implemented with KRS and ROS 2 can deliver over 8X better performance/watt[3] and up to 3.5X lower latency[4] compared to competitive GPU-based solutions.

The KR260 also includes support for the widely-adopted Ubuntu embedded operating system, providing compatibility with the latest long-term support (LTS) versions of Ubuntu Linux Desktop (22.04) from Canonical and ROS 2 Humble Hawksbill.

AMD is collaborating with Open Robotics, the creators of ROS 2 and other open software and hardware platforms for robotics, to validate and ensure compliance of our ROS 2 implementation for the robotics community.

"The Kria SOM family and KR260 Starter Kit provide the robotics community with a great combination of performance, flexibility and rapid development time," said Brian Gerkey, CEO of Open Robotics. "Users can create software-defined hardware and build solutions offering high performance per watt, with security, energy-efficiency and adaptability. Open Robotics is excited to be collaborating with AMD-Xilinx to understand and address the needs of roboticists using hardware acceleration to build new robot applications with the KR260 development platform."

Pricing and Availability
The Kria KR260 Robotics Starter Kit is priced at $349 and is immediately available from AMD and its network of worldwide distributors. The KR260 starter kit adds to the available Kria KV260 Vision AI Starter Kit, providing an easy-to-use development platform for designing vision applications.

AMD will showcase the Kria products at the 2022 Embedded Vision Summit, May 16-19 at the Santa Clara Convention Center. Visit the AMD-Xilinx booth #319 to see the latest technology demonstrations or check out the track session, "Introducing the Kria Robotics Starter Kit, Robotics and Machine Vision for Smart Factories" on May 17 at 2:40 p.m. to learn more.

Supporting Resources

- Learn more at Xilinx.com/robotics
- Learn more about Kria KR260
- Learn more about Kria SOMs
- Become a fan of AMD on Facebook
- Follow AMD on Twitter

About AMD

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[1] Market Report: Robotic Components by Tractica | Omdia, Publication Date: 2Q20

[2] Testing conducted as of December 1, 2021, on a test system comprising Nvidia Jetson AGX Xavier Developer Kit and Jetson Nano Developer Kit using Isaac ROS SDK 4.6.1; Kria KV260 Starter Kit based on Kria K26 SOM, using Vitis Unified SW Platform 2021.2 and Kria Robotics Stack. Development time accounts for tool chain setup with ROS 2, cross-compilation of host code, and creation and build of accelerator implementing two functions: doublevadd_publisher and accelerated_doublevadd_publisher available at https://github.com/ros-acceleration/acceleration_examples.

[3] Testing conducted as of February 1, 2022, on a test system comprising Nvidia Jetson AGX Xavier Developer Kit using Isaac ROS SDK 4.6.1; Kria KV260 Starter Kit based on Kria K26 SOM using Vitis Unified SW Platform 2021.2 and Kria Robotics Stack. Rectify and Resize functions from the ROS Perception Stack, available at https://github.com/ros-acceleration/acceleration_examples, are accelerated on Kria and Nvidia platforms; power and performance are measured.

[4] Testing conducted as of February 1, 2022, on a test system comprising Nvidia Jetson Nano Developer Kit using Isaac ROS SDK 4.6.1; Kria KV260 Starter Kit based on the Kria K26 SOM using Vitis Unified SW Platform 2021.2, and Kria Robotics Stack. Rectify and Resize functions from the ROS Perception Stack, available at https://github.com/ros-acceleration/acceleration_examples, are accelerated on Kria and Nvidia platforms. Execution time is measured.

Source: Advanced Micro Devices, Inc.