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Microchip Expands PolarFire® FPGA and SoC Solution Stacks with New Offerings for Medical Imaging and Smart Robotics

Application-specific, integrated hardware and software technology stacks lower the barrier of entry and speed time to market

CHANDLER, Ariz., Dec. 12, 2024 (GLOBE NEWSWIRE) -- The rise of IoT, industrial automation and smart robotics, along with the proliferation of medical imaging solutions to the intelligent edge, has made designing these types of power and thermally constrained applications more complex than ever before. To address the critical challenges of accelerating product development cycles and easing complicated development processes, Microchip Technology **(Nasdaq: MCHP)** has released **PolarFire® FPGA and SoC solution stacks** for **smart robotics** and **medical imaging**. These new releases build upon Microchip's smart embedded vision, industrial edge and intelligent edge communications stacks already available.

The solution stacks include firmware and IP cores for AI-assisted 4K60 computer vision, a diverse set of ready-to-use sensor and camera interfaces and integrated hardware for high-speed Ethernet protocols. Real-time ROS-2 compatible cores facilitate robotics tasks for perception and coordinate transformation. The stacks offer time-sensitive industrial networking protocols for OPC/UA, rich operating systems support and asymmetric processing commonly used in industrial automation. Software design kits allow for a high-level of customization and support diverse development environments centered around C/C++, RTL and popular machine learning frameworks, including the SmartHLS™ IDE, VectorBlox™ Accelerator SDK and the and Libero® SoC Design Suite which has been certified for applications needing IEC61503 SIL 3 functional safety. The solution stacks bring together the industry's most power-efficient and secure mid-range PolarFire FPGAs and PolarFire SoC FPGAs, a rich mix of hardware and software solutions with cyber security protections that allow system designers the freedom to innovate in medical imaging and robotics applications.

"Our customers have an urgent requirement to drive significant innovation in secure, functionally safe, AI-assisted industrial automation and portable medical imaging that delivers unprecedented compute horsepower in the smallest of physical footprints which are thermally stressed, and that are very vulnerable to cyber-security threats," said Shakeel Peera, vice president of marketing and strategy for Microchip's FPGA business unit. "To that end, we are now providing developers in these segments the ability to utilize power-efficient hardware and customizable solution stacks with an end goal of rapidly deploying intelligent medical imaging and autonomous robots."

One example of Microchip's innovative solution stacks can be found in its recently announced **PolarFire FPGA Ethernet Sensor Bridge** that works with the **NVIDIA® Holoscan** sensor processing platform. With its ability to bridge real-time sensor data to

NVIDIA Holoscan and the NVIDIA IGX and NVIDIA Jetson platforms for edge AI and robotics, the Sensor Bridge unlocks new edge-to-cloud applications, enables AI/ML inferencing and facilitates the adoption of AI in medical, industrial and automotive markets.

To learn more, visit Microchip's **PolarFire FPGA and SoC solution stacks** webpage.

Pricing and Availability
For additional information contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's Purchasing and Client Services website, **www.microchipdirect.com**.

Resources

High-res images available through Flickr or editorial contact (feel free to publish):

- Application image: **https://www.flickr.com/photos/microchiptechnology/54185692036/sizes/l/**

About Microchip Technology:
Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control and processing solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 100,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at **www.microchip.com**.

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