NXP's i.MX 93 Applications Processor Family Powers a New Era of Secure Edge Intelligence

- *Fast, efficient, low-cost machine learning acceleration enables IoT, automotive and industrial edge applications with the industry's first implementation of the Arm® Ethos™-U65 microNPU.*
- *Simplifies deployment of security in edge applications with state-of-the-art NXP EdgeLock® secure enclave that enhances on-die security capabilities.*
- *Provides low-power, always-on machine learning and sensor fusion functionality with built-in real-time domain MCU inside the applications processors.*

EINDHOVEN, The Netherlands, Nov. 9, 2021 (GLOBE NEWSWIRE) -- NXP Semiconductors (NASDAQ: NXPI) today announced the i.MX 93 family of applications processors designed for automotive, smart home, smart building and smart factory applications, which leverage edge machine learning to anticipate and automate based on user needs. As the first applications processors in NXP's i.MX 9 series, the new i.MX 93 family combines the industry's first implementation of the Arm Ethos-U65 microNPU with state-of-the-art security and a high degree of integration to deliver efficient, fast, secure machine learning at the edge. These family attributes enable developers to address diverse areas, from voice-assisted smart home and building systems, to low-power industrial gateways and automotive driver monitoring systems.

Systems that can process system inputs to make intelligent decisions locally with a high degree of accuracy are essential for the growth of the edge. To take on these challenges, the i.MX 93 family leverages a heterogenous multi-core architecture, including 1-2x Arm Cortex®-A55 cores running up to 1.7GHz and a real-time Cortex-M33 microcontroller sub-system with full access to all SoC peripherals, including the industry's first implementation of a 256 MACs/cycle Arm Ethos-U65 microNPU. This architecture delivers best-in-class, power-efficient machine learning performance across a variety of applications, including compact, battery-powered IoT devices, which require highly capable and efficient processors to maintain a longer battery life.

The i.MX 93 family is highly integrated, supporting a wide variety of industrial and automotive connectivity interface protocols, in addition to broad multi-media interfaces. This makes it easier for designers to connect the i.MX 93 devices across multiple systems. It also reduces the need for external hardware components and additional design work, decreasing time to market and reducing overall systems costs.

"The world is rapidly accelerating towards 75 billion connected devices by 2030 and it's crucial to ensure that we're building energy efficiency and security as well as intelligence into each and every device," said Ron Martino, Executive Vice President and General Manager, Edge Processing for NXP Semiconductors. "The highly integrated i.MX 93 applications processors will help open an entirely new range of use cases at the edge, where you need to have that close tie-in to the sensor data to make fast decisions. This will enable a new generation of secured, efficient, intelligent devices across IoT, industrial IoT and automotive applications."

Security Peace of Mind with NXP EdgeLock and Azure Sphere

NXP's EdgeLock® secure enclave, a preconfigured, self-managed and autonomous security subsystem, is a standard on-die feature across the i.MX 9 series, enabling developers to achieve their device security goals without requiring deep security expertise.

Keeping edge devices secured long after initial deployment is a challenge that requires the help of nonstop trusted management services. NXP has partnered with Microsoft to offer customers a comprehensive chip-to-cloud security solution and more than ten years of ongoing updates and security improvements with the "cloud secured" i.MX 93-CS family built with Microsoft Azure Sphere.

“We’re making it easier for developers to create, connect, and maintain innovative IoT devices by providing a comprehensive platform actively supported by the scale and expertise of Microsoft software, cloud and security experts,” said Halina McMaster, Partner Group Program Manager, Microsoft Azure Sphere. “Together with NXP, we are delivering a variety of Microsoft Azure Sphere-certified edge processors that provide a secured environment for customer applications, critical over-the-air update infrastructure, and more than ten years of ongoing security improvements for every Azure Sphere chip. The i.MX 93-CS chips will unlock opportunities across industries for performance optimization, sustainability, and safety through new classes of secured IoT devices.”

i i.MX 93-CS processors with Azure Sphere are built with Microsoft Pluton enabled on the EdgeLock secure enclave. Pluton on EdgeLock secure enclave is the dependable hardware root of trust – built into the silicon – that enables the full Azure Sphere security stack and lays the foundation for developing highly secured devices for a multitude of IoT and industrial applications.

Additional Details

- Machine learning application development on the i.MX 93 family will be enabled by the eIQ® software development environment, including the eIQ Toolkit workflow tools, the GUI-based eIQ Portal development environment and eIQ inference engine options that will include the Arm Ethos-U65 microNPU as an inference target.
- The i.MX 93 applications processors implement NXP’s innovative Energy Flex architecture, enabling developers to optimize energy usage for each operating mode to create portable devices with longer battery life and to help reduce the carbon footprint of mains-powered equipment.
- The i.MX 93 family will be part of NXP’s Product Longevity program.

For more information on the i.MX 93 applications processor family, please visit nxp.com/imx93 or contact NXP Sales worldwide.

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About NXP Semiconductors
NXP Semiconductors N.V. (NASDAQ: NXPI) enables secure connections for a smarter world, advancing solutions that make lives easier, better, and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the automotive, industrial & IoT, mobile, and communication infrastructure markets. Built on more than 60 years of combined experience and expertise, the company has approximately 29,000 employees in more than 30 countries and posted revenue of $8.61 billion in 2020. Find out more at www.nxp.com.

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