

New Intel Vision Accelerator Solutions Speed Deep Learning and Artificial Intelligence on Edge Devices

SANTA CLARA, Calif.--(BUSINESS WIRE)-- **What's New:** Today, Intel unveiled its family of [Intel® Vision Accelerator Design Products](#) targeted at artificial intelligence (AI) inference and analytics performance on edge devices, where data originates and is acted upon. The new acceleration solutions come in two forms: one that features an array of [Intel® Movidius™ vision processors](#) and one built on the high-performance [Intel® Arria® 10 FPGA](#). The accelerator solutions build on the [OpenVINO™](#) software toolkit that provides developers with improved neural network performance on a variety of Intel products and helps them further unlock cost-effective, real-time image analysis and intelligence within their Internet of Things (IoT) devices.

“Until recently, businesses have been struggling to implement deep learning technology. For transportation, smart cities, healthcare, retail and manufacturing industries, it takes specialized expertise, a broad range of form factors and scalable solutions to make this happen. Intel’s Vision Accelerator Design Products now offer businesses choice and flexibility to easily and affordably accelerate [AI at the edge](#) to drive real-time insights.”

– Jonathan Ballou, Intel vice president and general manager, Internet of Things Group

Why This Is Important: The need for intelligence on edge devices has never been greater. As deep learning approaches rapidly replace more traditional computer vision techniques, businesses can unlock rich data from digital video. With [Intel Vision Accelerator Design Products](#), businesses can implement vision-based AI systems to collect and analyze data right on edge devices for real-time decision-making. Advanced edge computing capabilities help cut costs, drive new revenue streams and improve services.

What This Delivers: Combined with Intel Vision products such as Intel CPUs with integrated graphics, these new edge accelerator cards allow businesses the choice and flexibility of price, power and performance to meet specific requirements from camera to cloud. Intel’s Vision Accelerator Design Products will build upon growing industry adoption for the [OpenVINO toolkit](#):

- **Manufacturing:** [The Chongqing Refine-Yumei Die Casting Co. Ltd.](#)* aluminum alloy die-casting factories increased its automatic defect-detection accuracy by five times over manual detection.¹
- **Smart, Safe Cities:** With the OpenVINO toolkit, stadium security provider [AxxonSoft](#)* used existing installed-base hardware to achieve 9.6 times the performance on standard Intel® Core™ i7 processors and 3.1 times the performance on Intel® Xeon® Scalable processors in order to ensure the safety of 2 million visitors to the FIFA 2018 World Cup.*

Who Uses This: Leading companies such as Dell*, Honeywell* and QNAP* are planning products based on Intel Vision Accelerator Designs. Additional partners and customers, from equipment builders, solution developers and cloud service providers support these products.

How This Works: Intel Vision Accelerator Design Products work by offloading AI inference workloads to purpose-built accelerator cards that feature either an array of Intel Movidius Vision Processing Units, or a high-performance Intel Arria 10 FPGA. Deep learning inference accelerators scale to the needs of businesses using Intel Vision solutions, whether they are adopting deep learning AI applications in the data center, in on-premise servers or inside edge devices. With the OpenVINO toolkit, developers can easily extend their investment in deep learning inference applications on Intel CPUs and integrated GPUs to these new accelerator designs, saving time and money.

More Context: [Intel's Vision Accelerator Design Products Customer Quotes](#)
| [Video](#) | [Infographic](#)

¹Automated product quality data collected by Yumei using JWIPC® model IX7, ruggedized, fan-less edge compute node/industrial PC running an Intel® Core™ i7 CPU with integrated on die GPU and OpenVINO SDK. 16GB of system memory, connected to a 5MP POE Basler* Camera model acA 1920-40gc. Together these components, along with the Intel developed computer vision and deep learning algorithms, provide Yumei factory workers information on product defects near real-time (within 100 milliseconds). Sample size >100,000 production units collected over 6 months in 2018.

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