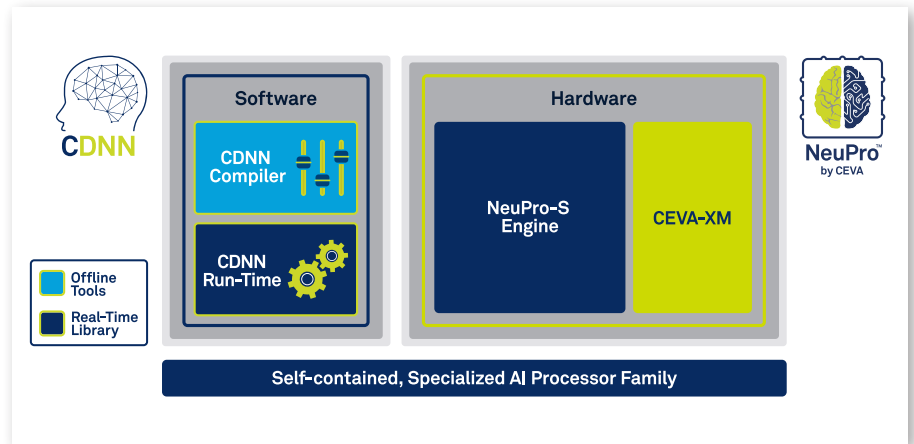


CEVA NeuPro-S On-Device AI & Computer Vision Processor Architecture

CEVA NeuPro-S™ AI processor Architecture offers a considerable step-up in performance, ranging from 2 to 12.5 Tera Ops Per Second (TOPS) for a single processor and up to 100 TOPS or more for a multi-core cluster. NeuPro-S is optimized for low power consumption, performance and area efficiency.

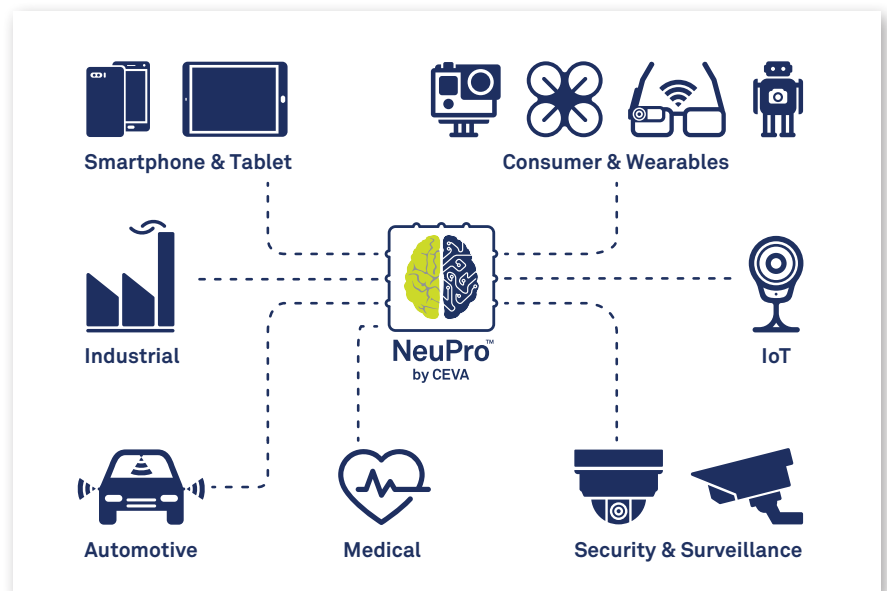
NeuPro-S AI Processor



Key Benefits

- Self-contained, unified imaging, computer vision and AI processor in single architecture
- Unique (up to) 4,096 native 8x8 MACs processing block per cycle
- Supports heterogeneous scalability in performance for a broad range of end markets
- Designed to handle the complete gamut of Deep Neural Network workloads on-device and to cope with future ones
- Builds on CEVA's industry-leading position and utilizes CEVA's award-winning CDNN graph compiler
- System aware architecture optimized for memory bandwidth
- Designed to meet the most stringent safety compliance standards
- Enables seamless usage with custom AI engines via CDNN-Invite API

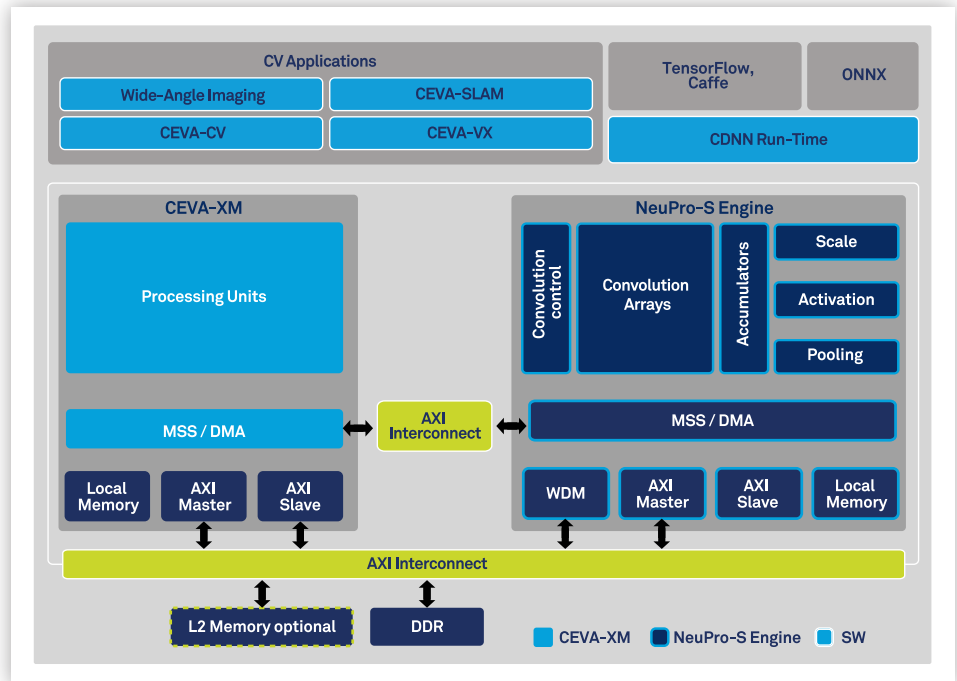
Target Markets



NeuPro-S Highlight Features

- > NeuPro-S Engine - Specialized engine for Convolution, Activation and Pooling layers
- > CEVA-XM Intelligent Vision DSP - Fully programmable vector processor for complementary NN functions as well as simultaneous processing of computer vision and image processing algorithms
- > Supports multi-level memory system hierarchy enables multi-core scalability
- > Supports 8-bit and 16-bit quantization mix
- > Optimized for DDR BW enabling weight compression and exploring sparsity
- > Advanced hardware DMA controllers for parallel processing and minimize system overhead
- > Complementary software stack including CDNN, CEVA-CV, CEVA-SLAM SDK and Wide-angle imaging algorithms

NeuPro-S Architecture Block Diagram



NeuPro AI Processors Family

Product Name	MAC Configuration			Target Market
	8x8	16x8	16x16	
NPS4000	4096	2048	1024	High-end edge processing, surveillance and autonomous driving
NPS2000	2048	1024	512	Smartphones, surveillance, robots and drones
NPS1000	1024	512	256	Mid-range smartphones, ADAS, industrial applications and AR/VR headsets

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