Intel Arc Graphics for Automotive

Driving the future of AI-enabled auto cockpit experiences.

Aug. 8, 2024 — Intel Corporation is redefining the automotive landscape with the introduction of a discrete graphics processing unit (dGPU) for the automotive industry, Intel® Arc™ Graphics for Automotive. The new technology empowers automakers to meet and exceed the dynamic consumer expectations that demand more screens, higher-fidelity graphics and unique AI-enabled cockpit experiences within vehicles.

Powering Next-Gen User Experiences

Intel Arc Graphics for Automotive is designed to handle intensive computational tasks efficiently, unlocking richer, more seamless consumer experiences.

When coupled with Intel's AI-enabled SDV system-on-chip (featuring a built-in GPU), the new dGPU creates a performance multiplier effect. It offers automotive original equipment manufacturers (OEMs) greater scalability while delivering higher performance per dollar, making the combo solution a smart investment for automakers looking for a future-proof solution that can adapt to the rapidly evolving landscape of the automotive industry without significantly increasing costs.

Bottom line: As technology advances and consumer demands grow, OEMs have the flexibility and assurance that the Intel system is built on an open platform for ease of integration and can easily be upgraded to meet these needs without requiring a complete overhaul.

With advanced graphics capabilities, the dGPU can support high-fidelity visuals and sophisticated 3D human-machine interfaces (HMI). Think smooth and immersive AAA gaming, responsive and context-aware AI assistants, and high-quality 3D human-machine interfaces. These are all critical advancements in today's market where consumers crave seamless, interactive and engaging infotainment systems.

Key Features

- **Automotive Software and Optimized Drivers:** Open source Linux-based automotive operating system, graphics driver for both dGPU and iGPU.
- **Intel GPU Single Root Input/Output Virtualization (SR-IOV) Advantage:** Provides up to 40% performance boost with virtual machine, enhanced security, isolation and robustness[1].
- **Large Language Model (LLM) Frameworks Designed for Automotive:** Intel optimizations integrated in industry standard LLM frameworks, offering significant improvement in efficiency, customization and customer experiences.
- **Xᵉ Display Engine:** Supports additional 4 display outputs and up to 4K resolution for additional in-vehicle infotainment use cases.
- **OpenGL and Vulkan:** Open standard graphics and next-gen graphics API featuring ray tracing for graphics realism.

- **High-Performance AAA Gaming:** Exceptional performance, efficiency and scalability with gaming-optimized X^e HPG microarchitecture.

	Intel Arc Graphics for Automotive - A760A
X^e cores	28
Ray Tracing Units	28
Matrix Engines for AI (XMX)	448
Vector Engines	448
Memory Size / Interface	16GB / 256bit
GDDR6 Capacity (GB)	16
PCI Express Configurations	Gen4 x16
SRIOV	Yes
TFLOPS FP32	Up to 14
Peak TOPs	Up to 229
TBP (watts)	225
# of Display ports	4
Media Decode	AVC, HEVC, VP9, AV1
Media Encode	AVC, HEVC, VP9, AV1
O/S, hypervisor, orchestration	ACRN Hypervisor, Linux (Yocto), Android, Linux-in-Container within Android virtual machine
Supported Technologies	Vulkan, OpenGL, OpenCL, OpenVINO, OneAPI, Proton, virgl, Venus, SR-IOV, virtio display
Auto Temperature	Extended Temp Support (-40°C to 105°C)
Auto Availability	Q1 2025

[1] Performance varies by use, configuration and other factors. Learn more on the Performance Index site, Workloads and configurations. Results may vary.

About Intel

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