

Intel Launches Arc A-Series Discrete Graphics Family for Mobile

March 30, 2022 – Intel today launched its Intel® Arc™ graphics product family for laptops. These are the first discrete GPUs to arrive from the Intel Arc A-Series graphics portfolio that will span laptops, desktops and workstations this year. Intel highlighted the Arc A-Series mobile graphics family, the first laptops with Arc GPUs, and the Arc graphics platform of hardware, software and services that will enable high-performance graphics experiences for gamers and creators around the world.

More: For more information about Intel Arc A-Series graphics, including the launch presentation and news, please visit the [Intel Newsroom](#).

Intel Arc A-Series Mobile Graphics Family

Intel Arc A-Series graphics will power a wide range of mobile designs, with many of the first Arc 3 graphics products going into Intel® Evo™ devices. These will include two initial product offerings: the A350M for ultra-thin designs and the A370M for more performance in thin-and-light designs.

- Intel Arc 3 graphics offer enhanced 1080p gaming and advanced content creation. Arc A370M-based laptops will deliver more than 60 frames per second at 1080p on a range of popular titles.¹
- Intel Arc 5 and Arc 7 graphics products will offer the same cutting-edge, content-creation capabilities coupled with increased graphics and computing performance. These GPUs will have more Xe-cores, more Ray Tracing Units, and more GDDR6 memory compared with Arc 3 products.
- The first laptops with Arc 3 graphics are available to preorder now, with Arc 5 and Arc 7 laptops coming in early summer. Intel's Arc graphics for desktops and add-in-cards are launching in summer.²



The First Intel Arc Graphics-Powered Laptops

Many of the first laptops with Intel Arc graphics will be Intel Evo designs with the latest 12th Gen Intel Core processors, enabling users to get the most out of thin-and-light machines with Wi-Fi 6, remarkable responsiveness and battery life. The additional horsepower of Intel Arc graphics will unlock new and improved gaming and creation capabilities within mobile form factors. Please refer to our launch video for more information about our OEM partner systems.

X^e High Performance Graphics Microarchitecture

All products with Intel Arc A-Series GPUs are built on Intel's new X^e High Performance Graphics microarchitecture, or X^e HPG for short, which was engineered from the ground up for gamers and creators. X^e HPG technologies enable Intel Arc graphics to deliver breakthrough performance, efficiency and scalability. Features include:

- Powerful X^e-cores with integrated Intel X^e Matrix Extensions (XMX) AI engines to provide a 16x increase in compute capability to complete AI inferencing operations compared with traditional GPU vector units. The increased compute can help deliver performance boosts in productivity, gaming and creator workloads.
- The X^e Media Engine supports acceleration for the broadest set of video codecs and standards and includes industry-first AV1 hardware-accelerated encoding and decoding. AV1 is up to 50% more efficient than today's most common codec, H.264, and 30% more efficient than H.265.³
- The X^e Display Engine is ready for high-resolution, high refresh rate HDR displays, supporting the latest standards, including Display Port 2.0 10G for 4K at 120hz uncompressed.

Gaming Technologies and Partnerships

Every Intel Arc GPU, from Intel Arc 3 to Intel Arc 7 graphics, will fully support DirectX 12 Ultimate and advanced gaming technologies such as hardware accelerated ray tracing and X^e Super Sampling (X^eSS).

- DirectX 12 Ultimate technologies include ray tracing, variable rate shading, mesh shading and sampler feedback.
- Intel's X^eSS AI-based image upscaling technology will be used to significantly enhance gaming performance, and, for example, enable a game to run at a 4K resolution with performance that's comparable to native 1080p.
- Intel is dedicated to delivering Day 0, game-ready drivers and is partnering with game studios around the world to ensure next-gen titles are optimized for Intel Arc GPUs and technologies such as X^eSS.
- X^eSS will launch this summer with support enabled in more than 20 games with Intel planning to open up the X^eSS SDK and tools for everyone to implement – ensuring industry-wide adoption across a broad range of software and hardware.

Intel Deep Link

Intel Arc graphics for mobile supports Intel Deep Link technology, enabling Arc GPUs to work seamlessly with Intel CPUs with integrated graphics to boost performance for gaming, creating and streaming with the following features:

- **Hyper Encode** – Hyper Encode combines media engines from across the platform to speed up video encoding workloads by up to 60% compared to Iris X^e Graphics alone.¹
- **Hyper Compute** – Hyper Compute similarly uses the combined power of compute and AI engines found across the entire Intel platform, including Intel Core processors, Iris X^e Graphics, and Intel Arc GPUs, to accelerate a variety of new workloads.

- **Dynamic Power Share** – Dynamic Power Share intelligently and automatically prioritizes engine performance depending on the workload by sending more power to the Intel Core processor or Intel Arc graphics product as needed, increasing performance up to 30% in creation and compute-intensive applications.¹

Intel Arc Graphics Community Experience

Intel is working with the community and partners to build a growing portfolio of optimized games and multimedia applications that will be available to customers of Intel Arc graphics through special launch bundles.

- Bundles will vary based on the system and region, but the first of these gamer and creator bundles are rolling out in April with the launch of the A-Series mobile products.
- Intel will offer the Arc community a steady stream of contests and promotions such as monthly loot drops and play-to-win events.
- Additionally, Intel is offering the Intel Arc Control app, a seamless interface and all-in-one hub that puts users in full control of the gaming experience. It features custom performance profiles, built-in streaming, a virtual camera, integrated Game ON Driver downloading, automatic game capture and more. Intel Arc Control supports Intel Iris X^e, Intel Iris X^e MAX and Arc GPUs for a unified software experience.

Developer Resources

Intel provides advanced oneAPI cross-architecture tools to help game developers and content creators liberate Intel CPU and Arc GPU unique capabilities – and optimize applications for maximum visual performance.

- **Analyze and optimize graphics bottlenecks.** Use [Intel® Graphics Performance Analyzers](#) to profile graphics and game applications and ramp up profiling abilities with ray tracing, system-level profiling and XeSS capabilities.
- **Speed up media processing and cloud game streaming.** [The Intel® oneAPI Video Processing Library \(oneVPL\)](#) enables hardware AV1 encode and decode support, and Deep Link Hyper Encode, delivering fast transcoding when taking advantage of multiple Intel accelerators in a platform.
- **Accelerate compute-intensive tasks.** With [Intel® VTune™ Profiler](#), developers can identify the most time-consuming parts of CPU and GPU code, visualize thread behaviors to quickly find concurrency problems, and more.
- **Integrate AI and machine learning in games.** [Intel® Game Dev AI Toolkit](#) delivers a spectrum of AI-powered capabilities, from immersive world creation to real-time game-object-style transfer visualizations.
- More resources are available via the [Intel® Game Dev Program](#) and [Intel® Create](#).

About Intel

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¹ Performance varies by use, configuration and other factors. Learn more at www.intel.com/PerformanceIndex. Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

Your costs and results may vary.

² All product plans and roadmaps are subject to change without notice.

³ H.264/AVC claim based on <https://engineering.fb.com/2018/04/10/video-engineering/av1-beats-x264-and-libvpx-vp9-in-practical-use-case/>.

H.265/HEVC claim based on <https://www.winxdvd.com/convert-hevc-video/av1-vs-hevc.htm>.

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