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AMD Extends its Leadership with the Introduction of its Broadest Portfolio of High-Performance PC Products for Mobile and Desktop

— AMD Ryzen™ 7000X3D Series Desktop processors bring the power of AMD 3D V-Cache™ technology to gamers and creators —

— AMD Ryzen 7000 Series Mobile processors deliver unparalleled performance for demanding workloads with up to 16 powerful "Zen 4" cores and bring new Ryzen AI technology to select laptop devices—

LAS VEGAS, Jan. 04, 2023 (GLOBE NEWSWIRE) -- Today at CES 2023, AMD (NASDAQ: AMD) announced a variety of new computing products across desktop and mobile, bringing new levels of performance for gamers, creators, professionals, and mainstream users. AMD is substantially expanding the range of options for Socket AM5 users with the new Ryzen 7000X3D Series Desktop processors and 65W Ryzen 7000 Series Desktop processors. AMD also announced a new lineup of Ryzen 7000 Series Mobile processors, including the AMD Ryzen 7045HX Series Mobile processors, which deliver on average over 50% more performance across a wide range of applications to enable gamers and creators on the go [1]. AMD is also introducing the Ryzen 7040 Series Mobile processors, which feature the first dedicated artificial intelligence hardware in an x86 processor on select models.

"AMD is consistently pushing the envelope on innovation in the PC industry, bringing unmatched performance and efficiency to PC desktop and laptops users," said Saeid Moshkelani, senior vice president and general manager, Client, AMD. "This year, we are offering more options than ever before across desktop and mobile to create the perfect experience for each user. With the new Ryzen AI technology built into our Ryzen 7040 Series Mobile processors, we will bring not only leadership performance and power efficiency but also the power of artificial intelligence to laptop devices, ushering in a future with powerful new capabilities that only true AI hardware can provide and opening the door to a new world of experiences."

Delivering More Options for Gamers

The recently introduced AMD Socket AM5 platform enables cutting-edge technology advantages, like the most PCIe® 5 lanes for the ultimate next-gen graphics and storage bandwidth. It's also uniquely positioned to deliver long-term value, as only AMD has made a commitment to keep its newest desktop platform compatible with new processors for years to come.

Expanding the Ryzen 7000 Series Desktop Processor Lineup

AMD announced the addition of three new Ryzen X3D processors – the Ryzen 9 7950X3D, Ryzen 9 7900X3D and Ryzen 7 7800X3D – bringing the power of AMD 3D V-Cache technology to the Ryzen 7000 Series desktop processor lineup[1]. Now, the ultimate processors for both gamers and creators comes packaged in a single chip.

These new Ryzen 7000X3D are the fastest gaming processors in the world.[4] With up to 14% faster performance than the previous generation.[6] The AMD Ryzen 7000 Series processors with 3D V-Cache technology will be available for Socket AM5 starting February 2023.

Model	Cores/Threads	Boost / Base Frequency[2]	Total Cache	TDP
AMD Ryzen 9 7950X3D	16C/32T	Up to 5.7 GHz / 4.2 GHz	144MB	120W
AMD Ryzen 9 7900X3D	12C/24T	Up to 5.6 GHz / 4.4 GHz	140MB	120W
AMD Ryzen 7 7800X3D	8C/16T	Up to 5.0 GHz / TBD	104MB	120W

Continuing to build on the existing Ryzen 7000 Series Desktop processor lineup, AMD introduced the new Ryzen 9 7900, Ryzen 7 7700 and Ryzen 5 7600 Series processors, delivering exceptional performance. Built on the “Zen 4” architecture and featuring a 65W TDP, the new Ryzen processors are optimized for both efficiency and performance, and come with an included AMD Wraith cooler, expanding options and entry points to the Socket AM5 ecosystem. And with one-click overclocking with Precision Boost Overdrive, you can get an instant performance boost of up to 39% with a water-cooled Ryzen 9 7900 processor[3]. The processors announced today are expected to be available starting January 10.

Model	Cores / Threads	Boost / Base Frequency[2]	Total Cache	TDP	Cooler	SEP (USD)
AMD Ryzen 9 7900	12C/24T	Up to 5.4 GHz / 3.7 GHz	76MB	65W	Wraith Prism	$429
AMD Ryzen 7 7700	8C/16T	Up to 5.3 GHz / 3.8 GHz	40MB	65W	Wraith Prism	$329
AMD Ryzen 5 7600	6C/12T	Up to 5.1 GHz / 3.8 GHz	38MB	65W	Wraith Stealth	$229

Introducing the Ryzen 7045HX Processors for Mobile

For gamers on the go, AMD introduced the new AMD Ryzen 7045HX Series Mobile processors, powered by up to 16 powerful “Zen 4” cores and 32 threads. Built on advanced 5nm process technology and featuring the potent combination of the most processing threads currently found on a mobile processor and advanced DDR5 memory support, these mobile processors allow users to experience new levels of mobile computing.

The new AMD Ryzen 7045HX Series Mobile processors offer up to 18% faster single-threaded performance and up to an incredible 78% faster multithreaded performance over the 6900HX to deliver a huge leap in what’s possible for mobile gamers and creators. [4]

Systems featuring the Ryzen 7045HX Series processors will be available from Alienware, ASUS, Lenovo, and MSI beginning February 2023.

“Our partnership is built on a proud history of decades of working together in bringing ground-breaking hardware and tech solutions to market,” said Matt Zielinski, EVP and president of international markets, Lenovo. “Since 2017, we’ve featured Ryzen processors in our most powerful Lenovo Legion PCs. And now, our new Legion Pro series laptops will integrate the latest generation of AMD Ryzen 7045 Series processors, and will be the most powerful AMD Ryzen gaming laptop we’ve ever released.” [6]

Model	Cores/Threads	Boost / Base Frequency[2]	Total Cache	TDP
AMD Ryzen 9 7945HX	16C/32T	Up to 5.4 GHz / 2.5 GHz	80MB	55-75W+
AMD Ryzen 9 7845HX	12C/24T	Up to 5.2 GHz / 3.0 GHz	76MB	45-75W+
AMD Ryzen 7 7745HX	8C/16T	Up to 5.1 GHz / 3.6 GHz	40MB	45-75W+
AMD Ryzen 5 7645HX	6C/12T	Up to 5.0 GHz / 4.0 GHz	38MB	45-75W+

AMD Brings the Power of AI to Mobile Processors

As part of the new Ryzen 7040 Series Mobile processors, AMD unveiled Ryzen™ AI, the first dedicated artificial intelligence hardware in an x86 processor, available on select models, bringing AMD XDNA™ adaptive AI architecture to laptop computing delivering more performance for real-time AI experiences. Ryzen processors with Ryzen AI outperform the Apple M2 CPU by up to 20% while being up to 50% more energy efficient[8]. This performance and efficiency ultimately add up to richer, real-time user experiences in video collaboration, content creation, productivity, gaming, and protection.

“Microsoft and AMD have a long history of incredible partnership and impact,” said Panos Panay, EVP, and chief product officer, Microsoft. “The AMD Ryzen 7040 Series paired with the latest Windows 11 updates is the next step on our journey together. Leveraging AMD silicon along with our AI investments in Windows will unlock groundbreaking experiences for our customers.”

AMD is Powering the Future of PCs

Across desktop and mobile computing, AMD is delivering the performance, capabilities and efficiency modern PC users are demanding. Today, AMD also announced a wide variety of mobile processors for thin-and-light laptops to serve every type of user – from content creators to casual gamers, from hybrid workers to high-school students. Each of these builds on the strengths of Ryzen processors, including battery life and true performance for mobile platforms.

AMD Ryzen 7040HS Series Processors for Mobile

AMD introduced the Ryzen 7040HS Series Mobile processors, featuring up to eight “Zen 4” cores, integrated AMD RDNA™ 3 graphics architecture, and delivering leadership performance for ultrathin PC laptops. Built on 4nm process technology, the Ryzen 7040HS Series Mobile processors offer massive horsepower in the thinnest, lightest systems.

The new AMD Ryzen 7040HS Series Mobile processors offer:

- Up to 34% faster multithreaded performance over the competition[9]
- Up to 21% faster gaming performance over the competition[7]

Systems featuring the Ryzen 7040HS Series processors will be available from OEM partners beginning in March 2023.

Model	Cores/Threads	Boost/Base Frequency[2]	Cache	TDP
Ryzen 9 7940HS	8C/16T	Up to 5.2 GHz / 4.0 GHz	24MB	35-45W
Ryzen 7 7840HS	8C/16T	Up to 5.1GHz / 3.8GHz	24MB	35-45W
Ryzen 5 7640HS	6C/12T	Up to 5.0GHz / 4.3 GHz	22MB	35-45W

AMD Ryzen 7035 Series Processors for Mobile

Built on the 6nm process technology and featuring up to eight cores, AMD Ryzen 7035 Series processors are designed to deliver fast performance and incredibly long battery life. The capabilities of the “Zen 3+” architecture found inside the new processors allow users to experience powerful single-thread and multi-thread performance with optimal energy efficiency.

Systems featuring the Ryzen 7035 Series processors will be available from Acer, Asus, HP, and Lenovo beginning in January 2023.

“This rise of hybrid work is a catalyst for innovation across HP’s portfolio of devices, peripherals, services and subscriptions,” said Enrique Lores, president and CEO, HP Inc. “Through our partnership with AMD, we are co-engineering new solutions that deliver the best possible experience for our customers. Today’s launch of the new Dragonfly PRO is a great example of what’s possible as HP and AMD innovate together at the heart of hybrid.”

Model	Cores/Threads	Boost/Base Frequency[2]	Cache	TDP
AMD Ryzen 7 7735HS	8C/16T	Up to 4.75 GHz / 3.2 GHz	20MB	35W
AMD Ryzen 5 7535HS	6C/12T	Up to 4.55 GHz / 3.3 GHz	19MB	35W
AMD Ryzen 7 7735U	8C/16T	Up to 4.75 GHz / 2.7 GHz	20MB	15-28W
AMD Ryzen 5 7535U	6C/12T	Up to 4.55 GHz / 2.9 GHz	19MB	15-28W
AMD Ryzen 3 7335U	4C/8T	Up to 4.3 GHz / 3.0 GHz	10MB	15-28W

AMD Ryzen 7030 Series Processors for Mobile

Featuring up to eight cores, the “Zen 3”-based AMD Ryzen 7030 Series processors deliver a balance of power, proven performance, and efficiency, allowing users to get the most out of their system. The processors also have built-in Radeon™ graphics, allowing for smooth video playback and esports gaming.

Systems featuring the Ryzen 7030 Series processors will be available from HP, Acer, Lenovo, and Asus beginning in January 2023.

Model	Cores/Threads	Boost/Base Frequency[2]	Cache	TDP
AMD Ryzen 7 7730U	8C/16T	Up to 4.5 GHz / 2.0 GHz	20MB	15W
AMD Ryzen 5 7530U	6C/12T	Up to 4.5 GHz / 2.0 GHz	19MB	15W
AMD Ryzen 3 7330U	4C/8T	Up to 4.3 GHz / 2.3 GHz	10MB	15W

AMD Ryzen PRO 7030 Series Processors for Mobile

Also coming in 2023, AMD announced new Ryzen PRO 7030 Series Mobile processors built on the 7nm “Zen 3” core architecture, offering the proven performance and exceptional battery life today’s hybrid work environment demands. The Ryzen PRO 7030 Series Mobile processors are also equipped with AMD PRO technologies, which provide multilayered security and enterprise-class solutions for manageability.

Systems featuring the Ryzen PRO 7030 Series processors will be available from HP and Lenovo beginning in February 2023.

Model	Cores/Threads	Boost/Base Frequency[2]	Cache	TDP
AMD Ryzen 7 PRO 7730U	8C/16T	Up to 4.5 GHz / 2.0 GHz	20MB	15W
AMD Ryzen 5 PRO 7530U	6C/12T	Up to 4.5 GHz / 2.0 GHz	19MB	15W
AMD Ryzen 3 PRO 7330U	4C/8T	Up to 4.3 GHz / 2.3 GHz	10MB	15W

Supporting Resources

- Learn more about AMD Ryzen 7000 Series Desktop processors here
- Learn more about AMD Ryzen 7000 Series Mobile processors here
- Learn more about AMD Ryzen PRO 7000 Series Mobile processors here
- Read more about all of AMD's PC announcements here
- Read about AMD's commitment to gaming here
- Read about AMD's vision for mobile PCs here
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Cautionary Statement
This press release contains forward-looking statements concerning Advanced Micro Devices, Inc. (AMD) such as the features, functionality, performance, availability, timing and expected benefits of AMD products and technology, including the AMD Ryzen™ 7000X3D Series Desktop processors, AMD Ryzen™ 9 7950X3D processor, AMD Ryzen™ 9 7900X3D processor, AMD Ryzen™ 7 7800X3D processor, AMD Ryzen™ 7000 Series Desktop, AMD Ryzen™ 9 7900 processor, AMD Ryzen™ 7 7700 processor, AMD Ryzen™ 5 7600 processor, AMD Ryzen™ 7000 Series Mobile processors, AMD Ryzen™ 7045HX Series Mobile processors, AMD Ryzen™ 7040 Series Mobile processors, AMD Ryzen™ 7040HS Series Mobile processors, AMD Ryzen™ 7035 Series Mobile processors, AMD Ryzen™ 7030 Series Mobile processors, AMD Ryzen™ PRO 7030 Series Mobile processors, AMD 3D V-Cache™ technology and AMD Ryzen™ AI technology, which are made pursuant to the Safe Harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are commonly identified by words such as "would," "may," "expects," "believes," "plans," "intends," "projects" and other terms with similar meaning. Investors are cautioned that the forward-looking statements in this press release are based on current beliefs, assumptions and expectations, speak only as of the date of this press release and involve risks and uncertainties that could cause actual results to differ materially from current expectations. Such statements are subject to certain known and unknown risks and uncertainties, many of which are difficult to predict and generally beyond AMD's control, that could cause actual results and other future events to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. Material factors that could cause actual results to differ materially from current expectations include, without limitation, the following: Intel Corporation's dominance of the microprocessor market and its aggressive business practices; global economic uncertainty; cyclical nature of the semiconductor industry; market conditions of the industries in which AMD products are sold; loss of a significant customer; impact of the COVID-19 pandemic on AMD's business, financial condition and results of operations; competitive markets in which AMD's products are sold; quarterly and seasonal sales patterns; AMD's ability to adequately protect its technology or other intellectual property; unfavorable currency exchange rate fluctuations; ability of third party manufacturers to manufacture AMD's products on a timely basis in sufficient quantities and using competitive technologies; availability of essential equipment,

materials, substrates or manufacturing processes; ability to achieve expected manufacturing yields for AMD's products; AMD's ability to introduce products on a timely basis with expected features and performance levels; AMD's ability to generate revenue from its semi-custom SoC products; potential security vulnerabilities; potential security incidents including IT outages, data loss, data breaches and cyber-attacks; potential difficulties in upgrading and operating AMD's new enterprise resource planning system; uncertainties involving the ordering and shipment of AMD's products; AMD's reliance on third-party intellectual property to design and introduce new products in a timely manner; AMD's reliance on third-party companies for design, manufacture and supply of motherboards, software and other computer platform components; AMD's reliance on Microsoft and other software vendors' support to design and develop software to run on AMD's products; AMD's reliance on third-party distributors and add-in-board partners; impact of modification or interruption of AMD's internal business processes and information systems; compatibility of AMD's products with some or all industry-standard software and hardware; costs related to defective products; efficiency of AMD's supply chain; AMD's ability to rely on third party supply-chain logistics functions; AMD's ability to effectively control sales of its products on the gray market; impact of government actions and regulations such as export administration regulations, tariffs and trade protection measures; AMD's ability to realize its deferred tax assets; potential tax liabilities; current and future claims and litigation; impact of environmental laws, conflict minerals-related provisions and other laws or regulations; impact of acquisitions, joint ventures and/or investments, including acquisitions of Xilinx and Pensando, on AMD's business and AMD's ability to integrate acquired businesses; impact of any impairment of the combined company's assets on the combined company's financial position and results of operation; restrictions imposed by agreements governing AMD's notes, the guarantees of Xilinx's notes and the revolving credit facility; AMD's indebtedness; AMD's ability to generate sufficient cash to meet its working capital requirements or generate sufficient revenue and operating cash flow to make all of its planned R&D or strategic investments; political, legal, economic risks and natural disasters; future impairments of goodwill and technology license purchases; AMD's ability to attract and retain qualified personnel; AMD's stock price volatility; and worldwide political conditions. Investors are urged to review in detail the risks and uncertainties in AMD's Securities and Exchange Commission filings, including but not limited to AMD's most recent reports on Forms 10-K and 10-Q.

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1. Testing by AMD performance labs as of Dec 2022, using the Cinebench R23 1T and nT benchmarks to test the AMD Ryzen 7045 Series processors (Ryzen 9 7945HX, Ryzen 7 7745HX, Ryzen 5 7645HX models), each configured with 32GB DDR5-5200, 1TB SSD, Windows 11, compared to the latest 12th Gen Intel Core processors: Intel Core i9-12900HX: MSI Raider GE67HX 12UHS 2x16GB DDR5-4800, 1TB SSD, Windows 11 Pro; Intel Core i7-12700H: Dell XPS 15 9520, 16GB DDR5-4800, 512GB SSD, Windows 11 Pro; Intel Core i5-12500H: Dell XPS 15 9520, 16GB DDR5-4800, 1TB SSD, Windows 11 Pro. Laptop manufacturers may vary configurations, yielding different results. DRG-4
2. Max boost for AMD Ryzen processors is the maximum frequency achievable by a single core on the processor running a bursty single-threaded workload. Max boost will vary based on several factors, including, but not limited to: thermal paste; system cooling; motherboard design and BIOS; the latest AMD chipset driver; and the latest OS updates. GD-150.
3. Precision Boost Overdrive requires an AMD Ryzen Threadripper or a Ryzen 3000/4000/5000/7000 series desktop processor, and a compatible motherboard. AMD Ryzen 3400G and 3200G series processors are not compatible. Because Precision Boost Overdrive enables operation of the processor outside of AMD's published specifications, use of the feature invalidates the AMD product warranty and may also void warranties offered by the system manufacturer or retailer. Availability of Precision Boost Overdrive in pre-built OEM desktop systems will vary based on the PC manufacturer's settings. Check with the PC manufacturer prior to purchase. GD-179.
4. Based on testing by AMD as of 12/23/2022. Testing results demonstrated in Far Cry 6; CS:GO; Warhammer: Dawn of War 3; League of Legends. Ryzen™ 9 7945HX system: AMD reference motherboard configured with 2x16GB DDR5-5200, Samsung 980 Pro 1TB SSD, Radeon 610M Graphics, Windows® 11 64-bit. Ryzen 9 6900HX system: Alienware M17 R5 configured with 2x16GB DDR5-4800, 1TB SSD, Radeon 6850M XT graphics, Windows 11 64-bit. System manufacturers may vary configurations, yielding different results. DRG-03
5. "Based on testing by AMD as of 12/23/2022. Testing results demonstrated in Handbrake, Cinebench, GeekBench, PCMArk 10, Kraken, 7-Zip, Lame MP3. Ryzen™ 7 7840HS system: AMD reference motherboard configured with 4x4GB LPDDR5,1TB SSD, Radeon 780M Graphics, Windows® 11 64-bit. Core i7-1280P system: HP Elitebook 840 G9 configured with 16GB DDR5-4800, 1TB SSD, Intel Iris Xe, Windows 11 64-bit.System manufacturers may vary configurations, yielding different results. Performance may vary. PHX-6
6. Testing by AMD performance labs as of Dec 2022 using AMD Ryzen 7045 Series processors (Ryzen 9 7945HX, Ryzen 7 7745HX, Ryzen 5 7645HX), 32GB DDR5-5200, 1TB SSD compared to the latest 12th Gen Intel Core processors using Cinebench R23 1T and NT benchmarks. DRG-4.
7. Based on testing by AMD as of 12/23/2022. Testing results demonstrated in Borderlands 3, Cyberpunk 2077, Rainbow Six Siege, Assassin's Creed: Valhalla, World of Tanks Encore, League of Legends, Far Cry 6, Grand Theft Auto V, Shadow of the Tomb Raider, F1 2021, Strange Brigade, Total War: Three Kingdoms Battle. Ryzen™ 9 7940HS system: AMD reference motherboard configured with 4x4GB LPDDR5, Samsung 980 Pro 1TB SSD, Radeon 780M Graphics, Windows® 11 64-bit. Core i7-1280P system: HP Elitebook 840 G9 configured with 16GB DDR5-4800, 1TB SSD, Intel Iris Xe, Windows 11 64-bit. System manufacturers may vary configurations, yielding different results. PHX-9
8. Engineering projections are not a guarantee of final performance. Performance projection by AMD engineering staff based on expected performance. Specific

projections are based on pre-silicon analysis and are subject to change when final products are released in market. PHX-13.

9. Based on testing by AMD as of 12/23/2022. Testing results demonstrated in DaVinci Resolve BlackMagic , V-Ray, Blender, Cinebench R23 nT, Handbrake 1:5:1. Ryzen™ 9 7940HS system: AMD reference motherboard configured with 4x4GB LPDDR5, 1TB SSD, Radeon 780M Graphics, Windows® 11 64-bit. Apple M1 Pro system: Macbook M1 Pro 18 configured with 32GB LPDDR5, 1TB SSD, MacOS Monterey (12.6.1) System manufacturers may vary configurations, yielding different results. PHX-10

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