



2021-22 CORPORATE RESPONSIBILITY REPORT SUMMARY

AMD 
together we advance_



Who We Are

AMD IS A GLOBAL SEMICONDUCTOR COMPANY THAT DESIGNS AND DELIVERS PRODUCTS FOR FOUR PRIMARY MARKETS:

- Client, which primarily includes microprocessors, accelerated processing units that integrate microprocessors and graphics, and chipsets for desktop and notebook personal computers;
- Gaming, which primarily includes discrete GPUs, semi-custom SoC products and development services;
- Data Center, which primarily includes server microprocessors, GPUs, FPGAs and adaptive SoC products for data centers; and
- Embedded, which primarily includes embedded microprocessors, FPGAs, adaptive SoC products and ACAP products.

For more than 50 years AMD has driven innovation in high-performance computing, graphics and visualization technologies. AMD employees are focused on building leadership high-performance and adaptive products that push the boundaries of what is possible. Billions of people, leading Fortune 500 businesses and scientific research institutions around the world rely on AMD technology daily to improve how they live, work and play.

We operate in more than [35 locations](#) worldwide, including engineering facilities, sales and business service sites and corporate offices.

SOLVING THE WORLD'S IMPORTANT CHALLENGES

AMD processors power people to lead their fields at the cutting edge. From healthcare and entertainment to science and autonomous driving, when AMD performance meets the potential of our partners, we can solve the world's most important challenges.

ACCELERATING TODAY'S DATA

Today's data centers, supercomputers and cloud environments require vast amounts of computing power to enable the digital experiences that make up our daily lives. AMD offers a broad portfolio of solutions to meet these needs, combining exceptional x86 AMD EPYC™ processors, compute-optimized AMD Instinct™ GPU accelerators, adaptive acceleration with the Versal platform, Zynq SoC and Alveo accelerators and high-performance Pensando data processing units and software stack.

POWERING INCREDIBLE GAMING EXPERIENCES

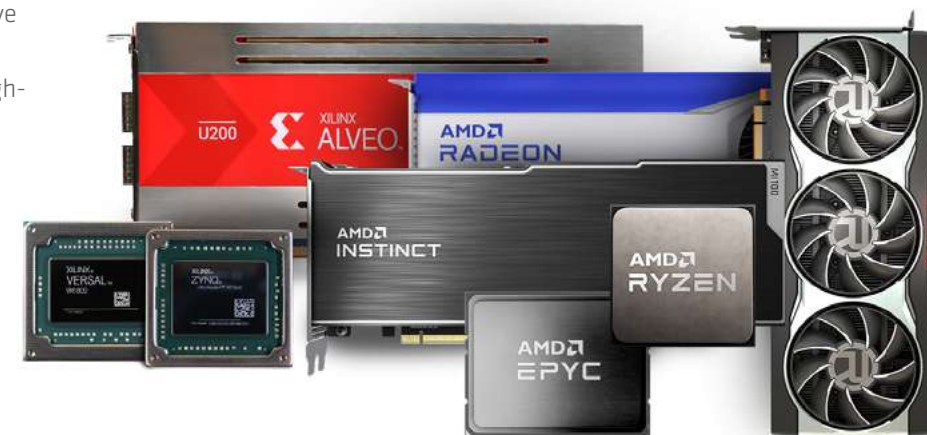
High-performance AMD computing and graphics technologies along with software power immersive gaming experiences for high-performance PCs, the latest game consoles and cloud gaming services.

DELIVERING POWERFUL AND EFFICIENT PERSONAL COMPUTING

AMD continues to drive innovation in premium PCs with AMD Ryzen™ processors and AMD Radeon™ graphics, bringing performance, efficiency and modern security features to gamers, creators, consumers and enterprises.

ENABLING INTELLIGENT DEVICES

AMD adaptive and embedded computing is enabling a new class of intelligent devices across the automotive, embedded and communications markets.



AMD
together we advance_

A Message from Dr. Lisa Su, AMD Chair and Chief Executive Officer

The important role that computing plays in our everyday lives has never been more apparent. Over the last year, our high-performance and adaptive computing solutions have enabled vital medical discoveries, advanced climate research, connected families around the world and so much more.

In early 2022, we successfully closed the acquisition of Xilinx, significantly expanding our leadership product portfolio, technology capabilities and scale. With our recent acquisition of Pensando, we added additional capabilities in the data center, and now offer the industry's broadest portfolio of computing solutions.

Together with our employees, customers and partners, AMD advances innovation in computing to help create solutions to the world's most important challenges. In that same vein, it is imperative that we do so in a responsible manner for the environment and world that we share together.

We have set new long-term goals across our environmental, social and governance (ESG) pillars. I am pleased to report that we are making good progress in efforts spanning digital impact, environmental sustainability, supply chain responsibility, and diversity, belonging and inclusion.

Product energy efficiency is an area of significant focus for us as we push the boundaries of performance to develop the world's most advanced processors. As of June 2022, AMD powers the fastest and most energy-efficient supercomputer in the world – the Frontier supercomputer – as well as 17 of the top 20 most efficient supercomputers. We are also on track to achieve our goal to deliver a 30x increase in energy efficiency in AMD processors powering servers in AI-training and high-performance computing applications by 2025. By mid-2022, we achieved a 6.8x improvement from our 2020 base year. Our emphasis on environmental sustainability also extends to reducing the impacts of our operations and supply chain.

We are also focused on arming the world's brightest minds with AMD high-performance and adaptive computing to accelerate important research and innovation. In 2022, we expanded the AMD High Performance Compute Fund to provide researchers with access to more than 20 petaflops of supercomputing power to advance research in areas including climate change, healthcare and transportation. Through this program and our other efforts, more than 27 million people have benefited from AMD technology and contributions, putting us on track to achieve our digital impact goal to positively impact 100 million people by 2025.



All of this is made possible by our talented and dedicated employees. We continue to invest in our workforce and initiatives that advance diversity, belonging and inclusion (DB&I), including tying our DB&I goals to executive compensation. AMDers around the world are highly encouraged to get involved in employee resource groups and AMD inclusion efforts, with 52 percent of AMDers participating in 2021. You can read more about our progress and priorities throughout this report.

In 2021, we also joined the UN Global Compact, and we continue to incorporate into our business strategy the ten universally accepted principles on human rights, labor, environment and anti-corruption. As our product portfolio, market presence and workforce continue to expand, AMD is focused on responsibly delivering leadership computing solutions that advance the industry, our communities and the world.

A handwritten signature in black ink, reading "Lisa Su".





A Message from Susan Moore, Corporate Vice President, Corporate Responsibility and International Government Affairs, and President, AMD Foundation

For 27 years, AMD has been annually disclosing the steps we take to embed corporate responsibility across our business. In this report, we look back on how we pushed the limits of innovation to help solve some of the world's most important challenges, and we look forward to even bigger ambitions.

It is not just what our semiconductor technology can do that matters, but also how we develop and deliver it responsibly. To guide our efforts, we engage our stakeholders and periodically conduct materiality assessments on environmental, social and governance (ESG) issues. From this work, we set long-term ESG goals spanning our operations, supply chain and product design with oversight by our board of directors and executive team.

As complex developments unfolded worldwide in 2021, we continued customer collaborations, employee trainings and supplier engagements on topics related to climate change, labor and human rights. Additionally, during the year our company, employees and the AMD Foundation collectively donated more than US\$2 million for scientific research, social services, environmental conservation and humanitarian aid.

We continue to implement measures that advance our ESG priorities while we focus on our financial performance. For instance, increased diversity hiring continues to be a strategic metric and milestone informing our 2021 and 2022 annual incentive plan, which is a compensation element of our Total Rewards Program. Starting in 2022,

we are investing up to US\$10 million in underserved U.S. communities through the CNote platform to increase economic mobility and financial inclusion. This year we also entered into a US\$3 billion sustainability-linked credit facility, reinforcing our commitment to our ESG goals.

I invite you to read our new report, which has been prepared in accordance with the GRI Standards and aligns with the Sustainability Accounting Standards Board and the Task Force on Climate-related Financial Disclosures. We received external limited level assurance for 2021 data relating to our scope 1 and 2 greenhouse gas (GHG) emissions and related performance to goal, as well as scope 3 GHG emissions for business air travel.

The creativity, resiliency and collaboration of AMD employees distinguish our company's culture. I thank my colleagues for embracing and contributing to our ESG priorities. Together with our customers and partners, we create possibilities for how our semiconductor technology can help advance an inclusive, sustainable future for our world.

Susan Moore

Our Approach to CR

At AMD, we develop semiconductor technology that helps to enable the future. Our high-performance processors power the servers for modern data centers, personal computers, game consoles, industrial devices and more. Through the use of our technologies, we help open possibilities for creators, researchers, inventors and explorers to tackle some of the world's toughest challenges.

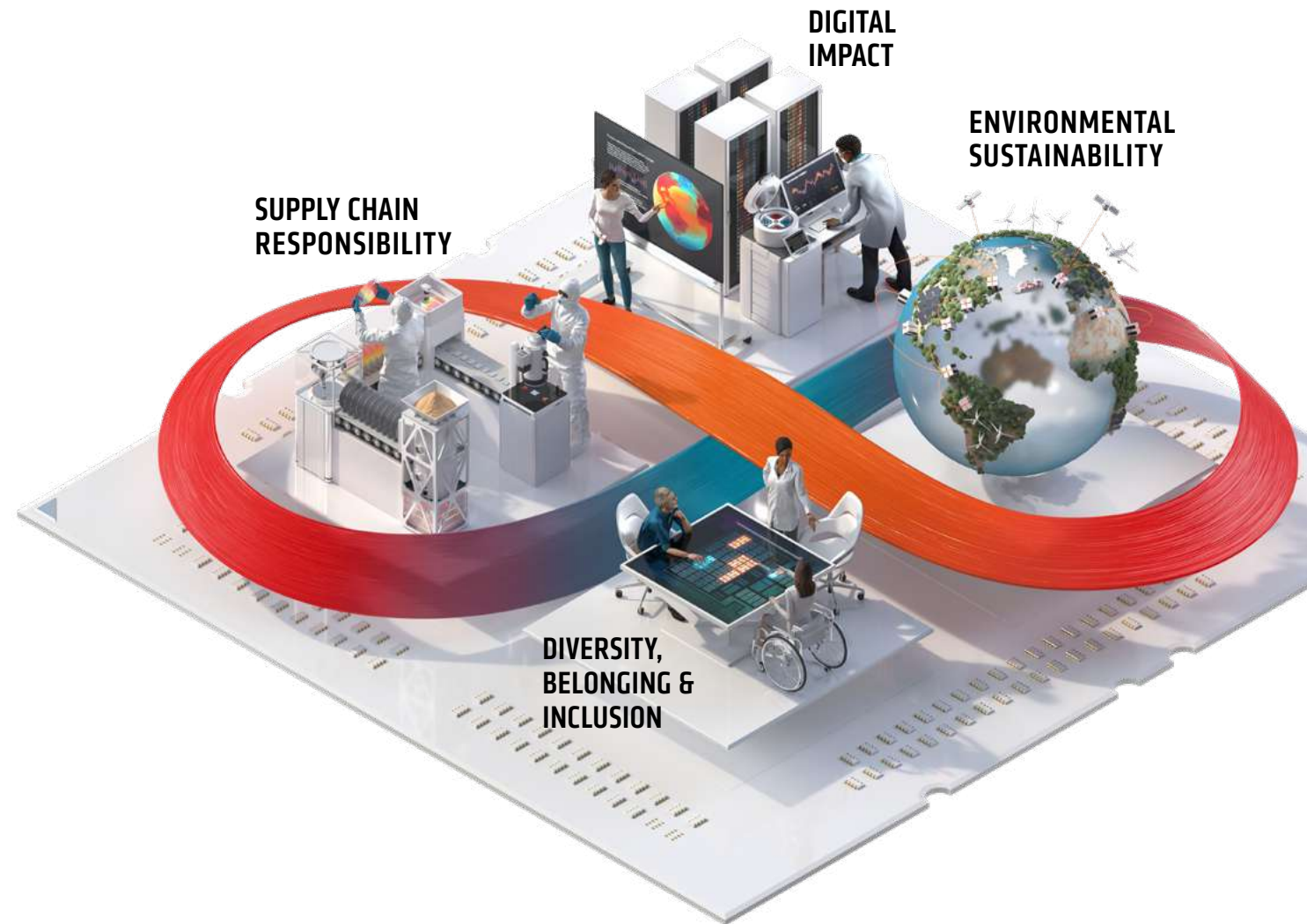
That is why we are focused on creating the next generation of products to positively benefit society and the planet. We aspire to embed environmental sustainability across our business, ensure safe and responsible workplaces in our global supply chain and promote stronger communities where we live and work.

Responsibly developing and delivering cutting-edge technologies that enable a better world is deeply rooted in our culture. Corporate responsibility (CR) is an integral aspect of our business, which aims to generate shared value with our employees, customers, suppliers, investors and communities.

We look at CR through the lens of environmental, social and governance (ESG) issues, which allows us to prioritize where we need to focus our efforts to have the most impact and operationalize our goals into the business. We engage with [our stakeholders](#) to help us identify and prioritize ESG-related issues and set our strategy. This approach also guides our [reporting and transparency efforts](#) on the issues that matter most to our business and our stakeholders.

We address a wide range of [ESG-related issues](#), and on the basis of engagement with our stakeholders, we elevate four strategic ESG focus areas. We have set public goals to help drive our progress in these areas.

Our Strategic Focus Areas



Our ESG Goals and Progress

DIGITAL IMPACT

We design products that help improve people's lives through high-performance and adaptive computing solutions spanning healthcare, education, manufacturing, scientific research and other critical needs.

100 million

people to benefit from AMD and AMD Foundation philanthropy and partnerships that enable STEM education, scientific research and the workforce of the future by 2025 (base year 2020)¹

ON TRACK: 27.8 MILLION people in 2020 and 2021

ENVIRONMENTAL SUSTAINABILITY

We are steadfast in our commitment to sustainability by sourcing renewable energy, engaging our employees and suppliers on environmental initiatives, and helping end-users reduce energy use and GHG emissions.

30x

increase in energy efficiency for AMD processors and accelerators powering servers for artificial intelligence-training and high-performance computing by 2025 (base year 2020)²

ON TRACK: 6.8x as of mid-2022³

50 percent

absolute reduction in GHG emissions from AMD operations (Scope 1 and 2) by 2030 (base year 2020)

ON TRACK: 25 percent in 2021

100 percent

of AMD manufacturing suppliers⁴ to have a public GHG emissions reduction goal by 2025

ON TRACK: 74 percent in 2021

80 percent

of AMD manufacturing suppliers to source renewable energy by 2025

ON TRACK: 74 percent in 2021

SUPPLY CHAIN RESPONSIBILITY

We work with our suppliers to deliver high-quality products, while helping ensure that working conditions are safe, workers are treated with respect and manufacturing processes are environmentally responsible.

100 percent

of AMD supplier manufacturing factories to have a Responsible Business Alliance (RBA) audit or equivalent by 2025 (base year 2020)

ON TRACK: 64 percent between 2020 and 2021

80 percent

of AMD manufacturing suppliers by spend to participate in a capacity-building activity by 2025

ON TRACK: 61 percent in 2021

DIVERSITY, BELONGING AND INCLUSION

We encourage and support creative minds from diverse backgrounds to work together in an engaging and open environment.

70 percent

of our employees to participate in AMD employee resource groups and/or other AMD inclusion initiatives by 2025⁵

ON TRACK: 52 percent in 2021

DIGITAL IMPACT

Why It Matters

Computing is ubiquitous and more powerful than ever. Every single day, whether it is in the electronics we rely on at home and work, the advanced data centers and networks that connect us all or the supercomputers used to drive research and innovation in numerous fields, computing makes the previously impossible possible.

Semiconductor technology creates the potential for new insights, experiences and solutions with the power to transform lives and communities for the better. Our advances in high-performance computing (HPC) help society unlock opportunities around scientific research; science, technology, engineering and math (STEM) education; energy and climate; healthcare and other exciting fields. However, such advances also bring the potential for abuse and unintended consequences. As a leader in the semiconductor industry, AMD has both the opportunity and a responsibility to help apply digital tools to create a better world and to help avoid or limit their potential risks.

Our Approach

At AMD, we make the world's most advanced processors⁶; and when combined with our customers' visions, together we advance the world. Therefore, understanding our customers' and industry partners' goals and sharing their visions are critical elements to how we operate. With these insights, we can see the challenges and opportunities ahead, which enable us to continue to develop groundbreaking innovations and help improve lives.

But technology alone cannot achieve societal progress. Rather, it is the people who put high-performance computing to work and spark new ideas that benefit society as a whole.

Our approach entails fostering strategic relationships with researchers, nonprofits, educators and students who are positioned to expand horizons and develop the groundbreaking innovations of tomorrow. Whether it is donating technology to help develop students' sense of discovery or to enable scientists to responsibly push the boundaries of what is possible, we believe that when processing power meets brainpower, the future comes alive.



Goal and Progress



100 million

people to benefit through AMD and AMD Foundation philanthropy and partnerships that enable STEM education, scientific research and the workforce of the future (2020-2025).¹

ON TRACK: In 2020 and 2021, more than 30 institutions received AMD technology through the HPC Fund and our STEM initiatives, benefiting approximately 27.8 million people.

together we advance_scientific research

POWERING COMPUTATIONAL SCIENCE TO FIGHT COVID-19

A big challenge needs a powerful solution; to help tackle COVID-19, we made HPC resources available to researchers across India. In 2021, we made the largest single on-premise donation from the AMD HPC Fund to the Council of Scientific and Industrial Research (CSIR) body based in Bengaluru, India. The 24-node cluster delivers more than one PetaFlop of compute power to fight the COVID-19 pandemic.

In collaboration with the [CSIR Fourth Paradigm Institute \(CSIR-4PI\)](#) in India, we also established the COVID CARE Network. “This centralized HPC facility will offer computational access to researchers and academics working to tackle COVID-related challenges,” said Vidyadhar Mudkavi, former Head of CSIR-4PI. “It will accelerate the work being done by scientists in India across varied disciplines including biological sciences for vaccine discovery, chemical sciences for drug testing, and engineering to provide effective time bound solutions.”



Key Activities and Initiatives

We see great potential for HPC to benefit society and the planet. Through our digital impact initiatives, strategic investments and partnerships, we aim to help others solve important global challenges.

SCIENTIFIC RESEARCH

Together with industry and research partners, AMD is helping to deliver a new generation of supercomputers⁷ that cross the exascale performance barrier for the first time, with the ability to perform more than 10^{18} (one quintillion) or more calculations per second. These pathbreaking machines will enable researchers to employ exponentially more powerful models and simulations with the potential to create breakthroughs in areas such as climate science, biomedical engineering and the development of new materials.

Our technology continues to be used to accelerate the development of COVID-19 vaccines and therapeutics. In April 2020, AMD announced an initial US\$15 million commitment to establish the AMD HPC Fund. The fund's initial purpose was to provide research institutions with computing resources to accelerate medical research on COVID-19 and other diseases. The HPC Fund has helped researchers deepen their understanding of COVID-19 and improve society's ability to respond to future potential threats to global health.

As of November 2021, 25 grantees in eight countries are benefiting from AMD donations of almost US\$25 million of HPC systems and support. The grantees have used these systems for applications such as evolutionary modeling of the coronavirus, transmission science and large-scale fluid dynamics simulations of COVID-19 droplets as they travel through the air. This processing power is helping institutions aim to tackle previously intractable problems, accelerate response timelines and understand biological and medical data on a deeper level.

In 2022, the HPC Fund expanded beyond COVID-19 research to include science for the public good with the addition of 7 petaflops of computing power⁸ to assist global researchers working on solving the most demanding challenges facing society today. The new contribution brings the total amount of computing capacity donated by AMD to nearly 20 petaflops with a market value of more than US\$30 million, as of May 2022.

[>Learn more about AMD HPC Fund](#)

STEM EDUCATION

As we imagine a future enhanced by what computing offers, we must also empower the next generation of citizens and leaders to continue innovating and making constructive use of computing capabilities. Technology in their hands encourages exploration and learning that open doors to new careers and possibilities. That is why we partner with schools, educators and local nonprofit organizations to provide AMD processor-based equipment to outfit AMD Learning Labs that help inspire students to pursue STEM education. Current AMD-sponsored labs run in Markham, Canada; Shanghai, China; Singapore, Singapore; and Austin, Texas and San Jose, California in the United States.

These AMD Learning Labs support the expansion of STEM curricula and opportunities for under-resourced students to gain hands-on experience with computer hardware and software alongside ongoing engagement with AMD employee volunteers. Students are learning to build websites, design computer games, program in Scratch and Python and improve their digital literacy skills. For some students, this may lay the groundwork for a future technical career, while for others it supports reasoning and skills development to thrive in a range of other pursuits.

[> More About AMD Learning Labs](#)



AMD
together we advance_

Case Studies: AMD Technology Enabling a Better World

At AMD, we dare to imagine a better world and we take inspiration from our customers to deliver innovative solutions to the challenges and possibilities of our digital age. We do not create technology for technology's sake; we innovate for our customers and what they can achieve. The following case studies provide examples of applications of our core technology that benefit society.

AMD-BASED COMPUTER TECHNOLOGY IN MOBILE MEDICAL CARTS AND WORKSTATIONS

For over 600 years, Swiss hospital Bürgerspital Solothurn has treated countless illnesses and survived some of the worst pandemics the world has ever seen. A key component of the hospital's lean management today is the consistent digitization of patient care, including electronic patient files. Bürgerspital Solothurn uses innovative mobile medical carts and workstations from INOVIS medical, whose manufacturer Onyx relies on state-of-the-art technology from AMD for the new Venus medical PC. In addition to delivering high performance, the AMD Ryzen™ Embedded processor consumes little energy and only requires minimal cooling.

> [Read Case Study](#)

DBS BANK TRANSFORMS ITS DATA CENTER WITH AMD EPYC™ CPUs

DBS transformed its data centers with AMD EPYC CPU-equipped Dell PowerEdge™⁹ servers, drastically reducing its footprint, power consumption and cost. Six years ago, the company was reaching around 90 percent capacity at one of its data centers. In 2019, through various transformation efforts, DBS shrank its footprint to a quarter of its original size and reduced its power consumption by 50 percent over the same period. The new, smaller data center can support 10x growth, providing DBS with 40x efficiency. This was made possible through general-purpose compute virtualization, open-source software adoption and aggressive automation at scale.

> [Read Case Study](#)

> [Find More Case Studies on Science, Technology and Healthcare](#)

Regional Spotlights:

EMPOWERING STEM EDUCATION WITH NEW AMD SINGAPORE LEARNING LAB

AMD has a culture of innovation, and we are passionate about enabling the imagination and creativity of the next generation. Through our long-standing partnership with Chen Su Lan Methodist Children's Home, in 2021 we established an AMD Learning Lab featuring AMD-powered laptops by HP.¹⁰ This new lab inspires the 70 residents in the program to develop their STEM skills and introduces them to future careers. Students learn various computer programs and develop new capabilities and knowledge, such as 3D printing, basic computer skills, robotics and digital art. The Children's Home has an exciting curriculum to advance their students' understanding of STEM concepts with the help of AMD employee volunteers who are assisting in creating new courses.

CULTIVATING E-SPORTS TALENT AND SUPPORTING VOCATIONAL EDUCATION IN GREATER CHINA

For many years, AMD has focused on e-sports in different ways: developing and showcasing technology, encouraging collaboration in vocational education and supporting Chinese gaming events for talent development. To help accelerate China's e-sports industry and promote its development, AMD partnered with the National Electronic Sports Tournament (NEST) in 2015, and we have participated in the last nine NEST events.



At the NEST "League of Legends" event, held in November 2021, the new AMD Radeon™ 5000 series desktop processors and AMD Radeon RX 6000 series graphics cards powered the competition. AMD also helped launch and continues to sponsor the EEST tournament, providing top gaming equipment and generous prizes to cultivate Chinese e-sports talent. The 2021 ESA Electronic Sports Tournament covered more than 20 Xinhua computer schools nationwide, and nearly 20,000 people in 146 teams took part.

ENVIRONMENTAL SUSTAINABILITY

Why It Matters

According to the World Economic Forum's 2022 *Global Risks Report*, "climate action failure" is the number one long-term threat to the world, and it is the risk that has potentially the most severe impacts over the next decade.¹¹ This is not only a future challenge – the related issues are already manifesting. Globally, the years 2013-2021 all rank among the ten warmest years on record.¹²

An immediate and meaningful global response is required to address the climate crisis. The technology sector plays a critical role in maximizing product energy efficiency and enabling opportunities to reduce GHG emissions across sectors of society. Accelerating the transition to a sustainable low-carbon economy will produce benefits for economic growth, promote the health of people and our environment, and increase resilience to natural disasters.¹³

Our Approach

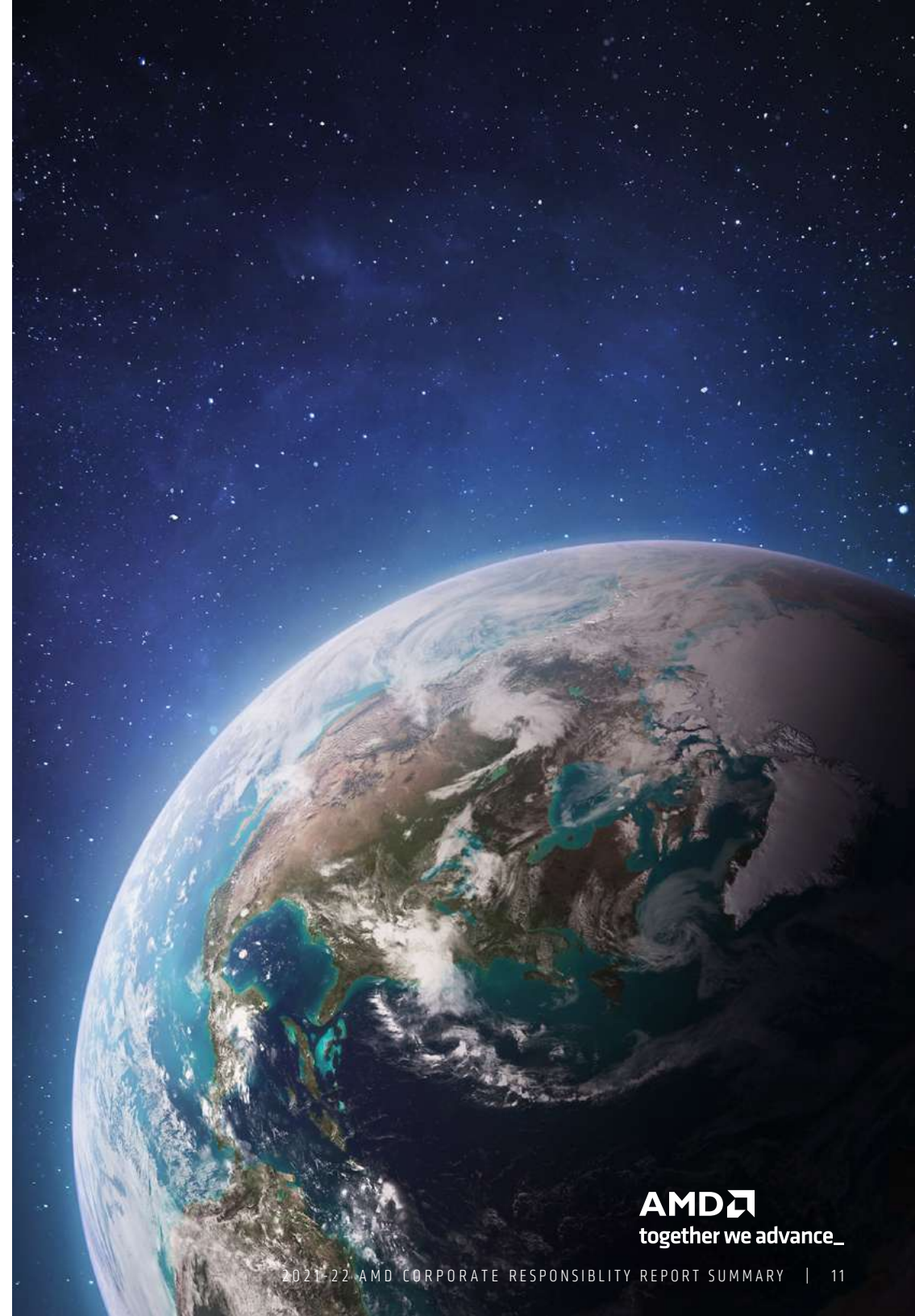
AMD combines performance and possibility so that together we advance to a better world. As leaders in the semiconductor industry during a period of amazing growth in technology, we embrace the responsibility to protect our planet and the opportunity to help others save energy and reduce GHG emissions. Our environmental programs and initiatives extend across our value chain, and we set ambitious goals and publicly report annually on our progress.

At AMD, our approach to environmental sustainability is based on three pillars:

MINIMIZING environmental impacts at AMD and in our supply chain;

ADVANCING environmental performance for IT users; and

INNOVATING on collaborative solutions to address environmental challenges.



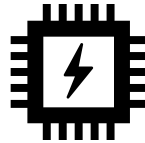
Goals and Progress



50 percent

reduction in absolute GHG emissions from AMD operations by 2030 (base year 2020).

ON TRACK: In 2021, we achieved a 25 percent reduction in our scope 1 and 2 emissions.



30x

increase in energy efficiency for AMD processors and accelerators powering servers for artificial intelligence-training and high-performance computing from 2020-2025.²

ON TRACK: In 2021, AMD achieved a 3.9x increase, and midway through 2022 reached a 6.8x improvement in energy efficiency compared to 2020.³



100 percent

of AMD manufacturing suppliers⁴ have public emissions reduction goals by 2025.

ON TRACK: In 2021, 74 percent of our manufacturing suppliers have public GHG goals.



80 percent

of AMD manufacturing suppliers⁴ source renewable energy by 2025.

ON TRACK: In 2021, 74 percent of our manufacturing suppliers sourced renewable energy.

together we advance_sustainable computing

ADVANCING ENERGY EFFICIENCY AND CLIMATE RESEARCH WITH LUMI

One of the most energy-efficient supercomputers in the world (number 3 on the [Green500 List](#) – June 2022) is powered by AMD technology and is being used to advance climate research. The award-winning [Lumi supercomputer](#) in Finland is setting the example for world-class environmental sustainability. Powered by 3rd generation AMD EPYC™ CPUs and AMD MI250 Instinct™ GPUs (A+A), it uses 100 percent renewable energy, with up to 200 megawatts available. Free cooling is possible year-round, and LUMI's waste heat produces approximately 20 percent of the district heat for the area, reducing the city's carbon emissions by an estimated 12,400 metric tons per year.¹⁴

In addition to LUMI's environmental operating benefits, it is being put to work on some of the world's most urgent climate-related problems. As part of the European Green Deal and European Digital Strategy, the supercomputer is being used in the [Destination Earth project \(DestinE\)](#), which is funded by the EU's Digital Europe Programme. The project focuses on climate modeling: the aim is to create a detailed model of Earth – a digital twin of our planet – that can be used to understand climate change and its impacts, including extreme weather phenomena such as floods and hurricanes.

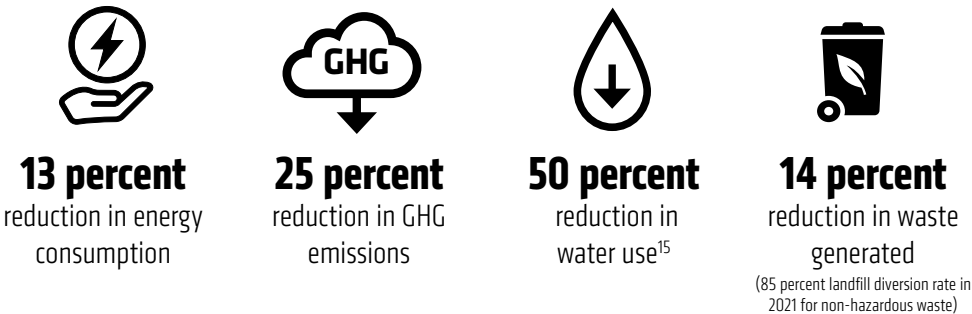


Minimizing Environmental Impacts

OPERATIONS

Across the facilities at which we operate, we strive to apply the highest level of integrity and stewardship for environmental performance. We maintain a corporate-level environmental, health and safety (EHS) framework consistent with widely recognized management systems, such as International Organization for Standardization (ISO) 14001 for environmental management and ISO 45001 for occupational health and safety.

2021 OPERATIONAL PERFORMANCE SUMMARY (COMPARED TO 2020 BASE YEAR):



> See [data tables](#) for complete data and footnotes.

SUPPLY CHAIN

We work with our manufacturing suppliers to advance environmental sustainability across a variety of metrics, namely purchased goods and services (scope 3 emissions). In 2021, AMD was honored to be recognized by CDP as a Supplier Engagement Leader for our actions to reduce emissions and manage climate risks in our global supply chain.

Silicon wafer manufacturing accounts for the bulk of our environmental footprint within our supply chain. Since 2014, we have partnered with our wafer suppliers to establish best-in-class environmental, health and safety (EHS) performance for AMD wafer production. From 2020-2021, these foundry partners reduced their scope 1 and 2 GHG emissions, energy use, and water use by 2 percent, 4 percent and 21 percent respectively, based on an AMD manufacturing index (MI).¹⁶

Across a broader set of manufacturing suppliers with whom we engage on key performance indicators,¹⁷ 80 percent have third-party assurance of scope 1 and 2 GHG data, 90 percent have water reclamation processes in place, and 100 percent have ISO 14001 Environmental Management System certification.

> [Learn More About How AMD is Minimizing Environmental Impacts](#)

Regional Spotlight:

INCREASING RENEWABLE ENERGY USE IN GREATER CHINA AND INDIA

In Greater China, we have been sourcing renewable energy for our Shanghai Research and Development (R&D) Center since 2018. We expanded our renewable energy sourcing in 2021 to cover 100 percent of our mainland China operations, amounting to approximately 12,000 megawatt-hours of wind and solar energy. As a result, about 7,000 metric tons of carbon emissions (MTCO2e) were avoided, contributing to a 25 percent reduction in AMD global carbon emissions in 2021 compared to 2020.

AMD India has embraced environmental sustainability for years at our R&D sites in Hyderabad and Bengaluru, and we continued to make great strides in 2021. We began sourcing renewable energy in India, totaling nearly 11,000 megawatt-hours (MWh) of wind and solar energy in 2021 – enough to meet 100 percent of our electricity use in the country for the year.

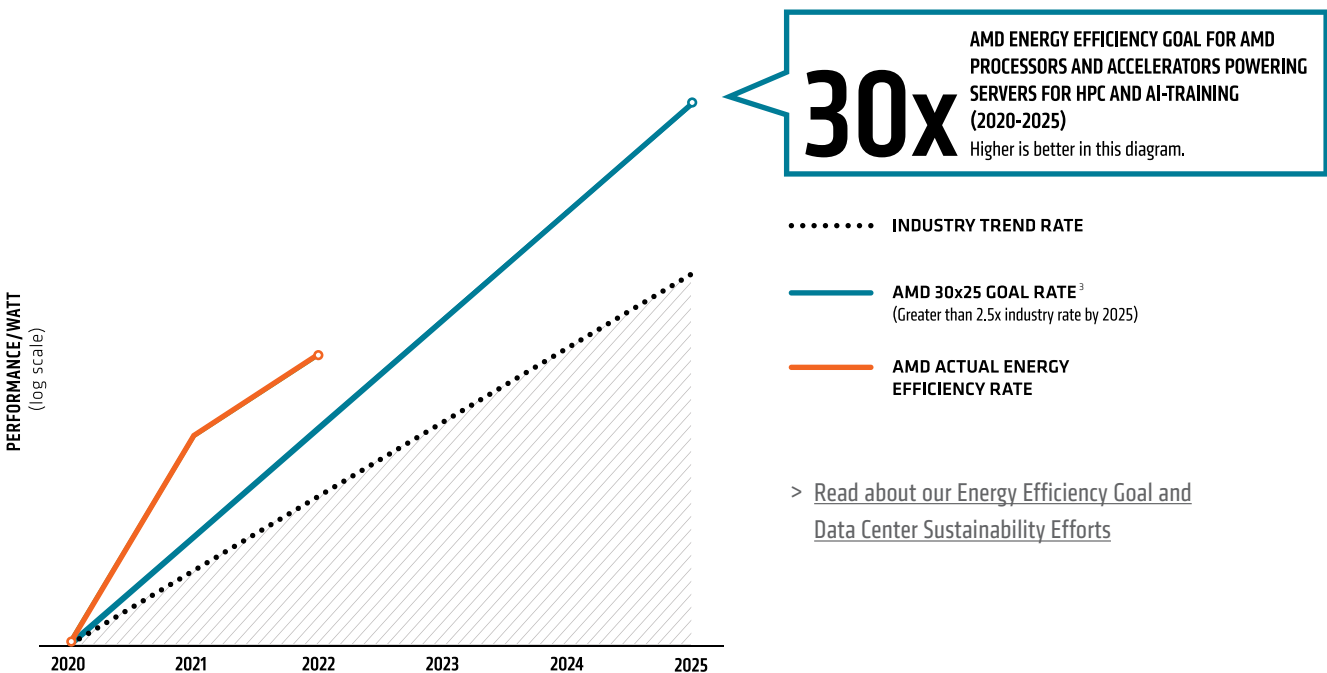
AMD India also continues to prioritize water conservation, given the scarcity of water resources in the country. In 2021, our India R&D locations collected approximately 8.4 million liters of rainwater for use in facility operations and irrigation; this was more than the sites used, so 3 million liters of water were returned to local water sources like reservoirs, surface ponds and groundwater.

Advancing Environmental Performance

We strive to create products that improve people’s lives and help our customers and end-users reduce their own energy use and GHG emissions. We collaborate closely with our customers and partners on product design and system-level optimizations to advance environmental sustainability.

Our products’ cutting-edge chip architecture, design and power management features have resulted in significant energy efficiency gains, including a 31.7x increase in performance per watt for processors in mobile devices from 2014-2020.¹⁸ Today, AMD Ryzen™ processors are continuing to help deliver energy-efficient laptops without compromise, including our Ryzen 5800U processors with up to 43 percent better power efficiency than Energy Star 8.0 requirements.¹⁹

In the data center, AMD EPYC™ processors power the most energy-efficient x86 servers, delivering exceptional performance and reducing energy costs.²⁰ AMD EPYC technology drives energy efficiencies by meeting application performance demands with fewer physical servers than competitive solutions, which can result in a reduced data center footprint and associated energy use and GHG emissions. Our continued ambitions are reflected in the AMD goal of a 30x increase by 2025 in energy efficiency for AMD processors and accelerators powering servers for high-performance computing and artificial intelligence-training.² In 2021, AMD achieved a 3.9x increase. Nearly midway through 2022, we are on track toward achieving 30x25, having reached 6.8x improvement in energy efficiency from the 2020 baseline.³



Innovating on Collaborative Solutions

AMD collaborates with industry peers, government regulators, civil society organizations and other groups to advance environmental sustainability across our value chain. The collective efforts and innovations stemming from the technology sector exceed what any of us could do as individual organizations.

For instance, AMD Embedded solutions have been used in wind turbines to help optimize the production of clean energy for over a decade. And through more recent cloud-based solutions, 3rd Generation AMD EPYC™ processors optimize wind turbine orchestration for Vestas so that power lost due to wake turbulence can be reduced for greater renewable energy generation and improved value.²¹ AMD processors are also helping meet data consumption demands, driven by technologies such as streaming services and 5G broadband connectivity, while reducing power consumption. For example, Ateame achieved approximately a 50 percent reduction in power consumption with its advanced video encoding platform enabled by AMD EPYC™ processors, while delivering better video quality.²²

> [Learn More About How AMD is Innovating on Collaborative Solutions](#)

SUPPLY CHAIN RESPONSIBILITY

Why It Matters

Over the last few years, our industry has experienced unprecedented demand for semiconductor technology, and this requires a strong supply chain. The link between resilient and responsible supply chains is clear. Consequently, stakeholder expectations for transparency and data-driven results remain a focus in 2022. Together, with our supply chain and industry partners, AMD embraces the opportunity to help drive social and environmental progress in the supply chain.

Although we adhere to the highest standards, we know the social and environmental risks in the supply chain are persistent and real. With the growing number of electronic devices being used globally comes the responsibility to ensure that we are doing the right thing and conducting our business ethically. We are committed to delivering high-quality products and helping ensure that working conditions throughout our supply chain are safe, workers are treated with respect and dignity and the manufacturing processes of our products are environmentally responsible.

Our Approach

As AMD is a fabless semiconductor company, our manufacturing operations depend on a carefully selected network of suppliers. The scope of the AMD Supply Chain Responsibility program encompasses the manufacturing of our products by suppliers, located in Asia, Europe and the United States, and the sourcing of raw materials.

We aim to work with our manufacturing suppliers to advance supply chain resilience, respect for human rights and environmental sustainability. We take a partnership approach with our suppliers to promote continuous improvement and drive positive change across our value chain.



Goals and Progress



100 percent

of AMD supplier manufacturing³ factories to have a Responsible Business Alliance (RBA) audit or equivalent by 2025.

ON TRACK: Between 2020 and 2021, 64 percent of these supplier factories had an RBA audit.



80 percent

of AMD manufacturing suppliers by spend to participate in a capacity-building activity by 2025.

ON TRACK: 61 percent of these suppliers by spend participated in capacity-building activities in 2021, including ethical recruitment training.

together we advance_human rights

COLLABORATING WITH RBA MEMBERS ON ETHICAL RECRUITMENT TRAINING FOR SUPPLIERS

We believe we can have the most impact on addressing the systemic causes of forced and bonded labor by working with multi-stakeholder initiatives and leveraging relationships with our manufacturing suppliers. Through our membership in the [Responsible Labor Initiative \(RLI\)](#), we share resources and tools with our suppliers to help address the root causes of this complex issue. Migrant workers can be vulnerable to conditions of forced labor. Collaboration with our suppliers on responsible recruitment is critical to meeting our requirements and international expectations of addressing forced labor risk.

In 2021, with other RBA members, AMD co-sponsored the RLI Supplier Training on Responsible Recruitment Due Diligence. We nominated select AMD sub-suppliers to attend the training. Aligned with the AMD Supplier Code of Conduct labor standards on freely chosen employment, the training provides practical guidance and tools for companies to implement responsible recruitment due diligence and follows the due diligence process developed by the Organisation for Economic Co-operation and Development (OECD).

The training focused on key risk areas in the recruitment of foreign migrant workers, which are: document retention, contract terms and conditions, and recruitment fees and related costs. As a result of their attendance, two AMD suppliers implemented training at their companies and updated their recruitment policies. Both suppliers also chose to train workers on their internal policies, rights and access to factory complaint channels. Combined, the trainings reached over 1,450 workers in 2021. We continue to make this workshop available to AMD suppliers.

Aligning with Industry Standards

We hold ourselves to high ethical standards and expect our suppliers to do the same. AMD is a full member of the [Responsible Business Alliance \(RBA\)](#). In 2021, AMD was elected to the Board of Directors to help guide the RBA's strategic direction to achieve its mission and vision. In addition, we collaborate with other industry groups, peers, suppliers and other stakeholders to make supply chains across the industry ethical and sustainable.

> [How We Engage with Industry Groups](#)

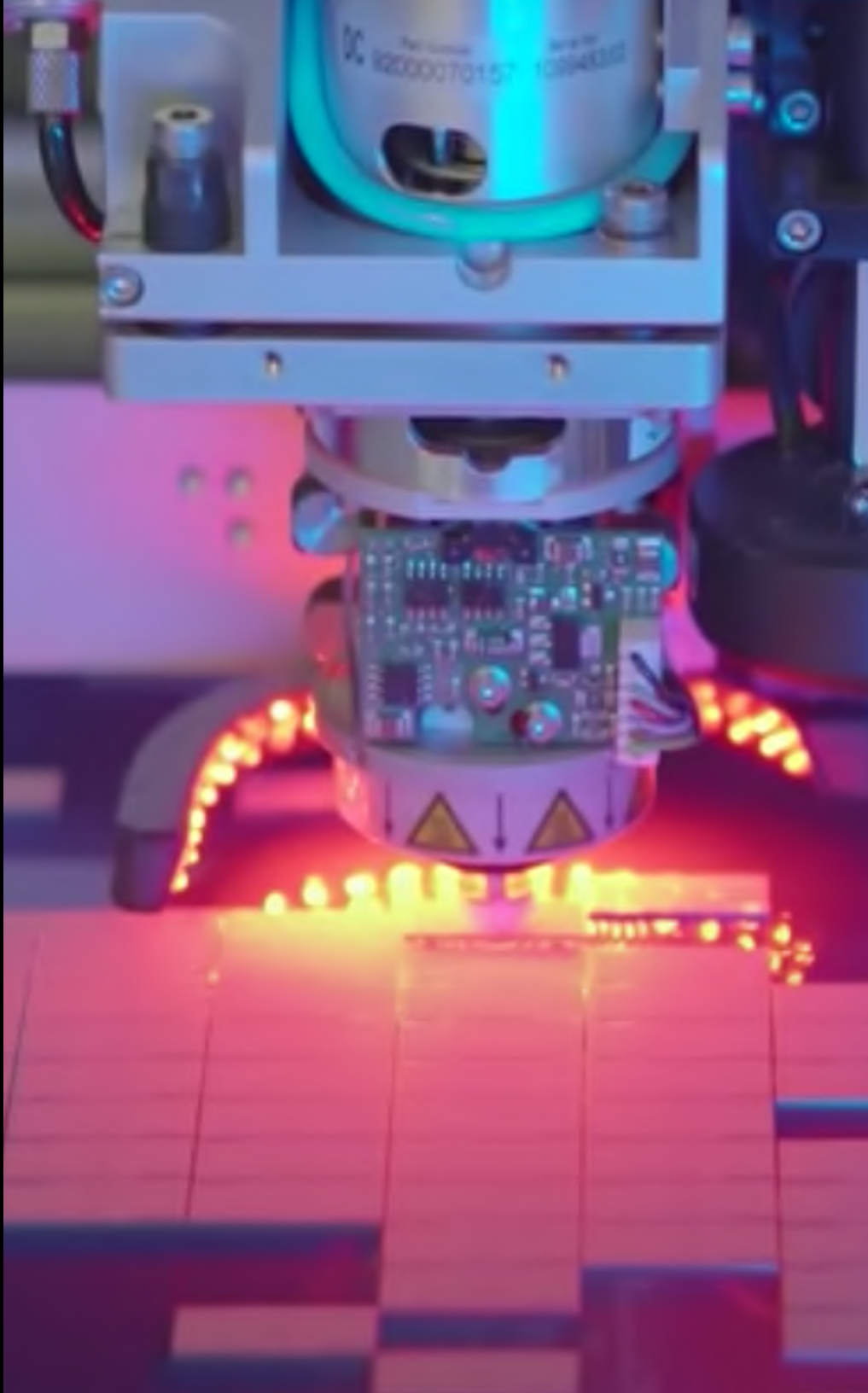
Supplier Risk Assessment and Audits

At AMD, we take a risk-based approach to managing our supply chain. We utilize third-party risk analytics to conduct an overall supply chain risk analysis.

Through our annual analysis, we gain deeper insights into inherent geographical risks in our supply chain on labor, health and safety, environment, business ethics and management systems. We use the results of the analysis to assign risk assessment tools and prioritize suppliers within our audit program.

Based on the results of the risk assessment, AMD decides which tool will be most effective to evaluate the supplier based on its risk profile. For example, we may require an RBA Validated Assessment Program (VAP) on-site audit to learn more. Suppliers identified as presenting a high risk of forced labor may be required to submit a specialized assessment designed to identify the risk of forced labor at the employment site.

> [See Our 2021 Supplier Audit Summary Results](#)



Respecting Human Rights

WE SUPPORT



At AMD, we respect human rights throughout our company, operations and supply chain. We work to uphold the relevant fundamental rights and freedoms of all people across the business, aligned with the United Nations Universal Declaration of Human Rights (UDHR), the International Labour Organization's (ILO's) Declaration on Fundamental Principles and Rights at Work, the United Nations Guiding Principles on Business and Human Rights (UNGPs) and the OECD Guidelines for Multinational Enterprises.

We are a signatory to the [United Nations Global Compact](#), the world's largest corporate sustainability initiative, affirming our commitment to aligning our strategy and operations to [ten universally accepted principles](#) in the areas of human rights, labor, environment and anti-corruption.

> [Read Our Human Rights Policy](#)

Responsible Minerals Sourcing

We are committed to the responsible sourcing of minerals used in our products. Tin, tantalum, tungsten and gold (3TG), defined as conflict minerals under law, are used in consumer goods and are integral to electronic products. The mining, sale and use of minerals from Conflict-Affected and High-Risk Areas (CAHRAs), including the Democratic Republic of the Congo and adjoining countries, have been associated with negative social and environmental impacts.

AMD efforts to break the link between the minerals trade and conflict in the Democratic Republic of the Congo began in 2008. Through industry initiatives and collaboration with our supply chain, we work to support the responsible sourcing of minerals from CAHRAs. Our view and insight into the minerals supply chain have developed beyond 3TG to include cobalt. As we learn more about potential social and environmental impacts, we continue to assess our supply chain and prioritize minerals for additional due diligence.

> [More About Our Responsible Minerals Program](#)



Supplier Spotlight:

TSMC ADVANCES ENVIRONMENTAL RESPONSIBILITY

Advanced silicon wafers are at the core of AMD technology, each with billions of transistors. These cutting-edge wafers are manufactured at world-class wafer foundry operations known as “fabs.” As semiconductor processes continue to become more complex – advancing from 2D structures to a 3D FinFET architecture – it is increasingly important to minimize the use of non-renewable energy, water and chemicals.

Taiwan Semiconductor Manufacturing Company (TSMC) was the world’s first dedicated semiconductor foundry and is a primary wafer supplier to AMD. The foundry is the only semiconductor company chosen for the Dow Jones Sustainability Indices for 21 consecutive years. Its accomplishments and our work together help to advance AMD supply chain goals.

TSMC was the first in the industry to sign up to the [RE100](#) renewable energy initiative, pledging to use 100 percent renewable energy by 2050 as part of its Net Zero goal. In the near term, the company aims to increase its renewable energy usage to 40 percent by 2030²³ as well as save 1.1 billion kWh of electricity and 28 million tons of water.²⁴ TSMC has established various water recycling applications through water resource risk management, expansion of diverse water sources and the development of pollution prevention techniques. As a leader, it built the world’s first water reclamation plant for industrial effluents and was the world’s first semiconductor company to receive Platinum Certification with the highest score for three consecutive years to the Alliance for Water Stewardship (AWS).²⁵

DIVERSITY, BELONGING AND INCLUSION

Why It Matters

Diversity and inclusion are key drivers that contribute to our ability to build great products that accelerate next-generation computing experiences. Research shows that businesses with diverse teams are more innovative, make better decisions and achieve higher performance. Inclusion initiatives foster a work environment that enables all employees to participate and thrive, which in turn creates a sense of community and purpose – what we at AMD call “belonging.”

Our Approach

We are committed to growing diversity, belonging and inclusion (DB&I) in our workforce to help embrace different viewpoints and experiences, foster innovation, challenge the status quo when needed and drive business performance. To achieve our aspirations, we want a strong culture that reaches across all aspects of our business.

OUR DB&I APPROACH INCLUDES:

- Listening to our employees through our annual AMDers Survey and curated groups;
- Deepening our relationships in the United States with Historically Black Colleges and Universities and Hispanic-serving Institutions;
- Working to reduce unconscious bias in the workplace by educating our global workforce on the power of multiple voices in driving innovation – we educate employees on how a workplace of inclusion positively impacts the products we develop and the day-to-day experiences of our employees, and we also highlight the strength of diversity in the interviewing and promotions processes;
- Evaluating employee compensation programs annually so that colleagues performing similar work in the same geographic area and at the same level have equitable compensation opportunities;
- Ensuring that every AMDer around the globe has the opportunity to amplify their unique voice to contribute to our company’s success; and
- Offering mentors within our employee resource groups to further drive a sense of community.



Goal and Progress



70 percent

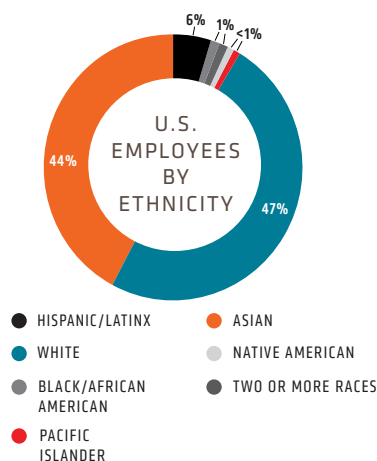
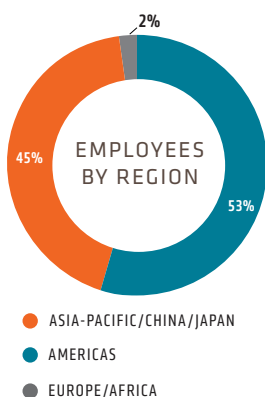
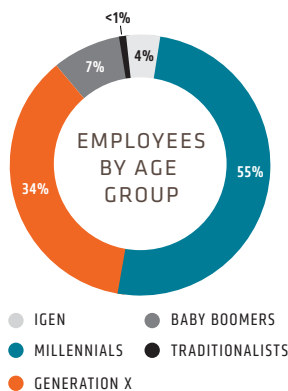
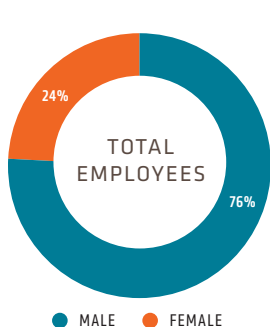
of our employees to participate in AMD employee resource groups and/or other AMD inclusion initiatives by 2025.

ON TRACK: In 2021, 52 percent of AMD employees contributed to activities under this goal due to an increase in ERG membership, employee volunteers and charitable donors.

AMD is also committed to increasing the percentage of global female hires in engineering roles and the percentage of under-represented group (URG) hires within our U.S. workforce year over year. In 2021, we made these efforts a component of our company's strategic metrics and milestones to inform our annual incentive plan, which is a compensation element of our Total Rewards Program. We are pleased to share that in 2021 we exceeded the hiring goals we set, leading to a 1 percent increase in the total population of AMD female engineers and a 1.6 percent increase in our URG focus areas overall. In 2022, we will continue these efforts for inclusion as a component of our company's strategic metrics and milestones.

Our Global Workforce

AMD publishes workforce diversity statistics as part of our annual corporate responsibility reporting. The diversity summary data below is based on calendar year 2021 data for a total of 15,500+ AMD employees.²⁶



together we advance_women in tech

PARTNERING TO SUPPORT WOMEN IN TECHNICAL EDUCATION

We want to see more women in the semiconductor industry, and AMD is committed to helping make that happen. One of the highlights of 2021 was our company's partnership with AnitaB.org – a nonprofit organization dedicated to expanding the number of female engineers in the global workforce and creating diverse and inclusive workplace climates. Together, we were able to offer 25 selected female students the opportunity to attend a conference and receive an exclusive scholarship to support their technical education.

The AnitaB.org Scholars program is designed to strengthen the community of peer support and access to resources for scholarship recipients, and the Scholar community includes recipients from around the world. The 25 women who were selected for the program attended the Grace Hopper Celebration. This flagship event was founded in 1994 to honor Grace Hopper's legacy and inspire future generations of women in tech. The students also undertook coaching and attended a virtual networking session with a panel of women technologists at AMD to hear insights about career development and personal experiences. The program was made possible in 2021 by the money connected to the prestigious [Grace Hopper Technical Leadership Abie Award](#) that AMD CEO Dr. Lisa Su won in 2020, plus an additional donation from Dr. Su.

Talent Attraction and Retention

There is currently intense competition for talent in the semiconductor industry, with companies vying to attract and retain skilled individuals who will help them achieve their long-term goals. Our goal is to be an employer of choice, with passionate, innovative, fully engaged employees. AMD is proud to be an equal opportunity employer that is committed to creating an inclusive environment for employees around the globe.

> [Learn About Our Recruitment, Total Rewards and Employee Education](#)

Regional Spotlights:

EQUIPPING FUTURE ENGINEERS AT HOWARD UNIVERSITY IN THE UNITED STATES

In 2021, AMD deepened our partnership with Howard University. We worked with the National Society of Black Engineers (NSBE) at Howard University to reach out to students through Tech Talks and discuss our company’s history, culture and opportunities. AMDers covered topics related to AMD technology, industry knowledge, business innovation, growth and success. Each speaker shared their personal story and students had the chance to ask them questions. AMD also attended the Howard Career Fair. In both settings, students were encouraged to explore AMD job opportunities.

Partnering with faculty at Howard University, AMD also invested US\$154,000 of hardware to connect the College of Engineering and Architecture and enable AI research. The scalable high-performance computing (HPC) system will enable collaboration between research groups and serve as a platform for teaching and lab activities. The equipment is being used to enhance the hands-on lab activities in undergraduate and graduate courses, such as Machine Learning, Data Science, Cybersecurity and Cloud Computing. It will also help expand Howard University’s research capabilities in these important areas.

ENCOURAGING WOMEN ENGINEERS AND THE NEXT GENERATION OF AMDers IN CANADA

AMD Canada enables an encouraging environment for our current and future women engineers. For example, we sponsor a variety of diversity events hosted by local universities, including Women in Science and Engineering at University of Toronto, Women in Computing, Stats and Math at University of Toronto Scarborough, National Society of Black Engineers at McMaster University and Women in Engineering at McMaster University.

We also work extensively with universities to provide technology students with internship and mentorship opportunities. AMD has partnered with Women in Science and Engineering, the National Society of Black Engineers, the Institute of Electrical and Electronics Engineers and LGBTQ+ STEM Student Groups at top Canadian Post-Secondary Institutions. At any given time over 250 future engineers and computer scientists are busy learning their craft with the help of experienced AMD staff while they develop the next generation of semiconductor hardware and software. Following graduation, a large proportion of these interns return as full-time AMDers, building our next league of technical talent in Canada.



Employee Engagement

We know that AMDers do their best when they are fully engaged and can be themselves at work. In 2021, we started a new series called “Career Engineered.” In these videos, technical employees share the experiences that have shaped who they are and how they bring their unique voice and perspective to work every day.



Our employee resource groups (ERGs) encourage employee engagement and are an important part of our company’s culture. ERGs create a space for employees who share a common identity, along with their allies, to meet and support one another in building their community and sense of belonging in the workplace. At the same time, our ERGs empower employees by giving each group a collective voice to work with senior leadership and increase understanding of their community.

> [Learn More About Our Employee Resource Groups](#)

94%

of our employees
are proud to work
for AMD.

Listening to Our Employees

AMD employees are our most important stakeholder group. We know that employees are increasingly seeking employers with values that match their own. We survey our employees worldwide each year to understand their overall satisfaction, specifically asking them about their impressions of our corporate responsibility programs.



COMMUNITY INVOLVEMENT

Why It Matters

AMD has a passion for giving back in the communities in which we live and work. For over four decades, we have invested in organizations around the globe that meaningfully impact the way we live today and help create better futures for tomorrow. Our employees have come to expect this spirit of giving back from AMD, but most importantly, so have our communities and neighbors.

Our Approach

We deliver on our community commitments through:

- **CORPORATE AND EMPLOYEE GIVING** – we provide charitable grants to nonprofit organizations and promote charitable employee matching programs.
- **AMD FOUNDATION GIVING** – the AMD Foundation provides grants that support global community initiatives consistent with the company's interests.
- **EMPLOYEE VOLUNTEERISM** – AMD employees worldwide are encouraged to share their time and talents through community volunteering at AMD-sponsored events and individual activities.
- **AMD HPC FUND INVESTMENTS** – we provide research institutions with high-performance computing (HPC) resources to accelerate research in areas including climate change, health care, transportation, big data and more.

AMD supports a multitude of charities worldwide in communities where our employees live and work, with a focus on the following social impact areas:

- Promoting access to quality education with a special emphasis on science, technology, engineering and math (STEM) and developing the next generation of thinkers and innovators;
- Cultivating and preserving our environment for future generations to enjoy;
- Providing basic needs and social services to help care for our neighbors in need; and
- Aiding humanitarian and relief efforts in the face of unforeseen disasters.





AMD Community Volunteering

AMD encourages employee engagement through company-sponsored volunteering and provides opportunities for teams to connect while giving back. In 2021, over 2,800 AMDers logged more than 9,000 hours of volunteer time through virtual and in-person volunteer activities, such as recording children's books for the Ronald McDonald House in Central Texas and inspiring youth to learn about engineering through hands-on activities with the Chen Su Lan Methodist Children's Home in Singapore.

2021 AMD Cares (Virtual) Day of Service

In addition to year-round volunteering, AMD also hosts an annual AMD Cares Day of Service as a company-wide celebration of community volunteerism. While 2021 looked different than past years due to work-from-home policies, nearly 2,000 people donated more than 6,200 hours of volunteer time – much of it done virtually. AMD employees helped fulfill a variety of our nonprofit partners' needs during this sixth annual event. Employees read to children, hosted STEM career talks, played virtual games with home-bound seniors, collected food for the hungry, planted trees and raised funds for local children's hospitals.

together we advance_healthcare

GAMING FOR GOOD RAISES MONEY FOR CHILDREN'S HOSPITALS

For several years, AMD employees in Markham, Ontario have partnered with Children's Miracle Network Hospitals to host a 24-hour Gaming for Good event through [Extra Life](#). The purpose is to raise money for The Hospital for Sick Children (SickKids), which is affiliated with the [University of Toronto](#), Canada's most research-intensive hospital and the largest center dedicated to improving children's health in the country.

While our workforce worked remotely in 2021 during the pandemic, AMD prepared for our annual AMD Cares (Virtual) Day of Service. Because volunteering looked so different, we wanted to unite excitement among employees from multiple site communities. Given our company's expertise in gaming products, it is no secret that our employees are also gaming enthusiasts. By combining AMD performance, possibility and passion, we knew we could advance together toward a better world. Teams from nine cities joined together to host two weekends of gaming and streaming to raise money for their local children's hospitals. Employees and streamers from the AMD Red Team learned about the challenges these patients and their families face while they also had fun playing games. The teams raised over US\$28,000 to help provide children with specialized treatment at top-notch facilities.

AMD and the AMD Foundation Charitable Giving

In addition to time and talent, AMD and our employees fulfill our global commitment as responsible, good neighbors through charitable giving – both monetary and in-kind contributions. AMD and the [AMD Foundation](#) provide grants to nonprofit organizations based on recommendations from employee-led community affairs councils, local needs and strategic fit. In 2021, through our AMD Community Corps program, employees took advantage of company matching gift programs that supported medical aid during the surging COVID-19 crisis in India and recovery efforts after Winter Storm Uri in Texas. AMD also donated to the Austin Area Urban League and Central Texas Food Bank as part of this disaster relief.

In 2021, the combined philanthropic efforts of AMD, our employees and the AMD Foundation, including investments made through the AMD HPC Fund and institutional research grants, resulted in more than US\$2 million for nonprofit organizations, universities and research institutes.



Regional Spotlights:

GAINING A DIFFERENT PERSPECTIVE ON THE IMPORTANCE OF MATH IN IRELAND

In February 2022, AMD acquired Xilinx, which has a deep history of giving back to communities worldwide. For example, in Dublin, Ireland, employees have partnered with Junior Achievement Ireland for the last seven years to deliver STEM programs to students aged 8 to 18 years. Students took part in various workshops and activities, increasing their interest in math, discovering careers and exploring STEM subjects as they advance through school.

Students participated in an innovative three-part program with a strong mathematical theme, encouraging them to see the practical applications of this vital subject. Through in-classroom workshops, they learned about international trade by simulating the set-up of their own companies operating in international markets. They were challenged to consider a range of business decisions can potentially impact the profit margin of their emerging enterprises.

As part of the in-class sessions, employee volunteers led discussions with students on the daily application of math within their careers and highlighted the value of pursuing further studies in STEM to access a broad range of options in a future job market.

AMPLIFYING THE IMPACT OF OUR COMMUNITY EFFORTS IN SINGAPORE

For more than two decades, AMD employees in Singapore have contributed their time, talent and resources to a variety of local improvement projects. In 2021, through volunteering and charitable giving, AMD Singapore continued to find ways to amplify the impact of our community development efforts. For example, our Community Service Committee increased employee charitable contributions through two major fundraising events with Food from the Heart, a nonprofit whose mission is to alleviate hunger through its food distribution program, and Make a Wish Singapore, which fulfills the wishes of children fighting critical illnesses. We also held our Virtual Muay Thai event, where we brought together a group of children to conduct a Muay Thai session virtually at the Chen Su Lan Methodist Children's Home.

For our annual AMD Cares Day of Service in 2021, AMD Singapore organized volunteering activities, such as beach cleaning, tree planting and packing goody bags. Employees also participated in blood drives and donated books and canned food items.

About Our Reporting

Our 2021-22 Corporate Responsibility Report is aligned with the leading sustainability reporting frameworks, including the [Global Reporting Initiative Standards](#), the [United Nations Sustainable Development Goals](#), the [Sustainability Accounting Standards Board](#), the [Task Force on Climate-related Financial Disclosures](#) and [CDP](#).

We received external limited level assurance for 2021 data relating to our scope 1 and 2 greenhouse gas (GHG) emissions and related performance to goal, as well as scope 3 GHG emissions for business air travel.

Following the acquisition of Xilinx in February 2022, we are preparing to report 2022 ESG data for the combined company in 2023. This year’s reported data reflects legacy AMD-only operations for the 2021 calendar year.

- > [Read Our Full 2021-22 Corporate Responsibility Report](#)
- > [See Our 2021 ESG Performance Data](#)
- > [Access Our Latest ESG Disclosures and Reporting](#)
- > [Learn More About Our CR Governance](#)
- > [Visit Our CR Website](#)

External Recognition

While our commitment to being a responsible corporation is not dependent on recognition, it is a great validation of our work when external organizations rank us alongside the top sustainable companies. We are proud to be honored with the following recognitions:



FOOTNOTES:

1. For each year during the goal period, data include a) students, faculty or researchers with direct access to AMD-donated technology, funding or volunteers; and b) individuals with a reasonable likelihood of receiving research data formulated through AMD-donated technology and potentially gaining useful insights or knowledge.
2. Includes AMD high-performance CPU and GPU accelerators used for AI training and High-Performance Computing in a 4P hosted configuration. Goal calculations based on performance scores as measured by standard performance metrics (HPC: Linpack DGEMM kernel FLOPS with 4k matrix size. AI training: lower precision floating point math GEMM kernels such as FP16 or BF16 FLOPS operating on 4k matrices) divided by the rated power consumption of a representative accelerated compute node including the CPU host + memory and 4 GPU accelerators.
3. EPYC-030: Calculation includes 1) base case kWhr use projections in 2025 conducted with Koorney Analytics based on available research and data that includes segment-specific projected 2025 deployment volumes and data center power utilization effectiveness (PUE) including GPU HPC and machine learning (ML) installations, and 2) AMD CPU socket and GPU node power consumptions incorporating segment-specific utilization (active vs. idle) percentages and multiplied by PUE to determine actual total energy use for calculation of the performance per Watt. $6.79x = (\text{base case HPC node kWhr use projection in 2025} \times \text{AMD 2022 perf/Watt improvement using DGEMM and typical energy consumption} + \text{Base case ML node kWhr use projection in 2025} \times \text{AMD 2022 perf/Watt improvement using ML math and typical energy consumption}) / (\text{2020 perf/Watt} \times \text{Base case projected kWhr usage in 2025})$. For more information on the goal and methodology, visit <https://www.amd.com/en/corporate-responsibility/data-center-sustainability>.
4. AMD Manufacturing Suppliers are suppliers that AMD buys from directly and that provide direct materials and/or manufacturing services.
5. These are voluntary initiatives in which an employee chooses to actively participate in one or more employee engagement programs that foster a culture of belonging, psychological safety and meaningful connection to AMD.
6. Based on node size as of May 2022. GD-203.
7. <https://www.amd.com/en/products/exascale-era>
8. As of June 1, 2022, the AMD HPC Fund includes the former Xilinx Heterogeneous Accelerated Compute Clusters (HACC) program, providing researchers with access to AMD EPYC™ processors, AMD Instinct™ accelerators, Xilinx Alveo™ accelerators, and Xilinx Versal™ ACAPs to advance research in areas including climate change, health care, transportation, big data and more.
9. Dell Technologies, Dell, PowerEdge, and other trademarks are trademarks of Dell Inc. or its subsidiaries.
10. HP and the HP logo are registered trademarks of Hewlett-Packard Development Company, L.P.
11. https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2022.pdf. Climate Action Failure is defined by WEF as "Failure of governments and businesses to enforce, enact or invest in effective climate-change adaptation and mitigation measures, preserve ecosystems, protect populations and transition to a carbon-neutral economy."
12. <https://www.noaa.gov/news/2021-was-worlds-6th-warmest-year-on-record>
13. <https://www.itic.org/policy/environment-sustainability>
14. <https://www.lumi-supercomputer.eu/sustainable-future/>
15. The 50% reduction in water use from 2020 to 2021 was attributed to several factors including moving an AMD data center operation to a co-located facility; water conservation efforts at AMD Markham from replacing several cooling units; and having fewer employees on-site due to Covid-19 protocols.
16. A manufacturing index is an industry-standard measure of production calculated by square centimeters of silicon x masking layers x wafers per year.
17. Based on an AMD conducted survey of AMD manufacturing suppliers representing approximately 89 percent of manufacturing spend in 2021 and collecting environmental, health and safety data for 2021 calendar year.
18. Testing by AMD Performance Labs as of April 15, 2020. Processors tested: AMD FX-7600P, AMD FX-8800P, AMD FX-9830P, AMD Ryzen 7 2700U, AMD Ryzen 7 2800H, AMD Ryzen 7 3750H, and AMD Ryzen 7 4800H. 25x20 program tracked against ENERGY STAR Rev 6.1 8/12/2014 and 3DMark® 2011 P-Score and Cinebench R15 nT. Results may vary with drivers and BIOSes. RVM-108
19. Based on measurements by AMD labs as of February 2022 of the AMD Ryzen 7 Pro 5800U against Energy Star 8.0 requirements. CZM-146.
20. EPYC-028A: As of 2/2/22, of SPECpower_ssj® 2008 results published on SPEC's website, the 55 publications with the highest overall efficiency results were all powered by AMD EPYC processors. See <https://www.amd.com/en/claims/epyc3x#faq-EPYC-028> for the list. More information about SPEC® is available at <http://www.spec.org>. SPEC and SPECpower are registered trademarks of the Standard Performance Evaluation Corporation.
21. <https://www.amd.com/en/case-studies/vestas-wind-systems>
22. <https://www.amd.com/en/case-studies/aterme>
23. <https://www.bloomberg.com/news/articles/2021-12-08/tsmc-leads-rush-for-renewables-ahead-of-taiwan-energy-vote>
24. <https://esg.tsmc.com/en/update/greenManufacturing/caseStudy/56/index.html>
25. <https://esg.tsmc.com/en/update/greenManufacturing/caseStudy/47/index.html>
26. Reported data reflects AMD operations for the 2021 calendar year, prior to AMD acquisitions in 2022 of Xilinx and Pensando.