



2021-22 CORPORATE RESPONSIBILITY REPORT

AMD
together we advance_

Advanced Micro Devices (“AMD”)

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Overview

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.

Message from our Chair and CEO

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.



Dr. Lisa Su

AMD Chair and Chief Executive Officer

[Meet the AMD Executive Team](#)

AMD Corporate Responsibility in Action

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 is once again 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.



Corporate Vice President, Corporate Responsibility and International Government Affairs

President, AMD Foundation

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

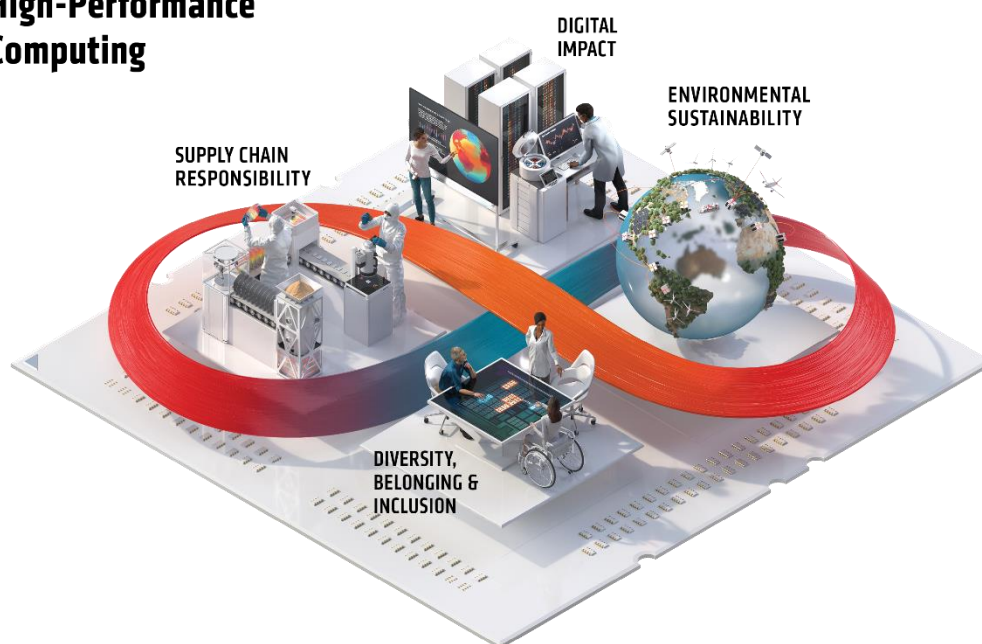
AMD adaptive and embedded computing is enabling a new class of intelligent devices across the automotive, embedded and communications markets.

Our CR Strategy

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.

Purpose Driven High-Performance Computing



Our approach is grounded in business ethics, security and transparency. We continue to map our priority issues to the [UN Sustainable Development Goals](#), showing how advancing our key initiatives helps to address global challenges. We recognize that no single company can effectively address these challenges alone, so we embrace strategic industry partnerships (link) and cross-sectoral collaborations to help advance technological solutions for the issues our industry and society at large are facing.

Our Goals and Progress

ESG Focus Area	Goals	2021 Performance
Digital Impact: We design products that help improve people's lives through high-performance and adaptive computing solutions spanning healthcare, education, manufacturing, scientific	1) 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	1) ON TRACK: In 2020 and 2021, more than 30 institutions received AMD technology through the HPC Fund and our STEM initiatives, benefiting

¹ For each year during the goal period, data includes 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.

research and other critical needs.		approximately 27.8 million.
Diversity, Belonging and Inclusion: We encourage and support creative minds from diverse backgrounds to work together in an engaging and open environment.	2) 70% of our employees to participate in AMD employee resource groups and/or other AMD inclusion initiatives by 2025. ²	2) 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.
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-	3) 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). ³	3) 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. ⁵

² 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.

³ Includes AMD high-performance CPU and GPU accelerators used for AI training and high-performance computing in a 4-Accelerator, CPU-hosted configuration. Goal calculations are based on performance scores as measured by standard performance metrics (HPC: Linpack DGEMM kernel FLOPS with 4k matrix size. AI training: lower precision training-focused 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.

⁵ EPYC-030: AMD takes compute node performance/Watt measurements for AMD high performance CPU and GPU accelerators used for AI training and High-Performance Computing in a 4-Accelerator, CPU-hosted configuration.

- Performance for HPC workloads is based on Linpack DGEMM kernel FLOPS with 4k matrix size. Performance for AI training is based on lower precision training-focused floating-point math GEMM kernels such as FP16 or BF16 FLOPS operating on 4k matrices.
- Watts are based on the TDP of a representative accelerated compute node including the CPU host + memory, and 4 GPU accelerators

To make the goal particularly relevant to worldwide energy use, AMD worked with Koomey Analytics to assess available research and data that includes segment-specific datacenter power utilization effectiveness (PUE) including GPU HPC and machine learning (ML) installations. The AMD CPU socket and GPU node power consumptions incorporate segment-specific utilization (active vs. idle) percentages and are multiplied by PUE to determine actual total energy use for calculation of the performance per Watt.

The energy consumption baseline uses the same industry energy per operation improvement rates as were observed from 2015-2020, with this rate of change extrapolated to 2025. The AMD goal trend line (Table 1) shows the exponential improvements needed to hit the goal of thirtyfold efficiency improvements by 2025. The actual AMD products released (Table 2) are the source of the efficiency improvements shown for AMD goal status in Table 1.

users reduce energy use and emissions.	4) 50% absolute reduction in greenhouse gas emissions from AMD operations (Scope 1 and 2) by 2030 (base year 2020).	4) ON TRACK: In 2021, we achieved a 25 percent reduction in our scope 1 and 2 emissions.
	5) 100% of AMD manufacturing suppliers ⁴ to have a public greenhouse gas emissions reduction goal by 2025.	5) ON TRACK: In 2021, 74 percent of our

The measure of energy per operation improvement in each segment from 2020-2025 is weighted by the projected worldwide volumes (as per IDC - Q1 2021 Tracker/Hyperion- Q4 2020 Tracker, Hyperion HPC Market Analysis, April '21). Translating these volumes to the ML training and HPC markets results in node volumes as per Table 3 below. These volumes are then multiplied by the Typical Energy Consumption (TEC) of the respective computing segment in 2025 (Table 4) to arrive at a meaningful aggregate metric of actual energy usage improvement worldwide.

Table 1: Summary (external) efficiency data projected to 2025

	2020	2021	2022	2023	2024	2025
Goal Trend Line	1.00	1.97	3.98	7.70	15.20	30.00
AMD Goal Status (energy-weighted Performance / watt)	1.00	3.90	6.79			

Table 2: AMD Products

	2020	2021	2022	2023	2024	2025
CPU EPYC Gen 1		EPYC Gen 2	EPYC Gen 3			
GPU MI50		MI100	MI250			

Table3: Volume Projections (millions/yr)

	2020	2021	2022	2023	2024	2025
HPC GPU nodes sold	0.05	0.06	0.07	0.09	0.10	0.12
ML GPU nodes sold	0.09	0.10	0.12	0.14	0.17	0.20

Table 4: Base case 2025 electricity consumption of products sold in that year, for weighting efficiency indices (TWh/year)

	2025
Base HPC	6.462
Base ML	15.818
Total Base	22.278

⁴ Manufacturing suppliers are suppliers that AMD buys from directly and that provide direct materials and/or manufacturing services.

	6) 80% of AMD manufacturing suppliers to source renewable energy by 2025.	manufacturing suppliers have public GHG goals. 6) ON TRACK: In 2021, 74 percent of our manufacturing suppliers sourced renewable energy.
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.	7) 100% of AMD supplier manufacturing factories to have a Responsible Business Alliance (RBA) audit or equivalent by 2025. 8) 80% of AMD manufacturing suppliers by spend to participate in a capacity-building activity by 2025. ⁶	7) ON TRACK: Between 2020 and 2021, 64 percent of these supplier factories had an RBA audit. 8) ON TRACK: 61 percent of these suppliers by spend participated in capacity-building activities in 2021, including ethical recruitment training.

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. Additionally, as part of our next CR reporting cycle, we will work with our advisors at [Ceres](#) to reassess our collective ESG opportunities and goals.

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:

⁶ Capacity-building activities aim to bring a continuous improvement culture to AMD manufacturing suppliers by providing resources to gain a deeper understanding of the root causes for non-compliance or to support a beyond compliance goal. Resources can include online modules, multiple 1:1 engagements or training courses.



CR Management and Governance

Our products help enable others to change the world. This comes with a commitment to do the right thing and conduct our business ethically. Our approach to corporate responsibility (CR) management and governance applies to all aspects of our business, spanning product design, supply chain, AMD operations and employee engagement. In other words, CR at AMD is not an “add-on” consideration, but rather a “how-to” approach.

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 initiatives and goals into the business. Through ESG executive leadership, cross-functional team coordination, transparent disclosure and external stakeholder engagement, we can set clear objectives, track progress and promote accountability.

- The AMD Board of Directors: The highest level of ESG oversight at AMD is the AMD Board of Directors, which receives reports from and engages with management at least quarterly on ESG issues, practices and reporting. The AMD Board Committee for Nominating and Corporate Governance also has formal oversight of ESG and receives additional updates.
- The AMD Executive Team (AET): The AET receives regular updates, at least monthly, on ESG topics, needs and proposals throughout the year. AET members actively participate in setting ESG strategic priorities and goals for their departments, while providing the necessary company investments and resources to demonstrate progress.
- The AMD ESG Executive Steering Committee: Our ESG Executive Steering Committee is responsible for overseeing progress on the company’s ESG priorities, goals and disclosures. Members of the Committee regularly communicate with AET members on ESG matters and updates. The Committee is comprised of cross-functional leaders (Director level or higher) from Finance, Global Operations, Human Resources, Investor Relations, Legal, Public Affairs and other departments.

- The AMD Corporate Responsibility (CR) Team: The CR team works cross-functionally to help operationalize the day-to-day management of many ESG-related policies, practices and infrastructure. The team also leads ESG reporting and communications. In their roles, members of the CR team regularly engage with other AMD departments such as Environmental Health and Safety, Engineering, Global Operations, Human Resources, Investor Relations, Legal and Quality to help ensure we are effectively and efficiently managing environmental and social issues. CR resides within Public Affairs and reports to our Senior Vice President, General Counsel and Corporate Secretary, who reports to the CEO.

AMD is committed to publicly reporting clear and transparent ESG data while continuing to evolve our internal processes and external disclosures to meet stakeholder expectations. For example, in 2020, we expanded our external reporting of climate data and risks to align with the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD). This year, as a signatory to the UN Global Compact, we submitted our Communication On Progress update to demonstrate how AMD is helping advance the UN Sustainability Development Goals (SDGs).

In our 2021 CR Report, we also added new disclosures on human capital, cybersecurity, public policy engagements and U.S. political activities. 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.

[Download Our CR Report Summary](#)

[See Our Latest ESG Disclosures](#)

Risk Management

AMD takes a multi-faceted approach to ESG-related risk management. For example, a cross-functional team focused on product energy efficiency meets bi-weekly to discuss regulatory and standards developments that may pose short, medium or longer-term risks (or opportunities). The team is led by our Corporate Vice President of International Government Affairs and Corporate Responsibility, with the participation of product engineers and business teams.

Business continuity planning is another area of risk management that brings together Environmental, Health and Safety, Finance, Human Resources, Global Operations, Information Technology and other teams to identify and plan for events that could disrupt AMD operations and/or supplier operations.

Among our manufacturing suppliers, we conduct facility-level due diligence to address risk factors related to human rights (e.g., forced labor), environmental factors (e.g., water risk) and ethics (e.g., corruption). We also collaborate on industry efforts to advance sub-tier supplier mapping in order to identify and address risks further down the supply chain.

Ethics and Compliance

AMD is committed to conducting our business in a fair, ethical, honest and lawful manner and in compliance with all laws, rules and regulations applicable to our business. Senior leadership, starting with our CEO, communicates to all employees the importance of acting in concert with our core values. Employees are assigned ethics and compliance training with attention focused on anti-corruption, harassment prevention, import/export compliance, and the prevention of insider trading, conflicts of interest and antitrust, as may be applicable. The importance of compliance and conducting our business with integrity is also communicated annually on a company-wide basis by our General Counsel. In addition, our leadership teams, including Corporate Vice President positions and above, are surveyed twice a year about possible conflicts of interest.

The AMD Board of Directors has governing authority with oversight responsibility of all business ethics issues. Our Corporate Compliance Committee is responsible for oversight of the [AMD Worldwide Standards of Business Conduct](#) (WWSBC) and related policies and procedures (e.g., compliance with the U.S. Foreign Corrupt Practices Act, export control policies, privacy regulations and conflict of interest rules). Additionally, in 2022, a new Chief Compliance Officer (CCO) role and office were formed to manage and implement company-wide ethics and compliance programs and initiatives. A Compliance Team, reporting to the CCO, coordinates with various other business functions to drive a unified front for ensuring compliance with the WWSBC and the other related policies and procedures.

The Committee provides quarterly activity reports of ethics and compliance cases to the Board and undertakes a program overview annually. All employees are required to complete the WWSBC training when hired and every three years thereafter.

We maintain a process for reporting misconduct and encourage employees to raise questions or concerns. Employees and other stakeholders are informed of our non-retaliation policy. [AMD Aware](#) is a multilingual web portal and telephone service that accepts anonymous reports about suspected illegal activity or violations of the AMD WWSBC, as permitted by law. AMD Aware is available to all AMD employees and third parties worldwide 24 hours a day, seven days a week.

All incidents reported via AMD Aware are investigated by responsible teams within AMD, including representatives from the AMD Corporate Compliance Office and the Internal Audit and Employment Law teams. All incidents are reported to the Audit and Finance Committee of the Board by the Chief Compliance Officer, including any corrective actions taken as a result of the investigations. Consistent concerns are addressed through senior management discussions, employee communications, process and controls improvements, training and individual corrective action measures, where appropriate.

Anti-corruption

In 2021, building off our existing anti-corruption guidelines in the AMD WWSBC, we created a stand-alone global policy to help employees and key personnel deal with anti-corruption issues when conducting company business activities. The [Global Anti-Bribery and Anti-Corruption Policy](#) describes prohibitions and/or required processes relating to specific areas of concern such as gifts, meals and entertainment involving government officials and our company's policy regarding "facilitation payments." The policy also describes the expansive definition of "government official" and what can

constitute a bribe. Additionally, it sets forth the company's policy on engaging with third parties or intermediaries to work for the company.

Training

Anti-corruption training is a key component of our regular Worldwide Standards of Business Conduct (WWSBC) training for all employees. Employees take the WWSBC training upon employment and every three years thereafter. The training session requires employees to certify they are conducting business in accordance with the WWSBC, which includes policy statements on anti-corruption. AMD executives and senior finance managers must also sign a code of ethics on an annual basis.

Additional in-person anti-corruption training is conducted for high-risk employees. Targeted training was given at the AMD Sales KickOff event in 2021 and we provide training to our global sales organization, outlining best practices for government tenders, including compliance with bribery and corruption regulations.

Risk Assessment

Anti-corruption risks are included within the annual enterprise risk assessment conducted by our Internal Audit team in partnership with other relevant business functions. These risks are also included in periodic surveys of key management personnel who are likely to have visibility into relevant activities. These employees are required to certify that they are not aware of any such activities or provide details of any suspicious activities.

The Law Department also reviews contracts and programs for compliance with antitrust laws and provides training to sales and customer-facing roles respecting compliance. In addition, AMD has a financial reporting program that audits a substantial number of our company's financial reporting controls and that includes entity-level controls that are intended to address the ethics and management of AMD.

[Read our Global Anti-Bribery and Anti-Corruption Policy](#)

Cybersecurity

Cybersecurity is a top priority for AMD. We focus on continuously strengthening the protection of our company's technology infrastructure, intellectual property and other critical information assets against cyber threats.

To enhance our company's competitive advantage and security posture, our Enterprise Information Security (EIS) team strives to align the company to leading industry cybersecurity frameworks. These frameworks help AMD create a strong in-depth defense using a risk-based, scalable and outcome-driven cybersecurity program.

Our information security policies and procedures provide a foundation for our cybersecurity program. Through our periodic mandatory cybersecurity awareness training and simulated phishing campaigns, we educate and test our employees on their responsibilities in helping protect the intellectual property and information assets of AMD, and our customers and our vendors. Our Business Information Security Officers (BISO) program fosters active participation of individual business units in cybersecurity strategy,

risk and control discussions. BISOs are responsible for assisting our cybersecurity team with identifying, communicating and managing risk, and implementing appropriate security and privacy measures within each BISO's business organization.

The Cyber Operations, Incident Command and Response, and Insider Threat functions continuously monitor the global threat landscape and manage a 24/7 Security Operations Center to help protect AMD against, detect and respond to potential threats from inside and outside the company. A third-party risk management process is in place to evaluate vendor cyber security risks.

The Audit and Finance Committee of our Board of Directors is responsible for the oversight of enterprise risk, and it reviews and provides feedback to EIS on matters pertaining to information security risk. Periodic audits are conducted on our information technology and cybersecurity programs and processes by internal and external auditors. The efforts of the EIS function are overseen by management at multiple levels including Chief Information Officer, AMD Executive Team and Board of Directors.

Public Policy Engagement and Political Activities

As a global company, we believe corporate responsibility includes being an informed, active participant in the development of public policies that affect our business, industry and customers in the countries and communities in which we operate. Good public policy begins with diverse stakeholders participating in open and transparent proceedings to carefully examine issues and offer different perspectives that promote effective solutions.

Our company works with governments and authorities, non-governmental organizations (NGOs), industry associations and other groups to deepen our understanding of issues and viewpoints and to share our experience and expertise as part of an informed public policy development process.

Some of the public policy priorities for AMD include:

- Environmental Protection
- Movement of Goods/IP
- Product Energy Efficiency
- Responsible Mineral Sourcing
- Secure Technology
- Trade, Competition and Market Access
- Workforce Talent

Our company's activities in government and regulatory affairs are overseen by our General Counsel, who reports to our CEO. The AMD Worldwide Standards of Business Conduct [link to PDF] supports our company's commitment to high ethical standards and compliance with the law in our engagement. Among other terms, provisions address political activities and contributions; bribery and anti-corruption; and giving or accepting gifts, entertainment and other gratuities.

[Read About Our Public Policy Engagement and U.S. Political Activities](#)

[Governance Guidelines and Policies](#)

- [Anti-Bribery and Anti-Corruption Policy](#)
- [Code of Ethics](#)
- [Climate Change Policy](#)
- [Responsible Mineral Sourcing Policy](#)
- [Environmental Health and Safety Policy](#)
- [Export Policy](#)
- [Human Rights Policy](#)
- [Product Quality Policy](#)
- [Supplier Code of Conduct](#)
- [Worldwide Standards of Business Conduct](#)

Stakeholder Engagement

Our key stakeholders include our workforce, customers, investors and analysts, local communities, suppliers, key non-government organizations (NGOs) and governmental bodies. We work with our stakeholders and strive to create shared value by understanding their interests, communicating our strategies and positions clearly and being responsive as issues evolve. It is not just what our technology can do that matters to our stakeholders, but also how we responsibly develop and deliver it.

Engaging Our Key Stakeholders

Investors increasingly care about the long-term sustainability of a company, which includes how well the company's purpose is integrated with its value proposition and financial performance. Investors are also assessing the company's strategy and performance on environmental, social and governance (ESG) issues. We continue to engage in these important conversations with our ESG-minded investors, and we believe our company is well-positioned to participate in growing markets that prioritize ESG disclosures and performance. Learn more about our [ESG disclosures and reporting](#).

Employees want to work on compelling semiconductor technology that simultaneously enables them to develop their own professional careers and livelihoods. They also value a purpose-driven culture where diversity, belonging and inclusion are celebrated. We offer our employees the opportunity to work for a company that innovates and makes important contributions to the world while upholding business ethics and integrity. Learn more about [diversity, belonging and inclusion](#) at AMD.

Communities expect companies to contribute positively to economic growth and employment while also being good neighbors. This is an ideal we embrace across our operations worldwide. More broadly, our technology can help enable communities to successfully connect remote locations and deliver services to their citizens. Our technology can also help bring together and support virtual communities, from gamers to doctors to scientists. Learn more about how we support our [global community sites](#).

Customers are looking for more options and choices that will help them achieve their visions and goals. AMD collaborates with customers to create innovative products that meet emerging needs and tackle some of the world's toughest challenges, spanning medical advances, advanced engineering, data analytics, scientific breakthroughs, education and more. Partnering with customers is how we bring to life our purpose: to enable the world's creators, researchers, inventors and explorers to transform the lives of those around them through high-performance and adaptive computing.

Suppliers help make AMD a strong business. We work with our suppliers to deliver high-quality products and to help ensure that working conditions are safe, workers are treated with respect and manufacturing processes are environmentally responsible. We recognize that collaboration with our supply chain partners is necessary to achieve our business and sustainability goals. Through our membership in the Responsible Business Alliance (RBA), we work together on short and long-term goals and address industry challenges and work toward solutions. This partnership approach enables us to strategically collaborate and continually improve performance. Learn more about our [supply chain responsibility](#) program.

Governmental Bodies are important stakeholders, as they are developing and implementing public policies that affect our business, industry and customers. We actively engage in key efforts by participating in open, transparent proceedings that may involve decision makers, industry peers, customers, suppliers or civil society organizations. We strive to understand the issues, listen to different perspectives and share our experiences to promote effective solutions. Topics vary around the world, and they include the deployment of technology to deliver public services, research, trade, product energy efficiency, renewable energy, supply chain security and continuity of supply chains during the COVID-19 pandemic.

Stakeholder Panel

One of the most important ways we gain insight into and understanding of our stakeholders' interests is through focused dialogue. Working with Ceres, a leading nonprofit organization focused on business and sustainability, we receive valuable input into our corporate responsibility strategy and strategic focus areas from a diverse set of stakeholders. This panel includes experts from industry partners, advocacy groups and socially responsible investment firms. We meet annually to share our progress against goals and to gain a deeper understanding of how we can improve our corporate responsibility strategy, initiatives and performance. In previous years, we have worked with Ceres to convene groups of external subject matter experts to have frank conversations with AMD decision makers about the opportunities and risks presented in topics such as artificial intelligence (AI) and blockchain technologies, human rights and labor and product energy efficiency. These discussions and the subsequent internal reviews help inform our ongoing strategies and considerations.

"By investing and engaging in multi-stakeholder collaborations, companies can enable systems-level change to help solve shared environmental and social challenges. AMD actively engages diverse stakeholders as a regular part of its strategic planning, leveraging this engagement and its unique position in the industry to advance collaboration and bring innovation to scale."

- Kristen Lang, Senior Director, Company Network, Ceres

In 2020, Ceres supported AMD in conducting an updated [materiality assessment](#) to solicit thoughtful stakeholder feedback that has informed our long-term strategic priorities across environmental, social and governance (ESG) issues. In 2021, Ceres worked with the AMD Corporate Responsibility team and interviewed several senior executives to review the results of the materiality assessment and discuss how the findings inform AMD ESG focus areas moving forward. Our work with Ceres continues into 2022, starting in Q1 with briefings for our Executive ESG Steering Committee and other teams on

emerging issues and regulations. In the second half of the year, we will work with Ceres to review our ESG goals in light of the acquisition of Xilinx to determine any refinements to the metrics and/or timelines.

Collaboration

AMD embraces collaboration and innovation in the technology sector. We recognize that meaningful improvement in corporate citizenship requires collaboration on a global scale, which can be transformative when it's done well. Working with industry peers, government regulators, civil society organizations and other groups enables our collective efforts to exceed what any of us could do as an individual organization. The following table highlights some of the groups with which we engage in corporate responsibility initiatives.

Organization	Engagement areas
CDP	AMD participates in CDP's annual disclosure system for climate and water surveys to share strategies, data and progress across our operations, supply chain and products.
Ceres	AMD is a member of Ceres, a nonprofit organization that provides advisory services across environmental, social and governance (ESG) issues and facilitates stakeholder engagement efforts for AMD.
China Electronics Standardization Association (CESA)	AMD is a member of CESA, which promotes social responsibility in the electronic information industry in Greater China. AMD shares best practices in corporate responsibility to help inform upstream and downstream enterprises in the industrial supply chain.
DigitalEurope	We participate in meetings led by DigitalEurope, including product compliance and sustainability topics, to support a regulatory environment in Europe that enables public agencies, citizens and businesses to prosper from digital technologies.
Environmental Protection Agency (EPA) Green Power Partner	AMD has been an EPA Green Power Partner since 2000 by sourcing renewable energy in the U.S. and reporting procurement amounts each year.
Information Technology Industry Council (ITI)	We are a member of ITI and actively participate in several committees, including Environment and Sustainability, Product Stewardship, The Green Grid and the Climate Task Group.
Responsible Business Alliance (RBA)	AMD is an elected Board member of the RBA and holds full membership. The company actively participates in several working groups, including the Environmental Sustainability Workgroup.
Responsible Labor Initiative (RLI)	To promote diligence in our supply chain, we actively participate in the RLI – a multi-industry, multi-stakeholder initiative focused on ensuring the rights of workers vulnerable to forced labor in global supply chains are respected.
Responsible Minerals Initiative (RMI)	We have been a member of the RMI since its founding and continue to participate actively in industry dialogues to advance the use of shared tools and resources with the aim of supporting responsible mineral production and sourcing on a global scale.
Semiconductor Industry Association (SIA)	AMD President and Corporate Executive Officer (CEO), Dr. Lisa Su, serves on the SIA Board of Directors, and AMD staff participate in SIA committees to promote through public policy a responsible, vibrant

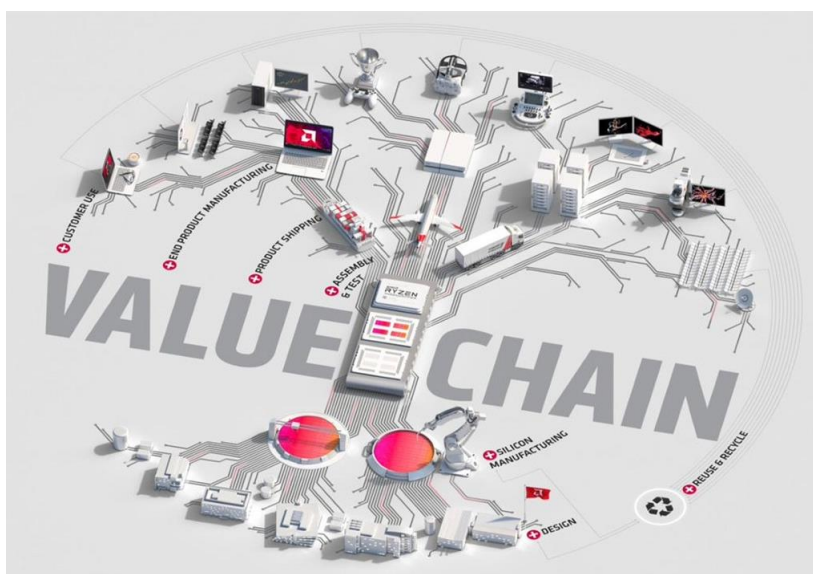
	semiconductor industry with its contributions in health, travel, communication, scientific discovery, education and more.
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Note: The above table does not include all organizations with which AMD collaborates in corporate responsibility efforts.

Our Value Chain

Leading companies take an expanded view of their social and environmental responsibilities. They look beyond their own operations and work closely with value chain partners and other key stakeholders. By doing so, these companies deepen their understanding of social and environmental issues and create opportunities to accelerate meaningful action.

At AMD, we embed corporate responsibility across our value chain. Our approach extends from how our products are designed, manufactured and packaged to how they are assembled, shipped and used.



Embedding Corporate Responsibility Across Our Value Chain

We have mapped our corporate responsibility programs and initiatives to the primary activities of our value chain.

DESIGNING

AMD engineers design the circuitry for microprocessors, graphics, embedded devices and accelerated processing units. Our employees work at more than 35 locations worldwide.

- [Product Sustainability](#)
- [Responsible Minerals Sourcing](#)

SILICON MANUFACTURING

AMD designs are manufactured on a silicon wafer. A typical wafer is made from pure silicon that is formed into cylindrical ingots. These ingots are then sliced into wafers about 0.75 mm thick. Each wafer undergoes multiple steps in the fabrication process to produce an AMD-designed processor or “die.” The working die from the silicon wafer is cut and sent to be assembled into a chip.

- [Supply Chain Responsibility](#)
- [Responsible Minerals Sourcing](#)

ASSEMBLY AND TESTING

In the assembly process, each die is attached to metal connectors so it can function with other devices on a circuit board. The die is then assembled into a protective package to dissipate heat and protect it from other elements. Once fully assembled, each chip is tested for functionality.

- [Supply Chain Responsibility](#)
- [Responsible Minerals Sourcing](#)

PRODUCT SHIPPING

Qualified chips are packaged for shipping to our customers. AMD works with Original Equipment Manufacturers (OEMs) that integrate our technology into their branded devices, hyperscale and cloud data center providers that integrate our technology into their custom-built servers, channel partners that sell standard and customized solutions and retailers that sell “processors in a box” direct to the computer enthusiast community.

- [Product Sustainability](#)
- [Anti-Counterfeit](#)

END PRODUCT MANUFACTURING

AMD technology powers millions of intelligent devices made by our customers, including personal computers, game consoles, servers and industrial devices. With the acquisition of Xilinx in February 2022, AMD is powering even more in automotive and telecommunications applications. These products are defining the new era of high-performance and adaptive computing.

- [Product Security](#)
- [Industry Collaboration](#)

CUSTOMER USE

AMD solutions enable people everywhere to realize the full potential of their favorite devices and applications to push the boundaries of what is possible. The world’s creators, researchers, inventors and explorers are using high-performance and adaptive computing to tackle challenges in science, medicine, manufacturing and other areas and transform the lives of those around them.

- [Digital Impact](#)
- [Product Energy Efficiency](#)

PRODUCT END OF USE

Proper reuse, recycling and disposal of electronic products are important in protecting the environment and moving toward a more circular economy. By engineering our products for longer life, and in some cases making them backward compatible with our customers’ existing systems, we can help make better use of our planet’s limited natural resources.

- [Product Lifecycle Management](#)
- [Reducing Hazardous Substances](#)

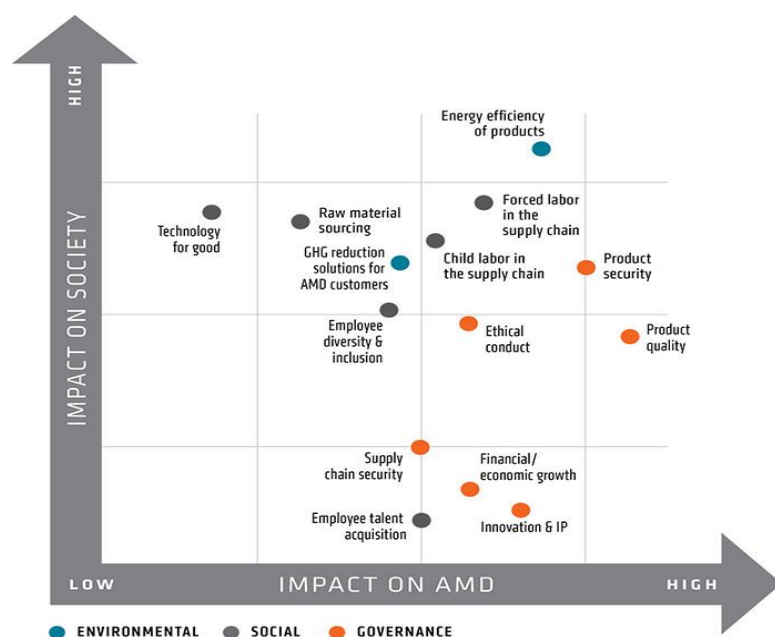
Our Material ESG Issues

Our ESG Materiality Matrix

Materiality⁷ analysis helps us prioritize environmental, social and governance (ESG) issues within our approach and goal setting, and it guides our engagement with key stakeholders. It also helps us focus our reporting and transparency efforts on the issues that matter most.

As a leading company in the semiconductor industry, AMD impacts – and is impacted by – a wide variety of ESG-related issues. While we continuously monitor and respond to a broad range of topics, we also conduct periodic evaluations to better understand the overall landscape, set priorities and evolve our practices, policies and programs accordingly.

In 2020, we partnered with [Ceres](#), a leading nonprofit organization focused on sustainable business, to complete an updated materiality assessment, building on the previous assessment that was conducted in 2017. The resulting ESG materiality matrix highlights our most material issues based on their current or potential impact on stakeholders and society and our company's business.



⁷ We include certain disclosures, reports and information on various environmental, social and corporate responsibility-related matters on our website (collectively, our “ESG Materials”). Our ESG Materials may contain information that is significant; however, any significance should not be read as necessarily rising to the level of the definition of materiality used for the purposes of our compliance with the U.S. federal securities laws, even where we use the word “material” or “materiality” in our ESG Materials (including where we use it in connection with our materiality assessment) or in other materials issued in connection with the matters discussed in our ESG Materials. We have used definitions of materiality in the course of creating our ESG Materials and the goals and metrics discussed therein that do not coincide with or rise to the level of the definition of materiality used for the purposes of our compliance with the U.S. federal securities laws. Moreover, given the uncertainties, estimates and assumptions inherent in the matters discussed in our ESG Materials, and the timelines involved, materiality is inherently difficult to assess far in advance. In addition, given the inherent uncertainty of the estimates, assumptions and timelines associated with the matters discussed in our ESG Materials, we may not be able to anticipate in advance whether or the degree to which we will or will not be able to meet our plans, targets or goals.

[See How These Issues Correspond to the United Nations SDGs](#)

Assessment Results

While results were generally aligned with those of the previous assessment, there were notable shifts in the ranking of some issues. These shifts reflect the evolution of societal expectations and concerns, as well as specific emerging risks and opportunities for AMD.

For example, the analysis found that social equity and workforce issues, including employee diversity and inclusion as well as tech equity, are increasingly important to stakeholders and our business. It also highlighted nuances in the evolution of some issues, such as stakeholders’ increased focus on different dimensions of climate change as it relates to information technology. Such topics include product energy efficiency, operational energy use, risks to the supply chain and computing’s role as both a driver of greenhouse gas (GHG) emissions and a lever for reducing emissions across the wider economy.

Taking account of the complete analysis, including the interdependence of key issues, we worked with Ceres to identify four strategic focus areas that are both important to stakeholders and critical to the success of our business:



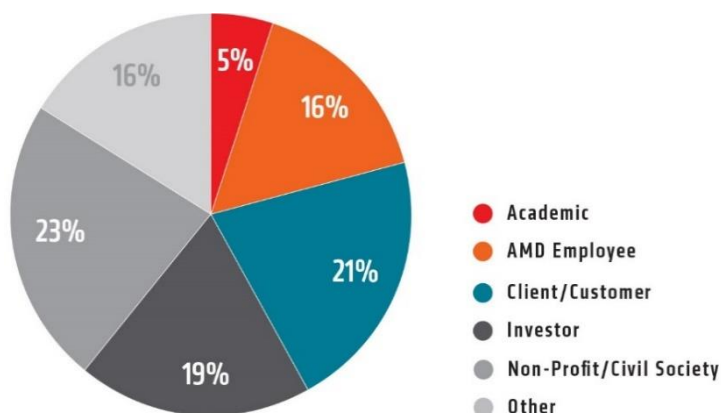
We also consider several of the issues noted in the matrix as part of our foundational approach to conducting business responsibly. These issues include ethical conduct, financial performance, innovation, intellectual property protection, product quality and security (cyber, product and supply chain).

[Learn more about Our Approach](#)

Assessment Methodology

To refine our understanding of key issues and update our strategic focus areas, we undertook a thorough assessment process consisting of the following key steps.

1. Identification: Ceres conducted desk research to identify and characterize a comprehensive list of ESG issues and topics relevant to our business and the broader semiconductor industry. Among other things, the research took note of:
 - a. The increasing number and diversity of ESG inquiries we receive from customers, investors and other stakeholders;
 - b. The issues and expectations highlighted by external frameworks and initiatives, such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), the Taskforce on Climate-related Financial Disclosures (TCFD) and the United Nations Sustainable Development Goals (SDGs); and
 - c. The evolution of other companies' priorities and responses to key issues within and beyond our industry.
2. Survey & Analysis: AMD and Ceres conducted a survey to gather internal and external stakeholder feedback on the relative importance of identified issues, as well as their insights on the context and challenges AMD faces. We then compiled and analyzed the results to identify the most strategic issues and potential areas for increased focus and investment.
3. Validation & Prioritization: We reviewed and validated the results of the analysis in discussions with investors and members of the AMD executive team. Insights and recommendations from these conversations provided the basis for final prioritization and determination of the core issues, and in turn, for updating and refining our practices, policies and programs. The results of this final step are critical inputs to our forward-looking approach, as they define its substance and inform our goals.



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. The same technologies that promote equity and increase efficiency can also be deployed in ways that potentially disadvantage or exploit vulnerable communities or contribute to environmental degradation. 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 processors⁸; 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. That is why we engage and collaborate with our customers, industry and other stakeholders to design world-class high-performance computing solutions to tackle some of the toughest challenges facing society and to mitigate the potential negative impacts of technology.

Our approach entails fostering strategic relationships with researchers, non-profits, 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.

⁸ Based on node size as of May 2022. GD-203

Goal and Progress

We have set a public goal and are committed to making meaningful progress to advance the digital impact of AMD technology.

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.

The majority of these beneficiaries came from our collaborations with the Stanford School of Medicine and the Council of Scientific and Industrial Research (CSIR). Using AMD high-performance servers, Stanford is analyzing COVID-19 research for California and the state's prison population, and CSIR is working with scientists in India to address COVID-related challenges. Both organizations estimate the impact of the HPC Fund donations to be more than 10 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 high-performance computing (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

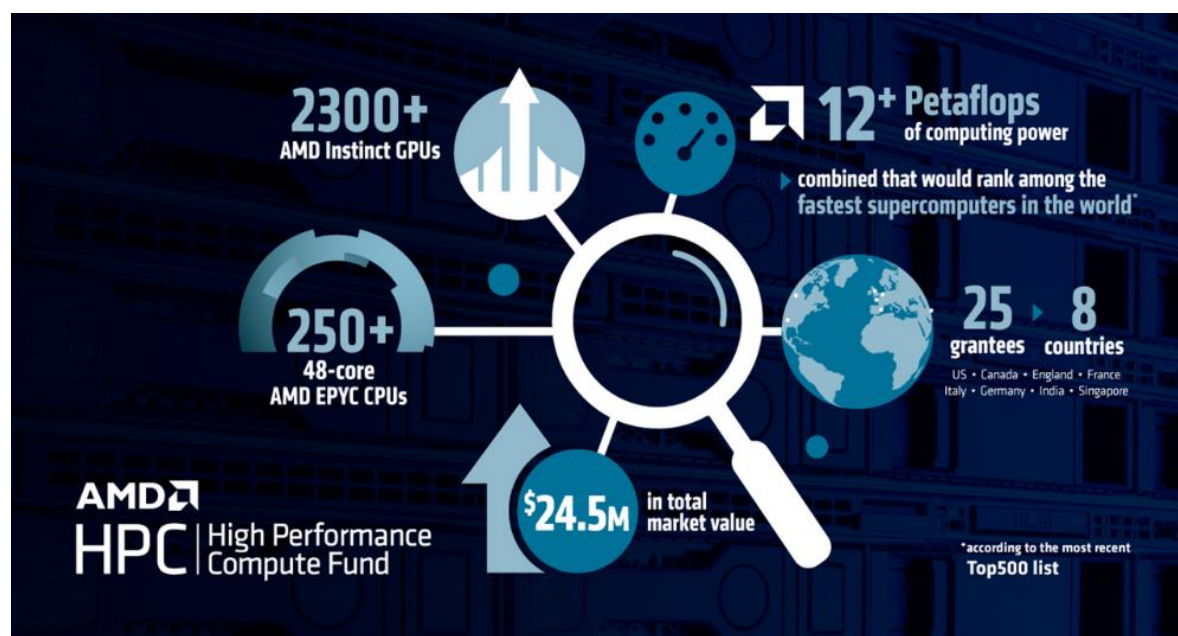
We see great potential for high-performance computing (HPC) to benefit society and the planet. Through our digital impact initiatives, strategic investments and partnerships, we aim to help others solve important global challenges.

Scientific Research

Together with industry and research partners, AMD is helping to deliver a new generation of supercomputers⁹ 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, well before the full scope and scale of the pandemic was realized, AMD CEO Dr. Lisa Su 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. Dr. Su knew that any meaningful response to a pandemic would require tremendous processing power, and AMD was in the position to help provide necessary tools and expertise. 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. At a few institutions, we doubled the processing power available on campus. For other grantees, this was their first opportunity to work on a heterogeneous system with both AMD CPUs and GPUs, so qualified support and training were key to enabling their research objectives. With awards of over 12.5 petaflops of total computing capacity, the combined processing power donated through the AMD HPC Fund would rank among the fastest supercomputers in the world, according to the TOP500 list (June 2022).¹⁰



⁹ <https://www.amd.com/en/products/exascale-era>

¹⁰ <https://www.top500.org/lists/green500/2022/06/>

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 power¹¹ 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. The additional computing resources will build on the original fund established in 2020 to provide research institutions with computing resources to accelerate medical research on COVID-19 and other diseases.

“We are witnessing a scientific computing revolution where high-performance computing resources vastly reduce the time to insights and discovery,” said Mark Papermaster, executive vice president and chief technology officer, AMD. “By broadening the AMD HPC Fund beyond COVID-19, we are enabling researchers to solve more of the world’s toughest problems.”

[Learn more about AMD HPC Fund](#)

Regional Spotlight:

Powering Computational Protein Science in the United States

Protein scientists can unlock clues to improving human health, and with game-changing compute power from AMD, they are making exciting advances. Proteins are fundamental pieces of the biological puzzle. They are molecular machines that make us who we are – they have a role in muscle contraction, tissue structure, chemical reactions, immunity and many other processes. But when things go awry, the result can be detrimental to health: proteins are also involved in the development of diseases like Alzheimer’s disease and cancer. To understand proteins, scientists need to know what they look like, how they are built and how they work.

AMD provided HPC systems to the University of Washington Medical School in St. Louis, to support the Folding@Home program based on their campus. Named after the “folding” process through which proteins are built, the program involves citizen scientists and harnesses the power of their home computers. Instead of using one supercomputer to run a single, long simulation, the complex scientific problem is explored across 100,000 home computers.

With AMD “game-changing” compute power, University of Washington researchers can get the initial picture of what they want to study much faster, and they can process the full data that comes back from Folding@Home more quickly. When time is of the essence – like with COVID-19 – this makes a big difference. Researchers are currently using AMD HPC and Folding@Home to study coronavirus proteins called spike complexes, which the virus uses to penetrate human cells. The setup makes it easier for

¹¹ 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.

researchers to start simulations of new coronavirus variants to predict their severity, help direct resources and inform the development of vaccines and treatments.

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 its capabilities. We are passionate about enabling the imagination and creativity of the next generation. 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 five AMD Learning Labs that help inspire students to pursue science, technology, engineering and math (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.

Boys & Girls Clubs Empowering Students and Families with AMD Technology

Boys & Girls Clubs of America is committed to fostering the potential of young people and bridging the gap between access and opportunity through high-quality, consistent and safe, out-of-school time programming. Recognizing that STEM education is an important component to success, Boys & Girls Clubs have built programs that better prepare their member clients for a future of opportunities.

With this shared vision, AMD has been partnering with Boys & Girls Clubs in U.S. site communities through employee volunteering and philanthropic investment for more than 10 years. Our activities have included launching an AMD Learning Lab in Silicon Valley, supporting STEM for Girls programming in MetroWest, leading hands-on STEM activities in Central Florida and hosting career explorations in the Austin area.

The Boys & Girls Clubs of the Austin Area (BGCAA) primarily serves underrepresented youth attending Title 1 schools. In 2021, many students and families felt the continued struggles and effects of a world with COVID – and the challenging reality of a new “normal.” AMD and our valued business partner HP™¹² decided to help alleviate one major obstacle: accessing high-quality technology. Through the HP Refresh program, we donated more than 325 newly-refurbished AMD-powered laptops and desktops, which were distributed to BGCAA students and families who needed them most.

One Club member’s education was hindered by lack of access to a personal computer. He was able to borrow one during the academic year, but when the school year came to an end, so did his computer access – and with it, his ability to continue learning. His family also faced a challenging year after losing his father to cancer. The gift of a computer through BGCCA helped him continue learning online

¹² HP and the HP logo are registered trademarks of Hewlett-Packard Development Company, L.P.

throughout the summer, and it also helped his mother seek employment and manage bills electronically.

AMD is not only proud to make products that advance society; we are also proud to donate technology that can make a difference in a person's life.

[Learn more about AMD Learning Labs](#)

Regional Spotlights:

Empowering STEM Education with New AMD Singapore Learning Lab

Around the globe there are talented students with enormous potential who, with hard work and proper educational opportunities, will form the next generation of innovators in STEM. 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.¹² 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 National Electronic Sports Tournament (NEST), providing top gaming equipment and generous prizes to cultivate Chinese e-sports talent. The NEST 2021 tournament covered more than 20 Xinhua computer schools nationwide, and nearly 20,000 people in 146 teams took part.

AMD continues to work with other companies to conduct public online and offline gaming classes. In 2021, we held 10 online live broadcasts with over 15 hours of content, reaching an audience of more than 3,000 people. We also held three public classes on campus with a total duration of almost 6 hours that reached nearly 1,000 listeners. In addition, for many years, AMD has helped to jointly produce the textbook *Microcomputer DIY and E-Sport* for use by 18 professional e-sports schools.

Energy and Climate

Exponential increases in computing performance open doors for exploration and research. But the demand they produce, particularly in data centers, leads to increasing energy consumption and greenhouse gas emissions (GHG) by users. AMD has set a bold goal to increase the energy efficiency of AMD processors and accelerators powering servers for artificial intelligence (AI)-training and high-performance computing (HPC) by 30x from 2020 to 2025.³ This goal equates to a 97 percent reduction in energy use per computation and represents more than a 2.5x acceleration of the industry trends from 2015-2020, as measured by the worldwide energy consumption for these computing segments. If all AI and HPC server nodes globally were to make similar gains, up to 51 billion kilowatt-hours (kWh) of electricity could be saved in 2021-2025 relative to baseline industry trends. This would amount to US\$6.2 billion in electricity savings and carbon benefits equivalent to growing 600 million tree seedlings for 10 years.¹³

We are on track toward achieving our 30x goal. As of mid-2022, we have achieved a 6.79x increase in energy efficiency for accelerated compute nodes from the 2020 baseline, using a configuration of a third-generation AMD EPYC™ CPU and AMD Instinct™ MI250x GPUs.

At the same time, the performance delivered from AMD-powered servers plays an important role in advancing research on climate change. By analyzing massive and complex data sets, researchers are better able to understand the causes of climate change and predict the impacts of extreme weather.

[Learn more about our progress on this goal](#)

[Learn about how the AMD-powered LUMI supercomputer is advancing climate science](#)

Healthcare

Early in the COVID-19 pandemic, we were honored to help expedite the delivery of our embedded processors used in ventilators. We also design processors used to power medical imaging systems such as mobile and cart-based ultrasound systems, endoscopy systems and high-end MRI and CT scanners. From diagnostic imaging to imaging-assisted medical procedures, technology that maximizes visual clarity and fidelity is vitally important. With the acquisition of Xilinx in 2022, AMD offerings in healthcare have expanded to include solutions such as clinical defibrillators and technology for robot-assisted surgery.

Internet of Things (IoT) and Industrial Solutions

Pushing the outermost boundaries of computing includes making more powerful, energy-efficient and security-minded processing available across a wider spectrum of devices and applications. For example, the AMD Embedded product portfolio provides the performance and power efficiency to enable a variety of Edge computing platforms, meaning they are closer to the end-user and source of the data.

¹³ Scenario based on all AI and HPC server nodes globally making similar gains to the AMD 30x goal, resulting in cumulative savings of up to 51.4 billion kilowatt-hours of electricity from 2021-2025 relative to baseline 2020 trends. Assumes \$0.12 cents per kWh x 51.4 billion kWh = \$6.2 million USD. Metric tons of CO₂e emissions, and the equivalent estimate for tree plantings, is based on entering electricity savings into the U.S. EPA Greenhouse Gas Equivalency Calculator on December 1, 2021.

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

We are also paving the way for a new generation of industrial solutions enabling intelligent factories. Our solutions serve a wide range of market segments and help customers realize a future in which things run seamlessly, keeping employees productive while they interact more naturally and intuitively with the technology around them. For example, AMD processor-powered industrial PCs are optimized for exceptional, power-efficient processing and graphics performance with integrated CPU and GPU, multi-display support and other advanced features. With the acquisition of Xilinx in 2022, AMD IoT and industrial solutions expanded to applications such as smart grids, trains and railways, 3D printers and robotics.

Limiting Potential Negative Impacts of Technology

While we work to enhance and accelerate the possible benefits of our technology, we also remain mindful of the potential for negative impacts. Potential risks to our industry and society associated with technology use include increased energy consumption, threats to online privacy and security, human rights abuses and addictive behaviors.

As a component supplier of semiconductor solutions, AMD is limited in our ability to direct or influence how our products are ultimately used by end consumers. Yet we recognize the seriousness of these risks and the important role we play in addressing and taking action to minimize them. Our ongoing efforts include monitoring and disclosing risks to processor security, increasing power efficiency in the data center and collaborating with industry partners to provide input to policy frameworks and standards. For example, AMD actively engages in industry dialogues on these and other technological challenges through forums such as the Information Technology Industry Council (ITI), the International Standards Organization (ISO) and the Institute of Electrical and Electronics Engineers (IEEE).

We will continue working to understand and collaborate more deeply on these and other important issues so that the computing we enable transforms our world for the better.

[How we engage with our stakeholders](#)

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. This set of case studies provide examples of applications of our core technology that benefit society.

AMD-Based Computer Technology in Mobile Medical Carts and Workstations Gives Nursing Staff More Time for Patients and Helps Prevent Errors

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](#)**Casa Systems smashes packet core throughput record 5G ultra-broadband with AMD EPYC™ CPUs**

Casa Systems is a leading provider of ultra-broadband solutions for 4G/5G mobile and fixed wireless, cellular IOT, optical, and WiFi attached networks. The company needed to find the most flexible, cost-effective and energy-efficient solutions to reduce the carbon footprint from 5G networks. The AMD EPYC processor provided an innovative system-on-a-chip design with disruptive performance that maximizes value of on-premise and off-premise solutions.

[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™¹⁴ servers, drastically reducing 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](#)**Lemon Sky Studios pushes boundaries for CGI art with AMD Ryzen™ Threadripper™ CPUs**

Founded in 2006, Lemon Sky Studios is Malaysia's leading CGI studio and one of the region's best art outsourcing companies in the video game and animation industry. The studio has an in-house render farm that is powered by AMD Ryzen Threadripper CPUs. In 2020, as the pandemic swept around the world, Lemon Sky had to adapt by making arrangements for their artists to work from home. Having relied mostly on competitive technology for this part of their work, Lemon Sky tested out new workstation options from AMD to help prevent any bottlenecks in their creative processes.

[Read Case Study](#)**Northern Data takes HPC to a new level of cost and energy efficiency with AMD technology**

Designed for HPC workloads and modern software architectures, Northern Data's data centers are more than 90 percent powered by renewable energy. To achieve this goal, Northern Data relies on technology partners that deliver the performance required with the optimal cost efficiency. Together with GIGABYTE, Northern Data found that AMD EPYC and AMD Instinct™ technologies delivered the scale and affordability that the company's customers demand.

¹⁴ Dell Technologies, Dell, PowerEdge, and other trademarks are trademarks of Dell Inc. or its subsidiaries.

[Read Case Study](#)**Purdue University Breaks Research Computing Barriers On-prem and in the Cloud**

With an increasing number of scientists wanting to harness the potential of computer-aided discovery, greater levels of processing power need to be shared more widely. Purdue University wanted to create a “science as a service” system with forward-looking mixed (cloud) computing and composable capabilities that could deliver the maximum amount of research computing capacity to the U.S. academic community. With the help of Dell EMC PowerEdge servers powered by AMD EPYC processors, Purdue won a \$10 million National Science Foundation (NSF) grant to provide the Extreme Science and Engineering Discovery Environment (XSEDE) with the Anvil supercomputer.

[Read Case Study](#)**Vestas supercharges sustainable energy with Azure™ HPC powered by AMD EPYC™ processors**

Vestas Wind Systems deployed mind.ai’s DeepSim reinforced learning platform, running on Microsoft Azure HPC powered by 3rd Generation AMD EPYC processors, to optimize wind turbine orchestration. The aim was to reduce power lost due to wake turbulence and increase the generation of renewable energy and improve value. The latest AMD CPUs offered high compute power and memory bandwidth that is crucial for simulations involving large amounts of weather data. Vestas expects that this optimization will create significant improvements for existing wind farms, and the company wants to help customers build future wind farms with these formulas in mind.

[Read Case Study](#)

Find more case studies on [science, technology and healthcare](#)

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.¹⁵ 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.¹⁶ Temperatures are increasing due to human activities, specifically emissions of greenhouse gases (GHGs), according to experts. The International Panel on Climate Change has stated that an average temperature increase of 1.5°C is the threshold for dangerous global warming. Beyond this, they foresee a risk of severely

¹⁵ https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2022.pdf. Climate Action Failure is defined by WEF as the “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”.

¹⁶ <https://www.noaa.gov/news/2021-was-worlds-6th-warmest-year-on-record>

destabilizing social and economic structures around the world, which would have a disproportionately negative impact on vulnerable communities.¹⁷

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.¹⁸

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 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.

Within AMD operations, we aim to minimize energy use and resource consumption while aggressively reducing GHG emissions (aligned with a 1.5°C scenario). We also work closely with our manufacturing suppliers to advance environmental (as well as health and safety) performance metrics. These efforts to mitigate the impacts associated with making and operating AMD technology, as well as optimizing system-level energy efficiency, help our customers and end-users advance their own sustainability goals. For example, using fewer servers to meet data center compute performance needs and upgrading older notebook and desktop computers with more energy-efficient models can reduce electricity use and GHG emissions. Collectively, our innovations and collaborations across the value chain help advance efficient high-performance computing behind innovative solutions like those for optimized renewable energy generation, enhanced automation (smart cities and factories), and cutting-edge climate and scientific research.

We also engage 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.

[Learn more about our Stakeholder Engagement](#)

Environmental Policies and Reporting:

- [Environmental, Health and Safety \(EHS\) Policy](#)
- [Climate Change Policy](#)
- [GRI Standards Content Index](#)

¹⁷ <https://www.ipcc.ch/sr15/chapter/spm/>

¹⁸ <https://www.itic.org/policy/environment-sustainability>

- [CDP Climate Change Submission](#)
- [CDP Water Submission](#)
- [SASB and TCFD Disclosures](#)
- [UN Sustainable Development Goals](#)
- [ISO 14001 Site Certifications](#)

Goals and Progress

As we continue to grow and expand our business, we look ahead with ambition and purpose. We recognize that our environmental sustainability efforts must continue to go beyond slowing growth in GHG emissions. In fact, we have the opportunity to enable reductions in energy use and GHG emissions across industries.

As such, AMD is charting a bold path to advance energy efficiency for accelerated computing applications; setting a science-based GHG emissions reductions goal for our operations (aligned with a 1.5°C scenario); and working with suppliers to increase efficient use of resources and renewable energy.

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 2020-2025.³

ON TRACK: In 2021, AMD achieved a 3.9x increase, and midway through 2022 reached a 6.8x improvement in energy efficiency compared to 2020.⁵

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 suppliers 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)¹⁹ 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, winning the Best Sustainability Innovation in HPC award at the 2021 HPC Wire Readers' and Editors' choice awards. 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.²⁰

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. With LUMI, researchers can link the climate model to other models to understand the complex interplay between environmental processes and systems.

MINIMIZING ENVIRONMENTAL IMPACTS

Our commitment to environmental sustainability is reflected in our long-standing corporate values and culture. For 27 years, we have been transparently reporting on our environmental initiatives and performance. As AMD outsourced manufacturing operations, we expanded the scope of our environmental initiatives and goals beyond our global operations to include supply chain manufacturing. Following the acquisition of Xilinx in February 2022, we are preparing to report 2022 environmental data for the combined company in 2023. The following information reflects AMD operations for the calendar year 2021 (prior to the acquisition).

Operations

AMD operated more than 35 locations worldwide in 2021, including engineering facilities, sales and business service sites and corporate offices. 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. As a result of acquiring Xilinx in 2022, two of our new sites in San Jose, California and Singapore are certified to the [ISO 14001](#) standard.

2021 Operational Performance Summary (compared to 2020 base year):

- 12 percent reduction in energy consumption
- 25 percent reduction in GHG emissions

¹⁹ Green500 list, June 2022. <https://www.top500.org/lists/green500/list/2022/06/>

²⁰ <https://lumi-supercomputer.eu/sustainable-future/>

- 50 percent reduction in water use²¹
- 14 percent reduction in waste generated (85 percent landfill diversion rate in 2021 for non-hazardous waste)

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

Energy and GHG Emissions

Within our operations, our large corporate campuses account for the greatest energy use and associated GHG emissions. In 2021, our corporate data center transitioned to a co-located facility operated by a third-party, which AMD selected in part because it uses 100 percent renewable energy. We continued to source renewable energy and implement energy conservation projects, such as equipment upgrades and optimizations.

After exceeding our 2014-2020 GHG goal for operations, we set a new science-based target (aligned with a 1.5°C scenario): a 50 percent reduction in GHG emissions from AMD operations (scope 1 and 2) by 2030 (2020 base year). In 2021, we achieved a 25 percent reduction in our scope 1 and 2 emissions compared to 2020. Our scope 1 and 2 GHG emissions have received external limited level assurance.

In February 2022, AMD acquired Xilinx. In our next annual CR Report, we will re-calculate base year 2020 emissions data for the combined company, as well 2021 data, for our operations environmental goal.

In 2021, we also reduced energy use by 13 percent compared to 2020. Although the majority of our employees worked remotely during most of 2021 due to COVID-19, many essential staff continued to work from our offices following local guidelines for business continuity, and therefore electricity was still required. Meanwhile, we continued to procure renewable energy: in 2021, we sourced 28 million KWh in renewable energy certificates (RECs) in the U.S. (Green-E certified wind) as well as China and India (iRECs wind), which represented 27 percent of our global energy use – enough to power approximately 3,820 homes in the U.S. for a year.²²

"EPA applauds AMD for its leadership position in the green power marketplace. AMD is an excellent example for other organizations in reducing greenhouse gas emissions through green power investment and use."

James Critchfield, Program Manager of EPA's Green Power Partnership

Water

In 2021, water use in our operations was 50 percent lower than in 2020. This large reduction was due to transferring our data center operations to a co-located facility (outside of AMD operational control), upgrading cooling units at our Markham, Ontario site and operating with a reduced onsite workforce during COVID-19. We continue to utilize rainwater harvesting and reuse gray water at facilities in Austin, Texas and Bengaluru and Hyderabad, India. In 2021, these sites harvested more than 13.75 million liters of rainwater, which is equivalent to over 100 percent of their combined annual water use.

²¹ 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.

²² EPA GHG Equivalencies Calculator - <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Waste and Effluents

We manage effluents and waste at AMD operations, including limited amounts of water discharge and hazardous waste. For example, the volume of wastewater measured at our Austin, Texas site (the only one that requires a wastewater permit) decreased by 31 percent in 2021 compared to 2020.

Our total amount of waste generated in 2021 was 455 metric tons – 7 percent below our 2020 total. The non-hazardous waste diversion rate, or the amount kept out of landfill, was 85 percent in 2021 – an improvement on 82 percent in 2020 and 62 percent in 2019. We generated less waste in 2021, in part due to COVID-19 and our more remote workforce. Moreover, the amount of waste sent to recycling far outweighed the amount sent to landfill, thereby improving the overall waste diversion rate. The amount of regulated hazardous waste generated, namely in product testing labs, remained minimal and relatively flat at 3.6 metric tons in 2021 compared to 3.0 in 2020.

[Learn how our employees are advancing environmental sustainability](#)

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. Our work together aims to outperform industry averages across EHS performance. Each quarter, we track our progress on aspects covering energy, GHG emissions, water, hazardous waste recycling and injury and illness rates.

Looking ahead to 2025, we continue to work with our wafer foundry suppliers on key performance indicators and goals. We also pursue public goals for all of our manufacturing suppliers, and annually track progress. By 2025, we aim for 100 percent of them to have their own public GHG reduction goal(s) and 80 percent to source renewable energy. We are on-track with 74 percent of our manufacturing suppliers having public GHG goals and 74 percent sourcing renewable energy in 2021.

2021 Survey of AMD Manufacturing Suppliers²³

²³ 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.

80 percent have third-party assurance of scope 1+2 GHG data
100 percent have ISO 14001 Environmental Management System certification
50 percent have ISO 50001 Energy Management Certification
90 percent have water reclamation processes in place

Energy and GHG Emissions

GHG emissions in our supply chain are primarily generated at silicon wafer manufacturing facilities directly through fuel use (scope 1) or indirectly through electricity consumption (scope 2). In 2021, these foundry partners reduced their scope 1 and 2 GHG emissions by ~2 percent compared to 2020, based on an AMD manufacturing index (MI).²⁴ We continue to work with our wafer manufacturing suppliers to outpace the industry average and reduce GHG emissions (scope 1 and 2) by 5 percent or more per MI by 2025, compared to 2020. More advanced technology nodes require more electricity, so our company's 2025 goal is to increase renewable energy use by these suppliers by 2x compared to 2020.

Water

The contracted wafer manufacturing stage is the point in our value chain at which the most water is used and the most effluents are generated. AMD works closely with our foundry wafer partners to understand water risks at the locations where AMD products are manufactured and to track and manage water use. In 2021, the foundries reduced water use by 21 percent from 2020, per AMD MI. Looking ahead to 2025, we are working with our wafer manufacturing suppliers to continue to surpass the industry average and to reduce water use by at least 5 percent or more per MI compared to 2020. More advanced technology nodes require more water use, so these suppliers are working to increase the capacity for water reclamation.

We continue to work with the majority of our manufacturing suppliers to promote water conservation, particularly with factories in high water risk regions,²⁵ where we expect suppliers to demonstrate water conservation and risk mitigation efforts.

Waste

We work closely with our wafer foundry suppliers to address the generation of waste in our supply chain. During 2021, our wafer manufacturing suppliers achieved an 88 percent hazardous waste recycling rate, an increase from 80 percent in 2020. AMD continues to work with these suppliers and other manufacturing suppliers to track and improve waste metrics, including material reuse and waste minimization and diversion programs.

Regional Spotlights

Advancing Environmental Sustainability in Greater China

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

²⁴ A manufacturing index is an industry-standard measure of production calculated by square centimeters of silicon x masking layers x wafers per year.

²⁵ Based on WRI Aqueduct tool: <https://www.wri.org/aqueduct>

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 products and technologies are also helping our customers and end-users advance their own sustainability goals. For example, in China, the [Tencent Cloud Star Ocean Aura Series Server AC221](#) features the latest third-generation AMD EPYC processors, with a 22 percent increase in air-cooling capacity and an 8 percent reduction in carbon emissions due to the compatibility of the liquid-cooled design. Adopting cloud services to replace self-built data centers can greatly reduce carbon emissions while meeting data needs. Cloud computing is forecasted to prevent more than 1 billion metric tons of carbon emissions from 2021-2024 due to higher server utilization rates, more efficient operations and more renewable energy sourcing.²⁶

Reducing the Environmental Impact of Our Operations in India

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, including by minimizing environmental impacts and energy use.

Product Energy Efficiency

Maximizing the computing performance delivered per watt of energy consumed is a vital aspect of our business strategy. Our products' cutting-edge chip architecture, design and power management features have resulted in significant energy efficiency gains, and we have the track record to prove it: we achieved a 31.7x increase in performance per watt for processors in mobile devices, for example, exceeding the AMD 25x20 Energy Efficiency goal (2014-2020).²⁷

²⁶ IDC, [Worldwide CO2 Emissions Savings from Cloud Computing Forecast, 2021–2024](#): A First-of-Its-Kind Projection, Doc #US47426420, March 2021

²⁷ 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

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.²⁸ An enterprise that upgrades 10,000 PCs from four-year-old Ryzen 2500U processors to new Ryzen 5800U processors would save approximately 272,000 kWh of electricity and 183 metric tons of CO₂e, equivalent to 3,187 tree seedlings grown for 10 years.²⁹

In the data center, AMD EPYC™ processors power the most energy-efficient x86 servers, delivering exceptional performance and reducing energy costs.³⁰ AMD EPYC technology drives energy efficiencies

²⁸ Based on measurements by AMD labs as of February 2022 of the AMD Ryzen 7 Pro 5800U against Energy Star 8.0 requirements. Results will vary. C2M-146

²⁹ Estimated KWh savings based on Energy Star measurements of Ryzen 2500U vs. Ryzen 5800U as measured in AMD lab. Estimates of CO₂ reduction and tree seedlings grown based on the EPA greenhouse gas equivalencies calculator <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>. Results may vary. C2M-147

³⁰ EPYC-028: 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. More information about SPEC® is available at <http://www.spec.org>. SPEC and SPECpower are registered trademarks of the Standard Performance Evaluation Corporation. Links to these 55 results are:

- 1 http://www.spec.org/power_ssj2008/results/res2020q4/power_ssj2008-20200918-01047.html
- 2 http://www.spec.org/power_ssj2008/results/res2020q4/power_ssj2008-20200918-01046.html
- 3 http://www.spec.org/power_ssj2008/results/res2021q2/power_ssj2008-20210324-01091.html
- 4 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200519-01031.html
- 5 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210309-01077.html
- 6 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01022.html
- 7 http://www.spec.org/power_ssj2008/results/res2021q2/power_ssj2008-20210408-01094.html
- 8 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200519-01034.html
- 9 http://www.spec.org/power_ssj2008/results/res2021q2/power_ssj2008-20210413-01095.html
- 10 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210309-01078.html
- 11 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200519-01032.html
- 12 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01023.html
- 13 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01025.html
- 14 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200519-01033.html
- 15 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01024.html
- 16 http://www.spec.org/power_ssj2008/results/res2021q4/power_ssj2008-20211001-01130.html
- 17 http://www.spec.org/power_ssj2008/results/res2021q2/power_ssj2008-20210602-01106.html
- 18 http://www.spec.org/power_ssj2008/results/res2021q2/power_ssj2008-20210602-01105.html
- 19 http://www.spec.org/power_ssj2008/results/res2020q3/power_ssj2008-20200714-01039.html
- 20 http://www.spec.org/power_ssj2008/results/res2020q1/power_ssj2008-20191125-01012.html
- 21 http://www.spec.org/power_ssj2008/results/res2021q2/power_ssj2008-20210615-01111.html
- 22 http://www.spec.org/power_ssj2008/results/res2020q3/power_ssj2008-20200714-01040.html
- 23 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200324-01021.html
- 24 http://www.spec.org/power_ssj2008/results/res2020q1/power_ssj2008-20191125-01011.html
- 25 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200313-01020.html
- 26 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200313-01019.html
- 27 http://www.spec.org/power_ssj2008/results/res2020q1/power_ssj2008-20200310-01018.html
- 28 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190717-00987.html
- 29 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190717-00988.html
- 30 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190909-01004.html
- 31 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190717-00986.html
- 32 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210221-01066.html
- 33 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190717-00990.html
- 34 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190717-00985.html
- 35 http://www.spec.org/power_ssj2008/results/res2020q3/power_ssj2008-20200728-01041.html
- 36 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210221-01063.html
- 37 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190716-00980.html
- 38 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210221-01064.html

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. For example, to deliver 1200 virtual machines, it takes an estimated 10 2P AMD EPYC™ 7713-powered servers or 15 2P Intel® Platinum 8380-based servers. The AMD solution takes an estimated 33 percent fewer servers, uses approximately 32 percent less power and provides estimated GHG emission savings of about 70 metric tons of CO₂e, equivalent to the carbon sequestration of 28 acres of forest in the United States.³¹

39 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210221-01065.html
 40 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190716-00982.html
 41 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210223-01073.html
 42 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01029.html
 43 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01028.html
 44 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190716-00981.html
 45 http://www.spec.org/power_ssj2008/results/res2019q4/power_ssj2008-20191203-01015.html
 46 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210222-01068.html
 47 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01026.html
 48 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210223-01074.html
 49 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190911-01005.html
 50 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210222-01069.html
 51 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190730-00994.html
 52 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210222-01071.html
 53 http://www.spec.org/power_ssj2008/results/res2020q2/power_ssj2008-20200407-01027.html
 54 http://www.spec.org/power_ssj2008/results/res2019q3/power_ssj2008-20190717-00984.html
 55 http://www.spec.org/power_ssj2008/results/res2021q1/power_ssj2008-20210222-01072.html

³¹ MLNTOCO-021: This scenario contains many assumptions and estimates and, while based on AMD internal research and best approximations, should be considered an example for information purposes only, and not used as a basis for decision making over actual testing. The AMD EPYC™ SERVER VIRTUALIZATION and GREENHOUSE GAS EMISSIONS TCO ESTIMATION TOOL tool compares the 2P AMD EPYC™ and the 2P Intel® Xeon® server solutions required to deliver 1200 total virtual machines (VM), requiring 1 core and 8GB of memory per VM. The analysis includes both hardware and virtualization software components. Hardware costs (CPU + memory + storage + chassis): The 2P AMD 64 core EPYC_7713 processor used in this solution analysis provides 128 total cores per server, each processor cost \$7060 and the server uses 32 x 32GB DIMMs to achieve the minimum required memory footprint, in a 1RU server chassis that cost \$2200, and requires 1 server racks. The AMD solution has a total estimated hardware acquisition cost of \$217880. The 40 core Intel Xeon Platinum_8380 processor used in this solution analysis provides 80 total cores per server. Each processor cost \$8666 and the server uses 16 x 64GB DIMMs to achieve the minimum required memory footprint, in a 2RU server chassis that cost \$2500 and requires 2 server racks. The Intel solution has a total estimated hardware acquisition cost of \$390060.

OPERATING COSTS: The core assumptions for this analysis are as follows: Cost of power @ \$0.12 with kwatts (kW) of power to each rack and a PUE (power usage effectiveness) of 1.7 and a server rack size of 42RU. Each server has 1 hard drives drawing 3 watts each. Server Admin annual salary is \$85000 managing 30 physical servers with a salary burden rate of 30 percent. The VM Admin salary is \$85000, with a burden rate of 30percent and managing 400 VMs.

AMD has estimated OpEx costs as follows: a hardware admin cost of \$110500, a real estate cost of \$19440, and a power cost of \$40208.4, for a total estimated 3 year TCO cost (hardware cost and operating expense) of \$388028 with AMD. Estimated OpEx costs for Intel are: hardware admin cost of \$165750, real estate cost of \$38880, and power cost of \$58704.

HARDWARE TCO: This is the CapEx and OpEx directly associated with the hardware. The AMD EPYC_7713 solution requires 10 - 2P servers with a CapEx of \$217880 with a total estimated 3-year TCO cost (CapEx plus OpEx) of \$388028. The Intel Platinum_8380 processor requires 15 - 2P servers with a CapEx of \$390060 with a total estimated 3-year TCO cost (CapEx plus OpEx) of \$653394. The AMD solution has an estimated 41 percent lower hardware TCO for this virtualization solution, $1 - (\$388028 \div \$653394) = 41$ percent, than the Intel solution.

VIRTUALIZATION TCO: Analysis is based on the following estimates: 3 year Virtualization (hardware, operating, and software

Energy efficiency is paramount when it comes to supercomputing, which is the concentration of processing power across multiple, parallel computers. The [Green500 list](#) ranks the most energy-efficient supercomputers in the world. The June 2022 update showed AMD EPYC processors and AMD Instinct accelerators power the most efficient supercomputers in the world, including four of the top five, eight of the top ten, and 17 of the top 20 most efficient. The Frontier test and development system (TDS) supercomputer secured the top spot in the Green500 June 2022 update based on optimized 3rd generation AMD EPYC processors and AMD Instinct MI250x accelerators.

cost) for the Intel solution is \$2005974 and \$1621248 for the AMD solution. This means that the AMD solution is ~19% less expensive over three years. $1 - (\$1621248 \div \$2005974) = 19$ percent. The EPYC solution 1st year TCO is \$844816 and the Intel 1st year TCO is \$1167418. The AMD solution 1st year TCO per VM of \$704.01 where the Intel 1st yr. solution is \$972.85. The AMD 1st year TCO per VM is \$268.83, or ~28 percent lower than Intel. The 1st year TCO per VM is calculated by taking the 1-year TCO (hardware, software, and 1st year OpEx) and dividing it by the total number of VMs. The virtualization software used in this analysis is VMware with a VMware® vSphere Enterprise Plus w/ Production support license. This analysis uses license pricing of \$5968 per Socket + Core with 3 year support. More information on VMware software can be found @ <https://store-us.vmware.com/vmware-vsphere-enterprise-plus-284281000.html>.

For 1200 VMs with 1 core(s) per VM, and 8 GB of memory per VM, the Intel Platinum_8380 processor requires 15 servers, and 60 licenses. The AMD EPYC_7713 solution requires 10 servers and 40 licenses. The AMD solution requires 33 percent fewer servers than the Intel solution.

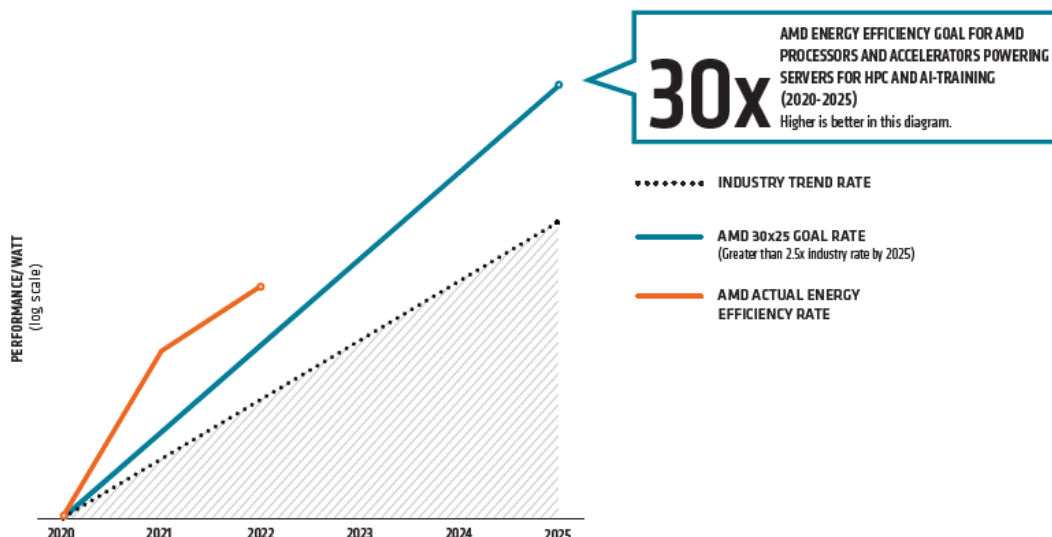
The AMD server and virtualization software license cost are \$456600, and the Intel cost are \$748140. Hardware and virtualization cost are ~\$291540 or ~39 percent Lower w/ AMD.

AMD EPYC_7713 powered servers save ~154132.2kWh of electricity for the 3 years of this analysis. Leveraging this data, using the Country / Region specific electricity factors from the '2020 Grid Electricity Emissions Factors v1.4 – September 2020', and the United States Environmental Protection Agency 'Greenhouse Gas Equivalencies Calculator', the AMD EPYC powered server saves ~69.86 Metric Tons of CO2 equivalents. This results in the following estimated savings based on United States data, Greenhouse Gas Emissions Avoided of one of the following:

- 15 USA Passenger Cars Not Driven for 1 year; or;
- 5 USA Passenger Cars Not Driven Annually; or;
- 173382 Miles Driven by Avg Passenger Car; or;
- or CO2 Emissions Avoided from:
- 7894 Gallons of Gasoline Not Used; or;
- 77261 Pounds of Coal Not Burned in USA; or;
- 9 USA Homes' Electricity Use for 1 year; or;
- 3 USA Homes' Electricity Use Annually; or;
- or Carbon Sequestered equivalent to:
- 1153 Tree Seedlings Grown for 10 years in USA; or;
- 84 Acres of USA Forests in 1 year; or;
- 27.94 Acres of USA Forests Annually.

The 2020 Grid Electricity Emissions Factors v1.4 – September 2020 data used in this analysis can be found at https://www.carbonfootprint.com/docs/2020_09_emissions_factors_sources_for_2020_electricity_v14.pdf and the US EPA Greenhouse Gas Equivalencies Calculator used in this analysis can be found at <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Virtualization software pricing sourced online as of 09/14/2021. Third party names are for informational purposes only and may be trademarks of their respective owners. All pricing is in USD. AMD CPU pricing based on 1KU price as of January 2022. Intel® Xeon® Scalable CPU data and pricing from <https://ark.intel.com> as of January 2022. All pricing is in USD. Results generated by: AMD EPYC™ SERVER VIRTUALIZATION and GREENHOUSE GAS EMISSIONS TCO ESTIMATION TOOL - v10.13



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. In 2021, AMD achieved a 3.9x increase. Nearly midway through 2022, we are on track toward achieving our goal, having reached 6.8x improvement in energy efficiency compared to 2020 using an accelerated compute node powered by one 3rd generation AMD EPYC CPU and four AMD Instinct MI250x GPUs. Our goal utilizes a measurement methodology validated by renowned compute energy efficiency researcher and author, Dr. Jonathan Koomey.

“The energy efficiency goal set by AMD for accelerated compute nodes used for AI training and High-Performance Computing fully reflects modern workloads, representative operating behaviors and accurate benchmarking methodology.”

Dr. Jonathan Koomey, President, Koomey Analytics

[Read about our Energy Efficiency Goal and data center sustainability efforts](#)

Reducing Hazardous Substances

AMD is committed to complying with international laws and regulations, and we also recognize the need to restrict the use of hazardous substances in semiconductor products. That is why AMD works with customers, suppliers and industry groups to implement chemicals management and to address industry standards targeting lead and other chemicals of concern in electronic products.

For more information, please visit our [Product Environmental Compliance](#) page.

Product Packaging

Packaging materials are used for the shipping and handling of our products – both processors in a box (PIBs) and graphics cards. AMD specifies the packaging materials used, including the recyclability of materials and the use of recycled content. We offer packaging that meets the amended requirements of the EU Packaging Directive (94/62/EC).

Smaller packaging conserves natural resources and reduces shipping fuel use and emissions per unit. In 2021, we continued to reduce the size of our packaging for select Ryzen PIBs by an average of 50 percent compared to the previous generation.³² And by May 2021, we reduced the size of our packaging for Radeon PRO (W6800) graphics cards by up to 59 percent compared to the previous generation (W5700).³³ All our packaging in 2021 was made of recyclable materials, such as paperboard. Our packaging designers continuously seek out environmentally preferable packing materials, including recycled materials and non-toxic dyes.

Lifecycle Management

By engineering our products for longer life, minimizing the number of devices potentially needed in the first place and, in some cases, making them backward compatible with our customers' existing systems, we can help make better use of our planet's limited natural resources.

AMD EPYC processors are designed to meet application performance demands with fewer servers, resulting in less electricity use and GHG emissions for IT infrastructure as well as for cooling data centers, while avoiding added raw materials that need to be extracted, shipped, manufactured and disposed. For example, to deliver 10,000 units of integer performance, a 2P AMD EPYC 7763-powered server takes an estimated 29 percent fewer servers, 29 percent less power, and has up to 30 percent lower 3-year total cost of ownership (TCO) than a 2P-based Intel Xeon Platinum 8380.³⁴

³² PIB reduction based on transitioning from Full SR1 Ryzen CUBE to ½ sized SR1 PIB Boxes - 134 mm (H) x 134 mm(W) x 134 mm(L) to 134 mm(H) x 69 mm(W) x 134 mm(L)

³³ Calculations conducted by AMD as of May 2021 on the double slot, full height Radeon PRO W6800 and comparable previous generation Radeon PRO W5700 retail boxes.

³⁴ MLNTO-020: This scenario contains many assumptions and estimates and, while based on AMD internal research and best approximations, should be considered an example for information purposes only, and not used as a basis for decision making over actual testing. The Bare Metal Server Greenhouse Gas Emissions TCO (total cost of ownership) Estimator Tool compares the selected AMD EPYC™ and Intel® Xeon® CPU based server solutions required to deliver a TOTAL_PERFORMANCE of 10000 units of integer performance based on the published scores for Intel Xeon and AMD EPYC CPU based servers. This estimation reflects a 3-year time frame. This analysis compares a 2P AMD EPYC 7763 powered server with a SPECrate®2017_int_base score of 861, <https://spec.org/cpu2017/results/res2021q4/cpu2017-20211121-30148.pdf>; compared to a 2P Intel Xeon Platinum_8380 based server with a SPECrate®2017_int_base score of 602, <https://spec.org/cpu2017/results/res2021q2/cpu2017-20210521-26364.pdf>.

Both AMD EPYC and Intel based servers use the same cost for the following elements of the analysis: server chassis size of 2RU at a cost of \$2500 per chassis; internal storage \$380; physical servers managed per admin: 30; fully burdened cost per admin \$110500; server rack size of 42; space allowance per rack of 27 sq feet; monthly cost of data center space \$20 per sq foot; cost per kW for power \$0.12; power drop per rack of 8kW; and a PUE (power usage effectiveness) of 1.7.

The EPYC powered solution is estimated to take: 12 total 2P EPYC_7763 powered servers at a hardware only acquisition cost of \$23748 per server, which includes \$7890 per CPU, total system memory of 1024GB, which is 8GB of memory / core and a total system memory cost of \$5088; internal storage cost of \$380. The total estimated AMD EPYC hardware acquisition cost for this solution is \$284976. Each server draws ~755.1412kWhr per month. For the 3 years of this EPYC powered solution analysis the: total solution power cost is ~\$66548.88 which includes the PUE factor; the total admin cost is ~\$132600, and the total real estate cost is ~\$38880, using 2 racks. The total 3 TCO estimate for the AMD solution is \$523004.88.

The Intel based solution is estimated to take 17 total 2P Platinum_8380 powered servers at a hardware only acquisition cost of \$24206 per server, which includes \$8099 per CPU, total system memory of 1024GB, which is 12.8GB of memory / core and a total system memory cost of \$5088; internal storage cost of \$380. The total estimated Intel hardware acquisition cost for this solution is \$411502. Each server draws ~751.4912kWhr per month. For the 3 years of this Intel based solution analysis the: total solution power cost is ~\$93822.048 which includes the PUE factor; the total admin cost is ~\$187851, and the total

In many cases, AMD powered server and desktop CPU sockets are backwards compatible with the previous generation processor, meaning the CPU can be upgraded using the existing motherboard. As a result, processing power can be increased without the cost or environmental impact of replacing other components like memory and hard drive. In 2021, the AMD IT department upgraded AMD 2nd generation EPYC processors with AMD 3rd generation EPYC processors to benefit from the increase in performance without increasing power consumption.

INNOVATING ON COLLABORATIVE SOLUTIONS

AMD collaborates with enterprises, governments, researchers and others to help them put our technology to work solving some of the world's most pressing environmental challenges.

real estate cost is ~\$58320 using 3 racks. The total 3 TCO estimate for the Intel solution is \$751495.048. AMD EPYC powered servers have a \$228490 lower 3-year TCO.

Delivering 10000 estimated score of SPECrate®2017_int_base performance produces the following estimated results: the AMD EPYC solution requires 29 percent fewer servers [1-(AMD server count / Intel server count)]; 33 percent less space [1-(AMD rack count / Intel rack count)]; 29 percent less power [1-(AMD power cost / Intel power cost)]; providing a 30 percent lower 3-year TCO [1-(AMD TCO / Intel TCO)]. delivering ~98 or ~1 percent Better w/ AMD SPECrate®2017_int_base solution score

AMD EPYC_7763 powered servers save ~227276.4kWh of electricity for the 3 years of this analysis. Leveraging this data, using the Country / Region specific electricity factors from the '2020 Grid Electricity Emissions Factors v1.4 – September 2020', and the United States Environmental Protection Agency 'Greenhouse Gas Equivalencies Calculator', the AMD EPYC powered server saves ~103.01 Metric Tons of CO2 equivalents. This results in the following estimated savings based on United States data,

Emissions Avoided equivalent to one of the following:

- 22 USA Passenger Cars Not Driven for 1 year; or
- 7.45 USA Passenger Cars Not Driven Annually; or
- 11640 Gallons of Gasoline Not Used; or

Carbon Sequestered equivalent to:

- 1700 Tree Seedlings Grown for 10 years in USA; or
- 41.2 Acres of USA Forests Annually.

The 2020 Grid Electricity Emissions Factors v1.4 – September 2020 data used in this analysis can be found at https://www.carbonfootprint.com/docs/2020_09_emissions_factors_sources_for_2020_electricity_v14.pdf and the US EPA Greenhouse Gas Equivalencies Calculator used in this analysis can be found at <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

AMD processor pricing based on 1KU price as of Sept 2021. Intel® Xeon® Scalable Gen 1 and Gen 2 CPU data and pricing from <https://ark.intel.com> as of September 2021. Intel Xeon Gen3 Scalable Ice Lake pricing and data from <https://newsroom.intel.com/wp-content/uploads/sites/11/2021/05/3rd-Gen-Intel-Xeon-Scalable-Processor-SKU-Stack-with-RCP.pdf> on 09/01/2021. All pricing is in USD.

SPECrate® scores as of Jan 14, 2022. SPEC®, SPECrate® and SPEC CPU® are registered trademarks of the Standard Performance Evaluation Corporation. See www.spec.org for more information. AMD EPYC performance numbers based on the identified benchmark reported scores or the user provided score where indicated. Product and company names are for informational purposes only and may be trademarks of their respective owners. Results generated by: AMD EPYC™ BARE METAL SERVER and GREENHOUSE GAS EMISSIONS TCO ESTIMATION TOOL; VERSION 4.2

Renewable Energy

For over a decade, AMD Embedded solutions have been used in wind turbines to help optimize the production of clean energy. 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.

Communications

As data consumption continues to grow rapidly, driven by technologies such as streaming services and 5G broadband connectivity, AMD processors are helping meet demand while reducing power consumption. For example, [Ateme](#) 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. On broadband infrastructure where data consumption is growing by 30 percent per year, [Casa Systems](#) was able to break the record for throughput by using 3rd generation AMD EPYC to achieve their goal of industry-leading performance and carbon footprint reduction from 5G networks.

Cloud Computing

AMD server processors are also helping to advance the adoption of cloud computing, which is forecast to prevent emissions of more than 1 billion metric tons of CO₂ from 2021-2024.³⁵ AMD EPYC processors are used to power cloud instances ranging from big data analytics to virtual desktops. As more enterprises move their computing applications from on-premises data centers to cloud-based data centers, server utilization rates increase, energy is used more efficiently, and the source of energy can often be renewable.

Climate Research

While enabling solutions to reduce energy and carbon emissions, AMD also aims to help researchers better understand the interrelated forces contributing to climate change and develop solutions to help mitigate the impacts. By analyzing massive and complex data sets, scientists can get insights into the causes of climate change and even predict the impacts of extreme weather to help save lives. For example, two of the AMD-powered [Top 500 Supercomputers](#) (June 2022) - the Meteo France supercomputer and the LUMI supercomputer in Finland - are used for weather and climate research.

Eco-Labels

AMD works closely with Original Equipment Manufacturers (OEMs) during product design and after product launch to increase the proportion of products meeting various eco-labels. As government agencies around the world look to incorporate sustainability requirements into their IT buying decisions, they utilize standards such as ENERGY STAR, EPEAT, TCO and others into their public procurement

³⁵ IDC, [Worldwide CO2 Emissions Savings from Cloud Computing Forecast, 2021–2024](#): A First-of-Its-Kind Projection, Doc #US47426420, March 2021

tenders. Most eco-labels and certifications are evaluated at the system-level, (i.e., a computer or server), but the processor can play an important role in how well a system scores on a given standard.

For example, AMD works with our customers to improve ENERGY STAR ratings by optimizing processor energy efficiency as measured at the system-level, in conjunction with other components and peripheral devices. EPEAT-registered products include environmental criteria such as supply chain greenhouse gas reductions, materials selection and environmental management system (EMS) certification.

Supply Chain Responsibility

Why It Matters

With an estimated 76 percent of global trade passing through them, supply chains continue to be one of the most important levers for businesses to create a positive impact in the world.³⁶ By working together, companies and their suppliers can make a significant impact on advancing human rights, fair labor practices and environmental progress.

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.

Our [value chain](#) starts with the design process. Our wafer foundry suppliers source raw materials and create a silicon wafer. The wafer is fabricated into chips, assembled into a package, tested and shipped as a semiconductor ready to be used by our customers. The majority

³⁶ <https://www.trade.gov/supply-chain-services>

– approximately 61 percent – of our supplier spend is with foundries that supply these wafers. Another 26 percent of our spend is with factories that manufacture a range of inputs needed to create our products. This concentration of supplier spend allows us to take a long-term approach with key suppliers, which is paramount to our success.



In our Supply Chain Responsibility Supplier Guide, we share with our manufacturing suppliers our expectations and available resources. Our standard contractual terms and conditions for the procurement of goods and services require conformance to applicable laws and regulations, and we reinforce our expectations regarding responsible social, ethical and environmental conduct. Training is made available to suppliers through the Responsible Business Alliance (RBA)'s e-Learning Academy. Topics cover social and environmental issues and are assigned to suppliers based on identified knowledge gaps. AMD primary manufacturing suppliers include GlobalFoundries, Micron, Samsung Electronics, SPIL, SK Hynix, TF-AMD and TSMC.

Goals and Progress

We are expanding our work with suppliers to drive a positive impact for the people who work across our value chain and the planet which we all share. Our goals include:

100 percent

of AMD supplier manufacturing⁴ 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 companies also chose to train workers on their internal policies, rights and access to factory complaint channels. Combined, their 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.



AMD adopts the RBA Code of Conduct as our [Supplier Code of Conduct](#) (“The Code”). The Code is aligned with international norms and standards including the Universal Declaration of Human Rights, ILO International Labour Standards and the OECD Guidelines for Multinational Enterprises. It outlines our standards for labor, health and safety, environment, ethics and management systems. The AMD [Worldwide Standards of Business Conduct](#) outlines our expectations for our ethical conduct and these standards extend to our business partners. We further expect that each supplier will, in turn, communicate to their suppliers the same expectations and implement reasonable mechanisms to monitor their compliance.

[Read our RBA commitment letter](#)

[How We Engage With Industry Groups](#)

Risk Assessment

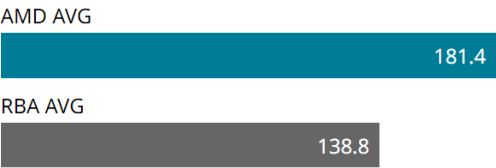
At AMD, we take a risk-based approach to managing our supply chain. We utilize third-party risk analytics to conduct an overall supply chain risk analysis. Through our annual analysis, we gain deeper insights into inherent geographical risks in our supply chain on labor, health and safety, environment, business ethics and management systems. We use the results of the analysis to assign risk assessment tools and prioritize suppliers within our audit program.

In 2021, 99 percent of our manufacturing suppliers submitted the RBA supplier self-assessment questionnaire (SAQ). The score is an additional input used to assign a risk level to the supplier.

Supplier Audits

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.

AMD Average RBA VAP Score Compared to the Industry Average (2021)



In 2021, 43 audits took place across Germany, Greater China, Japan, Malaysia, the Philippines, Singapore, South Korea, Thailand and the United States.³⁷ The average initial RBA initial Validated Assessment Program (VAP) audit score for AMD suppliers in 2020-2021 was 26 percent better than the overall RBA average over the same time period.

[See our Supplier Audit Summary Results](#)

Remediation

We track audit findings, including nonconformances, from the release of the audit report through closure. As warranted, suppliers are required to create a Corrective Action Plan (CAP) and submit it to AMD per the deadlines and requirements informed by the RBA VAP Protocol, including onsite third-party closure audits. When priority nonconformances are found, AMD contacts the supplier and requests details on the actions the site is implementing to immediately address the nonconformance (NC) prior to creating the longer-term CAP. Depending on the severity of the issue, discussions may be elevated for a more in-depth conversation between company executives. Regardless, if a supplier is not following the RBA CAP closure timeline, AMD executives will be informed for appropriate action.

Accountability

We use supplier scorecards to hold suppliers accountable for their performance against AMD supply chain responsibility expectations. AMD employees from the Procurement and Corporate Responsibility teams participate in supplier business reviews which include a discussion on the scorecard. Performance metrics include:

- Social and environmental commitment and management
- RBA audit performance
- Timely closure of nonconformance, if any
- Environmental management and performance

In 2021, 100 percent of AMD Sourcing Managers completed an updated training on supply chain responsibility which included training on forced labor risks in the supply chain and best practices in supplier performance incentives.

³⁷ Data reflects initial and closure audits in the AMD supply chain that took place in the 2021 calendar year up to December 31, 2021.

Respecting Human Rights

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.



In 2021, we updated our Human Rights Policy to reflect our commitment to the UNGPs. This policy extends to our supply chain and the AMD Supplier Code of Conduct further incorporates human rights requirements expressed in international norms and standards. 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.

In 2022, AMD acquired Xilinx. As a result, new suppliers are being incorporated into the AMD Supply Chain Responsibility Program, and we continue to take steps to further operationalize our Human Rights Policy.

Read our [Human Rights Policy](#).

Assessing Impact and Opportunities

The AMD Corporate Responsibility and Procurement teams are responsible for establishing and coordinating the policies, programs and processes governing our approach to human rights. In our most recent [materiality assessment](#), we identified salient human rights risks, including forced labor and child labor in the supply chain. Our efforts to identify human rights risks and impacts, if they occur, include a thoughtful selection of AMD suppliers and due diligence within our supply chain. Through assessments of manufacturing suppliers, we have identified working hours and health and safety as salient human rights risks.

Unfortunately, in the electronics supply chain, some workers are at risk of conditions that contribute to forced labor including recruitment fees, unethical recruitment practices and a lack of transparency about their actual working conditions. Migrants and other vulnerable workers are particularly at risk. We require suppliers to commit to freely chosen employment and monitor risks that could lead to forced labor conditions. Our Supplier Code of Conduct includes a standard on freely chosen labor, including prohibiting workers from paying recruitment fees. Supply chain due diligence is an ongoing process. We continuously work toward preventing, detecting and remediating forced labor, if found in our supply chain.

[See Our Supplier Summary Audit Results](#)

[Read our Statement on Human Trafficking and Forced Labor](#)

Stakeholder Engagement

Stakeholder expectations related to the supply chain continue to evolve. One example is the convergence of human rights and product compliance. We believe collective action drives greater impact than one company acting alone. For this reason, multi-stakeholder partnerships are an important aspect of managing our supply chain responsibility.

AMD is a regular member of the [Responsible Labor Initiative \(RLI\)](#), an initiative of the RBA. Through our membership, we partner with industry and stakeholders to harmonize a cross-industry approach to address the root cause of forced labor and accelerate change.

We also work with our suppliers and our industry through the [Responsible Mineral Initiative \(RMI\)](#) to ensure the responsible sourcing of raw minerals, focusing on those from Conflict-Affected and High-Risk Areas. The RMI is a central actor that helps members advance responsible mineral sourcing by promoting common tools, assessments and training for the electronics industry and beyond. We encourage our suppliers to utilize RMI tools and best practices to ensure industry alignment across the value chain.

We continuously seek opportunities to align with best practices in how we operate and collaborate with our suppliers to respect and uphold human rights through our supply chain.

Environmental Sustainability in Our Supply Chain

We are steadfast in our commitment to environmental sustainability, and that includes working with our manufacturing suppliers to evaluate and continuously improve performance. Given the amount of energy and water needed in the wafer fabricating process, silicon wafer manufacturing represents the bulk of our environmental footprint in our supply chain. We have set 2025 performance metrics for our wafer foundry suppliers, and track progress each quarter. In addition, we track water use, energy use, greenhouse gas emissions and waste across 89 percent (by spend) of our manufacturing suppliers.

[See our Supply Chain Goals and Initiatives](#)

Supplier Spotlight

TSMC Advances Environmental and Social 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 2030³⁸ as well as save 1.1 billion kWh of electricity and 28 million tons of water.³⁹ 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).⁴⁰

TSMC is also committed to advancing social issues, including diversity and inclusion. TSMC enables its 60,000+ employees to thrive through initiatives to diversify communication channels, expand learning resources and promote career development. In 2021, TSMC launched the TSMC Global Employee-Engagement Survey to gauge overall employee sentiment. With a response rate of 93 percent, the results indicated employees recognized the company's continuous pursuit of organizational effectiveness and provided areas of improvement, including management training on supporting employees to unleash their potential.⁴¹

Health and Safety for Workers in our Supply Chain

We value the health and safety of workers in our supply chain. With our two primary wafer foundry suppliers, we aim to see a year-over-year reduction of the cumulative reportable injury and illness case rate. In 2021, the rate decreased by 50 percent compared to 2020. Extending to our other manufacturing suppliers, we utilize RBA audits to identify health and safety code violations, which most often relate to emergency preparedness.

See our [Supplier Audit Summary Results](#)

Responsible Minerals Sourcing

AMD is committed to the responsible sourcing of minerals used in our products and expects our suppliers to conduct business in accordance with the [AMD Worldwide Standards of Business Conduct](#) and [Supplier Code of Conduct](#).

Tin, tantalum, tungsten and gold (3TG), commonly referred to as conflict minerals, 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. This includes the funding of violent groups associated with committing human rights abuses.

Our 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 partners, we

³⁸ <https://www.bloomberg.com/news/articles/2021-12-08/tsmc-leads-rush-for-renewables-ahead-of-taiwan-energy-vote>

³⁹ <https://esg.tsmc.com/en/update/greenManufacturing/caseStudy/56/index.html>

⁴⁰ <https://esg.tsmc.com/en/update/greenManufacturing/caseStudy/47/index.html>

⁴¹ <https://esg.tsmc.com/en/update/inclusiveWorkplace/caseStudy/29/index.html>

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 have prioritized minerals for additional due diligence.

Multi-stakeholder Collaboration

As part of our approach to responsible sourcing, we support the enablement of ethical, social and environmental sourcing through ongoing multi-stakeholder programs and dialogue.



AMD has been a member of the [Responsible Minerals Initiative](#) (RMI) since it was founded in 2008. Through RMI, we connect with industry members, governments, non-profits and other stakeholders to contribute to mitigate the salient social and environmental impacts of the extraction and processing of minerals used in supply chains. The RMI is a central actor that helps members advance responsible mineral sourcing by creating common tools, assessments and training for the electronics industry and beyond. We encourage our supply chain to utilize RMI tools and best practices to ensure industry alignment across the value chain.

Our Approach

Our approach is based on the five steps of the Organization for Economic Cooperation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD Guidance). These steps include:

1. Establishing strong management systems: Our [Worldwide Standards of Business Conduct](#), Supplier Code of Conduct, [Human Rights Policy](#) and [Responsible Minerals Policy](#) (previously referred to as [Conflict Minerals Policy](#)) govern responsible mineral sourcing initiatives at AMD. These policies are aligned with international frameworks, such as the Universal Declaration of Human Rights, International Labour Organization standards and OECD Guidelines for Multinational Enterprises.
2. Identifying and assessing risks: Transparency is critical to a responsible, resilient supply chain. Each year, AMD works with our suppliers to identify the relevant smelters and refiners within our supply chain utilizing the RMI's reporting templates, such as the Conflict Minerals Reporting Template (CMRT). We compare those smelters and refiners to the list of facilities that conform to RMI's [Responsible Minerals Assurance Process](#) (RMAP). This information is used to identify potential risks associated with our mineral supply chain.
3. Managing risks: Tracing materials to the point of extraction is a complex challenge. We leverage our participation in RMI to encourage smelters or refiners to participate in RMAP to ensure responsible parties conduct due diligence on materials purchased from mining companies or mineral traders and implement corrective actions to comply with industry standards. Disengaging with a supplier can have unintended economic and humanitarian consequences for local communities. AMD has strong partnerships with our suppliers – we work together to




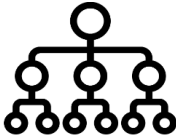
assess the impacts of disengaging from raw material sources that do not meet industry and AMD requirements. It is our goal to support improvement, not disengagement.

4. Assessments: Through RMI, AMD supports independent third-party assessments of smelters' and refiners' management systems and sourcing practices that are validated to conform to industry standards such as [RMAP standards](#).
5. Reporting: We publish an annual [Conflict Minerals Report](#) that details our mineral sourcing due diligence initiative.

Our Progress

In 2021, our progress centered around continuous improvement. We worked to enhance existing processes to maintain our commitment to AMD customers and promote industry standards for responsible sourcing. Our program will remain focused on mitigating social and environmental risks associated with the raw materials supply chain of AMD products. We have expanded our program beyond 3TG and cobalt, and we continue to identify opportunities to work proactively to map our supply chain and prioritize risk mitigation actions.

2021 Activities

			
Industry Alignment	Supplier Expectations	Risk Mitigation	Business Systems
Utilized RMI tools such as the CMRT and Cobalt Reporting Template (CRT) Participated in RMI workgroups	100 percent of AMD manufacturing suppliers submitted a CMRT	100 percent of smelters or refiners in our supply chain participated in RMAP	Embedded responsible sourcing into the supplier selection process Used in-house tools for risk identification Provided training to AMD procurement team

AMD Supplier Code of Conduct

We have adopted the [Responsible Business Alliance \(RBA\) Code of Conduct](#) as the AMD Supplier Code of Conduct. The Code of Conduct is a set of social, environmental and ethical industry standards encompassing many frameworks, such as the Universal Declaration of Human Rights, International Labour Organization standards, OECD Guidelines for Multinational Enterprises and ISO and social accountability standards.

We believe this industry-wide standard is an efficient and effective way to integrate social, environmental and ethical responsibilities into our supply chain. The RBA Code is reviewed and updated every three years by RBA members and stakeholders to ensure its applicability to international norms and relevant supply chain issues.

AMD expects our suppliers, as well as ourselves, to operate in accordance with the Code of Conduct and its expectations and requirements, which span labor, health and safety, environment, ethics and management systems.

Elements of the RBA Code:

Labor

- Freely chosen employment
- Young workers
- Working hours
- Wages and benefits
- Humane treatment
- Non-discrimination/Non-harassment
- Freedom of association

Health and Safety

- Occupational safety
- Emergency preparedness
- Occupational injury and illness
- Industrial hygiene
- Physically demanding work
- Machine safeguarding
- Sanitation, food and housing
- Health and safety communication

Environment

- Environmental permits and reporting
- Pollution prevention and resource reduction
- Hazardous substances
- Solid waste
- Air emissions
- Materials restrictions
- Water management
- Energy consumption and greenhouse gas emissions

Ethics

- Business integrity
- No improper advantage
- Disclosure of information
- Intellectual property
- Fair business, advertising and competition
- Protection of identity and non-retaliation
- Responsible sourcing of minerals
- Privacy

Management Systems

- Company commitment
- Management accountability and responsibility
- Legal and customer requirements
- Risk assessment and risk management
- Improvement objectives
- Training
- Communication
- Worker feedback, participation and grievance
- Audits and assessments
- Corrective action process
- Documentation and records
- Supplier responsibility

Read about the [Responsible Business Alliance](#)

Supplier Audit Summary Results

Overview

AMD manufacturing suppliers and some sub-tier suppliers are audited to verify compliance with the [AMD Supplier Code of Conduct](#). In 2021, we saw an increase in the number of audits compared to 2020. This increase was due to the easing of COVID-19 pandemic restrictions allowing more in person interaction, making it possible for the audits to take place. With this increase in audits, there was a proportional increase in the overall identification of nonconformances (NCs) or “findings.” We are using this data to inform the types of capacity building initiatives we are offering to our suppliers.

The average initial RBA initial Validated Assessment Program (VAP) audit score for AMD suppliers in 2020-2021 was 26 percent better than the overall RBA average over the same time period.

In 2021, 32 initial VAP audits were conducted at manufacturing supplier and sub-tier supplier factories in the AMD supply chain. The majority of audits took place in the region where we have the highest number of suppliers, Greater China. Additionally, 81 percent of AMD supplier manufacturing factories were eligible for the [VAP Recognition Program](#), which means the RBA recognized them for their

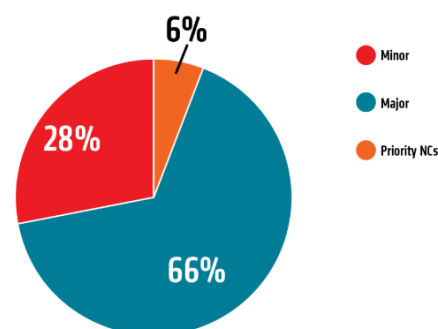
commitment to social and environmental responsibility.⁴² At the end of 2021, the top 70 percent of all suppliers in our supply chain, by spend, have the highest level of VAP recognition status. AMD wafer suppliers continue to score the highest audit score possible: 200. Additionally, workers in AMD supply chain score a 60.1 on RBA's Quality of Life Metric⁴³ compared to the industry average of 49.9. This metric is based on three indicators: availability of money (having more than is needed to pay their bills), time (to focus on things they enjoy) and good health (in order to enjoy the time and money). The score is calculated by isolating questions in the VAP audits that measured these three indicators.

The average number of VAP audit findings in the electronics industry is 8.6 per audit. AMD suppliers' average number of findings in 2021 was 2.7. The VAP audit categorizes NCs or findings by severity, as "Minor," "Major" or "Priority." Of all NCs in our supply chain in 2021, six Priority NCs were identified (up from two in 2020), representing 6 percent of all NCs during this time frame.

In 2021, 66 percent of all NCs in our supply chain were classified as Major NCs. All affected suppliers were required to complete a corrective action plan for the identified issues. Major NCs⁴⁴ included:

- Working hours
- Freely chosen employment
- Occupational safety
- Emergency preparedness
- Wages and benefits
- Supplier responsibility
- Food, sanitation and housing

Percentage of Nonconformances by Rating (2021)



Across the five sections of the VAP, labor (specifically working hours) represented the highest number findings. This corresponds with VAPs across the electronics industry. In 2020, RBA analyzed the number of working hours comparing RBA-member and non-member factories. The analysis concluded that on average, workers in RBA member facilities work four fewer hours per week than their counterparts in non-member facilities.⁴⁵

Remediation

All three categories have specified periods during which the facility in question must remedy the findings and implement systems to prevent reoccurrences. As part of the corrective action plan (CAP) process suppliers are provided access to free RBA e-learning lessons related to the audit findings. When priority NCs are found, AMD contacts the supplier requesting details on the actions the site is implementing to immediately address the NC prior to creating the longer-term CAP. Throughout the process, AMD communicates with the supplier to review the CAP and provide support, when necessary.

⁴² Data includes all AMD manufacturing suppliers with eligible VAP Recognition Program data in 2020-2022. VAPs are valid for two years.

⁴³ [Responsible Business Alliance 2020 Annual Report](#)

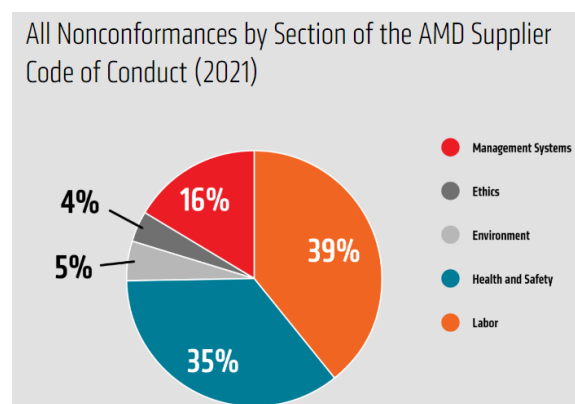
⁴⁴ Data represents global rates of all NCs of sites audited in 2021.

⁴⁵ [Responsible Business Alliance 2020 Annual Report](#)

Suppliers are required to close the CAP and schedule a closure audit in alignment with RBA requirements. If suppliers are not able to meet AMD requirements, AMD executives are notified for appropriate action.

Audits conducted by location (2021)

Location	# Initial Audits	# Closure Audits ⁴⁶
Germany	1	
Greater China	15	9
Japan	4	
Malaysia	1	
Philippines	2	
Singapore	1	
South Korea	4	2
Thailand	2	
United States	1	
TOTAL	31	11



Labor

Working hours violations and the payment of restricted employment-related fees continues to be a challenge for our industry and with some AMD suppliers. Labor represented 39 percent of all NCs in our company's supply chain in 2021, however only one was a priority NC. Regardless, all suppliers were required to complete corrective actions for identified issues. Factories continued to face the challenge of keeping up with demand while implementing COVID-19 safety protocols in 2021. As such, the highest rate of NCs occurred in working hours. In response, we communicated to all of our manufacturing suppliers and some sub-tier suppliers the importance of upholding the labor standards contained in the

⁴⁶ A Closure Audit verifies whether findings from a previous audit have been addressed and not all findings require a closure audit.

AMD Code of Conduct and included resources from the ILO and RBA on managing the impact of COVID-19 on migrant workers.

NCs in the category of freely chosen employment were due to workers paying fees prohibited by the Code or suppliers lacking sufficient policies or management practices to prevent the risk of forced labor. These findings were escalated to senior executives of AMD, and we worked directly with the manufacturing and sub-tier suppliers to ensure remediation was provided to the affected workers and systems were put in place to prevent future NCs. These suppliers were also identified as candidates for additional capacity building initiatives. Two suppliers attended a virtual workshop on best practices in ethical recruitment and due diligence. The other suppliers were provided e-learning courses on forced labor prevention or ethical recruitment due diligence.

[Read More About Supplier Training Opportunities](#)

Health and Safety

Approximately 35 percent of all NCs in our supply chain in 2021 were in the area of health and safety (down from 43 percent in 2020), with the majority of the issues related to emergency preparedness, occupational safety and injury and illness. Most of the NCs were in emergency preparedness – specifically a lack of adequate fire detection, emergency exits or certification, or identification of all potential emergencies that could affect the site with adequate, established response programs. Immediate containment action was completed within the RBA timeline, and closure audits were completed where required.

2021 Supplier Audit Results

Nonconformances by Type, Initial Audits (2021)⁴⁷

	Priority	Major	Minor	Total	Percentage
Labor				39	39.39%
Freely chosen employment	1	8	6	15	
Young workers	0	0	0	0	
Working hours	0	16	0	16	
Wages and benefits	0	6	1	7	
Humane treatment	0	0	0	0	
Non-discrimination	0	0	1	1	
Freedom of association	0	0	0	0	
Health and safety				35	35.35
Occupational safety	0	7	1	8	
Emergency preparedness	2	7	7	16	

⁴⁷ Data is from full, initial VAP audits conducted in 2021. AMD aggregates all nonconformances (NCs) across all audits to determine NCs by RBA category.

Occupational injury and illness	0	2	0	2
Industrial hygiene	0	0	0	0
Physically demanding work	0	0	0	0
Machine safeguarding	0	0	2	2
Food, sanitation and housing	1	4	0	5
Health and safety communication	0	0	2	2
Environment			5	5.05%
Environmental permits and reporting	0	0	0	0
Pollution prevention and resource reduction	0	0	0	0
Hazardous substances	0	4	0	4
Solid waste	0	0	0	0
Air emissions	0	0	0	0
Materials restrictions	0	0	1	1
Water management	0	0	0	0
Energy consumption and greenhouse gas emissions	0	0	0	0
Ethics			4	4.04%
Business integrity	0	0	0	0
No improper advantage	0	0	2	2
Disclosure of information	0	0	0	0
Intellectual property	0	0	0	0
Fair business, advertising and competition	0	0	0	0
Protection of identity and non-retaliation	0	0	1	1
Responsible sourcing of minerals	0	1	0	1
Privacy	0	0	0	0
Management system			16	16.16%
Company commitment	0	0	0	0
Management accountability and responsibility	0	3	1	4
Legal and customer requirements	0	0	1	1
Risk assessment and risk management	0	0	0	0
Improvement objectives	0	0	0	0
Training	0	0	1	1

Communication	0	0	0	0
Worker feedback and participation	0	0	0	0
Audits and assessments	0	2	0	2
Corrective action process	0	0	0	0
Documentation and records	0	0	0	0
Supplier responsibility	2	5	1	8
TOTAL			99	100%

Nonconformances by Location, Initial Audits (2021)

Location / Category	Labor	Health and safety	Environment	Ethics	Management systems	Total
Germany	0	0	0	0	0	0
Greater China	28	13	2	0	5	48
Japan	4	4	0	2	3	13
Malaysia	3	1	0	0	1	5
Philippines	0	1	0	0	0	1
Singapore	1	2	0	0	0	3
South Korea	2	15	1	2	6	26
Thailand	1	0	1	0	1	3
United States	0	0	0	0	0	0

[See our 2020 Supplier Audit Results](#)

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.”

As the technology industry and our role in society continue to grow, it is essential that we support the next generation of innovators, whose diverse backgrounds can help create technological solutions for some of the world’s toughest challenges. In particular, Black and Hispanic workers remain under-represented in the science, technology, engineering and math (STEM) workforce. Women are also significantly under-represented in STEM occupations, making up a quarter or fewer of the workers in

computing and engineering.⁴⁸ While the tech sector has taken steps to make progress in recent years, it still has significant work to do.

At AMD, we see it as both a challenge and an opportunity for us to create a diverse workforce and promote a culture of belonging and inclusion.

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 AMDer Survey and curated groups;
- Deepening our relationships in the United States with Historically Black Colleges and Universities (HBCUs) and Hispanic-Serving Institutions (HSIs);
- 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.

By building a diverse talent pipeline, encouraging a culture of respect and belonging and increasing the inclusion of under-represented groups, we will make AMD stronger. We will elevate our talent and improve business outcomes by encouraging employees to bring their whole selves to work. Our Multi-Voice Initiative encourages and supports all AMDers who champion and, when needed, challenge our company culture with their unique perspective.

What we are doing is working. In our annual AMDer Survey, we ask multiple questions on how our culture and processes support our commitment to DB&I. We invited 100 percent of our employees to participate in our 2021 AMDer Survey, and 96 percent responded. Their responses to those questions and the overall index score are in the top 10 percent of global companies within the tech industry. In 2021, we were recognized by the Bloomberg Gender Equality Index and the Human Rights Campaign Corporate Equality Index as a Best Place to Work for LGBTQ Equality.

⁴⁸ <https://www.aauw.org/resources/research/the-stem-gap/>

Goal and Progress

We have set a public goal and are committed to making meaningful progress to foster DB&I at AMD.

70 percent

of our employees to participate in AMD employee resource groups and/or other AMD inclusion initiatives by 2025.²

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.

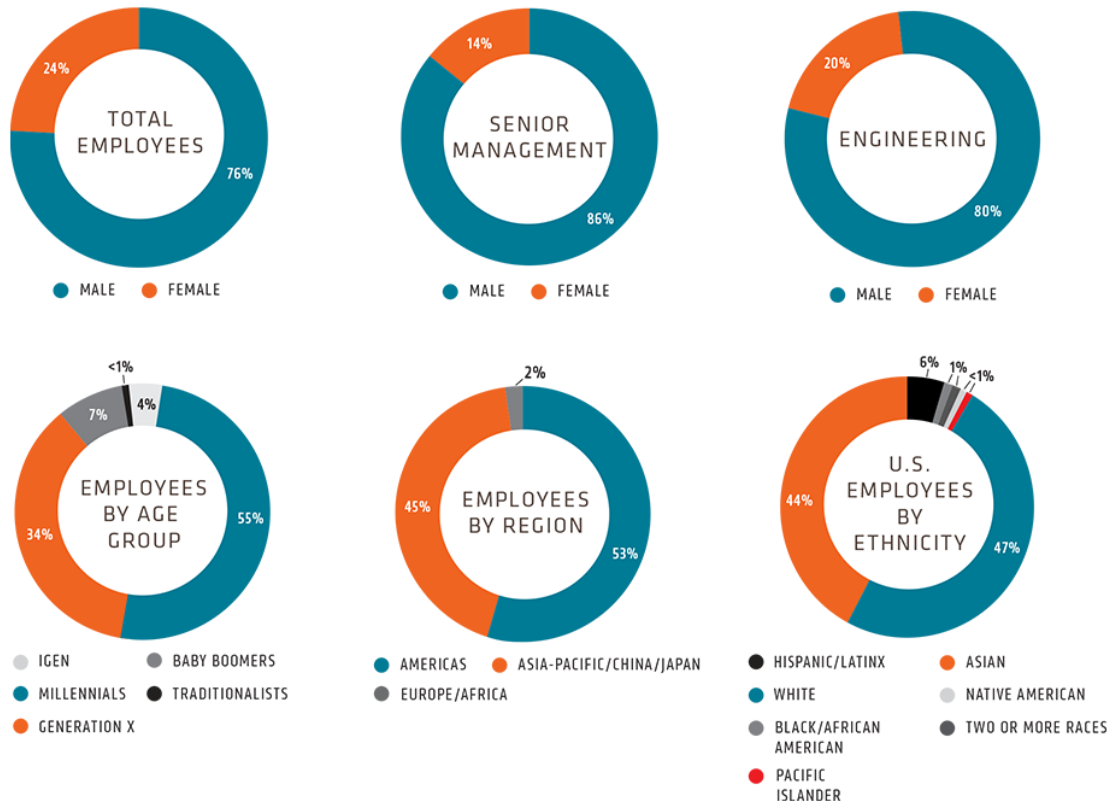
Following the close of our acquisition of Xilinx in February 2022 and the creation of a new business unit called Adaptive and Embedded Computing Group (AECG), we are focused on the integration of our new employees and expanding our DB&I program and initiatives across our larger company. As part of this work, we will re-set our internal DB&I hiring goals in 2022 based on our current company population representation.

Our Global Workforce

AMD publishes workforce diversity statistics as part of our annual corporate responsibility reporting. Since 2016, AMD has published the gender composition of our engineering and management teams. In 2018, we began reviewing our Diversity, Belonging and Inclusion strategies and metrics with members of the AMD Board of Directors. We are constantly striving to improve our gender and diversity hiring through specific programs.

The diversity summary data below is based on calendar year 2021 data for a total of 15,500+ AMD employees⁴⁹.

⁴⁹ Reported data reflects AMD operations for the 2021 calendar year, prior to AMD acquisitions in 2022 of Xilinx and Pensando.



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 event brings the research and career interests of women in computing to the forefront and highlights the contributions of women to the tech world.

The students also attended a virtual networking session with a panel of women technologists at AMD to hear insights about career development and personal experiences. Additionally, the women undertook coaching, including nine hours of individual sessions. 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.

Recruitment

We recognize the challenge of increasing the representation of women and other under-represented groups in engineering and other roles. We continue our efforts to recruit diverse talent and foster an inclusive and innovative culture, where the best ideas “win” regardless of the individual’s identity.

With the immense growth in the student population in 2021, we continued to focus on helping diverse students feel valued and welcomed at AMD. We built sustainable engagements with organizations like the Society of Women Engineers (SWE), the National Society for Black Engineers (NSBE) and Society of Hispanic Professional Engineers (SHPE) at our top universities, including our top HBCUs and HSIs.

Some of our highlights during the year included Women in Engineering events at the University of Texas (UT) in Austin and Texas State University. Female AMD engineers, including a former co-op who is now a New College Graduate, engaged with female engineering students to share their journeys to becoming an engineer and talk about how to navigate a career that offers so many opportunities for learning, innovation and creativity. Although we value being on campus and connecting in person, it was interesting to see how the virtual environment during the pandemic helped us reach a larger and broader student audience.

Our partnerships with HBCUs and HSIs continued to grow in 2021 as we were able to engage with faculty, staff and students at a deeper level. We continued to build on our relationships and looked for creative ways to connect with the students throughout the year. We held two NSBE Tech Talks at Howard University, supported a Senior Project at North Carolina Agricultural and Technical State University and had successful Tech Talk Panels with SWE at Texas State University and UT Austin. Building trust with students has been a major focus for us – we want the students to know that AMD is invested in their learning and future success.

To support these new hires when they join AMD, we implemented an employee resource group (ERG) “Sign Up” feature within our New Hire Onboarding platform in 2020. New hires may view and select ERGs they would like to join. Employees who help lead an ERG at a given site serve as cultural ambassadors – they welcome the new hires, communicate our company’s commitment to belonging and invite the new hires to attend events. This unique but simple process enables new hires to have access to our ERGs immediately. Through this connection, ERGs introduce new hires to the benefits of membership, such as building their network outside of their team and finding mentors to grow in their careers.

In addition, we are committed to helping students and graduates expand and apply their theoretical knowledge while building on-the-job skills. Interns with our AMD University Relations program are encouraged to display their talents, build professional networks, participate in real-life engineering challenges and apply for full-time opportunities upon graduation.

Regional Spotlights:

Equipping Future Engineers at Howard University in the United States

Today's students have the potential to be tomorrow's top engineers, and AMD has the expertise and technology to help them get there. To inspire the next generation of engineers, we connect students with AMD experts offering opportunities to learn and discuss career options. Additionally, we donate equipment to our university partners.

In 2021, for instance, 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 – Precious Effiong, Leyla Yilan, Farzana Haque and Nick Valison – 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, which consists of three servers with one node including eight AMD Instinct™ accelerators, 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 (WISE), the National Society of Black Engineers (NSBE), the Institute of Electrical and Electronics Engineers (IEEE) 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.

During their placement at AMD, interns are offered several opportunities to develop valuable skills in addition to their technical roles. We also have a formalized mentorship program between full-time staff and interns to promote knowledge sharing and early-career support as they begin their careers at AMD. After completing their internship at AMD, interns can opt into the Campus Ambassador Program, through which they represent the company at university panel discussions, networking sessions and company informational presentations. Through our various intern-specific programs and their day-to-day technical roles, students and new graduates at AMD get the chance to not only develop technical and professional skills but also apply their education to real-world settings in meaningful ways.

Total Rewards

Our Total Rewards programs reflect our commitment to having an equitable and inclusive environment that enriches the total well-being of our employees. We support our employees with competitive rewards, including:

- Excellent compensation;
- Comprehensive healthcare coverage;
- Retirement savings plans with company matching;
- Paid holiday, vacation time and other time off programs such as Recharge Days, Pandemic Leave and a generous Bereavement Leave program; and
- Life and disability insurance.

Our benefits packages also include fertility, adoption and surrogacy as well as transgender-inclusive benefits. Additionally, we offer a variety of work/life balance programs, including family care, global parental leave and alternative work plans. And our employees have access to work/life services to support them during major life events or with life's day-to-day challenges, as well as employee assistance programs to help resolve personal and professional issues.

Employee Education and Training

We promote an environment of continuous learning at AMD. Employee education and training are provided in different forms and vary by country. In some countries, we offer tuition assistance programs and other learning programs, such as Leadership Training, Skillsoft Learning, Ted Talks and Microsoft curriculum. We also have a pay-for-performance management and assessment process that encourages, recognizes and supports high-performing individuals and teams; this is reported annually to our Board of Directors.

In a partnership among teams spanning University Relations, DB&I and Learning & Development, we created the New College Graduate (NCG) Diversity Program. The content of the program engages emerging professionals and enables them to accelerate their growth and development. The focus areas of this program are planning for success, understanding the business and building a long-term career. Managers of the NCGs receive training on leading a diverse workforce of people who are starting their careers.

AMD Leadership Essentials (ALE) is a learning experience designed to help newer people managers (with less than one year of management experience at AMD) build their leadership capability and provide the core skills necessary for them to be successful at AMD. The training has been offered virtually to

accommodate our workforce, which includes onsite and remote employees. In 2021, 68 percent of new people managers attended, all virtually.

The AMD Virtual Development Series focuses on the topics requested by our employees most frequently and each one is covered in a 45- to 60-minute virtual session. The series covers interpersonal skills development for individual contributors and people managers, including topics such as communication and presentation skills, career advancement, leading effective meetings, and prioritization and delegation. Most of the sessions are condensed versions of our full classroom-based courses. We used the ADDIE approach (analyze, design, develop, implement and evaluate) to condense the content and adapt the activities for a virtual audience, and we use a variety of delivery approaches to keep virtual attendees engaged. All the topics have been recorded and are available on-demand, including slides, workbooks, job aids, links to online articles and book summaries to further learning. All of the topics are also available for instructor-led delivery.

AMD e-learning resources include huge, constantly growing libraries of more than 10,000 courses from Udemy, Skillsoft Percipio and LinkedIn Learning, as well as over 20,000 book summaries from getAbstract, thousands of articles from *Harvard Business Review* and more than 50,000 technical and engineering books. In addition, for global cultural education, our employees have access to profiles from about 100 different countries through GlobeSmart. Users can access our eLearning resources on their desktop, laptop or, in most cases, a mobile device.

Employee Performance Management

Under our pay-for-performance philosophy and guiding principles, we reward not only team members who demonstrate the highest level of contribution to the company, but also those who continually improve their capabilities. This ensures that rewards are differentiated based on the impact the employee's performance has on the company as well as how they execute their tasks.

Employees are actively engaged in the performance management process. In 2021, 98 percent of AMD employees received a performance review.⁵⁰

Talent Management

Our talent management activities support the complex and dynamic nature of our business, but our goal is simple: deliver our strategy by having the right talent in place now and in the future. Our talent strategy supports our goal to attract, acquire, develop and retain the best talent in the industry by providing integrated talent processes across the employee lifecycle, including through:

- Identification of top and emerging talent through Organizational HR Planning, with specific attention paid to identifying and developing a diverse slate of successors and "talent to watch";
- An ongoing circular feedback loop with employees in the form of a robust "employee voice" (survey) strategy;
- Learning and Development (L&D) offerings focused on employees gaining knowledge for excellence in their current role, as well as in preparation for their next role;

⁵⁰ AMD employees who participated in the year-end process have either signed their 2021 form or have the form in Employee Signature status.

- Diversity, Belonging and Inclusion (DB&I) programs to promote inclusivity and belonging for all employees, so everyone feels they can bring their whole self to work;
- Measurement and insights into talent placement, development and growth; and
- Year-round coaching and development to support and enhance goal setting and annual performance reviews.

Throughout the year, our CEO and senior executives hold cross-functional discussions about our top talent and the leadership and technology skills our business requires.

[See Our New Hire, Turnover, Career Development and Parental Leave Data](#)

Employee Engagement

We know that AMDers do their best when they are fully engaged and can be themselves at work. Our YouTube series “[I Am AMD](#)” highlights our employees sharing their stories and why they feel they belong at AMD. This series features AMDers in various roles across the company bringing together their passion for technology and their unique backgrounds to create an amazing work environment and innovative products. 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. While we had affinity groups for years – most notably the AMD Women’s Forum – we introduced a corporate ERG policy in 2016 to clarify the process and encourage the formation of other groups. 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.

As most employees have been working remotely since 2020, we have seen ERGs join together virtually across regions to build community and promote their missions. For example, for International Women’s Day in 2021, the AMD Women’s Forum chapters came together regionally to offer events such as career panels, virtual conferences with presentations by women executives and networking opportunities. The North America virtual conference drew more than 700 attendees. Our Pride ERG also hosted multiple panel discussions on Twitch for the LGBTQ+, Ally and Drag community during Pride month, attracting more than 1,800 viewers in 2021.

Our Go Green ERG has been actively working to engage and inspire AMD employees to reduce their environmental footprint and adopt sustainable practices at home, during their commutes and in the workplace. In 2021, our Go Green activities included a webinar about our U.S. Employee Solar Program and a virtual global Earth Day event. AMD employees once again participated in our annual campaign – the People’s EcoChallenge – that encourages individuals to adopt more sustainable practices, such as eating local organic food, riding their bikes, recycling and turning off equipment when not in use. Employees set goals, tracked actions and shared ideas with others. Over the last six years, hundreds of AMD employees in several countries have completed more than 8,000 actions.

With the acquisition of Xilinx in 2022, we added two new ERGs, bringing the total to 13:

- **AccessAbility:** Serves AMDers living with disabilities personally and professionally by creating a culture of inclusivity through shared experiences, helpful resources and collaborative activities.
- **Advancing Black Leadership and Experience:** Elevate and strengthen Black employees at AMD through professional and career development, mentoring and community programs to enable retention, growth and meaningful business impact.
- **Asians Making a Difference:** Provides an inclusive environment where members have the chance to develop strong professional relationships, build community and promote education about Asian cultures and topics.
- **Caregivers:** Empowers AMDers with knowledge, means and encouragement to help them make sound decisions concerning the health, happiness and well-being of family members.
- **AMD Emerging Leadership Forum:** Develops next-generation leaders at AMD and equips them with the resources to develop their careers and drive value for AMD.
- **Go Green:** Connects employees and the environment to educate and inspire AMDers around the globe to conserve resources, save money and improve their quality of life.
- **Impacto:** Empower and elevate the AMD Latino/Hispanic community and its advocates to foster inclusion, celebrate diversity, grow professionally and give back to the communities where they live and work.
- **Incredible India** (added in 2022): Advances and fosters a sense of unity and belonging for those who have an affinity with Indian culture and creates an inclusive environment to promote, respect and appreciate cultural diversity.
- **Pride:** Provide a positive and inclusive environment for all employees, regardless of sexual orientation, gender identity or gender expression; build a worldwide community of allies; and contribute to a shared sense of belonging among employees, partners, customers and in our communities.
- **Multicultural ERG** (added in 2022): Brings people together with broad and different cultural backgrounds and provides opportunities to learn, share and experience each other's way of life. Members will discover similarities by exploring cultural differences, gain an appreciation for other cultures and build cultural fluency and collaboration that can support professional and personal growth.

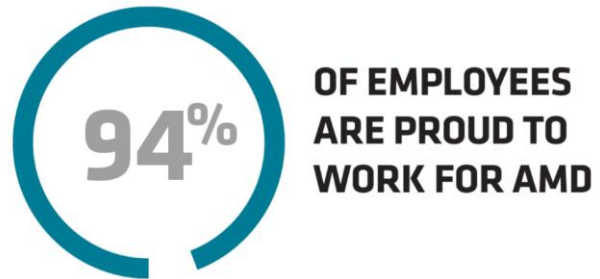
- **Salute:** Provides awareness and support to current and former military, transitioning military, military spouses, dependents and general supporters of the armed forces globally.
- **U-AMD:** To inspire learning and encourage collaboration among all members and within our local communities through various activities as well as establish peer-connections.
- **AMD Women's Forum:** An AMD women's community fostering connections, providing opportunities for people to lead and promoting engagement within AMD and beyond.

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. We invited 100 percent of our employees to participate in our 2021 AMDer Survey, and 96 percent responded.

The AMDer Survey is a comprehensive cultural and operational diagnostic consisting of 56 questions across 10 dimensions:

- Clarity of Direction
- Pride in Company
- Continuous Improvement
- Teamwork and Collaboration
- Recognition and Reward
- Resources and Support
- Manager Relationship
- Performance Management
- Growth and Development
- Employee Empowerment



The survey also measures our performance using three indexes that group existing individual questions with common themes from the dimensions listed above:

- **Engagement Index:** An emotional and intellectual commitment to AMD, an AMDer's team and their job.
- **Manager Quality Index:** Management engaging hearts and minds with day-to-day interactions and decisions.
- **Belonging & Inclusion Index:** A work environment in which all individuals are treated fairly, have equal access to opportunities and resources and can contribute fully to our success. Personal views and values are respected, allowing employees to be themselves at work.

Our AMDer Survey scores have increased steadily and significantly over the past several years. In 2021, we saw our highest scores to date. Results for every survey dimension and index listed here scored above external benchmarks for high-performing companies within the tech industry. While we are pleased with these results, we strive for continuous improvement in all areas of the AMD employee experience by respecting and leveraging our employees' voices.

Workforce Health and Safety

For more than a decade, our Global Environmental, Health and Safety (EHS) Standards have established excellence as the benchmark for AMD sites around the world. We require all our facilities to meet applicable local, regional and national regulations. In addition, we set and apply standards that go beyond this: we establish premier practices based on an assessment of risks and hazards across all aspects of the organization to protect employee health and safety. In general, these EHS Standards are designed to be consistent with internationally recognized management systems such as ISO 14001 (Environmental) and ISO 45001 (Health and Safety).

Health and safety-related areas addressed under the Global EHS Standards include operational controls to mitigate risks – for example, injury and illness prevention through personal protective equipment and ergonomics, emergency preparedness and response and electrical, equipment and chemical safety training – as well as monitoring controls – for example, inspections, audits and corrective action review and closure. As a result of acquiring Xilinx in 2022, two of our new sites in San Jose, California and Singapore are certified to the [ISO 45001](#) standard.

Our company's workforce injury and illness case rate⁵¹ remains below the industry average, due in part to our focus on training and early reporting of injury and illnesses. With zero fatalities and eight total cases in 2021, including pandemic-related illnesses, sprains and strains, our worldwide case rate for the year was 0.04 per 200,000 work hours – significantly lower than OSHA's 2020 Private Industry case rate of 2.2, as reported by the U.S. Bureau of Labor Statistics. We also track health and safety metrics for our wafer foundry suppliers, with the aim of improving safety performance year over year.

Throughout the COVID-19 pandemic, AMD utilized a health team of registered nurses who led contact tracing efforts and implemented quarantine protocols to limit the potential for workplace transmission. To address potential ergonomic issues encountered by employees working from home, we provided additional work from home training, virtual assessments and an equipment allowance.

See our [Health and Safety data](#)

[Read our Environmental, Health and Safety Policy](#)

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

⁵¹ The reported data includes AMD employees and contract workers who report directly to an AMD person. Our reporting guidelines are based on OSHA reporting criteria. Minor (first aid level) injuries are not included. Lost days are calculated based on scheduled workdays.

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.

[Learn About Our Digital Impact Program](#)

[Read About Our STEM Initiatives](#)

[Discover More About the HPC Fund](#)

AMD Community Volunteering

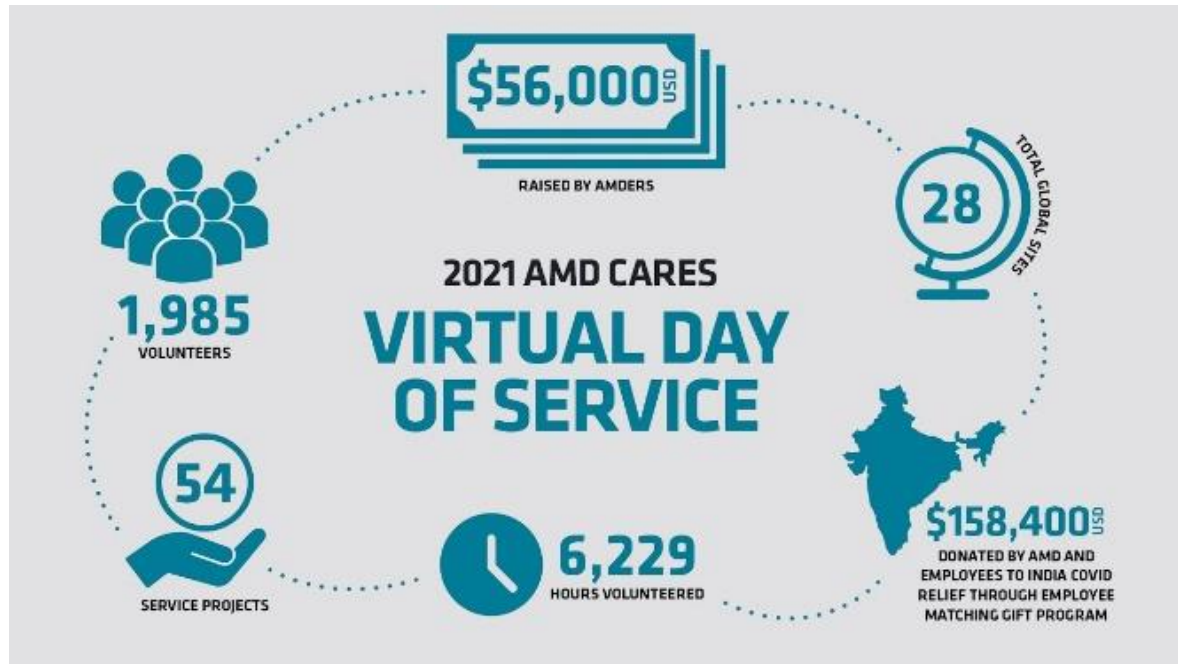
Around the globe, AMD volunteers, also known as AMD Community Corps, are easily recognized by the bright green volunteer t-shirts they wear. These shirts have become synonymous with a culture of generous and committed colleagues ready to give their time and talent. AMD encourages employee engagement 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 to 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.

2021 Day of Service Highlights

Preserving the Environment

- Global Earth Day Kick-Off Celebration: The AMD Go Green Employee Resource Group hosted two virtual events for employees to learn about our company's commitment to a sustainable planet and hear from colleagues whose earth-friendly hobbies include beekeeping, gardening and building terrariums out of recycled materials.
- Beijing – AMD Charity Forest: Since 2017, AMD volunteers have planted more than 1,000 trees and shrubs at the carefully managed Ecological Park for the Elderly at the Ruikangyuan Aging Care Center. In 2021, more than 40 volunteers planted tree saplings and brought warm clothes and supplies to the elderly residents.
- Penang – Plantation Diary: Employees planted seeds and watched their gardens grow as a way of encouraging environmental awareness.
- Shenzhen – Fight with the Green Monsters: AMDers weeded 16kg of invasive plant species and inspired others to pay better attention to public welfare and coastal wetland conservation.
- Singapore – Coastal Clean Up: Teams gathered for fun and service by clearing trash and debris from the East Coast Park.
- Suzhou – Green Army: Employees coordinated an outside hiking activity to educate volunteers on environmental preservation while conducting a trail clean-up project.

Promoting Education/STEM Education

- Austin – KIPP mentorship: AMD volunteers supported KIPP, a free charter school that boasts a graduation rate three times higher than peers, by offering mentorship to their robotics team and joining elementary students as virtual guest classroom readers.
- Mexico City – Going back to school: AMD teams, helped the Elizabeth Kenney kindergarten in Mexico get back to school and prepare for their new normal by sanitizing and setting up classrooms.
- Markham – Information sessions with Big Brothers Big Sisters of Toronto: Employees learned about the agency's pre-eminent mentorship program to help break cycles of violence, drug abuse, poverty and inequality preventing children from reaching their full potential.
- Orlando – Boys & Girls Club STEM Activities: Employee volunteers reached more than 100 children through five different Central Florida clubs by hosting nine STEM events. They distributed supply kits to each club so students could remotely experience the bug triage process, learn binary and decode a secret message to win a prize.
- Milton Keynes – Power2 Leadership Program: As part of a young leader's initiative in the United Kingdom, students joined 20 AMD volunteers for a virtual interactive advertising and marketing workshop. They kicked off the experience with a speed networking session followed by an innovative pitch to an AMD panel where they presented a full marketing proposal.

Providing for Neighbors in Need

- North America – Gaming for Good: AMD hosted two weekends of gaming and streaming in nine North America site communities. Through friendly competition, the teams raised awareness and US\$28,000 in support of local children's hospitals.
- Austin – Virtual Games with Seniors: Through our Meals on Wheels nonprofit partner, employees virtually played BINGO and trivia games to help senior citizens stay social, connected and active while senior centers remained closed due to COVID-19.
- Fort Collins – Corporate Food Fight: The site joined forces to raise more than US\$22,330 and 161 pounds of food for the Larimer County Food Bank to help reduce food scarcity in their Colorado community.
- Kowloon – Fight Against Poverty: AMD teams donated gifts and wrote inspirational cards for students supported by JLife, a nonprofit organization focused on ending child poverty and reducing cross-generational poverty throughout Hong Kong.

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.

Additionally, in partnership with HP and the Boys & Girls Clubs of the Austin Area, AMD donated more than 325 refurbished AMD-powered laptops and desktops to help bridge the technology gap for underserved students and families. We also contributed funds for a new Learning Lab for Boys & Girls Clubs of Silicon Valley to advance STEM education for their members.

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.

Furthermore, in 2022, in response to the conflict in Ukraine, AMD and AMD employees donated over \$500,000 through a special employee matching program and corporate donations to support humanitarian and refugee relief.

AMD supports dozens of nonprofit organizations around the world that share our purpose, including:

- Breakthrough Central Texas
- Big Brothers Big Sisters of Toronto
- Boys & Girls Clubs of the Austin Area
- Boys and Girls Club of Silicon Valley
- Central Texas Food Bank

- Chen Su Lan Methodist Children's Home
- China Environmental Protection Foundation
- Discovery Museum
- Family Eldercare
- Food Bank of Larimer County
- Food from the Heart
- Girlstart
- House of Hope
- Loved Twice
- Markham Stouffville Hospital
- Power2
- Resource Area for Teachers (RAFT)
- Say Trees
- Second Harvest Food Bank
- Shanghai Baby Home
- The Tech Interactive
- United Way India

In 2022, AMD will launch a year-round, global Matching Gift and Volunteer Reward program. This program reflects our employees' generosity and dedication to making our communities stronger and providing for others, and AMD is proud to amplify those efforts.

AMD Community Volunteering Impact Numbers

	2017	2018	2019	2020	2021
Volunteer Hours	10,257	15,234	15,193	7,057	9,052
Number of Volunteers	2,451	2,838	3,098	3,110	2,807
Number of AMD-Sponsored Events	138	154	160	71	64

[Read the AMD Funding Guidelines](#)

[See our Community Investment Data](#)

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 that 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 that 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 – 106 employees donated 2,179 cans of food for Willing Hearts, a nonprofit soup kitchen. Additionally, through our 'Be a Santa' program at the end of the year, our employees donated Christmas gifts for the children at Boys Town and Ahuva Good Shepherd Children's Home.

Strengthening Community Environments Through Volunteering in Greater China

Every year, AMD launches a month-long "AMD Cares Day of Service" worldwide. In 2021, AMD Greater China employees actively participated in volunteer activities in local communities, including planting trees, protecting the environment and assisting community neighbors, to convey goodwill through practical actions and benefit their community.

For example, this year, as part of the AMD Charity Forest project, AMD Beijing volunteers planted 224 saplings on the land of the Ruikangyuan Aging Care Center in Yanqing District, Beijing. We also brought warm clothes and COVID-19 supplies to the Aging Care Center. The carefully managed Ecological Park for the Elderly replaces the original wastelands littered with stones and weeds, providing a leisure place for the elderly in the community and improving the local ecological environment. Since 2017, more than 1,000 trees and bushes have been planted by the AMD workforce.

In Shanghai, we organized a series of Earth Day activities, calling on employees to care for the earth. Over 850 colleagues signed up for the event and more than 1,000 family members joined them. The staff at AMD Shanghai R&D center participated in various environmental activities, such as garbage cleaning and sorting, waste utilization, low-carbon travel, home greening, environmental science popularization, clothing recycling and community assistance.

Environmental, Social and Governance Data Tables

Social Performance Indicators

The following tables provide data on our global workforce including employee diversity, new hires, turnover, parental leave, career development, well-being and volunteerism.

Global Workforce Data

(Headcount, year-end)	2017	2018	2019	2020	2021 ⁵²
Total Workforce⁵³	12,751	14,988	16,746	18,376	22,456
Employees	8,904	10,141	11,421	12,637	15,503
Temporary Workers and Contractors	3,847	4,847	5,325	5,739	6,953
Employees By Region					
Americas	53%	54%	54%	55%	53%
Asia-Pacific/China/Japan	45%	44%	44%	43%	45%
Europe/Africa	2%	2%	2%	2%	2%
Temporary Workers and Contractors by Region					
Americas	38%	32%	29%	28%	26%
Asia-Pacific/China/Japan	56%	63%	65%	65%	68%
Europe/Africa	6%	5%	6%	7%	6%
Employees by Gender⁵⁴					
Male	76%	76%	76%	76%	76%
Female	24%	24%	24%	24%	24%
Employees by Age Group					
iGen (born 1997 or later)	0%	<1%	<1%	1%	4%
Millennials (born 1981-1996)	46%	49%	51%	53%	55%
Generation X (born 1965-1980)	42%	40%	39%	37%	34%
Baby Boomers (born 1946-1964)	12%	11%	10%	9%	7%

n/a = not available

Values shown in *italics* represent adjusted data and are different from values shown in previous Corporate Responsibility Reports.

⁵² Reported data reflects AMD operations for the 2021 calendar year, prior to AMD acquisitions in 2022 of Xilinx and Pensando.

⁵³ Reported data includes AMD employees, temporary workers and contractors.

⁵⁴ Reported employee data excludes unknown gender.

Traditionalists (born 1927-1945)	<1%	<1%	<1%	<1%	<1%
Employees by Work Status					
Full-Time Employees	100%	100%	100%	100%	100%
Part-Time Employees	<1%	<1%	<1%	<1%	<1%

[See AMD 2021 U.S. EEO-1 Report](#)

[See AMD 2020 U.S. EEO-1 Report](#)

Senior Management⁵⁵

(Headcount, year-end)	2017	2018	2019	2020	2021⁵³
Male	88%	87%	87%	86%	86%
Female	12%	13%	13%	14%	14%

Engineering

(Headcount, year-end)	2017	2018	2019	2020	2021⁵³
Male	83%	82%	82%	81%	80%
Female	17%	18%	19%	19%	20%

Diversity of Board of Directors

(Headcount, year-end)		2017	2018	2019	2020	2021⁵³
Generation X (born 1965-1979)	Male	11%	11%	12.5%	12.5%	12.5%
	Female	11%	11%	12.5%	12.5%	12.5%
Baby Boomers (born 1946-1964)	Male	67%	67%	62.5%	62.5%	62.5%
	Female	11%	11%	12.5%	12.5%	12.5%

New Employee Hires and Employee Turnover

(Headcount, year-end)	2017	2018	2019	2020	2021⁵³
Total New Hires	1,388	2,107	2,100	1,996	4,341
New Hires as % of Prior Year Employee Count	17%	24%	21%	17%	34%
New Hires Distribution by Region					
Americas	52%	51%	52%	53%	45%
Asia-Pacific/China/Japan	46%	47%	46%	45%	52%
Europe/Africa	2%	2%	2%	2%	4%
New Hires Distribution by Gender⁵⁵					
Male	77%	76%	76%	79%	75%
Female	23%	24%	24%	21%	25%
New Hires Distribution by Age Group					
iGen (born 1997 or later)	<1%	<1%	1%	7%	10%

⁵⁵ Director-level positions and above. Reported employee data excludes unknown gender.

Millennials (born 1981-1996)	63%	66%	68%	63%	66%
Generation X (born 1965-1980)	31%	27%	26%	26%	21%
Baby Boomers (born 1946-1964)	6%	6%	5%	4%	3%
Traditionalists (born 1927-1945)	0%	<1%	0%	0%	0%

(Headcount, year-end)	2017	2018	2019	2020	2021⁵³
Total Terminations	686	860	817	778	1,472
Total Turnover as % of Prior Year Employee Count	8%	10%	8%	7%	12%
Total Turnover Rate by Region					
Americas	6%	7%	7%	6%	10%
Asia-Pacific/China/Japan	11%	13%	10%	8%	15%
Europe/Africa	6%	5%	7%	7%	6%
Total Turnover Rate by Gender⁵⁵					
Male	8%	10%	8%	7%	12%
Female	8%	9%	7%	6%	11%
Total Turnover Rate by Age Group					
iGen (born 1997 or later)	n/a	n/a	n/a	6%	13%
Millennials (born 1981-1996)	10%	13%	11%	8%	15%
Generation X (born 1965-1980)	7%	7%	5%	5%	7%
Baby Boomers (born 1946-1964)	5%	6%	7%	7%	11%
Traditionalists (born 1927-1945)	n/a	n/a	n/a	n/a	50%

Parental Leave⁵⁶

(Headcount, year-end)		2017	2018	2019	2020	2021⁵³
Employees that were entitled to parental leave ⁵⁷	Male	6,793	7,670	8,532	9,333	11,734
	Female	2,099	2,407	2,714	2,965	3,769
	Total	8,904	10,141	11,421	12,637	15,503
Employees that took parental leave	Male	175	334	436	403	200
	Female	114	155	189	183	227
	Total	289	489	625	586	427
Employees that returned to work in the reporting period after parental leave	Male	155	315	409	376	187
	Female	83	139	166	163	206

⁵⁶ Based on employees who were on LOA Parental / Maternity with a start date in that year and if returned to work after the LOA end date (with Voluntary or Family reasons). Reported data is for AMD employees.

⁵⁷ AMD offers paid parental leave globally to its FTE employees. "Parental leave" can encompass various types of leaves in different countries; it provides time off for parents to nurture their families and make necessary life adjustments.

	Total	238	454	575	539	393
Employees that returned to work after parental leave ended that were still employed 12 months after their return to work	Male	149	295	385	363	183
	Female	80	131	162	161	199
	Total	229	426	547	524	382
Return to work rates of employees that took parental leave (%)	Male	89%	94%	94%	93%	94%
	Female	73%	90%	88%	89%	91%
	Total	82%	93%	92%	92%	92%
Retention rates of employees that took parental leave (%)	Male	85%	88%	88%	90%	92%
	Female	70%	85%	86%	88%	88%
	Total	79%	87%	88%	89%	89%

Performance and Career Development

		2017	2018	2019	2020	2021⁵³
Percentage of total employees ⁵⁸ <u>by gender</u> who received a regular performance review during the reporting period.	Male	98.7%	98.6%	99.2%	99.2%	98.7%
	Female	98.7%	99.0%	98.7%	99.0%	98.2%
Percentage of total employees ⁵⁹ <u>by employee category</u> ⁵⁹ who received a regular performance review during the reporting period.	Executive	94.0%	93.1%	93.1%	95.8%	91.1%
	Manager	98.2%	98.8%	99.1%	99.4%	98.9%
	Technical Staff	98.9%	98.5%	99.2%	99.3%	98.8%
	Professional	99.4%	99.3%	99.7%	99.5%	99.4%
	Staff	99.5%	99.7%	99.9%	99.7%	99.2%

Well-Being⁶⁰

	2017	2018	2019	2020	2021⁵³
Global Number of Recordable Injury and Illness Cases	5	7	2	6	8
Global Recordable Injury and Illness Case Rate (per 200,000 work hours)	0.06	0.06	0.02	0.04	0.04
Number of U.S. Recordable Injury and Illness Cases	4	3	0	5	8
U.S. Recordable Injury and Illness Case Rates (per 200,000 work hours)	0.08	0.08	0	0.10	0.13

⁵⁸ Includes AMD employees hired on or before September 30th of the reporting year.

⁵⁹ Employee categories are defined as Executive: Director level positions and above; Manager: Manager and Senior Manager Job Titles; Technical Staff: Member of Technical Staff through Corporate Fellow; Professional: Supervisor positions; and Staff: Employees from Junior level positions to Professional.

⁶⁰ The reported data includes AMD employees and contract workers who report directly to an AMD employee. Our reporting guidelines are based on OSHA reporting criteria. Minor (first aid level) injuries are not included. Lost days are calculated based on scheduled workdays.

Number of Global Work-related Fatalities	0	0	0	0	0
Rate of Global Work-related Fatalities	0	0	0	0	0
Total Number of Global Hours Worked	19,038,264	22,832,712	23,924,376	28,343,784	38,583,384
OSHA Case Rate - Private Industry	2.7	2.8	2.8	2.2	n/a
OSHA Case Rate - Computer/Electronic Product Manufacturing	1.0	1.2	1.1	0.7	n/a
OSHA Case Rate - Technical/Engineering Services	0.6	0.6	0.8	0.5	n/a
U.S. Lost Work Days Case Rate (per 200,000 work hours)	0.0	0.0	0.0	0.02	0.10
Number of Health or Safety Non-Compliances	1	0	0	0	1 ⁶¹

Volunteerism⁶²

	2017	2018	2019	2020	2021 ⁵³
AMD Volunteers	2,451	2,838	3,098	3,110	2,807
AMD Volunteer Hours	10,257	15,234	15,193	7,057	9,052
Number of Volunteer Events	138	154	160	71	64

Environmental Performance Indicators

AMD collects environmental data about AMD locations worldwide and contracts suppliers with wafer fabrication sites or assembly and test operations. The following table provides data on energy use, electricity consumption, carbon equivalent emissions, water use, waste generation and compliance. 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 our scope 3 GHG emissions for business air travel.

	2017	2018	2019	2020	2021 ⁵³
Energy					
Total Absolute Energy Use (GWh)	129	121	127	124	108
Atlanta	25	25	24	24	5 ⁶³
Austin	24	23	25	25	25
Bengaluru	3	4	4	4	5
Cyberjaya	9	8	6	<1	0 ⁶⁴

⁶¹ On April 28, 2021, a Notice of Violation was received from the Austin Fire Department for a small site in Austin. Two deficiencies were noted, one for the failure of a heat detector and the other for inability to inspect two other detectors. All corrective actions were completed and the site was back in compliance on May 4, 2021.

⁶² Reported data includes AMD employees and contractors.

⁶³ AMD migrated US data center operations near Atlanta to a third-party operated, collocated facility (powered by 100% renewable energy)

⁶⁴ AMD decommissioned a data center in Cyberjaya, Malaysia in 2020.

Hyderabad	6	6	6	6	7
Markham	20	21	26	25	27
Santa Clara	n/a	5	6	7	8
Shanghai	8	7	8	10	11
Singapore	17	15	17	17	16
Sunnyvale	13	n/a	n/a	n/a	n/a
Other sites combined	5	5	5	5	5
Electricity (Indirect Energy, GWh)	122	116	120	116	101
Atlanta	25	25	24	24	5 ⁶⁴
Austin	24	23	24	25	25
Bengaluru	3	3	4	4	4
Cyberjaya	9	8	5	<1	<1 ⁶⁵
Hyderabad	5	6	6	6	7
Markham	18	18	21	21	23
Santa Clara	n/a	4	4	5	6
Shanghai	8	7	8	10	11
Singapore	17	15	17	17	16
Sunnyvale	8	n/a	n/a	n/a	n/a
Other sites combined	5	5	5	4	5
Total Renewable Electricity Use (GWh)⁶⁵	37	27	42	34	28
% of Global Electricity Use from Renewable Sources	31%	23%	35%	29%	27%
Atlanta	13	19	24	24	0 ⁶⁴
Austin	24	0	6	0	5
Bengaluru	0	0	0	0	4
Hyderabad	0	0	0	0	7
Shanghai	0	7	8	10	11
Other	<1	<1	3	<1	<1
Total Non-Renewable Electricity Use (GWh)	85	89	78	83	74
Total Energy/Revenue (kWh/\$)	0.024	0.019	0.019	0.013	0.007
Energy Use (Direct, GWh)	7	5	6	7	6
Atlanta	<1	<1	<1	<1	<1
Austin	<1	<1	<1	<1	<1
Cyberjaya	<1	<1	<1	<1	<1
Markham	2	3	4	4	4
Santa Clara	n/a	1	1	2	2
Singapore	<1	<1	<1	<1	<1
Sunnyvale	5	n/a	n/a	n/a	n/a
Other sites combined	<1	<1	<1	<1	<1

⁶⁵ AMD procures third-party verified renewable energy credits (RECs) in the US (Green-e certified) as well as China and India (international renewable energy credits, or iRECs).

Greenhouse Gas Emissions					
Total Scope 1 Emissions⁶⁶ (MTCO₂e)	4,076	3,207	3,358	2,335	2,892
Atlanta	24	27	27	43	7 ⁶⁴
Austin	421	214	73	93	60
Bengaluru	57	115	107	50	111
Cyberjaya	14	147	149	n/a	n/a ⁶⁵
Hyderabad	22	16	18	18	22
Markham	515	598	908	974	960
Santa Clara	n/a	295	240	356	320
Singapore	2,105	1,770	1,834	814	783
Sunnyvale	917	n/a	n/a	n/a	n/a
All other sites combined	<1	25	2	2	1
Total Scope 2 Market-based Emissions⁶⁷ (MTCO₂e)	35,511	36,279	30,725	30,552	21,733
Atlanta	5,439	2,730	0	0	2,118 ⁶⁴
Austin	0	9,837	7,650	10,783	7,830
Bengaluru	2,288	2,403	2,789	2,743	0
Cyberjaya	5,530	5,540	3,887	n/a	n/a ⁶⁵
Hyderabad	3,972	4,538	4,786	4,524	0
Markham	2,527	2,428	2,812	2,680	2,586
Santa Clara	n/a	793	989	1,211	1,224
Shanghai	4,677	0	0	0	0
Singapore	6,631	5,923	6,414	6,483	6,182
Sunnyvale	1,937	n/a	n/a	n/a	n/a
All other sites combined	2,510	2,088	1,399	2,192	1,682
Total Scope 1 and 2 Market-based Emissions (MTCO₂e)	39,587	39,487	34,083	32,887	24,624
Scope 1 and 2 Market-based Emission Reductions ⁶⁸ (% reduction from 2020)	N/A	N/A	N/A	N/A	25%

⁶⁶ AMD scope 1 emissions factors for refrigerants and natural gas. The gases include hexafluoroethane (HFE) and hydrofluorocarbons (HFCs). Emission factors for chemical use are based on the GHG Protocol Calculation Tool (Global Warming Potential Values) and IPCC Assessment Report Table 2.14. The scope is based on operational control (i.e., AMD-occupied facilities). We follow the GHG Protocol, the internationally recognized standard for the corporate accounting and reporting of GHG emissions.

⁶⁷ AMD applies both the market-based and location-based methods for estimating scope 2 emissions (market-based accounting for renewable energy credits; location based not accounting for renewable energy credits). AMD Site Metrics Coordinators enter the amount of electricity used each quarter into AMD's central database. AMD follows the Greenhouse Gas Protocol, the internationally recognized standard for the corporate accounting and reporting of GHG emissions. Emission factors for locations in the U.S. are based on eGRID total output emission rates, and for outside the U.S. are based on International Energy Agency (IEA) national electricity emission factors. If electricity use data is not available, as for small offices, then an average value for U.S. office buildings is used for all AMD locations (16.9 kWh/sq ft) based on [EIA CBECS](#) results for the average administrative office, and the emission factor for the location is applied. AMD purchases renewable energy credits from the U.S. (Green-E certified wind) and international renewable energy credits from China and India. AMD applies RECs to market-based emissions for AMD sites in the U.S., China and India.

⁶⁸ Our goal is a 50 percent reduction in absolute scope 1 and 2 GHG emissions from 2020-2030.

Scope 1 and 2 Market-based Emissions/Revenue (Scope 1 and 2 gCO ₂ e/\$USD)	7.4	6.1	5.1	3.4	1.5
Total Scope 2 Location-based Emissions⁶⁷ (MTCO₂e)	51,249	50,011	50,610	47,797	38,956
Atlanta	12,029	11,621	11,394	11,183	2,118 ⁶⁴
Austin	11,145	9,837	10,334	10,753	9,820
Bengaluru	2,288	2,403	2,789	2,646	3,084
Cyberjaya	5,530	5,540	3,887	n/a	n/a ⁶⁵
Hyderabad	3,972	4,538	4,786	4,525	4,837
Markham	2,527	2,428	2,812	2,743	2,586
Santa Clara	n/a	793	989	1,211	1,224
Shanghai	4,677	4,575	4,944	5,929	6,885
Singapore	6,631	5,923	6,414	6,483	6,182
Sunnyvale	1,937	n/a	n/a	n/a	n/a
All other sites combined	2,306	2,353	2,262	2,165	2,110
Total Scope 1 and 2 Location-based Emissions (MTCO₂e)	62,106	63,849	53,968	50,132	43,536
Estimated Scope 3 Emissions (MTCO₂e)⁶⁹	906,431	922,000	987,039	5,554,692	11,563,108
Category 1: Purchased goods and services	468,718	463,647	497,241	1,414,675	2,494,961
Category 3: Fuel-and energy-related activities (not in scope 1+2)	n/a	n/a	n/a	12,565	14,490
Category 4: Upstream transportation and distribution	9,116	13,253	24,005	39,488	61,175
Category 5: Waste generated in operations	n/a	n/a	n/a	48	41
Category 6: Business travel	11,518	12,354	11,660	2,429	671

⁶⁹ In 2020 and 2021, AMD expanded the estimations for scope 3 reporting. Our value chain emissions are estimated following the guidance from the GHG protocol. Category 1: Emissions associated with Foundry and OSAT suppliers are calculated using Scope 1 and 2 emissions collected from top suppliers, allocated to AMD, and extrapolated to account for suppliers that do not disclose their emissions. Emissions upstream of AMD's Foundry suppliers are then estimated using a manufacturing LCA index specific to AMD's highest volume products. Emissions from all other vendors (including marketing, professional services, real estate, software providers, telecom and networking providers and other manufacturing services) are calculated using a spend-based method. Category 3: Emissions are calculated using fuel and electricity consumption data collected from our sites globally, and emission factors from DEFRA and IEA. Category 4: emissions are estimated using a hybrid methodology combining supplier-specific emissions reported by two of our major shipping providers and a mode-specific, spend-based calculation on all other logistics spend. Category 5: Data is collected from our sites globally and emissions are calculated using DEFRA factors per waste type and waste disposal method. Category 6: Emissions are from air travel only and are provided by our travel agency, in accordance with the GHG Protocol. Category 7: Emissions are based on survey data from our 5 largest campuses are calculated using a distance-based method for average distance traveled and mode. Emissions are adjusted to reflect the proportion of employees working on-site during 2021. Category 11: Emissions are calculated based on total sales volume, average product electricity consumption, and average product lifetime split by product category for all products sold in 2021. Country-specific IEA emission factors are used to calculate emissions resulting from product use. A given percentage of server-related products are assumed to be powered with renewable electricity based on data center customer data. Category 12: Emissions are calculated based on the average product weight by product category and the total sales volume within 2021. A weight-based calculation is used, with the disposal method estimated using region-specific e-waste recycling, landfilling, and incineration benchmarks. Emission factors associated with e-waste treatment are obtained from the EPA.

Category 7: Employee commuting	9,906	12,372	13,381	2,788	7,370
Category 11: Use of sold products	407,173	418,969	440,752	4,217,421	8,983,025
Category 12: End of Life treatment of sold products	n/a	n/a	n/a	1,475	1,496
Water					
Total Water Use (million liters)	200	192	175	151	75⁷⁰
Atlanta	32	29	30	28	5 ⁶⁴
Austin	9	10	11	4	5
Bengaluru	7	5	5	4	2
Cyberjaya	9	9	7	n/a	n/a ⁶⁵
Hyderabad	7	8	7	4	3
Markham	53	83	80	81	24
Santa Clara	n/a	27	14	13	12
Singapore	8	7	8	5	8
Sunnyvale	62	n/a	n/a	n/a	n/a
Other sites combined	<1	<1	<1	<1	<1
Contract Manufacturing (million liters) ⁷¹	3,622	4,960	6,511	6,457	10,272
Water Use/Revenue (ML/\$USD)	37.5	29.7	26.0	15.4	4.5
Waste					
Total Non-Hazardous Waste (NHW) Generated (metric tons)	658	640	695	488	452
Atlanta	8	<1	<1	<1	n/a ⁶⁴
Austin	243	302	329	163	163
Bengaluru	2	2	2	1	2
Hyderabad	4	9	10	4	5
Markham	157	199	221	228	226
Santa Clara	n/a	66	67	35	28
Singapore	50	53	56	55	23
Sunnyvale	187	n/a	n/a	n/a	n/a
Other sites combined	6	9	11	2	5
NHW Recycled (metric tons)	455	415	429	402	383
NHW Landfilled (metric tons)	203	225	265	86	69
NHW Landfill Diversion Rate (%)	69%	65%	62%	82%	85%
Total Hazardous Waste (HW) Generated (metric tons)	8	3	3	3	4
Austin	1	2	1	2	2

⁷⁰ 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.

⁷¹ AMD receives estimated data on energy use, GHG emissions, water use, hazardous and non-hazardous waste from our wafer foundries, outsourced semiconductor assembly and test (OSAT) providers and other manufacturing suppliers that are attributed to the manufacturing of AMD products.

Markham	5	<1	1	1	1
Santa Clara	n/a	<1	<1	<1	<1
Sunnyvale	1	n/a	n/a	n/a	n/a
Singapore	<1	<1	<1	<1	<1
HW Recycled/Reused (metric tons)	1	<1	<1	1	<1
HW Treated Off-Site (metric tons)	<1	<1	<1	<1	1
HW Incinerated (metric tons)	6	1	1	<1	1
HW Landfilled (metric tons)	1	1	1	1	2
Total Waste Generated (NHW+HW)(metric tons)	666	643	697	491	455
Total Waste Generated per Revenue (g/\$USD)	0.12	0.10	0.10	0.05	0.03
Contract Manufacturing HW Generated (metric tons) ⁷¹	12,156	14,310	21,512	30,725	54,343
Wastewater					
Total Wastewater Discharge⁷² (million liters)	22	9	10	4	3
Austin	8	9	10	4	3
Sunnyvale	14	n/a	n/a	n/a	n/a
Wastewater generated per Revenue (ML/\$)	4.17	1.45	1.52	0.42	0.17
Air Emissions⁷³					
Ozone Depleting Substances (MTCO ₂ e)	2,548	2,099	2,019	962	1,579
Compliance					
Number of Environmental Non-Compliances	1	0	0	0	0
Fines (USD)	0	0	0	0	0

⁷² AMD generates a limited amount of wastewater that requires treatment by the municipal wastewater treatment plant, in accordance with water quality permitting.

⁷³ Fugitive emissions from refrigerant use are included as part of total scope 1 emissions.

Economic Performance Indicators

The following tables provide information about our company's annual financial data, social investments and U.S. political activities.

Financial Data

	2017	2018	2019	2020	2021 ⁵³
Total Revenue (in millions USD) ⁷⁴	\$5,253 ⁷⁵	\$6,475	\$6,731	\$9,763	\$16,434
Research and Development (in millions USD) ⁷⁵	\$1,196 ⁷⁶	\$1,434	\$1,547	\$1,983	\$2,845
Net Income (loss) (In millions USD) ⁷⁵	(\$33)	\$337	\$341	\$2,490	\$3,162

Social Investments

By Type	2017	2018	2019	2020	2021 ⁵³
AMD Foundation (USD)	\$49,400	\$117,200	\$153,000	\$91,814	\$32,500
Cash and In-Kind Giving (USD)	\$158,716	\$149,050	\$297,218	\$8,274,090 ⁷⁶	\$1,814,847
Total (USD)	\$208,116	\$266,250	\$450,218	\$8,365,904	\$1,847,347
By Region					
Americas (USD)	\$178,069	\$225,538	\$374,908	\$7,819,239	\$1,205,217
Europe/Africa (USD)	\$ -	\$ -	\$ -	\$104,105	\$156,935
Asia-Pacific/China/India (USD)	\$30,047	\$40,712	\$75,310	\$442,560	\$485,195
By Focus Area					
Education (USD)	\$113,152	\$82,935	\$263,754	\$194,026	\$294,172
Environment, social services and humanitarian aid (USD)	\$94,964	\$183,315	\$186,464	\$1,823,860	\$597,522
Scientific Research (USD)	n/a	n/a	n/a	\$6,348,018	\$955,653

⁷⁴ Economic data for current and past years are updated annually to reflect the company's most recent financial reports.

⁷⁵ ASC 606 Restatement

⁷⁶ 2020 increase based in large part on contributions from the AMD COVID-19 High Performance Compute (HPC) Fund. The program details are available at www.amd.com/en/corporate/covid-19-hpc-fund.

Advanced Micro Devices, Inc. Political Action Committee (PAC)⁷⁷

	2017	2018	2019	2020	2021 ⁵³
Total Contributions (USD)	\$0	\$505	\$0	\$30,600	\$11,250
Total Receipts (USD)	\$0	\$0	\$0	\$31,300	\$31,000

AMD GRI Content Index

The [Global Reporting Initiative](#) (GRI) is an international independent organization that helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others. GRI's Sustainability Reporting Standards are the world's most widely used standards on sustainability reporting and disclosure, enabling businesses, governments, civil society and citizens to make better decisions based on information that matters.

Our [2021-22 Corporate Responsibility Report](#) has been prepared in accordance with the GRI Standards: Core option.

GRI 102: General Disclosures (2016)	
Disclosure	Page Reference or Response
102-1 Name of the organization	Advanced Micro Devices, Inc. ⁷⁸ (AMD)
102-2 Activities, brands, products, and services	<p>AMD is a global semiconductor company that designs and delivers products for four primary markets:</p> <ul style="list-style-type: none"> • 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. <p>Periodically, we may also sell or license portions of our intellectual property (IP) portfolio.</p> <p>About AMD</p> <p>Our Approach to Corporate Responsibility</p>

⁷⁷ The AMD PAC is 100% funded by personal contributions from eligible donors, which include certain employees and their spouses, and is used to support candidates running for public office. AMD cannot, and does not, make any direct or indirect financial contributions to federal political candidates or committees. Totals of U.S. contributions and receipts associated with the AMD PAC are available on the U.S. Federal Election Commission website. Additional information on AMD Public Policy Engagement and U.S. Political Activities can be found [here](#).

⁷⁸ Advanced Micro Devices, Inc. may be referenced as AMD and may or may not include subsidiaries, affiliates, joint ventures or other business partnerships.

102-3 Location of headquarters	Santa Clara, California, U.S.A.
102-4 Location of operations	Our global operations span the world in more than 35 locations, including R&D facilities, data centers and international sales offices. Our Locations
102-5 Ownership and legal form	AMD is incorporated in the United States and is a publicly listed company traded on the NASDAQ Global Select Market.
102-6 Markets served	2021 AMD Annual Report , page 8
102-7 Scale of the organization	Total assets: 2021 Annual Report , page 50 Beneficial ownership: 2022 Proxy Statement , pages 35-37 Net revenues: 2021 Annual Report , page 43 Costs/Expenses: 2021 Annual Report , page 43 Total number of employees by country or region: ESG Data Tables, Social Performance Indicators Our headquarters is located in Santa Clara, California, and we have significant operations in Austin, Texas; Shanghai, China; Markham, Ontario, Canada; and Bangalore and Hyderabad, India. We also have a number of regional sales offices located in commercial centers near customers, principally in the United States, Europe, Asia and Latin America.
102-8 Information on employees and other workers	ESG Data Tables, Social Performance Indicators
102-9 Supply chain	Our Value Chain Supply Chain Responsibility , Why It Matters and Our Approach
102-10 Significant changes to the organization and its supply chain	There were no significant changes to our organization or supply chain in 2021.
102-11 Precautionary Principle or approach	AMD SASB and TCFD Disclosures 2021 AMD CDP Climate Change Submission
102-12 External initiatives	Stakeholder Engagement
102-13 Membership of associations	Stakeholder Engagement
102-14 Statement from senior decision-maker	CEO Message and Leadership Letter , pages 3 and 4
102-15 Key impacts, risks and opportunities	Our Material ESG Issues Digital Impact Environmental Sustainability Supply Chain Responsibility Diversity, Belonging and Inclusion

	AMD SASB and TCFD Disclosures
102-16 Values, principles, standards and norms of behavior	Worldwide Standards of Business Conduct Governance Code of Ethics
102-18 Governance structure	Board of Directors CR Management and Governance Principles of Corporate Governance
102-20 Executive-level responsibility for economic, environmental and social topics	CR Management and Governance 2022 Proxy Statement , page 30
102-21 Consulting stakeholders on economic, environmental and social topics	Stakeholder Engagement CR Management and Governance
102-26 Role of highest governance body in setting purpose, values and strategy	AMD Board of Directors
102-29 Identifying and managing economic, environmental and social impacts	CR Management and Governance Our Material ESG Issues 2022 Proxy Statement , pages 28-30
102-30 Effectiveness of risk management processes	CR Management and Governance
102-31 Review of economic, environmental and social topics	CR Management and Governance
102-32 Highest governance body's role in sustainability reporting	CR Management and Governance
102-40 List of stakeholder groups	Stakeholder Engagement
102-41 Collective bargaining agreements	AMD estimates that up to 15 percent of employees are covered by national or industry collective bargaining agreements in 2021.

102-42 Identifying and selecting stakeholders	Stakeholder Engagement
102-43 Approach to stakeholder engagement	Stakeholder Engagement
102-44 Key topics and concerns raised	Stakeholder Engagement Our Material ESG Issues
102-45 Entities included in the consolidated financial statements	Advanced Micro Devices, Inc 2021 Annual Report (10-K filing)
102-46 Defining report content and topic boundaries	Our Material ESG Issues
102-47 List of material topics	Our Material ESG Issues
102-48 Restatements of information	Any figures in <i>italics</i> in the Data Tables are restated from the previous year and are footnoted where necessary.
102-49 Changes in reporting	There were no significant changes from previous reporting periods in our material ESG issues. Our Material ESG Issues
102-50 Reporting period	Calendar year 2021
102-51 Date of most recent report	2020
102-52 Reporting cycle	Performance data and other relevant information is updated annually.
102-53 Contact point for questions regarding the report	CorporateResponsibility@AMD.com
102-54 Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option.
102-55 GRI content index	Our GRI Standards Index has been prepared in accordance with GRI Disclosure 102-55.
102-56 External assurance	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. This information is included in our ESG Data Tables, Environmental Performance Indicators . Bureau Veritas's full statement, including a summary of the work they performed, is available here .

Material Topic	GRI Standard	Management Approach (103:1-3)	Specific GRI Disclosures	Page Reference	Omissions
Digital Impact	GRI 413: Local Communities (2016)	Our Approach Community Involvement AMD Foundation (link to webpage)	413-1 Operations with local community engagement, impact assessments and development programs	ESG Data Tables , Economic Performance Indicators	None
Environmental Sustainability	GRI 302: Energy (2016)	Our Approach	302-1 Energy consumption within the organization	ESG Data Tables , Environmental Performance Indicators 2021 AMD CDP Climate Change Submission	None
			302-2 Energy consumption outside of the organization		None
			302-3 Energy intensity		None
	GRI 305: Emissions (2016)	Our Approach	305-1 Direct (Scope 1) GHG emissions	ESG Data Tables , Environmental Performance Indicators	none
			305-2 Energy indirect (Scope 2) GHG emissions		None
			305-3 Other indirect (Scope 3) GHG emissions		None
			305-4 GHG emissions intensity		None
	GRI 306: Effluents and Waste (2018)	Our Approach	306-3 Waste generated	ESG Data Tables , Environmental Performance Indicators	None
			306-4 Waste diverted from disposal		None
	GRI 307: Environmental Compliance (2016)	Our Approach	307-1 Non-compliance with environmental laws and regulations	No non-compliances were reported in 2021. ESG Data Tables , Environmental Performance Indicators	None
Supply Chain Responsibility	GRI 308: Supplier Environmental Assessment (2016)	Our Approach	308-2 Negative environmental impacts in the supply chain and actions taken	AMD Supplier Audit Summary Results	None

	GRI 407: Freedom of Association and Collective Bargaining (2016)	Our Approach AMD Human Rights Policy AMD Supplier Code of Conduct	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	AMD Supplier Audit Summary Results	None
	GRI 408: Child Labor (2016)	Our Approach AMD Human Rights Policy AMD Supplier Code of Conduct Responsible Minerals Sourcing Policy	408-1 Operations and suppliers at significant risk for incidents of child labor	AMD Supplier Audit Summary Results	None
	GRI 409: Forced or Compulsory Labor (2016)	Our Approach AMD Human Rights Policy Worldwide Standards of Business Conduct AMD Supplier Code of Conduct	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	AMD Supplier Audit Summary Results	None
	GRI 414: Supplier Social Assessment (2016)	Our Approach AMD Supplier Code of Conduct	414-2 Negative social impacts in the supply chain and actions taken	AMD Supplier Audit Summary Results Statement on Human Trafficking and Forced Labor	None
Diversity, Belonging and Inclusion	GRI 401: Employment	Our Approach Compensation and Leadership Resources Committee	401-1 New employee hires and employee turnover	ESG Data Tables, Social Performance Indicators	None
			401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Talent Attraction and Retention, Total Rewards	None
			401-3 Parental leave	ESG Data Tables, Social Performance Indicators	None
	GRI 403: Occupational Health and Safety	Workforce Health and Safety	Disclosure 403-9 Work-related injuries	ESG Data Tables, Social Performance Indicators (link to webpage)	None
	GRI 404: Training and	Employee Education and Training	Disclosure 404-3	ESG Data Tables, Social Performance Indicators	None

Conducting Business Responsibly	Education (2016)		Percentage of employees receiving regular performance and career development reviews		
	GRI 405: Diversity and Equal Opportunity (2016)	Our Approach Worldwide Standards of Business Conduct , pages 8-9	405-1 Diversity of governance bodies and employees	ESG Data Tables , Social Performance Indicators	None
	GRI 406: Non-discrimination (2016)	Worldwide Standards of Business Conduct , page 9	406-1 Incidents of discrimination and corrective actions taken	No corroborated incidents were found during 2021.	None
	GRI 201: Economic Performance (2016)	2021 Annual Report (10-K)	201-1 Direct economic value generated and distributed	2021 Annual Report (10-K) ESG Data Tables , Economic Performance Indicators	None
	GRI 205: Anti-corruption (2016)	AMD's Internal Audit Department performs comprehensive risk analyses (including corruption) of all AMD sites/departments. Worldwide Standards of Business Conduct , pages 19-21 AMD Code of Ethics	205-1 Operations assessed for risks related to corruption	Ethics and Compliance Worldwide Standards of Business Conduct , pages 19-21	None
			205-2 Communication and training about anti-corruption policies and procedures	Ethics and Compliance Worldwide Standards of Business Conduct , pages 19-21	None
			205-3 Confirmed incidents of corruption and actions taken	AMD is unaware of any such incidents during 2021 related to corruption.	None
	GRI 206: Anti-competitive Behavior (2016)	Worldwide Standards of Business Conduct , page 22	206-1 Legal actions for anti-competitive behavior, anti-trust and monopoly practices	There were no legal actions for anti-competitive behaviors, antitrust or monopoly practices brought against the company in 2021.	None



				Any material legal proceedings involving AMD would be discussed in our 2021 Annual Report on Form 10-K .	
	GRI 415: Public Policy (2016)	Public Policy Engagement and U.S. Political Activities CR Management and Governance	415-1 Political contributions	ESG Data Tables , Economic Performance Indicators	None
	GRI 419: Socioeconomic Compliance (2016)	Worldwide Standards of Business Conduct, page 18 Environmental, Health and Safety (EHS) Policy Statement	419-1 Non-compliance with laws and regulations in the social and economic area	ESG Data Tables , Social Performance Indicators	AMD does not report cases brought through dispute resolution mechanisms.
	Cybersecurity	Cybersecurity is a top priority for AMD. We focus on continuously strengthening the protection of our company's technology infrastructure, intellectual property and other critical information assets against cyber threats.	n/a	Cybersecurity	n/a
	Supply chain and Product Security	To safeguard product integrity, AMD has established an extensive set of controls to help ensure parts are securely manufactured, assembled, tested, uniquely tracked, marked, stored and transported from manufacture to authorized distribution.	n/a	Data Privacy & Security AMD Processor Security Updates	n/a


Advancing the United Nations Sustainable Development

(<https://www.amd.com/system/files/documents/2021-un-sdgs.pdf>)

At AMD, we believe the UN Sustainable Development Goals (SDGs) serve as a useful framework for tackling the world's toughest challenges. Our company and the technology sector as a whole have a critical role to play in enabling the future that the SDGs aspire to create. While not specifically designed around them, our priority areas and initiatives help to advance many of the SDGs. AMD is pleased to be a member of the UN Global Compact to advance its Ten Principles and to contribute in creating a just, resilient and sustainable world.

SDG	SDG TARGET	AMD SUPPORTING STRATEGIES AND INITIATIVES	AMD ALIGNED GOAL(S) AND PROGRESS TO GOAL(S)
<div>3</div> <div>GOOD HEALTH AND WELL-BEING</div> <div></div>	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.	<p>The AMD HPC Fund puts more computational power in the hands of those conducting groundbreaking research to accelerate solutions to the world's toughest challenges. Originally established in 2020 with a focus on powering research to fight the COVID-19 pandemic, the Fund has now been broadened to include other medical and social good research.</p> <p>> AMD High Performance Compute Fund</p>	<p>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 (2020-2025)¹</p> <p>> See AMD progress to goal HERE</p>
<div>9</div> <div>INDUSTRY, INNOVATION AND INFRASTRUCTURE</div> <div></div>	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.	<p>The AMD Embedded product portfolio enables Internet of Things (IoT) solutions capable of processing large quantities of data closer to the end-user. AMD-powered industrial PCs can be optimized for exceptional power-efficient processing and graphics performance and are tailored for a variety of automated industrial applications.</p> <p>> AMD Embedded Products</p>	
<div>13</div> <div>CLIMATE ACTION</div> <div></div>	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	<p>AMD-powered servers play an important role in advancing research on climate change. By analyzing massive and complex data sets, researchers and scientists are able to explore the causes of climate change and even better predict the impacts of extreme weather.</p> <p>> Powering the Exascale Era</p>	
<div>4</div> <div>QUALITY EDUCATION</div> <div></div>	4.7.B By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.	<p>Beginning with sites in Austin, TX and San Jose, CA in the US, Shanghai, China, Markham, Canada, and Singapore, AMD Learning Labs support the expansion of STEM curricula and opportunities for underserved students to gain hands-on experience with computer hardware and software.</p> <p>> AMD Learning Labs</p>	
		DIGITAL IMPACT	
SDG	SDG TARGET	AMD SUPPORTING STRATEGIES AND INITIATIVES	AMD ALIGNED GOAL(S) AND PROGRESS TO GOAL(S)
<div>5</div> <div>GENDER EQUALITY</div> <div></div>	5.C Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.	<p>We recognize the challenge of increasing the representation of women in engineering and other roles. We will continue our efforts to recruit diverse talent and foster an inclusive and innovative culture, where the best ideas “win” regardless of the individual’s identity.</p>	<p>70 percent of our employees to participate in AMD employee resource groups and/or other AMD inclusion initiatives (2020-2025)²</p> <p>> See AMD progress to goal HERE</p>
<div>10</div> <div>REDUCED INEQUALITIES</div> <div></div>	<p>10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.</p> <p>10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.</p>	<p>AMD is a workplace where all voices can be heard, and our multi-voice initiative encourages and supports all AMDers who champion, and when needed, challenge and change our company culture with their unique perspective. Employee resource groups encourage employee engagement and are an important part of our company’s culture.</p> <p>> AMD Diversity, Belonging & Inclusion</p>	
		DIVERSITY, BELONGING & INCLUSION	

	12.2 By 2030, achieve the sustainable management and efficient use of natural resources.	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 emissions.	30x increase in energy efficiency for AMD processors and accelerators powering servers for artificial intelligence-training and high-performance computing (2020-2025) ³
	13.2 Integrate climate change measures into national policies, strategies and planning.		AMD is charting a bold path that includes accelerating energy efficiency for advanced computing, setting a science-based greenhouse gas (GHG) emissions reductions goal for our operations (aligned to a below 1.5 degree Celsius scenario), and working with suppliers to increase efficient use of resources and renewable energy. > AMD Environmental Sustainability	50 percent absolute reduction in GHG emissions from AMD operations (Scope 1 and 2) by 2030 (base year 2020) 100 percent of AMD manufacturing suppliers have public GHG emissions reduction goals by 2025 ⁴ 80 percent of AMD manufacturing suppliers source renewable energy by 2025 > See AMD progress to goal HERE

SDG	SDG TARGET	SUPPLY CHAIN RESPONSIBILITY	AMD SUPPORTING STRATEGIES AND INITIATIVES	AMD ALIGNED GOAL(S) AND PROGRESS TO GOAL(S)
	8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms. 8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.		<p>At AMD, we respect human rights throughout our company, operations and supply chain. Our Human Rights Policy reflects our commitment to the United Nations Guiding Principles on Business and Human Rights.</p> <p>The AMD Supplier Code of Conduct outlines the standards and expectations we expect suppliers to uphold including labor standards such as freedom of association and protections for migrant workers.</p> <p>Through the Responsible Mineral Initiative (RMI), we connect with industry members, governments, non-profits, and other stakeholders to contribute to mitigating the salient social and environmental impacts of the extraction and processing of minerals in supply chains. > AMD Responsible Minerals Sourcing</p> <p>Each year we publish the AMD Statement on Forced Labor and Human Trafficking to comply with various global legislation and to provide transparency on our progress to address forced labor if found in our supply chain.</p> <p>We partner with industry and stakeholders through the Responsible Labor Initiative (RLI) to help address the root causes of forced labor and prevent, detect and remediate forced labor if found in our supply chain. > AMD Stakeholder Engagement</p>	100 percent of AMD supplier manufacturing factories will have a Responsible Business Alliance (RBA) audit (or equivalent) (2020-2025) 80 percent of AMD manufacturing suppliers by spend will participate in a capacity building activity (2020-2025) > See AMD progress to goal HERE

Sustainability Accounting Standards Board (SASB) Disclosures

(<https://www.amd.com/system/files/documents/2021-22-sasb-tcf-disclosures.pdf>)

The Sustainability Accounting Standards Board (SASB) has developed voluntary industry-specific disclosure standards to enable businesses globally to identify, manage and communicate financially-material sustainability information to their investors. These Standards identify the subset of environmental, social and governance (ESG) issues most relevant to financial performance across various industries.

We have outlined below how our existing disclosures as of December 31, 2021, align with the recommended metrics for the SASB Technology and Communications Sector: Semiconductor Standard.

TOPIC	SASB ACCOUNTING METRIC	CODE	AMD DISCLOSURE
Greenhouse Gas Emissions	(1) Gross global Scope 1 emissions (2) amount of total emissions from perfluorinated compounds	TC-SC-110a.1	(1) ESG Data Table , Scope 1 Emissions (2) AMD does not separately report emissions from perfluorinated compounds due to low usage.
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets and an analysis of performance against those targets	TC-SC-110a.2	> Environmental Sustainability
Energy Management in Manufacturing	(1) Total energy consumed, (2) Percentage grid electricity (3) Percentage renewable	TC-SC-130a.1	> ESG Data Table , Energy Use
Water Management	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	TC-SC-140a.1	> ESG Data Table , Water > Information on water stress regions is reported in our CDP Water Survey
Waste Management	Amount of hazardous waste from manufacturing, percentage recycled	TC-SC-150a.1	> ESG Data Table , Waste
Employee Health & Safety	Description of efforts to assess, monitor and reduce exposure of employees to human health hazards	TC-SC-320a.1	> Environmental, Health and Safety (EHS) policy > Training and initiatives for AMD employees > Supplier Code of Conduct
	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	TC-SC-320a.2	> Zero in 2021, ESG Data Table , Social Performance

TOPIC	SASB ACCOUNTING METRIC		AMD DISCLOSURE
Recruiting and Managing a Global and Skilled Workforce	Percentage of employees that are (1) foreign nationals and (2) located offshore	TC-SC-330a.1	We do not report this metric, but we do report a breakdown of our workforce by gender, age group and geographic region. ESG Data Table , Social Performance
Product Lifecycle Management	Percentage of products by revenue that contain IEC 62474 declarable substances	TC-SC-410a.1	AMD provides Material Declaration Datasheets (MDDS) upon email request to eCI_Administrator@amd.com .
	Processor energy efficiency at a system-level for: (1) servers (2) desktops (3) laptops	TC-SC-410a.2	AMD does not report system-level energy efficiency metrics due to the variety of customers' systems in which our processors are incorporated and the numerous components in those systems that are unrelated to our technology. We address processor energy efficiency in each of our product lines, including but not limited to servers, desktops and laptops. > Environmental Sustainability
Materials Sourcing	Description of the management of risks associated with the use of critical materials	TC-SC-440a.1	> Responsible Minerals Sourcing
Intellectual Property Protection and Competitive Behavior	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	TC-SC-520a.1	We disclose information on legal proceedings in our Annual 10-K Report available at https://ir.amd.com/sec-filings .

Task Force on Climate-related Financial Disclosures

(<https://www.amd.com/system/files/documents/2021-22-sasb-tcf-d-disclosures.pdf>)

The Financial Stability Board created the Task Force on Climate-related Financial Disclosures (TCFD) to improve and increase reporting of climate-related financial information. TCFD's disclosure recommendations are structured around four thematic areas that represent core elements of how organizations operate: governance, strategy, risk management, and metrics and targets. These thematic areas are intended to interlink and inform each other.

We have outlined below how our existing disclosures as of December 31, 2021, align with the recommended TCFD metrics.

TCFD GOVERNANCE DISCLOSURE	AMD RESPONSE	DISCLOSURE SOURCE
A) Describe the board's oversight of climate-related risks and opportunities.	The highest level of ESG oversight at AMD is the AMD Board of Directors, which receives reports from and engages with management at least quarterly on ESG issues, practices and reporting (including climate-related issues). The AMD Board Committee for Nominating and Corporate Governance also has formal oversight of ESG and receives additional updates.	<ul style="list-style-type: none"> > CR Management and Governance > CDP Climate Change Survey – C1. Governance
B) Describe management's role in assessing and managing climate-related risks and opportunities.	<p>The AMD Executive Team (AET) receives regular updates, at least monthly, on ESG topics, needs and proposals - including at least annual briefings on climate goals and progress. AET members actively participate in setting ESG strategic priorities and goals for their departments, while providing the necessary company investments and resources to drive long-term progress.</p> <p>Our ESG Executive Steering Committee is responsible for overseeing progress on the company's ESG priorities, goals and disclosures while regularly communicating with the AET. The Committee is comprised of cross-functional leaders (Director level or higher) from Finance, Global Operations, Human Resources, Investor Relations, Legal, Public Affairs and other departments.</p> <p>Climate-related issues are managed by the Corporate Responsibility (CR) team, which resides within the Public Affairs department and reports to the General Counsel and Corporate Secretary. Among other responsibilities, the CR team works closely with supply chain, product engineers, regulatory affairs and EHS to coordinate initiatives related to energy use and GHG emissions across the company's value chain. Meetings are held regularly with each group, either bi-weekly, monthly or quarterly, to identify issues and opportunities as well as track progress related to reducing energy use and/or GHG emissions.</p>	<ul style="list-style-type: none"> > CDP Climate Change Survey Question C1.2a

TCFD STRATEGY DISCLOSURE	AMD RESPONSE	DISCLOSURE SOURCE
A) Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.	<p>AMD defines short, medium and long-term time horizons as follows:</p> <p>Short-term: 0 – 3 years Medium-term: 3 – 5 years Long-term: 5 – 15 years</p> <p>We look at corporate responsibility 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. Our 2020 materiality assessment identified current or potential ESG impacts on our business and from AMD on stakeholders and society. Examples of identified material risks and opportunities include advancing product energy efficiency, helping customers reduce emissions, reducing energy/emissions impacts in the supply chain and sourcing renewable energy. In addition, potential risks to AMD operations, supply chain and product have been identified due to extreme weather events such as floods, heatwaves and freezes.</p>	<ul style="list-style-type: none"> > Our Material ESG Issues > Environmental Sustainability > CDP Climate Change Survey Question C2. Risks and Opportunities
B) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	Refer to our CDP Climate Change Survey response.	<ul style="list-style-type: none"> > CDP Climate Change Survey Section C2. Risk and Opportunities and C3. Business Strategy
C) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	We recognize that our environmental sustainability ambitions must continue to go beyond slowing growth in GHG emissions. This is why AMD is charting a bold path to advance energy efficiency for Accelerated Computing applications; setting a science-based GHG emissions reductions goal for our operations (aligned with a 1.5 degree Celsius scenario); and working with our manufacturing suppliers ³ to increase efficient use of resources and renewable energy.	<ul style="list-style-type: none"> > CDP Climate Change Survey – C2.3 Risks and Opportunities and C3.2 Business Strategy > Environmental Sustainability

TCFD RISK MANAGEMENT DISCLOSURE	AMD RESPONSE	DISCLOSURE SOURCE
A) Describe the organization's processes for identifying and assessing climate-related risks.	We use materiality assessments to prioritize ESG-related issues, set our strategy and continuously strengthen our engagement with key stakeholders. This approach allows us to prioritize where we need to focus our efforts to have the most impact and operationalize our goals into the business.	
B) Describe the organization's processes for managing climate-related risks.	AMD takes a multi-faceted approach to ESG-related risk management and the advancement of opportunities. For example, a cross-functional team focused on product energy efficiency meets bi-weekly to discuss regulatory and standards developments that may pose short, medium or longer-term risks (or opportunities). The team is led by our Corporate Vice President of Government Affairs and Corporate Responsibility, with the participation of product engineering, corporate responsibility and relevant business teams.	> CDP Climate Change Survey – C2.2 Risks and Opportunities > Our Material ESG Issues
C) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	Business continuity planning is another area of risk management that brings together EHS, Finance, Global Operations, Human Resources, Information Technology and other teams to identify and plan for events that could disrupt AMD operations and/or supplier operations.	

TCFD METRICS AND TARGETS DISCLOSURE	AMD RESPONSE	DISCLOSURE SOURCE
A) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	AMD reports climate-related metrics and targets in our annual corporate responsibility report. Our historical scope 1, 2 and 3 GHG emissions data can be found in our ESG Data Table. Our 2025/2030 environmental goals include: > 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 compared to 2020. > 30x increase in energy efficiency for AMD processors and accelerators powering servers for artificial intelligence-training and high-performance computing from 2020-2025. ¹ ON TRACK: In 2021, AMD achieved a 3.9x increase, and midway through 2022, we have reached a 6.8x improvement in energy efficiency compared to 2020. ²	> Environmental Sustainability > ESG Data Table – Environmental Performance
B) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	> 100 percent of AMD manufacturing suppliers have public emissions reduction goals by 2025. ON TRACK: In 2021, 74 percent of our manufacturing suppliers ³ have public GHG goals. > 80 percent of AMD manufacturing suppliers source renewable energy by 2025 ON TRACK: In 2021, 74 percent of our manufacturing suppliers ³ sourced renewable energy.	> CDP Climate Change Survey – C4. Targets and performance, C5. Emissions methodology and C6. Emissions data
C) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Additional information on our scope 1, 2 and 3 GHG emissions and achievement/progress of goals is available in our CDP response (section 4) and environmental disclosures on our Environmental Sustainability page.	