Microsoft

Microsoft and the United Nations Sustainable Development Goals

2021 Report

We support the Sustainable Development Goals

> **" When your technology changes the world, you bear a responsibility to help address the world you have helped create. "**

Brad Smith, President and Vice-Chair, Microsoft Corporation

and

Carol Ann Browne, Chief of Staff and Executive Communications, Microsoft Corporation

in

Tools and Weapons: The Promise and Peril of the Digital Age

September 2019

(Updated: Paperback, September 2021)

Contents

Spotlight: New UN SDG Advocates 2021

© UN Photo/Jean-Marc Ferré

United Nations Secretary-General António Guterres

On 17 September 2021, United Nations Secretary-General António Guterres appointed Nobel Peace Prize laureate Kailash Satyarthi, STEM activist Valentina Muñoz Rabanal, Microsoft President Brad Smith, and pop superstars Blackpink as new Sustainable Development Goals (SDG) Advocates.

Secretary-General Guterres, calling for immediate action to protect our most precious assets—from the oceans to outer space—and to deliver on our common aspirations—peace, global health, a livable planet— appointed these new SDG Advocates ahead of the 76th UN General Assembly. The Advocates will champion the key issues of climate action, bridging the digital divide, gender equality, and the promotion of children's rights.

"We are at a pivotal moment. The choices we make now could put us on a path towards breakdown and a future of perpetual crisis; or breakthrough to a greener and safer world," declared Guterres. "The SDG Advocates use their considerable spheres of influence to reach new constituencies to act now and keep the promise of the Sustainable Development Goals for people and for the planet."

> **❝ The SDG Advocates … reach new constituencies to act now and keep the promise of the Sustainable Development Goals for people and for the planet. ❞**

Source: UN SDG Advocates Press Statement, 17 September 2021 https://www.unsdgadvocates.org/news/un-secretary-general-appoints-four-new-sdg-advocates-1

Spotlight: Brad Smith appointed new SDG Advocate

Brad Smith
President and Vice-Chair, Microsoft Corporation

On 17 September 2021, United Nations Secretary-General António Guterres appointed Microsoft President Brad Smith as a new SDG Advocate. As company president, Brad plays a key role in spearheading Microsoft's work on critical issues at the intersection of technology and society, including cybersecurity, environmental sustainability, human rights, and philanthropy.

In his new role as SDG Advocate, Mr. Smith will focus on bridging the digital skills gap and will emphasize setting bold goals focused on environmental sustainability:

"The scale and size of the challenges the world faces today, like poverty, inequality, and climate change, require all of us to join forces and develop new solutions, many of which can be enabled or accelerated through digital technology. As we aspire to live our mission to create opportunity for everyone, everywhere, we look forward to partnering with governments, industries, and civil society on the UN's 17 SDGs by contributing our creativity, expertise, and know-how to unleash the power of digital technology."

> **The scale and size of the challenges the world faces today, like poverty, inequality, and climate change, require all of us to join forces ....**

Co-chaired by President Nana Addo Dankwa Akufo-Addo of Ghana

and Prime Minister Erna Solberg of Norway,

the United Nations Secretary-General's SDG Advocates

are prominent citizens and world leaders who

mobilize action to deliver the SDGs by 2030.

Sustainable Development Goals Advocates, September 2021

President Nana Addo Dankwa Akufo-Addo of Ghana (Co-chair)

Prime Minister Erna Solberg of Norway (Co-chair)

Her Majesty Queen Mathilde of the Belgians

His Royal Highness Muhammadu Sanusi II, Emir of Kano

Her Highness Sheikha Moza bint Nasser of Qatar

Blackpink, K-pop girl group

Richard Curtis, screenwriter, producer, and film director

Hindou Ibrahim, activist for climate action and indigenous rights

Graça Machel, founder and Chair of the Board, Graça Machel Trust

Dia Mirza, actor, UN Environment Programme Goodwill Ambassador

Valentina Muñoz Rabanal, STEM activist

Edward Ndopu, public intellectual, humanitarian, and founder of A Billion Reasons

Jeffrey Sachs, Director, The Earth Institute, Columbia Climate School

Kailash Satyarthi, Nobel Peace Prize laureate, founder of Kailash Satyarthi Children's Foundation

Brad Smith, President, Microsoft Corporation

Forest Whitaker, founder and CEO, Whitaker Peace & Development Initiative, UNESCO Special Envoy for Peace and Reconciliation

> " In his new role as SDG Advocate, Mr. Smith will focus on bridging the digital skills gap and will emphasize setting bold goals focused on environmental sustainability. "

Foreword

John Frank
Vice President, United Nations Affairs
Microsoft Corporation

Microsoft has participated in the Sustainable Development Goals (SDGs) since 2015, when the United Nations (UN) created the Global Goals as a blueprint to mobilize efforts across all Member States and stakeholder groups. The SDGs set 17 universal goals to achieve by 2030, ensuring that we take the bold steps necessary to tackle the most pressing challenges we face today, including poverty, inequality, climate change, and universal healthcare.

One and a half years ago, Microsoft created its UN Affairs team to deepen our relationship with the UN. In that time, we have been working to build relationships and engage across the UN community on advancing the SDGs through multistakeholder collaborations.

Fundamentally, the Global Goals are consistent with our company's mission to empower every person and every organization on the planet to achieve more. Microsoft's partnerships have provided support to the Secretary-General's plan for a comprehensive UN response to the coronavirus pandemic to

> " Advancing our mission means contributing to a future that empowers everyone. "

save lives, protect societies, and recover better. Microsoft has partnered with the World Health Organization (WHO) to develop big data solutions that will greatly increase the scientific capacity of WHO to address the coronavirus pandemic and future health challenges.

We have increased digital inclusivity by promoting innovative, lower-cost solutions to bring broadband access to rural Africa; and partnered with UNICEF in developing the Learning Passport to provide education for displaced and refugee children and young people through a digital remote learning platform. This builds on longer-standing partnerships with the UN High Commissioner for Human Rights on Rights View, which helps the

Office monitor human rights developments around the world.

We believe technology can be a positive force in transforming our world and people's lives when it is developed and used in trusted, responsible, and inclusive ways. Advancing our mission means contributing to a future that empowers everyone. That is why we are putting technology in the hands of those who are addressing our most pressing societal challenges—so they can have a greater impact.

We have produced this *Microsoft and the United Nations Sustainable Development Goals 2021 Report* to share more information about that work with you. For the second year in a row, we aim to highlight some of the contributions that

Microsoft is making to achieve the 17 SDGs—typically by exercising the power of digital technology. Notably, for this year's report, you will also hear from Microsoft CELA executives and external partners on the joint efforts we are making to fast-track progress on the SDGs.

The Microsoft commitment to addressing some of the biggest challenges facing the future of society inspires me. Through innovation, investment, and partnership, we seek to advance the SDGs and contribute to a sustainable future that is truly for everyone. I look forward to building on these efforts with the UN community and to contributing to multistakeholder initiatives necessary to achieve the SDGs.

> ❝ **For the second year in a row, we aim to highlight some of the contributions that Microsoft is making to achieve the 17 SDGs— typically by exercising the power of digital technology.** ❞

Authors

Jean-Yves Art
Senior Director
Strategic Partnerships

Daniel Akinmade Emejulu
Program Manager
UN Affairs

Contributors

Alessandra Pistoia	**John Galligan**
Ankur Patel	**John Hering**
Amanda Craig	**Julian Wilmouth**
Bonnie Lei	**Katie Bates**
Britt Peemoller	**Katie Ross**
Cameron Birge	**Keelan Shirkey**
David Rhew	**Kelly Stumbaugh**
Elizabeth Wilmott	**Lani Cossette**
Eliza Roberts	**Liza Georgie**
Fatema Kothari	**Luis Montero**
Huizen Qian	**Lydia Carroon**
Jen Herink	**Mario Canales**
Jade Sepolen	**Marianne Philips**
Janice Francisco	**Michele Burlington**
Jenn Roth	**Rachel Azafrani**
Jessica Rafuse	**Rebecca Hoskins**
Joann Huang	**Sonali George**

Corporate, External, & Legal Affairs (CELA)

Positioned in the Microsoft CELA department, the new United Nations Affairs team focuses on advancing Microsoft partnerships with the United Nations and its agencies, building relationships with UN representatives, identifying new opportunities for partnerships, building stronger connections between Microsoft and UN teams, advocating for the UN's priorities within Microsoft, and working across the company to support Microsoft teams in their engagements and advocacy with the UN community.

Microsoft's commitment to societal impact

In addition to complementing our mission, our contributions to the SDGs align with our company's purpose—to create technology that benefits everyone on the planet, as well as the planet itself.

The world today is confronted by a historic health and economic crisis, persistent issues of systemic racial injustice and inequity, and the devastating effects of climate change. Accelerated by the coronavirus pandemic, rapid advances in technology are drastically reshaping how people live, work, and learn. We have seen years of digital transformation happen in mere months. And while there is great potential for technology to help address society's biggest issues, the pace of this change is also raising new challenges and intensifying existing inequities in our communities.

We are witnessing a drastically widened skills and employability gap; an intensified unmet demand for access to broadband and the critical services it provides; and increased urgency to protect the planet and the fundamental rights of everyone on it—including the 1 billion-plus people with disabilities. It is critical that we apply technology and innovations to address these challenges without sacrificing core values like trust, privacy, transparency, and inclusion.

That is why Microsoft is focused on four interconnected pillars to help ensure everyone can participate and thrive in an increasingly digital economy:

1. Support inclusive economic opportunity

We believe economic opportunity should be inclusive—for every country, every community, every business, and every person, including the 1 billion-plus people with disabilities. This starts with increasing access to technology— particularly affordable broadband access—and the digital skills needed to succeed in a changing economy.

2. Protect fundamental rights

The current global health and economic crises have laid bare long-standing inequities in our communities. That is why we unequivocally support the fundamental rights of people, from defending democracy, to addressing systemic racial injustice and inequity, to protecting human rights—both in our own ecosystem and for people across the globe.

3. Commit to a sustainable future

We must address climate change for a more sustainable future. While the coronavirus pandemic is the defining issue of the moment, addressing the climate crisis is the defining issue of our generation. That is why we have outlined ambitious goals and detailed plans to achieve them, including to be carbon negative, zero waste, and water positive by 2030. And while our own actions are important, our most important contribution will come from enabling others to use technology to create and achieve their own sustainability goals.

4. Earn trust

We are optimistic about the benefits of technology, but also clear-eyed about the challenges. You cannot drive positive impact with technology if people do not trust the technologies or the companies behind them. That is why we take seriously our responsibility to earn trust. Without it, progress is not possible. Every day, we strive to earn the trust of our customers, employees, the communities we serve, and the governments that represent them through a commitment to privacy, security, responsible AI, digital safety, and transparency.

Now is the time for urgent action. Those who can do more, should. And we are. But the challenges facing people and the planet are complex, and no single company, sector, or country can solve them alone. That is why we are committed to working across sectors to foster partnerships and solutions that will have a lasting impact, including our work on the SDGs.

Our reflections on technology and innovation as a means of implementation

According to the report of the UN Secretary-General's High-level Panel on Digital Cooperation, "Of the SDG's 17 goals and 169 targets, not a single one is detached from the implications and potential of digital technology. From ending extreme poverty to promoting inclusive economic growth and decent work, to reducing maternal mortality, to achieving universal literacy and numeracy and doubling the productivity of small farmers— progress is intertwined with the use of digital technology and new forms of digital cooperation."[1]

For the next nine years, the United Nations (UN) Sustainable Development Goals (SDGs) represent a shared and universal commitment to deliver on ambitious Global Goals for people and the planet. In 2015, when the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, along with a set of 17 SDGs and 169 associated targets, the UN recognized technology, innovation and capacity building, and data as some of the essential "**means of implementation**" for delivering the 2030 Agenda.

The Microsoft mission—to empower every person and every organization on the planet to achieve more— aligns strongly with the UN global agenda for sustainable development from 2015 through 2030. We believe the digital transformation of the global economy can make a difference and help address the challenges underlying the UN Sustainable Development Goals. Partnerships will play a crucial role as vehicles for mobilizing and sharing knowledge, expertise, technologies, and financial resources.

We share the position expressed in the High-level Panel's report. Digital technology can play an instrumental role in achieving many Global Goals, including ending poverty; combating inequalities; building peaceful, just, and inclusive societies; protecting human rights and promoting gender equality; and ensuring the protection of the planet and its natural resources in all countries—when it is used in trusted, responsible, and inclusive ways. Accordingly, our commitment to the Global Goals is reflected in how we apply our technology, partnerships, and resources to create empowerment opportunities and to serve the needs of communities around the globe.

Each of the Global Goals presents challenges bigger than any one organization—or even one sector of society—can accomplish alone. With just nine years to go to deliver the SDGs, the UN Decade of Action is underway—mobilizing more governments, civil society, and businesses and calling on all people to make the Global Goals their own. Microsoft believes in its shared responsibility as a business and in its role in society with a mission that focuses on empowering people. At Microsoft, we seek to apply the unique assets that a technology company of our scope and scale has toward the global effort needed to achieve the SDGs.

In this paper, we focus on what we consider to be our unique contributions:

- Our **programs** supporting the SDGs, often through the application of Microsoft technologies, products, and services

- Our **partnerships** to advance progress on topics in the sustainable development agenda

- Our **support** for initiatives aiming to empower communities around the world

---

[1] "The Age of Digital Interdependence: Report of the UN Secretary-General's High-level Panel on Digital Cooperation," June 2019: page 9. https://www.un.org/en/pdfs/DigitalCooperation-report-for%20web.pdf

Section One:
The SDGs we focus on

A number of Microsoft initiatives are directly and indirectly advancing progress on all 17 SDGs. In this paper, we first discuss the four SDGs that we currently *focus* on as a company. Then we show how we are *contributing* to each of the other SDGs. Some of our initiatives are contributing to the sustainment of specific targets; others are part of the broader effort required to address the societal challenge that the relevant SDG is seeking to tackle. Although our unique strength lies in digital technologies, we also realize that technology is not a

silver bullet; leaders across the public and private sectors must also pair technology-enabled initiatives with policies that benefit and enable all people.

At Microsoft, we have also reflected on the four guiding principles that our focus SDGs center on: support inclusive economic opportunity, protect fundamental rights, commit to a sustainable future, and earn trust. These pillars correspond most closely to the following four Global Goals: SDG 4 (Quality Education), SDG 8 (Decent Work

and Economic Growth), SDG 13 (Climate Action), and SDG 16 (Peace, Justice and Strong Institutions).

This section offers information and links to relevant Microsoft programs, partnerships, and support initiatives to indicate how we are helping to address the four SDGs we are focused on as a company. We hope these examples inform broader, additional contributions needed for the important work being done to deliver the promise of the SDGs in its last nine-year stretch.

Microsoft Philanthropies in action

Kate Behncken
Vice President
Microsoft Philanthropies

Microsoft Philanthropies has been investing significant resources in Quality Education (instrumental to SDG4) and initiatives that promote Decent Work and Economic Growth (instrumental to SDG8). What is the impact of those investments, not only in terms of the beneficiaries, but also in terms of the potential contribution of the private sector to SDGs, which could be deemed the remit of national governments?

Our approach, whenever and wherever possible, is to work collectively and in partnership with governments to bring the best practices from the private sector and combine them with the government's ability to scale impact. We do this by leveraging public-private partnerships between nonprofits and governments to tackle SDG 8. For example, in Latin America, we bring our digital skilling curriculum to our nonprofit partner, the Trust for the Americas. The Trust trains government employees in Colombia, Ecuador, and Brazil so that, together, we can reach millions of learners and scale our

> 66 **These issues are too large for any one company, government, or industry to solve alone.** 99

collective impact. The Trust then connects those skilled individuals with jobs and livelihood opportunities in each respective country. The impact of this public-private partnership is innovation, connection to industry, and skilling at scale.

The SDGs also call for public-private partnerships to address disaster recovery (SDG13.1), the needs of children (SDG16.2), and the protection of refugees and displaced people (SDG10.7). What role can the private sector play as a partner on these fronts?

These issues are too large for any one company, government, or industry to solve alone. It will require that all of us work together at new levels of scale. Microsoft is working with the private sector, the United Nations, governments, and other stakeholders to help build the capacity of organizations across sectors to respond to humanitarian crises. We help organizations leverage technology to scale the work they do and reach more of the beneficiaries they serve. We also work alongside other private-sector companies to share information on areas at risk and identify existing programs that others may be able to leverage to mobilize more quickly when needs arise. Our UNICEF partnership is a good example of how we can come together to bring a

number of Microsoft's assets (cash, technology, expertise, employee engagement, voice) and combine them with the experience, resources, and influence of UN organizations to create impact globally. We think it's critical to continue to evolve and look at new models that build on the strengths of all stakeholders.

In the context of the coronavirus pandemic, what can the private sector do to contribute to early warning, risk reduction, or risk management of national and global health risks (SDG3.d)?

One of the biggest challenges we have in solving humanitarian issues, including global health, is data fragmentation. Many organizations have a sliver of information, but we don't have a way to develop a broad view that will help us design more effective policy and response. Microsoft and Avanade are collaborating with the World Health Organization to create the world's first comprehensive, end-to-end data solution for global health. As the "new home of health data," the Hub will transform data ingestion from multiple sources, providing a secure environment for countries to upload and validate their data while leveraging the latest technology in predictive analytics and data visualization. This will allow us not only to respond to current crises, but also to identify

systemic issues to inform policy, drive intervention, and save lives.

Microsoft also worked with UNICEF to improve the security and infrastructure of the technology used to track and monitor the distribution of vaccines from manufacture through delivery to the COVAX facility, the worldwide COVID-19 vaccine access initiative. We joined other leading companies on the Global Task Force on Pandemic Response, a public-private partnership developed by the U.S. Chamber Foundation to provide a unified platform for businesses to mobilize and deliver resources to assist pandemic response efforts in areas of the highest need around the world. This included a collaboration with the U.S.-India Business Council to launch the COVID-19 Business Response Portal, an information-sharing platform for US businesses to offer essential in-kind products and services needed by the Government of India. The portal monitored developments in India, compiled a list of the most critical supplies needed on the ground, and recommended nonprofits to direct cash donations, and is a model that can be reused in the future.

These are just a few examples of how partnerships across the public and private sectors can foster solutions that can help solve some of the world's biggest challenges.

SDG 4:
Quality Education

Microsoft empowers education

institutions, educators, and students to enable inclusive, engaging, and immersive learning. The world of education is changing faster than ever—as are the skills that students will need to be life-ready by the time they graduate. Target 4.4 aims to substantially increase the number of youth and adults who have relevant skills for decent employment, **calling special attention to technical skills and information and communications technology (ICT) employment training**. Microsoft is working at all levels of education to transform for the future and support this goal.

Our programs

• Through Microsoft Philanthropies, we are investing our resources and our voice to equip people, schools, teachers, and students with digital skills and computer science education. To achieve our goal, we focus our investments in three core areas: bringing industry volunteers to schools in the United States, Canada, and Mexico to teach computer science at the compulsory level; building the capacity of nonprofit organizations and education providers to scale their impact; supporting advocacy and collective action to promote inclusion of computer science in

4 QUALITY EDUCATION

❝ **We are helping schools transform learning ….** ❞

HIGHLIGHT

- The Learning Passport, a partnership between Microsoft and the United Nations Children's Fund (UNICEF), is a digital platform that facilitates learning opportunities for children and young people affected by conflict and natural disasters, and which helps ensure continuity of education during the coronavirus pandemic. As of September 2021, the Learning Passport is currently available in 11 countries: Bangladesh, Egypt, Honduras, Jordan, Kosovo, Laos, Lebanon, Puntland-Somalia, Timor-Leste, Ukraine, and Zimbabwe.

- Microsoft is a founding member of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Global Education Coalition for the pandemic response. The coalition seeks to facilitate inclusive learning opportunities for children and youths during this period of sudden and unprecedented educational disruption.

formal education. From July 1, 2020, through June 30, 2021, we reached millions of students and young people with quality digital skills experiences and computer science education, helping to ensure we prepare them to pursue today's jobs and tomorrow's opportunities. Annually, in partnership with our grantees, we train more than 150,000 teachers to teach computer science, equipping them with the skills and resources to reach millions of students with high-quality, inclusive computer science education.

- Microsoft Philanthropies manages the Technology Education and Literacy in Schools (TEALS) program that connects classroom teachers with tech-industry volunteers to create sustainable computer science programs. Our free programs and support help students develop science, technology, engineering, and math (STEM) skills. In 2020, as part of our commitment to addressing racial inequity, TEALS began an expansion into 13 states and the District of Columbia, with the goal, by 2025, to bring computer science education to an additional 620 high schools primarily serving Black and African American students.

- Microsoft Learn for Educators curates online learning paths and supporting instructor-led training materials into the classroom. Eligible educators and faculty members at colleges, universities, community colleges, polytechnics, and secondary schools can access Microsoft's ready-to-teach curriculum and teaching materials aligned to industry-recognized Microsoft Certifications. These certifications augment a student's existing degree path and validate the skills needed to be successful across various technical careers.

- In response to the coronavirus pandemic, Microsoft rapidly created an extensive toolkit of materials and training opportunities for educators, parents, and students to adopt remote and hybrid learning.

Our partnerships

- Microsoft partners with Code.org to bring computer science education to millions of students at middle and high schools around the world. In 2020, Microsoft expanded our commitment to Code.org by partnering to bring artificial intelligence and machine learning content to Code.org curriculum and content.

- In partnership with CS4All and the Junior Reserve Officers' Training Corps (JROTC), we help bring computer science education to US Department of Defense compulsory schools.

- We are helping schools transform learning, develop students' skills for the future, and create inclusive environments that support social and emotional learning. For example, Colégio Casa Mãe in Portugal brings together the whole suite of Microsoft education solutions to develop digital literacy, drive continuous learning, and build student knowledge and life skills.

- As part of the Microsoft Airband Initiative, BLUETOWN, a Danish internet service provider (ISP) operating in Ghana, is looking to deliver accessible, locally relevant educational content, digitized by eKitabu and hosted on the BLUETOWN local cloud.

- We are building on our work with Teach Access, an industry collaboration to address the critical need to enhance students' understanding of digital accessibility, to support a cultural shift across the tech sector that will help create new technologies with the needs of people with disabilities in mind.

Our support

- Microsoft is supporting ministries of education in Bahrain, Azerbaijan, and across the world to rapidly create remote and hybrid learning strategies utilizing Microsoft Teams as a learning platform, and we are also deploying teacher training webinars through Microsoft Global Training Partners to help ensure that teachers are able to use technology tools effectively.

- The Dutch municipality of Hoorn, Microsoft, and ITPH Academy, working with Horizon College, have partnered to create a 16-week program to retrain people currently out of work. Microsoft is also partnering with Horizon College to expand the Microsoft Datacenter Academy.

- Microsoft has donated to Kodcentrum, a nonprofit that introduces Swedish youths to computer science, programming, and digital skills free of charge. The funds support middle-school teachers and educators in Staffanstorp (10 schools), Gävle (25 schools), and Sandviken (14 schools) with online training and webinars to assist and inspire digital lessons that align with the national curriculum. The donation also supports online hackathons and outfits volunteers with the necessary tools to guide students through coding projects.

- Microsoft tools are enabling universities across the globe to continue operating and offering quality education—despite the coronavirus pandemic shutdowns. For example, world-leading Imperial College London quickly scaled up usage of Microsoft Teams to deliver lectures and to offer virtual common rooms for students and faculty.

- The Science Center of Iowa is creating an Innovation Lab for children, parents, and educators to use technology to foster creativity and problem solving, thanks to a grant from the Microsoft Community Empowerment Fund.

For more initiatives related to SDG 4, see our efforts to empower young women and girls and to prepare them for careers in STEM fields (SDG 5), bring digital training to 25 million people worldwide and provide professional skills to refugees and those new to the technology industry (SDG 8), extend internet connectivity to underserved parts of the world (SDG 9), teach coding and technology skills to underrepresented groups (SDG 10), use AI to preserve cultural heritage (SDG 11), and promote media literacy to reduce the impact of misinformation (SDG 16).

Partnerships and scalable solutions

Charlotte Petri Gornitzka
Deputy Executive Director, Partnerships
United Nations Children's Fund (UNICEF)

What has been the biggest surprise in your partnership with Microsoft?

As school closures from coronavirus pandemic lockdowns forced over a billion students from their classrooms, UNICEF and Microsoft expanded the existing Learning Passport, an online, mobile, and offline tech platform, originally designed for displaced children and youth, in enabling children to learn remotely. Let us not forget that the coronavirus pandemic is also a child rights crisis. And with partners like Microsoft, we were able to directly benefit over 500,000 teachers and facilitators in 11 countries, and in turn millions more. When we combined UNICEF's global reach, scale, and unstoppable commitment to children and Microsoft's technical expertise and cutting-edge resources, we realized that partnerships like this, built on shared value, can leapfrog to provide scalable solutions when they are needed the most.

> 66 **Partnerships ... can leapfrog to provide scalable solutions when they are needed the most.** 99

In the Sustainable Development Goals, Goal 17 calls for revitalized partnerships to achieve the SDGs. Is the private sector fulfilling its potential as a contributor to SDGs?

In UNICEF's partnership with Microsoft, for example, we are focused on SDGs 4, 5, 8, 16, and 17. We have been able to drive progress toward all of these goals, but there is still work to be done. UNICEF cannot do this work alone. Pioneering partnerships with the private sector can be that crucial difference.

In the 2030 Agenda for Sustainable Development, "financial resources, technology development, and transfer, and capacity building" are listed as three means of implementation for the SDGs. Where is the private sector falling short?

The private sector is a key player to effectively achieve the SDGs and the 2030 Agenda. In recent years, its role has expanded from a traditional financial partner to a transformational partner by engaging with communities, governments, and other stakeholders to foster sustainable development.

Leveraging a company's financial resources, technical expertise, products, and services, like we did with Microsoft, for example, helped us to also enhance existing solutions. These include Primero, an open-source software platform for humanitarian protection and social-welfare workers, with the goal of driving results for children. But we also need a partner's influence, reach, and networks to advocate to other industry peers to invest substantial resources in UNICEF's work and partner with us to tackle the most pressing needs of the next decade.

How should companies think about what truly counts as "sustainable" when they report on the SDGs?

There is a strong consensus emerging that sustainability reporting is having and will continue to have a significant material impact on global sustainable development. For UNICEF, however, it is important that companies integrate children's rights into Environmental, Social, and Governance (ESG) analysis— allowing for more comprehensive assessment of how children

are impacted; identification of bottlenecks; and the opportunity to take proactive steps to address these challenges.

While children's rights are part of, and often key to, addressing other sustainability issues such as human rights, decent work, gender, and diversity, the children's rights dimensions are often missed without taking a specific child rights lens to sustainability.

> **" Leveraging a company's financial resources, technical expertise, products, and services ... helped us to also enhance existing solutions. "**

SDG 8:
Decent Work and Economic Growth

The UN recognizes the right to work as a fundamental human right. Promoting decent work and economic opportunity is a cornerstone for success to the SDGs, and it is critical to achieving progress in alleviating poverty and in promoting health and well-being. Target 8.2 recognizes the importance of **technological upgrading and innovation to achieve higher levels of economic productivity**. Microsoft employs more than 150,000 employees worldwide and is committed to providing skills training and economic opportunity in the communities where we operate—with a focus on equitable and inclusive growth spurred by access to technology.

Our programs

- The newly launched Microsoft Career Connector service links job seekers, trained through our nonprofit skilling partners, in tech and tech-enabled jobs in the Microsoft ecosystem— our partners, customers, and Microsoft itself.

- Microsoft Mentors trains and connects employees at Microsoft with nonprofits that are seeking volunteers, mentors, and connections to industry practitioners.

8 DECENT WORK AND ECONOMIC GROWTH

" **Annually, we support more than 250 nonprofit partners around the world ....** "

HIGHLIGHT

In June 2020, Microsoft launched an initiative to help 25 million people worldwide acquire the digital skills needed in an economy impacted by the coronavirus pandemic—by the end of the year. Our goal is to help those who have become unemployed due to the coronavirus pandemic and resulting economic crisis acquire the skills they need to remain competitive in the job market. The initiative brings together every part of our company, combining existing and new resources from LinkedIn, GitHub, and Microsoft. As of June 30, 2021, we have helped 45 million people gain these critical digital skills in an economy impacted by the coronavirus pandemic.

This initiative is grounded in three areas of activity:

- The use of data to identify in-demand jobs and the skills needed to fill them

- Free access to learning paths and content to help people develop the skills that these positions require

- Low-cost certifications and free job-seeking tools to help people who develop these skills pursue new jobs

This digital skilling initiative builds on data and digital technology. It starts with data about jobs and skills needed in the future from LinkedIn's Economic Graph. Using LinkedIn's unique data set, we have identified 10 job types that are most in demand in today's economy and are well positioned to grow in the future. For each of these 10 jobs, the initiative provides free access to content in LinkedIn Learning, and where applicable, Microsoft Learn and the GitHub Learning Lab, and it couples these with Microsoft Certifications and LinkedIn job-seeking tools. In addition, Microsoft is backing the effort with $20 million in cash grants to help nonprofit organizations worldwide assist the people who need it most. One-quarter of this total—$5 million—will be provided in cash grants to community-based nonprofit organizations that are led by and serve communities of color in the United States.

- In May 2019, Microsoft launched the Africa Development Center (ADC), representing the first-ever Microsoft engineering offices in Africa, with two initial sites in Nairobi, Kenya, and Lagos, Nigeria. The ADC serves as a premier center of engineering for Microsoft, where world-class African talent can create innovative solutions fueled by artificial intelligence (AI) and machine learning to impact their communities in areas that include healthcare, agriculture, finance, and human-centric automation. This builds on our strong partnerships to accelerate digital transformation in Africa and to create sustained societal impact. (Earlier, in March 2019, we opened Africa's first hyperscale datacenters in South Africa, promoting business innovation in the cloud.)

- The Microsoft 4Afrika Initiative invests in startups, partners, small-to-medium enterprises, governments, and youth on the African continent. Working with these groups, the initiative's focus has been on delivering affordable access to the internet, developing skilled workforces, and investing in local technology solutions. The initiative empowers those with the right ideas to drive economic development, inclusive growth, and digital transformation in Africa.

- Microsoft Software and Systems Academy provides transitioning service members and veterans, including those with clearance, with critical career skills required for today's growing technology industry.

- The Microsoft Leap Apprenticeship Program recruits and trains nontraditional talent for careers in the technology industry worldwide.

- Microsoft required Devices suppliers to follow Microsoft's Social and Environment Accountability requirements to protect legally entitled labor rights for all workers and to provide safe and secure working environments. We continued monitoring Devices suppliers' due diligence in respect to labor rights and safe and healthy working environments.

Our partnerships

- Microsoft is working with Grab to train 1 million driver-partners and their families in digital literacy and technology-related employment skills. Drivers can take digital literacy training via the standard Grab driver-partners app they already use and earn certificates they can use to demonstrate their abilities, for example, during job applications. We also partnered with Generation to create a seven-month program in software development for Grab's driver-partners who want to pivot in their career. To date, more than 250,000 driver-partners have earned more than 550,000 certificates on the platform.

- The Global Skills Academy, a partnership between UNESCO and major corporations, including Microsoft, aims to create opportunities for digital upskilling and to enable free access to employability-oriented training materials for young people in the Middle East and Africa.

- A partnership between Microsoft and the global nonprofit Generation is

delivering foundational, role-based, and technical skills to job seekers around the world.

- We have a new partnership with the University of Washington on an interdisciplinary center working to build research technology and innovation models that will ultimately drive more accessible technology and inclusive communities. In the United Kingdom, we are partnering with the nonprofit SeeAbility to research the importance of accessible technologies needed for assisted living environments and provide first-line care workers with the digital skills to use them.

- Working with Unilever and local internet service provider Mawingu in Kenya, Microsoft Airband is supporting connectivity for female shopkeepers. Mawingu is providing Wi-Fi service that will help the shopkeepers increase access to financial services, including affordable credit and integration into value chains and markets. In addition, the project provides shopkeepers with a digital platform for

business-skills building and training.

Our support

- In 2020, as a part of our company-wide commitment to addressing racial inequity in the United States, Microsoft is investing in and partnering with 50 Black or African American–led nonprofits who offer skills development and economic opportunities to the Black and African American community. This community-led program is designed by a steering committee that includes external partners from the workforce, education, foundation, and nonprofit sectors, as well as representation from many Microsoft stakeholders and internal teams.

- Annually, we support more than 250 nonprofit partners in 42 countries to provide more than 2.5 million learners with in-demand digital skills for jobs in the 21st-century economy. Nonprofit organization partners include Goodwill, NPower, Trust for the Americas, Simplon, and CARE.

For more initiatives related to SDG 8, see our efforts to promote quality education and digital skills programs for young people worldwide with a focus on underserved populations (SDG 4), empower young women and girls and prepare them for careers in STEM fields (SDG 5), invest in clean energy and innovative sustainable technologies (SDGs 7 and 13), extend internet connectivity to underserved parts of the world (SDG 9), teach coding and technology skills to underrepresented groups (SDG 10), improve urban infrastructure through technology (SDG 11), use technology tools to support ocean and land biodiversity and related economic activities (SDGs 14 and 15), and safeguard and strengthen governments and public institutions (SDG 16).

Environmental stewardship
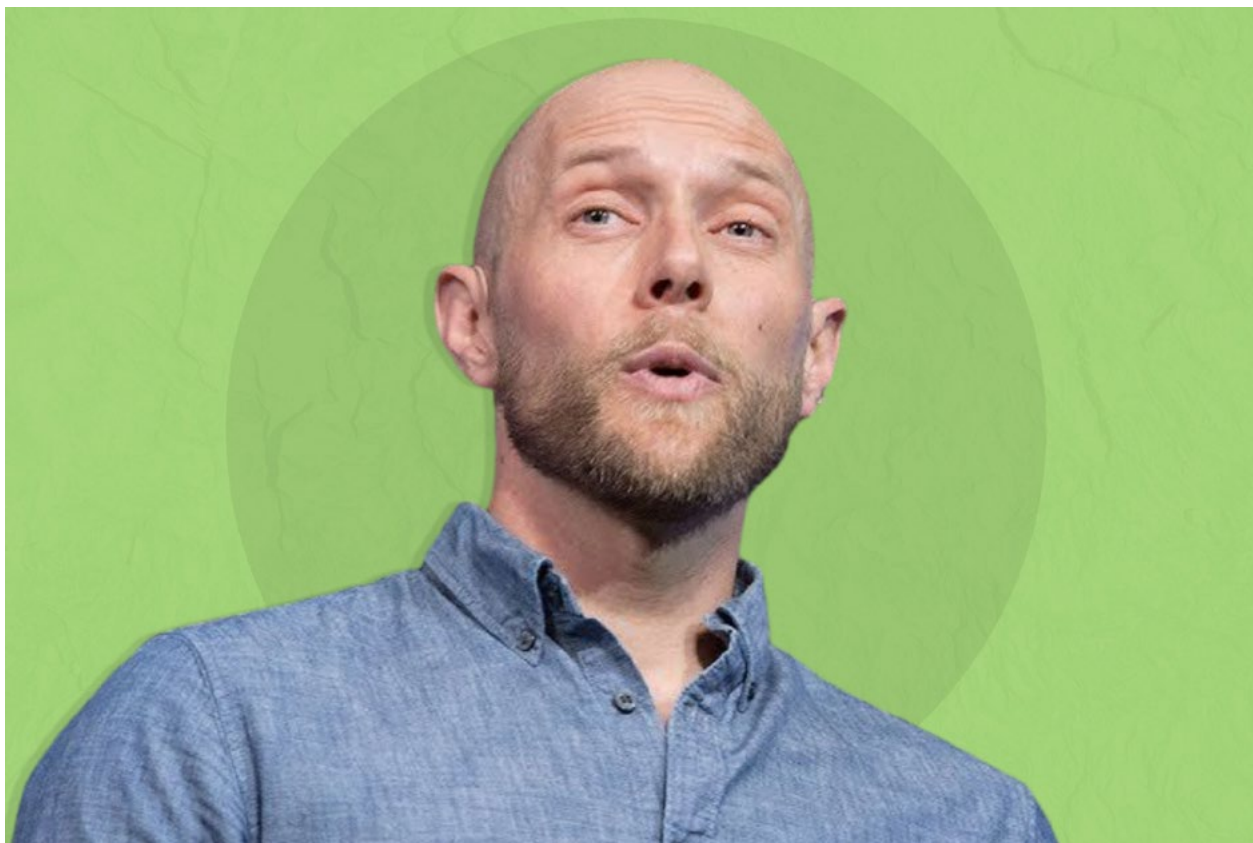
Lucas Joppa
Chief Environmental Officer
Microsoft Corporation

In January 2020, Microsoft announced a bold commitment to be carbon negative by 2030 and to remove the company's historic emissions by 2050. How do these goals highlight the potential impact of the private sector in addressing climate change? What are the challenges and opportunities presented on the journey so far?

Global climate change is accelerating, and the window to forestall the worst impacts is closing. As evidenced by a decade of action and our recently expanded ambitions, Microsoft believes we can play a significant role in driving broader societal transformation. But we can't solve the world's environmental problems alone—the world depends on every organization driving change by setting and meeting goals to achieve carbon neutrality. By doing our part of that work now, Microsoft not only can show what's possible, but we can also help make it easier for others to follow in our footsteps. And if we do that well, we can also show that sustainability is good for business—that it's

> 66 **An environmentally sustainable future requires the private sector to take an integrated approach ....** 99

profitable and builds more resilient businesses.

In 2020, amid the coronavirus pandemic, Microsoft heightened its sustainability ambitions, culminating with a set of commitments beyond the carbon-negative-by-2030 goal. Microsoft also committed to being water positive (supporting SDG6.4), zero waste (supporting SDG12.5), and protecting more land than it uses by 2030 (supporting SDG15.3). Do you think those pillars of environmental sustainability receive sufficient attention from the private sector?
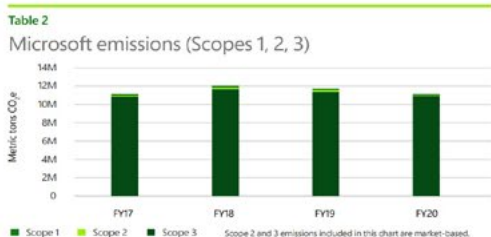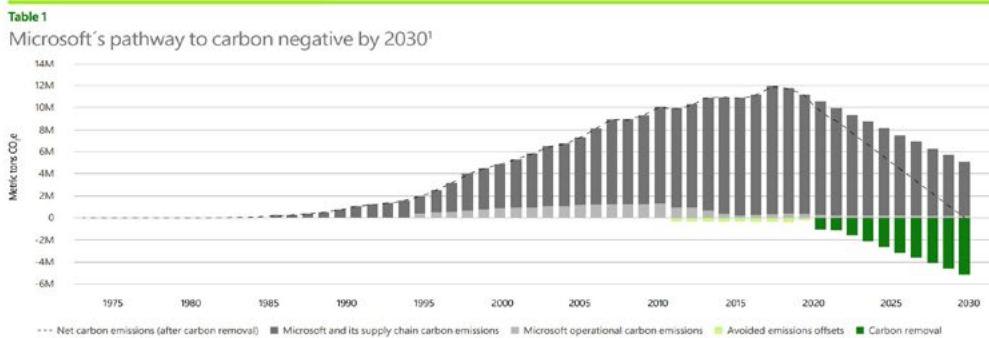
The answer is an unequivocal no. Each gets some attention on its own depending on local priorities, but the natural resources that our society depends upon can't be reduced to just a single dimension that needs attending, whether it's carbon, water, ecosystems, or climate. An environmentally sustainable future requires the private sector to take an integrated approach that recognizes these challenges are interrelated. At Microsoft, our approach has been to make meaningful commitments across these pillars and pursue advances in the key areas identified by the SDGs. Along the way, we are harnessing the passion of our employees and coming together with like-minded organizations to share best practices, co-innovate, and help each other figure out how to achieve shared commitments. Implementing a broad sustainability strategy is ambitious, no doubt, but it's exactly what needs to be done if we are going to achieve a climate-stable planet.

How can Microsoft's carbon removal efforts contribute to the emissions removal market and inform the global call to integrate climate change measures into national policies, strategies, and planning (SDG13.2)?

Microsoft is currently the largest carbon removal customer in the world. But it's going to take gigaton-scale carbon removal and a lot more buyers than just Microsoft to keep warming within 1.5 degrees Celsius. The reality is that markets today are nascent and largely voluntary, and there isn't nearly enough supply to meet growing demand. At Microsoft, we're using our influence to push the market to scale up, with the goals of stimulating more fluidity and bringing more high-quality removal projects online while making them affordable and cost-effective. At the same time, we're helping accelerate the development of carbon reduction, capture, and removal solutions through our Carbon Innovation Fund. As the market grows, there's an obvious (and urgent) role for the public sector to establish a credible, coordinated, international carbon accounting system with clear definitions and standards. By sharing what we've learned about carbon removal, we can help the private and public sectors understand what's needed to make that market work.

Table 1
Microsoft's pathway to carbon negative by 2030[1]

--- Net carbon emissions (after carbon removal) ■ Microsoft and its supply chain carbon emissions ■ Microsoft operational carbon emissions ■ Avoided emissions offsets ■ Carbon removal

[1] Chart has been updated to reflect latest actual values which incorporate latest methodology and structural change adjustments. Historic and projected emissions driven by latest actual data have also been updated for consistency. Projected removal values have also been updated consistent with our latest projected emissions and procurement strategy.

Table 2
Microsoft emissions (Scopes 1, 2, 3)

■ Scope 1   ■ Scope 2   ■ Scope 3   Scope 2 and 3 emissions included in this chart are market-based.

Microsoft's definitions of carbon neutral and carbon negative:

Carbon neutral
A company is said to be carbon neutral by reducing their emissions and/or paying others to not emit an equivalent to their remaining emissions.

Carbon negative
A company is carbon negative when it removes more carbon than it emits each year. Our definition is that carbon negative must be even bolder than net zero—making deep reductions first and foremost, then using removal only for the residual footprint, and going beyond that to cover even more.

Source: *2020 Environmental Sustainability Report: A Year of Action*, Microsoft Corporation, 2021.

![Microsoft]

SDG 13: Climate Action

The effects of global climate change threaten every country and population on Earth. Microsoft sees mitigating the harmful effects of climate change as one of the defining challenges of our time. We are committed to leveraging our resources and expertise to reduce carbon output and promote clean energy innovation. **We will use our voice and position as a global technology company** to advocate for target 13.2, which calls for integrating climate change measures into national policies, strategies, and planning. We believe that **technology has a major role to play**

in target 13.3, which calls for improved education and awareness on climate change mitigation, adaptation, impact reduction, and early warning.

Our programs

- Over the past year, we invested $129 million across funds and organizations innovating in carbon reduction, water management, and circular economy through our $1 billion Climate Innovation Fund.

- Although deep carbon reduction is our top priority, physically removing carbon from the atmosphere will also be essential

13 CLIMATE ACTION

" We believe that technology has a major role to play .... **"**

HIGHLIGHT

In January 2020, we announced an ambitious 10-year plan to reduce and ultimately remove the Microsoft carbon footprint and extend our internal carbon tax to cover every part of our operations, including Scope 3. This means that all Microsoft business divisions will be financially responsible for the carbon emissions they create, including through **value and supply chain activities**—the largest source of emissions and the most difficult to quantify. Distinctively, our internal carbon tax is not a "shadow fee" that is calculated—but not charged. Our fee is paid by each division in our business based on its carbon emissions, and the funds are used to pay for sustainability improvements.

We forecast that in our first year we reduced Microsoft's carbon emissions by 6 percent, or roughly 730,000 metric tons, and we have purchased the removal of 1.3 million metric tons of carbon from 26 projects around the world. We are committed to transparency by subjecting the data in our annual sustainability report to third-party review and to accountability by including progress on sustainability goals as a factor in determining executive pay, starting with our next fiscal year.

to our ability to meet our net-negative target scale and time frame. In July 2020, we issued a Request for Proposals (RFP) to source our first carbon removals and purchased from 15 organizations from projects representing more than 1.3 million metric tons of carbon removal. We released a new white paper to share our learnings about what worked and what did not, so that others can accelerate their own carbon removal.

- Through new digital tools, we are assisting our customers in decarbonizing their own operations and infrastructure. This was the motivation behind our announcement of a new Microsoft solution—the Microsoft Cloud for Sustainability—that will enable our customers around the world to record, report, and reduce their emissions on their paths to net zero.

- To help aid reporting requirements in our Supplier Code of Conduct, we released a set of in-depth capacity-building tools and resources, developed in partnership with

Engie, WSP, and CDP, to help companies, and particularly our suppliers, report their greenhouse gas (GHG) emissions, develop clean energy strategies, and reduce their energy-related emissions.

- We created a white paper on how to reduce embodied carbon through the selection and procurement of low-carbon products and the tracking and reduction of carbon emissions during construction.

Our partnerships

- We are partnering with the International Finance Corporation, a sister organization to the World Bank, which will work with designated Microsoft suppliers in emerging markets, starting in Asia, to identify technical solutions reducing GHG emissions, provide implementation assistance, and offer financing solutions to help them make investments in more efficient and low-carbon operations.

- We joined forces with eight companies to establish a new initiative for accelerating the

transition to a net zero global economy. We recognize that one company alone cannot solve the global carbon emissions challenge. To create a multiplier effect on corporate ambitions for climate change, the Transform to Net Zero initiative intends to develop and deliver research, guidance, and implementable roadmaps to enable all businesses to achieve net zero emissions. The initiative will be led by founding members, including A.P. Moller-Maersk, Danone, Mercedes-Benz AG, Microsoft, Natura &Co, Nike, Inc., Starbucks, Unilever, and Wipro, in addition to Environmental Defense Fund (EDF).

- Microsoft and NatWest Group have joined forces to help UK businesses better understand their carbon footprint and create tailored action plans for business to reduce their carbon emissions leveraging digital technologies.

- We are collaborating and investing alongside multiple energy operators and service providers across geographies as carbon capture and storage

continues to gain momentum, thanks to strengthened climate commitments, increased government support, and technology advancements. For example, Northern Lights is an industry-leading partnership with Equinor, Total, Shell, Microsoft, and the Norwegian Government that has already served as a best practice template for government and private industry collaboration in other carbon capture and storage hubs around the world.

- Through Microsoft's purchase of negative emissions from Climeworks, we will permanently remove 1,400 metric tons of carbon, and through our Climate Innovation Fund, we will provide funding for a Climeworks first-of-a-kind commercial-scale, fully renewable carbon capture and mineralization plant in Iceland.

- We have made several other direct investments in companies through our Climate Innovation Fund to help them accelerate and scale their solutions, including:

  ○ NCX, formerly SilviaTerra, to help fund the creation of the largest forest carbon project by acreage in the continental United States and help make carbon market participation more accessible to landowners of all sizes.

  ○ Twelve, formerly Opus12, to help scale the reduction of emissions from supply chains and essential products across a range of industries.

  ○ Rheaply, to fund the development of carbon-related Rheaply feature updates to help companies measure carbon emissions savings from reuse and fuel the circular economy.

  ○ Congruent Ventures, an early-stage venture capital firm, to aid their efforts focused on decarbonization and climate across the energy, mobility, agriculture, and industrial sectors.

  ○ Southeast Asia Clean Energy Facility (SEACEF), to accelerate deployment of large-scale and scalable clean energy projects and businesses in emerging markets. SEACEF aims to drive market adoption of existing technologies in underfunded markets, which also helps enable low-carbon economic development in communities hit hard by the effects of climate change.

- In partnership with Microsoft AI for Earth, CarbonPlan is developing an open-access data set and interactive, web-based tool for analyzing US forest carbon removal potential and permanence risks from fire, drought, and insects. Using this tool, we and other corporate buyers will be able to assess prospective projects and design more environmentally sound procurement practices.

For more initiatives related to SDG 13, see our efforts to employ technology to help farmers grow more crops sustainably and to use water more efficiently (SDGs 2 and 6), replenish water in water-stressed areas where we operate (SDG 6), invest in clean energy and innovative sustainable technologies (SDG 7), reduce waste and perform life cycle assessments of our products' environmental impacts (SDG 12), use technology tools to support ocean and land biodiversity and related economic activities (SDGs 14 and 15), and develop partnerships for collective action (SDG 17).

2030

By 2030, Microsoft will remove more carbon than it emits.

Our progress to date

Net Zero

Became a founding member of Transform to Net Zero.

1.3 million

Secured 1.3 million metric tons of carbon removal for FY21 from projects via RFP.

Scope 3

Extended internal carbon fee to include Scope 3 emissions.

Updated our Supplier Code of Conduct to require a greenhouse gas emission disclosure.

$50 million

Invested $50 million in Energy Impact Partners.

Launched the Microsoft Sustainability Calculator to provide transparency on carbon to customers.

Named to the CDP A List for Climate Change in 2020.

586,683

Reduced emissions across all scopes by 586,683 metric tons of CO_2e in FY20.

Source: *2020 Environmental Sustainability Report: A Year of Action*, Microsoft Corporation, 2021.

Digital peace and strong institutions

Tom Burt

Corporate Vice President, Customer Security & Trust
Microsoft Corporation

The SDGs call for stakeholders to strengthen relevant national institutions, including through international cooperation, and building capacities at all levels, in particular in developing countries, for preventing violence and combating terrorism and crime (SDG16.a). How does this challenge apply to cyberspace?

Criminals and terrorists leverage cyberspace along with purely physical domains. While some actors apply sophisticated techniques, others take advantage of weak cybersecurity. We need to increase the cost of criminal and terrorist pursuits by building cybersecurity capacity and fostering international cooperation. Microsoft is committed to helping to build capacity across countries and communities. We're a founding supporter of and active contributor to the Global Forum on Cyber Expertise (GFCE), composed of more than 115 multistakeholder partners, as well as the CyberPeace Institute, an independent non-governmental organization (NGO) that seeks to

> " We need to enhance our public-private partnerships in key areas .... "

reduce harms from cyberattacks on people's lives worldwide. In parallel, we also work with international institutions, such as the Organization of American States (OAS) and the International Telecommunication Union (ITU), to develop cybersecurity best-practice guidance. We've been a partner and contributor to the ITU's Guide to Developing a National Cybersecurity Strategy, and we encourage policymakers to reference a forthcoming updated version, to be released in 2021.

From attacks on the global healthcare sector during the coronavirus pandemic to the SolarWinds cyberattack, nation-state cyberattacks are causing significant damage, and ransomware attacks continue to proliferate. What steps must be taken to accelerate the work underway by the private sector and government to address our collective cybersecurity?

We need to enhance our public-private partnerships in key areas, defining and holding actors accountable for inappropriate behavior, implementing best practices for technology security and operational risk management, and improving collaboration on incident response. Global multistakeholder support for public-private action on

cybersecurity is growing; over 1,200 organizations have now signed the Paris Call for Trust and Security in Cyberspace. This past spring, states in the United Nations Open-Ended Working Group (OEWG) on cybersecurity reaffirmed that international law and norms for state behavior apply to cyberspace and recognized that critical infrastructure like healthcare facilities should be off-limits to cyberattacks. Around the world, governments are seeking input as they define practices to improve security. Investments in capacity building and ongoing cooperation will be key to ensuring that international commitments and national efforts are effective and long-lasting. We urge states to build on the outcomes of the OEWG by continuing to hold inclusive dialogue, and we support proposals at the UN to facilitate multistakeholder cooperation on cybersecurity in upcoming deliberations.

What steps is Microsoft taking to better defend people and institutions who are victims of cyberattacks? How is Microsoft contributing to the deterrence of cyberattacks that threaten the critical infrastructure within the SDGs?

Microsoft is deeply invested in the security of our products and

services, and we recognize the opportunity and responsibility we have to support victims of cyberattacks and help strengthen the security of global infrastructure. In the wake of attacks that compromised the supply chain of SolarWinds, we established a public resource center to share threat intelligence, Indicators of Compromise, and guidance to help the international community conduct investigations, harden infrastructure, and recover. Along with our partners, we invested in the founding of the CyberPeace Institute, which aims to assist victims of cyberattacks and foster societal resiliency through its CyberPeace Builders program. The program, launched in July, is envisioned to be the first global network of cybersecurity volunteers from the private sector working to protect civilian-critical NGO services in sectors like healthcare, food supply, and energy. Microsoft also actively seeks to help strengthen the security of individuals, institutions, and infrastructure that are particularly vulnerable to sophisticated cyberattacks, including electoral systems, political parties and campaigns, healthcare workers, journalists, and human rights defenders, through our ElectionGuard and AccountGuard programs.

SDG 16: Peace, Justice and Strong Institutions

Peace, justice, and strong institutions are the cornerstones of prosperous societies. Technology provides new tools for strengthening and protecting these institutions. But it also brings new risks—online safety, data security, privacy, and the spread of misinformation, for example, have emerged as critical threats to peace and prosperity across the world. Microsoft is taking on its responsibility as a global technology provider— from building innovative tools to secure institutions, to working in partnership with companies, governments, and international organizations to develop frameworks for the responsible use and regulation of technology. When used responsibly and inclusively, we believe that **technology can play a special role in increasing the accountability and transparency of institutions** (target 16.6), **ensuring inclusive and responsive decision-making** (target 16.7), and **ensuring public access to information** (target 16.10). In addition, new tools built with technology may provide novel solutions for **providing legal identity** (target 16.9), **ending exploitation and trafficking of children** (target 16.2), and **reducing illicit financial and arms flows** (target 16.4).

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

"New tools built with technology may provide novel solutions ...."

HIGHLIGHT

To increase trust in democratic processes and enhance election integrity, Microsoft has developed an open-source software toolkit, ElectionGuard, that will be incorporated in Hart InterCivic's voting systems. ElectionGuard provides election officials and individual voters the ability to confirm votes have not been altered, suppressed, or tampered with. It also allows external monitors the opportunity to check that all votes have been correctly tallied to produce an accurate count and confirm that the election outcome has not been altered.

Our programs

- The Microsoft Defending Democracy Program focuses on addressing cybersecurity and disinformation threats to democracies everywhere. The program includes efforts to improve campaign and election security, in addition to the security of organizations and institutions that underpin democracy.

- Microsoft has undertaken a range of initiatives aimed at countering disinformation online. We developed the Microsoft Video Authenticator, which uses AI to identify synthetic media (deepfakes). Another tool allows producers to tag content with a hash certificate that verifies its authenticity, and this certificate could be accessible to an end-user via a browser extension.

> **"Microsoft is taking on its responsibility as a global technology provider ...."**

- Microsoft's Journalism Initiative works to combat disinformation, expand news distribution, and pilot a community-based program to provide journalists and newsrooms with new tools, technology, and capacity in order to expand reach and efficiency for local news outlets.

- We continued the supplier antitrafficking measures found in the Microsoft Supplier Code of Conduct, continued auditing supplier programs and management systems, while also increasing supplier reporting transparency.

Our partnerships

- For the US 2020 presidential elections, Microsoft's Defending Democracy Program worked in partnership across Microsoft to coordinate and improve the cyber-resilience of our election-related customers and partners. This work included the development of an Election Situation Room, cybersecurity incident response, and training of campaign and election officials.

- PhotoDNA, a technology developed in partnership with Microsoft and Dartmouth College, aids in finding and removing known images of child exploitation. Organizations around the world use PhotoDNA to assist in the detection, disruption, and reporting of millions of child exploitation images.

- Microsoft continues to provide support for the Vera Institute of Justice Arrest Trends dashboard, which brings together disparately located and difficult-to-analyze data on various law-enforcement-related indicators to help generate dialogue about the role of policing, and promote opportunities for alternative responses that address the root causes of crime and strengthen police/community relations.

- The USC Sol Price Center for Social Innovation, with support from Microsoft, completed improvements to the Neighborhood Data for Social Change (NDSC) platform, including a migration to the Microsoft cloud. The NDSC platform is a free, publicly available resource for civic actors to learn about their communities.

- In 2019, Microsoft began working with the Public Defender Association to improve efficiencies and capacities for the Law Enforcement Assisted Diversion (LEAD) program in Seattle-King County by creating an interagency data system to

improve both operational efficiencies and evaluation capacities. Today, we support the LEAD Proof of Concept Project, a three-year initiative to advance system reforms and reduce racial disparities across the United States by increasing program visibility, sustainability, and impact in a diverse set of jurisdictions implementing the LEAD model around the country.

- The Center for Court Innovation works to create a fair, effective, and humane justice system by performing original research and helping to launch reforms around the world. Microsoft provides diversion-focused technical assistance to the Center for Court Innovation and the Alternatives to Incarceration Initiative in Los Angeles to help generate learnings for creating equitable diversion programs across the United States.

- Microsoft supports the National Institute for Criminal Justice Reform, Advance Peace, and the Center for American Progress in their work developing the National Offices of Violence Prevention Network with a group of national experts, advocates, and practitioners. This work is designed to redefine and expand the definition of public safety beyond policing, to help reduce the emphasis on law enforcement, and to maintain credibility with those at the highest risk of violence.

- We are working to create safe, secure, and ethical digital identification systems for the future, as a member of the Technical Advisory Council for the ID2020 Alliance.

- In order to increase media literacy among US voters ahead of the 2020 election, Microsoft partnered with the University of Washington, Sensity, and *USA Today* to develop two online interactive quizzes to help people sort disinformation from genuine facts and gain awareness of the impact of fabricated or untrue media content on democracy.

- Through a partnership with the BBC, the Canadian Broadcasting Corporation and Radio-Canada, and the *New York Times*, Microsoft launched Project Origin, a media authentication and provenance technology. This project aims to develop technology that can help assure readers that media has come from a trusted source, proves its authenticity, and confirms that it was not altered.

- We have partnered with the AI Foundation, a dual commercial and nonprofit enterprise based in San Francisco, on their Reality Defender 2020 (RD 2020) initiative, to operationalize Microsoft Video Authenticator, a tool for synthetic media detection. This tool is available to organizations involved in the democratic process, including news outlets and political campaigns.

- Microsoft has expanded its partnership with NewsGuard, a company that evaluates online news sources based on nine principles of journalistic integrity and that provides information to enable people to learn more about the source of their online content. Microsoft is supporting users of Microsoft Edge and over 800 million library patrons in France, Germany, Italy, the

United Kingdom, and the United States to have access to NewsGuard's ratings.

- Microsoft AccountGuard is a service available at no charge to existing customers that provides unified threat detection and notification. The service, which was originally created for political campaigns, has been expanded to election officials, political parties, political consultants, think tanks, democracy advocacy organizations, human rights organizations, and the healthcare industry, and is currently active in 32 countries, protecting more than 2.4 million accounts around the world.

- Microsoft played a leading role in the launch of the Coalition for Content Provenance and Authenticity (C2PA), a technical-standards body, to guide the development of tools that verify the source and authenticity of media.

- Microsoft is working with Report for America to place emerging journalists into local newsrooms across the country to report on under-covered issues, build capacity, and provide technology and training in five local newsrooms.

> " We are working to create safe, secure, and ethical digital identification systems for the future .... "

- Through a partnership with Davis Wright Tremaine, the Reporters Committee for Freedom of the Press, and the John S. and James L. Knight Foundation, Microsoft piloted the Protecting Journalists Pro Bono Program to work with reporters and small news organizations to help them defend their legal rights and deliver quality journalism.

- Microsoft partnered with Business for Social Responsibility (BSR) to publish the white paper Responsible Business Decision-Making Before, During, and After Public Health Emergencies: A Rights-Based Approach to Technology and Data Use. The paper sets out the key elements of a human rights-based approach to the use of data and technology solutions during public health emergencies in today's and tomorrow's digital era, with a focus on the role of business and impacts on privacy.

Our support

- Microsoft worked in partnership with Mastercard and the Hewlett Foundation, along with other key partners, to establish and support the CyberPeace Institute (CPI), an independent NGO based in Geneva and launched in 2019. The CPI has a unique mandate to address the harms caused by the escalating conflict in cyberspace through direct assistance and advocacy work, as well as by promoting accountability for responsible
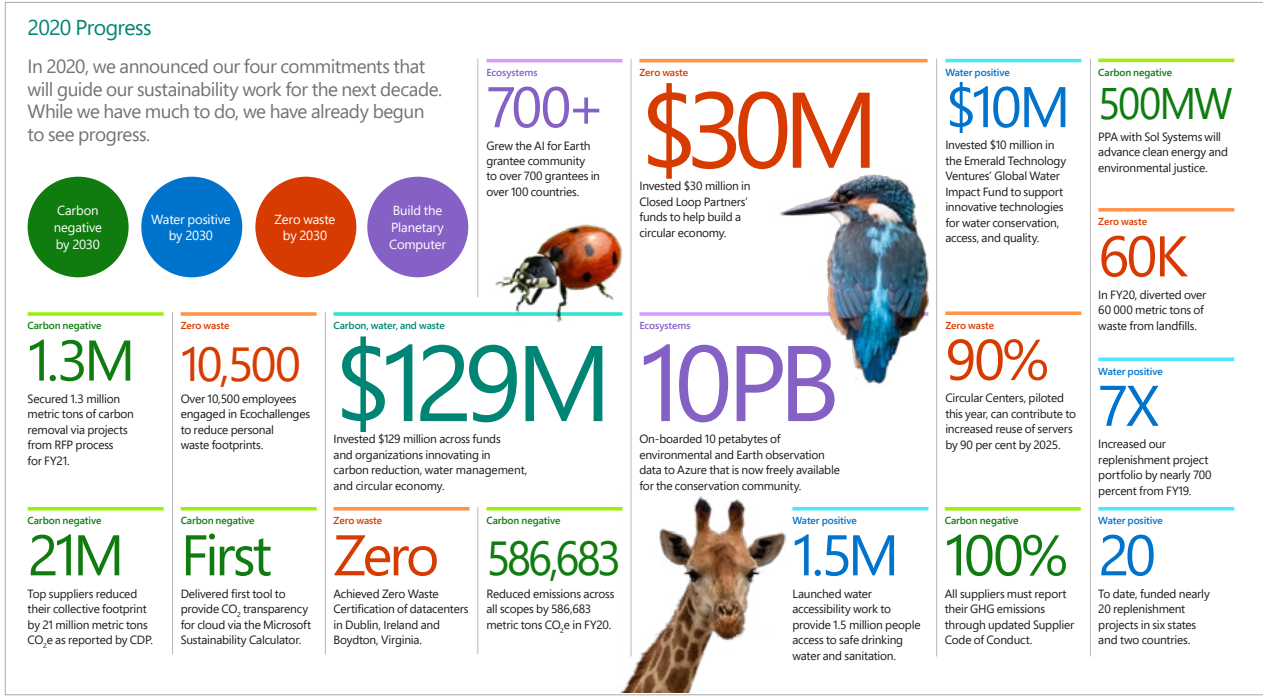
behavior in cyberspace. Amid the pandemic, the CPI launched its operational capacities, focusing on the unique vulnerabilities of hospitals and healthcare groups and highlighting the impact of increasing attacks against them.

- In August 2021, following the White House cybersecurity summit, Microsoft CEO Satya Nadella confirmed that Microsoft will invest $20 billion to advance our security solutions over the next five years and $150 million to help US Government agencies upgrade protections, as well as expand our cybersecurity training partnerships.

- Microsoft is one of the founding signatories and a lead supporter of the Cybersecurity Tech Accord, the largest industry commitment to cybersecurity principles, which includes more than 150 signatory companies from across the tech industry and around the world. The coalition works collaboratively to be the industry's voice on peace and security online and pursues initiatives that improve the cybersecurity ecosystem. This includes advancing security best practices by industry and partnering with governments and civil society groups to promote expectations for responsible behavior by states and other actors.

- Microsoft is a contributor to and supporter of the ITU's National Cybersecurity Strategy Guide

for governments to create a comprehensive national plan for cybersecurity, and we have been a key partner in developing an updated version of the guide.

- Microsoft provided support to the Internet Governance Forum Dynamic Coalition on Standards, Security and Safety to help global implementation of cybersecurity standards to advance the resiliency of the online environment and IoT devices.

- Microsoft has provided support to the Alliance of Democracies Foundation to develop the Global Alliance of Democracy Resilience to strengthen democratic processes and institutions around the world.

- Microsoft joined a White House-facilitated funder collaborative to strengthen and scale community-led interventions in 16 jurisdictions. The collaborative focuses on community violence interventions (CVI) in these areas. This effort will support both proven and new strategies that reduce violence and strengthen community-based infrastructure to enhance public safety for children, families, and communities.

For more initiatives related to SDG 16, see our partnerships created to empower institutions across the other SDGs.

2020 Progress

In 2020, we announced our four commitments that will guide our sustainability work for the next decade. While we have much to do, we have already begun to see progress.

- Carbon negative by 2030
- Water positive by 2030
- Zero waste by 2030
- Build the Planetary Computer

Ecosystems
700+
Grew the AI for Earth grantee community to over 700 grantees in over 100 countries.

Zero waste
$30M
Invested $30 million in Closed Loop Partners' funds to help build a circular economy.

Water positive
$10M
Invested $10 million in the Emerald Technology Ventures' Global Water Impact Fund to support innovative technologies for water conservation, access, and quality.

Carbon negative
500MW
PPA with Sol Systems will advance clean energy and environmental justice.

Carbon negative
1.3M
Secured 1.3 million metric tons of carbon removal via projects from RFP process for FY21.

Zero waste
10,500
Over 10,500 employees engaged in Ecochallenges to reduce personal waste footprints.

Carbon, water, and waste
$129M
Invested $129 million across funds and organizations innovating in carbon reduction, water management, and circular economy.

Ecosystems
10PB
On-boarded 10 petabytes of environmental and Earth observation data to Azure that is now freely available for the conservation community.

Zero waste
90%
Circular Centers, piloted this year, can contribute to increased reuse of servers by 90 per cent by 2025.

Zero waste
60K
In FY20, diverted over 60 000 metric tons of waste from landfills.

Water positive
7X
Increased our replenishment project portfolio by nearly 700 percent from FY19.

Carbon negative
21M
Top suppliers reduced their collective footprint by 21 million metric tons CO_2e as reported by CDP.

Carbon negative
First
Delivered first tool to provide CO_2 transparency for cloud via the Microsoft Sustainability Calculator.

Zero waste
Zero
Achieved Zero Waste Certification of datacenters in Dublin, Ireland and Boydton, Virginia.

Carbon negative
586,683
Reduced emissions across all scopes by 586,683 metric tons CO_2e in FY20.

Water positive
1.5M
Launched water accessibility work to provide 1.5 million people access to safe drinking water and sanitation.

Carbon negative
100%
All suppliers must report their GHG emissions through updated Supplier Code of Conduct.

Water positive
20
To date, funded nearly 20 replenishment projects in six states and two countries.

Source: *2020 Environmental Sustainability Report: A Year of Action*, Microsoft Corporation, 2021.

Section Two:
The SDGs we contribute toward

In the first section, we covered four of the 17 Global Goals that Microsoft is **focused on** as a company. This section of the paper provides examples of efforts Microsoft is making to **contribute toward** the other 13 SDGs. We are proud of the contributions we are making on these issues, as a member of the global technology community, but remain humbled by the scale of challenges that we all face to meet the Global Goals. A number of our initiatives are contributing to the attainment of specific targets, while others are part of the broader effort required to address the societal challenges that the relevant SDG is seeking to tackle.

To deliver on the SDGs by 2030, governments, business, civil society, and all concerned stakeholders must promote and scale collective efforts on sustainable development. At Microsoft, some of our programs, partnerships, and the support we extend to various initiatives supplement the collective efforts needed to advance progress on the SDGs. We hope that other partners and stakeholders will join in helping the world achieve the SDGs and will provide additional approaches, information, and resources necessary to advance progress on the SDGs ahead of 2030.

Artificial intelligence for humanitarian action

Dr. Anshu Sharma
Cofounder
SEEDS

What has been the biggest surprise in your partnership/ collaboration with Microsoft?

The hunger for efficiency in disaster warnings and the ease with which communities and local governments have accepted, and in fact welcomed, a highly tech-based solution was very surprising for us, and pleasantly so. We had assumed that there will be challenges of acceptance, and that we will need to do a lot of explaining for frontline workers and local decision-makers to help them understand what AI for Humanitarian Action means and how AI can improve disaster warnings and thus save lives and assets. The understanding, however, came instantly, almost as though the world was desperately waiting for such a solution!

> **Sustainability is about the future.**

In the Sustainable Development Goals, Goal 17 calls for revitalized partnerships to achieve the SDGs; is the private sector fulfilling its potential as a contributor to SDGs?

The role of the private sector in sustainable development has always been recognized, though often seen with a limited scope. Social responsibility almost grew out of philanthropy, and has had a tinge of charity inherent in its construct. Recent developments have, however, raised the bar significantly, and responsible business is emerging as a thoughtful corporate strategy. Microsoft's AI4Good suite is a leading example of responsible business. Microsoft Power Apps and Azure services are core technology businesses, but the AI for Humanitarian Action initiative is demonstrating how these are going to make the world safer and more sustainable, like no conventional approach can. The users are in the domains of government, civil society, academia, and even vulnerable communities.

In the 2030 Agenda for Sustainable Development, "financial resources, technology development, and transfer, and capacity building" are listed as three means of implementation for the SDGs. Where is the private sector falling short?

Financial resources and technology development are two areas where the private sector will naturally excel. When it comes to technology transfer and capacity building, the landscape is rather fuzzy. "Transfer resources and technology to whom?" and "Build whose capacity?" are questions that still plague the third aspect of this commitment. Traditionally, tech-transfer and capacity-building efforts have focused on governments alone. AI for Humanitarian Action has shown that for the SDGs to have impact on the last mile, technology and capacity building also need to focus on this territory. Working with local actors, including local governments, aid agencies, community-based organizations, and communities themselves is critical for building capacities that will make a difference on the frontlines.

How should companies think about what truly counts as "sustainable" when they report on the SDGs?

Sustainability is about the future. It is about anticipating and planning for scenarios in a world that is changing like never before. A world where future projections can no longer be based on past trends because climate change and economic growth patterns have altered the planning paradigms that we are used to working with. In such a context, companies also need a new lens for looking at sustainability, as opposed to the carrying-capacity-based conventional approach. Carrying capacities themselves are getting reduced in some areas, and growth trajectories are taking unprecedented courses, thus making load projections extremely challenging. Recent experiences of the coronavirus pandemic, increased heat waves, more severe tropical cyclones, freak urban floods, and civil strife in vulnerable societies also make us realize that the world needs to be far better prepared for shocks and stresses. In order to truly count as sustainable, our efforts need to focus on sharpening our anticipation capacities even in an unpredictable future, and the resolve to invest in building resilience at all levels, but at the level of communities the most.

> ❝ Recent developments have ... raised the bar significantly, and responsible business is emerging as a thoughtful corporate strategy. ❞

SDG 1:
No Poverty

For a substantial part of the world, the benefits of the Fourth Industrial Revolution's technological advances are elusive and remain out of reach. Target 1.4 aims to ensure that **all men and women**, in particular the poor and the vulnerable, have **equal rights to economic resources**, in addition to access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, **appropriate new technology, and financial services** by 2030. Target 1.5 aims to **build resilience and reduce exposure among the poor and vulnerable to climate-related extreme events and other economic, social, and environmental shocks and disasters**. Microsoft is working to provide technologies, skills, and resources and to promote approaches that have lasting impacts and that remove barriers to access, so more people can experience the transformative benefits of the digital economy.

Our programs

- In fiscal year 2021, Microsoft Philanthropies provided $2.5 billion in technology grants and discounts to some 400,000 nonprofits—50,000 more than

" **Microsoft is working to provide technologies, skills, and resources ....** "

HIGHLIGHT

TechSpark is a Microsoft initiative to spark new economic opportunities and job creation in rural and smaller communities through local partnerships. TechSpark focuses on five program areas: digital transformation, digital skills and computer science education, career pathways, rural broadband, and support for nonprofits. The initiative focuses our resources and deep partnership on specific communities in seven US states—Mississippi, North Dakota, Texas, Virginia, Washington, Wyoming, and Wisconsin— and the city of Juarez, Mexico. Through extensive partnerships with local government, businesses, education institutions, and nonprofits, TechSpark has launched projects aimed at improving economic opportunity, job creation, or supporting the local start-up ecosystem, including the Grand Farm (Fargo, ND), Title Town Tech (Green Bay, WI), Bridge Accelerator (El Paso, TX, and Juarez, Mexico), the SOVA Innovation Hub (South Boston, VA), and iLumina (Quincy, WA). Annually, our TechSpark program brings more than $50 million in economic impact and thousands of jobs to the communities that we serve.

last year. Of that total, Microsoft provided $2 billion exclusively in cloud grants and discounts to over 225,000 nonprofits.

- AI for Humanitarian Action is a Microsoft program harnessing the power of AI to focus on four priorities—helping the world recover from disasters, addressing the needs of women and children, protecting refugees and displaced people, and promoting respect for human rights. The program works with selected NGOs, universities, and humanitarian organizations through financial grants, technology investments, and partnerships that combine our AI and data science expertise with their domain knowledge. The program has invested in 57 projects in more than 19 countries to help organizations better harness the power of AI to better enable humanitarian response.

- Microsoft continued ensuring Devices suppliers cover workers' social insurance and contractual and legal requirements for payment of compensation via an assurance program.

- Microsoft is committed to paying its employees at least the applicable minimum wage, including people with disabilities. We have added language in our Supplier Code of Conduct to reconfirm the obligation to our suppliers to pay the applicable minimum wage to everyone as well.

Our partnerships

- The Partnership for Central America is a coalition of private-sector organizations established in response to a call from the Biden administration for private-sector and social enterprises to make new commitments to support local economic opportunity to help address the root cause of migration from the Northern Triangle.

- Partnerships for Economic Opportunities Through Technology in the Americas (POETA) is a nonprofit partnered with Microsoft to train underserved groups in technology, life skills, employability, and entrepreneurship in more than 200 centers across 19 countries in Latin America and the Caribbean.

- Microsoft and Mastercard Center for Inclusive Growth are partnering globally to build in-demand jobs for those most in need and provide equitable access to capital and inclusive economic opportunity to help advance the digital economy.

- We awarded grants and provided data science assistance to our close partner SEEDS to support its emergency response and preparedness outreach to communities across India, including their household-risk identification model that is now being adapted to also identify earthquake and heatwave risks for low-resiliency families.

- In Guatemala, New Sun Road, a Microsoft Airband partner based out of California and focused on access to clean energy, is deploying internet-enabled digital community hubs to help address and combat climate-driven poverty. In collaboration with the United States Agency for International Development (USAID), the

hubs will serve as technological centers in unelectrified communities to enable access to the internet and digital skills education.

Our support

- The MySkills4Africa and MySkills4Asia programs invite Microsoft employees from all over the world to contribute their time, talent, and deep expertise to help build a prosperous, promising future for Africa and Asia by working with new businesses, students, NGOs, and Microsoft partners across both continents.

- The German nonprofit Welthungerhilfe worked with

our data science team and the Indian health authorities to develop a height estimation model for children under five, a critical measure to help assess child malnutrition. Microsoft is now working with the organization to test the model in Namibia and work toward generalizing its application.

- A Microsoft data scientist developed a model with the Carter Center on Azure to use AI to identify and classify armed-conflict incidents from their internal news feed.

- Microsoft assisted the Investigative Team to Promote Accountability for Crimes Committed by Da'esh/ISIL (UNITAD) in utilizing AI to

better assist their criminal investigations.

- Microsoft created an AI model able to identify types of weapons from audio in videos recorded from the Syrian conflict, in support of Benetech's engagement with Syrian community organizations.

- Through grants, partner support, and data scientist engagement, Microsoft developed a case management platform to assist the Turkish Red Crescent in refugee-family reunification, which supports case managers through AI facial recognition on consensually submitted photographs of family members.

For more initiatives related to SDG 1, see our efforts to promote quality education and digital skills programs for young people worldwide with a focus on underserved populations (SDG 4), empower young women and girls and prepare them for careers in STEM fields (SDG 5), invest in clean energy and innovative sustainable technologies (SDGs 7 and 13), promote decent work and economic growth (SDG 8), extend internet connectivity to underserved parts of the world (SDG 9), teach coding and technology skills to underrepresented groups (SDG 10), improve urban infrastructure through technology (SDG 11), use technology tools to support ocean and land biodiversity and related economic activities (SDGs 14 and 15), and safeguard and strengthen governments and public institutions (SDG 16).

SDG 2: Zero Hunger

In a world with finite arable land and a population that is expected to grow from 7.7 billion to nearly 10 billion by 2050,[2] farmers around the world face the urgent question of how to sustainably feed a global population. As the population expands and diets change, farmers will need to increase food production by about 70 percent. The question is: How? Finding the right answers is one of humanity's most pressing issues. The growing strain on food resources caused by a growing population also leaves many vulnerable to shocks and food insecurity. Target 2.4 calls for sustainable food production systems and resilient agricultural practices that increase productivity and production, and that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters, and that progressively improve land and soil quality. We believe **digital technologies and AI** can be part of the solution.

2 ZERO HUNGER

> 66 **We believe digital technologies … can be part of the solution.** 99

[2] "Growing at a slower pace, world population is expected to reach 9.7 billion in 2050 and could peak at nearly 11 billion around 2100." UN Department of Economic and Social Affairs, June 17, 2019. https://www.un.org/development/desa/en/news/population/world-population-prospects-2019.html

> **HIGHLIGHT**
>
> Microsoft Azure FarmBeats harnesses data and AI to help farmers cut costs, increase yields, and sustainably grow crops that are more resilient to climate change. FarmBeats collects data from multiple sources, such as sensors, drones, satellites, and tractors, and feeds it into cloud-based AI models that provide a detailed picture of conditions on the farm. This empowers farmers to efficiently use natural resources—for example, water for precision irrigation that is guided by the generated intelligence. Since most farms have little or no internet access, FarmBeats transmits data using various forms of fixed wireless technologies—to an edge device at the farm and onto the cloud with Microsoft Azure.

Our programs

- Land O'Lakes and Microsoft announced a multiyear strategic alliance to pioneer new innovations in agriculture and to enhance the supply chain, expand sustainability practices for farmers and the food system, and close the rural broadband gap. As one of the nation's largest farmer-owned cooperatives, with 150 million acres of productive cropland in its network, Land O'Lakes is deeply connected to rural America and has a unique understanding of farmers' needs and the communities where they and their families live and work. Combined with trusted Microsoft cloud technologies and AI capabilities, the companies will deliver solutions that help farmers' profit potential and adoption of sustainable agricultural practices.

Our partnerships

- Microsoft is working with the Ministry of Agriculture for the Republic of Indonesia to empower smallholder farms with solutions to help increase profitability and efficiency using machine learning and advanced analytics.

- Microsoft partnered with Emerging Prairies in Fargo, North Dakota, on the Grand Farm, a world-class ecosystem focused on advanced technologies in agriculture. Working with dozens of regional and national partners, the Grand Farm combines a growing test site for ag-tech experimentation with an Emerging Digital Academy focused on robotics and coding to advance ag skills, alongside an innovation platform that entices venture funding, research, and the acceleration of ag-focused startups.

- Microsoft is working with the nonprofit International Crop Research Institute for Semi-Arid Tropics (ICRISAT) to enable farmers to take advantage of the power of AI to increase yields. Last year, ICRISAT received a Microsoft AI for Earth grant to support continued development of AI solutions that focus on sustainable agriculture in developing parts of the world.

- Microsoft and ICRISAT developed the AI Sowing App, which draws on more than 30 years of climate data, combined with real-time weather information, and then uses sophisticated forecasting models powered by Microsoft Azure AI to determine the optimal time to plant, the ideal sowing depth, how much farm manure to apply, and more. That information is then shared with farmers through text messages that they receive on a basic feature phone.

- SunCulture, a grantee through the Microsoft Airband Initiative, has developed a solar-powered irrigation system that allows growers in Kenya to use water more efficiently and effectively. Farmers are able to use SunCulture's technology to increase production, grow higher-value crops, and ultimately reduce labor and increase economic growth.

According to the UN Food and Agriculture Organization (FAO), increasing production is only part of the answer to the problem we face in feeding the world's growing population. Almost as important is to reduce the amount of food that is wasted every year.[3] On the waste front, AI can play a significant role. It can contribute

---

[3] The UN Food and Agriculture Organization estimates that one-third of all food produced for human consumption—1.3 billion tons—is wasted annually. http://www.fao.org/climate-change/our-work/areas-of-work/food-loss-and-waste/en/

to ensuring that highly perishable foods, such as milk, make it from the farm to the processing plant quickly and safely.

- A pioneering, AI-based operations management system is improving efficiency, ensuring safety, and lowering costs for a brand-new milk processing and manufacturing facility operated by Australian Consolidated Milk (ACM) in Girgarre, a small town in Australia. Designed to handle 200 million liters of milk, the facility uses a state-of-the-art information system built on Microsoft Dynamics 365 and Azure Cognitive Services to automate the process of pumping milk from tanker trucks to silos—monitoring quality and creating a rich data trail so the milk can be tracked from the farm to the store.

- ACM has also implemented a sophisticated temperature monitoring system that uses sensors and Microsoft technologies, including Azure and SQL, to detect temperature fluctuations in storage tanks and trucks, sending alerts to farmers and drivers. If the system senses an electrical failure on a farm, for example, it can automatically dispatch trucks to collect the milk before it spoils.

For more initiatives related to SDG 2, see our efforts to replenish water in water-stressed areas where we operate and to help farmers use water more efficiently (SDG 6), promote decent work and economic growth for the digital age (SDG 8), extend internet and electricity to rural areas around the world (SDG 9), protect ocean resources from illegal fishing (SDG 14), and improve agricultural yields through technology and big data (SDG 15).

World Health Data Hub

Dr. Samira Asma

**Assistant Director-General, Division of Data, Analytics and Delivery for Impact
World Health Organization**

What has been the biggest surprise in your partnership with Microsoft?

Even before the coronavirus pandemic, the world needed more timely, reliable, actionable, and accessible data to make swift decisions. The pandemic has both underscored this need and highlighted the urgency of working together to strengthen the global data architecture, fill data gaps, and resolve fragmentation. In response, WHO and technology partners such as Microsoft and Avanade

have joined forces to meet these data challenges and ensure we are better prepared for future outbreaks. The result of this collaboration is the World Health Data Hub—the new "home of the world's health data." The Hub is a realization of Dr. Tedros' transformative vision for WHO to be a global leader in health data and analytics technology. As an interactive digital platform, it will provide easy access to view and download health data along with powerful visualization tools to better understand trends, patterns, and connections. It

> " **Sustainability requires embedded knowledge and expertise.** "

also allows countries to securely upload and review their data and fulfills WHO's commitment to provide complete, transparent, and open data as a public good.

This monumental effort would not have been possible without public-private partnerships like the one between WHO and Microsoft. The biggest surprise from our partnership has been the alignment of comparative strengths to begin developing the World Health Data Hub. With the convening power of WHO and the cutting-edge tools and technology from Microsoft, we've been able to go farther and faster than ever before. Above all, the strongest aspect of this partnership is that it is built on shared values—mutual trust, respect, and accountability for results.

In the Sustainable Development Goals, Goal 17 calls for revitalized partnerships to achieve the SDGs. Is the private sector fulfilling its potential as a contributor to SDGs?

There are 17 integrated SDGs that must be met by 2030, but without accurate health data it's hard to tell how we're doing. The coronavirus pandemic has underscored the impact of health on all SDGs, and SDG 17.5 specifically calls for investment in least-developed countries (LDCs). These LDCs and Small Island Developing States (SIDS) are at greatest risk of falling behind without significant capacity building and infrastructure.

The coronavirus pandemic has shown that inequalities persist across all stratifiers—from income to sex, age, geographic location, ethnicity, and more. Sustainable capacity building in low-resource settings will be critical to reduce these inequalities and ensure health for all. The private sector has an important role to play in filling these gaps by investing in areas like training and infrastructure. In terms of SDG 3, it also has potential for greater support in areas such as public health surveillance, precision medicine, patient care, and translating health data into effective policy design.

The private sector is an important contributor to achieving all SDGs and, as WHO's partnership with Microsoft has shown, can have great impact when working with a shared purpose and objectives. There is always more to be done and we will face many challenges to get back on track to 2030, but if we come together as a global community, then we can better tackle these challenges head-on.

In the 2030 Agenda for Sustainable Development, "financial resources, technology development, and transfer, and capacity building" are listed as three means of implementation for the SDGs. Where is the private sector falling short?

WHO's recent assessment of health information systems capacity in 133 countries found that only 40 percent of deaths worldwide are registered and only 27 percent of countries have sustainable capacity to survey public health threats (SCORE for Health Data Technical Package). These data gaps and inequalities are stark, and the coronavirus pandemic has exacerbated them even further. Moreover, recent primary data is still lacking for many SDG indicators, hindering our ability to accurately monitor progress. With 67 of the 231 SDG indicators relying on a functional civil registration and vital statistics system, how can we reliably meet the SDGs when we cannot even count the number of deaths in a country?

The private sector has access to unique resources and technology that are critical to fill these gaps and reduce inequalities—for example, by addressing the growing digital divide. Investing in the weakest areas highlighted by SCORE and similar assessments would be a huge step towards improving the quality and timeliness of data at the collection point.

However, it's not just about funding. Sustainability requires embedded knowledge and expertise. While funding can help address immediate shortfalls, technology development and transfer are equally important. Implementing systems like the World Health Data Hub will require IT infrastructure, training, and ongoing technical support for which the private sector plays a key role.

The coronavirus pandemic has underscored the need for efficient, multilateral cooperation that is responsive to unique country needs and reflects their specific priorities. The private sector has already made significant contributions, but we still have a long way to go and WHO welcomes all new ideas and opportunities to collaborate with speed and scale.

How should companies think about what truly counts as "sustainable" when they report on the SDGs?

Every data point is a person. A place. An event. It tells a story about what is happening in the lives and livelihoods of people. When we talk about sustainability, this means that data is both representative of and used by the people for whom it is collected.

A guiding question at WHO has always been, "Is anyone being left behind?" Our work centers around improving data availability, quality, and timeliness to help answer this question. And as mentioned, we continue to uncover many gaps that require urgent investment and capacity building.

Sustainability also means responding to country priorities and needs. For instance, the coronavirus pandemic has highlighted not only the inability to report data in low-resource settings, but also that, even in high-resource settings, health systems continue to face challenges with fragmentation

and outdated tools. With modern technology and digital solutions at our disposal, we have a collective responsibility to make sure that data is accessible as a global public good while also ensuring the privacy of individual information.

Every country should have self-reliant data and health information systems to guide strategic policy dialogue and best serve the needs of their populations. We live in an interconnected world, and data systems must reflect that and not operate in isolation.

As Dr. Tedros often says, we cannot make progress unless we can measure progress. As part of WHO's transformation agenda, the Division of Data, Analytics and Delivery for Impact was established to improve measurement, focus on results and deliver impact. Since its creation, and amid historic challenges, the Division has worked with partners to build a strong foundation for data and health information systems strengthening, data governance,

and country capacity building that will accelerate progress towards the SDGs.

Sustainability is ultimately about the ability to assess impact and measure progress over time. As we continue to develop and deploy the World Health Data Hub and other key initiatives, our takeaway message is that data cannot affect us all unless it reflects us all.

> ❝ **We have a collective responsibility to make sure that data is accessible as a global public good while also ensuring the privacy of individual information.** ❞

SDG 3:
Good Health and Well-Being

The coronavirus pandemic continues to be an unprecedented global health challenge. Microsoft remains focused on providing digital technologies and support to help people around the world access better healthcare. The pandemic has demonstrated the vital nature of technology in today's healthcare landscape, especially in times of crisis. We believe that its importance will only grow over time. **Digital technologies and tools have been critical for expanding access** to quality essential healthcare services and **access to safe, effective, quality, and affordable essential medicines**,

in line with target 3.8. Similarly, target 3.d calls for strengthened capacity of all countries, in particular developing countries, for early warning, risk reduction, and management of national and global health risks—another area where digital technologies can play an important role.

Our programs

• We are focusing our efforts in five specific areas where we think data, analysis, and the skills of our data scientists can have the biggest impact, and we are immediately dedicating $20 million to this specific

3 GOOD HEALTH AND WELL-BEING

“ **We are focusing our efforts in five specific areas ....** ”

HIGHLIGHT

On January 30, 2020, the World Health Organization (WHO) declared the coronavirus disease (COVID-19) outbreak a Public Health Emergency of International Concern (PHEIC). By March 11, 2020, WHO declared that it had evolved into a pandemic. The coronavirus pandemic has underscored the need for efficient, multilateral cooperation to accelerate the progress toward global health goals, deploying the innovation and expertise that public-private partnership provides. In response, Microsoft and Avanade are collaborating with WHO and other partners to create the world's first comprehensive, end-to-end data solution for global health. The World Health Data Hub will provide an interactive digital platform and trusted source for all global health data, fulfilling WHO's commitment to provide health data as a public good and ensure that every citizen in every country has a chance for a healthier life.

---

effort, as part of the larger Microsoft commitment to contribute to the coronavirus response efforts.

- In May 2021, Microsoft mobilized resources to support the coronavirus response in India. Microsoft became one of the founding members of the Global Task Force on Pandemic Response, which will focus first on India, and then other countries devastated by the pandemic. As technology plays a critical role in responding to the pandemic, we are ensuring that every commercial and government organization in India has free access to the full capabilities of Microsoft Teams as they respond to the crisis. Microsoft Philanthropies has also joined with other organizations to purchase ventilators, oxygen concentration devices, and other needed medical supplies for India.

- Since the pandemic was declared, the Microsoft Services Disaster Response program has completed 117 coronavirus pandemic relief efforts that have been requested by countries, states, regions, and not-for-profit organizations across the globe.

- With the help of Microsoft Services Disaster Response experts, UNICEF has been working to enhance and improve the security and infrastructure of the COVAX information hub, which helps provide key stakeholders across the COVAX facility—including governments, key partners, and other interested parties—with immediate and up-to-date information on COVAX allocations and delivery. Microsoft experts also work alongside UNICEF to track and monitor the distribution of vaccines from manufacturers through to local market delivery, increasing efficiencies and sharing real-time data with key stakeholders to help them make critical decisions, and thus enabling a more cohesive process in support of the COVAX facility.

- More than 1,300 Microsoft employees volunteered to help the city of Seattle operate the largest civilian-run vaccination site in the nation. From April to June 2021, 1.5 million residents were vaccinated, making Seattle the most vaccinated major city in the United States.

- We mobilized the AI for Health program to support those focused on the front lines of coronavirus research. We have awarded more than 150 grants to coronavirus research projects around the world.

- Microsoft, along with a consortium of public and private partners, came together to address vaccination within underserved communities as well as to create a framework that will serve future vaccination/health efforts, so the ongoing health needs of the underserved are not forgotten. This model of public-private partnerships has proven to be very successful by combining trusted organizations embedded within these communities with technology and national/international partners who have the resources to assist. The overall goal is to deliver vaccinations and essential health services to the underserved, vulnerable, and those with low access to care.

- Microsoft continues to support Folding@home, a global organization that is researching SARS-CoV-2 proteins that could help with designing therapeutics.

- The Azure Health Bot service is a solution that uses AI to help the Centers for Disease Control and Prevention (CDC) and other frontline organizations respond to patient inquiries, freeing up doctors, nurses, administrators, and other healthcare professionals to provide critical care to those who need it.

- Microsoft's Vaccine Management program empowers community members, frontline workers, and leadership to roll out comprehensive vaccination programs quickly and securely.

- We share good practices with Microsoft suppliers to prevent and minimize the impact of the coronavirus pandemic on supply chain workers. And we are driving suppliers to improve their health and safety management to minimize the causes of hazards in the working environment.

Our partnerships

- After a successful two-year partnership, Microsoft announced the acquisition of Nuance, which will enable clinicians with advanced decision-making capabilities while allowing for better connections with patients, through the use of advanced AI and ambient clinical intelligence.

- Microsoft and Teladoc Solo announced a partnership to create a unified practice experience for clinicians. This collaboration will combine the Teladoc Solo platform and Microsoft Teams, which will simplify the way health organizations and clinicians work by streamlining the technological and administrative processes associated with providing virtual care.

- Broad Institute and Verily partnered with Microsoft to deliver advanced technology, industry expertise, and scale to help researchers interpret an unprecedented amount of biomedical data and derive insights to advance the treatment of human diseases.

- Microsoft Airband Initiative partner Mawingu Networks is working in Laikipia County, Kenya, to provide connectivity to unserved rural health clinics. Working with local government, Mawingu is deploying infrastructure to help health clinics utilize videoconferencing tools that connect rural clinics with larger hospitals in Nairobi and to ensure rural patients are provided the highest quality of care.

Our support

- Microsoft is committed to working closely with customers, public health teams, and partners across the globe to achieve greater health equity for the communities that they serve. Specifically, Microsoft is focused on improvements in vaccine equity, AI for health equity, and decreasing the digital divide, including through partnerships with the HLTH Foundation on health equity and on health system resilience.

- We empower organizations tackling some of the toughest challenges in global health through the AI for Health program. AI for Health is a $60 million, five-year philanthropic program from Microsoft, created to empower nonprofits, researchers, and organizations.

- At Johns Hopkins Medicine (JHM) in Baltimore, scientists and physicians are collecting and tapping vast amounts of data from clinical care, genomics—even wearable devices—to better predict disease progression and to pinpoint individual treatments, supported by Microsoft Azure and analytics tools. The hospital announced a five-year partnership with Microsoft that will support new discoveries as part of JHM's inHealth precision medicine initiative.

- To improve public health and sanitation, Thailand's Ministry of Public Health takes advantage

of Microsoft AI and Cognitive Services to capture, track, and share data on public restrooms (a breeding ground for diseases, if not kept in optimal condition) through a mobile app. Using Microsoft technologies, like machine learning and computer visualization, the app helps government agencies to identify public health risks and disease hotspots and to mitigate the risk of epidemics.

For more initiatives related to SDG 3, see our efforts to support clean water and sanitation by safeguarding the world's water resources (SDG 6), provide complimentary connectivity to quarantine centers in India (SDG 9), install smart water meters in hospitals in South Africa (SDG 11), and halt cyberattacks targeting the healthcare sector during the coronavirus pandemic (SDG 17).
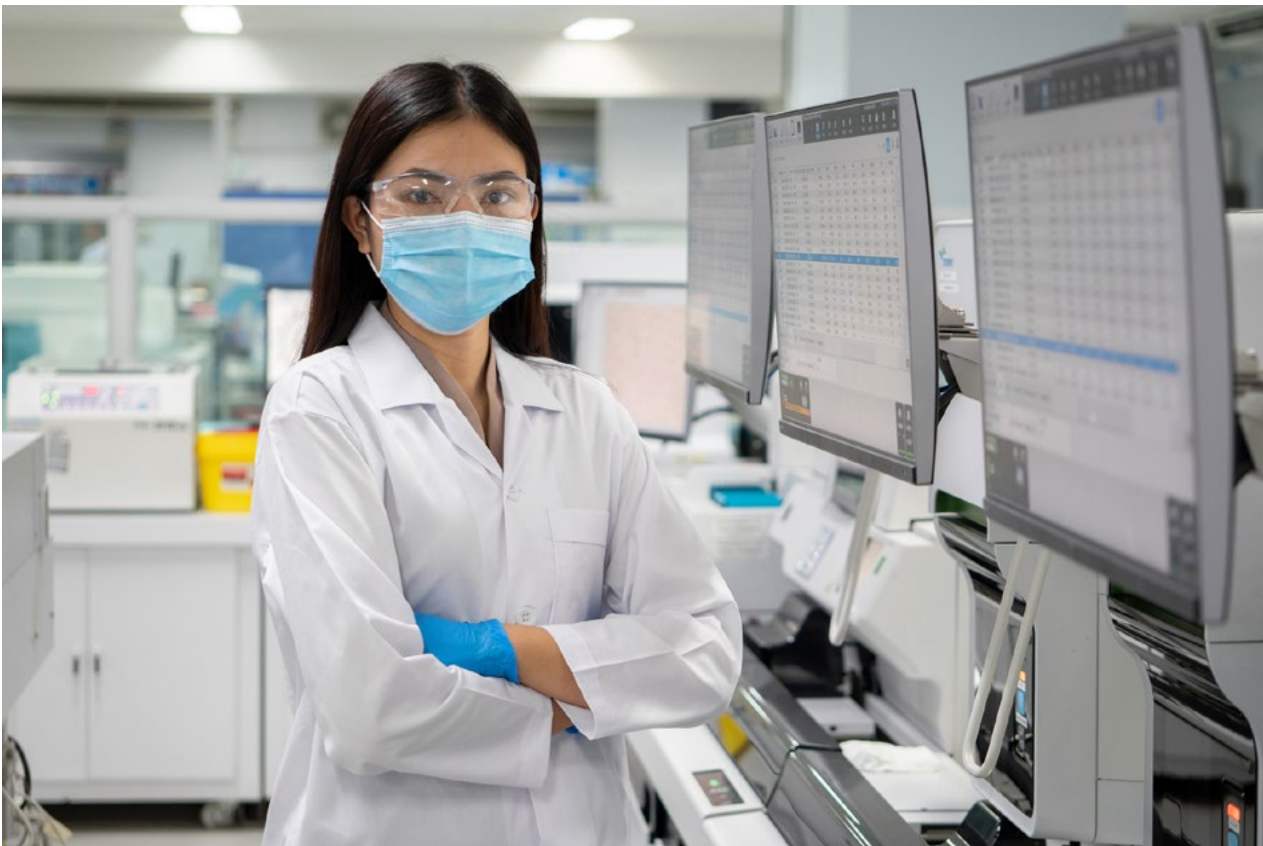
Digital equity for underserved communities

Bryan Kariuki
Board Member
Mawingu Networks

What has been the biggest surprise in your partnership with Microsoft?

As an internet service provider working with rural communities in Kenya, the largest issue we face is one of inequality, both in terms of access to economic opportunities and access to public participation and services. It is critically important that we get everyone in Kenya access to the internet, and our partnership with Microsoft has enabled us to explore different technologies and scale our networks across the country. Using the tools available to us across the Microsoft portfolio, we can provide last-mile access to the most underserved communities at an affordable price point. In addition, we have been able to collaborate to focus our efforts on marginalized communities like women and girls, providing not just connectivity, but digital equity.

> " Companies are having to think more creatively about what true sustainability means .... "

In the Sustainable Development Goals, Goal 17 calls for revitalized partnerships to achieve the SDGs; is the private sector fulfilling its potential as a contributor to SDGs?

The private sector is critically important to sustainable development, with partnership being an essential component of this work. In recent years we have seen a shift toward increased collaboration between public and private partners and a strong focus on sustainable and scalable business models. Because of the resources available from organizations like Microsoft and the private sector's focus on expediency and innovation, we have access to collaboration and tools that we otherwise would not. We are finding new ways, every day, that the internet can be made more valuable, and we are working with Microsoft to move from a philanthropic model to a commercially viable approach to last-mile connectivity.

In the 2030 Agenda for Sustainable Development, "financial resources, technology development, and transfer, and capacity building" are listed as three means of implementation for the SDGs. Where is the private sector falling short?

A key role of the private sector when looking at implementation of the SDGs is to enable local partners who have strong community ties and an understanding of local needs and the local landscape. Without a core focus on capacity building to enable technology development and use, as well as to catalyze financial resources, growth will not be truly sustainable. By placing a strong focus on collaboration and partnership, not only can we achieve results connecting the unconnected, but also we can think more holistically about internet access and digital equity. Using local partners and working with the public sector enables private-sector partners to create tools that have tangible value and promote inclusion globally.

How should companies think about what truly counts as "sustainable" when they report on the SDGs?

Companies are having to think more creatively about what true sustainability means, and also about how to embed sustainability into their practices. In a world where consumers are increasingly demanding greater responsibility, Microsoft's mission of empowering every person and organization on the planet to do more remains critical. In partnership both Microsoft and Mawingu recognize that, to live that mission, ubiquitous access both to internet and to energy is critical. In addition, as a company, we know that tools created to promote digital inclusion are key, allowing connectivity to provide value to everyone globally.

> **"Without a core focus on capacity building to enable technology development and use, as well as to catalyze financial resources, growth will not be truly sustainable."**

SDG 5: Gender Equality

Gender equality is a foundational goal that is critical to the success of all the SDGs. Countless studies have shown that organizations across the public and private sector with greater gender diversity are more innovative, successful, and adaptive. At the same time, the coronavirus pandemic presents new challenges, including increased risk of violence against women and girls, job losses, and the caretaking burden that has fallen disproportionately on women. Microsoft is committed to advancing gender equality in our company and in the communities where we operate, in line with target 5.5, which is aimed at ensuring women's full and effective participation in leadership at all levels of decision-making in political, economic, and social life. Microsoft also contributes to target 5.b, which calls for **enabling technology, in particular information and communications technology, to promote the empowerment of women**.

Our programs

- Microsoft publishes free STEM resources, such as the Action Guide toolkit, to help educators and parents inspire girls and close the gender gap in STEM fields.

5 GENDER EQUALITY

> " Microsoft believes that technology can empower everyone .... "

HIGHLIGHT

In July 2021, in addition to our engagement at the 2021 UN Generation Equality Forum (GEF), a global gathering for gender equality convened by UN Women, Microsoft signed on to serve as one of the leaders of the GEF's Technology and Innovation Action Coalition, which focuses on gender equity in the access, use, and design of technology and innovation. Embracing our unique position, we have sought opportunities to work with our growing network of UN stakeholders and build on existing efforts to bridge the digital divide by addressing these issues in the specific context of gender equality. We also announced a new collective commitment, spearheaded by Microsoft, aimed at addressing disparities in the quality, availability, and use of gender-related data. While data plays an increasingly important role in our lives, access to quality data on gender has lagged. This includes data that can be disaggregated by gender, data that utilizes gender as a primary marker, and data that reflects different lived experiences related to gender. Incorporating standards articulated by Data2X among others.

- The Microsoft DigiGirlz program gives high-school girls the chance to participate in hands-on computer and technology workshops, learn about careers in technology, and connect with Microsoft employees.

- Microsoft publishes detailed data on gender representation and pay within Microsoft, providing insight into the progress and work that needs to be done to achieve full gender equality at the company.

- We are helping other companies reach the UN's gender diversity goals by 2030 by showcasing revolutionary products, like DEInamics, as part of our #BuildFor2030 campaign.

- We required our Devices suppliers and their factories to implement nondiscrimination policies and ensure equal opportunities for vulnerable groups, including women, in hiring and employment.

Our partnerships

- We partner with women-centered ProMujer working to advance equality in Latin America, including financial inclusion, entrepreneurship, and health, enabling digital transformation and opportunities for digital inclusion of the women they serve.

- Through targeted skilling efforts, we help women access careers in in-demand fields. We partner with CyberShikshaa, a nonprofit in India, and Junior Achievement in South Korea to help women returning to work to train for careers in cybersecurity.

- Our strategic partnership with the National Center for Women & Information Technology (NCWIT) Aspirations in Computing program has empowered more than 13,000 high-school girls to participate in the field of computer science.

- Codess is a community for female coders initiated by Microsoft and established to explore ways to promote gender diversity in the engineering field.

- With Microsoft's support, CARE launched its dashboard for their global Woman's Empowerment program, allowing managers and users to learn how women respondents globally have been impacted by the coronavirus pandemic.

- Launched in August 2020, the USAID/Microsoft Airband Initiative is a public-private partnership that seeks to bring internet access to more women around the world, expanding women's economic opportunities and enabling

digital development services. Since women's empowerment is key to sustainable community development, Microsoft and USAID focus their collaboration on creating sustainable and gender-equitable connectivity offerings. Projects are being deployed with six participating Airband partners across the globe, including: New Sun Road (Guatemala), Bluetown (Ghana), AirJaldi (India), AndiTel (Colombia), Mawingu (Kenya), and M-KOPA (Kenya).

Our support

- Microsoft has been a strong supporter of the TECHNOLOchicas program, both through financial support and internal engagement.

For more initiatives related to SDG 5, see our efforts to promote quality education and digital skills programs for young people worldwide, with a focus on underserved populations (SDG 4), and to teach coding and technology skills to underrepresented groups (SDG 10).

SDG 6:
Clean Water and Sanitation
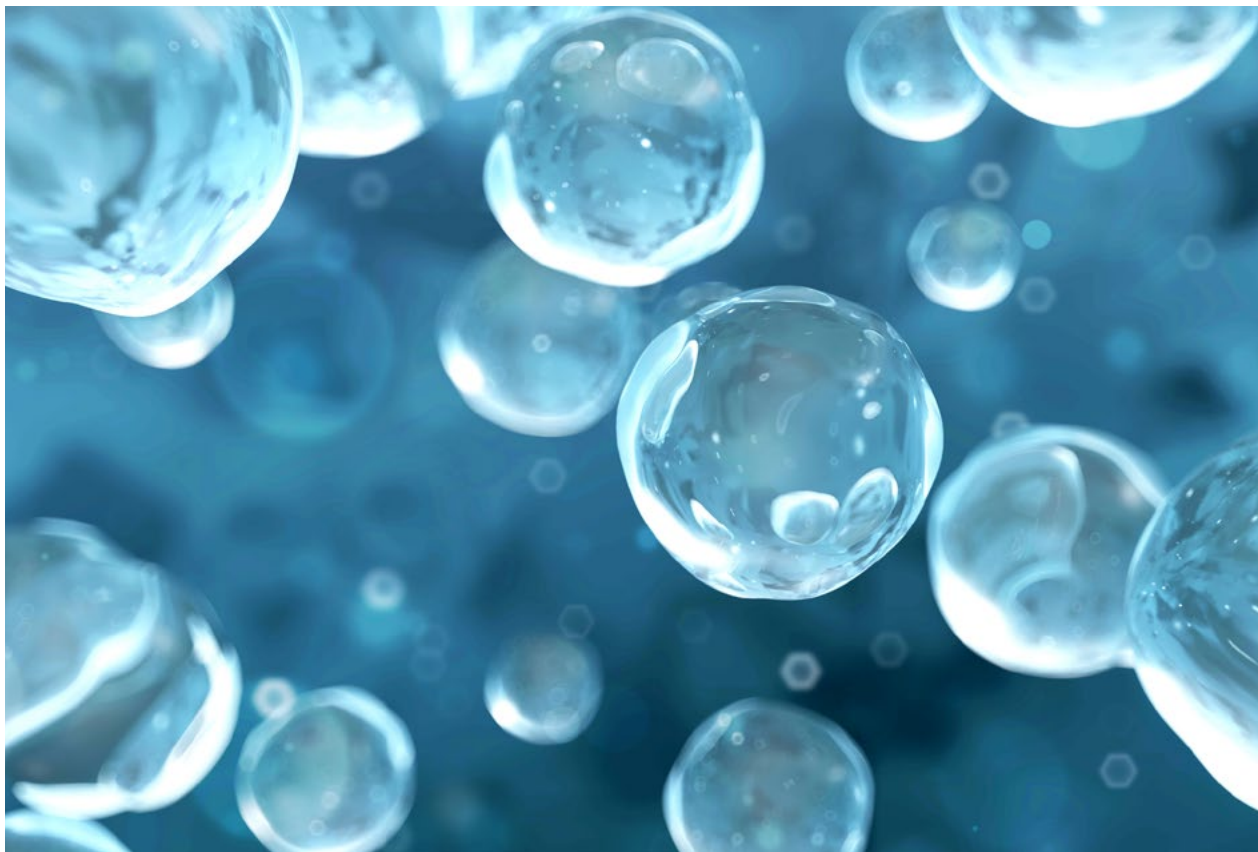
Billions of people worldwide still lack access to clean water and basic sanitation. The coronavirus pandemic has put this issue in the spotlight, since effective hygiene and sanitation are critical to stopping the spread of pathogens. Looking forward, based on current trends, more than half of the world's population could be living in water-stressed areas by 2050—dramatically heightening the risk of water insecurity, conflict, and suffering. To address water scarcity, target 6.4 calls for a substantial increase in water-use efficiency across all sectors by 2030, in addition to sustainable water withdrawal and replacement strategies. Microsoft is committed to increasing our own water efficiencies, replenishing water in stressed areas where we operate, and playing a role in encouraging responsible water resource management.

Our programs

- Microsoft is a founding member of the Water Resilience Coalition, launched in 2020 as an initiative of the United Nations Global Compact CEO Water Mandate. The coalition has grown to 20 industry-leading corporations, all of whom have pledged to work

6 CLEAN WATER AND SANITATION

" By 2030 Microsoft will replenish more water than it consumes .... "

HIGHLIGHT

In September 2020, we announced that by 2030 Microsoft will be water positive, meaning that we will replenish more water than we use. We are tackling our water consumption in two ways: reducing our water use intensity—or the water we use per megawatt of energy used for our operations—and replenishing water in the water-stressed regions where we operate. This means that by 2030 Microsoft will replenish more water than it consumes on a global basis.

Our reduction in water use intensity and our replenishment commitments address the key issue of water *availability*, which is the amount of water that can be used to meet demand. However, that is only part of the challenge. Equally important is the issue of *accessibility*, which is the supply of safe drinking water and sanitation. That is why we are partnering with non-governmental organizations (NGOs) to ensure that more than 1.5 million people gain access to clean drinking and sanitation water. Together with Water.org, a leading global nonprofit focused on underserved communities, we have helped empower an estimated 160,000 people with access to safe water or sanitation, which has accounted for 500 million liters of net positive water impact in the first year.

collectively on availability, quality, and accessibility issues in water-stressed locations. The Coalition is working together to identify priority basins for collective action in 2021 and to set targets for improving conditions in those basins.

- Microsoft's Climate Innovation Fund invested $10 million in the Emerald Technology Ventures $100 million Global Impact Fund, whose investors also include Temasek, Ecolab, and SKion Water. The fund will partner with early- to expansion-stage companies from around the world, driving innovation and its adoption in water technologies. It will focus on pressing challenges, including conserving water resources, improving water efficiency and quality, avoiding carbon emissions in water treatment, and adapting to climate change. This fund is one of few solely focused on water strategy.

- Microsoft made a commitment, by 2030, to replenish water in the water-stressed areas

where it operates. Currently, we have water restoration projects underway in Arizona, California, Nevada, North Dakota, Washington State, and Wyoming, in the United States, and in Chennai and Karnataka, in India.

- We are innovating in water collection, treatment, reuse, and water use intensity at our campuses and datacenters across the globe. For example, Microsoft has pioneered an industry standard for water conservation in corporate facilities by developing the first net zero water campus, in Silicon Valley, California.

Our partnerships

- The Water Risk Monetizer and Smart Water Navigator are powerful tools developed by Ecolab in partnership with Microsoft and S&P Trucost. The Water Risk Monetizer provides actionable information to help organizations understand water-related risks and quantify them in financial

terms. The Smart Water Navigator helps companies reduce their water usage at a facility level. Both tools are free of charge.

- We worked with community organizations and partners to establish over 20 water projects around the world—including several projects alongside our new sustainable datacenter region in Arizona.

- Microsoft works with a number of nonprofits to restore waterways and increase water efficiency, including Bonneville Environmental Foundation, to support projects that will increase flows and habitat conditions for migrating fish, remove fish passage barriers, and test new irrigation techniques that can improve the quality and quantity of fruit, while using less water.

- Water is the primary means through which climate change will be experienced. As such, we need governments to address climate and water challenges in a more integrated way. One way to do this is through the long-

term goals that countries set as part of their national climate plans or Intended Nationally Determined Contributions (INDCs) under the Paris Agreement. We began this work by joining WaterEurope, the leading association in Europe focused on technology and innovation aspects of water, and by supporting the creation of the Common European Green Deal data space.

- By working with Microsoft, first with its Airband Initiative and now with AI for Earth, SunCulture has been building an Internet of Things solution using local sensors and cloud-based machine learning models to produce detailed recommendations for farm management based on weather predictions, soil conditions, and pest levels. SunCulture was founded to help African farmers by improving their productivity through solar-powered irrigation and by providing guidance on more efficient precision agriculture methods. These outcomes required gathering more information on the needs of their specific farm. With access to irrigation, financing, and reliable, real-time recommendations on how best to manage their farms, the farmers can improve their lives and be better positioned to help feed the world.

- Vector Center has developed a platform called the Perception Reality Engine on Microsoft Azure to collect, correlate, and analyze data and produce an overall picture of real-time events, which better monitor and forestall the threat of water scarcity. Vector Center

works with governments and companies around the world to better understand the impact of water availability and accessibility. One of the challenges it addresses is water risk and scarcity in urban communities where data is still often analog, printed and stored in stacks.

- As part of our water-replenishment strategy, Microsoft has teamed up with the Freshwater Trust, a nonprofit that protects and restores freshwater ecosystems, and Upstream Tech, a company that develops technological solutions for water conservation, who have developed a tool called the BasinScout Platform. It uses satellite data, data about crop growth and farming practices, and applies machine learning to assess field-level agricultural practices and their impact on water resources at scale, including scenarios about how to be more water-efficient and cost-efficient. This helps conserve and protect the water basins that are main sources of the public's water supply.

- With the support of our AI for Earth program, the Leadership Counsel is using Microsoft Azure resources to host and deploy machine learning models to predict domestic well failure resulting from groundwater changes and resulting drinking-water shortages. They are providing that information to local agencies so they can use it to prevent well failure and improve water resource management and planning. The Leadership Counsel for

Justice and Accountability is a California nonprofit focused on land use and transportation in underserved communities. It is working to address the challenge of drinking-water availability in California's Central Valley. About 1.5 million people in the region rely on private domestic wells for drinking water, and many of these wells often fail during drought or due to groundwater management issues.

- Microsoft and Schneider Electric (SE) have co-innovated on Azure to develop solutions to improve water and wastewater management along the water cycle through smart water technology and services for optimized water and waste operations, water and energy, safety, and enterprise sustainability. SE provides energy and automation digital solutions for efficiency and sustainability, combining world-leading energy technologies, real-time automation, software, and services into integration solutions. Recent work from this co-innovation has helped restore the water quality of the Bogotá River with the expansion of the Salitre II wastewater treatment plant. Working with the Bogotá Colombia Water treatment plant, the largest in Colombia and under execution by Aqualia, new digital technologies are making the plant more efficient. The Bogotá River is polluted, and this is threatening the environment and health of the 8 million inhabitants of Bogotá. The wastewater treatment plant is an important part of the remediation efforts.

- Grundfos utilizes Microsoft to support their business transformation in digital and water solutions with the expected outcomes of improving customer satisfaction, increasing innovation, and achieving operational excellence. Grundfos is a global water technology company headquartered in Bjerringbro, Denmark. They pioneer solutions to the world's water and climate challenges to improve quality of life for people. Two ambitious water goals are to provide safely managed drinking water to 300 million people in need and save 50 billion cubic meters of consumable freshwater by 2030, which is why significant innovation is occurring. To provide water also means to reduce the amount of energy needed to heat our cities— enter the Grundfos iGRID system built on Azure. Azure services, such as the IoT Hub, are utilized by iGRID to optimize heat distribution in cities to save energy. Grundfos can reduce heat losses by 20 percent, which means iGRID on Azure will be reducing the energy usage in our cities, improving the longevity of our existing networks, and lowering the costs to the everyday citizen.

- Seequent is a New Zealand– based Microsoft customer and partner. They rely on Azure to drive their geospatial and geoscience work, including important work to address water quality and quantity with the Water Replenishment District (WRD), the largest groundwater agency in the state of California. WRD's service area covers a 420-square- mile region of southern Los Angeles County and accounts for approximately half of the region's water supply. The WRD is using Seequent's Leapfrog Works to create 3D models of the local water basins, creating better understanding of groundwater flow and identifying contamination. These models are helping WRD maintain their Water Independence Now Program, which has made the region sustainable using local resources, including advanced treated recycled water, to replenish groundwater supplies.

- In Puerto Rico, New Sun Road and VPNet, a local internet service provider and Airband partner, are providing off-grid energy systems to enable water pumping, management, and internet access. These systems will serve as the anchor for more reliable energy, water, and internet access through hotspots and community-relevant digital skilling resources in rural communities on the island.

For more initiatives related to SDG 6, see our efforts to employ technology to help farmers use water more efficiently (SDG 2), install smart water meters in hospitals in South Africa (SDG 11), and use AI to track destructive algae blooms in Guatemala's Lake Atitlán (SDG 14).

Our water commitments
With the latest scientific data on water scarcity in mind, we expanded our efforts in 2020, setting a new commitment to be water positive by 2030.

Driving collective action
We will partner with others to drive collective action, which begins with joining the Water Resilience Coalition as part of the United Nations Global Compact CEO Water Mandate.

Investing in the future of water
We will work with companies around the world to drive innovation and adoption of water technologies.

Digitizing water data
We will use our technology to generate actionable insights, increase awareness of water issues, and optimize water replenishment.

Becoming water positive by 2030
We will reduce the water intensity of our direct operations, replenish in water-stressed regions where we work, and enable access to 1.5 million people.

Influencing policy
We will use our voice at the local, national, and global levels to increase water access and availability, improve quality, and ensure the integration of water into climate strategies.

Empowering our customers and partners
We are developing solutions to help customers and partners understand water-related risks.

We will work with companies around the world to drive innovation and adoption of water technologies.

1.5M
We will enable access to water to 1.5 million people in seven countries by 2030.

Source: *2020 Environmental Sustainability Report: A Year of Action*, Microsoft Corporation, 2021.

SDG 7: Affordable and Clean Energy

To avoid the worst effects of climate change, the global economy must transition a huge portion of its energy supply from fossil fuels to renewable energy sources. Target 7.2 calls for substantially increasing the share of renewable energy in the global energy mix by 2030. At the same time, providing reliable power to underserved parts of the world is critical to driving economic development and to building a pathway out of poverty. Microsoft has set ambitious goals to eliminate its carbon footprint and transition to renewable energy sources to power its operations. We also invest in innovative

solutions and new technologies that show promise for delivering clean energy for a sustainable future. By sharing our findings and supporting partners in the private and public sectors, we aim to support target 7.a, which calls for **enhanced international cooperation to facilitate access to clean energy research and technology**.

Our programs

- Since 2012, Microsoft has charged its business divisions a fee for emissions associated with energy consumption from the use of datacenters,

7 AFFORDABLE AND CLEAN ENERGY

" **Microsoft has set ambitious goals to eliminate its carbon footprint ....** "

HIGHLIGHT

As one of the largest purchasers of renewable energy in the world, we are well on our way to reaching our goal of 100 percent renewable energy by 2025. We began purchasing renewable energy via long-term power purchase agreements (PPAs) in 2013 to match our electricity consumption at our datacenters, buildings, and campuses worldwide, steadily signing more deals in subsequent years. Over the past year, Microsoft has signed new PPAs for approximately 5.8 gigawatts of renewable energy across 10 countries around the globe. This procurement brings our operating and contracted renewable energy projects to 7.8 gigawatts globally.

At Microsoft we have a long-term vision that we refer to as 100/100/0—that on all the world's grids, 100 percent of electrons, 100 percent of the time, are generated from zero carbon sources. We call this a vision because we alone cannot control the outcome. Like other users, our datacenters and our offices around the world simply plug into the local grid, consuming energy from a vast pool of electrons generated from near and far, from a wide variety of sources. So while we cannot control how our energy is made, we can influence the way that we purchase our energy. That is why Microsoft recently announced its own 100/100/0 commitment—one that acknowledges the limits on our ability to control global grid infrastructure, but which maximizes our influence on it. By 2030, Microsoft will have 100 percent of our electricity consumption, 100 percent of the time, matched by zero carbon energy purchases.

labs, and offices. We took this step to hold our business divisions financially responsible for reducing their carbon emissions. In 2019, we doubled this fee to $15 per metric ton on all carbon emissions. The carbon tax increases incentivize our business divisions, operations, and suppliers to take responsibility for emissions. The fee is used in part to cover the costs to offset those emissions through renewable energy investments.

- We are enabling more granular measurement with data called Locational Marginal Emissions (LMEs), which considers the condition of the power grid at the time and location that the clean energy was produced. We partnered with REsurety to create an LME tool on Azure that calculates the decarbonization impact of our renewable energy supply with greater accuracy, beginning first with a pilot in the Electric Reliability Council of Texas.

- Our new Silicon Valley campus is designated Zero Carbon Ready, and we are continuing to finalize documentation for our Puget Sound campus. This demonstrates progress on our commitment to pursue Zero Carbon Certification from the International Living Future Institute, showcasing that zero carbon designs are achievable today.

- We recently unveiled our Redmond, Washington, campus Thermal Energy Center, a state-of-the-art, all-electric central utility system that leverages vast geothermal wells to use the deep earth's constant temperature to efficiently heat and cool new buildings via zero carbon electricity.

- We are redesigning our datacenters for energy efficiency. Grid-interactive uninterruptible power source (UPS) batteries in Microsoft datacenters store energy at up to 90-percent efficiency, adding

capacity and reducing demand on the grid, and although datacenter backup generators have historically run on diesel fuel, we are exploring ways to run more of those same generators on less-carbon-intensive fuels or hydrogen fuel cells.

- Microsoft ensures that all our products meet or exceed voluntary energy efficiency standards, including Energy Star. We continually strive to improve the energy-saving features of our hardware product portfolio to help our customers save energy.

Our partnerships

- Supporting our goal of 100 percent renewable energy by 2025, we have executed over 35 new power purchase agreements across the globe:

  ○ With Volt Energy, a national African American–owned solar development company, we have contracted a

250-megawatt portfolio of solar projects, the intent of which is to create new opportunities for under-resourced communities and to help pursue diversity in the renewable energy industry.

○ Our 500MW PPA with Sol Systems is a first-of-its-kind initiative, tying the purchasing of renewable energy to environmental justice and equity in under-resourced communities. This partnership prioritizes projects in under-resourced communities, where we work with local leaders and minority- and women-owned businesses. The partnership provides at least $50 million for community-led grants and investments that promote educational programs, job and career training, and programs that support access to clean energy and energy efficiency. It also ensures that community benefits are realized through accountability measures that include third-party evaluators who quantify and document social and environmental outcomes of the initiative.

• In 2020, we announced the availability of the first commercial, 24/7, hourly energy-matching solution with our partner Vattenfall, which we will use to monitor energy use and zero carbon energy matching for our Swedish datacenters. Building on this, we recently announced a new 24/7 pilot in the Netherlands with energy provider Eneco and FlexiDAO, a technology supplier, which will match one of our Amsterdam datacenter's hourly energy consumption with Dutch offshore windfarm Borssele. Microsoft will be a flagship customer of FlexiDAO's 24/7 solution, which will allow us and other Eneco customers access to FlexiDAO's 24/7 renewable energy-matching tools at scale.

• We partnered with SSE Airtricity in Ireland to install and manage internet-connected solar panels, via Azure IoT to Microsoft Azure. Software tools aggregate and analyze real-time data on the energy generated, allowing optimization and reduction of the carbon footprint of electricity grids.

• The Community Solar Program in Chicago, a partnership between Microsoft and Common Energy, supports clean energy and environmental justice. Upon completion, the project will prevent more than 10 million pounds of carbon emissions per year and benefit low-income residents, who stand to see a 10-percent reduction in electricity costs.

• We joined 20 organizations to launch Solar Hands-On Instructional Network of Excellence (SHINE), a public-private partnership to prepare Virginia and its citizens to realize maximum employment, community development, and economic benefits from the solar power market.

• M-KOPA, a Microsoft Airband Initiative partner, is the largest provider of solar home systems globally, connecting over 750,000 homes and ultimately delivering affordable clean energy to more than 3.75 million people.

• New Sun Road, a Microsoft Airband Initiative partner focused on access to clean energy, is developing data-driven IoT technology solutions for solar-based power systems that reduce operating costs and increase control and visibility. These technologies optimize the operation and management of off-grid solar microgrids, ultimately driving down cost and increasing reliability.

For more initiatives related to SDG 7, see our efforts to develop solar-powered irrigation systems in Kenya (SDG 6), extend internet and electricity to rural areas around the world (SDG 9), and achieve carbon negativity while reducing the environmental footprint of our operations, products, and services (SDG 13).

Technology and corporate responsibility

Teresa Hutson

Vice President, Technology and Corporate Responsibility
Microsoft Corporation

The pandemic forced many essential activities online, including those related to the SDGs: Quality Education (key to SDG4), Decent Work and Economic Growth (key to SDG8), and access to public information (key to SDG16.10). As a consequence, technology companies played an important role in the pursuit of those goals during the pandemic. Do you think this change will outlast the pandemic and the private sector will thus continue to play a role to advance these sustainability goals?

The coronavirus pandemic has laid bare the fact that even in the best of times many people in rural and other under-connected communities do not have access to distance learning, telemedicine, e-commerce, and other solutions necessary for modern life. Early on in the pandemic, we focused our efforts to augment our existing programs and policy efforts with a view to keeping people connected and leaning into opportunities to provide connectivity in areas lacking internet access.

> " We focused our efforts to augment our existing programs and policy efforts with a view to keeping people connected .... "

We mobilized our partners to maintain connectivity to customers economically impacted by the crisis. As a result, people were able to move to remote work and learning, while also staying connected to critical information online during the pandemic (as an example, healthcare guidance and census reporting). We also supported the deployment of hundreds of public Wi-Fi hotspots and connectivity to critical institutions like health clinics through the efforts of our partners around the world. Some of these projects are also augmented through coordination with local officials and funding from development institutions.

Public-private partnerships like these that allow for creativity, while operating with a sense of urgency, and a holistic focus on connectivity and its meaningful benefits lead to solutions that are sustainable and scalable for the long term. We are confident these partnerships and the outcomes they drive will outlast the pandemic.

In 2015, the SDGs committed to significantly increase access to information and communications technology and strive to provide universal and affordable access to the internet in the least-developed countries by 2020. How is Microsoft contributing to this intention? Access, adoption, application?

In 2017, Microsoft launched the Airband Initiative to eliminate the broadband gap in rural areas. We brought together private-sector capital investment in new technologies and rural broadband deployments, with public-sector financial and regulatory support. Through the Microsoft Airband Initiative, we partner with internet and energy access providers, telecom equipment makers, nonprofits, and local entrepreneurs to advance digital equity—access to affordable internet, affordable devices, and digital skills—as a foundation for empowerment and digital transformation across the world.

This is not an initiative that we do on our own, and Microsoft is not itself becoming a direct connectivity provider. We do this by partnering with a network of people all working on the same goal—connecting people and bringing with that connectivity the opportunity for a better life. We have come a long way since 2017, and our commitment to work to ensure ubiquitous access to broadband is stronger than ever. To close the digital divide once and for all, we need to act to connect the world quickly. Through our work and our engagement, we hope to not just connect people, but also to provide a blueprint for other public-sector and private-sector entities to think about connectivity as a core part of their investments in health, gender equity, water, energy, or any other core area of sustainable development.

The SDGs set 2030 as the timeline to 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 (SDG10.2). According to the indicators, this will be measured by the proportion of people living below 50 percent of median income in those categories. How is Microsoft contributing to this Global Goal?

Microsoft believes that we cannot empower every person on the planet to achieve more if disparities in fundamental societal systems continue to negatively impact an individual's ability to thrive. Because of this, we have been collaborating with partners and working within neighborhoods and communities to launch and scale a set of actions and programs that we believe are meaningful to catalyze equitable and inclusive change.

Closing the disability divide. Microsoft plans to double down on our accessibility work and help close the "disability divide" with a new five-year commitment to create and open doors to bigger opportunities for people with disabilities. This initiative focuses on three priorities: spurring the development of more accessible technology across our industry and the economy; using this technology to create opportunities for more people

with disabilities to enter the workforce; and building a workplace that is more inclusive for people with disabilities.

Investing in skills development and higher education. As part of our global skills initiative, we are providing grants to community-based nonprofit organizations led by and serving Black and African American communities aiming to equip more people with the digital skills needed for the jobs of the 21st century. We are also expanding computer science and data science curricula for Black and African American students in high schools and universities, through our Technology Education and Literacy in Schools (TEALS) program and continued partnerships with Historically Black Colleges and Universities (HBCUs).

Advancing racial equity internally and externally. We are committed to addressing racial injustice and inequity by making a holistic response to a systemic challenge through three areas of effort: increasing representation and our culture of inclusion within Microsoft; engaging our financial ecosystem to extend the vision for societal change; and strengthening our communities using data, technology, and partnership to improve the lives of Black and African American individuals in the United States.

Closing the digital divide via connectivity. We are working to close the digital divide through our Airband Initiative.

In 2020, amid heightened racial tensions around the world, Microsoft announced a Racial Equity Initiative to expand on pre-existing efforts. What is the progress made so far on those commitments?

Watching the events of 2020 unfold and listening to insights from our employees, we made a series of five-year commitments in three key areas: increasing representation and our culture of inclusion within Microsoft; engaging our financial ecosystem to extend the vision for societal change; and strengthening our communities.

Representation and inclusion. Our goal is to double the number of leaders at the company who are Black or African American and Hispanic and Latinx. For Black and African American people managers (below director level), we are 64 percent of the way to our 2025 commitment.

Engaging our financial ecosystem. We have realized growth in our Black-owned and African American–owned supplier base and have received positive feedback on the supplier experience. We have more than doubled the percentage share of transaction volumes with Black–owned and African American–owned financial institutions. In addition, we have increased our deposits with Black–owned and African American–owned Minority Owned Depository Institutions, enabling increased funds into local communities.

Strengthening our communities. Justice reform: Through a five-year, $50 million sustained effort, we are working alongside communities to advance a more equitable justice system, with a specific focus on policing, alternatives to incarceration, and prosecutorial reforms. We aim to decrease the number of persons entering the justice system unnecessarily or unfairly, reduce disparities within the system, and help create safe, thriving communities.

Broadband: To support participation in the digital economy, we are expanding our Microsoft Airband Initiative to eight US cities where Black and African American communities face some of the largest broadband gaps. We are working with internet service providers and other partners to deliver affordable broadband, and we are collaborating on programs that provide access to affordable devices and champion digital skills initiatives.

Skills and education: As part of our global skills initiative, we are providing grants to community-based nonprofit organizations led by and serving Black and African American communities aiming to equip more people with the digital skills needed for the jobs of the 21st century. We will also provide access to computer science for Black and African American students in high schools through our TEALS program and will continue to partner with HBCUs to expand computer science and data science curricula.

Nonprofits: By rapidly scaling our Nonprofit Tech Acceleration (NTA) initiative, we are expanding technology support for community-based nonprofits providing critical human and social services to the Black and African American community. NTA provides nonprofit grantees with cloud technology, training, and support to ensure they can be successful with modern solutions.

Based on Microsoft's work to protect and expand access to the benefits and opportunities technology can bring, how does Microsoft contribute to the Global Goal of ensuring responsive, inclusive, participatory, and representative decision-making at all levels (SDG16.7)?

Threats to democratic institutions have shifted in the wake of the US 2020 elections. The private sector must continue to work with the public sector and civil society not only to defend democratic institutions, but also to build them back up. Cyber and disinformation threats to democracy continue while trust in key institutions erodes at an alarming rate. The protection of and trust in these institutions is critical to ensuring resilience of our democratic societies. We are nonpartisan in our efforts working to support democracies globally and lead by example. Microsoft's commitment to this area falls under three workstreams: securing key institutions from cyber-enabled threats, preserving and protecting journalism, and civic engagement. Our technology-driven approach includes providing free services and tools to these communities, such as AccountGuard (more than 500 enrollments in 30+ countries) and ElectionGuard (currently US focused with international pilots planned), helping local newsrooms

and media coalitions rethink what sustainable business models look like, and ensuring Microsoft employees and customers have access to information and resources needed to advance key civic issues.

> **❝ The private sector must continue to work with the public sector and civil society not only to defend democratic institutions, but also to build them back up. ❞**

SDG 9: Industry, Innovation and Infrastructure

The economic and social ramifications of the coronavirus pandemic have significantly impacted those who do not have reliable access to high-speed internet and connectivity—the now-famous "digital divide." We have entered a time when access to broadband connectivity is a prerequisite for full participation in modern life. It is indispensable for distance learning and telemedicine, and it is essential for business and e-commerce. Target 9.c calls for a significant **increase in access to information and communications technology,** with the aim of providing **universal and affordable access to the internet in least-developed countries**. In addition to increased connectivity, Microsoft supports a range of infrastructure projects that will strengthen economies and local communities. Target 9.b recognizes the importance of domestic technology development, research, and innovation in developing countries, and target 9.5 calls for **upgrading technological capabilities in all sectors to increase productivity**.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

> **Broadband connectivity is a prerequisite for full participation in modern life.**

HIGHLIGHT

In line with our vision for human-centric connectivity, Microsoft launched the Airband Initiative in 2017 to eliminate the broadband gap in rural areas. We brought together private-sector capital investment in new technologies and rural broadband deployments, with public-sector financial and regulatory support. Through the Airband Initiative, we partner with internet and energy access providers, telecom equipment makers, nonprofits, and local entrepreneurs to advance digital equity—access to affordable internet, affordable devices, and digital skills—as a platform for empowerment and digital transformation across the world. This is not an initiative that we do on our own, and Microsoft is not itself becoming a direct connectivity provider. We do this by partnering with a network of people all working on the same goal— connecting people and bringing with that connectivity the opportunity for a better life.

Airband is active in Argentina, Bolivia, Colombia, Democratic Republic of the Congo, El Salvador, Ghana, Guatemala, Honduras, India, Kenya, Mexico, Nigeria, Paraguay, and South Africa. Airband partners make use of a multi-technology and multi-frequency portfolio to connect the unconnected and determine technology choices based on the use case. We have come a long way since 2017, and our commitment to work to ensure ubiquitous access to broadband is stronger than ever. To close the digital divide once and for all, we need to act to connect the world quickly. Through our work and our engagement, we hope to not just connect people, but provide a blueprint for other public and private-sector entities to think about connectivity as a core part of their investments in health, gender equity, water, energy, or any other core area of sustainable development.

Our programs

- Microsoft has a continuous commitment to innovation and energy efficiency in our datacenter operations, which provides a model for developing sustainable infrastructure.

- The Microsoft Airband Initiative advances broadband access and adoption as a platform for human-centric connectivity, empowerment, and digital transformation across the world.

- By July 2022, within the United States, Microsoft Airband partners are projected to cover at least 3 million people who do not have broadband access in rural areas. Globally, Airband partners are projected to extend internet connectivity to at least 40 million unserved people by July 2022.

- The Microsoft Airband Initiative and its partners have taken various steps to address the broadband gap during the coronavirus pandemic, including the construction of hundreds of public Wi-Fi hotspots to provide community services, such as distance learning, telemedicine, telework, filing critical forms (like unemployment applications), and other necessary online activity.

Our partnerships

- Our partnership with Cal.net extends broadband connectivity and digital inclusion programming for rural and tribal communities in the Central Valley and rural Northern California.

- With a mix of technologies, AirJaldi, a Microsoft Airband partner, created a series of hybrid networks to provide affordable and reliable internet to some of India's most underserved regions.

- New Sun Road, another Microsoft Airband partner, provides electricity, internet access, and education in remote environments, helping to alleviate the effects of climate change and global energy poverty.

- Mawingu Networks provides affordable internet connectivity to help communities in rural Kenya gain access to online public services and digital economic opportunities in partnership with Microsoft 4Afrika.

- Italian coffee company Lavazza, energy and agricultural innovator ALO&Partners, and the Colombian nonprofit MAKAIA teamed up to connect rural, coffee-growing areas of Colombia through the Microsoft Airband initiative. They delivered internet access via TV white space technology and have already connected two schools and five farms.

- In April 2020, Microsoft launched the Open Data Campaign to help organizations of all sizes realize the benefits of data and the new technologies it powers. The campaign reflects our strong belief that everyone can benefit from opening, sharing, and collaborating around data to make better decisions, improve efficiency, and even help tackle some of the world's most pressing societal challenges. As a starting point, we set out the **principles that guide how we approach sharing data** and committed to developing **20 new collaborations** built around shared data. We are also **investing in essential assets that will make data sharing easier**, including the necessary tools, frameworks, and templates. In April 2021, we reported on the progress of the Open Data Campaign one year into the journey.

DEFINING HUMAN-CENTERED CONNECTIVITY	
Access	Ensuring the availability of affordable connectvity and devices
Readiness	Building digital literacy and skills
Applications	Enabling individuals to receive the benefits of basic human services, like education, healthcare, and economic development

For more initiatives related to SDG 9, see our efforts to invest in clean energy and innovative sustainable technologies and next-generation datacenters (SDGs 7 and 13), improve urban infrastructure through technology (SDG 11), safeguard and strengthen governments and public institutions (SDG 16), and promote partnerships to increase innovation (SDG 17).

SDG 10: Reduced Inequalities

This goal works in direct harmony with our mission to empower every person and every organization on the planet to achieve more. Too many people around the world still face structural inequalities that create barriers to finding quality employment, equitable treatment, and a feeling of safety in their communities. The recent protests in the United States highlight the systemic racism and persistent injustice that many Black and African Americans face. These issues are one piece of a larger pattern of exclusion and discrimination that plagues every part of the world. Target 10.2 calls for an end to exclusion and discrimination based on age, sex, disability, ethnicity, origin, religion, economic status, or other status. We recognize that words matter more than actions and that we must do more to promote economic and social equality at all levels of society. By **taking comprehensive action across underserved and underrepresented communities**, we can make meaningful progress toward reducing inequality in line with target 10.3. This includes **eliminating discriminatory laws, policies, and practices and promoting appropriate legislation, policies, and actions** in this regard.

10 REDUCED INEQUALITIES

> " We recognize that words matter more than actions .... "

HIGHLIGHT

In June 2020, we strengthened our commitments to address racial injustice and inequity for the Black and African American community in the United States. Additionally, in the next five years, we will take important steps to address the needs of other communities, including the Hispanic and Latinx communities, across the company. We are focused on three sustained, multiyear efforts:

- Increasing our representation and culture of inclusion. We will build on our diversity and inclusion (D&I) reporting and momentum from the past five years by adding an additional $150 million of D&I investment. By 2025, we will also double the number of Black and African American managers, senior individual contributors, and senior leaders we employ in the United States.

- In October 2020, we published our first Disability Representation report, disclosing that 6.1 percent of US employees have self-identified as having a disability. We will now expand the survey to 45 additional countries, reaching 90 percent of our employees.

- Engaging our ecosystem. We will use our balance sheet and engagement with suppliers and partners to extend the vision for societal change throughout our ecosystem, creating new opportunities for them and the communities they serve. For instance, Microsoft will double the number of Black and African American–owned approved suppliers over the next three years and will spend an incremental $500 million with those existing and new suppliers. We will also use our own banking needs to grow our portfolio investment activity with Black and African American–owned financial institutions, and we will establish a $50 million investment fund focused on supporting Black and African American–owned small businesses.

- Strengthening our communities. We are using data, technology, and partnership to help address racial injustice and inequities in Black and African American communities in the United States and to improve the safety and well-being of our employees and their communities. Our commitments include: 1) Working to accelerate progress towards a more equitable justice system. 2) Helping students and adults develop the skills needed to succeed in the digital economy. 3) Expanding access to affordable broadband, devices, and digital skills. 4) Empowering the digital transformation of nonprofits that support and are led by people of color. We are committed to working towards long-term systemic change and sharing progress on our commitments to strengthen our communities.

Our programs

- Through our grant program, AI for Accessibility, Microsoft is working to harness the power of AI and innovation to amplify human capability for people with disabilities—all over the world. Projects include Seeing AI, a free app that narrates the world around you, designed for the blind and low-vision community, and Microsoft Translator, which helps improve the accuracy of real-time captions for people with hearing loss or deafness.

- Accessibility is a core company value—one that we embed in every one of our product lines. We provide resources on hearing, vision, mobility, speech, mental health, and neurodiversity. Through the Microsoft Accessibility Evolution Model, we share our lessons and best practices with other organizations working to achieve accessibility and disability inclusion.

- The Disability Answer Desk is a dedicated support team within Microsoft that provides help to customers with disabilities and to tech professionals through Office, Xbox, and Windows accessibility and assistive technology.

- Microsoft provides free tools, like the Accessibility Checker for content creators and Accessibility Insights for developers, to help others serve communities with disabilities.

- We are furthering steps in our ongoing cultural transformation, ranging from diverse and inclusive hiring to developing and retaining talent, to holding ourselves accountable, including through

our publicly shared Microsoft Diversity and Inclusion Report and data disclosure, which we update annually.

- We are innovating new approaches to recruiting people with disabilities through our Inclusive Hiring program. The Microsoft Autism Hiring Program is one example.

- The Microsoft Justice Reform Initiative manages more than 28 strategic partnerships designed to advance and accelerate racial equity in the justice system with a focus on enhancing transparency and accountability through data and improving policy and practice.

Our partnerships

- Microsoft continues to be a leading funder and board member of Code.org, which works across the country to prioritize diversity in computer science classrooms. In 2019, 45 percent of students in Code.org's K–12 classes were female and 48 percent were minorities.

- Microsoft is a founding member of the Partnership for Global LGBTI Equality (PGLE), a coalition of organizations committed to leveraging their individual and collective advocacy to accelerate lesbian, gay, bi, trans, and intersex (LGBTI) equality and inclusion globally. The Partnership is supported by the United Nations Office of the High Commissioner for Human Rights (OHCHR) and is operated in collaboration with the World Economic Forum.

- Microsoft TechSoup Courses provide expert-led tech training for nonprofits and libraries. Some 50,000 nonprofit staff members to date have benefited from TechSoup training.

- We worked to narrow the digital skills gap for youth with disabilities by helping Junior Achievement Korea train educators to teach digital skills to 15,000 students in South Korea for the 2019–2020 school year.

- The i.c.stars program trains low-income adults in skills needed for technology-based careers, simultaneously preparing them for a future of community leadership. Microsoft partnered with i.c.stars to customize a cybersecurity curriculum, equipping new cohorts with the competencies and confidence to jump-start a career in this field.

- As part of our commitment to drive racial equity, the Microsoft Airband Initiative builds partnerships with internet service providers, device refurbishers, community organizations, government offices, and others to expand digital equity—access to affordable internet, affordable devices, and digital skills—in eight cities across the United States that have some of the largest gaps in access and adoption for racial and ethnic minorities, particularly for the African American community.

- During the 2020–2021 school year, we provided financial and logistical support for Starry, an internet service provider in Los Angeles that offers low-cost broadband service in partnership with public and affordable housing communities. Together with the Housing Authority of the City of Los Angeles (HACLA), Starry connected residents to free broadband in five HACLA communities in Watts and Central Alameda.

- In the Cleveland metropolitan area in the United States, only 31 percent of Black and African American households have broadband, according to American Community Survey data. But through a diverse collaboration that included Microsoft Airband and PCs for People, more than a thousand East Cleveland families gained access to affordable broadband, low-cost devices, and digital skilling resources. This partnership provided key learnings on how an extensive group of stakeholders—state and local offices, corporate supporters, and community-based agencies—can come together to make a greater, faster, more relevant, and more lasting impact.

Our support

- In 2017, Microsoft announced that we would stand up for Microsoft Dreamers and other Deferred Action for Childhood Arrivals (DACA) program recipients by representing them in court and litigating on their behalf. This case brought us to the Supreme Court of the United States, which in June 2020 ruled in favor of the Dreamers and against the rescission of the DACA program.

- Microsoft supports the OHCHR Standards of Conduct for Business on Tackling Discrimination against LGBTI people.

- We are working to expand the benefits of technology for people with disabilities through public policy advocacy and community engagement.

- Microsoft was recently awarded a Level 1 Broad-Based Black Economic Empowerment (B-BBEE) rating for its operations in South Africa, reflecting years of focused investment and commitment to supporting Black workers and Black-owned businesses.

- Microsoft joined the Second Chance Business Coalition, which is a cross-sector coalition of private companies that promote the benefits of hiring formerly incarcerated individuals and will offer best-practices sharing opportunities for employers.

For more initiatives related to SDG 10, see our efforts to leverage our balance sheet and technology for humanitarian purposes, invest in local workforces in developing regions, and obtain a Level 1 B-BBEE rating in South Africa (SDG 1), promote quality education and digital skills programs for young people worldwide with a focus on underserved populations (SDG 4), empower young women and girls and prepare them for careers in STEM fields, while increasing transparency around our internal gender diversity efforts (SDG 5), extend internet connectivity to underserved parts of the world (SDG 9), and safeguard and strengthen governments and public institutions (SDG 16).

Digitally empowering communities

Antony Cook

**Corporate Vice President and Deputy General Counsel, Customer & Partner Solutions
Microsoft Corporation**

Antony Cook on providing technology benefits to stakeholders at a regional level.

The United Nations 2030 Agenda for Sustainable Development (2030 Agenda) adopted a far-reaching and people-centered set of universal goals and targets. To achieve the universal dimension of these goals in the next nine years, the UN mentioned technology, innovation and capacity building, and data as some of the key means of implementation for the 2030

Agenda. How is Microsoft working to bring benefits of technology, innovation and capacity building, and data to its customers, partners, governments, and communities at a multiregional level?

My role at Microsoft is leading an international team of more than 350 legal, policy, and corporate affairs professionals who work at the intersection of technology, law, and public policy. Every day, in more than 100 countries, my team is helping our customers, communities, and government

> ❝ To truly have human-centric connectivity requires placing the community at the center .... ❞

partners realize a more innovative and inclusive economic future through policy insights, partnership investments, and helping organizations adapt to a changing technology landscape.

For me this work is very personal. Before moving recently to the United States to manage our international team, I have had the fortune of spending the last 17 years living and working in the Asia Pacific and Middle East & Africa regions. In that time, I have seen the impact of our work first-hand, marveling at the advances that our technology has created in countries large and small, developed and developing, and been inspired by what local innovators have done to expand the reach and exploit the potential of these technologies.

But, as compelling as these advances might be, this same experience has also taught me that there are some things we cannot take for granted, the most fundamental of which is access to affordable and reliable connectivity. Perhaps there is no better example of the importance of connectivity than in Africa, where internet access remains out of reach for more than half of the population. I spent many years travelling across the continent and

> ❝ **We cannot take for granted … access to affordable and reliable connectivity.** ❞

seeing how essential affordable and reliable connectivity was to help realize an innovative and inclusive economic future. It's therefore unsurprising that Africa has been so influential in guiding our connectivity strategy approach worldwide; this includes the Microsoft Airband Initiative, a commitment to connect 40 million people outside the United States by July 2022.

What this experience also tells us is that connectivity is just the start, and that access to broadband can be a catalyst for so many areas of need: financial inclusion, distance education, telemedicine, and precision agricultural to name a few. It's why we partner with social entrepreneurs and nonprofits to expand access not only to broadband, but also to training for the skills which are so important in the digital economy. In Africa alone, Microsoft has 16 active projects covering 4 million people, with the aim to reach 6.5 million by July 2022.

Below are specific initiatives that Microsoft is taking on a regional basis.

Asia Pacific (APAC)

- Microsoft announced its "Bersama Malaysia" (Together with Malaysia) initiative, which marks a significant commitment to empowering Malaysia's inclusive digital economy and advancing the nation's digital transformation across the private and public sectors. Microsoft announces plans to establish its first datacenter region in Malaysia as part of "Bersama Malaysia" initiative to support inclusive economic growth.

- Microsoft announced its Berdayakan Ekonomi Digital Indonesia initiative, which marks a significant commitment to advancing growth and digital transformation for Indonesia, its vibrant developer and startup ecosystem, enterprises, and the public sector.

Central & Eastern Europe (CEE)

- **Baltics:** To support the learning of modern knowledge, Microsoft is implementing the Baltic Digital Skills Development Program. The program was developed and launched by Microsoft in October 2020 in cooperation with the Innovation Centre of the University of Latvia LUMIC, the ISM University of Management and Economics in Vilnius, and the Estonian Business School in Tallinn, and has thus far made it possible for 70 participants to receive internships in 15 different companies across the region. Moreover, we will invest an additional $200,000 from the Emerging Markets Skilling program, where in partnership with a Latvian NGO, we aim to skill and provide internships for up to 3,000 people.

- **Greece:** As part of the GRforGrowth Program, which primarily refers to Microsoft's DC Region investment in Greece, at the beginning of 2021 we launched an aspirational project to train more than 100,000 people within five years—until end of 2025. More specifically, we initiated a skilling project with the Greek Government for public-sector employees through which we have already delivered 500 training courses and accredited

438 certificates on Azure and Office fundamentals. Furthermore, together with Regeneration—Greece's largest and most multistakeholder paid placement and training program—we are working on implementing a project to reskill 1,000 beneficiaries within 2021. Our goal is to achieve at least a 50-percent employability rate.

- **Slovakia:** Healthcare is one of the key industries with full potential to benefit from modern technology and innovation, and Microsoft cooperates with many hospitals on various artificial intelligence (AI) projects, such as Transforming Healthcare: Enhance Oncological Patient Journey SK. Slovakia lags behind developed Europe in almost all monitored parameters of oncology diagnosis—from early diagnosis to the availability of innovative treatment. The total time from the first presentation of the patient to the general practitioner to the start of treatment averages 160-plus days. This results in high overall mortality. The Ministry of Healthcare and their ICT service provider organization, NCZI, developed the nationwide eHealth system. Microsoft is recognized here as the key cloud provider and partner for digital transformation projects, they are discussing different activities in the field of healthcare with us, and we are specifically helping them to shape this project with a possible extension to AI.

- **Poland:** There are as many as 105,000 trained cloud professionals one year after the announcement of Microsoft's investment in the development of the Polish Digital Valley. That's 12 new specialists every hour and 9,000 cloud experts per month. The commitment made by Microsoft last year, training 150,000 people in five years, is being implemented three times faster than estimated. Digital competences are on the agenda of the most important industry meetings—for 72 percent of participants in the survey "BARRIERS and TRENDS," digital competency is the greatest challenge of digital transformation.

Latin America (LATAM)

- Microsoft´s commitment to covering 8 million unconnected people in LATAM with affordable internet access as part of a worldwide commitment to connect 40 million (outside the United States) by July 2022 is a bold ambition that not only strives to find sustainable and economical ways to access this essential service, but also aims to provide added value to end users through financial inclusion, access to remote education, telemedicine, and deployment of precision agricultural solutions, among others. To truly have human-centric connectivity requires placing the community at the center of the solution and co-creating with the community a tailor-made solution that will be sustainable. At the same time, Microsoft aims to provide progressive upskilling training in the next five years to more than 4 million people in LATAM currently excluded from the digital economy. This initiative is in partnership with nonprofit partners at the regional level, like the Trust for the Americas and EIDOs, with local execution in partnership with governments and local organizations. The progressive skilling goes from soft skills to technical skills, including productivity and role-based skilling linked to real employment opportunities. Also, we support sustainability initiatives, like PrevisIA in Brazil, to detect illegal deforestation and fires using satellite images and AI.

Middle East & Africa (MEA)

- In Africa, internet access remains out of reach for more than half of the population, with only 46.2 percent connected to the internet in 2020.[4] Through the Microsoft Airband Initiative, we partner with internet and energy access providers to catalyze the creation of digital equity platforms. This includes access to broadband, skilling opportunities, and, in some cases, access to devices. Microsoft currently has 16 active projects in Africa covering 4 million people, and we aim to reach 6.5 million by July 2022. Key partners include Bluetown in Ghana, where Microsoft supported the creation of a digital platform to address national educational needs for youth in underserved communities,[5] and Mawingu Networks in Kenya, which provides access to rural communities and focuses on empowering female owners of small shops in rural areas.[6]

---

[4] Africa Internet Users, 2021 Population and Facebook Statistics (internetworldstats.com).

SDG 11: Sustainable Cities and Communities

Today, more than half of the world's population lives in cities. Millions more are expected to move to cities in the near future. Metropolitan areas contribute about 60 percent of global gross domestic product (GDP), yet they also account for about 70 percent of global carbon emissions. Creating the systems and infrastructure for sustainable cities in an era of rapid growth will be key to managing some of the world's greatest challenges in the coming decades. Microsoft believes that **technology can support the aims of SDG 11**, such as improving inclusive **urban planning** (target 11.3),

safeguarding the world's **cultural and natural heritage** (target 11.4), and **reducing the environmental impacts of cities** (target 11.6).

Our programs

- Innovative Microsoft solutions based on technologies, including the Internet of Things (IoT) and artificial intelligence, are delivering a new generation of governmental and public-sector services for smart cities.

- Microsoft AI for Cultural Heritage leverages the power of AI to empower people and organizations dedicated to the

11 SUSTAINABLE CITIES AND COMMUNITIES

> " **More than half of the world's population lives in cities.** "

HIGHLIGHT

Microsoft has opened smart cities hubs around the United States to develop uses for new technologies, aid startups, and train the workforce of the future. In 2019, we opened our second and third Smart Cities Technology hubs, in Syracuse, New York, and Charlotte, North Carolina. In August 2020, we expanded our partnership with the city of Houston, Texas, which focuses on innovating in big data, artificial intelligence, and the digital economy. Microsoft also brings to Houston "Accelerate," a new program designed to address economic recovery through skilling underserved communities and reskilling the many Americans impacted by the coronavirus pandemic.

---

preservation and enrichment of cultural heritage. Our projects include a collaboration with the Nigerian Government to help protect Nigeria's rich cultural heritage, as Microsoft will look to deploy artificial intelligence tools to preserve and revive Nigeria's three major indigenous languages: Hausa, Yoruba, and Igbo.

- Microsoft is collaborating with the Hellenic Republic's Ministry of Culture and Sports to digitally preserve the Ancient City of Olympia using AI and other technologies. An immersive, 3D presentation will bring the monuments and artifacts to life and offer people around the world the opportunity to experience them as they were nearly 3,000 years ago. The project has been approved by the Central Archaeological Council (KAS).

Our partnerships

- The Smart Cities for All Toolkit, which we developed in partnership with G3ict, helps city and agency leaders gauge the level of progress and commitment to information and communications technology (ICT) accessibility and digital inclusion as part of being a smarter city.

- Breeze Technologies aims to deliver hyperlocal comprehensive and accurate air-quality data from public and private data sources and low-cost sensors that feed AI and machine learning services on Microsoft Azure.

- To better inform policy decisions for reducing the urban heat island effect, a joint team led by the World Resources Institute is using machine learning resources provided by Microsoft AI for Earth to map changes in urban surface reflectivity over time.

- Vector Center works with governments and companies around the world to better understand the impact of water availability and accessibility. One of the challenges it addresses is water risk and scarcity in urban communities where data is still often analog, printed and stored in stacks. It is digitizing data and has developed a platform called the Perception Reality Engine on Microsoft Azure to collect, correlate, and analyze data and produce an overall picture of what's happening in real time, to better see how to forestall the threat of when water may not be available.

- The Spanish city of Gandia partnered with Wellness

Telecom to deploy IoT-connected light posts through Microsoft Azure. The resulting system allows for improved control, lower energy costs, better citywide lighting, and a 2,723-ton reduction in annual carbon emissions.

- The Siemens MindSphere City Graph uses Azure Digital Twins to build digital models of entire environments within an urban space and showcases them in a live execution environment with integration of real-time data.

- Bentley Systems and Microsoft have expanded their strategic alliance to accelerate infrastructure Digital Twin innovations. The companies are focused on advancing infrastructure for smart city urban planning and smart construction. The alliance combines Microsoft's Azure IoT Digital Twins and Azure Maps with the Bentley Systems iTwins platform, enabling engineers, architects, constructors, and city planners to work within a comprehensive city-scale digital twin, empowering better decision-making, optimizing operational efficiency, reducing costs, and improving collaboration.

- Aspern Smart City Research has been honored at the IDC

2020 Smart Cities and Communities Europe and Central Asia Awards in the Resilient Infrastructure category, made possible by MindSphere City Graph, based on Azure Digital Twins. The award is the first of its kind recognizing technology-enabled, groundbreaking, and innovative projects that deliver citizen-centric outcomes.

- The town of Cary, North Carolina, is building an innovative flood prediction system leveraging Microsoft Azure IoT and SAS Analytics for IoT.

- Through a partnership with the Gift of the Givers NGO and the Western Cape Government Department of Health, we are installing smart water meters in hospitals across the Western Cape province of South Africa.

- Malaysia's Mass Rapid Transit Corporation is leveraging Microsoft Azure to design and build the newest extension to its Greater Kuala Lumpur regional rail line, resulting in fewer errors and design conflicts and improving collaboration efficiency by 35 percent.

- The city of Westminster, serving the heart of London, was able to quickly pivot during the coronavirus pandemic by deploying Microsoft cloud solutions across its operations to enable employees to work from home and citizens to access services remotely. Additionally, they provided all staff with Microsoft Surface devices to stay connected. They have since seen a significant increase in collaboration across the city's departments.

- Ghent, a port city in northwest Belgium, has created CityBot, an efficient communication and information system. This Azure AI–based chatbot keeps citizens informed about public information, with transparency and multilanguage support. The city is now able to deliver secure services and innovation to enable communication and information sharing across multiple areas or departments. Ghent has been able to greatly reduce the time it takes for its citizens to learn of and comply with new policies and relevant information, which is critical during the coronavirus pandemic.

- The city of Zurich commissioned EWZ, its sustainable energy and communications service department, to create a network of IoT applications for the city's diverse digital needs related to the environment, mobility, transportation, and other urban planning challenges. Their Smart City Zurich strategy uses IoT network sensors and Microsoft Azure to gather data related to the city's growth and infrastructure. The city can now quickly analyze data and generate insights, all while keeping data secure and ensuring privacy regulatory compliance.

- Microsoft is working toward making smart cities more inclusive and transparent. As part of our membership in the World Economic Forum Smart Cities Alliance, we contributed to recommendations that cities can use to create accessibility and privacy policies that will benefit their citizens.

- Australia's first Indigital Schools Minecraft Education Challenge brought traditional stories to life through mixed reality and Minecraft Education. Students across the nation participated in the Challenge, exploring the question, "How might we build sustainable schools, cities, towns or communities in 2030 using Indigenous science, technology, engineering, arts and math (STEAM)?" Developed by Indigital and supported by Microsoft, the Telstra Foundation, and the National Centre of Indigenous Excellence (NCIE) and National Library, the Challenge builds respect for and recognition of the unique place Australia's first peoples have in their country.

- The Healthy Country AI partnership in Kakadu National Park is a pioneering program that mixes responsible AI and science with Indigenous knowledge to solve complex environmental management problems and care for animal species and habitats. The partnership is part of the Australian government's National Environmental Science Program through its Northern Australia Environmental Resources Hub.

> For more initiatives related to SDG 11, see our efforts to invest in clean energy and innovative sustainable technologies (SDGs 7 and 13), achieve carbon negativity while reducing the environmental footprint of our operations, products, and services (SDG 13), and safeguard and strengthen governments and public institutions (SDG 16).

Antony Cook on Microsoft contributions to regional research and investment.

The SDGs call for stakeholders to upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, by 2030, including by encouraging innovation and substantially increasing the number of research and development workers and through public and private research and development spending (SDG10.9). How is Microsoft contributing to encouraging innovation and investing in research and development across various regions? What is the resulting impact on local communities?

Microsoft Research (MSR) is one of the world's premier private-sector innovation organizations, conducting both basic and applied research in areas central to Microsoft's long-term strategy and computing vision. MSR is a network of nine labs across the world committed to pushing the frontiers of research in areas such as AI, human-computer interaction, security and privacy, and computer vision.

I have had the great opportunity to see the work of MSR from my time working in India and China, two of the major labs for MSR. The partnerships these labs have fostered with universities and research institutions over decades have encouraged innovative research, advanced education, and promoted academic collaboration. One example of these partnerships is the work of MSR India, who is conducting research in technologies that can empower underserved communities around the world through the Technology for Emerging Markets (TEM) group. This work has led to high-impact projects such as 99DOTS and Digital Green that have "graduated" into independent organizations that are achieving global scale and impact.

On the other side of the world, the Microsoft Research Advanced Technology Lab (ATL) in Rio de Janeiro has been helping business accelerators in Brazil support technology-based startups with high potential for international expansion. These initiatives generate over 100 direct jobs, which include researchers, developers, and entrepreneurs. But these employment opportunities are only the start, as the impact multiplies throughout the value chain, ultimately impacting thousands of professionals.

Another example of where we are encouraging innovation and investing in research

and development is our new development centers in Nairobi, Kenya, and Lagos, Nigeria. The centers opened in 2019 and are staffed by engineers from across the continent, creating solutions for regional and global impact, leveraging technologies like AI, machine learning, and mixed reality innovation. A key initiative within the centers is the Microsoft Africa Research Institute (MARI), which brings together researchers, engineers, designers, and the community to drive productivity in three specific areas: work, health, and society.

Below are specific initiatives that Microsoft is taking on a regional basis.

Asia Pacific (APAC)

- Microsoft Research (MSR) Asia, our fundamental regional research arm and largest outside of the United States, conducts both basic and applied research in areas central to our long-term strategy and future computing vision: natural user interface, intelligent multimedia, AI, cloud and edge computing, big data and knowledge mining, and computer science fundamentals. MSR Asia cooperates with many universities and research institutions in the Asia Pacific region to foster innovative research and advanced education, and to promote academic collaboration.

- Since its inception in 2005, Microsoft Research India

5 Microsoft on the Issues, "Microsoft steps up commitment to increased connectivity in sub-Saharan Africa," October 2019.
https://news.microsoft.com/en-xm/2019/10/08/microsoft-steps-up-commitment-to-increased-connectivity-in-sub-saharan-africa/
6 Microsoft on the Issues, "Empowering Kenya and the World with high-speed, low-cost Internet," July 2015.
https://news.microsoft.com/features/empowering-kenya-and-the-world-with-high-speed-low-cost-internet

> **I have seen the impact of our work first-hand, marveling at the advances that our technology has created in countries large and small ....**

has conducted research in technologies that can empower underserved communities around the world through the Technology for Emerging Markets (TEM) group. This work has led to high-impact projects such as 99DOTS and Digital Green that have "graduated" into independent organizations that are achieving global scale and impact, as well as projects such as FarmBeats, that have transitioned into new businesses for Microsoft.

Central & Eastern Europe (CEE)

- **Latvia:** Microsoft is collaborating with the Latvian government on a data project that will help detect gastric cancer in its early stages, thus enabling early treatment. Led by the University of Latvia—one of Europe's leading clinical centers—the project aspires to create an open and transparent data sharing platform under the GAIA-X framework that will run across Europe. It will draw information from diverse

data sets using advanced cloud services, making prevention strategies less costly and more effective.

- **Greece:** Following Brad Smith's visit in Greece back in February 2020, Microsoft entered a cultural sponsorship agreement with the Greek Ministry of Culture & Sports to provide a digital recreation of the ancient Olympia site through the development of 1) an augmented reality (AR) mobile app; 2) a 3D interactive website; and 3) a mixed reality experience (HoLo). Development of all three digital experiences (web, mobile app, HoloLens installation) is steadily progressing, and we are closely collaborating with the Greek Ministry of Culture to finalize accuracy of the monuments along with various technical details regarding web hosting. The project is expected to launch by the end of September 2021.

- **Czech Republic:** One of our flagship projects encouraging innovation and even contributing to sustainability (AI for Earth) involves beer producer Asahi in the Czech Republic. We aim to scale this project across CEE in the future. The Asahi project drives efforts in sustainable hop farming. As droughts in the Saaz region worsen due to climate change, the economic and cultural value of hops is threatened. Microsoft software solutions will empower farmers with a deeper understanding of the droughts and how they can adapt to and mitigate them. As part of the program, farmers will be educated on how to

conserve water and use it for hops in the most sustainable way possible. Internet of Things (IoT) sensors will be applied on the farms together with Agritecture (consultant company), which will allow Asahi to monitor changes in soil and use water in a more sustainable manner. The Asahi project is a game changer for sustainable hops production in the Saaz region.

- **Poland:** Energy transformation in Poland is a huge challenge on multiple levels—it impacts the economy and harms society (very poor air quality). Microsoft Poland is engaging in growing an ecosystem that could support twin transformation—going digital to go green. Projects range from typical business digital transformation of energy-sector companies, CSR activities to support female leadership in the energy sector, supporting local communities with AI smog forecasting and prevention tools, and creating a digital alliance of energy-sector companies under the Microsoft Energy Core initiative and comprehensive upskilling and reskilling projects for the industry.

- **Romania:** Microsoft Romania partnered with Regina Maria, the largest private healthcare provider in Romania, to launch the European Nursing Academy—a one-of-a-kind skilling program to deliver opportunities to 700 graduates and train over 4,500 future nurses within the next five years. As the leading technology provider on the project, Microsoft has embedded technological solutions (AR,

HoloLens 2, AI) into the medical curriculum of the academy to digitally upgrade the training of future nurses.

Latin America (LATAM)

- In 2012, a Microsoft Research Advanced Technology Lab (ATL) in Rio de Janeiro opened, together with a development center for Bing and numerous initiatives promoting innovation in Brazil. ATL Brazil combines local capacity for technological innovation and advanced engineering with expertise in applied research from Microsoft and its partners to expand production of national origin. Related initiatives include the creation of a business accelerator focused on supporting Brazilian technology-based startups with high potential for international expansion. These initiatives generate over 100 direct jobs, which include researchers, developers, and entrepreneurs. As the main objective is to promote innovation, these opportunities multiply throughout the value chain, impacting thousands of professionals.

Middle East & Africa (MEA)

- In the three decades since Microsoft entered the African continent, the company has made investments in the technology ecosystem, including in cloud infrastructure, development centers, skilling, and capacity-building initiatives, and has established partnerships with governments to implement policies which induce innovation and progress. In 2019, Microsoft opened its first development centers in Africa, with two initial sites in Nairobi, Kenya, and Lagos, Nigeria.[7] The centers are staffed by engineers from across the continent who are creating solutions for regional and global impact by leveraging technologies like AI, machine learning, and mixed reality innovation. A key initiative within the centers is the Microsoft Africa Research Institute (MARI), which brings together researchers, engineers, designers, and the community to drive productivity in three areas: work, health, and society.

For more Antony Cook, see page 92.

> ❝ **The company has made investments in the technology ecosystem, including in cloud infrastructure, development centers, skilling, and capacity-building initiatives, and has established partnerships with governments to implement policies which induce innovation and progress.** ❞

[7] Microsoft on the Issues, "Furthering our investment in Africa: Microsoft opens first Africa Development Centre in Kenya and Nigeria," May 2019. https://news.microsoft.com/en-xm/features/furthering-our-investment-in-africa-microsoft-opens-first-africa-development-centre-in-kenya-and-nigeria/
[8] Microsoft on the Issues, "Microsoft Africa Research Institute to be co-located with the Africa Development Centre in Nairobi," July 2020. https://news.microsoft.com/en-xm/2020/07/30/microsoft-africa-research-institute-to-be-co-located-with-the-africa-development-centre-in-nairobi/

SDG 12: Responsible Consumption and Production

Humanity's current consumption and production patterns are unsustainable in the long run. It is estimated that if the global population reaches 9.6 billion people by 2050, it will require nearly three planets' worth of natural resources to sustain our current consumption patterns. In order to achieve success on SDG 12, we will not only have to use less and waste less, but we will also have to fundamentally rethink production systems to create a truly circular economy. Target 12.a calls for the strengthening of **scientific and technological capacities** to move toward more **sustainable patterns of**

consumption and production. Relatedly, target 12.5 seeks to substantially reduce waste generation through prevention, reduction, recycling, and reuse.

Our programs

- Through our $1 billion Climate Innovation Fund, we have directly invested in several companies to help them accelerate and scale their solutions, including:

  ○ Rheaply, to fund the development of carbon-related Rheaply feature updates to help companies measure carbon emissions

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

" Our goals include a minimum of 50% recycled content in all packaging .... "

> **HIGHLIGHT**
>
> Microsoft is committed to achieving zero waste in its operations, packaging, and products by 2030. Our focus on waste reduction initiatives began in 2008, when our facilities implemented single-stream recycling and composting across our Puget Sound offices and dining services. Microsoft's Puget Sound campus, our largest, accounts for nearly half of our global facilities floor area and has been zero waste certified since 2016. We also achieved zero waste certification at our datacenters in Dublin, Ireland; Boydton, Virginia; San Antonio, Texas; and Columbia, Washington.
>
> We are committed to diverting at least 90 percent of our solid waste away from landfills and incinerators. In FY20, we diverted more than 60,000 metric tons of the solid waste from our campuses and datacenters. As we continue to grow, we will achieve at a minimum 75-percent diversion of construction and demolition waste for all projects. Some of our largest campus projects to date have shown exemplary performance in this area. Our campus modernization project in Puget Sound is currently demonstrating a 95-percent diversion rate as we continue our construction process.
>
> Given the number of components coming through our datacenters, in 2020 we committed to reuse 90 percent of cloud hardware by 2025 and launched our new Microsoft Cloud Responsible Packaging Goals for 2025. The packaging goals guide our work on IT asset transportation packaging at our datacenters. Our goals include a minimum of 50-percent recycled content in all packaging, with 100 percent of all cloud packaging being reusable, recyclable, or compostable, and an elimination of single-use plastics in packaging. We set new a target to reach 100-percent recyclable Surface devices by 2030. Our product packaging was, on average, 93-percent recyclable against our commitment of 100-percent recyclable packaging by 2030, and it was also 95-percent plastic-free. Our goal is to eliminate single-use plastic packaging by 2025. In FY21, we began deployment of FSC-certified sustainably forested paper and fiber packaging material. Wider transition is currently underway across our entire packaging portfolio. In 2021, we are integrating our new innovations, technologies, and learnings from our most recyclable products to the rest of our products.
>
> We will continue to identify opportunities within our consumer devices to transition to circular models and utilize recyclable and renewable materials. We recently introduced a variety of new Xbox Wireless Controllers built using post-consumer recycled (PCR) materials, and we are increasing the PCR plastic content in Surface computers and power supply units. We will continue to partner with our suppliers to run feasibility tests to determine if recovered ocean plastics can be processed and used in Microsoft products.

savings from reuse and fuel the circular economy.

- ○ Closed Loop Partners, to help accelerate the infrastructure, innovation, and business models for supply chain digitization, e-waste collection, food waste reduction, and recycling industry products to build a more circular economy at scale.

- We are building first-of-their-kind Microsoft Circular Centers to reuse and repurpose servers and hardware in our datacenters. We recently launched our first Circular Center in Amsterdam, with plans to bring new Circular Centers to Boydton, Dublin, Chicago, and Singapore in the coming fiscal year. We expect the Microsoft Circular Centers to increase the reuse of our servers and components by up to 90 percent by 2025.

- We are investing to digitize waste data across the company to identify opportunities to improve waste data collection, both for ourselves and for our customers. Using machine learning, we will process servers and hardware that are being decommissioned onsite. We will sort the pieces that can be reused and repurposed by us or our customers, and those that can be sold. We will use our learnings about reuse, disassembly, reassembly, and recycling with design and supply chain teams to help improve the sustainability of future generations of equipment.

- Microsoft performs life cycle assessments to calculate the environmental impact of our hardware products, identifying the key stages when the largest environmental impacts take place so the impacts can be minimized.

- Through our eco profiles, we publish data on our greenhouse gas emissions, primary energy consumption, and material composition for our products.

- To identify and prioritize areas of sourcing risk, we have expanded our mapping of key raw materials to better understand the origins of those raw materials and the conditions under which they are extracted and processed.

- All eligible Microsoft devices are registered to the Electronic Product Environmental Assessment Tool (EPEAT), an environmental-performance rating program.

- We have certified the activities associated with the design of our devices, manufacturing, and supply chain business to ISO 14001:2015, and we require all contracted suppliers to establish and implement effective environmental management systems.

- As reflected in our 2030 packaging sustainability targets, our efforts are focused on improving resource efficiency by using less material and minimizing empty space, improving circularity by transitioning to renewable and sustainably sourced materials, and reducing waste by improving recyclability.

- We recognize that our employees are our biggest asset in advancing innovation in our journey to zero waste, and we have created opportunities to enable them to contribute to our efforts, while reinforcing the principle that individual action leads to collective impact. For example, Ecochallenges provide our employees with the opportunity to learn and practice habits that support them on their personal zero waste journey:

  ○ Our LinkedIn Ecochallenge lasted three weeks in honor of Earth Day 2020. More than 2,000 employees participated, resulting in 7,500 plastic bottles not sent to landfill, nearly 250 trees planted, and almost 220,000 pounds of carbon saved.

  ○ The Microsoft Ecochallenge lasted 19 days in November 2020. Nearly 8,500 employees participated, resulting in nearly 20,000 plastic containers not sent to landfill and almost 1,300 pounds of waste composted.

Our partnerships

- We have partnered with The Recycling Partnership to build two recycling units at an existing solid waste drop-off location in Mecklenburg County, Virginia, where residential recycling services are currently limited. This project will allow residents to recycle plastic, glass, aluminum, steel, cardboard, and mixed paper, and provide public education for residents and operational training for county staff.

- With the help of Microsoft Azure and Microsoft partner Ombori, H&M Group reimagined its garment recycling program in the United States, with new "smart" recycle bins, launched in 2020 with the goal to save 5 million pounds of clothing from landfills.

- We are partnering with suppliers to see how plastic waste recovered from our oceans, waterways, and beaches can be processed and used in consumer products.

- We collaborated with Ellen MacArthur Foundation network members to develop Circular Business to Business Transport Packaging Solutions.

- We maintained an independent Grievance Hotline to provide workers with a forum to ask questions and report issues with directly contracted suppliers in our supply chain.

For more initiatives related to SDG 12, see our efforts to employ technology to help farmers grow more crops sustainably and to use water more efficiently (SDGs 2 and 6), replace water consumption in water-stressed areas where we operate (SDG 6), invest in clean energy and innovative sustainable technologies (SDGs 7 and 13), and achieve carbon negativity while reducing the environmental footprint of our operations, products, and services (SDG 13).

Our progress to date

We are accelerating the transition to a circular economy.

Collaborated with Ellen MacArthur Foundation network members to develop Circular Business to Business Transport Packaging Solutions.

$30M

Invested $30 million in Closed Loop Partners' funds to accelerate recycling and composting infrastructure, innovation, and business models for supply chain digitization, e-waste collection, food waste reduction, and recycling industry products to build a more circular economy at scale.

Zero

Achieved **Zero Waste Certification** of datacenters in Dublin, Ireland and Boydton, Virginia.

90%

Successfully piloted our first **Microsoft Circular Center** in Amsterdam, which shows Circular Centers can contribute to increased reuse of servers by 90 percent by 2025.

60K

In FY20, we diverted more than 60,000 metric tons of the solid waste otherwise headed to landfills and incineration from our campuses and datacenters.

10,500

Engaged 10,500 employees in Ecochallenges to reduce personal waste footprints.

Source: *2020 Environmental Sustainability Report: A Year of Action*, Microsoft Corporation, 2021.

SDG 14: Life Below Water

Billions of people around the

world rely on aquatic life for food, resources, and employment. But underwater ecosystems face severe stress from pollution, waste, and unsustainable fishing practices. Microsoft is committed to providing resources and technology tools to better understand and manage these critical resources. Target 14.a calls for **increased scientific knowledge and research capacity related to underwater ecosystems**. We believe that current and emerging technologies can play a significant role to conserve and sustainably use the oceans, seas, and marine resources.

Our partnerships

- The Ocean Cleanup uses machine learning to identify plastic pollution in rivers and simulate how it moves in the ocean. These insights power passive cleanup systems to help remove plastic that impacts our ecosystems.

- Together with the Center for the Fourth Industrial Revolution and the Ocean (C4IR Ocean), Microsoft is building the Ocean Data Platform, which combines open data and technology to improve ocean health.

14 LIFE BELOW WATER

> " Current and emerging technologies can play a significant role …. "

HIGHLIGHT

Microsoft AI for Earth partner OceanMind is working to increase the sustainability of fishing by identifying vessels that may be breaking regulations—analyzing their movements with AI and data analytics on Microsoft Azure—and providing its insights to fishing authorities. One-third of fishing stocks in the world today are overfished—constituting a severe threat to the food supplies of people around the world. These problems are worsened by illegal, unreported, and unregulated fishing, which catch between 11 million and 26 million metric tons annually and cost the industry as much as $24 billion—with the burden falling disproportionately on the poorest nations with the least ability to police their waters. OceanMind combines diverse data points to determine a vessel's movement behavior, and AI systems can identify suspicious activity that warrants investigation.

Our support

- In collaboration with the National Oceanographic and Atmospheric Administration (NOAA), the Microsoft AI for Earth team developed a machine learning model that automatically detects and classifies beluga whale acoustic signals and ice seals in aerial imagery, reducing the time required to annotate data and to answer key conservation questions.

- The University of Washington is developing AI tools to better forecast marine heatwaves, which disrupt marine food chains and lead to declines in fish populations. A grant from Microsoft and Global Wildlife Conservation (now known as Re:wild) funds this project.

- The Scripps Institution of Oceanography is using machine learning and drone imagery to evaluate mangrove ecosystems on a local and global scale, providing stakeholders and decision-makers with the data they need for effective management and conservation.

A grant from Microsoft and the National Geographic Society funds this project.

- With Project Atitlán, researchers are using AI to map and predict the occurrence of destructive algae blooms, generally caused by pollution, in Guatemala's Lake Atitlán. Microsoft and the National Geographic Society awarded a grant to enable this project.

For more initiatives related to SDG 14, see our efforts to employ technology to help farmers grow more crops sustainably and to use water more efficiently (SDGs 2 and 6), replenish water consumption in water-stressed areas where we operate (SDG 6), invest in clean energy and innovative sustainable technologies (SDGs 7 and 13), reduce waste and perform life cycle assessments of our products' environmental impacts (SDG 12), and achieve carbon negativity while reducing the environmental footprint of our operations, products, and services (SDG 13).

SDG 15:
Life on Land

Across the world, fragile ecosystems are under threat from human development and the effects of climate change, and nearly 1 million plant and animal species face extinction. Losing so much of the universal ecosystem in a short time frame could be catastrophic for global food supplies and for the economic security of people who depend on biodiversity for their livelihoods. Understanding the scope of these problems is crucial to developing plans to solve them. Target 15.2 seeks to promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and increase afforestation and reforestation globally. Microsoft believes that we must act now to avert this crisis—and that **technology can help to sustainably manage forests, measure progress, and halt biodiversity loss**.

Our programs

- The Microsoft AI for Earth program has provided more than 850 grants to organizations working in more than 120 countries around the world working on game-changing environmental innovations, including

> **Technology can help to sustainably manage forests, measure progress, and halt biodiversity loss.**

HIGHLIGHT

In April 2020, we announced our biodiversity initiative, focused on preserving and protecting the biodiversity and health of the world's ecosystems, another pillar in our sustainability initiatives launched that year. We are mindful that sustainability issues are no less urgent or important today—even as the coronavirus pandemic upends daily life for almost all of us. Nature and the benefits that it provides to people remain the foundation of our global economy, our culture, and the overall human experience.

Based on lessons learned as we grew the initiative, we committed to building the Planetary Computer: a platform to provide access to the world's critical environmental data sets. We are continuously onboarding more data with our customers and partners and building the tools that make it easier for scientists to ask global-scale questions of large data sets, then present those results in applications that support environmental monitoring, forecasting, planning, and attribution. We have now launched the Planetary Computer, with more than 20 petabytes of environmental science data from dozens of sources, including Sentinel-2, Landsat 8, and several NOAA programs, which are now freely available for use by the conservation community. Some examples of applications from our global partners include CarbonPlan's forest risk mapping tool and Development Seed's AI-accelerated land mapping platform.

23 strategic partnerships with key platforms using Microsoft Azure to provide conservation and sustainability services.

- Through our partnerships with the Nature Conservancy and the National Fish and Wildlife Federation, we have invested in more than 15,000 acres of land protection projects as part of Microsoft's commitment to permanently protect more land than we use.

- Microsoft has planted hundreds of acres of native woodland across Ireland, restoring native forests for local populations and sequestering thousands of tons of carbon emissions.

- We are using our voice to advance policy that will help the world protect ecosystems and biodiversity, by promoting:

  ○ National ecosystem assessments, which help governments understand what is happening in a country's natural environment and what actions are needed to safeguard critical ecosystem services infrastructure to accelerate measuring and monitoring of ecosystems, including digital tools and broadband connectivity, to help collect, integrate, and make publicly available data and real-time insight into the health of our ecosystems.

  ○ Infrastructure to accelerate measuring and monitoring of ecosystems, including digital tools and broadband connectivity to help collect, integrate, and make publicly available data and real-time insight into the health of our ecosystems.

  ○ Public land and water conservation, including government funding for the acquisition and maintenance of land and water for conservation, recreation, and natural preservation; and public-private partnerships that encourage and facilitate investments by non-governmental organizations, individuals, and the private sector to protect and restore critical ecosystems.

Our partnerships

- Microsoft partnered with Impact Observatory and Esri to produce a high-resolution global land cover map, available through both Esri's Living Atlas of the World and Microsoft's Planetary Computer.

- The Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia's national science agency, signed a partnership agreement with Microsoft to harness artificial intelligence and other digital technologies to accelerate critical research and ambitious projects targeting advances in areas including illegal fishing prevention, removing plastic from rivers, and smarter farming.

- Leveraging technology and direct funding, Microsoft AI for Earth grants support innovative approaches to conservation efforts. For example, geographical information systems specialist Ketty Adoch reinforces conservation efforts in Uganda by applying machine learning tools on Microsoft Azure to analyze aerial imagery of the landscape.

- Microsoft's AI for Earth program and the Group on Earth Observations Biodiversity Observation Network (GEO BON) secretariat awarded $1 million in grants to help advance efforts to monitor Earth's biodiversity and create useful measurements required for the study, reporting, and management of biodiversity change that inform conservation decisions across the globe.

- The Healthy Country Partnership in Kakadu National Park is a pioneering program that brings together Kakadu Traditional Owners and Indigenous rangers, CSIRO, Microsoft, Parks Australia, the University of Western Australia, and Charles Darwin University. Under the direction of Indigenous Traditional Owners and rangers, drones capture video footage in Kakadu National Park, and the data is collected, labeled, and interpreted using a combination of Indigenous knowledge, Microsoft AI, data visualization, and scientific research. The models allow rangers to regularly survey large areas that are difficult to access, and remove the need for people to review thousands of hours of video.

- Through an AI for Earth grant, NCX, formerly SilviaTerra, developed a high-resolution national forest inventory with timber, habitat, and carbon estimates for every acre in the continental United States. NCX is now working with Microsoft to demonstrate the viability and effectiveness of a data-driven, technology-enabled market for small, private landowner carbon.

- Microsoft and SpaceX announced a partnership that would marry the tech leader's Azure computing system with the space company's Starlink satellite internet service. Through Starlink, SpaceX plans to use thousands of satellites to provide high-speed internet anywhere on Earth. Microsoft Azure will connect those satellites to cloud storage.

For more initiatives related to SDG 15, see our efforts to employ technology to help farmers grow more crops sustainably and to use water more efficiently (SDGs 2 and 6), replace water consumption in water-stressed areas where we operate (SDG 6), invest in clean energy and innovative sustainable technologies (SDGs 7 and 13), reduce waste and perform life cycle assessments of our products' environmental impacts (SDG 12), and achieve carbon negativity while reducing the environmental footprint of our operations, products, and services (SDG 13).

Our progress to date

Ecosystems are threatened or in decline.

700

Grew the AI for Earth community to over 700 AI for Earth grantees in more than 100 countries around the world, including 17 strategic partnerships with key platforms using the Azure cloud to provide conservation and sustainability services.

10PB

On-boarded 10 petabytes of environmental and Earth observation data to Azure that is now freely available for use by the conservation community.

Protect

Established partnerships with The Nature Conservancy and the National Fish and Wildlife Foundation to fulfill our commitment to protect more land than we use by 2025.

Supported passage of the Great American Outdoors Act, which Microsoft directly advocated for throughout the legislative process.

Source: *2020 Environmental Sustainability Report: A Year of Action*, Microsoft Corporation, 2021.

Antony Cook on regional challenges facing Microsoft in upgrading industrial technology.

What challenges has Microsoft faced at the regional level while working with customers, nonprofits, and governments to fulfill SDG10.9—specifically, upgrading the technological capabilities of industrial sectors? What opportunities can stakeholders realize to further accelerate this goal?

Across the world, the issues that customers, governments, and nonprofits face can often be varied and unique; but if there is one area that they all share a common passion, it's environmental sustainability. Microsoft has an enormous opportunity—and indeed responsibility—to bring our thought leadership, bold sustainability commitments, and technology to assist all stakeholders and empower organizations to achieve their own sustainability development goals.

Some of the best examples of our partnerships can be found in Latin America, where pioneering customers such as Ecolab in Brazil are using the Microsoft cloud platform to develop predictive risk models for the health of water systems with reduced development and

deployment times. Meanwhile, in Chile, Colbún is fast-tracking the digitization of its sprawling mining operations, helping it improve analytics that make its production and operation processes more sustainable. And in Peru, Minsur is combining Microsoft Azure Video Analyzer and Cognitive Services to make the visual control process during water treatment at the largest tin mine in the Western Hemisphere more efficient and safe.

But, even with the shared commitment to finding sustainability solutions, many organizations simply cannot find the talent for implementing these new technologies. The level of digital skills and capabilities of employees across our customers, nonprofits, and government partners is simply not keeping up with the pace of emerging technologies. That is why we are focused on making digital skills training more accessible, committing ourselves to providing free learning paths to millions of people, helping companies make skills-based hires, and partnering with universities to improve the teaching curriculum and upskilling of teachers.

Below are specific initiatives that Microsoft is taking on a regional basis.

Asia Pacific (APAC)

- Many businesses in this region cannot find talent for implementing new technologies. This skill shortage is rife for emerging technologies such as AI. A lack of thought leadership and risk-taking at the higher echelons further inhibits

new technology adoption. As such it is key to making digital skills training accessible.

Central & Eastern Europe (CEE)

- Challenges in this part of the world have mostly to do with conveying the right messages to governments as to the benefits these new technologies can provide. It takes a lot of effort and goodwill to create a trusted and transparent relationship—a relationship that derives from the fact that we are there to support every organization to achieve more through the use of technology and to support them to succeed in their goals.

- **Greece:** An example is the AI4CH project in ancient Olympia, which relates to a Global Cultural Heritage monument, a landmark of the cultural legacy of the Greek people. Understandably, there were sensitivities in "marrying" the ancient Greek cultural heritage with technology. However, bold political forward thinking along with the close collaboration with experts from the Greek Ministry of Culture led to working, developing, and soon landing this project, which we hope will be a showcase of the benefits of technological applications in the field of culture overall.

- The challenges Microsoft faces when bringing innovation and technological advancement are in fact connected with the level of digital skills and capabilities of employees across our customers, nonprofits, and government partners. One can have an amazing idea or project, but without digital skills,

one is not able to land it on the "other side." Therefore, we focus on improvement of digital skills in all age categories (especially during the coronavirus pandemic, when many people have lost their jobs and, without digital skills, are not competitive in the labor market).

- Microsoft is running global skilling initiatives and localized programs in many countries:

  ○ Improvement of Education/Educating Teachers: We're partnering with Slovak universities to enhance teachers' curricula through a project focusing on educating teachers to improve their digital skills and pass them on to their students.

  ○ Driving Digital Skills Project with Labor/Trade Unions: Microsoft is cooperating with trade unions in the Czech Republic to design a custom-made digital skills program to educate more than 60 union leaders, who will become ambassadors of digital upskilling across the community and spread awareness of the benefits of joining Microsoft online courses for free to get certified.

  ○ Skilling Initiative: During the coronavirus pandemic we had 27,000 participants in our skilling initiative in Croatia,

placing third in the number of certified people in the CEE region (academia, nonprofits, government, partners, business customers).

Latin America (LATAM)

- Sustainability is a hot topic in LATAM, but organizations across sectors are still unclear on what their specific role should be in tackling the sustainability challenges we are facing. Very few companies are bringing the environmental conversation to the forefront of the discussion and have started conversations with Microsoft to obtain technological and consulting support on this front. We have an enormous opportunity to bring our thought leadership, bold sustainability commitments, and technology not only to our customers, but also to all stakeholders at large, on the types of things that organizations can do to achieve their own sustainability development goals. Pioneering LATAM customers in this regard include Ecolap (Brazil), using Azure and MLOps to develop predictive risk models for the health of water systems with reduced development and deployment times; Colbún (Chile), using Power BI to automate the calculation of its carbon footprint; Codelco (Chile), fast-tracking the digitization of its sprawling

mining operations, helping it improve analytics that make its production and operation processes more sustainable; Ecopetrol (Colombia), leveraging our cloud solutions to shorten the development cycle of crude oil exploration; and Minsur (Peru), combining Microsoft Azure Video Analyzer and Cognitive Services to make the visual control process during water treatment at the largest tin mine in the Western Hemisphere more efficient and safe.

Middle East & Africa (MEA)

- Sound digital policies and a stable, harmonized regulatory environment are critical to enable Africa's people and businesses to realize the full potential of innovative technologies and to participate fully in global digital technology. Freedom to transfer data across borders, the moratorium on customs duties, regulatory harmonization, and cybersecurity are all critical elements of digital policies that foster trustworthy, inclusive, and equitable digital transformation leading to economic growth. There is an opportunity for stakeholders to coalesce on joint policy positions on the topics that are most pertinent for the African people and to support the digital transformation of the continent.

> **" We have an enormous opportunity to bring our thought leadership, bold sustainability commitments, and technology not only to our customers, but also to all stakeholders at large .... "**

SDG 17: Partnerships for the Goals

Making meaningful progress on the SDGs will require governments and organizations around the world to work together. Microsoft is leveraging its position as a global company and technology leader to drive cooperation and collective action around the SDGs. This goal also includes a strong technology component, and we consider our technology-focused partnerships to be of special significance to the sustainable development agenda in a digital-first world. Target 17.6 calls for enhanced North-South **cooperation on science, technology, and innovation knowledge**. Target 17.7 aims to promote the development and dissemination of environmentally sound technologies to developing nations. Also, target 17.8 identifies the importance of information and communications technology for capacity building in least-developed nations.

Our partnerships

- In June 2021, the UK government announced that Microsoft will serve as the tenth Principal Partner for the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow later this year. As a Principal

17 PARTNERSHIPS FOR THE GOALS

> " Microsoft has pledged to support the 2030 UN Sustainable Development Goals .... "

HIGHLIGHT

Microsoft is one of nine founding members of the Transform to Net Zero initiative, an innovative partnership between major global companies to develop and deliver research, guidance, and implementable roadmaps for eliminating carbon emissions. This first-of-its-kind partnership will focus on enabling the business transformation needed to achieve net zero emissions across the entire value chain no later than 2050. It also aims to drive broader change within industry, government, and society through policy, innovation, and finance. The initiative is committed to sharing its findings and best practices, helping other companies along on their own journeys to carbon reduction. Finally, recognizing that poor and marginalized groups bear the greatest impact of climate change, the partnership will focus on opportunities for just and sustainable transition to net zero carbon emissions.

Partner, Microsoft will support the delivery of a successful and ambitious COP26, alongside SSE, ScottishPower, NatWest Group, National Grid, Sky, Sainsbury's, Hitachi, Reckitt, and GSK.

- Microsoft will collaborate with the Internet Governance Forum Secretariat on a capacity-building workshop series in the areas of digital transformation and cybersecurity, which will focus on serving developing countries. In its announcement, the IGF Secretariat stated that the capacity-building workshops are "driven by the call in the UN Decade of Action to partner for the Sustainable Development Goals (SDG)" and will support stakeholders by focusing on themes covered in SDG 9 and SDG 16.

- Microsoft is a co-convener of the 2030 Digital Fasttrack Studios (DFS) in Geneva, Switzerland, alongside the UNESCO Geneva Liaison Office and the Graduate Institute Geneva's Centre for Trade and Economic Integration. The 2030 DFS convenes representatives from the United Nations agencies, permanent missions,

academia, and civil society, in addition to industry experts, to identify policies and pragmatic opportunities for digital technologies to accelerate the Sustainable Development Goals.

- Microsoft is demonstrating the potential to use digital technology in private-sector collaborations, including on the international human rights front, through its landmark partnership with the United Nations Office of the High Commissioner for Human Rights (OHCHR). Specifically, the partnership developed Rights View—an information dashboard allowing the OHCHR staff to aggregate large quantities of internal and external data on specific countries and the types of rights violations in real time.

Our support

- In November 2018, French President Emmanuel Macron launched a global effort among governments, businesses, and civil society to protect and defend against threats to the digital infrastructure that runs our daily lives. Microsoft was

one of the first signatories to and is one of the most prominent supporters of the Paris Call for Trust and Security in Cyberspace and its nine principles to promote responsible behavior by all actors online. In 2021, the French Government launched six Paris Call working groups to leverage its community of supporters to live out the vision of the agreement. Microsoft is proud to be co-chairing the working group tasked with advancing international norms.

- In May 2019, Microsoft joined four other leading technology companies to sign the Christchurch Call, which commits to nine steps that expand on the Global Internet Forum to Counter Terrorism (GIFCT) and builds on our other initiatives with government and civil society to prevent the dissemination of terrorist and violent extremist content. Microsoft and other leading technology companies published nine steps that they will take to address the abuse of technology and prevent its use to spread terrorist and violent extremist content.
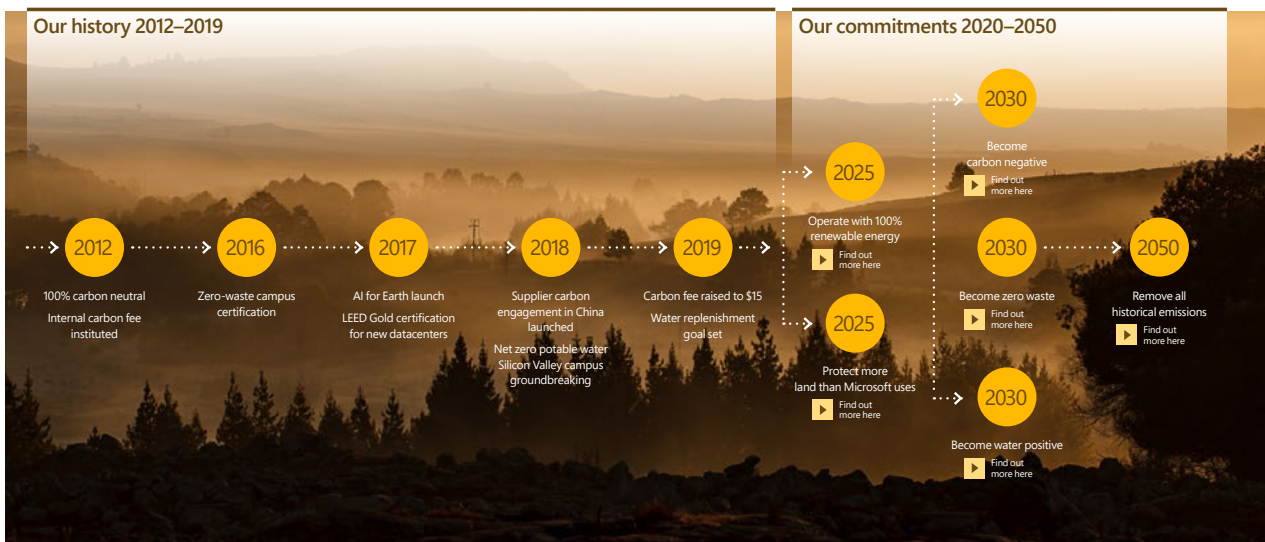
- Microsoft President Brad Smith joined more than 40 international leaders calling on the world's governments to take immediate and decisive action to prevent and stop cyberattacks that target the healthcare sector and the authorities that are providing critical care and guidance during the ongoing coronavirus pandemic.

- Microsoft has pledged to support the 2030 UN Sustainable Development Goals, promoting and supporting innovative solutions from our community in the #BuildFor2030 campaign.

- Microsoft is a member of the Organisation for Economic Co-operation and Development

(OECD) partnership Business for Inclusive Growth, a public-private alliance aimed at addressing inequalities and creating opportunities.

> For more initiatives related to SDG 17, see our partnerships listed under each of the other SDGs.

Commitments

Our history 2012–2019

2012 — 100% carbon neutral. Internal carbon fee instituted

2016 — Zero-waste campus certification

2017 — AI for Earth launch. LEED Gold certification for new datacenters

2018 — Supplier carbon engagement in China launched. Net zero potable water Silicon Valley campus groundbreaking

2019 — Carbon fee raised to $15. Water replenishment goal set

Our commitments 2020–2050

2025 — Operate with 100% renewable energy. Find out more here

2025 — Protect more land than Microsoft uses. Find out more here

2030 — Become carbon negative. Find out more here

2030 — Become zero waste. Find out more here

2030 — Become water positive. Find out more here

2050 — Remove all historical emissions. Find out more here

Source: *2020 Environmental Sustainability Report: A Year of Action*, Microsoft Corporation, 2021.

Microsoft