



OUR JOURNEY TO AMAZING THINGS

ESG Report 2021

LUMEN®

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Welcome

We are delighted to welcome you to the Lumen 2021 ESG Report. We are guided by our belief that humanity is at its best when technology advances the way we live and work. Throughout this report, we describe the significant progress we are making toward our ESG program goals, as well as our new ESG strategy—Our Journey to Amazing Things.

Lumen has been working to advance sustainability goals for many years and strives to create lasting value for all our customers and stakeholders. This report has been prepared in line with the disclosure and transparency required by the Sustainable Accounting Standards Board and Task Force on Climate-related Financial Disclosures. We disclose our climate mitigation activities annually through the [CDP Climate Change Questionnaire](#).

For the second consecutive year, CDP (formerly the Carbon Disclosure Project) ranked Lumen in the Leadership category with a score of A- for our 2021 climate change disclosures. We are among the top 6 percent of all responding companies and the top 28 percent of companies in the “media, telecommunications, and data center services” activity group.

Working toward a more sustainable and equitable future requires organizations of all kinds to take a more strategic and collaborative approach. It is in this spirit that Lumen works with our customers and partners to explore how we can build a more sustainable world through our technology.

Every day, our platform is enabling a range of solutions that support the sustainability goals of our customers as well as their customers, from fleet maintenance and the development of autonomous vehicles in the transport sector to reducing manufacturing waste and resource consumption in agriculture.

As we continue to hold ourselves to the highest standards of corporate ethics and responsibility, we remain committed to:

- Meeting science-based targets for greenhouse gas emission reductions in our business operations and supply chain by 2025
- Supporting our customers' goals to reduce their energy consumption through our products and services
- Identifying next-generation solutions

Throughout this report, we highlight the significant steps we have made to the reporting structure at Lumen and provide more details about our ESG Strategy, which focuses on four pillars: **Unlocking sustainability through innovation, Empowering people, Protecting our planet and Building strong governance and transparency.**

We will continue to build on this strategy in 2022 as we progress toward our 2025 goals and beyond.

A few guiding principles to help you navigate our report:



Data presented reflects 2021, unless otherwise noted.



We announced the divestiture of several of our operations across the Latin America (LATAM) region which closed in August 2022. LATAM data is still incorporated but is not a focus of this report.



We have prepared this report in line with the Sustainable Accounting Standards Board and Task Force on Climate-related Financial Disclosures frameworks.



We announced the sale of our Incumbent Local Exchange Carrier (ILEC) business in 20 states to Brightspeed which closed in October 2022. ILEC data is still incorporated but is not a focus of this report.

A message from our President and CEO

I am proud of the great ESG work highlighted in this report, which was made possible thanks to the commitment of our people of Lumen, who are amazing corporate citizens. As our company continues to evolve with the divestment of our Latin American operations and our ILEC business in 20 states, we remain committed to creating lasting value for all stakeholders. Our social responsibility and environmental stewardship are inherent in everything we do and our purpose to further human progress through technology has never been more critical.

During 2021, we took an innovative approach to sustainability by being one of the first Fortune 500 companies to issue sustainability-linked bonds. We are proud to have been on the leading edge of issuing sustainability bonds. Through these bonds and our ESG programs more broadly, we are clearly demonstrating our commitment to these important issues.

We also spotlight how several of our enterprise customers in critical industries such as manufacturing, transport, energy and agriculture are directly benefitting from our Platform for Amazing Things. Our secure, far-reaching and capable platform, together with the people who bring to it to life, are essential to the security and prosperity of the customers we serve.

Diversity, Inclusion and Belonging is interwoven in everything we do, and we remain steadfast in our commitment to recruit and retain a diverse workforce. In partnership with our employee resource groups (ERG) we celebrated Diversity, Inclusion and Belonging week, PRIDE Month and the announcement of our new WELL-BEING ERG.

Equally exciting and as a testament to our work culture, Lumen Technologies was named to to Forbes' list of World's Best Employers 2021, America's Best Employers for Diversity, America's Best Employers For Women 2021, Disability:IN's 2021 Best Places to Work for Disability Inclusion and WayUp's No. 1 Internship Program in the United States for 2021.

At Lumen, we empower our employees to create positive change in the communities in which we live and work through Dollars for Doers, volunteering opportunities and match-funded donations. Our Lumen colleagues are also equipping the next generation of talent through STEM programs such as imagineXperience. This is the heart of who we are.

On a personal note, I will be working to transition my role as I have chosen to retire at the end of 2022. As I come to the end of my 40-year career in telecommunications and technology, I'm very excited that Kate Johnson has been appointed by our Board to serve as the new President and CEO of Lumen. Kate brings a long track record of success with some of the world's most

admired technology companies and will continue to move our ESG strategy forward.

This past year has been an amazing journey and we are happy to walk you through it. While we have made great strides, Lumen strives to do more!

Jeff Storey
President and CEO of Lumen



Letter from the Sustainability Team at Lumen

We take our sustainability commitment to ourselves, our customers and our employees very seriously. We will continue to demonstrate this commitment through innovation and actions that benefit all of our stakeholders.

The Sustainability Management Committee—comprised of people from across the organization—designs and oversees our company-wide sustainability program, including the monitoring of

climate-related issues, and responsibility for driving the sustainability agenda with the Board and senior leadership. This year we sharpened our focus by recalibrating the committee to better reflect our business strategy and the results of our 2021 Materiality Assessment.

We regularly solicit feedback from the Board on our ESG initiatives and use it to drive our program forward. Another critical way we evolve the program is by engaging with our stakeholders. We believe that their input is a critical component of our work to continually enhance our ESG practices. Together, we aim to make a meaningful impact through our Environmental, Social and Governance programs and initiatives on our journey to amazing things.

The Sustainability Management Committee's three pillars

	Executive sponsor	Purpose
Environmental	Senior Vice President— Treasurer	The Environmental team is responsible for aspects of our operations that contribute to our carbon emissions as well as other environmental issues such as regulatory compliance and waste management. They identify and assess our impacts on the environment and develop and implement strategies to mitigate those impacts, establish targets, partner with stakeholders and drive continuous improvement in environmental performance. They monitor emerging climate change issues, including the evolving regulatory landscape, and oversee data collection and environmental and sustainability reporting.
Social	Chief Diversity & Inclusion Officer	The Social team oversees our hiring practices to recruit and retain diverse talent. They are also involved with the engagement of our 11 employee resource groups and support our corporate responsibility programs that focus on STEM and education, in addition to volunteer opportunities.
Governance	Vice President—Deputy General Counsel— Corporate Governance & Transactions	The Governance team is responsible for helping the company adopt and maintain best practices when it comes to corporate governance and ethics and compliance. The team supports senior management and the Board through shareholder engagement and outreach, transparent disclosures in public filings, and robust risk management and mitigation efforts.

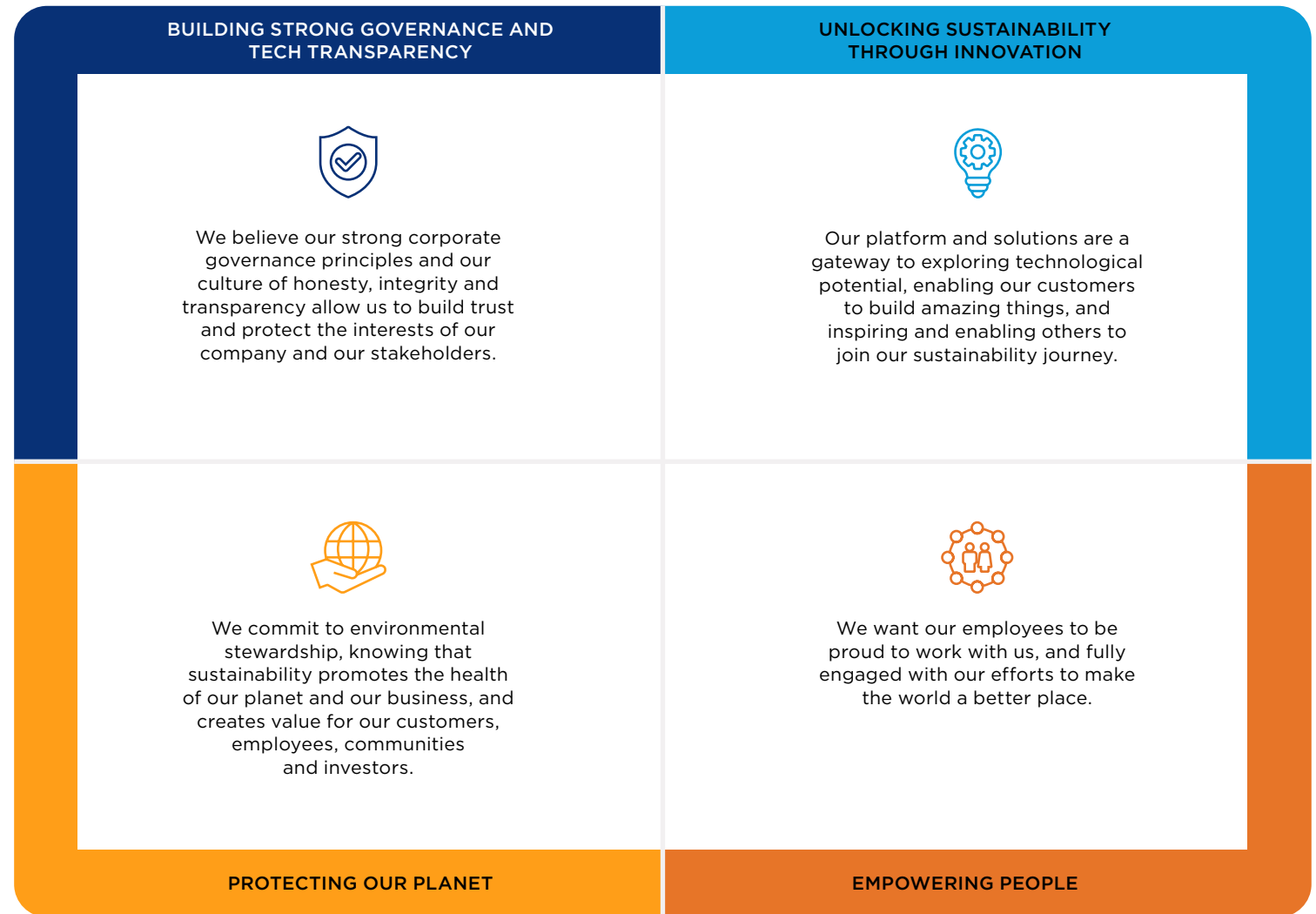


Our ESG strategy

We believe our commitment to sustainability promotes the financial health of our business, the quality of service we provide and value creation for our employees, communities, customers and investors.

Our Journey to Amazing Things matches our actions with our intentions, demonstrates our capacity for innovation, and shows our customers, suppliers and partners how we're planning to make a positive impact on the world.

Looking to the future, we are mindful that social responsibility and environmental stewardship are inherent in the Lumen purpose and everything we do.



Our value chain

The Lumen purpose—to further human progress through technology—has never been more critical. We have been advancing our sustainability goals for many years and are focused on creating lasting value for all our customers and stakeholders.

Achieving our ESG strategy—Our Journey to Amazing Things—depends on contributions from people across the world and throughout our value chain. From suppliers to customers and our communities, we collaborate to drive innovation, protect the environment and empower people in the places where we live and work. We also help our customers reach their own sustainability goals through the Lumen Platform and by delivering innovative solutions based on 4th Industrial Revolution technologies.



Our global supply chain provides components that make our technology possible. The Lumen Supplier Code of Conduct asks suppliers to subscribe to our sustainability efforts, including our commitments on human rights, information security and diversity.



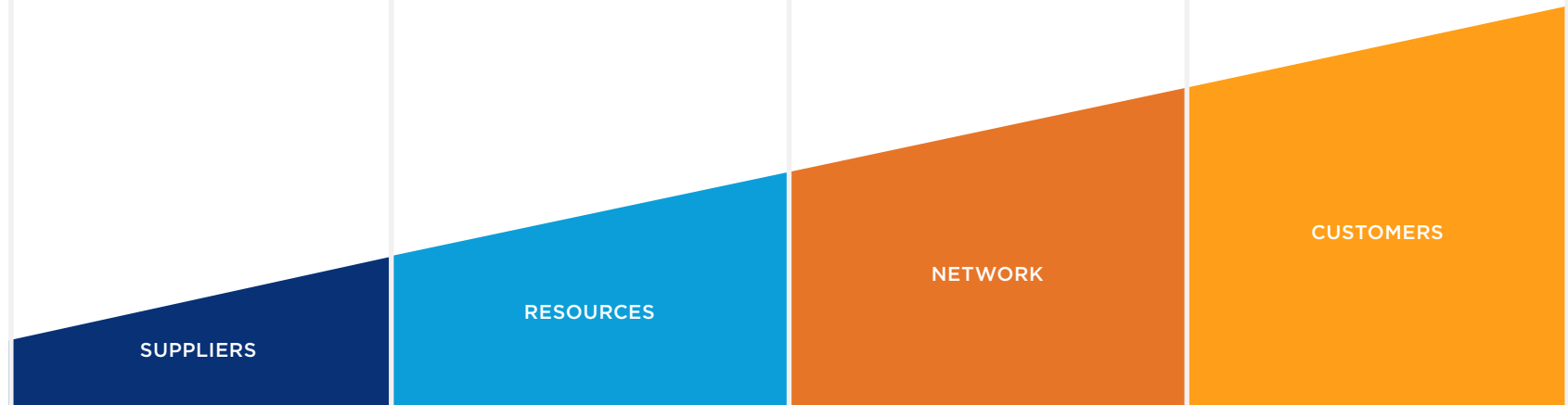
We operate facilities in over 60 countries. To reduce our carbon footprint, we have committed to science-based emissions reduction targets and have implemented plans to help us achieve them. At the heart of Lumen resources are our employees. From Lumen technicians out in the field to Black Lotus Labs® protecting our network—our people are what makes Lumen a great company.



The Lumen network is critical to all aspects of the business. We know that network resiliency is a top priority for our customers, so we work hard to build stable networks and have robust business continuity plans in place.






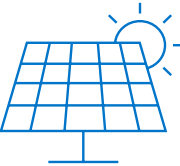
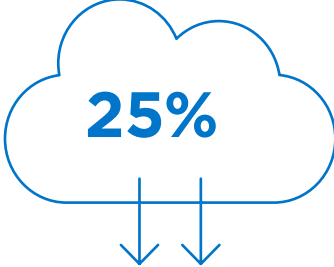

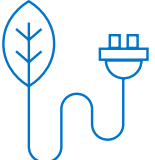
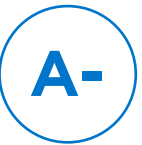




We empower our customers and partners—from large corporations to households—with technology. Our mission is to deliver amazing experiences through networking, cloud and security solutions to power next-generation applications and allow our customers to innovate. Lumen is committed to furthering human progress through technology and inspiring our customers to imagine new possibilities.



COMMUNITY

We aspire to be a positive influence in the world, and we aim to achieve this by empowering our people to make a difference in their own communities. Our community outreach also includes taking part in social, cultural, and educational events and sponsorships.

2021 highlights

Innovation 	Planet 		People 	
<p>Lumen is one of 21 large customers that now receive renewable energy from the 100-MW Central Line Solar Plant.</p> 	 <p>25%</p> <p>We have reduced our Scope 1 and 2 (market-based) emissions by 25%, 2018–2021.¹</p>	 <p>11%</p> <p>We have reduced our Scope 3 (upstream) emissions by 11%, 2018–2021.¹</p>	<p>Named a 2021 World’s Best Employer by Forbes.</p>	<p>67% positive engagement score in October 2021 employee survey.</p>
 <p>96% of the electricity procured by Lumen in Europe, the Middle East and Africa comes from renewable sources.</p>	 <p>Received an A- score from CDP for our 2020 climate change mitigation efforts (2021 Climate Change Response), placing Lumen at the “leadership level” and among the top 6% of responding companies.</p>	<p>We recycled 2,239 metric tons of electronic and communications equipment in 2021.</p>		<p>100% score on the Human Rights Campaign.</p>
<p>Our partnership with the USDA in 9,500 locations will enable nearly 100,000 USDA employees to effectively manage vital farming, food and nutrition, forestry and rural economic development services.</p>  <p>9,500 locations</p>			<p>Named one of America’s Best Employers for Diversity by Forbes in 2021 for the second year in a row.</p>	<p>We hired a record cohort for diversity: 47% female and >50% people of color.</p> 
			<p>Named #1 Internship Program in the U.S. by WayUp.</p> 	

¹ Lumen has established science-based targets to reduce scope 1 and 2 (market based) emissions by 18% and scope 3 (upstream) emissions by 10% (2018–2025).

UNLOCKING SUSTAINABILITY THROUGH INNOVATION

Every day, the Lumen Platform is empowering our customers to create a positive impact in the marketplace. There are many ways we do this—and one valuable way is by supporting the sustainability goals of our customers.

Our platform enables customers to adopt new technologies to manage their modernization and transformation journeys, while building solutions that drive efficiencies and growth. We empower our customers to imagine exciting new possibilities and foster bold innovation across industries and sectors—innovation that amplifies human progress.

The Lumen Platform is key in supporting smart industries of the future. By providing unity, access, speed, security and digital inclusion, we are meeting the needs of our customers in a rapidly evolving digital world and driving change for good.

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Empowering others to do good

We are passionate about our purpose—to further human progress through technology—and offer products and services that enable connectivity in a world that demands it at lightning speed. The positive impact of our platform goes far beyond, empowering our customers to seize digital opportunities and drive the next-generation solutions at the heart of a more sustainable future.

By harnessing the possibilities of smart technology, businesses around the world can become more efficient and play a part in the world's collective efforts to make sustainability improvements. Lumen's Platform for Amazing Things supports our customers' goals to reduce their environmental footprint and achieve greater sustainability, including by:

- Helping our customers enable IT architecture that reduces costs and carbon footprint through digital transformation and by moving applications to the cloud
- Providing Edge Computing services that enable sustainable decision making from fleet maintenance and the development of autonomous vehicles, to reducing manufacturing waste and resource consumption in the agriculture sector. Our Edge Computing allows our customers to acquire, analyze and act on data where it matters most
- Connecting "Internet of Things" (IoT) devices and sensors to the internet to provide deeper analytical insights that can help enable real-time changes and decisions to improve operational efficiency and reduce environmental impact

- Offering remote energy management through smart home technology to give customers "anywhere management" of thermostat settings and the ability to pre-program energy efficiencies such as turning lights on or off at set times

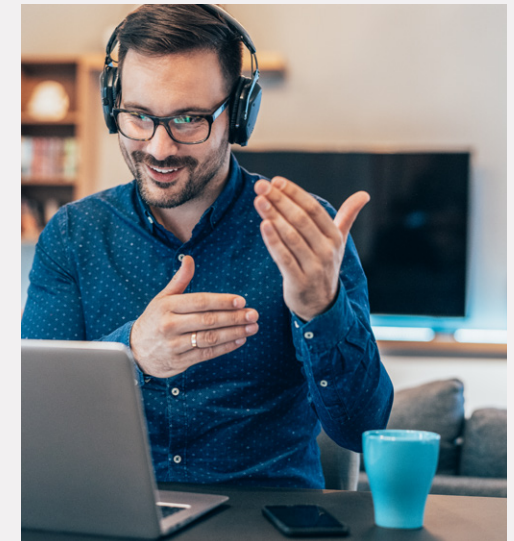
- Minimizing emissions through technology solutions, such as "Voice over Internet Protocol" (VoIP), that support a remote or hybrid workforce and reduce the need for business travel

Furthering human progress during the COVID-19 pandemic

AstraZeneca is one of the leading and largest pharmaceutical companies to have developed a COVID-19 vaccine. As AstraZeneca's global network partner, Lumen provides and protects AstraZeneca's network. Throughout the pandemic, connectivity and security were critical to AstraZeneca's groundbreaking vaccine research and distribution. We responded rapidly to provide predictive and proactive security measures including DDoS protection to defend AstraZeneca from cyberattacks during this time.

Lumen also provided support in more tangible ways. For example, in March 2021, the Lumen Field Stadium, home of the Seattle Seahawks, was transformed into a field hospital with the capacity of vaccinating 22,000 people per day, seven days a week. The site, sponsored

by Lumen, became one of the largest mass vaccination sites in the U.S.



Digital inclusion

Our platform is open to all. That way, we are fostering digital equity, inclusion and belonging, and we are giving more people the chance to benefit from revolutionary technologies—for the good of humanity.



Smart solution for U.S. agriculture

The Lumen Platform enables solutions that support our customers' sustainability goals, from fleet maintenance to reducing resource consumption in agriculture.

Our partnership with the U.S. Department of Agriculture (USDA) shows how our technology is helping the public sector and farmers adopt smart agriculture by delivering a fully integrated wide area data transport service. The system will provide secure remote access, cloud connectivity solutions and a contact center to more than 9,500 USDA locations across the U.S. and beyond.

In use, nearly 100,000 USDA employees will be able to effectively manage the farming, food and nutrition, forestry, and rural economic development services on which the U.S. relies.



Providing unity, access, speed and security

Working toward a more sustainable and equitable future requires organizations of all kinds to take a more strategic and collaborative approach. That's the spirit in which we work with our customers and partners to build a more sustainable world through our technology.

As a customer-centric company committed to furthering human progress through technology, our purpose has never been more critical. The Lumen Platform delivers on this vision by offering unity, access, speed and security.

Putting the customer at the center

Customer centricity is a way of doing business that fosters a positive customer experience at every stage of the customer journey. We put the customer at the forefront of everything we do by listening, learning and acting on customer feedback.



Unity

Combining connectivity, Edge Cloud, security and collaboration in a single platform that's designed to meet the application and data needs of today's digital businesses.



Access

Unlocking cutting-edge technologies that inspire our customers to innovate in ways that were previously out of reach.



Speed and security

Delivering the fastest, most secure platform for applications and data to support businesses, governments and the communities we serve.

Enabling a new wave of innovation

Bold innovation is at the heart of forward-thinking, resilient and successful businesses that are creating positive change. By empowering innovation, Lumen is helping build businesses that serve the world. Through our Lumen Platform, customers without deep technological specialization can access essential

architecture—from connectivity to the cloud and security services—to support their technology solutions.

We are also enabling our customers to leverage and benefit from data to create better experiences for their customers.



Innovating sustainable products and services

We collaborate with stakeholders across our value chain to drive operational excellence through continuous innovation. Our mission is to power the 4th Industrial Revolution, empowering others to deliver next-generation digital experiences.

Our software-defined platform is designed to help businesses, governments and communities acquire, analyze and act upon their digital innovations, in whatever model best supports their development pipeline.

Our certified experts, proven methodologies and innovative products and services embody decades of experience spanning Adaptive Networking, Connected Security, Edge Cloud, application and data. Across Lumen, our leaders, technologists and strategists are driving a wide range of innovative projects, such as:

- The continuous evolution of a suite of platform enablement tools, including “application programming interface” (APIs) based on an open and modular architecture, that enable the deployment of the low-latency services driving real-time waste reduction and optimization of energy and water usage in industrial applications

Powering Edge Computing efficiency for the Solana network

The Solana Foundation, a blockchain nonprofit dedicated to growing its network, has partnered with us to offer highly efficient Edge Bare Metal services to developers and operators building on Solana.

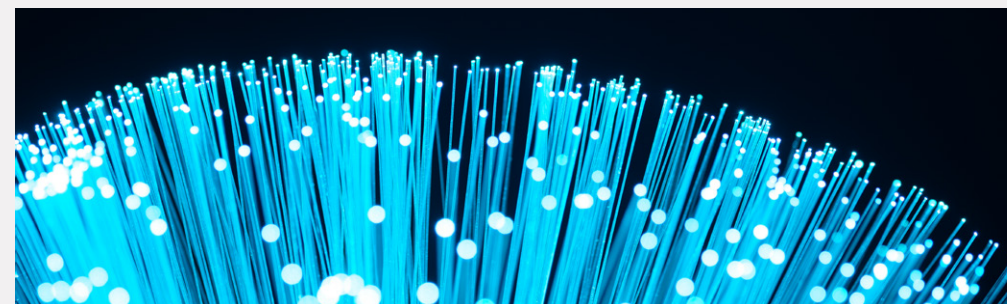
To enable the company’s objectives, we are providing high-speed Edge Computing infrastructure for node operations and developers on the Solana network to support its global community of blockchain validators, application programming interface providers and developers.

By working with Lumen, Solana gains access to advanced heating, ventilation, and air conditioning (HVAC) systems and hardware that reduce the energy

consumption of Solana’s compute-intensive solution.

With access to our hyper-distributed Edge Computing platform, the Solana community can sidestep individual server investment and supply chain shortages with fully tested and approved-for-use servers, promoting rapid expansion and further decentralizing.

Solana is one of the world’s fastest growing blockchain ecosystems. By using our architecture and vast fiber connectivity, the Solana community gains access to a fast, secure environment that reduces latency and saves bandwidth at the edge of the network.



- Cloud monitoring and analytics capabilities that turn data into actionable insights, enabling automation and reduced risk of down time in manufacturing
- Using the latest in cellular technology, private wireless capabilities enable Lumen to cover large outdoor & indoor spaces such as construction sites, campuses, and communities while simplifying deployment, management, and on-going support. Customers benefit from a fewer number of radio access points that provide more coverage than alternative wireless solutions
- Cutting edge network technologies such as open source SD-WAN and data access acceleration that enable enterprises to extend the use of reporting tools to remote sites, reduce the unnecessary movement and duplication of data, and reduce overall IT resource consumption
- The application of “artificial intelligence” (AI) and machine learning to monitor and proactively manage next-generation IoT devices, including self-provisioning to address urgent challenges such as emergency health care and disaster relief
- Polymorphic network and embedded systems that enable AI-driven automation of IT resources, which improve their own performance and adapt to changing environmental conditions in real time

Innovating to create more sustainable datacenters

The Lumen Platform is powering Wyoming Hyperscale’s vision for sustainable datacenters with solutions that allow them to fully realize their sustainability goals.

By providing long-haul fiber convergence to the customer, Lumen enables them to move beyond just operating “cold storage” hosting facilities, to enabling low latency, CO₂ negative, carbon credit generation data centers, that leverage the heat generated from their operation, to feed indoor farms that grow produce.

We are also providing DDoS technology to prevent Wyoming Hyperscale from falling victim to cyberattacks that would make its data inaccessible.



Composable infrastructure

Since 2021, Lumen's innovation team has been working on a composable infrastructure initiative to help improve compute resource utilization rates, resulting in decreased power and water consumption, as well as reducing our infrastructure carbon footprint.

Key advantages

Requirement driven resource utilization reduces power consumption by composing only what is needed for a workload

By constructing power-hungry resources only where they are needed rather than overprovisioning every server for peak workloads, customers can often double and triple their utilization rate, resulting in lower power consumption and carbon footprint.

Peripheral Component Interconnect Express (PCIe)-connected resources, including graphics processing units (GPUs) and Storage Class Memory, are separated into resource pools and linked using various network fabrics such as PCIe, Ethernet and RDMA over Converged Ethernet (RoCE).

With a dynamic, software defined control plane, customers can quickly design and deploy servers to match specific workload requirements without worrying about whether the server can physically handle the GPU and/or storage resources it needs. Additional resources can be added, as needed, to meet server demands. Alternatively, excess resources can be reclaimed within minutes, and made available for other servers to use.

Fewer servers, accelerators/GPUs and other resources, translates to lower power requirements and a reduced carbon footprint. Scaling, adding, moving and swapping accelerators and other resources independently via composability also provides better resource utilization. Being able to do it remotely also saves gas and time.

Add more GPUs and other server resources to improve performance without the environmental impact and acquisition of new hardware

By combining these pricey resources such as GPUs with other composable server resources, you can boost performance without adding servers. With traditional server design, it would be impossible to build and deploy a 1U server with a dozen or more GPUs. This composable infrastructure makes that possible with just a few clicks.

Higher efficiency infrastructure helps reduce water consumption

Lumen can reduce the water required to cool our various execution venues, including our Edge locations, with a composable infrastructure. By reducing the quantity of physical equipment that needs to be cooled, it helps reduce the amount of water needed, conserving one of the world's most precious resources.





Minimizing disposal rates by maximizing the lifespan of existing assets

Composability not only adds extra accelerators (GPUs), storage and other resources to otherwise overloaded servers but can also extend the lifespan of existing assets by using a dynamic, software-defined approach to additions, moves and adjustments. Maximizing current investments will help lower our disposal rate and total cost of ownership (TCO).

Reduce energy costs

Currently, a significant portion (approximately 30%)² of the monthly cost of running a large data center is comprised of electricity and cooling expenses. With composability, you can reduce the amount of money you spend on infrastructure, to drive both economic and environmental sustainability. Additionally, the increasing adoption and utilization of a composable infrastructure will pay off for years to come as energy costs continue to climb.

² <https://dataspan.com/blog/data-center-cooling-costs/>

Indigenous people network solution

Lumen helped provide wireless internet to a Tribal Nation by using our technology solutions to serve a community who had been experiencing connectivity challenges. Using a combination of units, Lumen was able to extend the signal from a main distribution point in town to remote development locations, then onto individual homesites. Lumen also added dedicated internet access to the local clinic, fire station and tribal headquarters building.



EMPOWERING PEOPLE

We want our employees to be proud to work with us and fully engaged with our efforts to make the world a better place. That means creating a positive culture, in which everyone feels empowered to achieve change. We engage and inspire others to pursue careers in tech, empower our employees to thrive and belong, and support community volunteerism by giving to the most vulnerable and the traditionally excluded.

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Talent, recruitment and retention

We employ thousands of people around the world and one of our strengths as a company is their diversity. The mix of viewpoints, talents, experiences, backgrounds and beliefs at Lumen are respected and valued—and underpin our journey to amazing things.

Our approach

Our “one company, one culture” strategy helps us have a common language and set of behaviors for discussions, actions and decisions. Our approach is two-pronged: we develop programs to equip our diverse leaders to lead inclusively; and we also seek to evolve our talent practices. We gauge the progress and capabilities of our people by tracking and analyzing data from various sources, including annual talent reviews and hiring and promotion trends.

We are committed to providing equal opportunities for all employees. Our human resources policies strive for the highest standards covering recruitment, hiring, promotions, job assignments and all other aspects of employment.

Recruitment

Every day we work hard to bring more diverse talent to Lumen and to provide outstanding opportunities for advancement to all employees—starting with a fair and unbiased application process.

Our recruitment strategies, technologies and talent attraction initiatives connect people from all walks of life to our purpose and career opportunities. We have an extraordinary vision for our forthcoming internal talent marketplace and we leverage:

- Leading candidate assessment technologies to reduce the impact of bias on talent selection
- Advanced technology for candidate lead generation and superior candidate experiences
- External diverse talent attraction strategies and toolkits
- A spirit of transparency and inclusion throughout our recruitment processes

- Emerging partners and technologies in the University Relations space to maximize our reach across hundreds of colleges and universities, including many diverse institutions
- Sponsorships and other opportunities for diversity recruitment advertisements, events, forums and trainings
- Data-driven approaches to decision-making and prioritization

We have implemented diverse interview panels, which include at least one woman or person of color, to address unconscious bias in our recruitment process. We have also developed a non-biased pre-hire assessment process.

To increase the number of diverse candidates applying to Lumen, we partner with organizations and publications such as DiversityComm, Fairygodboss and AfroTech to place advertisements highlighting our ERGs and career opportunities at Lumen.





Training and leadership development

At Lumen, a person's career aspirations are our inspirations. Our equitable and inclusive talent practices aim to bring together the best mix of talent for the brightest ideas, the greatest achievements and the shared passion to transform industries across the globe.

The continuous integration of the unique qualities of each employee with different perspectives of newly hired talent accelerate our innovation and cutting-edge technologies—all with the shared purpose and passion for furthering human progress through technology.

We have implemented “unconscious bias” training for our global workforce and maintain a dedicated internal channel on our learning platform that offers relevant videos, books and courses. These resources address a wide range of topics, including emotional and mental health, multicultural lessons in leadership, and today's racial landscape.

Developing strong leaders who can move our company forward is a priority for Lumen. As we look to the future, we continue to build opportunities to enable and build our diverse talent pipeline. Our Mentoring Circles offer a collection of mentoring relationships that build the

competencies of our future leaders. Our leadership development programs are also designed to provide our people with tools, training and resources to engage, influence, coach, drive change and increase a growth mindset across our employee base.

Employee engagement survey

We understand the importance of listening to our employees to make Lumen a great place to work. Our employee engagement survey is a vital part of this, which is why we continually improve it. In the Spring 2022 survey, we saw an increase in our company's overall engagement from 67 percent to 69 percent. For this voluntary survey, we also added new items to provide us insight on topics such as our employees' well-being or how they align with the Lumen purpose.

Well-being and diversity, inclusion and belonging are important aspects of the employee experience. We recorded a score of 77 percent for overall well-being as an organization, with 86 percent of our employees feeling that they had trusting relationships at work and 80 percent feeling positive about themselves at work. 86 percent of employees gave highly favorable responses about being themselves, feeling part a team and feeling comfortable voicing their opinions.

Diversity, inclusion and belonging

At Lumen, we celebrate the rich diversity of our global workforce and are determined to create an inclusive company that offers equal opportunities for all. We are committed to fighting racism, prejudice and bias in our workplaces, implementing initiatives to increase representation and reaching out to groups traditionally excluded from technology careers.

Our approach

We know that diversity stimulates creativity, spurs innovation and drives profitability, which is why we are committed to creating inclusive, welcoming workplaces where everyone can feel at home and be their authentic selves. We have implemented an ambitious diversity, inclusion and belonging (DIB) vision, with KPIs and actions that embed DIB considerations into all aspects of our work and business priorities.

Realizing greater ethnic, racial and gender diversity at all levels is an ongoing process that requires honesty, openness and listening. We need to understand our prejudices and biases and commit to evolve—as individuals, as teams and as a company. We do this by regularly evaluating our progress.

To enable this, we conduct frequent staff trainings aimed at eliminating unconscious bias, organize periodic roundtables to discuss DIB concerns, bring our leaders into discussions through listening circles and engage our 11 employee resource groups to provide targeted support.

Commitment to pay equity

We are deeply committed to providing our people with “equal pay for equal work.” It is not only the right thing to do—it creates a healthy working environment and ensures we can attract and retain diverse talent now and into the future. We have implemented tools and processes to review compensation decisions for pay equity as they are made.

In 2020, we conducted a pay equity review of our U.S. non-union employees of color, and a similar review of gender pay equity in 2019. We plan to carry out an intersectional pay equity study in 2022. Following each review, we adjust employee pay as needed.

The Diversity and Inclusion Steering Committee

We believe that creating and maintaining a diverse workforce takes all of us, and that we will make more progress with a team of leaders driving this agenda.

To that end, we have formed a Diversity and Inclusion Steering Committee (DISC), comprised of senior leaders from across the company who oversee and champion our overall DIB strategy. The DISC is guided by data that informs our diversity initiatives, which focus on training and education, hiring and retention, compensation, talent development, company culture, employee engagement and community impact.

Hosting events and initiatives

We use national and international events such as PRIDE Month, Black History Month and Veterans Day—as well as our own DIB Champion Diversity Week—to educate our employees and encourage them to get involved.

In March 2021, we celebrated International Women’s Day and Women’s History Month with meaningful events focused on career development, volunteer opportunities, inclusive dialogues and fireside chats with women leaders from all over the world.



Be you at Lumen





In June 2021, we hosted PRIDE month to promote LGBTQ+ inclusiveness in our global workforce, hosting virtual parades and flying flags at several of our facilities around the world. We also have a tradition of celebrating Disability Pride Month in July for the anniversary of the Americans with Disabilities Act.

In October 2021, we celebrated Champions Diversity Month with a theme of “Educate, Elevate and Empower.” Events included Lumen CX Day with keynote speaker Mallory Weggemann, a Paralympic swimmer and world record holder. We also participated in VMworld, where our Chief Diversity Officer hosted a global session on retaining diverse talent. Other events included virtual volunteering opportunities across the globe, a U.K. Black History Month event on allyship, a panel discussion on empowering others, and many more.

Awards and recognition

In recent years we have been honored with a host of awards that acknowledge our achievements in fostering an equitable environment that promotes diversity, inclusion and belonging. We are proud of these awards, which are a testament to our amazing culture.

Awards



Forbes Best Employer for Women 2021



Forbes America's Best Employers for Diversity 2021



2021 Top 50 Employer—Minority Engineer Magazine



Top 50 Employers for STEM diversity 2021



2021 Best Corporations for Veterans Business Enterprises



2021 Best for Vets Employers—Military Times



2021 DEI 100 Score—Disability:In



2021 Top 50 Employer—Equal Opportunity Magazine



2021 Best Place to Work for LGBTQ+ Equality—Human Rights Campaign



2021 Top 50 Employer—Woman Engineer Magazine

Employee resource groups

Our employee resource groups (ERGs) have an important role in advancing diversity, inclusion and belonging within our company. They assist with employee career development, increase employee engagement and help us connect with our increasingly diverse customer base.



Our 11 global ERGs are employee communities that give our people an avenue to contribute ideas for enhancing our inclusion efforts, as well as:

- Offering employee development and training via professional and technical forums
- Creating opportunities for social and professional networking
- Participating in community outreach through social, cultural and educational events and sponsorships
- Celebrating Black History Month, Women's History Month, PRIDE Month, Asian/Pacific Heritage Month, Veterans Day, Hispanic Heritage Month, National Disability Employment Awareness Month, Native American Heritage Month and more
- Connecting members with opportunities to support 501(c)(3) organizations

In 2021, to encourage employees to live a healthy lifestyle and achieve well-being in their personal and work life, we launched the Lumen WELL-BEING ERG.

Lumen's commitment to employee well-being celebrates milestone

Our WELL-BEING ERG launched in July 2021 to provide more resources for employees during the pandemic. In one year, our WELL-BEING ERG has grown to have more than 875 members, with chapters in EMEA and Asia-Pacific regions.

All WELL-BEING ERG members are encouraged to take small steps that can make them healthier and stronger. For example, the ERG started the

WELL-BEING Hour, which meets on the first Friday of each month, enabling employees to talk about topics such as well-being and personal and professional growth. The ERG also started an event called the WELL-BEING Kitchen, which hosts members as guest chefs to share their favorite healthy recipes as a way to reduce stress and engage with each other.



Our employee resource groups:

- Alliance of Black Technology Professionals (ABTP)
 - Women Empowered (WE)
 - Veterans, Active Military & Allies (VETS)
 - Voice of Many Feathers
 - Pride Association of LGBTQ+ & Allies
 - Global Community
 - Pacific Asian Ancestry Network (PAAN)
 - WELL-BEING
 - Success Oriented Members Offering Support (SOMOS)
 - Friends Respecting, Inspiring Everyone Needing Disability Support (FRIENDS)
 - NEXTGEN
- Learn more about [our ERGs](#).



Supplier diversity

Diverse supplier participation in our supply chain is critically important to us. We work hard to remove barriers and open doors, so that we expand the number of diverse suppliers competing for a wide range of business opportunities.

We have integrated supplier diversity into our strategic sourcing process through measurable goals and objectives—and are always learning and striving to do more. For

example, we request diversity information from our largest suppliers and benchmark ourselves against their performance. We also regularly engage with these suppliers to share best practices and understand which aspects of their approach we can learn from and which aspects make good business sense to adopt. Supplier diversity is one factor we consider in our selection process—we also expect suppliers to offer high-quality products and services, competitive prices, and otherwise align with our business objectives.



Our progress

We have historically published our gender representation and racial and ethnic groups of employees. To be more transparent about where we are and where we are headed, in March 2022 we published our EEO-1 data for the first time, with a commitment to publish it annually from now on. EEO-1 data is diversity data collected by the US Equal Employment Opportunity Commission.

Board diversity continued to be one of our focuses in 2021. We work to ensure our Board is identifying, maintaining and evolving the complementary skills, experiences and perspectives necessary to make meaningful contributions to shaping and implementing Lumen business strategies. In 2021, three of our eleven nominees were ethnically diverse, and two were women.

When Kate Johnson joins the Board of Directors in 2022, we will have three women serving on the Board.

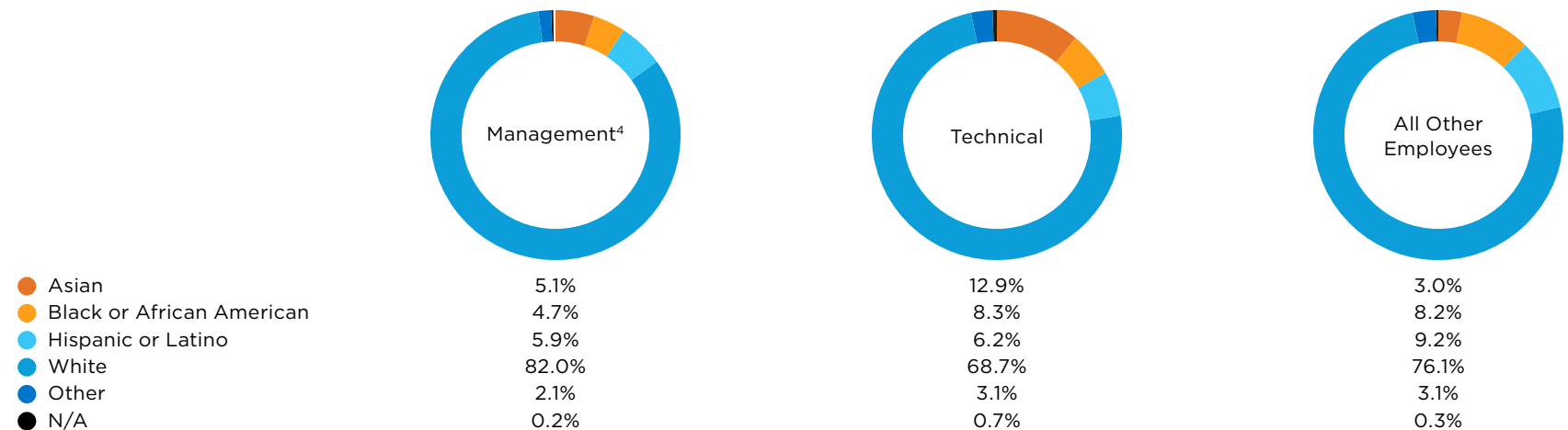
³ Mapped to global job titles that correlated to U.S. job titles/OFCCP Code where applicable to determine gender representation globally. Data was calculated to align with the SASB framework.

⁴ Job classifications based on EEO-1 codes. EEO-1 codes only apply to the U.S. Data was calculated to align with the SASB framework.

Gender representation of global employees³



Racial/ethnic group of U.S. employees (%)



Employee well-being and benefits

Our people are the heart of what we do, so our approach to engagement and rewards is designed to help our employees live a healthy life, manage their finances and support the people in their lives.

Our approach

We invest in the physical, mental and emotional well-being of our people through a broad range of benefits. We want our people to thrive, feel valued and be satisfied at work. Our employee wellness programs are designed to support people to adopt and maintain a healthy lifestyle and look at the whole person. We consider work-life integration as well as our employee's families.

Our employees' place of work varies depending on their role and circumstances. In response, we have adopted a hybrid approach to well-being and provide consistent education to ensure our people know about our full range of benefits, so they are able to access the right service when they need it.

Wellness programs

The health, safety and well-being of our employees, business partners and global communities is our top priority. We are committed to better-than-industry-average safety performance and continuing our investments in programs and training to support health and safety.

In the U.S., we offer consumer-driven health insurance plans as well as dental and vision plans, health savings and flexible spending accounts. We provide on-site medical clinics at three of our major locations. We also encourage our full-time employees and their covered spouses to take part in our Rally Rewards program, which enables them to earn monetary awards for completing health actions, including preventive care, weight and condition management, mental wellness and healthy behaviors.

Outside the U.S., our health promotion benefits vary by country and include access to our employee assistance program which provides information and support to help improve wellness and well-being.

Our other health promotion programs include private medical, disability and travel accident insurance, dental and vision care, Cyclescheme—to encourage cycling to work—and nutritional support programs like WeightWatchers.

Benefits

We offer progressive employee benefits⁵ and enhancements that recognize the diverse needs of our people and their families. These include:

- Our comprehensive wellness program
- Flexible time off (FTO)
- Extended maternity and parental leave
- The Milk Stork program for nursing mothers
- Fertility benefits
- Gender-affirming and same sex or domestic partner healthcare benefits
- Adoption benefits
- Survivor benefits
- Financial wellness
- Mental health benefits
- Disability accommodations

⁵ Benefits vary based on location, role, job status and/or the terms of any applicable collective bargaining agreement.

We want our people to get well, stay well, manage well and save well, because that enables them to live their best lives.



GET WELL

Core health benefits: Medical, prescription drug, dental and vision.

2nd.MD: Connect with leading health experts for a second opinion on all healthcare conditions.

Telemedicine: When going to a doctor's office isn't an option, connect virtually.

On-site clinics: Wellness visits, walk-ins, on-site counselors, lab work and more in select locations.

McDougall immersion program: Our eligible people experience a week-long health and nutrition educational program.

Employee assistance program: 24/7, 365 mental health assistance to help our people get well.

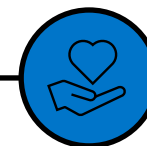
Short-term disability: Disability benefits that help our people get back to living their best lives.



STAY WELL

Preventive care: Annual physical exam, mammography, colorectal screening, biometric screening, flu shot and more.

Well-connected wellness program: Fitness reimbursement, Rally rewards, Active&Fit Direct, Volt fitness app, Healthy Pregnancy program, executive wellness programs and more.



MANAGE WELL

Chronic conditions management: Coaching and programs for employees with certain chronic or complex health conditions.

care@work: Company paid membership to Care.com and subsidies for certain types of back-up.

Voluntary lifestyle benefits: Full-time employees can enroll in additional coverages such as Critical Illness Care, Accident and Cancer Insurance, Pet Insurance and more.

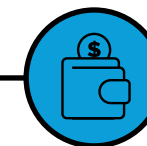
Adoption assistance: Assistance to give a child a permanent home. Available for any legally adopted child under the age of 18.

Parental leaves: Paid, approved leave for eligible employees when a new child arrives.

Survivor benefits: Six months of continuous pay and health coverage for eligible survivors in the event of an employee's death.

Long-term disability: Disability benefits to help employees in the event of an injury or illness that continues for an extended period.

PTO/FTO: Paid and flexible time off for employees.



SAVE WELL

401(k): Contribute and receive a company match.

Life/AD&D: Gives families financial peace for the future in the event of death or serious loss.

Tuition reimbursement program: Helps offset the rising cost of continuing your education.

529 college savings plan/college coach: Resources for saving for college.

PerkSpot/purchasing power: Access to money-saving products and services.

InfoArmor: Protect your identity against fraud and identity theft.

Health savings account: Use for health-related expenses and see triple the tax benefits of other savings accounts.

SmartPath financial coaching: Unbiased financial advice for your money decisions along your financial journey.

CommonBond: Student loan refinancing service.

Legal services: Affordable legal representation.

Community engagement

For us, working with our communities is about having a positive influence on the world. We encourage our employees to volunteer and give to causes that are important to them, supporting their passions through matching charitable donations.

Our approach

We make strategic investments that create lasting positive impacts in the communities we serve. Our goal is to be a trusted community partner around the globe. We direct our charitable giving to three focus areas:

- The interests and passions of our employees
- Young people, who are the next generation of innovators
- The basic needs of our local communities

More and more employees want to work for companies that actively support their communities. The chart below shows the strategic support provided through the Lumen Foundation—each of these programs being core to our company purpose of furthering human progress through technology.

Our vision

To support our communities while building a sense of community.

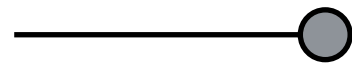


Our mission

To multiply our impact by supporting people's passions, empowering the next generation of innovators and providing for the basic needs of communities.



LUMEN FOUNDATION



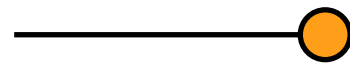
Employee Volunteer Program

We encourage employees and teams to actively volunteer for causes that are important to them.



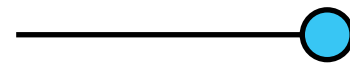
Employee Resource Groups

Employees can connect with any of our resource groups, supporting career development, diversity and more.



Dollars for Doers Program

Employees can earn grant dollars to support their volunteer efforts.



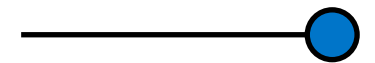
Employee Giving Campaign

Employees can easily donate to charities of their choice through payroll deductions with a potential corporate match.



Campaign to Fight Hunger

Employees can make monetary donations through an annual campaign to support food relief organizations around the globe.



Lumen Cares Ambassadors

Employees can partner with the corporate social responsibility team to inform, engage and inspire others to come together and connect with their local communities.

Employee volunteer program and volunteer grants

We encourage volunteerism year-round and are proud to record thousands of volunteer service hours every year.

To amplify our employees' impact, we give grants to eligible charities through the Dollars for Doers program, which enables employees to give up to \$1,000 annually to the charity for which they volunteer. In 2021, we awarded 115 grants, totaling \$57,500 in support of employee volunteerism.

Despite the ongoing COVID-19 pandemic, our employees continued to support their communities through virtual volunteer projects and in-person opportunities when it was safe. In 2021, they volunteered 769 hours in Lumen-sponsored virtual projects,

supporting 19 causes in 10 countries, and achieving an impact investment of \$22,000. In total, Lumen employees logged 17,000 volunteer hours through a mixture of virtual and in-person events.

Employee giving campaign

During our annual employee giving campaign, employees in the U.S. can donate to eligible 501(c)(3) agencies through payroll deduction, which is 50 percent matched by the Lumen Foundation—either for the same agency or the United Way at the employee's location.

In 2021, our employees contributed \$1.1 million in individual donations to 1,200 nonprofit agencies. The Lumen Foundation gave \$500,000 in match funding to local United Way organizations across the U.S.

Education and STEM programs

We want to provide future generations with the technology, education and skills they need to succeed in an increasingly digital and connected world. We are committed to doing that by supporting youth education and technology-focused initiatives. Lumen strives to engage early with students to garner interest in the STEM curriculum and technology careers.

In 2021, we partnered with Destination Imagination® to launch imagineXperience, a global STEM outreach initiative designed to help students living in underserved communities build vital skills for the digital economy. The program introduced STEM concepts and aptitudes such as creative thinking to 650+ participants in the U.S., Canada, Nigeria, Pakistan, South Africa, Botswana and Zanzibar.

More than 100 Lumen employees volunteered to mentor student teams and help evaluate student projects. The pilot program showed a positive impact on the participants' confidence in expressing their ideas and collaborating in a group and developed their computer science skills and knowledge of artificial intelligence and robots. [Learn more about STEM outreach.](#)

Key metrics

\$1.1M

individual donations

1,200

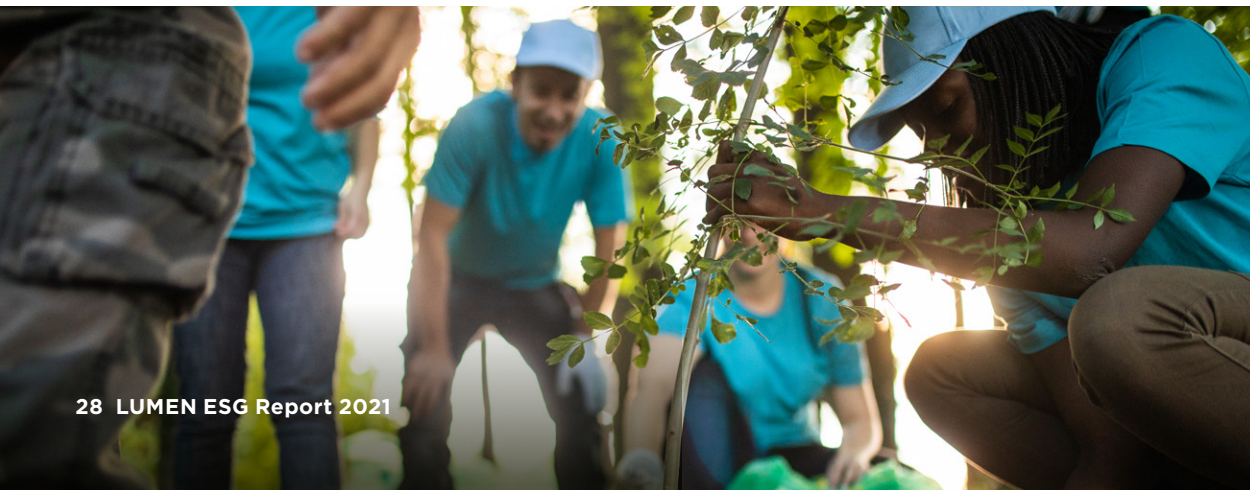
individual nonprofit agencies

\$500K

match to local United Way organizations across the U.S.

47

states received charitable donations





P-TECH

An innovative school partnership that supports talented students from under-resourced, diverse communities who want to pursue a career in technology.

PCs for People

Donating our used computers and equipment to low-income individuals and nonprofits in our communities.

Tech Tours

Creating job shadows, campus tours and learning opportunities for our employees to connect with the next generation of creative minds.

Pathways in Technology Early College High School (P-TECH)

Through the P-TECH program, volunteers from Lumen work with schools to develop essential workplace competencies and technical skills. We assist the design of high school and college courses which will be taught to under-represented or low-income students. Our goal is to provide subject matter expertise and unique opportunities for these students to imagine a future in technology—and potentially with Lumen.

Students that apply to P-TECH commit to obtain an associate degree in Applied Science in Technology through a partnered community college within six years. In 2021, we continued to offer virtual “Lumen Learning Labs” in the areas of artificial intelligence, big data, cybersecurity and professional skills. Professionals from Lumen designed content material and participated in panel sessions with students. We also provided recruiting information and a virtual operations academy.

We are proud of our P-TECH cohorts, who represent first-generation college-seekers, English language learners, women and students who are considered under-represented or low-income. These students are important to our future, and we are honored to support them.

Campaign to fight hunger

We know that to unlock a person’s potential, their basic needs must be met. Since 2009, we have worked to do that through our annual campaign to fight hunger.

Through the campaign, we encourage our people to donate to food banks around the world and help raise awareness of food insecurity. In 2021, the donations of our people and a corporate match enabled us to provide over 762,780 meals for those in need, in partnership with around 70 organizations.



Connectivity for low-income households

We are a major participant in the Federal Communications Commission’s (FCC) Lifeline, E-Rate and Rural Healthcare programs, which help communities access essential resources:

- Lifeline helps low-income households stay connected by providing discounts on qualifying monthly voice or broadband service to eligible residential subscribers. Residents of tribal lands may qualify for an additional Lifeline discount, as well as support for initial installation costs for new service.
- E-Rate provides funding for schools and libraries to access broadband services.
- Rural Healthcare provides funding to help healthcare providers obtain necessary services.

Occupational health and safety

Providing a safe and healthy working environment for our people, partners and visitors is of paramount importance. We are committed to workplaces that are free of recognized hazards.

Our approach

We design our safety management systems to drive continuous improvement in performance by incorporating “risk-based thinking” into our organizational objectives and goals. Our environment, health and safety (EHS), risk management and operations teams continuously monitor safety performance to evaluate opportunities to eliminate or reduce the risks of workplace hazards.

We have implemented Occupational health and safety (OHS) management systems in our North America; Europe, Middle East and Africa (EMEA); and Latin America (LATAM) regions. We carry out periodic reviews to identify and achieve improvements in overall safety performance.

Since our previous ESG report, we successfully transitioned our third-party certified safety management systems from OHSAS 18001 to ISO 45001 in Argentina, Chile, Colombia, Ecuador and Peru, joining operations in Brazil and the United Kingdom which were ISO 45001 certified previously. Our safety management system in North America is not third-party certified.

OHS practices

Our EHS team conducts risk assessments reviews safety incident data and monitors health and safety legislation to develop policies and procedures that eliminate or control safety hazards and help us comply with laws and regulations.

In the United States, our Mutual Occupational Safety and Health (MOSH) committees give represented employees opportunities to participate in the development of our safety management systems. The committees identify, evaluate and help to implement practical and sustainable solutions to workplace health and safety issues.

Through assessments, incident investigations, injury claims data and employee feedback, we identify work-related hazards that pose a risk of high-consequence injuries. For example, in the telecommunications industry, working at heights poses such risks. We continue to take steps to minimize these risks, including by:

- Substituting aerial lifts for climbing, where feasible
- Using engineering controls such as procuring and deploying lighter-weight extension ladders with enhanced stability features and pole-mounted ladder brackets that allow decommissioning of elevated work platforms
- Enhancing our safety inspection process to ensure that ladder users do not attempt to climb defective ladders





Occupational health services

We work with a range of occupational health services providers to support our employee experience.

In North America, our Workplace Possibilities program helps to identify employees who are experiencing occupational health (e.g., ergonomic) and medical, or mental health challenges that may be impacting their work. The program aims to:

- Help remove barriers to allow employees to keep working safely and productively or to return to work as soon as medically able
- Ensure employees feel valued and maintain positive connections with the workplace
- Reduce turnover and lower the impact and cost of disability

In collaboration with employees and their managers, Workplace Possibilities explores how modified or alternate tasks, hours or adaptive equipment could improve employee engagement and workplace experience. The service is available to all U.S. employees and is advertised on our company intranet. Training for managers is also available to help them identify employees who could benefit and support their team members to either stay in or return to work.

Our benefits team and Workplace Possibilities vendors meet quarterly to review the program's performance and progress.

In our EMEA and LATAM regions, we engage occupational health service providers, where required by law, for example to perform workplace safety audits to identify OHS hazards. Providers then partner with us to develop corrective action plans.

Personal health-related information security is maintained in accordance with relevant data privacy and employment laws, in addition to our company policies.

Reporting concerns

Our employees are responsible for reporting work-related incidents immediately to their manager and to the company's 24/7 reporting system. This includes on-the-job injuries and illnesses, motor vehicle collisions and property or equipment damage. We investigate reported safety incidents so we can identify ways to prevent similar events in the future. We also report safety incidents to government agencies when legally required.

We require our people to quickly report unsafe or hazardous conditions or suspected violations of the law to their managers. Managers must then provide the necessary notices, warnings or controls to keep people safe and report the condition to our 24/7 incident reporting system. Suspected violations of our Code of Conduct or legal obligations are reported to the Integrity Line (see section title).

Performance in 2021

In 2021, our Occupational Safety and Health Administration (OSHA) recordable occupational injury and illness rate in the United States was 1.8 per 100 employees, well below the industry average of 2.1 per 100 employees for wired telecommunications companies.⁶

In 2021, we recorded three instances of noncompliance with health and safety laws and regulations that resulted in fines totaling \$27,453.

⁶ As of year-end 2020, the most recent available data reported by the Bureau of Labor Statistics (BLS).

PROTECTING OUR PLANET

We are committed to environmental stewardship, knowing that sustainability promotes the health of both our planet and our business and creates value for our customers, employees, suppliers, communities and investors. We make it easy for our clients and others to join our sustainability journey through digital automation and our smart network and technologies. We also regularly assess our impact to find new ways to reduce carbon emissions, eliminate waste and manage water consumption.

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Driving environmental sustainability at Lumen

Good corporate environmental stewardship is important to Lumen. As well as reducing our own environment footprint, we are working to build an efficient global network to help reduce the emissions of our customers. At the same time, we encourage our employees and suppliers to engage in environmentally sustainable activities.

As we continue to track performance against our 2025 science-based targets, we remain committed to exploring ways to reduce emissions through our operational, customer and employee initiatives—actions that will contribute to the United Nation's Sustainable Development Goals. In addition, we are actively exploring options for setting subsequent medium and/or long-term targets.

Environmental sustainability vision

Lumen is committed to incorporating appropriate environmental sustainability principles and practices throughout our operations as we work to serve our customers and our communities. The company informs and drives our sustainability efforts by:

- Identifying and implementing sustainability initiatives aligned with our overall business objectives
- Building an energy-efficient global communications network, thereby reducing carbon emissions
- Reducing waste and energy/water consumption
- Engaging employees and suppliers in our sustainability efforts
- Meeting applicable sustainability legal requirements
- Establishing sustainability metrics to measure the results of our efforts



Environmental compliance and management

Our environmental management system (EMS) is an important tool in our pursuit of our environment, health and safety (EHS) and sustainability visions. These systems help us control and reduce our environmental impact, as well as continuously improve and meet our regulatory obligations.



Environment, health and safety vision

We are committed to achieving excellence in our protection of health, safety and the environment for our people, business partners and global communities by:

- Evaluating risks to the company and developing and implementing effective strategies for mitigating identified risks
- Complying with applicable regulations and company requirements
- Allocating appropriate resources to facilitate the implementation of the EHS function
- Communicating responsibilities and requirements using training and awareness programs and encouraging employee participation
- Developing innovative and flexible solutions that drive improved EHS performance and contribute to achieving company objectives

EHS framework

Our EHS program focuses on seven key areas:

-  Environmental compliance and management
-  Energy and emissions
-  Water
-  Waste
-  Supplier environmental management
-  Climate preparedness
-  Occupational health and safety (see [Occupational Health and Safety](#))

Environmental management practices and procedures

To determine the scope of our EMS work, we explore the most material environmental issues inside and outside our business alongside our legal requirements, and we consider where and how we can make an impact. We assess and review our programs, operational facilities and designated suppliers through our EHS team. We also monitor emerging legislation and regulation.

To drive improved performance, we collaborate with teams across our business to develop effective, documented practices and procedures, which we make available to all employees on our intranet.

We broaden our impact by participating in the Environment, Health & Safety Communications Panel (EHSCP) Environment Committee, a forum through which industry professionals share best practices, monitor emerging issues and engage with policy makers.

Environmental training

The day-to-day success of our EHS efforts depends on the capabilities and commitment of our people. To accomplish this, our EHS team collaborates with managers to develop task and role-specific training content, which is delivered through a combination of instructor-led and web-based learning, awareness campaigns and facilitated meetings.

ISO-certified facilities

We have successfully maintained our ISO 14001 certification in Argentina, Brazil, Chile, Colombia, Ecuador, Peru and the United Kingdom. Our facilities in Belgium, France, Germany, Italy, the Netherlands and the United Kingdom also maintained their ISO 50001 certifications. Our EMS in North America is not third-party certified.

Noncompliance with environmental laws and regulations

We operate several thousand global facilities that are subject to national, federal, state and local environmental laws and regulations. In 2021, we had only four instances of noncompliance that resulted in fines totaling \$3,700.

Significant chemical spills

In 2021, Lumen had three reportable spills: <50-gallon diesel spill in Rockford, AL, 200-gallon glycol spill in Oakland, CA and 100-gallon diesel spill in Daytona, FL. All were reported to and closed with relevant regulatory agencies.

Supplier environmental management

Our environmental compliance and sustainability efforts extend beyond our own operations. We expect our suppliers to embrace and share our commitment to ethical conduct by complying with environmental laws and requirements including those related to:

- Management and disposal of hazardous materials
 - Contaminants in air, soil or water
 - Protection of natural resources, wildlife and wetlands
 - Recycling
- Reduce or eliminate hazardous waste/materials
 - Limit special material processing
 - Use services and products that promote the use of nonhazardous, recovered recycled materials

Our Code urges our suppliers to assess and address environmental and sustainability issues within their own supply chains. To drive performance, we encourage suppliers to implement environmental management systems and continuously monitor their performance and to use reasonable efforts to employ environmentally preferable and energy-efficient services, and to provide commercially available services that:



ESG-related risks, opportunities and impacts

Weather events such as severe flooding, windstorms, hurricanes and wildfires can impact our ability to deliver services, so business resiliency and adaptability is key to the long-term viability of our business.

Our corporate business continuity management (BCM) program supports an environment of prevention, collaboration, communication, response and recovery. This enables us to serve customers, shareholders and employees in the face of disruptive events. [Find out more.](#)

In 2021, we conducted a physical climate change risk assessment to help us evaluate specific threats and identify mitigation opportunities. The study assessed climate risk to seven sites and assets that are critical to our business, under a high-emissions scenario out to both 2035 and 2060. The assessment aligned with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and focused on the business-as-usual scenario of the Intergovernmental Panel on Climate Change (IPCC), which has the greatest physical impacts.

We are currently performing a TCFD-aligned, qualitative scenario analysis of our transition risks and opportunities. We intend to use the results of this analysis to inform the eventual development of a low carbon transition plan, consistent with TCFD and CDP transition planning guidance.

We continue to align our ESG reporting with TCFD. See our [TCFD index](#).



Climate

We all share a responsibility for looking after our planet. For us, that means finding ways to reduce our carbon footprint for the benefit of our environment, stakeholders and long-term health of our business.

We have set science-based targets (SBTs) approved by the Science-Based Targets initiative (SBTi) to reduce our emissions by 2025 (see [Emissions approach](#)).

We respond annually to CDP's Climate Change investor questionnaire, providing comprehensive data and metrics about our energy and emissions reduction initiatives, energy consumption, greenhouse gas (GHG) emissions, renewable energy purchasing and climate-related risks and opportunities.

We received an A- score for our 2020 climate change mitigation efforts, putting us at a leadership level and among the top 6 percent of respondents. For more information about our climate change mitigation efforts, see our [Reporting](#) within our Environment page.

Developing longer-term climate goals

While our current science-based targets are active through 2025, we are exploring subsequent medium and/or long-term emissions reduction targets. In the meantime, we will continue to make progress toward our 2025 targets.

Lumen completed a significant organizational restructure in 2022 through divestiture of a.) our operations in the LATAM region and b.) our ILEC operations in 20 Midwest and Southeast U.S. states. We are currently working to re-baseline our environmental footprint to reflect these changes.

Engaging our employees

Across Lumen, our people are supporting and enabling our sustainability efforts through:

- Employee Resource Groups (ERGs)—our employees engage in a range of environmental initiatives through the Lumen ERGs, such as the World Water Day virtual volunteering event in March 2021. Hosted by Core Arts U.K., participants increased awareness of sustainable growing techniques, water conservation strategies and simple ways to have a positive impact on the environment
- Going Green—a mailbox for employees to submit ideas for environmentally sustainable practices
- Electric vehicle (EV) charging stations—at our Broomfield, Colorado office our four (Level 2 ChargePoint) dual-port charging stations can accommodate up to eight EVs at once



Emissions approach

We have set SBTs, approved by SBTi, to reduce annualized absolute Scope 1 and Scope 2 market-based emissions by 18 percent and annualized absolute upstream Scope 3 emissions by 10 percent by 2025, compared to 2018.

As of 2021, we have reduced Scope 1 and 2 emissions by 25 percent since our 2018 baseline year. While we are trending toward achievement of our goal, we will need to re-baseline our footprint to account for significant structural changes to the business that have occurred in 2022. We hope to maintain our strong performance against the goal through the 2025 target year. To drive our performance, we plan to continue our procurement of renewable electricity, real estate consolidation efforts, energy efficiency initiatives and taking advantage of overall greening of the electricity grids.

We have reduced our Scope 3 (upstream) emissions by 11% between 2018 and 2021. While we are trending toward achievement of our goal, we will need to re-baseline our footprint to account for significant structural changes to the business that have occurred in 2022. We hope to maintain our strong performance against the goal through the 2025 target year.

Our GHG emissions (metric tons CO₂e)⁷

	2018	2019	2020	2021	Goal	Percent of target achieved
Scope 1	277,725	263,918	224,166	222,798	N/A	N/A
Scope 2 (market based)	2,082,498	1,898,090	1,779,708	1,558,352	N/A	N/A
Scope 1 + 2 (market based)	2,360,223	2,162,008	2,003,874	1,781,150	SBT-1: 18% reduction (of Scope 1 + 2) by 2025, compared to 2018	136%
Scope 3 (upstream)	2,498,404	2,609,342	2,456,221	2,226,892	SBT-2: 10% reduction (of Scope 3 upstream emissions) by 2025, compared to 2018	109%

To enable continued substantial progress toward this target, we plan to move toward a supplier-specific methodology and move away from an economic and financial metric-based methodology. This will allow us to capture emissions reductions across our supply chains.

Lumen encourages our suppliers to adopt certain practices to support our environmental sustainability journey such as implementing environmental management systems, monitoring their performance and using energy-efficient products and processes—see our [Supplier environmental assessments](#). We are also proactive about responding to

surveys and inquiries we receive from our customers, asking about our climate plans and ambitions.

In January 2021, we announced our inaugural offering of sustainability-linked notes. Aligned with our science-based targets and other ESG initiatives, Level 3 Financing—a wholly-owned subsidiary—completed its offering of \$900 million of its Sustainability-Linked Senior Notes, due in 2029. [Find out more.](#)

⁷ Historical GHG emissions figures have been adjusted due to improved data quality.



Energy approach

Our energy management teams are constantly looking for ways to improve energy efficiency at our facilities around the world. In 2021, we avoided 31,435 metric tons of GHG emissions through initiatives such as:

- Deploying and enhancing building energy management and control systems
- Developing an energy network operations center (ENOC) to centrally monitor, manage and reduce facility energy use through control systems and advanced analytics
- Turning down underutilized critical infrastructure equipment, including excess rectifiers and power plants

- Consolidating and updating network switch equipment
- Installing and upgrading mechanical systems to improve efficiency, including variable frequency drives and variable speed fans
- Installing LED lighting retrofits and controls
- Improving facility airflow management, including deployment of hot and cold aisle containment
- Increasing power usage effectiveness monitoring and reporting
- Upgrading facility mechanical system chilled water systems
- Upgrading, replacing and decommissioning UPS batteries

Wherever feasible, we source energy from renewable sources. In 2021, we purchased and generated 320,085 megawatt hours (MWh) of renewable energy, including zero-carbon electricity, bio-fuels, and self-generated solar electricity.

Transportation initiatives

Emissions from our fleet, as field technicians travel to support our customers in their communities, represent a significant portion of our footprint. We continue to work to reduce fleet emissions, including by:

- Completing the roll out of sensors to our fleet to monitor vehicle idling time. By using data to identify opportunities for improvement, our field technicians are able to reduce emissions and costs by saving fuel

- Dispatching and operating our fleet more efficiently through the installation of GPS on around 10,000 Lumen vehicles, resulting in fuel use and GHG emissions reductions
- Using flex-fuel vehicles, which produce significantly fewer GHG emissions than traditional vehicles

Our energy procurement (MWh)⁸

Measure	2018	2019	2020	2021
Renewable energy	195,368	280,189	283,804	320,085
Nonrenewable energy	5,447,940	5,314,016	5,287,429	4,902,842

⁸ Historical energy procurement figures have been adjusted due to improved data quality.



Water stewardship

Water is a precious and limited resource. We strive to reduce our consumption, especially in the water-stressed countries where we operate.⁹ We track our usage and closely monitor abnormalities to improve water efficiencies and reduce site discharge.

Our approach

Drinking water, irrigation and sewage are our main water consumption and discharge impacts. We also use water in cooling systems at some North American facilities. We track water consumption and closely monitor abnormalities to improve efficiency and reduce excess discharge at our sites—especially in drought-stricken areas.

⁹ Belgium, Spain, Italy, India and the United States.

¹⁰ Historical water use figures have been adjusted due to improved data quality.

We know that climate change can impact water availability, so we use the World Resource Institute's Water Risk Atlas to assess which countries of operation face the highest risk of water stress. We have identified that parts of Belgium, Spain, Italy, India and the United States—countries where we operate—could face a high risk of water stress in the future.

Our progress

In North America, we continue to manage our water use and have achieved steady reductions since 2018. Reduction levers could include water efficiency projects and real estate consolidation efforts. In addition, less people in offices due to COVID-19 and more remote working preferences have contributed to the decrease.

Our water use in North America (gallons)¹⁰

	2018	2019	2020	2021
Withdrawal	473,871,105	468,982,066	449,183,615	431,020,338



Reducing waste impacts

Reducing waste protects our environment and helps to preserve natural resources. It can also reduce emissions through less energy-intensive circular economies. That is why we are committed to reusing and recycling products, minimizing material use and carefully managing our waste.

Our approach

To reduce our environmental impact, we establish and maintain effective waste management programs and initiatives that focus on reducing waste through minimization, reuse and recycling. Our approach is also designed to ensure that hazardous waste is appropriately disposed. Our EHS team collaborates with various business units to implement and optimize waste management methods, policies and procedures.

Since we do not manufacture the products we use, we aim to partner with suppliers that adhere to the same standards we do. See [Supplier environmental management](#).

Waste reduction

Recycling and product end-of-life management

Each year, we divert millions of pounds of electronic and communications equipment away from landfills. We recycle telecommunications equipment and items such as batteries, wood poles, electronics, copper wire, fluorescent lamps, fleet oil and solvents.

In the U.S., our modem and router takeback program makes it simple for our customers to dispose of electric equipment, which we reuse or send to an R2-certified recycler for disposal.

Paper recycling

Doing more business digitally has enabled us to cut our paper use and we encourage our employees to use paper efficiently, such as through double-sided printing. Our secure shred program enables employees to recycle documents and media safely and responsibly.

In 2021, our participating U.S. sites collected, securely shredded and recycled around 414 metric tons of paper. Since we are using less paper overall, we expect our paper recycling volumes to decrease over time.

Our progress

We continue to manage our waste in ways that promote reduction, reuse, and recycling. In 2021, we recycled approximately 2,239 metric tons of electronic and communications equipment. Additionally, our waste intensity was 1.99 metric tons per million dollars revenue.



Our waste performance in the U.S. (metric tons)¹¹

	2018	2019	2020	2021
Waste generated	36,649	35,121	42,520	39,158
Waste to landfill	27,659	27,007	33,653	31,164
Waste reused	101	160	233	196
Waste recycled	8,889	7,954	8,634	7,798

¹¹ Historical waste figures have been adjusted due to improved data quality.

BUILDING STRONG GOVERNANCE AND TRANSPARENCY

We believe in principles of strong corporate governance. Our culture of honesty, integrity and doing the right thing help us build trust and protect the interests of our company and stakeholders. Our highly competitive business thrives from a results-focused team that is motivated and inspired by skilled leadership and driven by ethical and meaningful business objectives.

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- 44 Ethics and compliance
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Corporate governance

Our commitment to acting responsibly flows from the Unifying Principles (see [Ethics and compliance](#)) upon which Lumen was built. Fairness, honesty, integrity and our commitment to excellence support our approach to governing for the benefit of all our stakeholders.

Our approach

Responsible corporate citizenship is the foundation of our business. We have adopted sound corporate governance practices that protect the interests of our customers, shareholders and other stakeholders.

Our Board of Directors oversees the company's management and has established a governance framework designed to ensure the highest standards of honesty, integrity and excellence.

The Lumen Nominating and Corporate Governance Committee conducts quarterly ESG reviews and has the primary responsibility for ESG oversight based upon its [charter](#). The committee works with our management team to evaluate our ESG program and identify meaningful environmental, social, governance and financial factors. They also routinely assess our disclosure and communication plans for their strength and effectiveness.

Enterprise risk management

The Board, along with its committees, reviews and oversees our risk management processes in many ways, including receiving regular reports about our Enterprise risk management (ERM) program.

Through ERM, we comprehensively identify and respond to high-priority risks and monitor lower-priority issues to determine if mitigation is needed. Management teams provide regular activity reports to the Risk and Security Committee. The Board also works with management to assess our key short and long-term risks and mitigation efforts relating to financial reporting, strategic plans, operations, capital budgets, corporate functions, business units and other operational factors.

Sustainability governance

Lumen has a Sustainability Management Committee that designs and oversees our sustainability program. Comprised of colleagues from across the business, the Committee meets both before and after each meeting of the Nominating and Corporate Governance Committee to prepare reports on ESG outcomes and assign actions arising from the meetings. See [Letter from the Sustainability Team at Lumen](#).



Lumen Board of Directors**Full Board reviews ESG strategy at least biannually****Delegated primary ESG oversight to NCG¹²**

Audit Committee		Human Resources and Compensation Committee		Nominating and Corporate Governance (NCG) Committee		Risk and Security Committee	
Risk oversight	Frequency	Risk oversight	Frequency	Risk oversight	Frequency	Risk oversight	Frequency
Internal control over financial reporting	Quarterly	Executive compensation	Quarterly	ESG	Quarterly	Enterprise risk management	Quarterly
Risk factors in periodic reports	Annually with quarterly reviews	Human capital strategy	Quarterly	Political contributions	Annually	Cybersecurity	Quarterly
Investment risk related to treasury activities	As needed	Workforce related risks	Quarterly			Ethics and compliance	Quarterly

12 Nominating and Corporate Governance (NCG) Committee.

Ethics and compliance

Lumen culture is grounded in integrity, honest communication and mutual respect. Our commitment to ethical and responsible corporate conduct is reflected in our Unifying Principles:

- Fairness
- Honesty and integrity
- Commitment to excellence
- Positive attitude
- Respect
- Faith
- Perseverance

These principles are the values on which Lumen was built, and they guide our interactions with customers, shareholders, employees, business partners, elected officials and the public.

Our approach

We continue to evolve, communicate and enforce our global Code Of Conduct and compliance with laws everywhere we do business. Our range of initiatives, policies and processes cover everyone that works with or for Lumen, including our agents, contractors, partners, suppliers and vendors.

We have zero tolerance for forced or child labor, human rights violations, bribery, corruption, money laundering or engagement with blocked parties or sanctioned countries. In addition, we remain committed to supporting diversity, upholding human rights, international trade compliance, antitrust and fair competition laws, and transparency in political contributions.

In response to the constantly changing business landscape, we develop targeted training. As part of our Code of Conduct training, we include information on sustainable supply chains and procurement practices to ensure we partner with ethical third parties, international trade compliance training for our non-U.S. sales teams and anti-corruption training.

Ethics and Compliance Program

Our global corporate Ethics and Compliance program—overseen by the Risk and Security Committee of the Board—communicates the ethical and legal standards that govern our business conduct.

We regularly review and improve it. In 2021, we audited several areas of the program, including the whistleblower program, the Integrity Line, compliance training assignments, third-party screenings and the insider trading program. We report all audit results and actions to the Audit Committee.

Looking ahead, in 2022 our Ethics and Compliance group will focus on topics including education, continual risk assessments and automation, by:

- Making training and communication more engaging. For example, sharing real-life anonymized investigations stories through the 2022 Ethics and Compliance Campaign.
- Carrying out focused risk assessments.
- Automating various functions, including elements of our sanctions compliance program and vendor risk assessments.

Additionally, in 2022, we launched our first Ethics Compliance survey—completed by more than 10,000 employees—to better understand how accessible and trusted our processes are and to identify areas for improvement. This Ethics Compliance survey received overwhelming positive results about the culture of ethics and compliance at Lumen.

Global Code of Conduct

Our [Code of Conduct](#), which is available in six languages, provides detailed guidelines and ethical standards for employees worldwide, including executive management, and offers resources to help our people seek guidance and report concerns.

All employees must complete training on our Code of Conduct annually. In 2021, we achieved a 99 percent completion rate.



Global Integrity Line

The Lumen Integrity Line is a multi-language, global compliance hotline which gives our employees and stakeholders a way to seek guidance and report concerns. Available 24/7, individuals can reach the Integrity Line via telephone, email or an online form.

Allegations of misconduct are referred for investigation either to Human Resources or to the Corporate Investigations team. We do not tolerate retaliation for seeking guidance, voicing concerns or participating in any internal or external investigation. In 2022, Lumen launched a Whistleblower Policy that outlines the protections set forth in our Code and the ways employees can make whistleblower reports.

We evaluate Integrity Line data quarterly, monitoring its effectiveness through analytics and surveys and enhancing it accordingly. Additionally, we report this quarterly data to the Risk and Security Committee of the Board of Directors.

Commitment to human rights

Lumen is committed to proactively addressing human rights issues and risks within our business, and in our relationships with third parties. Our Code of Conduct and Supplier Code of Conduct address topics relating directly to human rights, while our [Human Rights Policy](#)—available in English, Spanish, and Portuguese—outlines our expectations in areas including:

- Privacy and data security
- Individual rights
- Freedom of association
- Diversity, inclusion and fair treatment
- Working conditions including our prohibition of forced and child labor

We train our employees to recognize and report concerns in these and related areas.

Our [Modern Slavery Statement](#), published annually in accordance with the U.K. Modern Slavery Act, describes how we combat modern slavery and human trafficking in our business and supply chains globally, and how we plan to build on these efforts.

Anti-bribery, anti-corruption and anti-money laundering

Our Anti-Corruption Policy and Supplier Code of Conduct require all our people and the third parties with whom we do business to adhere to all applicable anti-bribery and anti-corruption laws, including the Foreign Corrupt Practices Act and the United Kingdom Bribery Act.

We train all our employees annually on anti-corruption laws and policies with supplemental targeted training and communications. Our strict anti-bribery policy defines appropriate interaction with government officials and the program is regularly audited to ensure continued compliance.

We also strictly prohibit financial crimes such as money laundering, the facilitation of tax evasion, terrorist financing, securities fraud and market manipulation. Our Insider Trading Policy informs our employees about what constitutes insider trading and our zero-tolerance approach to it.

Anti-competitive behavior

We support fair competition in the global marketplace. We recognize the benefits of a free market ensuring competition for consumers, and we strongly oppose anti-competitive practices that stifle economic growth. Our policies require compliance with all antitrust and fair competition laws. We reinforce our policies through training, communication initiatives, and provide scenario-based examples.

Supplier management

Delivering our services and building network resiliency means working closely with an ecosystem of suppliers around the world. We work diligently to partner with the right suppliers—those with the capabilities we need as well as the commitment to meet the same high standards to which we hold ourselves.

Lumen was named a Leader in the March 2021 Gartner Magic Quadrant¹³ for Network Services, Global.

¹³ Magic Quadrant helps the market quickly ascertain how well technology providers are executing their stated visions and how well they are performing against Gartner's market view.

Policies and Supplier Code of Conduct

The Lumen [Supplier Code of Conduct](#) helps ensure all agents, consultants, contractors, distributors, manufacturers, suppliers and other business partners uphold our commitment to integrity and compliance, including:

- Sharing our global commitment to human rights and prohibiting and preventing the use of any form of forced labor or child labor
- Recognizing and protecting employees' freedom of association
- Maintaining a healthy and safe working environment adhering to applicable health and safety laws for employees and representatives
- Complying with applicable environmental laws

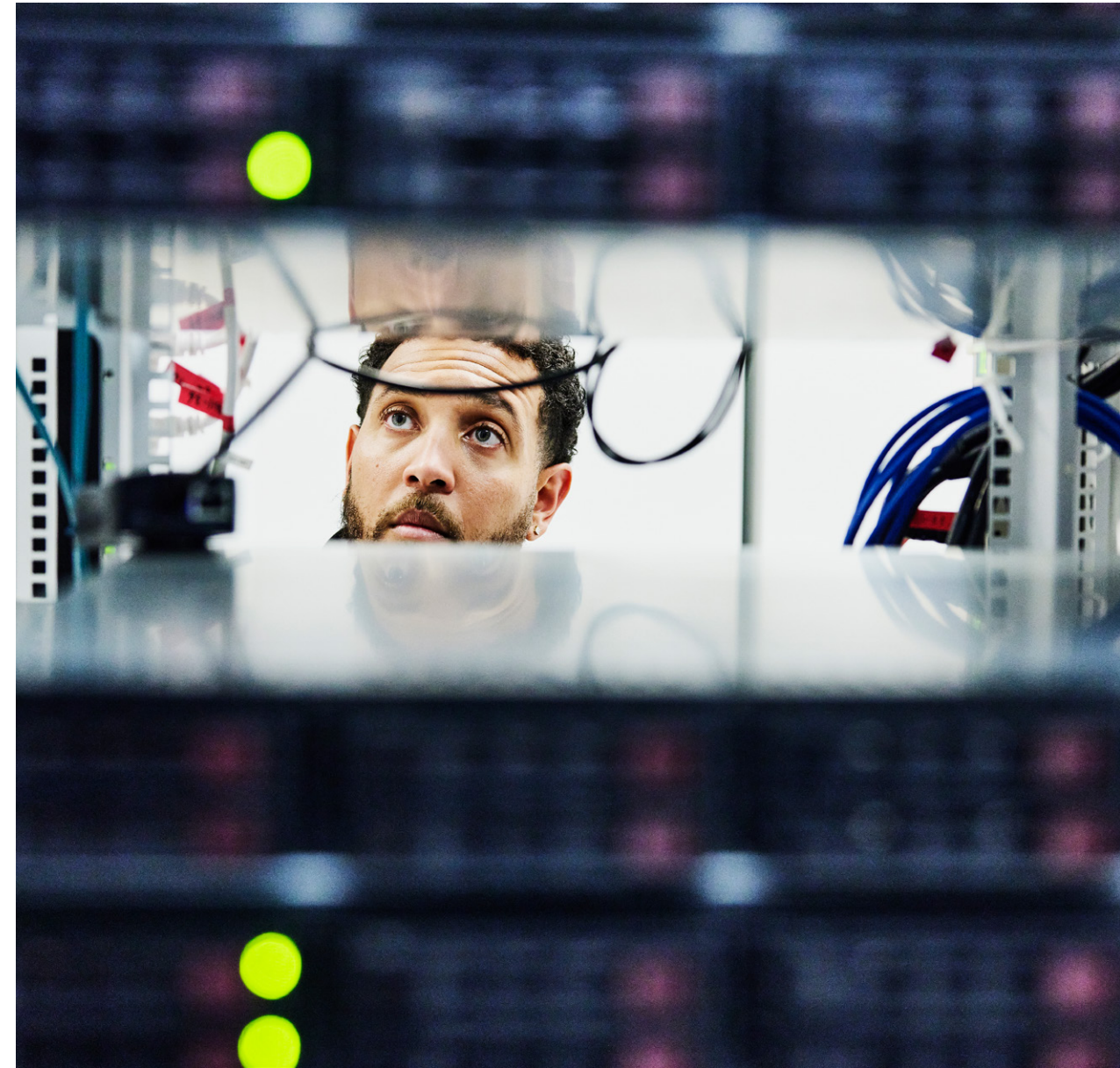
All suppliers must agree to comply with the Code, which emphasizes our global commitment to high standards of corporate behavior. Our [supplier portal](#) provides suppliers and prospective suppliers access to our range of policies and requirements relating to a range of topics.

Supplier due diligence and audit

We employ a thorough diligence review process for our suppliers. This includes supplier agreements requiring certification of compliance with anti-bribery laws, international trade requirements and conflict minerals provisions.

Our supplier agreements also contain audit rights to ensure compliance with the Supplier Code of Conduct and ethical provisions. We conduct assessments of certain higher-risk suppliers, evaluating topics such as their ethical, security, environmental and sustainability practices.

In 2021, we implemented a vendor diligence tool to enhance our management of risk ranking, audits and continuous monitoring of our suppliers. We have used this tool to conduct a review process with a number of our higher-risk suppliers, which, based on their risk scores, are issued questionnaires and other diligence requests relating to their operations.



Cybersecurity, data and customer privacy

We value the trust our customers place in us, and we are passionately committed to handling, managing and securing their information in an appropriate, safe and ethical manner.

Award-winning security

As a recipient of the Frost & Sullivan 2021 Global New Product Innovation Award in the holistic web protection market, we received recognition for our combination of enterprise security solutions including Distributed Denial of Service (DDoS) mitigation, its Web Application Firewall (WAF) and Bot Risk Management (BRM) services.

In 2021, we launched our online Trust Center, a portal to make it easier for our customers and other stakeholders to access information about our approach to privacy, data protection, security, transparency and other key issues. The Trust Center hosts policies, notices, documentation, reports and self-service options—including access to our Vulnerability Disclosure Program.

Our approach

As a company that enables the global transmission of large amounts of information, maintaining the security and integrity of information and systems is a priority for our operational risk management work.

In addition to securing our network, we protect the data and information we collect, store, use and share. Employee and customer data is encrypted, consistent with industry standards or legal requirements, both at rest and in transmission. We develop and adopt rigorous policies and standards and implement training for our employees and contractors to ensure they are adhered to, in addition to role-based security training as needed. Our people play a vital role in the protection of Lumen assets, so in addition to training, we publish monthly articles about relevant security topics and engage with Cybersecurity Awareness Month every year.

Our vision for cyber defense

- Integrate security in everything that Lumen does and continue to be viewed as a world-class security organization
- Move to a service-oriented organization that is easy to consume and will deliver above expectations
- Innovate and continue to move our talent up the value chain
- Measure everything we do and continuously improve on what matters

Cybersecurity

Lumen thinks of cybersecurity as an enterprise-wide responsibility, subject to risk control and monitoring at various levels throughout the company. We regularly assess our program, including the adequacy and effectiveness of our internal controls, emerging developments and threats, and response and contingency plans, and cybersecurity notables are reported to the Risk and Security Committee.

Lumen shares information with, and receives information from, the U.S. government, primarily through the Department of Homeland Security's Cybersecurity & Infrastructure Security Agency (CISA), which is the national coordinator for sharing threat information and initiatives to assure infrastructure security and resiliency.

We have developed a detailed plan to enhance our cyber and resilience strategy. Across People, Process and Technology focus areas, we will make financial and human capital investments, such as:

- Developing cybersecurity knowledge and training at Board and senior leadership levels
- Building strong partnerships between business units
- Continuing to shift to cloud and hybrid hosting models
- Adopting robust security compliance programs
- Creating a dedicated analytics and innovation team
- Using a layered security architecture
- Aligning with the National Institute of Standards and Technology (NIST) cybersecurity framework
- Building strong vendor relationships and partnerships

Protecting and defending a clean internet

We operate one of the largest, most connected and deeply peered internet networks in the world. Black Lotus Labs®—the threat intelligence arm of Lumen—uses that network visibility to help protect our customers and keep the internet clean.

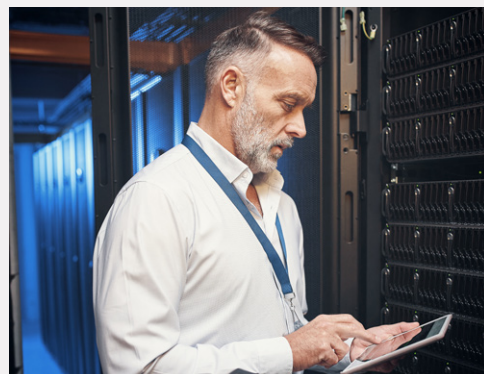
Over the last decade, Black Lotus Labs has been developing a custom-built threat reputation system, using artificial intelligence and machine learning to accelerate our ability to derive value from data.

- 200+ billion NetFlow sessions monitored daily
- 1+ billion DNS queries monitored daily

Every day we conduct original discovery and analysis, integrating hundreds of terabytes of data to detect the unique digital footprint our adversaries leave across the internet. Analysts then train machine learning algorithms to perform automated threat validation for high-fidelity intelligence that feeds the Lumen Connected Security portfolio and is shared with the information security community.

In the last year, Black Lotus Labs' activity and analysis has illuminated the capabilities and techniques of cybercriminals and nation-state actors, from small and home office router malware designed to target networks of interest to tracking the resurgence of the notorious ransomware distribution botnet, Emotet. Beyond identifying and tracking malicious activity, when our team confirms a malicious node on the internet, we act quickly to disrupt it.

- 150 command and control servers disrupted monthly through takedowns and notifications



Data privacy

Our data minimization policy is designed to comply with applicable state, federal and other international jurisdictions' laws and ensure appropriate protections when sharing information with third parties, including vendors. As part of the Enterprise risk management (ERM) process, the Risk and Security Committee receives reports on data privacy protection efforts and controls.

Control and risk management process

We have developed a robust, comprehensive information security program, based on leading information security standards, that includes components focused on technical, administrative and organizational measures to help us prevent, detect and respond to potential security incidents. At least annually, we engage internal or fully accredited external auditors and consultants to assess and enhance our program.

In 2021, no incidents occurred that required the filing of an 8-K with the Securities and Exchange Commission (SEC), nor did we incur monetary losses resulting from legal proceedings related to customer or user privacy issues.

Cybersecurity and data privacy audits and monitoring

Our Cybersecurity Tabletops program is a partnership between Business Continuity and Global Security teams, as well as other internal stakeholders. We conduct annual tabletop exercises at both team and management levels. In 2021, our Chief Security Officer and Chief Privacy Officer teams conducted our first exercise with senior leadership and the Board which simulated a management response to a data security incident. In 2022 we plan to enhance the program and carry out further exercises.



Customer privacy

Like many companies, we have access to information about our customers that is used to support our products and services. We also share customer data where appropriate to meet our business goals or fulfill legal obligations. We take all legally required and reasonable actions to protect this information and expect those we share it with to appropriately protect it as well. The [Lumen Privacy Notice](#) describes how we use and protect the data we collect about customers and their privacy options.

Law enforcement and government data requests

We are legally obligated to respond to lawful requests for customer information by government agencies, but we are also committed to protecting our customers' privacy. That is why we carefully review every inquiry, making sure the request is appropriately limited to the government's need, and we narrowly tailor our response to correctly align.

Twice a year, we publish the number and category of legal demands for customer information we receive from federal, state and local governments in the U.S., including requests made by National Security agencies and requests made under the Foreign Intelligence Surveillance Act (FISA). See our [Transparency Reports](#) for more information.

Employee and Contractor Training

At Lumen, we believe security is everyone's responsibility. Our Security Awareness Training is designed to help employees and contractors recognize and appropriately respond to potential cyber and data security risks for our customers, vendors and the company. This training extends to our Board of Directors. It covers many core information security topics including data security, hacking risks, malware and phishing.

We regularly review the course content and topics to ensure relevant, timely, and helpful information. As email-based attacks and phishing are frequent forms of security risks, we also conduct regular phishing simulations.



Public policy and Business Continuity Management

Management approach to political action and contributions

We encourage our colleagues to be politically active, including the support of political candidates and initiatives of their choice. Lumen has established various political action committees (PACs), legally recognized organizations that accept voluntary contributions and make expenditures to support candidates for elected office. We do not attempt to influence employee contributions or political activities.

We are transparent in our political contributions and expenditures, and we publish a semi-annual [political contributions report](#) on our corporate website. This report discloses our corporate political contributions and those of our PACs in accordance with federal and state campaign finance laws, and contributions to trade associations and 501(c)(4) organizations.

Our approach has been recognized with a Second Tier placing in the [2021 CPA-Zicklin Index of Corporate Political Disclosure and Accountability](#).

Business Continuity Management

Our Business Continuity Management (BCM) program is designed to safeguard our employees, assets, stakeholders and our reputation in the event of an accident, incident or critical business disruption.

By aligning to the company's goals and using a proven standards-based framework, our BCM program supports an environment of prevention, collaboration, communication and response. This enables us to effectively adapt, respond and recover if a major incident occurs. Our BCM adheres to ISO 22301:2012, the International

Standard for BCM and engages internal and external auditors to assess the program's efficacy and compliance with customer requirements.

Our BCM supports our vision, strategy and corporate objectives by:

- Annually evaluating the purpose and operations of every business unit in the company by identifying threats, hazards and potential impacts to critical business priorities
- Developing strategies for mitigation, continuity and recovery
- Maintaining uninterrupted service whenever possible and, when necessary, coordinating recovery from business disruptions safely and quickly
- Enabling continuous improvement by periodically reviewing program strategy and performance

Lumen protects our operations and those of our customers, and helps support the nation's continuity of communications as an Alliance partner in the Cybersecurity and Infrastructure Security Agency's (CISA) Joint Cyber Defense Collaborative (JCDC) and a resident member in CISA's National Coordinating Center for Communications (NCC).

We require our business unit teams to annually evaluate how critical their processes are to our business operations. Processes identified as critical undergo a business impact analysis, which includes change-related hazards.

We communicate our overall business continuity strategy, processes and results to the executive leadership team and make it available to all employees.



ESG APPENDIX

Responsible corporate citizenship has long been a part of the way we do business. Our 2021 ESG Report summarizes our efforts in 2021 and gives an overview of our plans for 2022 and beyond for our integrated, cohesive sustainability strategy. Reported data and progress refer to calendar year 2021, unless otherwise noted.

We develop our ESG reporting and align with Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD). We also use the insights we gain through our stakeholder engagement and materiality assessment processes (see [Materiality assessment](#)) to guide enhancements to our ESG program, including reporting.

Assessing applicability and responsibly implementing reporting is an iterative process. We believe that aligning with these standards, in addition to other financial and voluntary reporting, provides stakeholders relevant and targeted context about Lumen business strategy for a rapidly changing world and our role in the 4th Industrial Revolution.

IN THIS SECTION

- 53 TCFD index
- 60 SASB index

Task Force on Climate-related Financial Disclosures (TCFD) index

As noted by WSP, our TCFD alignment is mature and all the TCFD requirements are met by the 2022 CDP Climate Change Response. We have included a few minor recommendations to further enhance disclosure. We considered the recommendations of the TCFD as we developed this report. For more information on our climate strategy, see our [CDP response](#).

Disclosure focus area	Disclosures	TCFD recommendations	Company response	Location
Governance				
Disclose the organization's governance around climate-related risks and opportunities	a) Describe the board's oversight of climate-related risks and opportunities	Processes and frequency by which the board and/or board committees are informed about climate-related issues Whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans or action, risk management policies, annual budgets, and business plans as well as setting the organization's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions and divestitures How the board monitors and oversees progress against goals and targets for addressing climate-related issues	2022 CDP Climate Change Response—C1.1, C1.1a, C1.1b	p. 4-7
	b) Describe management's role in assessing and managing climate-related risks and opportunities	Whether the organization has assigned climate-related responsibilities to management-level positions or committees; and, if so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues A description of the associated organizational structure(s) Processes by which management is informed about climate-related issues, and How management (through specific positions and/or management committees) monitors climate-related issues	2022 CDP Climate Change Response—C1.2, C1.2a	p. 7-9

Disclosure focus area	Disclosures	TCFD recommendations	Company response	Location
Strategy				
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term	<p>A description of what they consider to be the relevant short-, medium-, and long-term horizons, taking into consideration the useful life of the organization's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms</p> <p>A description of the specific climate-related issues potentially arising in each time horizon (short-, medium-, and long-term) that could have a material financial impact on the organization, and</p> <p>A description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organization</p> <p>Organizations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate. In describing climate-related issues, organizations should refer to Tables A1 and A2 (p. 72-73 of TCFD Implementation doc).</p>	2022 CDP Climate Change Response—C2.1, C2.2, C2.2a	p. 10, 12-20

Disclosure focus area	Disclosures	TCFD recommendations	Company response	Location
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning (Continued)	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	<p>Impact on their business and strategy in the following areas:</p> <ul style="list-style-type: none"> • Products and services • Supply chain and/or value chain • Adaptation and mitigation activities • Investment in research and development • Operations (including types of operations and location of facilities) <p>Organizations should describe how climate-related issues serve as an input to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritized. Organizations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time. Organizations should also consider including in their disclosures the impact on financial planning in the following areas:</p> <ul style="list-style-type: none"> • Operating costs and revenues • Capital expenditures and capital allocation • Acquisitions or divestments • Access to capital <p>If climate-related scenarios were used to inform the organization's strategy and financial planning, such scenarios should be described.</p> <p>Supplemental Guidance for Non-Financial Groups</p> <p>Organizations should consider discussing how climate-related risks and opportunities are integrated into their (1) current decision making and (2) strategy formulation, including planning assumptions and objectives around climate change mitigation, adaptation, or opportunities such as:</p> <ul style="list-style-type: none"> • Research and development (R&D) and adoption of new technology • Existing and committed future activities such as investments, restructuring, write-downs, or impairment of assets • Critical planning assumptions around legacy assets; for example, strategies to lower carbon-, energy-, and/or water-intensive operations • How GHG emissions, energy, and water issues, if applicable, are considered in capital planning and allocation; this could include a discussion of major acquisitions and divestments, joint ventures, and investments in technology, innovation, and new business areas in light of changing climate-related risks and opportunities • The organization's flexibility in positioning/repositioning capital to address emerging climate-related risks and opportunities 	2022 CDP Climate Change Response—C2.1b, C2.3, C2.3a, C2.4, C2.4a	p. 11, 20-35

Disclosure focus area	Disclosures	TCFD recommendations	Company response	Location
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning (Continued)	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	<p>Organizations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organization, scenarios consistent with increased physical climate-related risks.</p> <p>Organizations should consider discussing:</p> <ul style="list-style-type: none"> • where they believe their strategies may be affected by climate-related risks and opportunities; • how their strategies might change to address such potential risks and opportunities; and • the climate-related scenarios and associated time horizon(s) considered. <p>Supplemental Guidance for Non-Financial Groups</p> <p>Organizations with more than one billion U.S. dollar equivalent (USDE) in annual revenue should consider conducting a more robust scenario analysis to assess the resilience of their strategies against a range of climate-related scenarios, including a 2°C or lower scenario and, where relevant to the organization, scenarios consistent with increased physical climate-related risks.</p> <p>Organizations should consider discussing the implications of different policy assumptions, macro-economic trends, energy pathways, and technology assumptions used in publicly available climate-related scenarios to assess the resilience of their strategies.</p> <p>For the climate-related scenarios used, organizations should consider providing information on the following factors to allow investors and others to understand how conclusions were drawn from scenario analysis:</p> <ul style="list-style-type: none"> • Critical input parameters, assumptions, and analytical choices for the climate-related scenarios used, particularly as they relate to key areas such as policy assumptions, energy deployment pathways, technology pathways, and related timing assumptions. • Potential qualitative or quantitative financial implications of the climate-related scenarios, if any. 	<u>2022 CDP Climate Change Response</u> —C3.1, C3.1a, C3.2, C3.2a, C3.3, C3.4	p. 36–42

Disclosure focus area	Disclosures	TCFD recommendations	Company response	Location
Risk Management				
Disclose how the organization identifies, assesses and manages climate-related risks	a) Describe the organization's processes for identifying and assessing climate-related risks	<p>Organizations should describe their risk management processes for identifying and assessing climate-related risks. An important aspect of this description is how organizations determine the relative significance of climate-related risks in relation to other risks.</p> <p>Organizations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered.</p> <p>Organizations should also consider disclosing the following: processes for assessing the potential size and scope of identified climate-related risks and definitions of risk terminology used or references to existing risk classification frameworks used.</p>	2022 CDP Climate Change Response—C.2.2	p. 11-17
	b) Describe the organization's processes for managing climate-related risks	<p>Organizations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. In addition, organizations should describe their processes for prioritizing climate-related risks, including how materiality determinations are made within their organizations.</p> <p>In describing their processes for managing climate-related risks, organizations should address the risks included in Tables A1 and A2 (pp. 72-73 of implementation document), as appropriate.</p>	2022 CDP Climate Change Response—C1.2a, C2.2	p. 8-9, 11-17
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Organizations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.	2022 CDP Climate Change Response—C1.1b, C1.2a, C2.1b, C2.2	p. 5-7, 8-9, 11-17

Disclosure focus area	Disclosures	TCFD recommendations	Company response	Location
Metrics				
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	<p>Organizations should provide the key metrics used to measure and manage climate-related risks and opportunities as described in Tables A1 and A2 (pp. 72-73). Organizations should consider including metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable. Where climate-related issues are material, organizations should consider describing whether and how related performance metrics are incorporated into remuneration policies. Where relevant, organizations should provide their internal carbon prices as well as climate-related opportunity metrics such as revenue from products and services designed for a lower-carbon economy. Metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organizations should provide a description of the methodologies used to calculate or estimate climate-related metrics.</p> <p>Supplemental Guidance for Non-Financial Groups</p> <p>For all relevant metrics, organizations should consider providing historical trends and forward-looking projections (by relevant country and/or jurisdiction, business line, or asset type). Organizations should also consider disclosing metrics that support their scenario analysis and strategic planning process and that are used to monitor the organization's business environment from a strategic and risk management perspective.</p> <p>Organizations should consider providing key metrics related to GHG emissions, energy, water, land use, and, if relevant, investments in climate adaptation and mitigation that address potential financial aspects of shifting demand, expenditures, asset valuation, and cost of financing. Illustrative examples of metrics for each of the four non-financial groups are provided in the tables listed below.</p>	<p><u>2022 CDP Climate Change Response—C4.1a, C4.2, C4.3</u></p> <p>Various environmental sustainability metrics tables in this report contain established resource efficiency and energy source related metrics. We are in the process of developing additional metrics related to our climate-related risks and opportunities.</p>	p. 42-47

Disclosure focus area	Disclosures	TCFD recommendations	Company response	Location
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities (Continued)	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	<p>Organizations should provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks.</p> <p>GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across organizations and jurisdictions.</p> <p>As appropriate, organizations should consider providing related, generally accepted industry-specific GHG efficiency ratios.</p> <p>GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organizations should provide a description of the methodologies used to calculate or estimate the metrics.</p>	<u>2022 CDP Climate Change Response</u> —C6.1, C6.2, C6.3, C6.4, C6.5, C6.7, C6.7a and various associated environmental sustainability metrics tables in this report.	p. 66-74
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	<p>Organizations should describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with anticipated regulatory requirements or market constraints or other goals. Other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower-carbon economy.</p> <p>In describing their targets, organizations should consider including the following:</p> <ul style="list-style-type: none"> • whether the target is absolute or intensity-based, • time frames over which the target applies, • base year from which progress is measured, and • key performance indicators used to assess progress against targets. <p>Where not apparent, organizations should provide a description of the methodologies used to calculate targets and measures.</p>	<u>2022 CDP Climate Change Response</u> —C4.1, C4.1a and various associated environmental sustainability metrics tables in this report.	p.42-47

Sustainability Accounting Standard Board (SASB) index

The gaps mirror the metrics that were under evaluation for possible future reporting during the 2020 reporting period. This includes the following areas:

- Data Privacy & Freedom of Expression
- Data Security
- Intellectual Property Protection, Competitive Behavior & Open Internet
- Managing Systemic Risks from Technology Disruptions
- Activity Metrics

Largely the outstanding metrics have a quantitative unit of measure. If any of these metrics remain infeasible, we have included the SASB guidance on omissions below.

Omissions and Modifications:

The SASB recognizes that standardized disclosures of financially material sustainability information to investors is a relatively new area of practice, and certain accounting metrics may be infeasible to disclose in the near term for some entities. The SASB encourages entities to SASB Standards Application Guidance VERSION 2018-10 SASB.ORG 2 SASB STANDARDS APPLICATION GUIDANCE VERSION 2018-10 use the standards to guide investor disclosures even in the event that certain disclosure topics and/or associated metrics must be omitted and/or modified.

An entity that omits one or more disclosure topics and/or accounting metrics should disclose the omission(s), as well as the rationale for the omission(s). For example, if a disclosure topic does not apply to an entity's business model, the entity should disclose that the topic and its associated metrics were omitted based on the lack of applicability.

If an entity believes it necessary to modify a metric, the entity shall disclose the fact that the metric was changed, as well as the rationale for the change.

This index responds to the SASB standards for the Technology and Communications industry, aligning to the Telecommunications and Software & IT Services sectors. Data is as of or for the year ended Dec. 31, 2021, unless otherwise noted.

Software and IT Services Standard (2018)

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Environmental Footprint of Hardware Infrastructure	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	TC-SI-130a.1	(1) 5,222,927 MWh (2021) = 18,802,389 GJ (2) 94% (2021) (3) 6% (2021)	2022 CDP Climate Change Response > C8.2a 2021 ESG Report p. 31
	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	Thousand cubic meters (m ³), Percentage (%)	TC-SI-130a.2	(1) 431,020,338 gallons (in North America) = 1,632 thousand cubic meters (m ³) (2) N/A	2021 ESG Report p. 31
Environmental Footprint of Hardware Infrastructure continued	Discussion of the integration of environmental considerations into strategic planning for data center needs	Discussion and Analysis	N/A	TC-SI-130a.3	<p>The Lumen Environmental Management System (EMS) helps identify and reduce the environmental impacts of operations, drives continuous improvement in results and facilitates regulatory compliance. The EHS team assesses and reviews company programs, operational facilities and waste management vendors, while monitoring environmental legislative activity and collaborating with internal groups to develop documented practices and procedures.</p> <p>The Lumen energy management team leads an active program to improve efficiency and minimize GHG emissions in facilities across the world, such as developing an energy network operations center (ENOC) to centrally monitor, manage and reduce facility energy use via energy management and control systems and advanced data analytics.</p> <p>Lumen facilities in Italy, Belgium, Germany, France, Netherlands and United Kingdom are certified in accordance with ISO 50001.</p>	2021 Annual Report and Proxy > Environmental sustainability p. 21 2021 ESG Report p. 34-35 2021 ESG Report p. 39 2021 ESG Report p. 35 2022 CDP Climate Change Response Scenario Analysis Summary (internal doc)

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Data Privacy & Freedom of Expression	Description of policies and practices relating to behavioral advertising and user privacy	Discussion and Analysis	N/A	TC-SI-220a.1	We protect the data and information Lumen collects, stores, uses and shares. Employee and customer data is encrypted, consistent with industry standards or legal requirements, both at rest and in transmission. Lumen Privacy Notice details what information is collected, how it is used, protected, shared, and the protocol for deletion. Privacy Policy website states that all apps adhere to COPPA.	2021 ESG Report p. 48-50 2021 Annual Report and Proxy > Data Privacy Risks p. 20 Lumen Privacy Notice Lumen Privacy Policy
	Number of users whose information is used for secondary purposes	Quantitative	Number	TC-SI-220a.2	Not disclosed at this time.	N/A
	Total amount of monetary losses as a result of legal proceedings associated with user privacy ¹	Quantitative	Reporting currency	TC-SI-220a.3	Not disclosed at this time.	N/A
	(1) Number of law enforcement requests for user information, (2) number of users whose information was requested, (3) percentage resulting in disclosure	Quantitative	Number, Percentage (%)	TC-SI-220a.4	Criminal demands by type from July 1-Dec. 31 2021. Total number of subpoenas as well.	Transparency report
	List of countries where core products or services are subject to government-required monitoring, blocking, content filtering, or censoring ²	Discussion and Analysis	N/A	TC-SI-220a.5	Not disclosed at this time.	N/A

¹ Note to TC-SI-220a.3—The entity shall briefly describe the nature, context, and any corrective actions taken as a result of the monetary losses.

² Note to TC-SI-220a.5—Disclosure shall include a description of the extent of the impact in each case and, where relevant, a discussion of the entity's policies and practices related to freedom of expression.

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Data Security	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of users affected ³	Quantitative	Number, Percentage (%)	TC-SI-230a.1	Not disclosed at this time.	N/A
	Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	Discussion and Analysis	N/A	TC-SI-230a.2	<p>To assess and mitigate cybersecurity risk, we have implemented a global information security management program that includes administrative, technical and physical safeguards and we periodically engage both internal and external auditors and consultants to assess and enhance our program, all of which is subject to oversight by and reporting to the Risk and Security Committee. We engage independent external auditors and consultants who are fully accredited under various information security standards, including those administered by the International Organization for Standardization and the PCI Security Council. During 2021, Lumen took the additional step of organizing a Security & Privacy Council that meets on a bi-monthly basis. The meetings are led by Lumen's Chief Privacy Officer and Chief Security Officer who provide organization-level updates and also include other presenters who provide updates on emerging threats and other topical issues.</p> <p>To assess and mitigate cybersecurity risks, we have implemented a global information security management program that includes administrative, technical and physical safeguards. The company engages independent external auditors and consultants who are fully accredited under various information security standards, including: International Organization for Standardization 270001, the Payment Card industry (PCI) Security Standards Council and the American Institute of Certified Public Accountants (SOC).</p>	<p>2021 ESG Report p. 48-50 2021 Annual Report and Proxy > Cybersecurity Risks p. 20 Lumen Proxy 2022 > Oversight of Cybersecurity risks p. 33</p>

³ Note to TC-SI-230a.1—Disclosure shall include a description of corrective actions implemented in response to data breaches.

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Recruiting & Managing a Global, Diverse & Skilled Workforce	Percentage of employees that are (1) foreign nationals and (2) located offshore ⁴	Quantitative	Percentage (%)	TC-SI-330a.1	We do not break down this data, however at Dec. 31, 2021, we had approximately 36,000 employees globally, of which approximately 7,000 work outside the U.S. (including U.S. citizens working in non-U.S. jurisdictions).	Lumen 10k 2022 > Workforce p. 8
	Employee engagement as a percentage ⁵	Quantitative	Percentage (%)	TC-SI-330a.2	The HRCC reviews management efforts and metrics to ensure that our culture fosters ethical behavior, promotes high levels of employee engagement and supports a high-performance work environment. Our strategy strives to inspire employees with purpose as we demonstrate our many connections to furthering human progress through technology. At least twice a year a detailed engagement survey is completed to measure engagement and is reviewed with the HRCC. Our most recent engagement survey, completed in Oct. 2021, yielded a substantial overall engagement score (67% positive) with a strong level of employee participation (80%).	Lumen Proxy 2022 > Culture shaping and engagement p. 71
	Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees ⁶	Quantitative	Percentage (%)	TC-SI-330a.3	Gender Representation of Global Employees: (1) Women: 28.3%, Men: 71.7%, N/A: 0.1% (2) Women: 19.1%, Men: 80.8% (3) Women: 31%, Men: 69% Racial/Ethnic Group of U.S. Employees: (1) Asian: 5.1%, Black or African American: 4.3%, Hispanic or Latino: 5.8%, White: 82.7%, Other: 1.9%, N/A: 0.3% (2) Asian: 11.1%, Black or African American: 5.6%, Hispanic or Latino: 6.0%, White: 74.1%, Other: 2.9%, N/A: 0.3% (3) Asian: 3.3%, Black or African American: 9.1%, Hispanic or Latino: 9.2%, White: 75.1%, Other: 3.1%, N/A: 0.3%	2021 ESG Report p. 24 Lumen 2021 EEO-1 report

⁴ Note to TC-SI-330a.1—Disclosure shall include a description of potential risks of recruiting foreign nationals and/or offshore employees, and management approach to addressing these risks.

⁵ Note to TC-SI-330a.2—Disclosure shall include a description of methodology employed.

⁶ Note to TC-SI-330a.3—The entity shall describe its policies and programs for fostering equitable employee representation across its global operations.

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Intellectual Property Protection & Competitive Behavior	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations ⁷	Quantitative	Reporting currency	TC-SI-520a.1	Not disclosed at this time.	N/A
Managing Systemic Risks from Technology Disruptions	Number of (1) performance issues and (2) service disruptions; (3) total customer downtime ⁸	Quantitative	Number, Days	TC-SI-550a.1	Not disclosed at this time.	N/A
	Description of business continuity risks related to disruptions of operations	Discussion and Analysis	N/A	TC-SI-550a.2	As part of our risk management strategy, Lumen is committed to ensuring business resiliency and survivability during an incident or business disruption. Business Continuity Management (BCM) is designed to safeguard Lumen employees, assets, stakeholders and reputation in the event of a potential or actual critical business disruption. BCM supports an environment of prevention, collaboration, communication and response, enabling us to recover effectively if a major incident occurs. Our BCM adheres to ISO 22301:2012, the International Standard for BCM, engaging with internal and external auditors to assess the program's efficacy and compliance.	2021 ESG Report p. 51

⁷ Note to TC-SI-520a.1—The entity shall briefly describe the nature, context, and any corrective actions taken as a result of the monetary losses.

⁸ Note to TC-SI-550a.1—Disclosure shall include a description of each significant performance issue or service disruption and any corrective actions taken to prevent future disruptions.

Activity Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
(1) Number of licenses or subscriptions, (2) percentage cloudbased		Quantitative	Number, Percentage (%)	TC-SI-000.A	N/A
(1) Data processing capacity, (2) percentage outsourced⁹		Quantitative	See note	TC-SI-000.B	N/A
(1) Amount of data storage, (2) percentage outsourced¹⁰		Quantitative	Petabytes, Percentage (%)	TC-SI-000.C	N/A

⁹ Note to TC-SI-000.B—Data processing capacity shall be reported in units of measure typically tracked by the entity or used as the basis for contracting software and IT services, such as Million Service Units (MSUs), Million Instructions per Second (MIPS), Mega FloatingPoint Operations per Second (MFLOPS), compute cycles, or other. Alternatively, the entity may disclose owned and outsourced data processing needs in other units of measure, such as rack space or data center square footage. The percentage outsourced shall include on-premises cloud services, those that are hosted on public cloud, and those that are residing in colocation data centers.

¹⁰ Note to TC-SI-000.C—The percentage outsourced shall include on-premises cloud services, those that are hosted on public cloud, and those that are residing in colocation data centers.

Telecommunication Services Standard (2018)

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Environmental Footprint of Operations	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	TC-TL-130a.1	(1) 5,222,927 MWh (2021) = 18,802,389 GJ (2) 94% (2021) (3) 6% (2021)	2022 CDP Climate Change Response > C8.2a 2021 ESG Report p. 39
Data Privacy	Description of policies and practices relating to behavioral advertising and customer privacy	Discussion and Analysis	N/A	TC-TL-220a.1	We protect the data and information Lumen collects, stores, uses and shares. Employee and customer data is encrypted, consistent with industry standards or legal requirements, both at rest and in transmission. See Lumen Privacy Policy	2021 ESG Report p. 48 2021 Annual Report and Proxy > Cybersecurity Risks p. 20 Lumen Digital Privacy Policy
	Number of customers whose information is used for secondary purposes	Quantitative	Number	TC-TL-220a.2	Not disclosed at this time.	N/A
	Total amount of monetary losses as a result of legal proceedings associated with customer privacy ¹	Quantitative	Reporting currency	TC-TL-220a.3	Not disclosed at this time.	N/A
	(1) Number of law enforcement requests for customer information, (2) number of customers whose information was requested, (3) percentage resulting in disclosure	Quantitative	Number, Percentage (%)	TC-TL-220a.4	Criminal demands by type from July 1-Dec. 31, 2021. Total number of subpoenas as well.	Transparency report

¹ Note to TC-TL-220a.3—The entity shall briefly describe the nature, context, and any corrective actions taken as a result of the monetary losses.

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Data Security	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of customers affected ²	Quantitative	Number, Percentage (%)	TC-TL-230a.1	Not disclosed at this time.	N/A
	Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	Discussion and Analysis	N/A	TC-TL-230a.2	<p>To assess and mitigate cybersecurity risk, we have implemented a global information security management program that includes administrative, technical and physical safeguards and we periodically engage both internal and external auditors and consultants to assess and enhance our program, all of which is subject to oversight by and reporting to the Risk and Security Committee. We engage independent external auditors and consultants who are fully accredited under various information security standards, including those administered by the International Organization for Standardization and the PCI Security Council. During 2021, Lumen took the additional step of organizing a Security & Privacy Council that meets on a bi-monthly basis. The meetings are led by Lumen's Chief Privacy Officer and Chief Security Officer who provide organization-level updates and also include other presenters who provide updates on emerging threats and other topical issues.</p> <p>To assess and mitigate cybersecurity risks, we have implemented a global information security management program that includes administrative, technical and physical safeguards. The company engages independent external auditors and consultants who are fully accredited under various information security standards, including: International Organization for Standardization 270001, the Payment Card industry (PCI), Security Standards Council and the American Institute of Certified Public Accountants (SOC).</p>	<p>2021 ESG Report p. 48-51 2021 Annual Report and Proxy > Cybersecurity Risks p. 20 Lumen Proxy 2022 > Oversight of Cybersecurity Risks p. 33</p>

² Note to TC-TL-230a.1—Disclosure shall include a description of corrective actions implemented in response to data breaches.

Topic	Accounting Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Product End-of-Life Management	(1) Materials recovered through take-back programs, percentage of recovered materials that were (2) reused, (3) recycled, and (4) landfilled	Quantitative	Metric tons (t), Percentage (%)	TC-TL-440a.1	(3) 3,509 (2020) Our modem/router takeback program allows customers to return their modems/routers, which are then either reused or sent to an R2-certified recycler for disposal.	2021 ESG Report p. 41 Lumen 2022 10K > p. 10
Competitive Behavior & Open Internet	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations ³	Quantitative	Reporting currency	TC-TL-520a.1	Not disclosed at this time.	N/A
	Average actual sustained download speed of (1) owned and commercially-associated content and (2) non-associated content	Quantitative	Megabits per second (Mbps)	TC-TL-520a.2	Not disclosed at this time.	N/A
	Description of risks and opportunities associated with net neutrality, paid peering, zero rating, and related practices	Discussion and Analysis	N/A	TC-TL-520a.3	Not disclosed at this time.	N/A
Managing Systemic Risks from Technology Disruptions	(1) System average interruption frequency and (2) customer average interruption duration ⁴	Quantitative	Disruptions per customer, Hours per customer	TC-TL-550a.1	Not disclosed at this time.	N/A
	Discussion of systems to provide unimpeded service during service interruptions	Discussion and Analysis	N/A	TC-TL-550a.2	BCM maintains uninterrupted service whenever possible, and when necessary, coordinates recovery from business disruptions sagely and quickly.	2021 ESG Report p. 51

³ Note to TC-TL-520a.1—The entity shall briefly describe the nature, context, and any corrective actions taken as a result of the monetary losses.

⁴ Note to TC-TL-550a.1—Disclosure shall include a description of each significant performance issue or service disruption and any corrective actions taken to prevent future disruptions.

Activity Metric	Category	Unit of Measure	Code	Lumen Data/Information Source	Reference
Number of wireless subscribers⁵	Quantitative	Number	TC-TL-000.A	Not disclosed at this time.	N/A
Number of wireline subscribers⁶	Quantitative	Number	TC-TL-000.B	Not disclosed at this time.	N/A
Number of broadband subscribers⁷	Quantitative	Number	TC-TL-000.C	At Dec. 31, 2021, we served 4.5 million consumer broadband subscribers. Our methodology for counting consumer broadband subscribers may not be comparable to those of other companies.	Lumen 2022 10K, Reporting segments > p. 38
Network traffic	Quantitative	Petabytes	TC-TL-000.D	Not disclosed at this time.	N/A

⁵ Note to TC-TL-000.A—Wireless subscribers are defined as those customers that contract with the entity for mobile services, which include cellular phone service and/or wireless data service.

⁶ Note to TC-TL-000.B—Wireline subscribers are defined as those customers that contract with the entity for fixed line phone services.

⁷ Note to TC-TL-000.C—Broadband subscribers are defined as those customers that contract with the entity for fixed line cable and internet services, which include WiFi connections.

Disclaimer

The information in this report is subject to change, and Lumen will not necessarily disclose such changes. The information may be updated, amended, supplemented or otherwise altered by subsequent reports or filings by Lumen. The contents of this voluntary ESG Report are informed by various frameworks, including standards and recommendations. These various frameworks define significant concepts differently and we do not attempt to reconcile such differences in our overarching ESG approach. We plan to continue enhancing our ESG-related disclosures and increasing alignment with the referenced frameworks, even as such frameworks continue to rapidly evolve. As disclosure frameworks or reporting requirements change worldwide, the information we share and the way it is shared may change over time. While selected metrics receive limited assurance from an independent third party, this is inherently a less rigorous process than reasonable assurance sought in a typical auditing engagement. References in this ESG Report to certain data points should not be construed as a characterization regarding the “materiality” of such information, as evaluated in the context of U.S. securities laws.

Except for historical and factual information, the matters set forth in this ESG Report identified by words such as “will,” “should,” “expects,” “anticipates,” “believes,” “plans,” “intends” and similar expressions are forward-looking statements within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, many of which are beyond our control. Actual events and results may differ materially from those anticipated by us in those statements for several reasons, including those discussed in this ESG Report and under Item 1A, “Risk Factors,” and elsewhere in our Annual Report on Form 10-K for the year ended Dec. 31, 2021, as updated by Part II, Item 1A, “Risk Factors” in our subsequently filed Quarterly Reports on Form 10-Q and other documents we file from time to time with the U.S. Securities and Exchange Commission. You should not place undue reliance on these forward-looking statements, which speak only as of the date of this ESG Report. Unless legally required, Lumen undertakes no obligation and expressly disclaims any such obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

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