



# SUSTAINABILITY REPORT 2024



# MESSAGE FROM OUR CEO



Now is the perfect time for Ribbon to thrive. As technology and innovation drive the global economy, and connected communications become essential for business growth and progress in areas like security, transport, healthcare, education, and entertainment, Ribbon is right at the heart of it all.

Our mission is to be a recognized global technology leader, providing open, cloud-centric solutions spanning multiple network layers that enable the secure exchange of communications and information, with unparalleled scale, performance and flexibility. We do this through our relentless pursuit of sustainable innovation – again in 2024, more than 20% of our annual revenue was invested in research and development to provide our customers with next-generation solutions to meet current and future needs.

We're growing because we're committed to supporting our customers in a sustainable way. They want innovative, reliable, and flexible solutions—and they expect us to align with their sustainability goals. This includes reducing our carbon footprint to meet global standards, and ensuring a high level of business continuity. We know this because of the volume of queries we receive from customers throughout the year, and also through the comprehensive double materiality assessment that we conducted in 2024, in which climate change mitigation emerged as a key topic. That's why, this year, after exceeding our 2030 target with a 37% reduction in operational emissions since 2018, we are organizing to achieve Net Zero operational carbon emissions by 2050, aligning with the Paris Agreement which aims to limit the global average temperature increase to 1.5°C above pre-industrial levels. We continue to add more renewable electricity into our energy sources and have developed a multiyear approach to support our transition to Net Zero.

Alongside environmental progress, we have continued to drive responsibility and ethical conduct throughout our extended supply chain, something that is critically important to Ribbon as we rely upon contract manufacturers to support business continuity in a sustainable way. We exceeded our 2025 target, having audited 35% of our Tier 1 suppliers against Ribbon's Supplier Code of Conduct, with no critical non-conformances. We continue to work in collaboration with reputable contract manufacturers that help us meet and exceed our customer needs.

Within Ribbon, we continue to support our dedicated global team by investing in safety, health and wellness, ongoing professional and personal growth, and opportunities to volunteer in our communities. In 2024, we again report strong safety performance that

is well ahead of our industry average, strong engagement in a range of new learning programs, and another successful Global Day of Service in our communities, with more than 4,700 hours of volunteering time.

I encourage you to review the pages of this report for details of these achievements and many others in 2024, and thank you for your interest.

We welcome your feedback.

**Bruce McClelland**  
President and Chief Executive Officer

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**Bruce McClelland**  
President and Chief Executive Officer

# 2024 SUSTAINABILITY HIGHLIGHTS

**91%**

of employees confirmed they find their work meaningful and impactful in our 2024 Employee Experience Survey

**0.063**

Recordable Injury Rate across all our global operations, covering both employees and contractors



**Newsweek's America's Greenest Companies 2025**

which recognizes the top 500 companies for their advancements in managing their sustainability footprint

**11**

training hours per employee on average

**21%**

of Tier 1 suppliers completed third-party audits against our Supplier Code of Conduct with zero critical findings

**37%**

cumulative reduction in absolute Scope 1 & 2 GHG emissions in 2024 compared to our 2018 base year, exceeding our 2025 target for the second year

**Newsweek's America's Most Responsible Companies 2025**

Ranking 7 out of 22 in the Media and Telecommunications Industry

**1,200+**

employees volunteered more than 4,700 hours in Ribbon's 2024 Global Day of Service

**45%**

reduction in total waste generated across our sites

**15%**

renewable electricity as a percentage of total electricity (2023: 10%)

**EcoVadis Silver Sustainability Rating in 2024**

placed Ribbon in the top 16% of our peer companies in the Information and Communications Technology sector

**81%**

of in-scope suppliers provided responses to our conflict minerals survey (2023: 79%)

**92%**

cumulative reduction in equipment and laboratory space compared to non-optimized operations

**'Changemaker Award'**

granted to Ribbon by the **Bharti Foundation in India**, reflecting our commitment to creating sustainable impact through education, rehabilitation, and livelihood development for children and adults with learning difficulties



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# ABOUT RIBBON



# ABOUT RIBBON

Ribbon Communications (Nasdaq: RBBN) delivers secure cloud communications and IP and optical networking solutions to service providers, enterprises and critical infrastructure sectors globally. We engage deeply with our customers, helping them modernize their networks for improved competitive positioning and business outcomes in today's smart, always-on and data-hungry world. Our end-to-end portfolio of communications software and IP Optical networking solutions delivers superior value and innovation by leveraging cloud-native architectures, automation and analytics tools, and leading-edge security. We maintain a keen focus on our commitments to Environmental, Social, and Governance (ESG) matters, offering an annual Sustainability Report to our stakeholders.

 [rbbn.com](https://rbbn.com)

## Our Values

At Ribbon, we believe that aligning personal and company values drives us towards success, It leads to greater empowerment and autonomy at work. This empowerment fosters higher job satisfaction, engagement, and productivity. Ribbon's core values are:

### Team

We work as One Team, advancing together towards common and clear goals.

### Passion

We take pride in, and celebrate our achievements.

### Customer

We strive to be a trusted advisor to our customers by listening to them, anticipating their needs and offering best-in-class solutions.

### Innovation (Creativity)

Ribbon's competitive advantage relies on our ability to offer innovative, creative and state-of-the-art technology.



## TRUE

Underpinning everything we value, is the Ribbon concept **TRUE**:

**T**ransparency **R**espect **U**npretentious **E**mpowerment

We are open and transparent in everything we do, creating trust among employees, customers, partners, and vendors.

## Ribbon by the Numbers

**\$834 million**

Total Revenue (2024)

**\$180 million**

R&D Spend (22% of total revenue)

**1,000+**

Customers

**140**

Countries

**1,000+**

Patents

**>3,100**

Employees



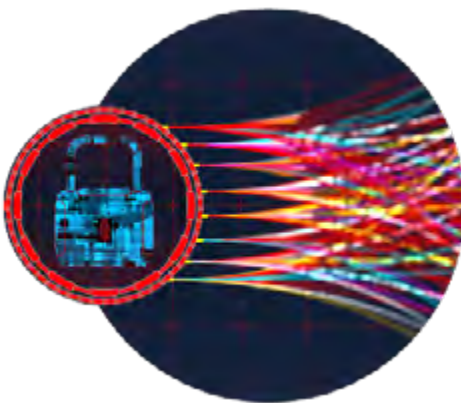
# Our Customers

Our global telecommunications customers include fixed-line, mobile, cable, internet and service providers. Our enterprise customers include businesses of any size and large and distributed enterprises across various sectors with a concentration in government, healthcare, utilities, transport, finance and education sectors. We sell to customers via our direct sales team as well as through indirect channels that include resellers, system integrators and service providers. Independent software vendors also partner with Ribbon to source our software solutions and market them through their sales channels. Many of Ribbon's solutions have been certified and deployed by governmental agencies around the world including the U.S. Department of Defense.



# Our Products

Ribbon's industry-leading portfolio of technology products ensures calls and data are efficiently routed and securely transmitted over many of the world's largest communications networks today, while preparing for the networks of tomorrow. Our offerings fall into two broad categories (Cloud and Edge, and IP Optical), and these flexible solutions enable us to design advanced networks for customers worldwide.



## Cloud and Edge

**Secure, anywhere access to real-time communications**

A range of cloud native and virtualized software, as well as gateway hardware to modernize and secure communication networks for service providers and enterprises. Ribbon also provides analytics and fraud mitigation solutions to enhance operations and troubleshooting, reduce threats from bad actors and mitigate robocalling.



## IP Optical Networks

**Flexible, secure, efficient and expandable data transport**

A solution portfolio providing secure multilayer optimized IP and optical transport for service provider, critical infrastructure, data centers and enterprises delivering innovative services rapidly under an intelligent and automated control system.

# Our Services

## Professional Services

Ribbon offers complete life cycle services from planning & design to deployment & integration, test & verification, migration, staff augmentation, network operations, and education services. Through a unique combination of experience, expertise, breadth and intellectual property, we can help customers large and small, deploy and migrate to secure, Next Generation IP, Transport, IP Routing and Software Based Communication Solutions, whether on-premises or in the cloud.

## Customer Support

Ribbon offers a comprehensive global portfolio of maintenance and support services allowing customers to minimize risks and maximize the return on Ribbon solutions. A 24x7 network of Global Response Center specialists, linked directly to Ribbon R&D teams when needed, assures rapid work on recovery to critical outage events and provides prompt issue resolution for non-outage incidents. Ribbon Support delivery processes and goals are managed as metrics within Ribbon's TL9000 and ISO 27001 compliant Quality Management Systems.



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# SUSTAINABILITY AT RIBBON



# STAKEHOLDER ENGAGEMENT

At Ribbon, we welcome feedback at all levels of the organization to help us understand the needs of stakeholders and position ourselves to respond effectively.

## Ribbon's Key Stakeholder Groups

- Customers
- Employees
- Suppliers
- Society and Planet
- Capital Markets
- Regulators
- Industry
- Financers
- Communities
- Influencers

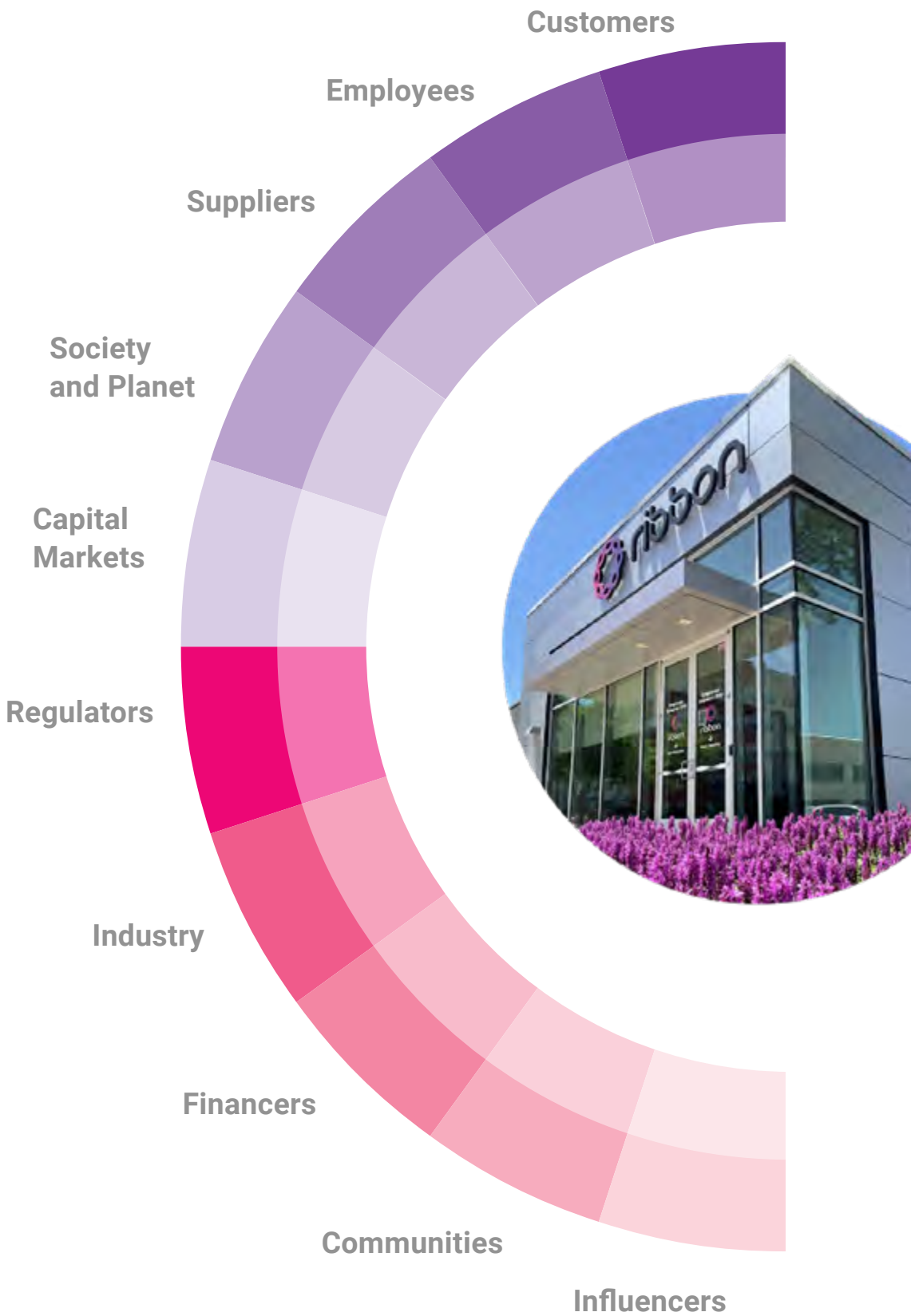
In 2024, we re-engaged with stakeholders in various ways to reaffirm our understanding of their perspective and expectations of Ribbon in our rapidly evolving world. Their responses contributed to the development of our 2024 Double Materiality Assessment and examples of engagement throughout the year can be found in the different sections of this report.


[Our Approach to Stakeholder Engagement](#)

We continue to track the queries we receive from our global customer base that relate to sustainability topics ranging from climate change mitigation through to health and safety, human rights and more. In 2024, we received the highest number of queries since we started tracking more than 13 years ago – an increase of 30% compared to 2023. These customers represent more than 85% of our revenues, reflecting the high interest in sustainable practices from this stakeholder group.

## Top 10 Sustainability-Related Queries from our Customers in 2024

- Business Continuity Planning
- EcoVadis score
- Environmental Management System
- Carbon footprint
- Facilities security
- Scope 3 GHG emissions
- Health and safety
- Science-based targets
- Responsible supply chain
- Net Zero ambition and plans





# DOUBLE MATERIALITY

During 2024, we undertook a Double Materiality Assessment (DMA) to better understand our economic, environmental and social impacts, opportunities and risks.

Double Materiality combines impact-based materiality with sustainability-related financial materiality. It assesses both the broader effects of our activities on the economy, environment, and society (outward facing) and the actual or potential risks to our ability to create value over time as a result of external environmental or social matters (inward facing). This combination provides stakeholders with a comprehensive view of the most significant topics affecting our overall business performance, impacts, risks and value-creation ability.

Our last assessment was conducted in 2021 and focused specifically on outward-facing impacts. To align with the growing expectation of stakeholders improved integration of sustainability information, and to begin the process of adapting to potential new regulations, such as Europe's Corporate Social Responsibility Directive (CSRD) and related disclosure standards, we broadened the scope of our assessment.

## Working with an external advisor, we led a process to assess materiality, using:

- Information in the public domain;
- Globally relevant leading sustainability standards and frameworks;
- Input from Ribbon leaders as a proxy for external stakeholder views, based on ongoing interaction and communication with them;
- Ribbon's Enterprise Risk Management data; and
- A leadership workshop with representation of senior leaders in all key functions to review and prioritize sustainability impacts and risks.

## DMA Input Sources in 2024

- Public disclosures from 12 customers
- Public disclosures from 13 competitors/peers
- Global and industry trends from 3 sources
- Stock market disclosure requirements from 1 source
- 8 leading sustainability standards and disclosure frameworks
- Insights received by Ribbon from investment analysts
- Ribbon 2023 Enterprise Risk Management summary
- Insights from Ribbon managers and leaders across all functions and geographies

After analyzing a total of more than 600 identified topics, collating similar topics and prioritizing them both from an impact materiality and sustainability-related financial materiality perspective, we defined a set of 10 broad topics that represent our most significant impacts, risks and opportunities.

## Criteria for Analysis and Prioritization of DMA Topics

### Impact Materiality

- Scale (gravity of impact)
- Scope (spread of impact)
- Irremediability (possibility of reversal to prior state)
- Overall likelihood of the impact occurring

### Sustainability-related Financial Materiality

- Probability of risk
- Scale of financial damage
- Scale and degree of financial opportunities
- Enterprise Risk Management results where relevant

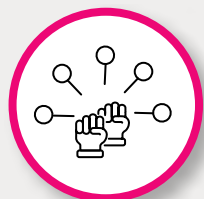
All the criteria above were scored on a high-medium-low scale, with specific evaluation criteria established for each topic at each level of the scale. The timescale for all risks was medium-term, and positive/negative and actual/potential filters were used to create a balanced and realistic result.

All 10 topics resulting from our assessment were all material from both an impact and a sustainability-related financial standpoint. Several topics that fell below the materiality threshold continue to be on our radar and remain part of our overall sustainability plans and performance. These topics include, for example, water conservation and community impacts, and we continue to track, improve where possible, and disclose on these topics.

The results of the materiality assessment were approved by our Executive Team and supported by our Board of Directors.



# Ribbon's Material Topics



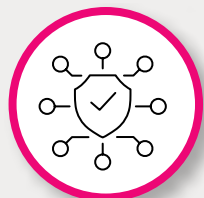
## Network resilience

Ensuring effective, scalable, reliable, secure and efficient networks through products and services provided to our customers.



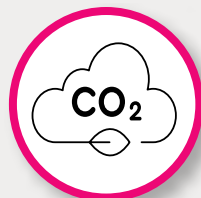
## Customer experience

Providing customers with innovative products and services and an overall positive experience in all interactions with Ribbon, including customer service.



## Access to connectivity

Producing products and delivering services to customers who are underserved by other networks and/or in remote or rural communities.



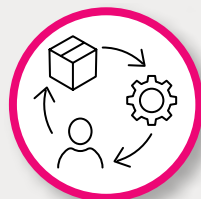
## Climate change mitigation

Addressing the impacts of Ribbon's operations throughout the value chain to minimize GHG emissions and their causes from fossil fuel use. This includes demonstrating improvements in the electrical efficiency of our solutions.



## Responsible workplace

Ensuring compliance with global labor regulations and maintaining an ethical, safe, inclusive and empowering working culture, and providing training our workforce in best practices.



## Product circularity

Delivering products that are aligned with circular economy principles including interoperability, durability, power-efficiency in use phase, use of recycled materials in hardware and packaging and designing with recyclability at the time of repair or end of life.



## Health and safety

Ensuring workplace and work activities are free from risks and hazards and instilling a culture of safety, including at Ribbon facilities and customer sites.



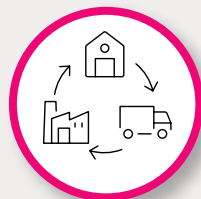
## Business ethics

Operating with integrity and in line with Ribbon's Code of Ethical Conduct in all activities, including anti-corruption, anti-bribery and responsible use of technology.



## Data security and privacy

Maintaining robust cybersecurity controls to protect information and assets owned by Ribbon, its suppliers and customers, and maintaining robust privacy controls to protect personal data processed by Ribbon.



## Supply chain management

Managing the supply base to conform with ethical standards and sustainable practices, including human rights and environmental targets.

# SUSTAINABILITY STRATEGY

Following this assessment, we reviewed our multi-year sustainability strategy and are planning to revisit our medium- and long-term targets in the coming months. The refreshed strategy defines three broad pillars, each addressing material topics arising from our DMA.

## Networks and People

- Network resilience
- Access to connectivity
- Responsible workplace
- Health and safety
- Customer experience

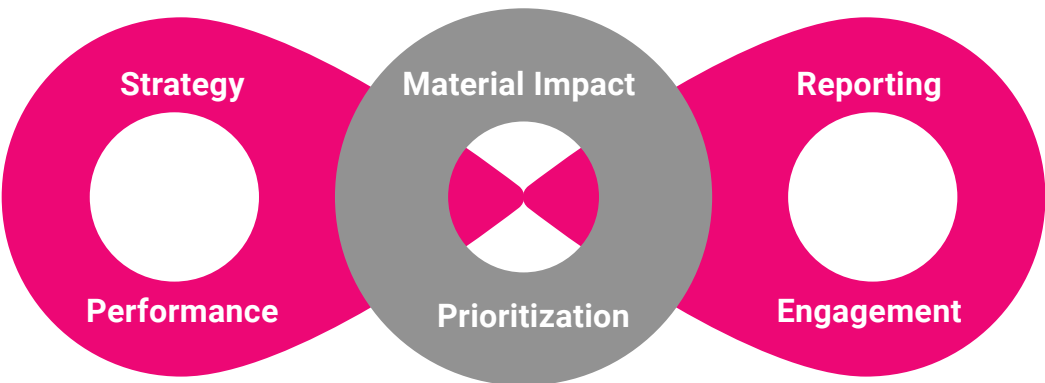
## Climate and Nature

- Climate change mitigation
- Product circularity

## Responsible Business

- Business ethics
- Data security and privacy
- Supply chain management

In 2025, we will publish new targets to support this strategy. In the meantime, given our strong progress on reducing GHG emissions, exceeding the target we set in 2021, we have updated our ambition to include Net Zero (Scope 1 and 2 emissions) by 2050. For details, see section: [Our Net Zero Ambition](#).





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# LEADING NETWORKS AND SOLUTIONS

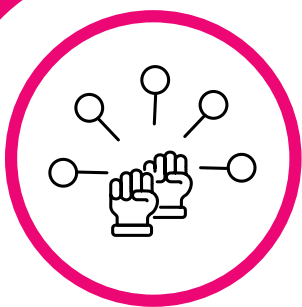
# LEADING NETWORKS AND SOLUTIONS

Advances in communications and network technologies have the power to transform life and business across multiple dimensions, enabling connectivity, productivity and efficiency around the globe. At Ribbon, we maintain our position at the leading edge of technology through investment in the research and development of solutions that flexibly meet our customers’ needs both now and in the future.

## MATERIALITY:

### NETWORK RESILIENCE

Ensuring effective, scalable, reliable, secure and efficient networks through products and services provided to our customers.



Through investments in innovation, partnering with our customers to transform their networks and enhance access to underserved communities, as well as helping make networks more secure around the globe, we deliver considerable positive impact for people and the planet.





**Driving Innovation**

Delivering Advanced Networks  
and Solutions

Enhancing Access

Securing Networks

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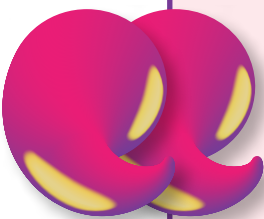
# DRIVING INNOVATION

In 2024, we again delivered an array of innovative products and solutions, leveraging our core technologies and incorporating cloud native architectures that dynamically scale up or down based on demand, ensuring that resources are not sitting idle when there is no call traffic, helping avoid over-provisioning and reducing energy consumption in data centers, and enabling faster development cycles and reduced waste. With network operators increasingly focused on minimizing Total Cost of Ownership, cloud native architecture enables them to adopt greener practices, optimize operations and reduce overall costs.

**Ribbon's innovation achievements in 2024 include:**

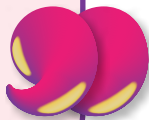
## Demonstrating long-distance high-speed connectivity

In partnership with SURF, the collaborative organization for IT in Dutch education and research, we trialed a 1,650 km fiber optic link connecting research institutes in Amsterdam to campuses in Geneva with a single 800G wavelength. The trial demonstrated several of Ribbon's advanced transport solutions, enabling current and future data-intensive research.



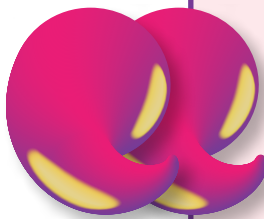
This successful and innovative trial pushes the boundaries of our current fiber and shows us what is technically possible with Ribbon's equipment. This trial signifies a crucial step forward as we gear up our network to cater to the future needs of scientific research and education in the Netherlands and beyond.

**Harold Teunissen**, SURF Director Network & Campus



## Achieving high-performance optical transmission

In a groundbreaking collaboration with Cisco, we demonstrated the first reported display of an interoperable multivendor ecosystem for the highest commercial transmission speeds available, with interoperability of 1.2 terabits per second optical transmission. This trial demonstrated that networks could achieve high-capacity data rates needed for modern optical fiber communication systems with the flexibility for network operators to select solutions from a range of vendors rather than being locked in to single vendors or services.



With the growth of AI and other emerging technologies, network operators are challenged with the complexity of managing multi-vendor networks to keep up with the growing demand for faster speeds. Together with Ribbon, we are demonstrating that now our customers can take advantage of interoperability at the transmission level before standards have been put forth, enabling them to stay on the cutting-edge without being locked into proprietary solutions.

**Bill Gartner**, Cisco, Senior Vice President  
and General Manager, Optical Systems and Optics





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# Expanding our Router Solutions for Improved Cost and Energy Efficiency

In early 2025, we launched our NPT 2714 and NPT 2705 routers to deliver increased network flexibility and overall cost-efficiency.

- The NPT 2714 router features an, innovative architecture for modular centralized routers, merging the best aspects of modular and fixed systems allowing it to deliver redundancy at an optimized cost while enabling flexibility and expandability. This advanced architecture enables the aggregation of increasing traffic volumes in a cost-efficient manner.
- The NPT 2507 is a 7.2 terabits per second router which complements the NPT 2714 for a network solution where compact size is important.

These two platforms are examples of Ribbon's innovative solutions that drive efficiency and performance for network operators worldwide and reduce overall operating costs while improving network performance.



These new routers are a testament to our continued focus on reducing the cost of networking. The advanced architecture of the 2714 enables the aggregation of increasing traffic volumes in a true pay-as-you-go fashion, delivering superb performance and outstanding investment protection.

**Sam Bucci**, Chief Operating Officer, Ribbon



# DELIVERING ADVANCED NETWORKS AND SOLUTIONS

Next-generation networks are needed to support improved speed, agility, security and economics across multiple platforms in today's complex technology environment. Service providers are embracing software-based, intelligent and flexible disaggregated solutions that allow them to shift away from proprietary hardware solutions and adapt flexibly to market needs. National operators of critical infrastructure are reliant upon comprehensive, reliable and trustworthy solutions to ensure the delivery of critical services to large populations

**We aim to solve our customers' most challenging communications requirements, enabling people and devices to connect anytime, anywhere.**

**A selection of our deployments from around the world in 2024 includes the following:**

## Advanced Network Transformation for Verizon

In 2024, we commenced a huge multi-year program to deliver significant cost efficiencies, technology advancements and environmental benefits for our long-time customer, Verizon Communications, which operates the largest wireless network in the U.S., with more than 140 million subscribers. On such a scale, the improvements driven by network transformation can have a major impact on both user flexibility and environmental sustainability.

Our network modernization program plans to retire legacy Time Division Multiplexing (TDM) technology that requires physical communication channels and switching platforms and replace their function with modern cloud-based technologies. Verizon is leveraging Ribbon's portfolio of voice products, including virtual and cloud-native Session Border Controllers, allowing for the consolidation and replacement of equipment with energy-efficient software-centric platforms while maintaining full feature functionality. This new program significantly accelerates the ongoing work at Verizon to modernize telecom infrastructure, benefitting the entire industry as well as Verizon's own business and customers.

Our continuous goal at Verizon is to provide the most advanced technologies for our customers while simultaneously improving our cost of operations and advance our sustainability efforts in power consumption. These network upgrades will allow us to rapidly decommission legacy central office equipment while improving overall quality and reliability of service, and reducing our environmental footprint.

**Eric Lia**, Senior Vice President of Engineering,  
Verizon





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## Expanding Access in Indonesia

Ribbon assisted PT Mora Telematika Indonesia Tbk (Moratelindo), one of Indonesia’s largest telecommunication infrastructure and network providers, to expand two key sections of its network, enabling Moratelindo to more than double the capacity of its Sumatra backbone to 3.6 Terabits per second, delivering connectivity to the world’s sixth largest island over its entire 473,000 km² area. Additionally, the 280 kilometer-long Batam subsea link, which extends Moratelindo’s reach to Singapore, added an additional 2 Terabits of transmission capacity. In early 2025, Ribbon will enhance Moratelindo’s submarine network capabilities with advanced optical infrastructure, delivering increased capacity and automated management on its 1,055 km Jakarta-Singapore link. Moratelindo is achieving unparalleled performance and efficiency by leveraging Ribbon’s advanced optical transport solutions, which enable providers to maximize the value of IP Optical network investments through comprehensive control, analysis, design and planning applications.

Ribbon’s innovative technology and track record were critical factors in our decision to work together. This deployment extends and expands our successful partnership, and enables us to provide our customers with superior connectivity while optimizing our network operations.

**Michael C. McPhail**, Chief Technical Officer,  
Moratelindo

## State-of-the-art Communications Technology in India

In 2024, Ribbon completed a completion of a long-haul Dense Wave Division Multiplexing (DWDM) deployment for Airtel, one of India’s top telecom providers. DWDM systems use technology in optical fiber networks that dramatically increases bandwidth by allowing multiple data signals to be transmitted simultaneously over a single optical fiber, each on its own unique wavelength of light. The benefits of DWDM include increased bandwidth, improved cost-effectiveness, high scalability and flexibility and the ability to transmit data over very long distances, such as the 30,000 km of the Barti Airtel network. This new infrastructure is a cornerstone of Bharti Airtel’s modern new network, reliably bringing affordable connectivity to millions of users.

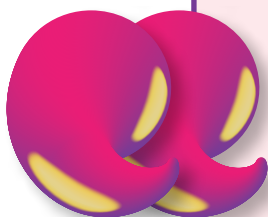
Ribbon’s proven expertise and cutting-edge solutions were instrumental in our decision to partner with them on this extensive modernization project. By integrating Ribbon’s state of the art optical transport technologies, we can now meet our customers’ growing demand for 5G and high speed connectivity, positioning us to successfully execute our long-term business strategy.

**Randeep Sekhon**, Chief Technical Officer, Airtel



## Transforming Data Centers

Ribbon's IP optical networking solutions enabled Diabolocom, a European telecom provider and software vendor specializing in AI-powered cloud contact center solutions, to seamlessly and efficiently connect its global customers with its Cloud Contact Center Software and proprietary Voice AI solutions. Using Ribbon's high density Data Center Interconnect (DCI) solution, Diabolocom and its customers across Europe can rely upon the smooth, reliable transfer of critical data with low latency and high throughput.



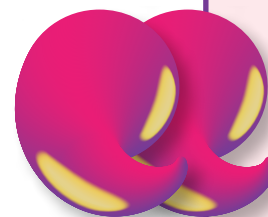
Ribbon provides us with a cutting-edge solution, coupled with a flexible, customer-first approach. Their highly scalable solution enables the efficient transfer of major datasets seamlessly and economically, supporting our mission to help businesses foster customer loyalty and drive growth.

**Frederic Durand**, CEO & Founder, Diabolocom



## Upgrading Network Infrastructure

In 2024, Ribbon's comprehensive network transformation solution was deployed by Brightspeed, an internet service provider offering broadband and telecommunications services through a network platform capable of serving more than 6.5 million homes and businesses, to help modernize Brightspeed's network infrastructure while maintaining uninterrupted services for existing customers. Ribbon's network transformation solution helps enable Brightspeed to replace decades-old rooms full of power-hungry legacy equipment seamlessly. The new solution uses a fraction of the power, HVAC and real estate of the previous infrastructure while offering new capabilities, assuring the long-term reliability of Brightspeed's network without impacting Brightspeed's operational or billing systems.



Building a fiber broadband network across more than 160 communities in our footprint requires an investment in ensuring we can accelerate scalability. Ribbon's advanced solutions enable us to efficiently manage and upgrade our legacy assets with next-generation innovation to gain the operational efficiencies, flexibility and capabilities that facilitate our network transformation.

**Brian Bond**, Chief Technology Officer, Brightspeed



## Enhancing Supply Chain Reliability and Enhanced Network Capabilities

American Electric Power (AEP), which maintains and operates the largest electricity transmission system in the U.S., added Ribbon's IP and Optical products to help continue providing the critical communications needed to support AEP's infrastructure. Today's utilities are required to digitize their assets, both in order to meet regulatory and security mandates, and to expand their offer with new services, reduced carbon emissions and improved maintenance, safety and security. Ribbon's IP and Optical solutions, combined with a single management system, deliver proven solutions to support and facilitate this transformation. By supporting AEP's extensive requirements, we contribute to the reliability and security of a key part of the U.S. national infrastructure.





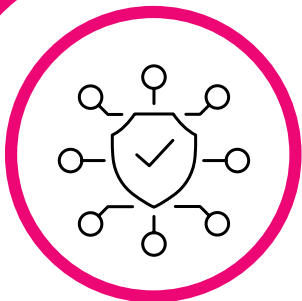
# ENHANCING ACCESS

Expanding rural connectivity in the U.S. continues to be a priority for Ribbon. While access to broadband services has improved in the past several years, many Americans in rural areas still lack access to quality broadband. At Ribbon, we go the extra mile to understand the needs of rural and Tribal regions in the U.S. and provide transformative solutions that will connect people, families, businesses and communities and help improve the quality of life.

## MATERIALITY:

### ACCESS TO CONNECTIVITY

Producing products  
and delivering services  
to customers who  
are underserved by  
other networks and/  
or in remote or rural  
communities.



Among the many customers we supported in 2024 is Twin Valley Telephone, a large rural service provider in Kansas, which serves thousands of homes and businesses in the region. The customer needed complete network reliability and scalability to accommodate significant growth. We implemented our IP Optical Network solutions to enable Twin Valley to expand and consolidate its position in the region and scale up access for many local users.

Also in 2024, Ribbon was selected by Pioneer Communications to deliver a major optical network upgrade, increasing bandwidth, flexibility and reliability, with an attractive Total Cost of Ownership. The upgrade includes our Muse platform which ensures peak network efficiency through automation, planning, node design, and real-time control. Additionally, it features our

Apollo modular C+L band solution, allowing optical network operators to expand their fiber capacity seamlessly, without service interruptions, when that additional capacity is needed.

Our members and subscribers expect high speed connectivity and access to modern capabilities, and this network upgrade highlights our commitment to meeting their needs. We have been utilizing Ribbon's solutions in our network for many years and found their technology, expertise, and attentive support well-suited to meet our needs.

**Blake Callaham**, General Manager, Pioneer Communications



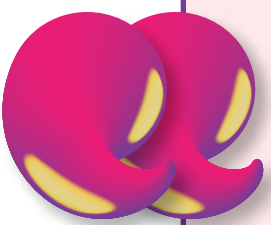
[Our Approach to Digital Inclusion](#)



# SECURING NETWORKS


Ribbon is delivering state-of-the-art voice communication infrastructure components to help modernize and secure critical communications networks, reducing cybersecurity vulnerabilities while lowering the cost of operations.

In 2024, we provided supporting technology for the U.S. Department of Defense Information Services Agency (DISA) Soft Switch Backbone (SSBB), that provides a global, secure, and resilient mission-critical voice communications infrastructure to all branches and agencies of the U.S. Department of Defense.



The defense community is confronting an ever-escalating security threat environment, which legacy phone systems and communications equipment are ill-equipped to address. With deployments in all four branches of the U.S. military and in major defense organizations across the globe, Ribbon delivers a proven migration path to a modern communications infrastructure which provides updated capabilities and increased security, in line with stringent government mandates and unique deployment needs.

**Bill Grabner**, Vice President, Federal Markets,  
Ribbon



# PROVIDING BEST QUALITY AND CUSTOMER EXPERIENCE

Customers trust us to solve their most challenging communications requirements, enabling people and devices to connect anytime, anywhere. Our customer-centric culture shapes all of our activities and inspires our team members to make a positive impact with our clients, investors, and communities.

## MATERIALITY:

### CUSTOMER EXPERIENCE

Providing customers with innovative products and services and an overall positive experience in all interactions with Ribbon, including customer service



In addition to providing leading-edge technology and innovation to support our customers' growth in ways that are flexible, affordable and sustainable, we also aim to provide a first class service, anticipating and meeting customer needs across all dimensions of their interactions with us.

RibbonCare is our comprehensive portfolio of maintenance and support services provided for our customers and includes:

- 24x7 support: Round-the-clock technical support, ensuring assistance is available 24 hours a day, 7 days a week, 365 days a year.
- Emergency recovery: Services for emergency recovery to quickly address and resolve critical issues.
- Remote technical support: Remote support to help troubleshoot and resolve problems without delays and costs related to onsite visits.

- Software maintenance: Regular updates and upgrades to maintain customer software current and secure.

- Hardware services: A range of options for hardware repair, replacement, and onsite exchange.

- Additional services: Network design, implementation, software upgrades and configuration assistance to support customer-specific needs.

We also provide our customers with comprehensive training in the use of our products and services.

**Through 2024, of all the information queries raised by customers, business continuity planning by Ribbon was the most frequent.**





# Maintaining Product Quality

Ribbon is committed to complying with applicable environmental legislation and regulations in all countries. We voluntarily certify our key sites to several quality management standards and aim to apply the same standards to operations at non-certified sites.



## Ribbon's Certifications

.....

**ISO 9001:2015:** Quality Management System (QMS)

.....

**ISO 14001:2015:** Environmental Management System (EMS)

.....

**ISO 17025:2015:** Competence of Testing & Calibration Laboratories

.....

**ISO/IEC 27001:2022:** Information Security Management System (ISMS)

.....

**ISO 22301:2019:** Business Continuity Management System (BCMS)

.....

**ISO 45001:2018:** Occupational Health and Safety Management System (HSMS)

.....

**TL 9000: R6.3/5.7:** Quality Management System (QMS)



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- About Ribbon
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- Leading Networks and Solutions
- Supporting Our People**
  - Engaging Employees
  - Promoting Learning and Development
  - Investing in Health, Safety and Wellness
  - Engaging Communities
- Protecting Climate and Nature
- Maintaining Responsible Business
- Appendix

# SUPPORTING OUR PEOPLE





# OUR PEOPLE

With a workforce spread across more than 30 countries, we focus on creating a dedicated global employee community, aligning our resources, processes and platforms to build an organizational culture that reflects and expresses our core values. Our goal is to create a workplace that is engaging, inspiring, challenging, and inclusive, enabling us to work seamlessly across borders and functions. We strive to be an attractive employer for current employees and for future employees who seek an opportunity to join our dynamic business, positioned at the intersection of global communications technology and social transformation.

## MATERIALITY:

## RESPONSIBLE WORKPLACE

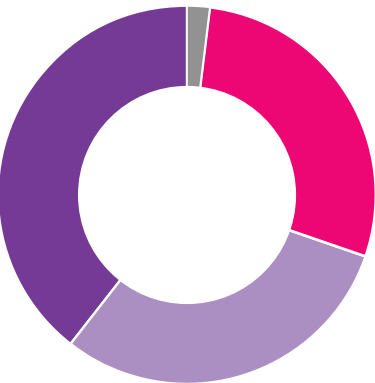
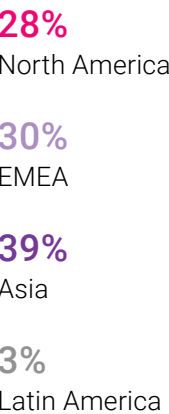
Ensuring compliance with global labor regulations and maintaining an ethical, safe, inclusive and empowering working culture, and providing training for our workforce in best practices.



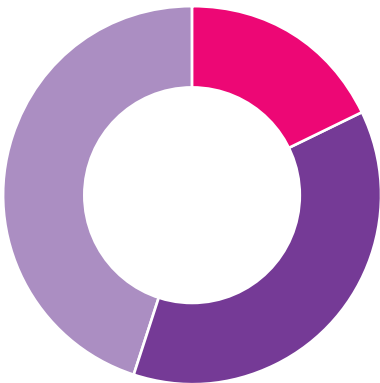
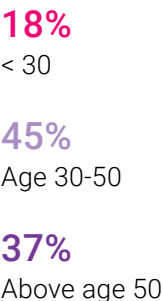
We offer Ribbon employees opportunities for personal and professional growth while maintaining a culture of open and transparent communication. Everyone receives constructive performance feedback and is encouraged to share new ideas about any aspect of our work. Leveraging our core values to engage our employees, we foster a workplace where we all advance together, working towards shared objectives that contribute to a successful business, a better society and a better world.

## Ribbon Employees in 2024 (year-end headcount)

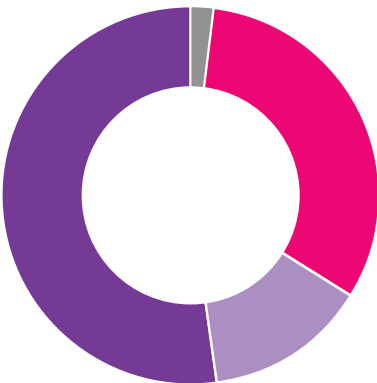
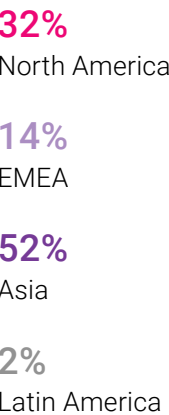
### EMPLOYEES BY REGION



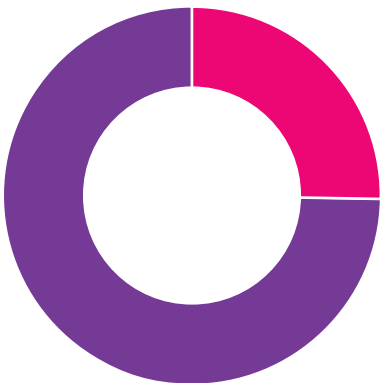
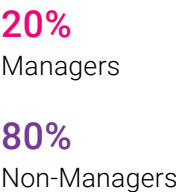
### EMPLOYEES BY AGE GROUP



### NEW HIRES BY REGION



### EMPLOYEES BY LEVEL



# ENGAGING EMPLOYEES

At Ribbon, employee engagement is a mindset. We continuously invest in understanding our people, listening to their feedback and acting on what matters most to them. Our annual Employee Experience Survey is a cornerstone of our engagement strategy, combining quantitative and qualitative questions to capture a holistic view of employee sentiment. Consistent with previous years, 71% of Ribbon employees participated in the Employee Experience Survey in 2024.

The top four areas of employee satisfaction and key reasons for choosing Ribbon as an employer were similar to those in previous years and include:

- Advanced technology and professional environment;
- A flexible work model that supports work-life balance;
- A friendly and supportive workplace culture;
- Abundant learning and development opportunities.

## Key areas of high satisfaction among employees in 2024

94% understand their goals, tasks, and responsibilities (2023: 95%)

94% feel accepted and valued across all dimensions of diversity (2023: 91%)

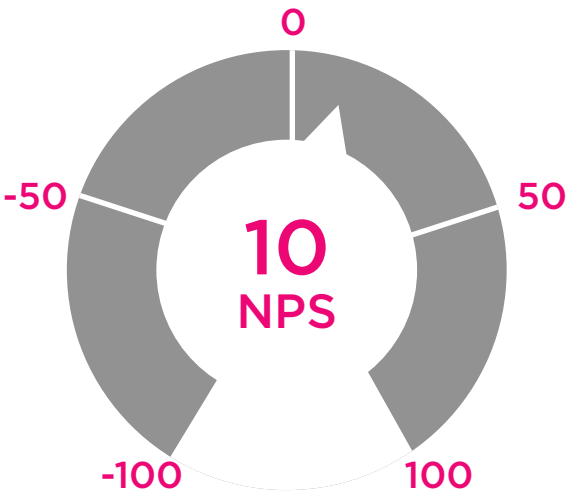
91% feel their manager is attentive and provides them with the professional and personal support they need (2023: no change)

91% find their work meaningful and impactful (2023: 89%)

In 2024, we introduced the Employee Net Promoter Score (eNPS) as part of our annual Employee Experience Survey. The eNPS is an internationally recognized metric that reflects employee engagement and loyalty by asking how likely employees are to recommend Ribbon as a place to work. The eNPS score ranges from -100 to +100, with a positive score indicating there are more employees who would promote the Company than those who would not. A score between 10 and 30 is generally considered good, indicating a healthy level of employee advocacy.

In our first eNPS survey, Ribbon received an overall score of 10, indicating a positive balance of employees who would recommend Ribbon as a place to work.

We will continue to track eNPS annually and use it as a benchmark to monitor progress and guide future engagement initiatives.





In 2024, in response to feedback from our 2023 Employee Experience Survey, we advanced several initiatives to enhance employee engagement, including:

### Career growth, learning and development initiatives

- Expanded our learning and development offerings, including updates to iLEAD, iGROW, and ITECH webinar series program (see section: Promoting Learning and Development).
- Introduced Ribbon Academy, an in-house online platform for on-demand learning on Ribbon products and technologies.
- Provided Udemy licenses for self-directed learning and launched a Coursera pilot to offer online learning and certification from global universities and academic institutions.
- Continued global leadership development programs and the Ribbon Mentoring Program, now in its third cycle.
- Refreshed our Internal Mobility policy and simplified the application process to encourage internal advancement.

### Leadership engagement and communication initiatives

- Maintained quarterly Global Town Hall sessions and Executive Leadership Team (ELT) meetings and continued ELT site visits across all regions, fostering direct dialogue with employees.
- Published regular newsletters to keep employees informed of business developments.
- Launched three new communication initiatives:
  - CEO Roundtables: Small-group direct conversation sessions with the CEO, attended by more than 180 employees in 2024.
  - Coffee and Connect: Online roundtables with the Senior Leadership Team.
  - Ask Me Anything: Live online Q&A sessions hosted by an ELT member with real-time responses to employee questions.
- Continued to foster open dialogue and enhance a sense of belonging through Viva Engage (Yammer), our primary internal communication platform that is used for regular business updates and two-way communication. In 2024, we launched a new AI Adoption community on Viva Engage.



Ribbon's "Kids at Work" event at our offices in Mumbai, India. Tens of children joined their parents at Ribbon for a day of family fun in the office.

**Engaging Employees**

Promoting Learning and Development

Investing in Health, Safety and Wellness

Engaging Communities

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# Reward and Recognition

We believe that an effective reward and recognition program motivates employees and compensates them for their ongoing contribution to our business success. In 2024, we again implemented our annual mid-year global compensation review, using external benchmarks to calibrate our compensation packages to remain attractive and competitive in our industry across all the countries in which we operate. Minor adjustments were made as necessary.

Our Real Time Rewards program empowers employees to recognize their peers and managers for outstanding contributions, big or small. This peer-to-peer recognition reinforces a culture of gratitude and collaboration. Rewards ranged from \$25 to \$100 in value, with options for non-monetary acknowledgments as well.

**3,210 Real Time Rewards**  
**were issued to employees in**  
**30 countries in 2024**



# Inclusive Culture

We continue to foster a culture of inclusion, belonging and opportunity at Ribbon. Leadership development programs place a strong emphasis on inclusive leadership, promoting accountability at all levels. We strive to cultivate a culture where leaders genuinely embrace the importance of belonging—both intellectually and emotionally—ensuring every employee feels valued, supported, and connected to our shared purpose. We actively support policies and practices that promote belonging such as inclusive hiring, mentorship initiatives and more.

We raise awareness of inclusion and belonging to help our employees understand their role in promoting respect. These topics are discussed in employee communications and integrated into our training modules. Additionally, in 2024, we provided mandatory training for all employees on Ribbon's Anti-Harassment and Anti-Discrimination Policy.

As part of this approach, we invest in initiatives designed to improve the inclusion of women in leadership at Ribbon. We provide a range of opportunities for women to access and leverage training, coaching, tools and networks to achieve elevated leadership skills and professional growth. For example, our Women Leadership Program addresses leadership challenges that are unique to women and helps build increased confidence, stronger networks and greater impact within Ribbon and their communities.



# PROMOTING LEARNING AND DEVELOPMENT

Ribbon believes that empowering our employees with the knowledge, skills, and tools they need to thrive is essential not only for individual growth but also for organizational resilience and innovation. Our learning and development programs are designed to develop future-ready skills and capabilities in digital transformation, leadership, and innovation and promote a culture of curiosity. Learning opportunities are accessible to all employees, regardless of role or location.

In 2024, we advanced multiple initiatives including:

- **Leadership development programs:** Expanded offerings to include executive coaching, peer learning circles and scenario-based workshops focused on decision-making under uncertainty.
- **Mentoring program:** Expanded program to include additional participants from new groups and territories to enable more and more employees across the company to develop their personal and professional skills, acquire knowledge and have a greater impact on the company’s success.
- **Onboarding excellence:** Redesigned onboarding experience including interactive learning modules, buddy systems and 90-day development plans to accelerate new hire integration.
- **Ribbon products and solutions:** Access for all employees to a comprehensive internal learning platform containing a vast array of learning materials related to the company’s products, technologies and customer solutions.

Additional targeted learning initiatives in 2024 included:

- **Ribbon Learning Week:** Dozens of hours of learning in various formats to share knowledge about the company’s products, technologies, processes and projects—open to all employees and delivered by internal subject matter experts. Between 300 and 500 employees attended each session, enhancing their knowledge about our offerings and empowering them to provide better information to customers.
- **Compliance learning:** Launch of a new compliance training program designed to ensure optimal compliance and high completion rates of all required training. Key elements include refreshed content, effective communication of the annual training plan and active engagement of managers to promote the initiative.
- **Manager enablement:** Introduction of a manager toolkit and a training series to support people leaders in coaching, feedback, and performance development.

## Learning By the Numbers at Ribbon in 2024

.....

**11**  
average learning hours per employee

.....

**1,650**  
online learning licenses

.....

**21**  
live webinars in our development programs: **iGROW, iTECH, iLEAD**

.....

**10**  
leadership programs

.....

**100**  
sessions in Ribbon Learning Week



# INVESTING IN HEALTH, SAFETY AND WELLNESS

The health, safety and wellbeing of our employees continues to be of paramount importance to Ribbon. We believe that all workplace accidents are preventable, and that with the right culture, training, and tools, we can achieve an injury free workplace.

## MATERIALITY:

### HEALTH AND SAFETY

Ensuring workplace and work activities are free from risks and hazards and instilling a culture of safety, including at Ribbon facilities and customer sites.



All employees undertake mandatory health and safety awareness training every two years and all of our operational sites are audited at least every three years in line with the ISO 45001:2018 Occupational Health and Safety Standard. Throughout the year we have expanded our health & safety surveillance to cover our largest 32 sites. We have deployed an enhanced monthly, employee-led “walk around” as defined in our health and safety management system and risk assessments looking for hazards and “near misses” before they cause a problem.

Additionally, our Real Estate team performs safety reviews with all contractors working in our facilities to ensure risks are identified and procedures are put in place in advance to minimize the interactions between their work and other building users. In 2024, we continued our focus on safe working practices and efforts to foster a culture of safety with regular training, safety assessments and reviews.



[Our Approach to Health, Safety and Wellbeing](#)



**In 2024, our Total Recordable Injury Rate across our global workforce, including employees and contractors, was 0.063, significantly below the U.S. average of 0.9 (for our industry)<sup>1</sup>.**

<sup>1</sup> In 2023, according to the U.S. Bureau of Labor Statistics, the average incidence rate of nonfatal occupational injuries and illnesses in 2023 was 0.9. See <https://www.bls.gov/iif/nonfatal-injuries-and-illnesses-tables/table-1-injury-and-illness-rates-by-industry-2023-national.htm>

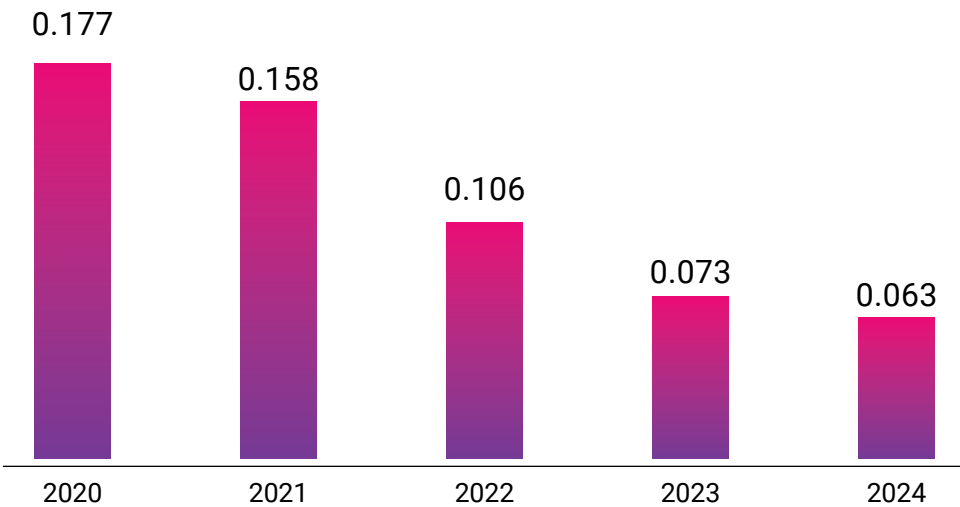


Our positive 2024 result represents just two recordable injuries across our global workforce, indicating ongoing awareness and a workforce committed to safe practices. However, we continue to strive for zero injuries, and reinforce our culture of safety at every opportunity.

In 2024, we advanced the following safety policies and procedures across our sites:

- Completed a global site asbestos assessment confirming all our locations are asbestos-free.
- Conducted a range of safety processes and checks, including an electrical radiation report at our new office in Tel Aviv.
- Created a new tool for safety inspection reporting globally to improve efficiency of use and follow-up, and reviewed local safety documentation and updated where necessary.
- Updated common lab signage for global deployment to enhance safety awareness and compliance.
- Introduced new heat stroke regulations for our Japanese office.
- Conducted training in electrical safety and ladder safety training for laboratory and facilities staff, and forklift safety training for warehouse employees.

Injury Rate by Year  
(total workforce)



## Employee Wellness

In 2024, we continued to support employee well-being through our year-round Wellness Program, featuring a unique theme each quarter. The program included a variety of global and local activities, along with interactive challenges focused on fitness, physical health, nutrition and even a trivia competition in honor of the 2024 Olympic games. Hundreds of employees participated sharing their experiences and inspiring stories with colleagues around the world.

We also continue to provide our Employee Assistance Program (EAP) to all employees and their families, offering tailored support and training to address the diverse needs of our global workforce across all the countries in which we operate. The EAP is a confidential, no-cost service available 24/7, providing toll-free access to professional assistance whenever it is needed.



# ENGAGING COMMUNITIES

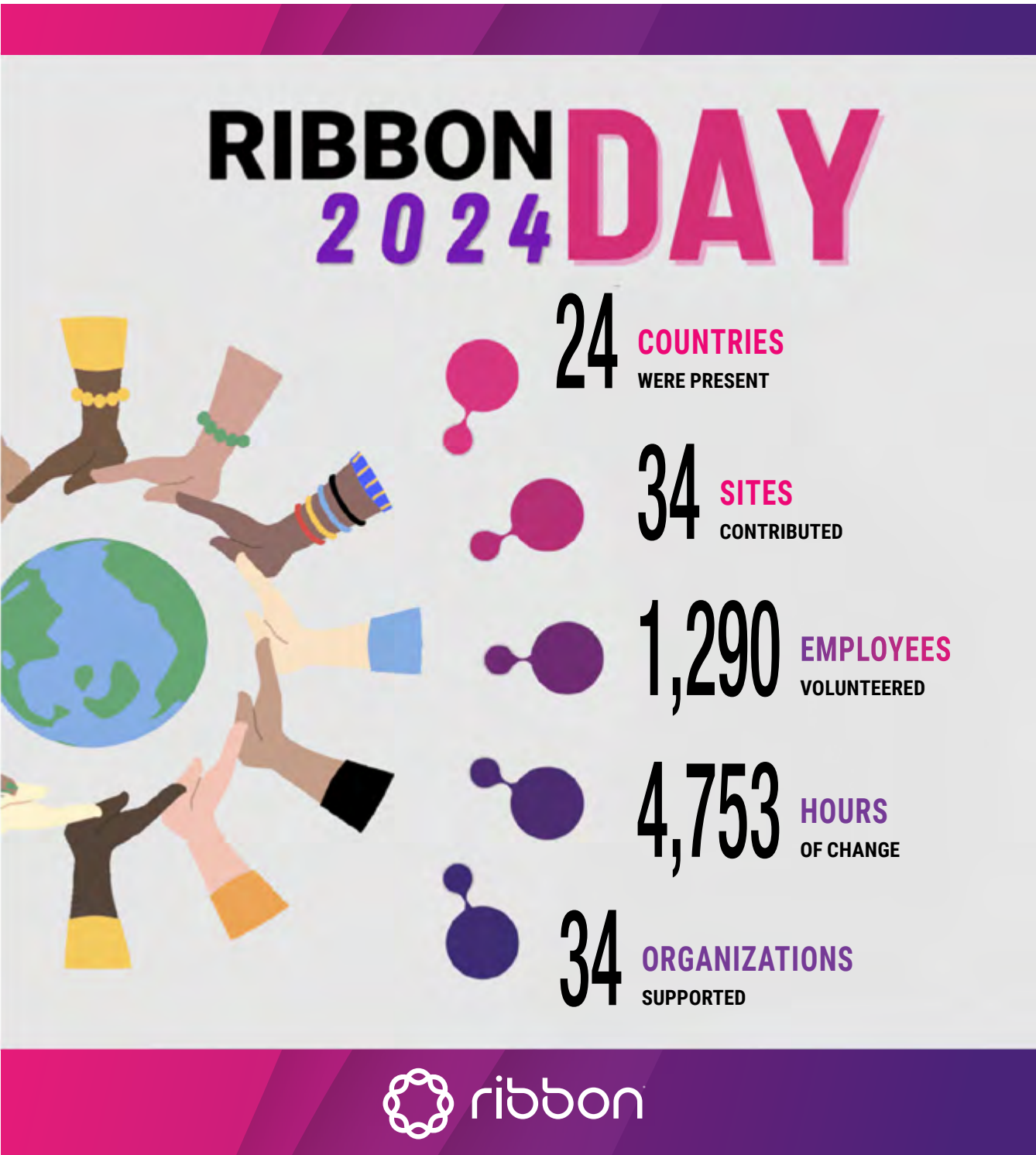
At Ribbon, we aim to enhance the quality of life in the communities where we live and work. We actively encourage our employees around the world to engage in community service and take part in local initiatives.

## Ribbon Global Day of Service 2024

Since 2010, Ribbon has offered employees a paid day off to volunteer for causes they care about. What began as a single day has grown into some weeks packed with local initiatives, giving employees the opportunity to support a wide range of organizations—from major international charities to local activities in their own neighborhoods.

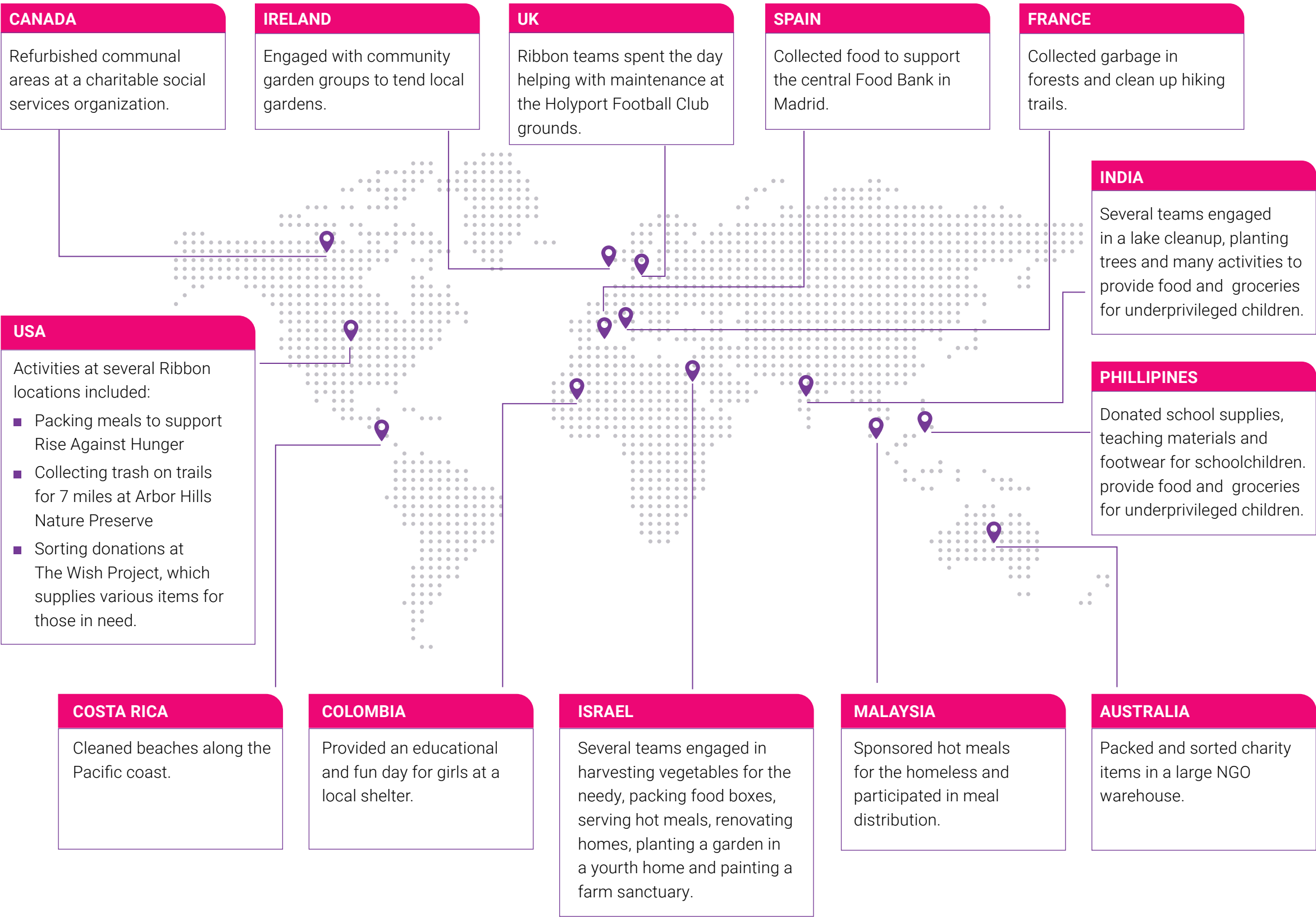
Our employee-led Ribbon Engagement Committees, located at major sites around the world, play a key role in driving local involvement. These committees organize and support initiatives that promote well-being and community connection, including our annual Global Day of Service.

In 2024, our Global Day of Service included environmental cleanups, educational programs, acts of service for health and wellness initiatives and many more, each contributing to a larger goal of creating positive change.





## A selection of activities from Ribon’s Global Day of Service 2024



## Corporate Social Responsibility in India in 2024

We maintain a full program of activities as part of our Corporate Responsibility Program in India. We support both nonprofit organizations and customer foundations through funding and employee volunteering. A selection of Ribbon’s activities with nonprofit partners in 2024 includes:

- Foundation for Excellence (FFE):** Funded tuition for 14 medical and engineering students to support this organization’s assistance for underprivileged students pursuing higher education.
- Chiranthana Charitable Trust:** Enabled the enrollment of 15 children, supported awareness programs, training sessions, project management, study materials, rehabilitation toys and parent engagement initiatives to support this organization that empowers children with learning difficulties through education and rehabilitation.
- Diya Ghar:** Helped set up pre-schools and daycare centers to support this organization’s aim of providing early childhood education for children of migrant workers.
- CHILDReach:** Funded teacher remuneration, student fees and essential teaching aids to support this charitable trust that supports children with learning difficulties.
- Sakshi:** Provided educational materials including school bags, stationery, and hygiene kits for 150 girls for this shelter supporting education and rehabilitation for children from low-income communities.

- Lotus Petal Foundation:** Funded school bus transportation for 78 children for this Foundation that provides education and healthcare to underprivileged children from rural areas.

We also maintained our support for two customer foundations:

- Bharti Foundation:** We supported the operational costs of one of the Satya Bharti schools in Haryana, enabling access to quality education for 110 students.

- Vodafone Foundation:** Ribbon contributed to provide support to 25 outstanding teachers who have a proven track record of using technology, innovation and digital tools to make learning fun.

Our support for the Chiranthana Charitable Trust was recognized with a ‘Changemaker Award’ granted to Ribbon by the Bharti Foundation in India, reflecting our commitment to creating sustainable impact through education, rehabilitation and livelihood development for children and adults with learning difficulties.





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Enhancing Product Sustainability  
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Managing Resources to Minimize  
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# PROTECTING CLIMATE AND NATURE



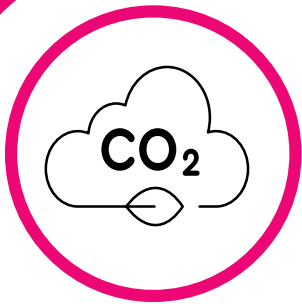
# ENVIRONMENTAL IMPACT

As a company in the information and communications technologies (ICT) sector, Ribbon plays an important role in accelerating the mitigation of climate change, enabling a low-carbon economy through advanced technologies for our customers.

## MATERIALITY:

## CLIMATE CHANGE MITIGATION

Addressing the impacts of Ribbon's operations throughout the value chain to minimize GHG emissions and their causes from fossil fuel use. This includes demonstrating improvements in the electrical efficiency of our solutions.



Ribbon prioritizes resources to limit the effects of climate change in our operations and focuses on specific climate-related risks identified in our annual Business Impact Assessment (BIA).

We maintain a global Environment Management System (EMS) in accordance with the ISO 14001:2015 Environmental Management Standard. Seven sites covering 67% of our office workforce globally and all the leadership

for Real Estate, Lab Ops, Hardware design. Environmental Compliance and Supply Chain are certified to our EMS.

All of our primary facilities are certified to this standard and all smaller sites apply the same system and processes. Our management team commits the resources required to implement actions, based on our Global Risk Reviews, and both the Ribbon Board of Directors and the Senior Leadership Team regularly review our performance.

Our efforts have resulted in considerable improvements across several environmental impacts, a broadened scope of tracked environmental metrics and greater disclosure accuracy with the support of a global ESG software data management system adopted in 2020. We assure our energy and emissions data using a third-party CDP-accredited expert.

## Our Climate Target

Target	Progress in 2024	Progress since 2018
<b>Reduce direct carbon emissions by 30%</b> by 2030 (Scope 1&2 CO <sub>2</sub> e, from a base year of 2018).	Target achieved	Target achieved and exceeded (37% reduction)



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# Our Net Zero Ambition

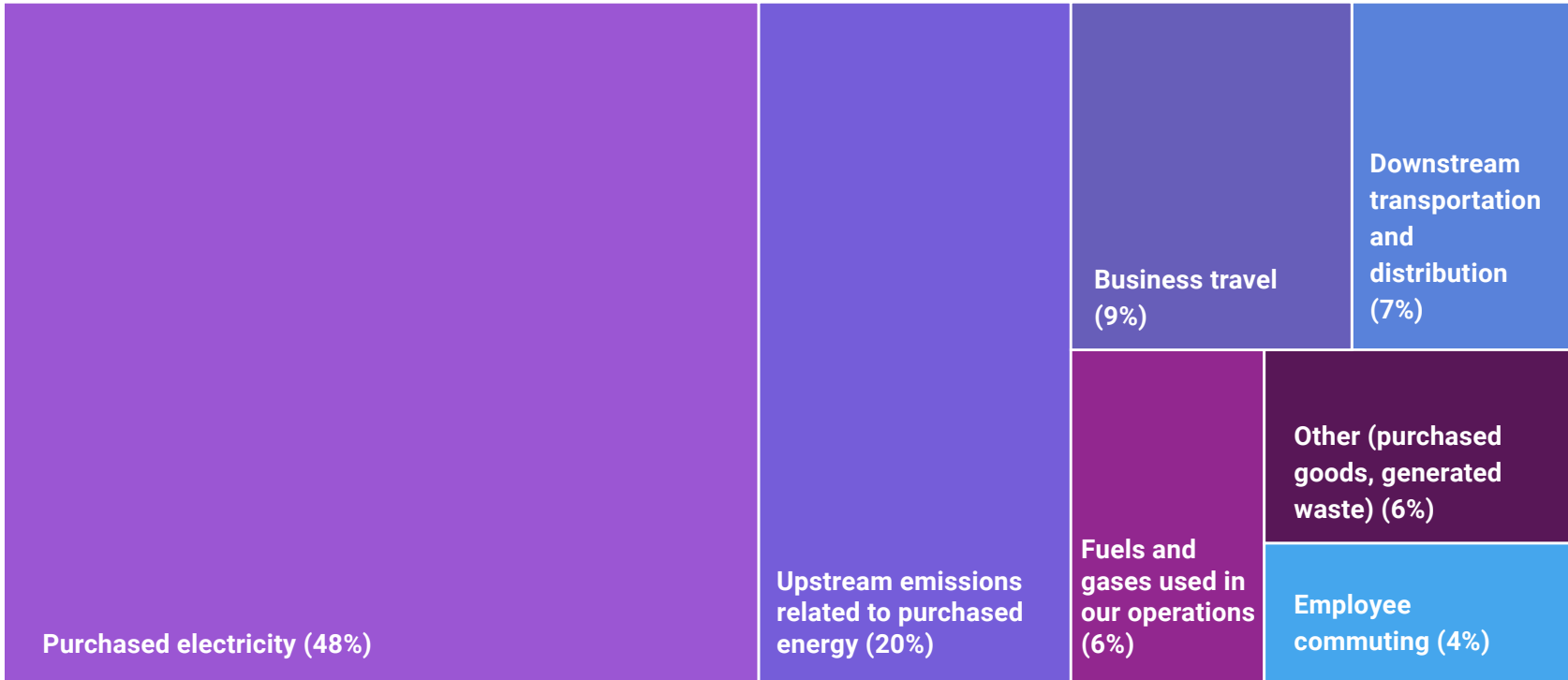
Having exceeded the climate target we set in 2021, we have now increased our ambition to deliver Net Zero direct Scope 1 and 2 emissions by 2050.

In the interim, we will continue efforts to reduce our direct emissions to support alignment with the Paris Agreement, which aims to limit the global average temperature increase to 1.5°C above pre-industrial levels. We have developed an initial Net Zero transition plan which includes the following elements, many of which we have already progressed in recent years:

- **Invest in renewable and lower-carbon energy:** Transition facilities to renewable energy sources, leveraging long-term Power Purchase Agreements (PPAs) where possible, and consider energy mix changes to lower carbon footprint where renewable energy cannot be viably sourced.
- **Enhance sustainable products:** Implement energy-efficient Ribbon solutions and deploy eco-friendly practices and materials in production, focusing on software solutions to reduce hardware dependency.

- **Improve process efficiency in manufacturing:** Optimize manufacturing and operational processes to minimize waste and energy use, monitor and improve electrical efficiency and implement maintenance programs to ensure equipment operates efficiently.
- **Optimize equipment use:** Continue to consolidate equipment across fewer sites and fewer racks to minimize electricity required for cooling.
- **Engage employees:** Educate and involve employees in sustainability initiatives, fostering a culture of environmental stewardship and encouraging new ideas for GHG savings.
- **Consider offsetting solutions:** Examine options to offset residual emissions that cannot be practically eliminated through other means.

RIBBON'S GHG EMISSIONS, 2024



# DECARBONIZING OUR OPERATIONS

In 2024, because of our ongoing efforts to decarbonize our operations, we made further progress in reducing our footprint, delivering a 19% reduction in energy use, a 37% reduction in Scope 1 & 2 absolute emissions and a 56% reduction in GHG emissions per \$ million revenue, all compared to 2018.

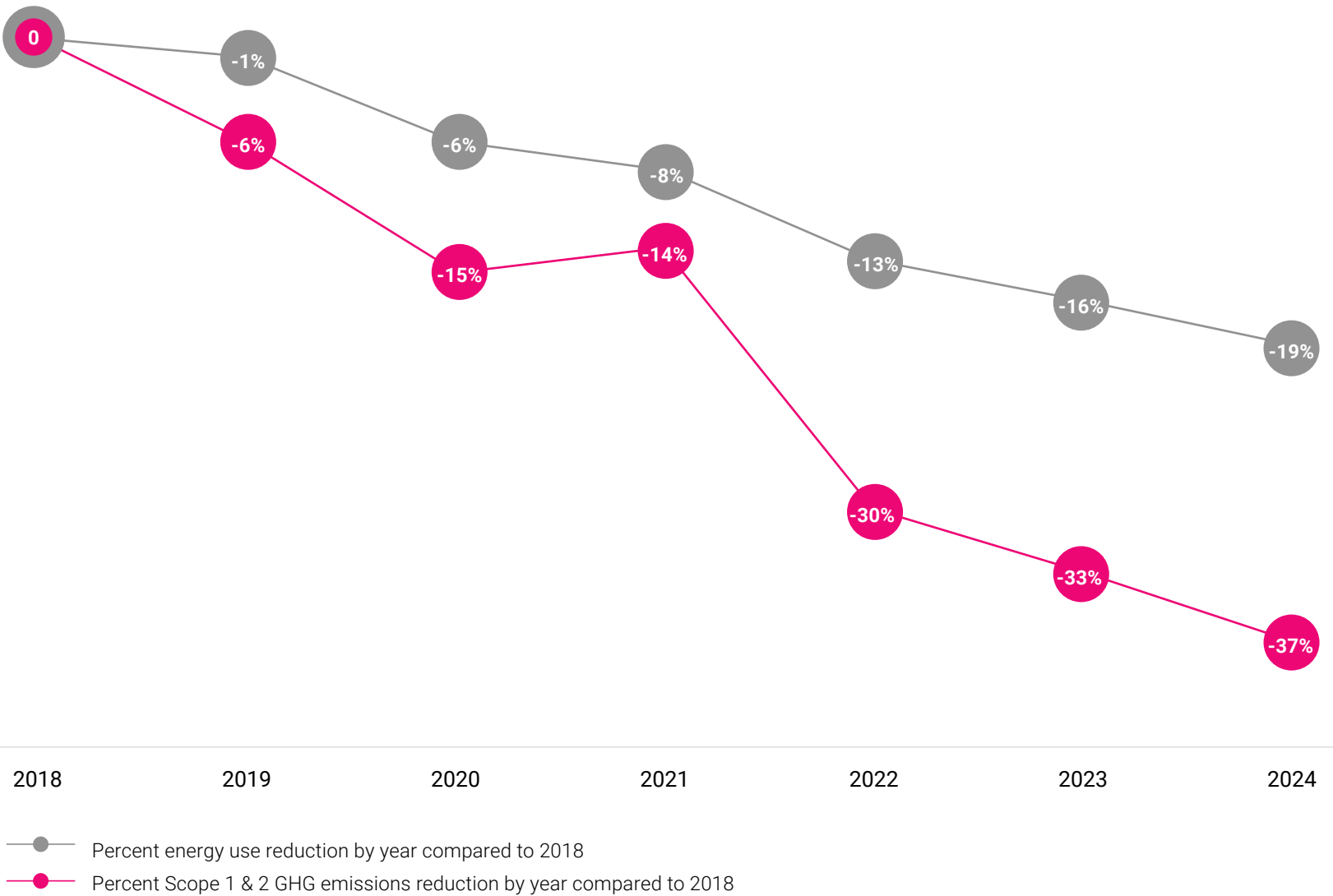
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Our efforts have resulted in considerable improvements across several environmental impacts, a broadened scope of tracked environmental metrics and greater disclosure accuracy with the support of a global ESG software data management system adopted in 2020. We assure our energy and emissions data using a third-party CDP-accredited expert.

Energy use and GHG emissions reductions 2018-2024



Electricity continues to account for almost 90% of our total energy use. Although we have made progress in reducing our use of fuels and gases (14% reduction in 2024, mainly through avoiding use of diesel oil for transportation), our primary efforts focus on minimizing GHG emissions from electricity. We continued to do this in three main ways in 2024: expanding our use of renewable energy; optimizing equipment use at our global sites, and driving energy efficiencies across our operations.

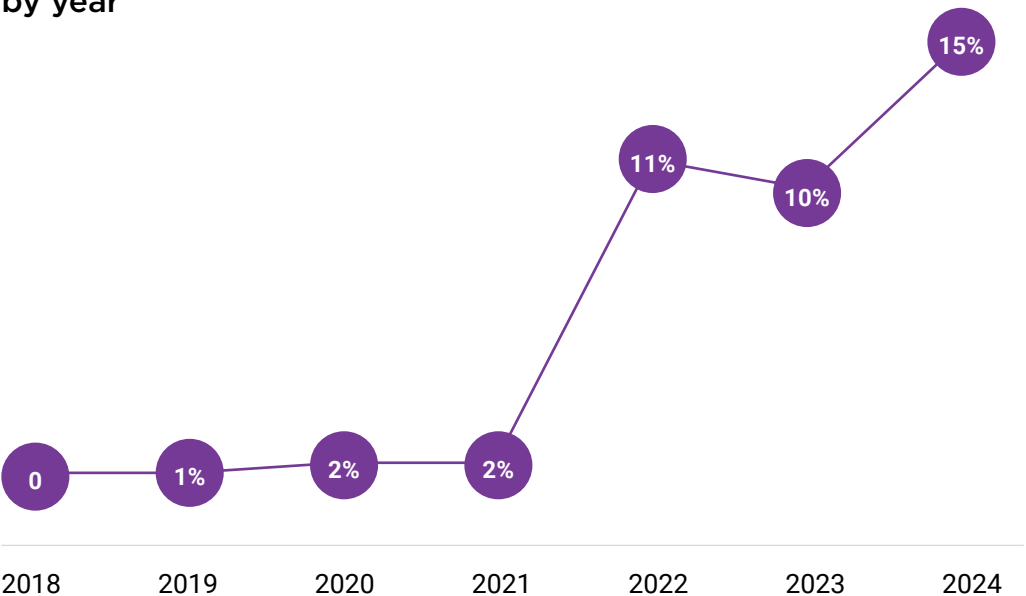
**Overall, as a result of our ongoing efforts, our GHG (Scope 1 & 2) emissions intensity per \$ million revenue has decreased by 29% compared to 2018.**



## Expanding Use of Renewable Energy

We have been pursuing different ways to add renewable electricity to our mix for several years. With most of our sites being leased, we are reliant upon successful renegotiation of our leases with landlords at our various locations. In 2024, we were able to convert to green electricity at our Bengaluru site in India and our Westford site in the U.S., in addition to sites already using renewable electricity. This contributed to a 49% increase in renewable energy purchased compared to 2023, bringing renewable energy to >15% of our total electricity use.

**Percent renewable electricity (of total electricity) used by year**



We continue to explore opportunities globally. In 2025, for example, we expect our move to new location in Israel to open the possibilities for renewable energy options which will enable us to deliver further positive results.

## Optimizing Equipment at our Global Sites

Ribbon continues to occupy more than 60 facilities around the world, including locations which are dedicated to sales and customer services, while a significant number of sites support complex technical operations, deployed to facilitate three main types of activity:

- R&D and Customer Support Laboratories for software design & verification equipment testing and certification, application centers for Proof of Concept and interoperability testing of customer solutions
- Data centers for running our internal operations.

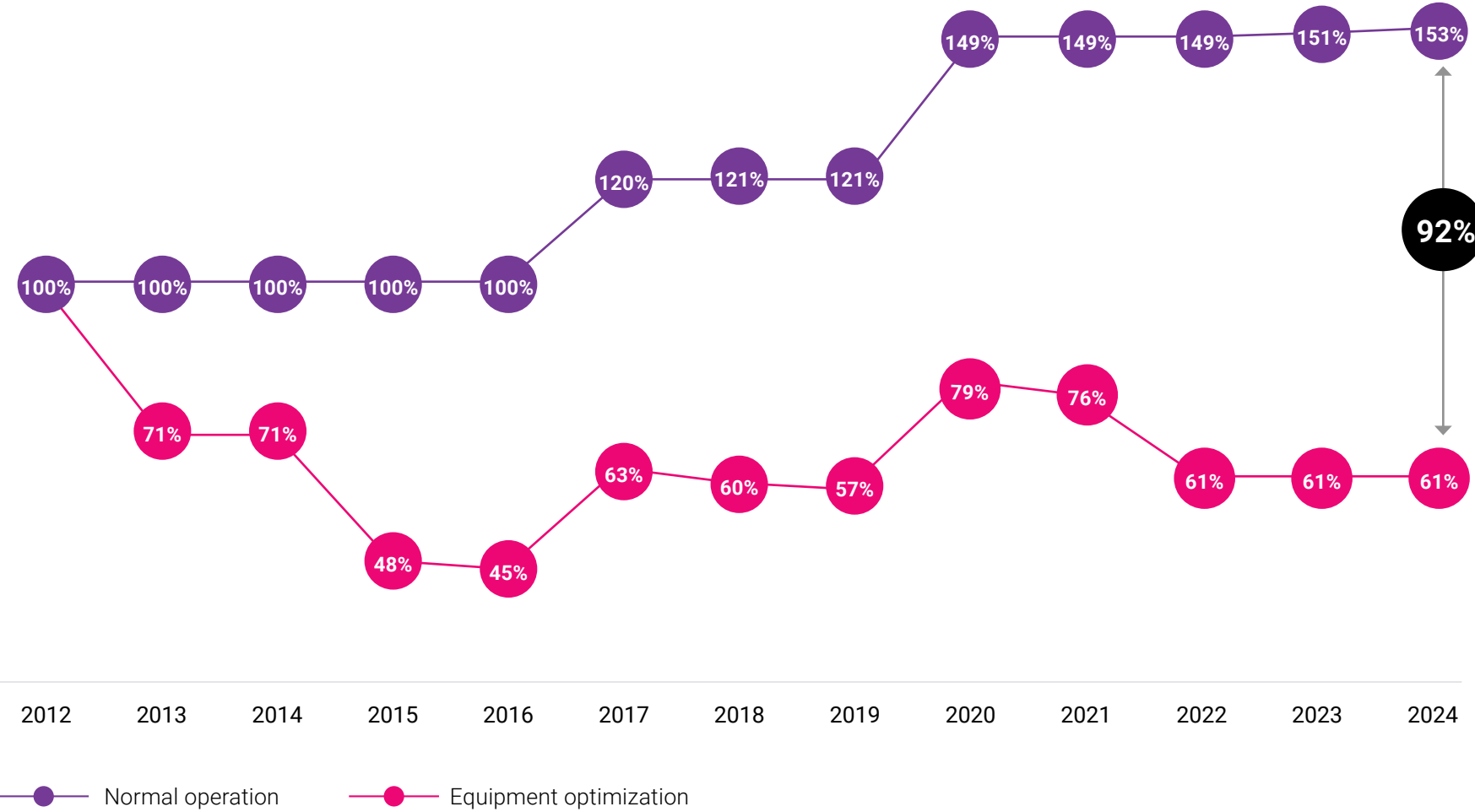
All facilities house operational telecommunications equipment in the form of server racks, cabinets and electronic equipment with supporting cables and components. Each site requires a reliable supply of electricity to power the equipment and associated HVAC systems to maintain an efficient climate-controlled operational environment.

Over time, the requirements of individual sites may evolve, depending upon product development demands or the volume of customer equipment required for interoperability testing. Similarly, efficiency opportunities arise through the transfer of data storage to the cloud to reduce physical hardware needs and processing, and product development that reduces equipment size.

For more than 12 years, Ribbon has augmented the scale of our operations and equipment to meet product development requirements and customer demands while minimizing our overall site space and reducing global energy consumption. Wherever possible, we consolidate equipment into fewer sites, partly to accommodate testing in proximity to our customers for ease of collaboration, and partly to make best use of available space. At the same time, we are constantly upgrading old equipment with new power-efficient options, such as replacing aging HVAC systems with the latest refrigerants, and reducing overall equipment inventory.

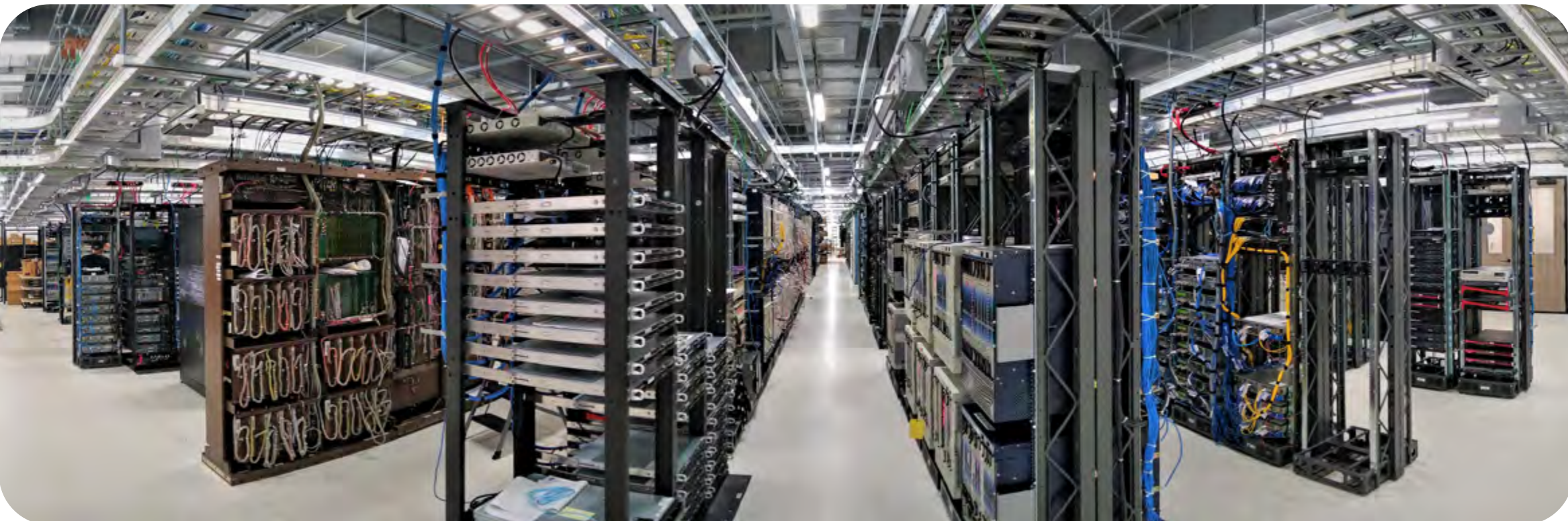
Due to these efforts, we have reduced our lab footprint by 92% since 2012, significantly reducing the energy consumption of our lab operations when compared to normal operations without these optimization efforts. In 2024, we again reduced the number of equipment racks in our laboratories, delivering a total reduction of 61% in the number of equipment racks since the start of our optimization program in 2012.

# Ribbon's Equipment Optimization Program



Based on an estimated average GHG emissions rate for each equipment rack operating for a full year, we calculate that we have avoided more than 177,000 metric tons of GHG emissions from our laboratories since 2012, of which more than 24,000 metric tons were in 2024 alone.

Without these optimization efforts, the number of equipment racks and their associated cooling and power consumption would have increased significantly over the same period of time.





## Driving Energy Efficiencies across our Operations

Alongside targeted efforts to expand renewable energy use and optimize our equipment footprint, we maintain energy efficiency measures across all our sites. These include:

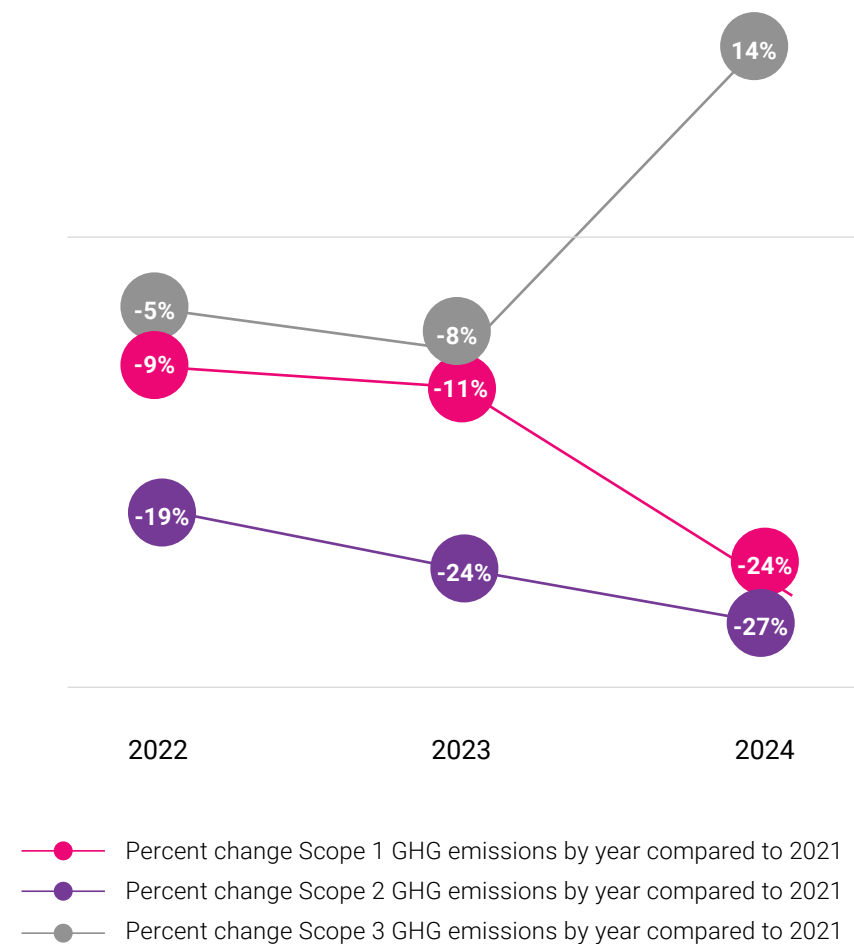
- Energy audits and implementation of identified energy savings opportunities.
- Continuing our program of conversion to LED lighting at all our sites.
- Replacement of HVAC units to energy-efficient units including three sites in 2024.
- Moving our office in Israel to an energy-efficient Leadership in Energy and Environmental Design (LEED) Gold certified facility and implementing several water conservation measures.
- Working with our landlords to achieve additional mutual gains in building efficiency including being awarded BOMA Bronze for our building in Ottawa.



# ADDRESSING SCOPE 3 EMISSIONS

Scope 3 emissions represent approximately 46% of our overall carbon footprint. Over the past three years, we have committed significant resources to Scope 3 improving data collection and continuously seek to reduce our impact. However, as our Scope 3 accounting expands to include our entire supply chain and additional Scope 3 categories, we expect to see our Scope 3 inventory increase in the near term. However, in some areas, we are already noting significant reductions. For example, our Category 3 emissions from fuel and energy use have reduced by 21% since 2018, reflecting energy efficiencies and increased use of renewable electricity.

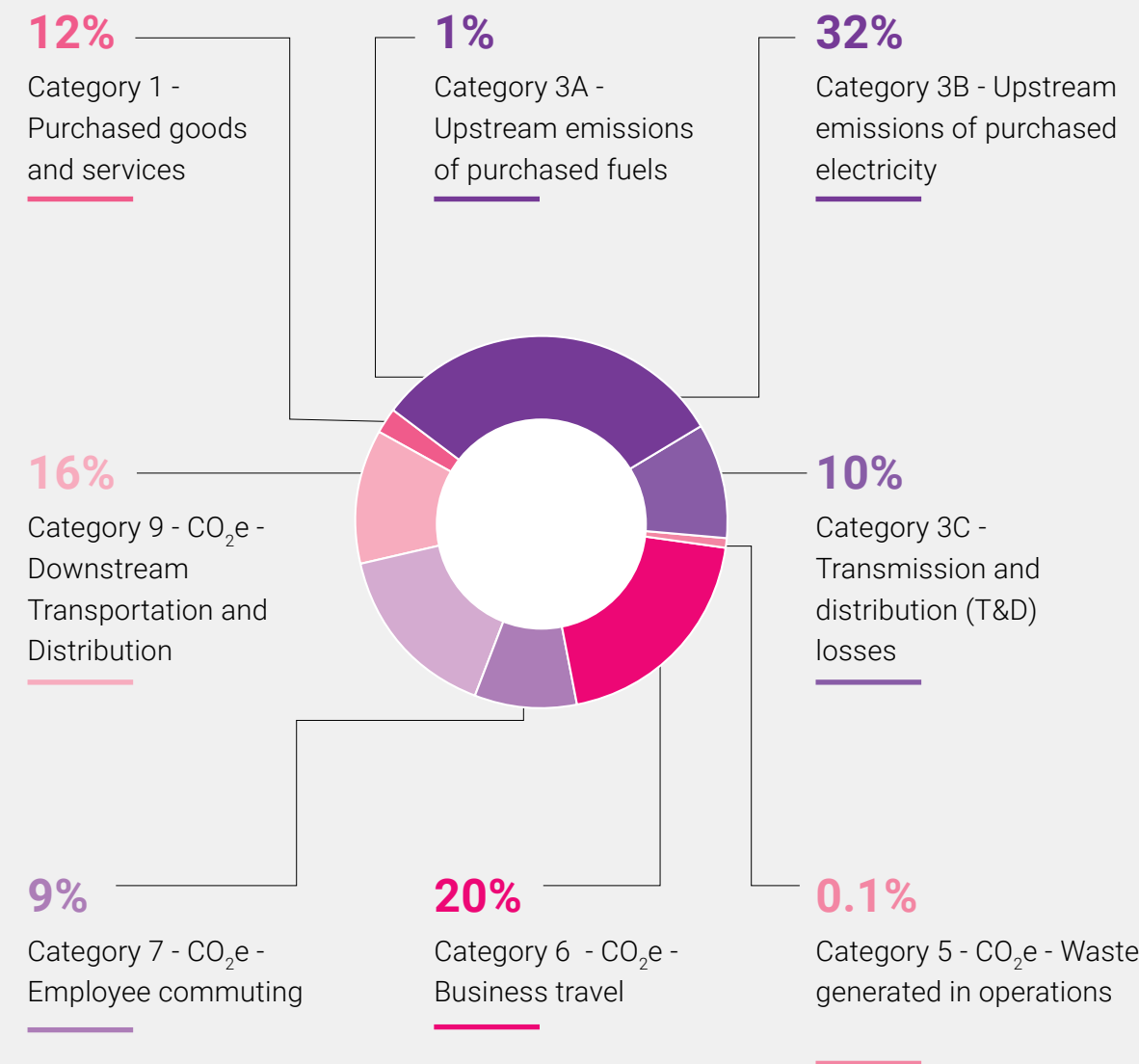
GHG emissions reductions 2022-2024



In 2024, our Scope 3 emissions amounted to 13,658 MTCO<sub>2</sub>e, of which the most significant element (44%) was due to emissions and distribution losses from fuel and purchased electricity. As we progress our Net Zero ambition, including significant expansion of renewable electricity, these Scope 3 emissions will decrease accordingly.

In an effort to reduce emissions from commuting in Scope 3, we have installed EV chargers at some sites and plan installations of additional chargers. The EV chargers are used by Ribbon employees and site visitors. Emissions from electricity used by EV chargers are not included in our GHG inventory.

Global Scope 3 Emissions 2024





**Other opportunities to reduce Scope 3 emissions include:**

- **Employee commuting (9%):** These emissions reduced by 5% in 2024, but we continue to explore lower-carbon ways for employees to commute. This includes encouraging carpooling and the use of electric vehicles: four of our sites now have EV charging stations on site.
- **Business travel (20%):** Business travel emissions have increased in recent years but still remain around half of pre-COVID levels. At our many global sites, an in-person presence is required for audits, operational changes and other key events. However, we continue to discourage non-essential travel and use lower-carbon travel options where possible.
- **Contract manufacturing (12%):** Our manufacturing supply chain relies upon a small number of responsible contract manufacturers in different countries. We work with reputable organizations who themselves have low-carbon strategies and ambitious climate targets. We collaborate with these organizations to identify further opportunities to reduce the energy requirements for the production of Ribbon products and we take reported emissions intensity into account as part of our procurement decisions.
- **Reducing waste (<1%):** Although waste has a relatively small impact, we continue to accelerate recycling programs at all sites, reduce plastic procurement, reduce product packaging weights and losses, and minimize electronic waste through responsible end-of-life management.

## Calculating Emissions from Use of Sold Products

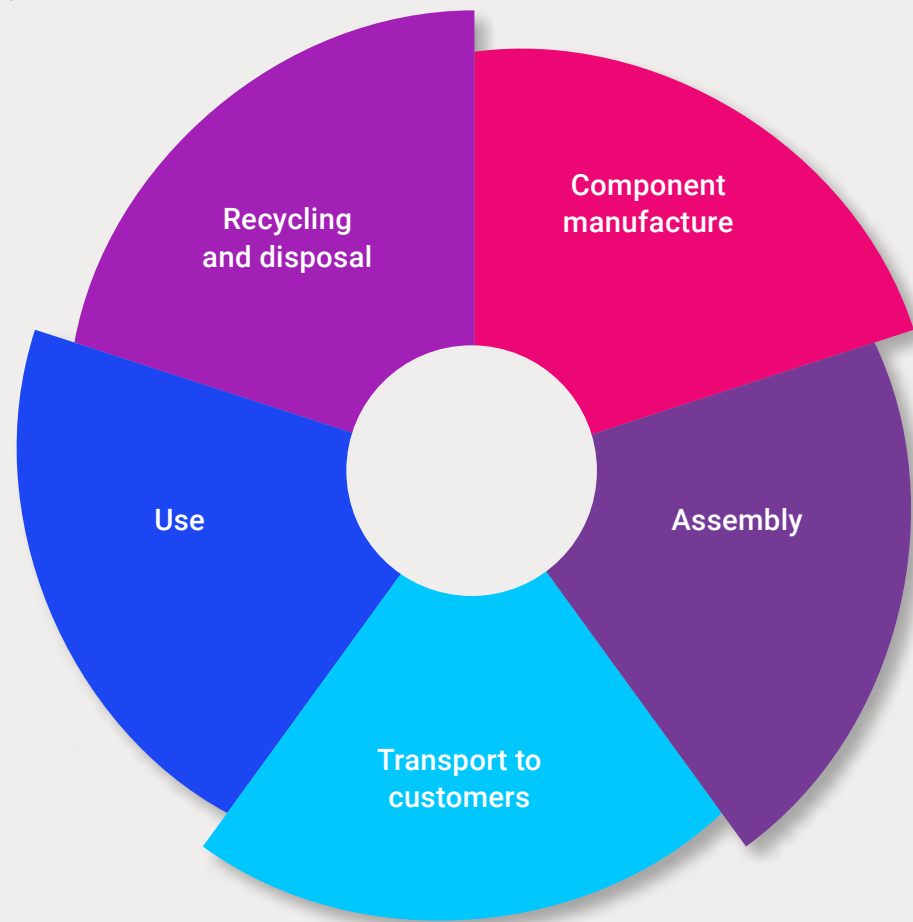
Due to the complexities of calculation, our Scope 3 accounting does not yet include lifetime energy used by our hardware sold each year (Category 11). We continue to work to refine the calculation methodology and expect to report this next year. In the meantime, we are working to reduce the electricity consumption of our hardware at customers' premises and use our Design for Environment technologies to extend the life of our hardware for customers. For example, in 2024, we completed redesigns of two widely used Session Border Controllers (SBCs) to deliver significant power savings in the use phase.

A key tool for understanding and potential reduction of Scope 3 emissions from products in the use phase is Life Cycle Analysis (LCA). This is important to our customers, who seek to understand the Total Cost of Ownership (TCO) of Ribbon solutions, which includes electricity usage over the life of the hardware. As we reduce the lifetime Scope 3 emissions of our products, our customers will enjoy a lower TCO and advance their own climate targets.

## Life Cycle Analysis (LCA)


During the past three years, we have completed LCAs on most of our hardware product groups, covering a lifespan of 15 years' product use, across key phases from manufacture to use. We have completed comparative studies for different products within our product families, to enable customers to consider the overall footprint as they make product decisions. Our LCAs are conducted using the ISO14040 Environmental Standard for Life Cycle Assessment.

### Key LCA Phases



We share our LCA data and comparative findings with our customers so that they can make informed decisions regarding power consumption and TCO as part of their own sustainability and climate change mitigation plans.

We continue to examine opportunities to reduce Scope 3 impacts and promote energy-efficient telecom equipment, enhancing productivity and longevity of existing hardware through our repair and recycling program, RibbonCare (see section: [Enhancing Product Sustainability and Circularity](#)).


[Ribbon's Resource Library including LCA findings on our assessed products](#)

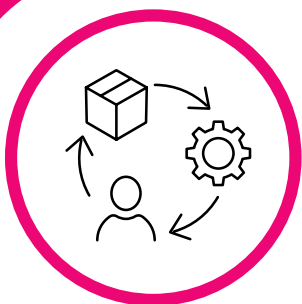
# ENHANCING PRODUCT SUSTAINABILITY AND CIRCULARITY

Our “design for sustainability” approach means that we constantly examine our products with a lifecycle view to reducing environmental impacts through all phases, including design, material sourcing, manufacturing, use and end-of-life.

## MATERIALITY:

## PRODUCT CIRCULARITY

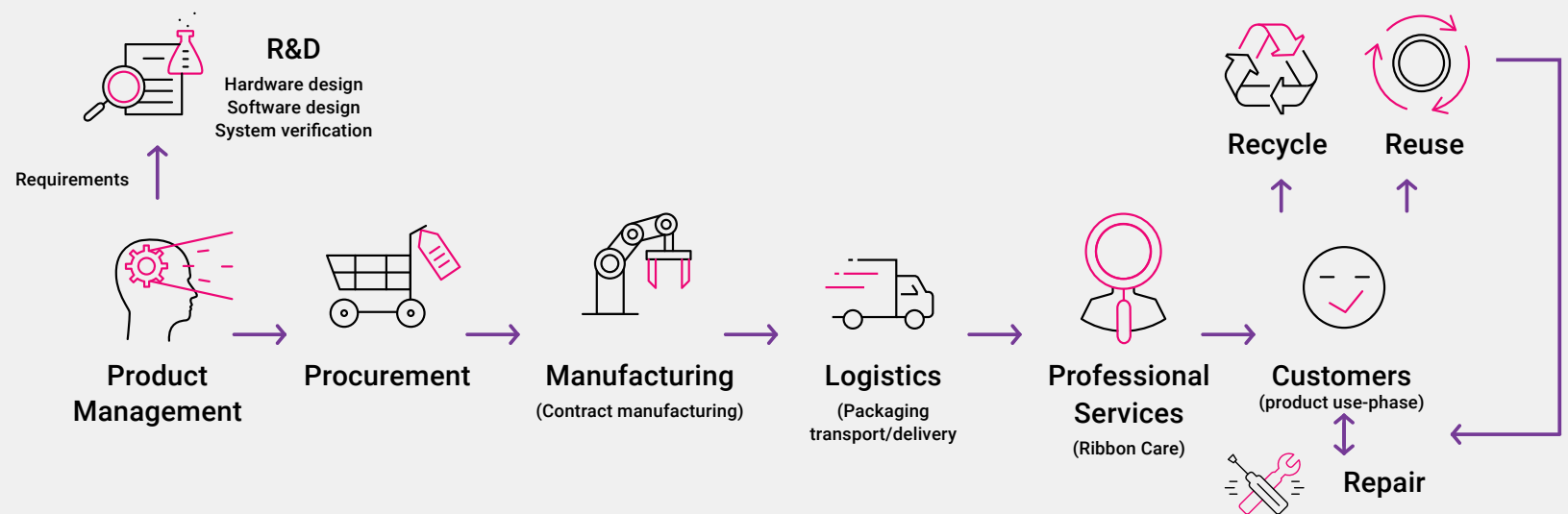
Delivering products that are aligned with circular economy principles including interoperability, durability, power-efficiency in use phase, use of recycled materials in hardware and packaging and designing with recyclability at the time of repair or end of life.



Ribbon’s focus is to ensure our solutions consider resource efficiency, minimizing the use of hazardous materials or materials of concern and anticipating future regulatory requirements. Our Design for Environment approach seeks to eliminate the potential negative environmental impacts that can result from a product or process during its lifecycle. The environmental design practices that we deploy to help minimize waste and optimize recyclability include:

- Minimum number and quantity of materials used in design
- Modular design concepts
- End-of-life disposal and recyclability of materials

### RIBBON PRODUCT LIFECYCLE



We employ Design for Environment technologies to create hardware with an average lifespan of 15 years. For components that may not last as long, we have defined an upgrade and replacement process within our development cycle, significantly extending the life of Ribbon solutions. Ribbon’s repair partners are strategically located worldwide to ensure rapid deployment of spares during emergencies. Returning older, damaged defective hardware to Ribbon enables our labs to repair and reintegrate it into our inventory for future redeployment.



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# Sustainable Product Packaging

Our packaging policy emphasizes the use of environmentally friendly materials for product packaging. Examples of environmentally friendly packaging we approve include:

- Recycled paper-based materials
- Post-consumer waste (recycled) corrugated board
- Non-toxic food-grade glues
- Recyclable foams
- Recyclable plastics
- Inks containing less than 2% volatile organic compounds
- Packaging consisting of > 50% organic materials for energy reclamation

**We have set an  
internal goal of 90%  
recyclable or reusable  
content in all our  
packaging materials.**



We conduct a quarterly audit of cardboard outer packaging at our warehouse. We record the percentages of organic materials and reusable or recyclable content by weight, generally achieving a result of more than 99%.

Additionally, Ribbon's packaging is consistently reused multiple times worldwide, significantly reducing the quantity of purchased virgin packaging. When cartons become damaged or have surpassed their travel capacity, Ribbon shreds them to create internal packing material, thereby eliminating the need for single-use plastic bubble wrap. We adhere to global specifications for recycled content in packaging across all our hardware families, ensuring strict performance standards.

# MANAGING RESOURCES TO MINIMIZE ENVIRONMENTAL IMPACTS

We aim to use resources efficiently throughout our product lifecycle, from product design to responsible end-of-life management. Our hardware products are designed for long life use and include features that improve the repairability of components, and we maintain continuous spare part availability. We expand the usability of our hardware by adding software components, so that a single hardware component can be used across networks as they expand. Where possible, at end of use, we redeploy hardware from customers back to our sites for reuse.



[Our Approach to Waste Management and Circularity](#)

## Reducing Waste

Ribbon's waste is primarily cardboard and paper, general lab or office waste and some electronic waste. We continue to engage our employees and redesign our systems to generate lower waste and deploy recycling strategies at all sites.

**In 2024, we achieved  
a reduction of 11% in  
total waste generated at  
our sites.**

**During 2023 and 2024,  
we avoided the purchase  
of more than 300,000  
single-use water bottles  
at our facilities.**

As part of our waste reduction initiatives, we strive to eliminate single-use plastic in our facilities, including the following measures we have taken in recent years:

- Eliminated procurement of bubble wrap packaging and deployed alternative materials;
- Replaced plastic pallet straps with fortified paper straps and other plastic packaging tape with paper tape;
- Ending the purchase of bottled water and installed water fountains;
- Removal of single use plastic canteen cutlery and portable food containers; and
- Upgraded coffee machines with "bean to cup" services to reduce single use capsules



# Conserving Water

Water usage at Ribbon sites and in our production facilities is mainly for hygiene and catering. In 2024, our water consumption reduced by 15% compared to 2023, a reflection of ongoing efficiency efforts. All of our large facilities use water-conserving plumbing to minimize water consumption. We have worked with the World Resources Institute to classify water stress at thirty of our largest sites and have established business continuity plans in the event of a loss of drinking water. In 2024, 34% of our total water withdrawal was in areas classified as water stressed.

# Optimizing Logistics

We reduce the environmental impact of our logistics by maximizing use of land and sea transport. We collaborate with our customers and sales teams to produce accurate forecasts and we work with our suppliers to have a predictable and reliable supply chain that does not drive a constant demand for expedited air shipments. Wherever possible, we aim to source components locally, in the country of the assembly operations, to minimize our inventory and carbon footprint through optimized logistics. We ship products directly from our contract manufacturing plants wherever possible to avoid unnecessary travel.

# Addressing Biodiversity

At Ribbon, we recognize the critical importance of biodiversity in sustaining ecosystems worldwide. With our facilities located primarily in leased sites in urban areas, we believe that our overall impact on biodiversity is very minimal. However, we take action where possible to minimize negative impacts on biodiversity where we can.

Ribbon conducts reviews of applicable biodiversity-related laws and regulations as part of our ISO14001 Environmental Management System. We seek to comply with or exceed requirements related to biodiversity conservation and the restoration of degraded ecological systems.

Additionally, we perform an annual assessment of our regional operations and the risks they pose to local biodiversity, and we look at climate transition planning for our sites related to the risks of climate change on our operations.

We pursue actions to minimize pollution from our activities and collaborate with suppliers, in particular, contract manufacturers, to apply the same standards.



[Our Approach to Biodiversity](#)





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# MAINTAINING RESPONSIBLE BUSINESS



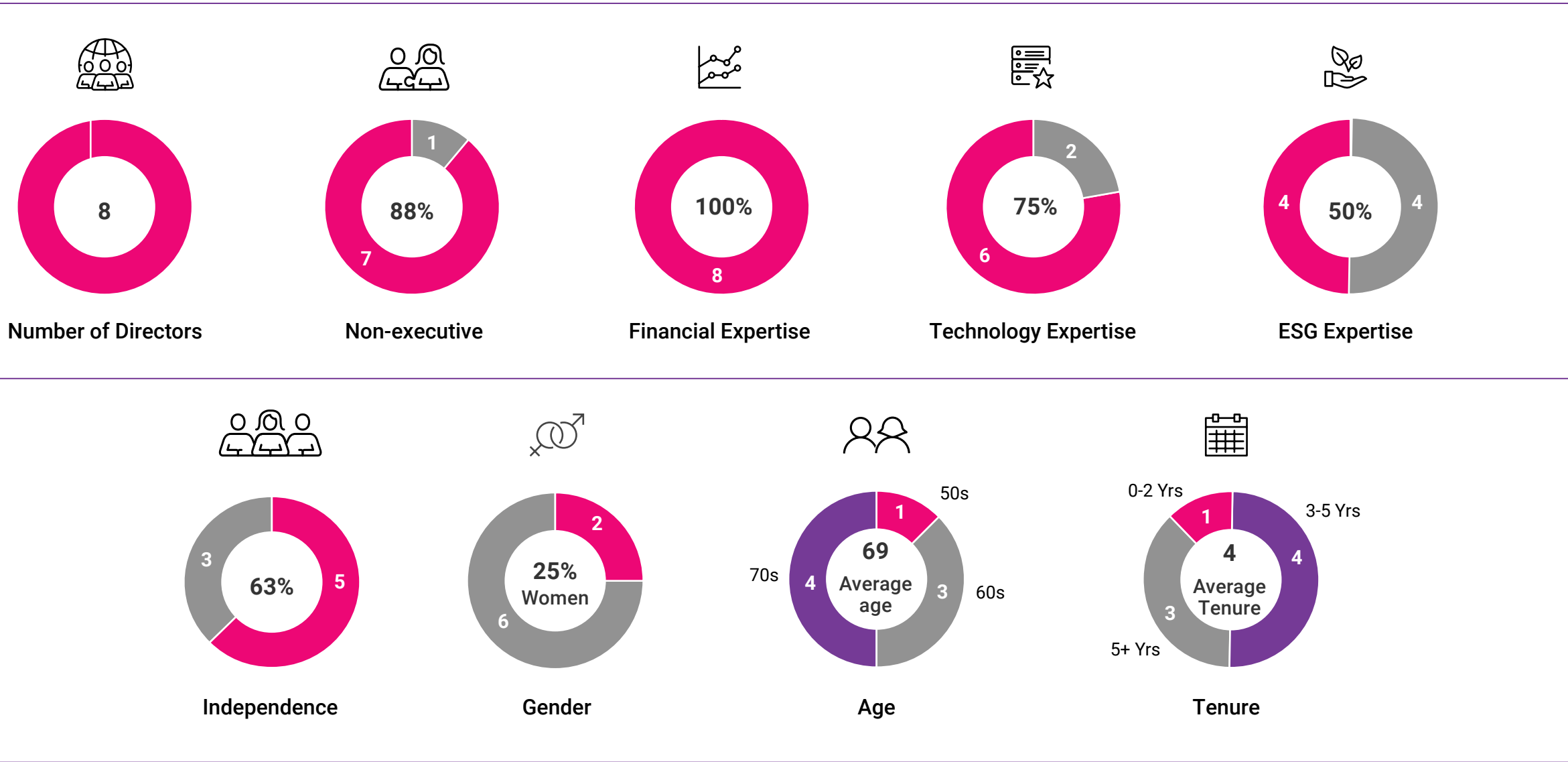
# CORPORATE GOVERNANCE

We are committed to building long-term value and assuring the success of the company for our stockholders and stakeholders, including the employees, customers, suppliers and the communities in which we operate. To help achieve these goals, we maintain sound corporate governance practices and controls.

## Assuring Robust Corporate Governance

Our Board of Directors is charged with overseeing company performance, compliance programs and procedures and effective risk management as well as providing guidance to the Chief Executive Officer and senior leadership on strategic matters. The Chairman of the Board is Mr. Shaul Shani.

### Ribbon Communications’ Board of Directors (year-end, 2024)



## Board Committees

Our Board has four standing committees:

- Audit Committee;
- Compensation Committee;
- Nominating, Sustainability and Corporate Governance Committee; and
- Technology and Innovation Committee.

Each Committee is composed entirely of independent directors as defined under applicable rules, including Nasdaq rules. All members of the Audit Committee meet the independence requirements of Rule 10A-3 under the Securities Exchange Act of 1934, as amended, and all members of the Compensation Committee meet the heightened independence requirements for Compensation Committee members under the Nasdaq rules

## Board engagement on sustainability

Our Board is fully committed to upholding ethical conduct and corporate sustainability. Progress in sustainability is an agenda item at every Nominating, Sustainability and Corporate Governance Committee meeting and the Board reviews our strategy and guides future direction. During the past year, the Board has been a critical partner in reviewing progress against our sustainability strategy, goals and targets.



[Corporate Governance webpage](#)

[Board of Directors](#)

[Our Approach to ESG Governance](#)

## Risk Management

Ribbon's Board of Directors is responsible for assessing the Company's approach to risk management and overseeing management's execution of its responsibilities for identifying and managing risk. Significant strategic risks are overseen and evaluated by the full Board while other risks are overseen by Board committees. In our annual risk assessment process, we review the business impact of risks and assign likelihood and impact scores to risk areas including business continuity, security, privacy, environmental, health and safety, human rights and others. We maintain a risk tracking tool to manage all corporate risk information in a single location allowing risk exposure and mitigation to be reviewed efficiently.

We maintain a centralized, standardized risk documentation process to align risk assessment procedures throughout the company and enable consistent use of our enterprise risk tracking tool across four key management systems and risk areas:

- Business Continuity Management System (BCMS)
- Physical and Information Security (ISMS)
- Health and Safety at our facilities (HSMS)
- Environmental Management System (EMS)

In 2024, our risk review yielded the following key actions arising to address risk management and mitigation including:

- Continued monitoring of our climate change impact on our customers and Ribbon's impact on climate change, including customer expectations to align our climate transition planning with global targets under the Paris Agreement.
- New policy for battery charging and storage to address safety risks related to EV charging at our sites for a range of vehicles including cars, ebikes and scooters, charging of electronics and storage of old batteries.
- Continued drought monitoring and water availability risk assessment at several higher-risk sites with mitigation planning.
- Improved monitoring and auditing of key suppliers to address human rights, health and safety and other matters in our global supply chain.
- Heightened data security protection to address increasingly sophisticated cyber-attacks, including Distributed Denial of Service and ransomware to prevent disruption and data exposure.

Many of these actions are in progress and disclosed in relevant sections of this report.

## Business Continuity

Ribbon actively maintains a Business Continuity Management System (BCMS) to ensure stability of our global operations following a potential disruption or catastrophic event, such as a natural disaster, pandemic, cyberattack or other similar events within the supply chain. The BCMS defines procedures to limit the impact from the loss of key internal services in our Customer Operations, Professional Services and R&D Programs. Our BCMS is mandated by Ribbon's Executive Management Team and is certified to the requirements of the ISO 22301:2019 Standard. Each year we perform a thorough Business Impact Assessment (BIA) and conduct quarterly business continuity drills based on relevant catastrophe or disaster scenarios.

Our robust approach to business continuity offers our customers peace of mind from knowing that our operations will continue to function during a disruptive event. We receive many inquiries from our customers about our BCMS and many customers download our Business Continuity Certifications each year. In 2024, we continued to optimize and improve business continuity processes including the use of remote platforms and virtual troubleshooting to address ongoing challenges to support our customer needs.



# UPHOLDING COMPLIANCE AND ETHICS

Ribbon conducts its business in accordance with the highest ethical standards and in compliance with applicable laws, rules and regulations in every country in which we operate. Our global programs are designed to ensure compliance throughout our organization while striving to eliminate potential compliance breaches occurring through lack of awareness. We provide compliance training to employees throughout the year, with a strong focus on anti-harassment, anti-discrimination, anti-bribery and corruption. In 2024, Ribbon was not subject to any enforcement agency investigations, fines or sanctions related to noncompliance in any area of our business including but not limited to corruption and bribery.

## MATERIALITY:

### BUSINESS ETHICS

Operating with integrity and in line with Ribbon's Code of Conduct in all activities, including anti-corruption, anti-bribery and responsible use of technology.



[Ribbon Code of Conduct](#)

[Our Approach to Compliance](#)



United Nations  
Global Compact

## Participating in the United Nations Global Compact

In 2024, to further embed ethical conduct into our culture and publicly affirm our commitment, Ribbon became a participant in the United Nations Global Compact (UNGC), pledging to uphold the Ten Principles as part of this leading global initiative. Our commitment was underpinned by a letter from our CEO, which we will renew annually alongside the publication of a Communication on Progress in line with UNGC requirements. As an initial step, we are reviewing our internal procedures to identify opportunities to enhance our alignment with the UNGC principles.



[Ribbon UNGC Membership](#)

[Ribbon's CEO Commitment to the UNGC](#)

## Ethical Conduct

Upholding ethical conduct throughout our business is foundational to our ability to create value for our stockholders and stakeholders. We aim to act in accordance with the principles of integrity, accountability, and fair dealing in all our interactions, which applies without exception to all officers and employees of Ribbon. We expect the same standards of ethical conduct from those involved in our business, including partners, suppliers and contractors.

Our Code of Conduct is the cornerstone of our ethics program and sets forth the Company's unwavering expectation that all employees behave in an ethical and lawful manner in their work for Ribbon. All newly hired employees undergo an intensive period of orientation on a variety of topics, including ethics training. Annually, every Ribbon employee—from the CEO to the most junior employee—is required to complete Code of Conduct training, confirm their continued adherence and respond to a survey on, among other topics, corruption and bribery. During the year, Ribbon's Legal Department regularly issues Code of Conduct reminders to all employees, including options for safe reporting of alleged Code violations; executive leaders address the importance of ethical conduct during employee townhall meetings; and ethics posters are published online and on internal office notice boards.

In 2024, 100% of active employees completed the annual mandatory Code of Conduct review and survey, 100% of all new hires completed the mandatory ethics training and Code of Conduct review as part of their new hire orientation, and all active employees completed the mandatory ethics training, as monitored by our legal and internal audit teams.

Ribbon employees have a variety of reporting channels available to them to report issues and concerns under our Code of Conduct. We encourage reporting by employees and prohibit retaliation against any employee who reports ethical or other misconduct in good faith. Ribbon did not receive any substantiated reports of corruption or bribery from employees in 2024.

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# Anti-Corruption

Ribbon maintains a zero-tolerance policy toward corruption, bribery and any other form of illegal conduct. Ribbon believes that businesses that stand against corruption and bribery foster trust among stakeholders and stockholders, protect themselves and their employees from risk, and contribute to the development of a fair and orderly society for the benefit of all.

Each year, the Company’s Chief Legal Officer conducts an in-depth corruption risk assessment exercise to identify and address areas of risk in Ribbon’s global business. Ribbon was not the subject of investigation or other enforcement actions for corruption or bribery anywhere in the world in 2024.



[Our Approach to Anti-Corruption](#)

[Our Approach to Public Policy](#)

# Human Rights

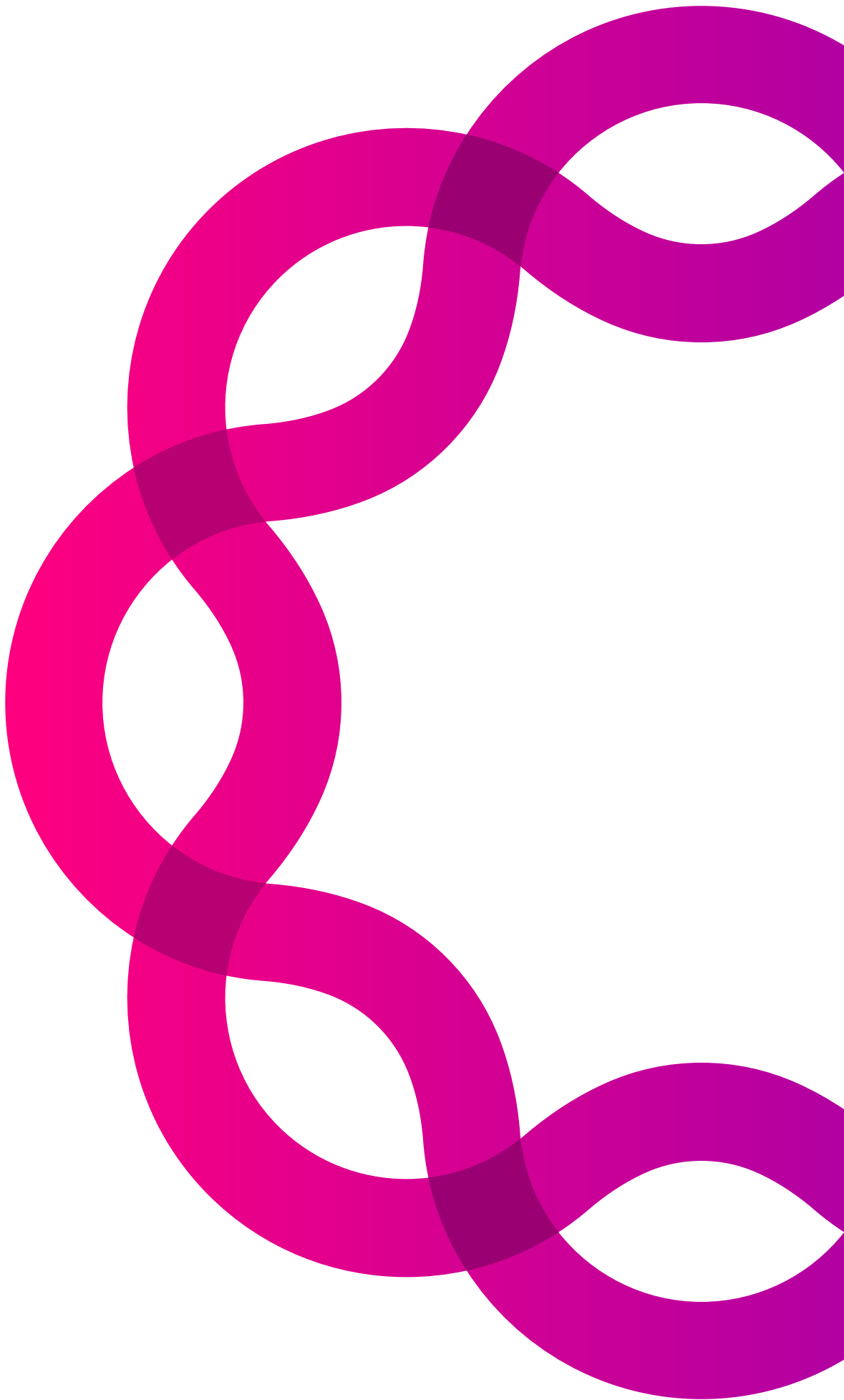
Following the update of our Human Rights Risk Assessment in 2023, covering Ribbon’s direct workforce across our operations globally, in 2024, we continued to address human rights risks through our annual Global Risk Review. We implemented risk mitigation controls in several areas.

During 2024, we completed a review and update to our global review of living wage levels in all our countries of operation, using reputable sources for living wage information in each country. We again were able to confirm that all Ribbon employees everywhere receive a living wage in line with these guidelines as a minimum, and exceed these guidelines in many cases.

We continue to prioritize human rights as part of our engagement with suppliers and address any potential human rights risks as they arise through our supplier audit process (see section: [Responsible Supply Chain](#)).



[Our Approach to Human Rights](#)





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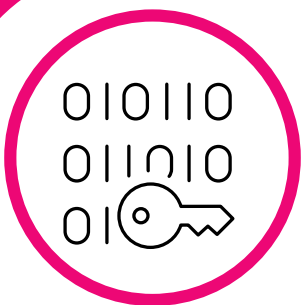
Appendix

# INFORMATION SECURITY AND DATA PRIVACY

## MATERIALITY:

### DATA SECURITY AND PRIVACY

Maintaining robust cybersecurity controls to protect information and assets owned by Ribbon, its suppliers and customers and maintaining robust privacy controls to protect personal data processed by Ribbon.



[Our Approach to Information Security](#)

[Our Approach to Data Privacy](#)

Ribbon conducts its business in accordance with the highest ethical standards and in compliance with all applicable governmental laws, rules and regulations in every country in which we operate. Our global programs are designed to ensure compliance throughout our organization while striving to eliminate potential compliance breaches occurring through lack of awareness. We provide compliance training to employees throughout the year, with a strong focus on anti-harassment, anti-discrimination and anti-bribery and corruption. In 2024, Ribbon was not subject to any enforcement agency investigations, fines or sanctions related to noncompliance in any area of our business including but not limited to corruption and bribery.



# Information Security

Ribbon is dedicated to delivering secure and reliable communications technology solutions for our customers, and we uphold an annual external ISO 27001:2022 certification across our corporate financial and customer support organizations. We prioritize the information flow and processes crucial to our business and honor the trust our customers place in us by maintaining the highest standards of integrity and security, incorporating robust features into our products throughout the product lifecycle. Our proactive approach involves continuously analyzing, improving, and adapting to the evolving cyber landscape and the changing needs of our clients. Our cybersecurity strategy is built upon four fundamental pillars:

- **Prevention:** We implement proactive measures to prevent cyber-attacks and minimize risks. Our approach adheres to best practices and industry standards to secure our systems, networks, and data. Additionally, we educate our employees and customers on cybersecurity awareness and best practices.
- **Detection:** We constantly monitor our systems, networks, and data for any indications of compromise or breach. Utilizing advanced tools and techniques, we detect and analyze cyber threats and incidents. Additionally, we collaborate with external partners and authorities to exchange threat intelligence and best practices.

- **Response:** We respond to cyber incidents swiftly and effectively through our dedicated incident response team, which leads the coordination and execution of our response plan. We also prioritize transparent and timely communication with stakeholders and regulators throughout the process.
- **Recovery:** We aim to restore our systems, networks, and data to normal operations promptly following a cyber incident. Additionally, we perform a comprehensive investigation and root cause analysis to identify and rectify any gaps or weaknesses. Furthermore, we apply lessons learned and best practices to enhance our cyber resilience.

Ribbon's Privacy and Information Security Executive Steering Council (PISEC) consists of experts from various areas of Ribbon operations and oversees the company's information security and strategy. Ribbon employs layered security solutions to prevent, detect, and respond to cybersecurity incidents, adhering to industry best practices for information security and data protection controls. The company maintains an information security architecture that includes data risk assessments, vendor risk assessments, contract reviews for both customers and vendors, and a regular data protection training program for employees. Ribbon leverages its industry connections to stay informed about global threat discoveries, which aids in the continuous improvement of

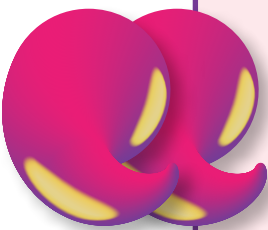
processes related to asset management, access control, vulnerability management, incident response, and third-party risk management.

The Information Security Team conducts regular cyberbreach assessments and penetration testing, addressing any detected issues. Several initiatives were implemented in 2024 to enhance Data Loss Protection capabilities, aiming to protect Ribbon, its customers and employees. The team maintains annual ISO 27001:2022 certification for the corporate financial and customer support organizations.

In 2024, improvements were made to various security policies to align with the ISO 27001:2022 standard and clarify control implementations. Investments

were also made in upgrading cybersecurity tools to improve threat hunting and detection capabilities. No major non-conformances were identified during the certification audits in 2024.

New cybersecurity awareness training was introduced for all employees, with a 100% participation rate. This included identifying and managing phishing emails which we periodically issue to employees to test their recognition of email cyber threats; in cases of repeat failure to recognize phishing, dedicated personal training was provided. We also introduced this training for our key contractors for the first time in 2024, and most completed the training successfully.



Given the increasing sophistication and complexity of cyberthreats, it is imperative that our protection systems are equally advanced. At Ribbon, we continuously evaluate and enhance our information security programs and practices.

Heather Phelps, Director, Information & Cyber Security, Ribbon





# Data Privacy

Ribbon maintains an active data protection program which continuously monitors compliance to applicable data protection laws and the evolving data protection landscape. Our program focuses on compliance with the EU General Data Protection Regulation (GDPR) through robust data protection policies and practices. We apply these policies and practices across the company, beyond the specific compliance needs in Europe, in order to create a common standard of privacy across the company. This has a pull-through effect of supporting Ribbon’s compliance with applicable data protection laws around the globe – including compliance with evolving privacy regulations in the United States, India, Canada, Australia and elsewhere.

We pay particular attention to the processing of customer and employee data in order to maintain appropriate privacy practices and safeguards within the scope of Ribbon services. This includes maintenance of an active vendor risk management program and designing Ribbon’s products and services with Privacy by Design (PbD) principles in mind.

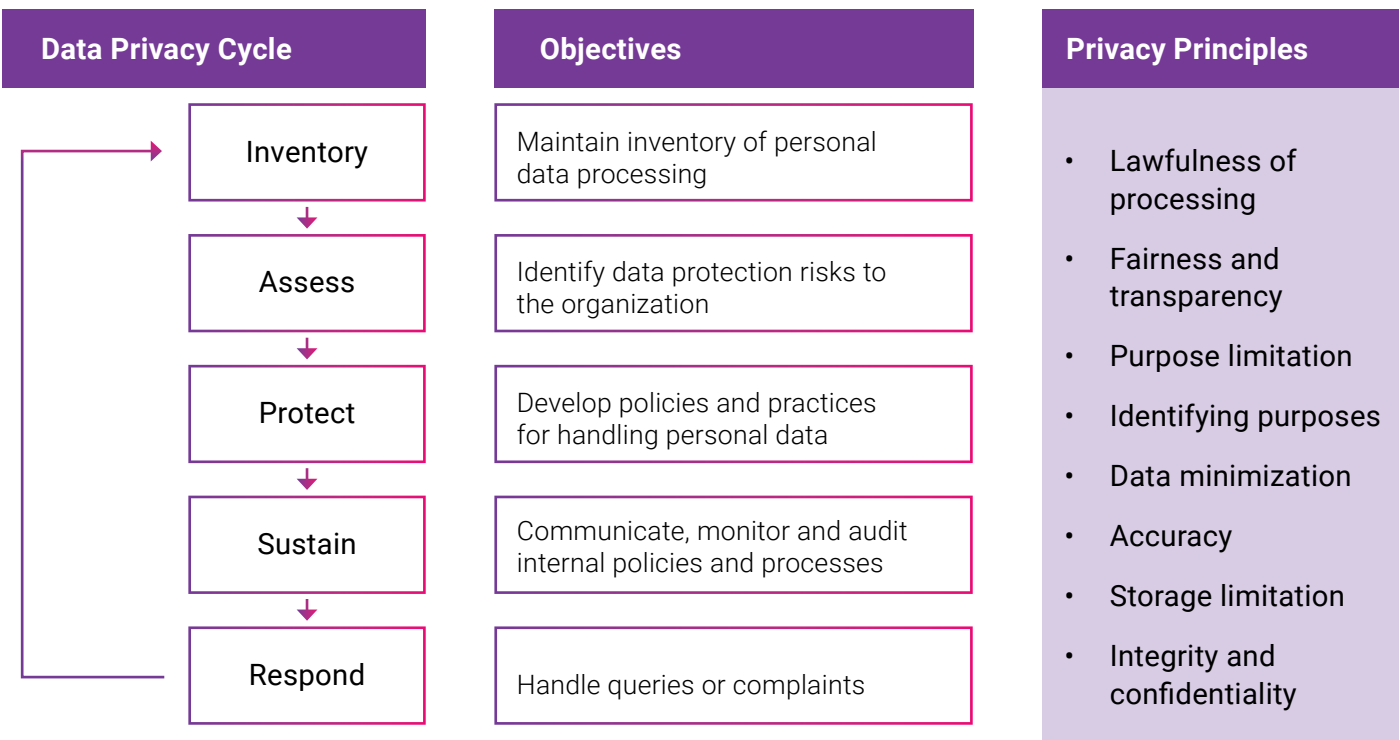
Overall executive direction of our data protection program resides with Ribbon’s Chief Legal Officer who also serves as the Data Protection Officer (DPO) for certain Ribbon entities. Ribbon was not subject to sanctions by data protection enforcement agencies in 2024.

In 2024, we were active in advancing data protection measures in the following ways:

- 90 data protection assessments executed
- 135 customer data protection related engagements
- 92 supplier data protection related engagements
- 4,101 data protection training units completed by Ribbon employees
- Maintained self-certification to the EU/UK/Swiss-US Data Privacy Framework (DPF)
- Preparation for India’s Digital Personal Data Protection Act (DPDPA)
- Appointment of DPO for Ribbon’s Singapore entity.
- Extension of certain data protection risk assessment practices to AI Governance.

## Data Protection Lifecycle

Ribbon’s data-protection cycle is supported by industry-leading privacy operations platforms and expert toolsets.



## Associations and Certifications

Ribbon is a corporate member of the International Association of Privacy Professionals ([IAPP](#)), the largest and most comprehensive global information privacy community and resource. Ribbon counsel and personnel attached to the privacy program are trained in data protection matters including maintenance of certain IAPP privacy professional certifications. Ribbon and several of its affiliated U.S. companies are self-certified under the EU/UK/Swiss-US Data Privacy Framework (DPF) program. For more insight regarding Ribbon’s approach to data protection and the personal data processed by Ribbon, please see our [Privacy Policy](#).

# Artificial Intelligence (AI) Governance

The explosion of generative artificial intelligence technologies has the potential to transform entire industries. Ribbon anticipates that AI-powered capabilities will serve to further innovate and enhance Ribbon’s communications products and service offerings over time.

## [Our Approach to Artificial Intelligence \(AI\)](#)

Ribbon is committed to the development and deployment of trustworthy AI technologies in line with the criteria defined by the [NIST AI Risk Management Framework](#). Ribbon maintains a comprehensive approach to AI risk management, including determining the appropriateness or need for AI technology for a given purpose.

Our AI risk management program supports the deployment of trustworthy AI within the company, overseen by the Ribbon AI Steering Committee that includes Ribbon leaders from different functions and geographies. The Committee aims to ensure we maintain knowledge of evolving AI regulatory and standards in the context of Ribbon’s products, services and corporate functions as well as an evolving understanding of customer expectations regarding Ribbon’s use of AI within its product and services offerings. The Committee also oversees other internal processes related to the use of AI.

## AI in Ribbon Products and Services

Ribbon is actively advancing a portfolio of AI-driven product and service initiatives that are centered on data-centric capabilities—such as observability, analytics, machine learning, and automation—that enhance the operational efficiency and security of modern networks. At the core of this innovation is Ribbon Research Labs (RRL), our internal incubator for emerging technologies. RRL plays a pivotal role in evaluating AI technologies through the lens of trustworthiness, fairness, and transparency, in alignment with the principles outlined in the NIST AI Risk Management Framework. To ensure responsible deployment, RRL has established a structured process that spans technical and business stakeholders and includes customer validation stages to guide the lifecycle of AI integration. As applicable, Ribbon incorporates these guidelines throughout the product development process.

## AI Regulatory and Framework

Ribbon is committed to ensuring the responsible use of AI tools in compliance with industry best practices and applicable legal frameworks, such as the EU AI Act, a regulatory framework which aims to ensure that AI systems are safe, transparent, ethical, and respect fundamental rights. Ribbon is an operator within the value chain for AI systems under the EU AI Act and we have put in place a program to deliver compliance, leveraging elements of our established product development quality management system and GDPR compliance program.





# RESPONSIBLE SUPPLY CHAIN

We view our suppliers as critical partners in our ability to deliver our products and services to meet our customers’ requirements. We expect them to uphold the standards of ethical conduct, labor and human rights protection and environmental stewardship in line with our Supplier Code of Conduct (SCoC).

## MATERIALITY:

### SUPPLY CHAIN MANAGEMENT

Managing the supply base to conform with ethical standards and sustainable practices, including human rights standards and environmental targets.



[Our Approach to Responsible Supply Chain Management](#)

[Ribbon’s Supplier Code of Conduct \(SCoC\)](#)

## Our 2025 Supply Chain Target

### Target

By 2025, audit 30% of our Tier 1 suppliers by spend with actions complete to ensure 100% adherence to Ribbon’s Supplier Code of Conduct.

### Progress in 2024

Exceeded our target with 94% of our Tier 1 suppliers by spend audited against our Supplier Code of Conduct since 2023 by independent external auditors (21% in 2024)

Ribbon’s extended supply chain includes more than 5,000 active suppliers of goods and services across all our business units globally. Of these, we engage third-party manufacturers to build core components. In 2024, the following suppliers audited accounted for at least 45% of our total supplier spend and 100% of product manufacturing.

- Eastcom Group
- Flextronics
- Hawkeye Technologies
- Fabrinet
- Lumentum
- TMA
- CIG Shanghai Co Ltd
- Sanmina Corporation

**Tier 1 & 2 suppliers audited since 2023 against Ribbon’s Supplier Code of Conduct represent **46%** of our total annual supply chain spend.**

In 2024, we continued our program of external supplier audits against our SCoC, covering primary ESG performance areas including working conditions, labor rights, environmental management and more.

Zero critical findings arose from our contract manufacturer audits, but opportunities for improvement in documentation and communication processes and some performance areas were identified as follows, in order of frequency of occurrence (highest first):

- Human rights and due diligence
- Internal supply chain management system
- Working hours
- Health & safety
- Environment
- Wages & benefits
- Young labor
- Responsible recruitment

We are actively addressing these issues with our suppliers and tracking the implementation of corrective actions, supported by quarterly monitoring for a period of at least two years.

Additionally, we maintain a collaborative relationship with the Joint Alliance for Corporate Social Responsibility (JAC), an industry initiative of telecom operators with the common objective of raising social, environmental and ethical standards within the ICT supply chain. The initiative monitors the social, environmental and ethical conditions of common supply chains of the telecom operators with an aim to raise supply chain standards for people and the wider environment. In 2025 and 2026, we plan to audit selected Tier 2 suppliers in collaboration with JAC.



# Managing Conflict Minerals

We aim to source components and materials from companies that share our values regarding environmental responsibility, ethical conduct and respect for human rights, including sourcing conflict-free minerals. We maintain systems to investigate the sources of 3TG minerals (tin, tungsten, tantalum and gold) with the aim of ensuring that conflict minerals do not enter our supply chain.

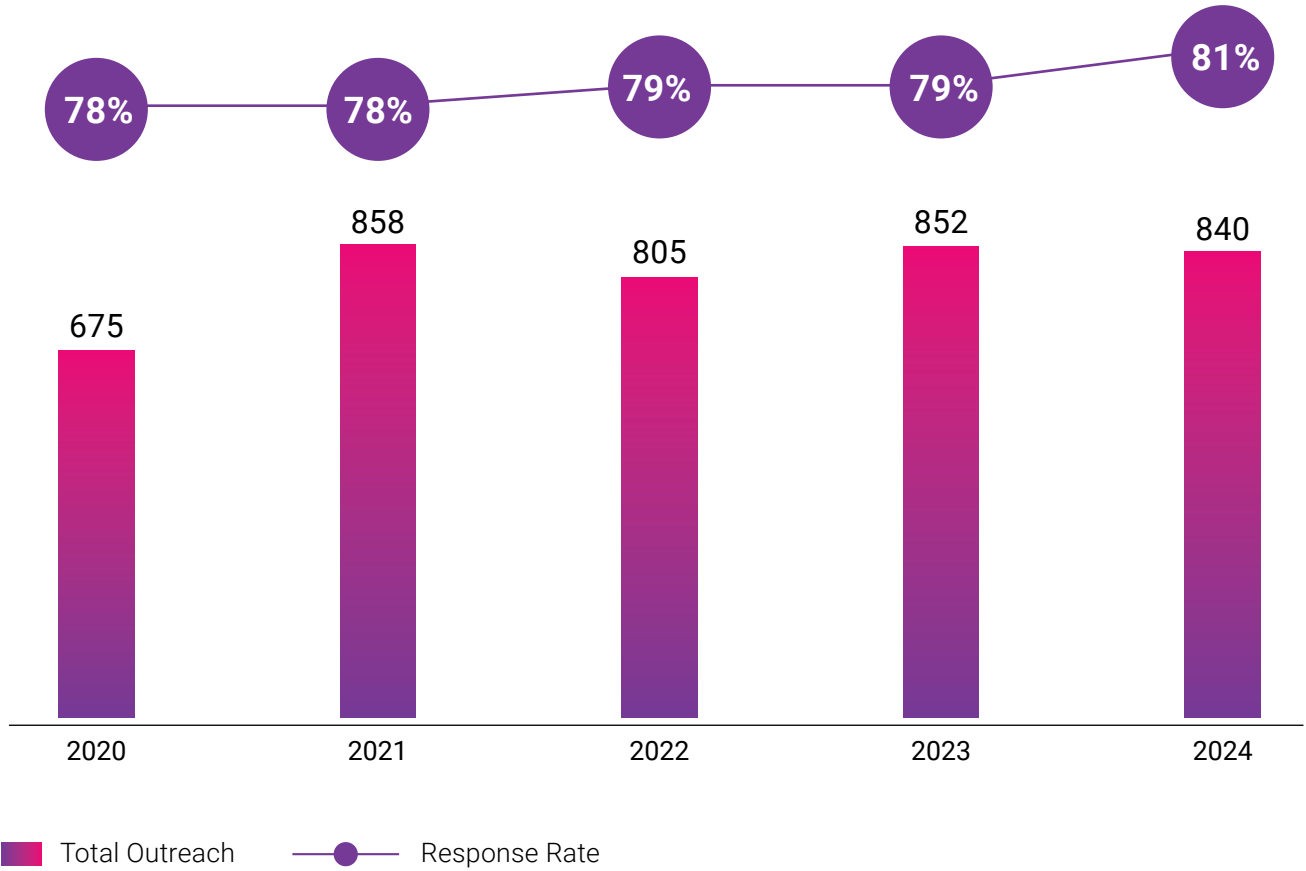
In 2024, Ribbon contacted 840 in-scope suppliers (excluding distributors and service providers) of Ribbon products with a request to provide information about their use and exposure to conflict minerals. The information obtained from suppliers enabled further investigation to identify conflict minerals risk in our extended supply chain. We continue to engage with suppliers who have not yet responded in order to complete our overall conflict minerals risk exposure analysis.

**81% of in-scope suppliers provided responses to our conflict minerals survey (2023: 79%).**





Overview of Supplier Outreach and Response Rates



In 2024, the total number of in-scope manufacturers responding to Ribbon’s conflict minerals survey was more than **670** manufacturers, a response rate of at least **78%**, for the fifth consecutive year.



[Conflict Minerals Policy](#)  
[Our 2024 Conflict Minerals Report on Form SD.](#)





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# APPENDIX



# ABOUT THIS REPORT

This is Ribbon Communications' sixth annual Sustainability Report, presenting our global operations. In this report, we share the ways in which Ribbon makes a positive contribution to the economy, the environment and people through our core business, and account for our environmental, social and governance (ESG) performance through 2024.

Data in this report relates to the 2024 calendar year and prior years where noted, and includes examples of practice and operational updates through 2024. Our last Sustainability Report covered the year 2023 and was published in 2024. This report was published in 2025. The scope of information in this report includes global business operations owned and operated by Ribbon, unless otherwise stated, and aligns with the scope of our Annual Report on Form 10-K.

 [2024 Annual Report on Form 10-K](#)

This report was prepared in accordance with the Global Reporting Initiative (GRI) Sustainability Reporting Standards. The selection of content for this report was informed by a robust stakeholder analysis and assessment of material topics conducted in 2024. We also disclose in line with the Sustainability Accounting Standards Board (SASB) Technology Hardware Standard and provide an overview of our climate change impacts using the Taskforce on Climate-related Financial Disclosures (TCFD) framework. These disclosures can be found in the Appendix of this report.

Energy and emissions data in this report were verified by an independent third party. The Assurance Statement can be viewed [here](#). All other information and data undergoes robust monitoring and tracking and are confirmed through internal checks, audits and quality certifications by third parties. For details of compilation of environmental data, see [Note to energy and emissions data compilation](#) in the Appendix of this Report.

All \$ currency amounts disclosed in this Report refer to U.S. dollars.

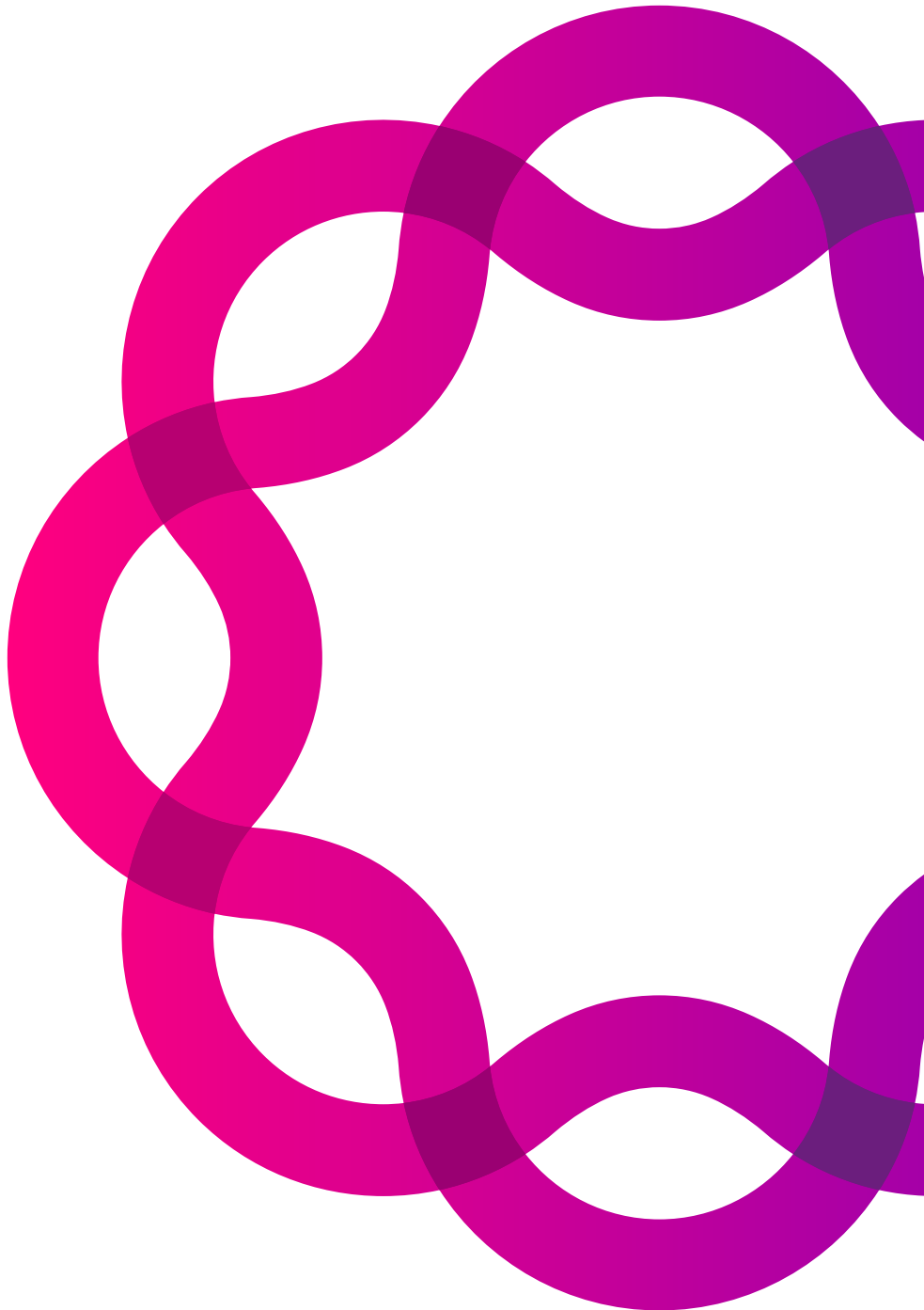
Data and information in this report may differ from information published in Ribbon's Annual Report, due to the different nature of disclosures and methodologies. In such cases, for regulatory disclosure requirements, the Annual Report takes precedence. In the event of any perceived discrepancy, or any other query or observation, as well as for any feedback or suggestions, we invite you to contact us.

Please write to:

**Brian Green**

Global Sustainability

[sustainability@rbbn.com](mailto:sustainability@rbbn.com)



# GLOSSARY

**5G:** This is the next generation wireless network technology that will transform how we use the internet. 5G will deliver unprecedented scale and speed, enabling entirely new ways of living, working, consuming entertainment and connecting with others, from telehealth to electric mobility, to smart cities, to remote working and much, much more. 5G requires a step-change in network architecture and infrastructure. Networks around the world are currently preparing for 5G and it is expected to roll out over the next 3-5 years.

**CMRT (Conflict Minerals Reporting Template):** This is a standardized reporting tool maintained by the Responsible Minerals Initiative to help companies collect, disclose, and transfer information about the use of conflict minerals.

**DWDM (Dense Wavelength Division Multiplexing):** This is an optical multiplexing technology that enhances bandwidth over fiber networks by generating virtual fibers, therefore magnifying the capacity of the physical channel.

**IoT (Internet of Things):** A system whereby all devices (with an on/off switch) can be connected to the Internet and to other devices to create instant information and potential automation of many routine decisions.

**IP (Internet Protocol):** These are the rules for routing and addressing packets of data so that they can travel across networks and arrive at the correct destination. Data traversing the internet is divided into smaller pieces, called packets.

**IP Optical Networking:** An integrated, multi-layer system that combines IP routing and optical transport technology for optimum efficiency.

**Latency:** This is how the industry refers to the time it takes for a data packet to travel from one designated point to another. Very low latency – our objective – means that the time is shorter, so communications are faster.

**LTE (Long-Term Evolution):** In most countries, mobile data communications are carried on systems supporting the 4G LTE standard. These systems allow for the latest in high-speed data for mobile phones and other mobile devices for streaming voice calls, video, and data from social media and streaming services. Mobile phone industry standards often use Voice over LTE (VoLTE) for delivering voice as a data stream within the LTE data transmission.

**Network slicing:** Network slicing allows a network operator to provide dedicated virtual networks with functionality specific to the service or customer over a common network infrastructure. Network slicing is a necessary option to support the numerous and varied services envisioned in 5G.

**NTr (Network Transformation):** This describes the process of conversion of current physical network hardware and infrastructure to virtualized networks and adoption of cloud services and functions to enable accelerated and enhanced connectivity around the world.

**OTN Switching (Optical Transport Networking Switching):** This is the technology that enables the transmission of data at higher speeds based on wavelength division multiplexing technology. It is particularly useful for long-haul data transmission.

**Robocalling:** Robocalling has emerged over the past few years quite extensively and refers to telephone calls from an automated source that deliver a prerecorded message. Robocalls are typically delivered simultaneously to large numbers of people. While there are positive uses for robocalling, such as emergency calls or public service announcements, the downsides are troublesome: harassment, spoof calls, scams, threats and fraud, and these must be mitigated.

**RTC (Real-time Communications):** RTC includes phone calls, video conferencing, chat, text messaging, desktop sharing, and team collaboration.

**SBC (Session Border Controller):** A communications element that ensures RTC traffic is properly routed between network providers, ensuring differing protocols are understood so that calls can be delivered across different networks securely. An SBC secures and controls a SIP network by admitting (or not admitting) and then directing communications between two end devices on the network, such as a VoIP call between two phones or a video conference between multiple devices. SBCs are deployed at the network perimeter so they can control and secure real-time communication sessions for both enterprises and service providers.

**Software Defined Networking (SDN):** An architecture designed to make a network more flexible and easier to manage through flexible and adaptable software controls.

**STIR/SHAKEN:** This stands for Secure Telephone Identity Revisited (STIR) and Signature-based Handling of Asserted Information Using toKENs (SHAKEN). STIR/SHAKEN references a framework of standards that improve call security by authenticating caller IDs.

**Streaming:** This refers to transmitting or receiving data (especially video and audio material) over a computer network as a steady, continuous flow, allowing playback to start while the rest of the data is still being received. Streaming is possible with high-speed connections and low latency.

**VoIP (Voice over Internet Protocol):** A system that allows users to make voice calls using the internet, rather than a telephone landline.

**WDM (Wavelength Division Multiplexing):** A technology which loads a number of optical carrier signals onto a single optical fiber by using different wavelengths, enabling bidirectional communications over a single strand of fiber,

**x-haul:** Typically associated with the new 5G networks, x-haul is the ability to transport data from different points in the data transport network backwards or forwards to give maximum speed, flexibility and utilization of bandwidth.



# GRI CONTENT INDEX

Statement of use	Ribbon Communications has reported in accordance with the GRI Standards for the period January 1, 2024, to December 31, 2024.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	None

GRI 2: General Disclosures 2021	Location	Omission
2-1 Organizational details	pp.5-6	
2-2 Entities included in the organization's sustainability reporting	p.8	
2-3 Reporting period, frequency and contact point	p.60	
2-4 Restatements of information	None	
2-5 External assurance	p.60	
2-6 Activities, value chain and other business relationships	pp.5-6	
2-7 Employees	p.65	
2-8 Workers who are not employees	p.65	
2-9 Governance structure and composition	pp.48-49	
2-10 Nomination and selection of the highest governance body	pp.48-49	
2-11 Chair of the highest governance body	pp.48-49	
2-12 Role of the highest governance body in overseeing the management of impacts	<a href="#">Our Approach to ESG Governance</a>	
2-13 Delegation of responsibility for managing impacts	<a href="#">Our Approach to ESG Governance</a>	
2-14 Role of the highest governance body in sustainability reporting	<a href="#">Our Approach to ESG Governance</a>	
2-15 Conflicts of interest	2025 Proxy Statement, p.26	
2-16 Communication of critical concerns	This information is considered sensitive/confidential.	
2-17 Collective knowledge of the highest governance body	pp.48-49	
2-18 Evaluation of the performance of the highest governance body	This information is considered sensitive/confidential.	
2-19 Remuneration policies	2025 Proxy Statement, pp. 35-40	
2-20 Process to determine remuneration	2025 Proxy Statement, pp. 35-40	
2-21 Annual total compensation ratio	2025 Proxy Statement, p.61	
2-22 Statement on sustainable development strategy	p.2	
2-23 Policy commitments	<a href="#">Global ESG Positions</a>	
2-24 Embedding policy commitments	<a href="#">Our Approach to ESG Governance</a>	
2-25 Processes to remediate negative impacts	<a href="#">Our Approach to Human Rights</a>	
2-26 Mechanisms for seeking advice and raising concerns	p.50	
2-27 Compliance with laws and regulations	p.50	
2-28 Membership associations	p.65	
2-29 Approach to stakeholder engagement	p.65	
2-30 Collective bargaining agreements	p.66	
GRI 3: Material Topics 2021	Location	Omission
3-1 Process to determine material topics	<a href="#">Our Approach to Materiality</a>	
3-2 List of material topics	<a href="#">Our Approach to Materiality</a> , p.10	

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# GRI CONTENT INDEX: MATERIAL DISCLOSURES

Material Priority	GRI Standards	GRI Topic-Specific Disclosures		Location / Response	Omissions
Network resilience	GRI 3: Material Topics 2021	3-3	Management of material topics: network resilience, advanced technologies & innovation, business continuity	pp.13-18	
	GRI 203: Indirect economic impacts 2016	203-2	Significant indirect economic impacts	pp.13-18	
	Ribbon Indicator	-	ISO certification ISO 22301:2019		
Access to connectivity	GRI 3: Material Topics 2021	3-3	Management of material topics	p.19	
	GRI 203: Indirect economic impacts 2016	203-2	Significant indirect economic impacts	p.19	
Responsible workplace	GRI 3: Material Topics 2021	3-3	Management of material topics: employee engagement, employee training and development, culture of inclusion	pp.24-28	
	GRI 401: Employment 2016	401-1	New employee hires and turnover	p.71	
	GRI 404: Training and Education	404-1	Average hours of training per employee	p.74	
		404-2	Programs for upgrading employee skills and transition assistance programs	p.28	
		404-3	Employees receiving performance reviews	p.74	
	GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	p.74	
	GRI 403: Occupational Health and Safety 2018	3-3	Management of material topics	p.72	
		403-1	Occupational health and safety management system	p.72	
		403-2	Hazard identification, risk assessment, and incident investigation	p.72	
		403-3	Occupational health services	p.72	
		403-4	Worker participation, consultation, and communication on occupational health and safety	p.72	
		403-5	Worker training on occupational health and safety	p.72	
		403-6	Promotion of worker health	p.72	
		403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	p.72	
		403-8	Workers covered by an occupational health and safety management system	p.72	
		403-9	Work-related injuries	p.73	
		403-10	Work-related ill health	p.73	
Customer Experience	GRI 3: Material Topics 2021	3-3	Management of material topics	p.21	
Climate change mitigation	GRI 3: Material Topics 2021	3-3	Management of material topics	p.35	
	GRI 302: Energy 2016	302-1	Energy consumption within the organization	p.67	
		302-3	Energy intensity	p.67	
	GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	p.68	
		305-2	Energy indirect (Scope 2) GHG emissions	p.68	
		305-3	Other indirect (Scope 3) GHG emissions	p.68	
		305-4	GHG emissions intensity	p.69	



# GRI CONTENT INDEX: MATERIAL DISCLOSURES

Material Priority	GRI Standards	GRI Topic-Specific Disclosures		Location / Response	Omissions
Product circularity	GRI 3: Material Topics 2021	3-3	Management of material topics	pp. 43-44	
	GRI 302: Energy 2016	302-5	Reductions in energy requirements of products and services	pp. 43-44	
Business ethics	GRI 3: Material Topics 2021	3-3	Management of material topics	pp. 50-51	
	GRI 205: Anti-Corruption 2016	205-3	Confirmed incidents of corruption and actions taken	pp. 50-51	
	GRI 419: Socioeconomic Compliance 2016	409-1	Non-compliance with laws and regulations in the social and economic area	pp. 50-51	
Data security and privacy	GRI 3: Material Topics 2021	3-3	Management of material topics	pp. 52-54	
	GRI 418: Data privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	pp. 52-54	
	Ribbon Indicator	-	ISO 27001 certification		
Supply chain management	GRI 3: Material Topics 20211	3-3	Management of material topics	p.56	
	GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	100%	
Water*	GRI 303: Water 201	303-1	Interactions with water as a shared resource	p.69	
		303-2	Management of water discharge-related impacts	p.69	
		303-3	Water withdrawal	p.69	
Waste*	GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	p.69	
		306-2	Management of significant waste-related impacts	p.69	
		306-3	Waste generated	p.70	
		306-4	Waste diverted from disposal	p.70	
		306-5	Waste directed to disposal	p.70	
Community*	GRI 413: Local Communities 2016	413-1	Operations with local community engagement	pp. 31-33	

\* Not identified as material for Ribbon.

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# Data Tables and Disclosures

## 2-7 Employees

Employees by region, gender and contract	2022			2023			2024		
	Women	Men	All	Women	Men	All	Women	Men	All
North America	184	759	943	167	696	863	172	691	863
EMEA	245	811	1,056	219	755	974	212	717	929
ASIA	319	957	1,276	288	893	1,181	302	901	1,203
LATAM	24	95	119	21	79	100	21	78	99
All employees	772	2,622	3,394	695	2,423	3,118	707	2,387	3,094
Percentage full time contracts	95%	98%	97%	96%	99%	98%	94%	99%	98%
Percentage permanent contracts	99%	99%	99%	99%	100%	99%	98%	100%	99%

**Notes:** Employee data represents headcount, year-end. Full time is equivalent to >30 hours per week.

## 2-8 Workers who are not employees

At the end of 2024, 1506 workers who are not employees were engaged in work for Ribbon across more than 30 office locations and in some cases remotely. These individuals performed work as contractors, largely in the areas of software development and product verification, but in some cases contributed in roles such as security, cleaning, catering and other activities. These activities did not materially change from our previous report in 2023.

## 2-28: Membership associations

Around the world, Ribbon plays a role in several associations including the Telecommunications Industry Association (TIA). See our website for a list of industry organizations in which Ribbon participates: <https://ribboncommunications.com/partners/industry-organizations>

## 2-29 Approach to stakeholder engagement

See [Our Approach to Stakeholder Engagement](#).

We categorize our stakeholders in 10 clusters (in alphabetical order):

- **Capital Markets:** including banks, financiers, investors and investment analysts, and rankers and raters of ESG performance
- **Communities:** including local communities, resident associations, and local interest groups
- **Customers:** including all different customer categories and sales channel partners
- **Employees:** including current and potential employees, employee families and retirees, and employee representatives
- **Financiers:** including banks, insurance agencies and financial service providers
- **Industry:** including peers, industry associations, industry opinion leaders and standard setters
- **Influencers:** including sustainability standard setters, global or national sustainability organizations, corporate responsibility opinion leaders, UN and international institutions, media and social media
- **Regulators:** including national government and local municipalities and licensing authorities
- **Society and Planet:** including Non-Governmental Organizations, non-profits, humanitarian, human rights and environmental organizations and academia
- **Suppliers:** including suppliers, vendors, contract manufacturers and relevant supplier associations



Key topics and concerns raised

Stakeholder	Key topics raised	Nature of engagement
Capital Markets	Compliance, ESG disclosure	Investor meetings, analyst questionnaires
Communities	Local economic impact and support	Community engagement, volunteering events
Customers	Value, quality, service, innovation, ethical conduct, sustainability	Meetings, ESG questionnaires
Employees	Clear strategy, career opportunities, recognition and appreciation	Meetings, CEO visits, engagement and pulse surveys, performance reviews
Financers	Compliance, sound financial performance	Meetings
Industry	Collaboration, active support for technology development and industry reputation	Working groups, industry meetings and events
Influencers	Sustainability performance, ESG disclosure,	Meetings, presentations, conferences
Regulators	Compliance, ESG disclosure	As needed
Society and Planet	Sustainability strategy and performance, engagement on key issues	Meetings as needed, conferences and events, response to queries
Suppliers	Fair dealing, opportunity to grow, clear requirements and feedback	Meetings, business reviews, industry events

2-30: Collective bargaining agreements

Employees covered by collective bargaining agreements	2022	2023	2024
North America	1	1	0
EMEA	660	659	635
ASIA	0	0	0
LATAM	13	0	0
All employees	674	660	635
Percentage of total employees	20%	21%	26%

Note to energy and emissions data compilation

- In 2023, we established a revised threshold for inclusion of sites for data reporting to more accurately reflect our current operations and ensure inclusion of all relevant sites since 2018 and in each subsequent year. The new threshold, which covers more than 95% of our operational environmental impact, includes sites that:
  - Support a laboratory facility, or
  - Support a warehousing facility, or
  - Employ more than 15 operators.
- In revising our reporting in line with this threshold, we examined data for all sites going back to 2018, taking into account site closures, relocations and energy consumption, using actual energy invoices stored in our systems for all years. We also reviewed GHG emissions factors over the years, using market-based factors where relevant. This intensive review resulted in more comprehensive and accurate energy and emissions data for the years 2018 through 2022, all of which were restated in our 2023 report. This threshold is also the basis for our 2024 calculations.
- Energy and emissions data cover all Ribbons sites operational in 2024 meeting the threshold described above.
- In 2024, we reexamined our global waste data and discovered inconsistencies. We therefore revised waste data and restated values from 2018 through 2023.
- We apply an operational control basis.
- Energy conversion factors apply UK Government GHG Conversion Factors for Company Reporting for each reporting year.
- Emissions conversion factors use International Energy Agency (IEA) factors for electricity generation by country by year with trade adjustments applied. We report CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub> factors supplied by IEA.
- Market based emissions are applied in locations where we have certified renewable energy sources and where local energy suppliers have provided conversion factors.
- Scope 3 emissions cover several categories. Business travel (flights) emissions are reported to us by our global travel vendors. Employee commuting is based on kilometer/passenger calculations at each site and converted using IEA private vehicle emission factors. Purchased goods and services are reported by our contract manufacturers for resources used specifically for Ribbon's business.
- MT refers to metric tons (1,000 kilograms).
- YOY means year-on-year, a comparison with prior year performance.
- GJ means gigajoules.
- Some values may have been adjusted to account for rounding, or totals may not sum exactly due to rounding across some environmental data points.

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302-1: Energy consumption within the organization

Energy Type	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Natural gas	GJ	21,429	25,912	21,968	25,573	26,422	25,607	21,682	-15%
Diesel	GJ	288	413	346	483	605	240	93	-61%
Gasoline	GJ	800	715	523	208	306	715	1,294	81%
LPG/Propane	GJ	236	250	101	58	43	17	10	-41%
Total Scope 1 energy: gases and fuels	GJ	22,752	27,290	22,937	26,322	27,436	26,579	23,078	-13%
Purchased non-renewable electricity	GJ	220,666	212,587	204,970	197,010	165,251	162,280	151,278	-7%
Renewable electricity purchased	GJ	2,574	3,046	3,123	3,068	20,244	17,338	25,820	49%
Total Scope 2 energy: electricity	GJ	223,240	215,633	208,064	200,077	185,495	179,618	177,098	-1%
Total energy consumption	GJ	245,992	242,922	231,002	226,399	212,931	206,245	200,176	-3%
Total energy reduction since 2018	%	0	-1%	-6%	-8%	-13%	-16%	-19%	-

**Note:** See “Note to energy and emissions data compilation” for details of data compilation.

302-3: Energy intensity

Intensity by type	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Scope 1 Fuels and gases	GJ/employee	6.02	7.33	6.99	7.19	8.19	9.95	7.77	-22%
Scope 2 Electricity	GJ/employee	59.07	57.92	63.40	54.64	55.35	67.25	58.16	-14%
Total energy intensity/employee	GJ/employee	65.09	65.25	70.38	61.82	63.54	77.20	65.93	-15%
Scope 1 Fuels and gases	GJ/m²	0.178	0.22	0.18	0.22	0.25	0.27	0.28	4%
Scope 2 Electricity	GJ/m²	1.75	1.77	1.61	1.64	1.67	1.84	2.09	14%
Total energy intensity/m²	GJ/m²	2.09	2.18	1.92	1.96	2.00	2.21	2.37	7%
Scope 1 Fuels and gases	GJ/\$M	39.37	48.46	27.18	31.15	33.46	32.18	28.53	-11%
Scope 2 Electricity	GJ/\$M	386.29	382.93	246.58	236.79	226.21	217.45	212.35	-2%
Total energy intensity/\$Million	GJ\$M	425.66	431.39	273.77	267.94	259.67	249.63	240.70	-4%

**Note:** See “Note to energy and emissions data compilation” for details of data compilation.



305-1: Direct (Scope 1) GHG emissions

Gases and fuels	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Natural gas	MT CO <sub>2</sub> e	1,095	1,323	1,122	1,301	1,340	1,298	1,102	-15%
Diesel (generators)	MT CO <sub>2</sub> e	20	28	23	32	40	16	6	-63%
Diesel (company-owned cars)	MT CO <sub>2</sub> e	2.59	3.16	9.31	24.27	24.68	23.05	0.24	-99%
Gasoline (company-owned cars)	MT CO <sub>2</sub> e	51.9	46.4	33.3	13.3	23.1	45.1	79.1	75%
LPG/Propane	MT CO <sub>2</sub> e	14.04	14.90	6.02	3.44	2.58	1.00	0.57	-43%
<b>Total gases and fuels</b>	<b>MT CO<sub>2</sub>e</b>	<b>1,183</b>	<b>1,416</b>	<b>1,194</b>	<b>1,374</b>	<b>1,431</b>	<b>1,384</b>	<b>1,187</b>	<b>-14%</b>
Refrigerants	MT CO <sub>2</sub> e	n/a	41	98	1,004	735	741	617	-17%
<b>Total Scope 1 GHG emissions</b>	<b>MT CO<sub>2</sub>e</b>	<b>1,183</b>	<b>1,457</b>	<b>1,292</b>	<b>2,378</b>	<b>2,166</b>	<b>2,124</b>	<b>1,805</b>	<b>-15%</b>

**Note:** See “Note to energy and emissions data compilation” for details of data compilation.

305-2: Energy indirect (Scope 2) GHG emissions

Electricity	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Purchased electricity location-based	MT CO <sub>2</sub> e	21,035	21,035	19,506	19,020	18,106	16,748	17,167	3%
Purchased electricity market-based	MT CO <sub>2</sub> e	24,127	22,231	20,337	19,467	15,628	14,842	14,063	-5%
Purchased cooling	MT CO <sub>2</sub> e	523	497	458	444	411	391	391	0%
<b>Total Scope 2 GHG emissions location-based</b>	<b>MT CO<sub>2</sub>e</b>	<b>23,529</b>	<b>21,532</b>	<b>19,964</b>	<b>19,463</b>	<b>18,517</b>	<b>17,139</b>	<b>17,167</b>	<b>0%</b>
<b>Total Scope 2 GHG emissions market-based</b>	<b>MT CO<sub>2</sub>e</b>	<b>24,651</b>	<b>22,728</b>	<b>20,795</b>	<b>19,910</b>	<b>16,039</b>	<b>15,196</b>	<b>14,444</b>	<b>-5%</b>

**Note:** See “Note to energy and emissions data compilation” for details of data compilation.

305-3: Other indirect (Scope 3) GHG emissions

Scope 3 - Emissions	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Category 1: Purchased goods and services	MT CO <sub>2</sub> e	326	269	841	1,136	1,652	1,344	1,596	19%
Category 3A: Upstream emissions of purchased fuels	MT CO <sub>2</sub> e	174	194	164	240	251	243	206	-15%
Category 3B: Upstream emissions of purchased electricity	MT CO <sub>2</sub> e	5,082	4,514	4,027	6,187	4,986	4,742	4,389	-7%
Category 3C: Transmission and distribution losses	MT CO <sub>2</sub> e	2,287	2,173	1,977	1,919	1,612	1,582	1,382	-13%
Category 5: Waste generated in operations	MT CO <sub>2</sub> e	86	75	45	51	41	39	67	72%
Category 6: Business travel	MT CO <sub>2</sub> e		4,638	1,396	1,026	1,705	1,600	2,737	71%
Category 7: Employee commuting	MT CO <sub>2</sub> e				1,363	947	1,331	1,193	-10%
Category 9: Downstream transportation and distribution	MT CO <sub>2</sub> e	0		69	156	231	212	2,140	909%
<b>Total Scope 3 GHG emissions</b>	<b>MT CO<sub>2</sub>e</b>	<b>7922</b>	<b>11,862</b>	<b>8,518</b>	<b>12,078</b>	<b>11,424</b>	<b>11,093</b>	<b>13,711</b>	<b>24%</b>

**Note:** See “Note to energy and emissions data compilation” for details of data compilation. Category 9 increased in 2024 due to improved data collection from logistics.

## GHG emissions summary

Emissions type	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Scope 1 GHG emissions	MT CO <sub>2</sub> e	1,183	1,457	1,292	2,378	2,166	2,124	1,805	-15%
Scope 2 GHG emissions market-based	MT CO <sub>2</sub> e	24,651	22,728	20,795	19,910	16,039	15,196	14,444	-5%
Scope 3 GHG emissions	MT CO <sub>2</sub> e	7,922	11,862	8,518	12,078	11,424	11,093	13,711	23%
Scope 1+2 GHG emissions market-based	MT CO <sub>2</sub> e	25,834	24,184	22,087	22,288	18,204	17,320	16,249	-6%
Scope 1+2+3 GHG emissions	MT CO <sub>2</sub> e	29,193	26,896	26,025	34,366	29,629	28,413	29,960	5%
<b>Scope 1+2 GHG emissions reduction since 2018</b>	<b>%</b>	<b>0</b>	<b>-6%</b>	<b>-14%</b>	<b>-13%</b>	<b>-29%</b>	<b>-33%</b>	<b>-37%</b>	<b>-</b>

**Note:** See “Note to energy and emissions data compilation” for details of data compilation.

## 305-4: GHG emissions intensity

Intensity by type	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Scope 1+2 by employee	MT CO <sub>2</sub> e /employee	6.84	6.50	6.73	6.09	5.43	6.48	5.34	-18%
Scope 1+2 by square meters	MT CO <sub>2</sub> e/ m <sup>2</sup>	0.20	0.20	0.17	0.18	0.16	0.18	0.19	6%
Scope 1+2 by revenue	MT CO <sub>2</sub> e/ \$M	44.70	42.95	26.18	26.38	22.20	20.97	19.48	-7%
Scope 1+2+3 GHG emissions intensity	MT CO <sub>2</sub> e /employee	7.73	7.22	7.93	9.38	8.84	10.64	9.84	-8%
	MT CO <sub>2</sub> e/ m <sup>2</sup>	0.23	0.22	0.20	0.28	0.27	0.30	0.35	18%
	MT CO <sub>2</sub> e/ \$M	50.52	47.76	30.84	40.67	36.13	34.40	35.92	4%

**Note:** See “Note to energy and emissions data compilation” for details of data compilation.

## 303-1: Interactions with water as a shared resource

Ribbon is not a water intensive business. We use small volumes of water for hygiene, cooling and irrigation purposes. We aim to minimize our consumption wherever possible with water-saving devices across our sites.

## 303-2: Management of water discharge-related impacts

Our water discharge is non-toxic and is treated through municipal water grids.

## 303-3: Water withdrawal

Water withdrawal	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Total water withdrawal - municipal water only	Megaliters	28.60	26.24	22.08	21.14	45.51	40.28	33.88	-16%
Water intensity	m <sup>3</sup> /employee	7.57	7.05	6.73	5.72	13.41	12.92	11.13	-14%
Water intensity	m <sup>3</sup> /m <sup>2</sup>	0.22	0.22	0.17	0.17	0.41	0.41	0.40	-3%
Water intensity	m <sup>3</sup> /\$M	49.49	46.59	26.17	25.01	55.50	48.76	40.62	-17%
Water withdrawal from a water stress area	Megaliters	-	-	-	-	16.55	11.78	11.60	-1%

**Note:** Several of our sites are leased and water is not effectively metered by all the landlords of our leased facilities. With increased demand from Ribbon and other users, landlords are investing in improved water metering and usage reporting. We expect this will increase the accuracy of our water usage reporting in the future.

## 306-1: Waste generation and significant waste-related impacts

## 306-2: Management of significant waste-related impacts

Our overall waste generation is modest, being mainly office related waste such as paper and organic waste. We generate some electronic and/or chemical waste from our R&D and laboratory facilities. We aim to minimize waste where possible, and segregate into waste streams to enable reuse, recycling or safe disposal. As many of our facilities are leased and managed, we aim to work with facility owners to ensure appropriate waste management and accounting processes for the small levels of waste we generate.



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**306-3: Waste generated**

**306-4: Waste diverted from disposal**

**306-5: Waste directed to disposal**

Waste by Type	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Cardboard, paper	MT	15	11	8	30	22	19	19	-2%
Mixed/Unspecified	MT	27	30	27	47	41	30	36	20%
Metals	MT	1	25	30	25	7	20	3	-85%
Organic waste	MT	-	1	3	2	7	3	5	55%
Electronic Waste (WEEE)	MT	19	44	11	178	64	84	24	-71%
<b>Total waste – all types</b>	<b>MT</b>	<b>62</b>	<b>111</b>	<b>79</b>	<b>282</b>	<b>141</b>	<b>156</b>	<b>86</b>	<b>-45%</b>
<b>Non-hazardous waste diverted from disposal</b>									
Recycling (including energy recovery)	MT	38	52	30	184	80	83	45	-46%
Other recovery operations	MT	-	1	3	2	7	3	5	55%
<b>Total non-hazardous waste diverted</b>	<b>MT</b>	<b>38</b>	<b>54</b>	<b>33</b>	<b>187</b>	<b>87</b>	<b>86</b>	<b>49</b>	<b>-43%</b>
<b>Non-hazardous waste directed to disposal</b>									
Incineration (with energy recovery)	MT	13	13	8	8	8	4	6	44%
Landfill	MT	6	13	10	25	25	20	28	40%
<b>Total non-hazardous waste disposed</b>	<b>MT</b>	<b>19</b>	<b>26</b>	<b>18</b>	<b>33</b>	<b>32</b>	<b>24</b>	<b>33</b>	<b>38%</b>
<b>Hazardous waste</b>									
Hazardous waste diverted from disposal: recycling	MT	5	32	28	63	21	45	3	-93%
Hazardous waste directed to disposal: landfill	MT	0	0	0	0	0	0	0	=
<b>Total hazardous waste diverted</b>	<b>MT</b>	<b>5</b>	<b>32</b>	<b>28</b>	<b>63</b>	<b>21</b>	<b>45</b>	<b>3</b>	<b>-93%</b>
<b>Total hazardous waste disposed</b>	<b>MT</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>=</b>
<b>Total non-hazardous waste</b>	<b>MT</b>	<b>57</b>	<b>80</b>	<b>51</b>	<b>220</b>	<b>120</b>	<b>111</b>	<b>83</b>	<b>-25%</b>
<b>Total hazardous waste</b>	<b>MT</b>	<b>5</b>	<b>32</b>	<b>28</b>	<b>63</b>	<b>22</b>	<b>45</b>	<b>3</b>	<b>-93%</b>
<b>Total waste</b>	<b>MT</b>	<b>62</b>	<b>112</b>	<b>79</b>	<b>283</b>	<b>142</b>	<b>156</b>	<b>86</b>	<b>-45%</b>
<b>Total waste diverted</b>	<b>MT</b>	<b>43</b>	<b>86</b>	<b>61</b>	<b>250</b>	<b>108</b>	<b>131</b>	<b>52</b>	<b>-60%</b>
<b>Total waste disposed</b>	<b>MT</b>	<b>19</b>	<b>26</b>	<b>18</b>	<b>33</b>	<b>32</b>	<b>24</b>	<b>33</b>	<b>38%</b>
<b>Total waste diverted</b>	<b>%</b>	<b>69%</b>	<b>77%</b>	<b>77%</b>	<b>88%</b>	<b>76%</b>	<b>84%</b>	<b>60%</b>	<b>69%</b>
<b>Total waste disposed</b>	<b>%</b>	<b>31%</b>	<b>23%</b>	<b>23%</b>	<b>12%</b>	<b>23%</b>	<b>15%</b>	<b>38%</b>	<b>31%</b>
Waste intensity by revenue	MT /\$M	0.11	0.20	0.09	0.34	0.17	0.19	0.10	-45%
Total waste to landfill	MT	6	13	10	25	25	20	28	40%
Total waste to landfill %	%	10%	12%	13%	9%	18%	13%	33%	154%

**Note:** Some values may not sum to total due to rounding effects.

401-1: New employee hires and turnover

		Men < 30	Men 30-50	Men > 50	Women < 30	Women 30-50	Women > 50	All Men	All Women	Total
2024: New hires	North America	23	13	34	13	8	4	70	25	95
	EMEA	14	9	8	3	6	1	31	10	41
	ASIA	84	21	6	40	3	0	111	43	154
	LATAM	1	4	0	1	0	0	5	1	6
	Total	122	47	48	57	17	5	217	79	296
2024: New hire rates	North America	0.74%	0.42%	1.10%	0.42%	0.26%	0.13%	2.26%	0.81%	3.07%
	EMEA	0.45%	0.29%	0.26%	0.10%	0.19%	0.03%	1.00%	0.32%	1.33%
	ASIA	2.71%	0.68%	0.19%	1.29%	0.10%	0.00%	3.59%	1.39%	4.98%
	LATAM	0.03%	0.13%	0.00%	0.03%	0.00%	0.00%	0.16%	0.03%	0.19%
	Total	4%	2%	2%	2%	1%	0%	7%	3%	10%
2024: Leavers	North America	17	16	45	5	5	10	78	20	98
	EMEA	8	24	32	4	9	2	64	15	79
	ASIA	43	52	7	25	5	0	102	30	132
	LATAM	1	5	0	1	0	0	6	1	7
	Total	313	191	180	30	19	12	250	66	316
2024: Turnover rates	North America	0.74%	0.42%	1.09%	0.42%	0.26%	0.13%	2.25%	0.80%	3.05%
	EMEA	0.45%	0.29%	0.26%	0.10%	0.19%	0.03%	0.99%	0.32%	1.31%
	ASIA	2.69%	0.67%	0.19%	1.28%	0.10%	0.00%	3.56%	1.38%	4.94%
	LATAM	0.03%	0.13%	0.00%	0.03%	0.00%	0.00%	0.16%	0.03%	0.19%
	Total turnover	10%	6%	6%	1%	1%	0%	8%	2%	10%

**Note:** Turnover rates include both voluntary and involuntary turnover.



### 403-1: Occupational health and safety (OHS) management system

We maintain a comprehensive set of OHS standards that are applied throughout Ribbon's operations. Ribbon operations are aligned with ISO 45001:2018 Safety Management System that applies across all our operations and covers all employees. Sites are audited regularly in line with this standard at least every three years at each site.

Our OHS oversight structure ensures that environmental, health, and safety considerations are integrated into all aspects of our operations and is designed to meet the requirements of both ISO 14001 and ISO 45001 standards.

#### CEO/CLO

- Approves OHS policy
- Integrates OHS requirements into business processes
- Allocates resources and oversees H&S performance

#### Global Quality Manager

- Ensures implementation and maintenance of OHS Management System (ISO 14001 and ISO 45001)
- Reports OHS performance to CEO and senior management
- Arranges internal audits and recertification external audits

#### H&S Manager

- Oversees OHS management system implementation
- Manages OHS team and raises questions to consultant experts

#### H&S Team

- Include safety officers, environmental officers, technicians, consultant experts
- Develops and enforces OHS practices
- Ensures compliance with laws and regulations
- Collaborates with facilities and quality assurance teams and committees

#### ISO 14001 & ISO 45001 Committee

- Include facilities, quality assurance, procurement, human resources, business units
- Identifies and mitigates environmental risks and impacts
- Monitors and implements new legal requirements
- Participates in setting objectives and timeframes
- Provides annual OHS report to management covering performance, material changes, resource needs, stakeholder feedback, improvement opportunities

#### Health and Safety Management (HSMS) Site Committees

- Include management, employees and works councils
- Adhere to roles and responsibilities as required by law
- Provide input on HSMS policies and procedures
- Recommend improvements to senior management
- Conduct monthly hazard, risk, and incident assessments

- Identify additional training needs
- Collaborate with the ISO Committee, with several members serving on both committees to ensure efforts are complementary

### 403-2: Hazard identification, risk assessment, and incident investigation

Work related hazards are identified through workplace inspections and safety observations as defined in our OHS Management System.

### 403-3: Occupational health services

Ribbon does not provide occupational health services onsite.

### 403-4: Worker participation, consultation, and communication on occupational health and safety

Safety Committees operate at all Ribbon sites and include representation from management and employees.

### 403-5: Worker training on occupational health and safety

We provide OHS training online or in classroom format, where relevant, for all new employees and annual safety refreshers for all employees. For employees in specific roles, such as in our laboratories, targeted safety training is delivered, covering specific risks associated with identified roles.

### 403-6: Promotion of worker health

Ribbon promotes health and wellness and aims to raise awareness among employees through our annual Wellness Month and other activities throughout the year. We provide health and wellness related benefits in different countries in line with local market norms, such as medical insurance, dental insurance and more.

### 403-7: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships

Our Supplier Code of Conduct requires our suppliers to ensure safe working conditions and a healthy work environment for their workers and uphold a detailed list of OHS standards. We audit our suppliers regarding conformance to our Code.

### 403-8: Workers covered by an occupational health and safety management system

All Ribbon employees are covered by our OHS management system.

403-9: Work-related injuries

Injury Rate by Year	2019	2020	2021	2022	2023	2024
Employees and contractors	0.243	0.177	0.158	0.106	0.073	0.063

Work-related injuries		Direct employees			Contractors			Total workforce		
		2022	2023	2024	2022	2023	2024	2022	2023	2024
Hours worked	Million	5.1	4.4	5.5	0.6	1.1	0.8	5.7	5.5	6.4
Number of work related injuries										
Fatalities	Number	0	0	0	0	0	0	0	0	0
Work-related injuries	Number	2	2	1	1	0	0	3	2	2
Recordable work-related injuries	Number	1	1	2	1	0	0	2	1	2
High-consequence work-related injuries	Number	0	0	0	-	-	-	0	0	-

Work related injury rates										
Work-related injuries	Rate	0.078	0.091	0.036	0.358	0	0	0.106	0.073	0.063
Recordable work-related injuries	Rate	0.039	0.046	0.072	0.358	0	0	0.071	0.037	0.063
High-consequence work-related injuries	Rate	0	0	0	0	0	0	0	0	0

Notes:

- Injury rates are calculated per 200,000 hours for actual hours worked, including remote working. includes employees working from home
- Work-related injuries include all injuries at our sites including those requiring first aid but not necessarily resulting in lost workdays.

403-10: Work related ill-health

Ribbon has not identified any significant cases of work-related ill health in 2024.



404-1: Average hours of training per employee

Training hours	2021	2022	2023	2024
Managers	8,781	8,221	7,530	6,411
Non-managers	41,264	33,973	33,715	28,236
All employees	50,045	42,194	41,246	34,646
Average training hours per employee per year	13.53	12.43	13.23	11.20

**Note:** Split by gender is not available. We do not record this data.

404-3: Employees receiving performance reviews

2022			2023		2024	
Details of performance reviews	Men	Women	Men	Women	Men	Women
Managers	100%	100%	100%	100%	100%	100%
Non-managers	97%	97%	98%	98%	96%	95%
Total by gender	98%	98%	99%	98%	98%	97%
Total	98%		99%		98%	

405-1: Diversity of governance bodies and employees

2022				2023			2024		
Employees by age group	< 30	30 - 50	> 50	< 30	30 - 50	> 50	< 30	30 - 50	> 50
Number of managers	3	335	308	4	303	302	3	293	309
Number of non-managers	669	1,237	842	548	1,157	804	549	1,117	823
Total employees	672	1,572	1,150	552	1,460	1,106	552	1,410	1,132
% of managers	0%	52%	48%	1%	50%	50%	0%	48%	51%
% of non-managers	24%	45%	31%	22%	46%	32%	22%	45%	33%
% of total employees	20%	46%	34%	18%	47%	35%	18%	45%	36%

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# SASB DISCLOSURE

Topic	Code	Accounting Metric	Response
Product Security	TC-HW-230a.1	Description of approach to identifying and addressing data security risks in products	See response on page 76
Employee Diversity & Inclusion	TC-HW-330a.1	Percentage of gender and racial/ethnic group representation for management	Not reported – confidential information
		Percentage of gender and racial / ethnic group representation for technical staff	Not reported – confidential information
		Percentage of gender and racial/ethnic group representation for all other employees	Not reported – confidential information
Product Lifecycle Management	TC-HW-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Zero
	TC-HW-410a.2	Percentage of eligible products, by revenue, meeting the requirements for EPEAT registration or equivalent	Our products are not registered with EPEAT
	TC-HW-410a.3	Percentage of eligible products, by revenue, meeting ENERGY STAR® criteria	We do not currently apply ENERGY STAR® criteria for our products.
	TC-HW-410a.4	Weight of end-of-life products and e-waste recovered (metric tons)	Not available
		Percentage of end-of-life products and e-waste recovered recycled	Not available
Supply Chain Management	TC-HW-430a.1	Percentage of Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent - all facilities	Ribbon supplier facilities are audited using Ribbon's internal standards, guided by ISO. 100% of Tier 1 facilities were audited in 2024.
		Percentage of Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent - high-risk facilities	Ribbon supplier facilities are audited using Ribbon's internal standards, guided by ISO. 100% of Tier 1 facilities were audited in 2024.
	TC-HW-430a.2	Tier 1 suppliers' non-conformance rate with the RBA Validated Audit Process (VAP) or equivalent and corrective actions	Zero major non-conformances were found in audited suppliers in 2024 against Ribbon's internal standards.
Materials Sourcing	TC-HW-440a.1	Description of the management of risks associated with the use of critical materials	Ribbon does not have a critical material risk, given our minimal use of such materials. In any event, we do not stockpile materials and maintain mitigations plans for all materials that can be substituted if necessary.

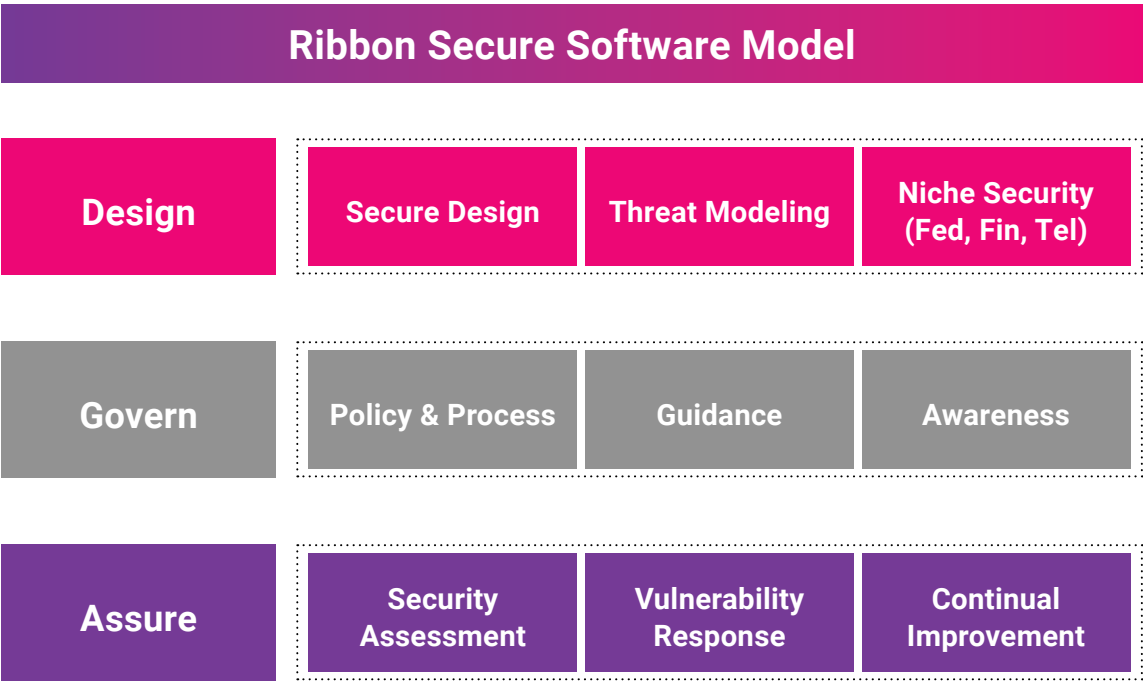


Code	Activity Metric	Response
TC-HW-000.A	Number of units produced by product category	More than 50% of revenues come from services. The remaining sales are hardware in different forms, but specific numbers of units shipped is not currently tracked globally.
TC-HW-000.B	Area of manufacturing facilities	All Ribbon manufacturing is outsourced. Ribbon has no owned or operated manufacturing facilities.
TC-HW-000.C	Percentage of production from owned facilities	0%

Product Security: TC-HW-230a.1

Description of approach to identifying and addressing data security risks in products

- Product security considerations, risk assessments, hazard identification and protection measures are built into Ribbon processes at every state of our product lifecycle through concept, planning, design validation, maintenance and end-of-life.
- Ribbon’s Secure Software Model is comprised of a set of three functions under which security practices are organized ensuring all of our software is developed securely. This approach is based on the best practices in the industry and standard bodies such as ISO, CIS and others, and aims to make security an integral part of the development lifecycle. It constitutes a set of processes, policies and requirements that are interwoven into the product building at each stage leaving no gaps and security lapses.



Design function practices:

- Secure design:** The practice encompasses elements that ensure secure design is embedded into each product. These include practices that cover secure design requirements to secure coding practices.
- Threat modeling:** Threat modeling is an integral part of secure product design that attempts to anticipate all the possible threats to a product and its attack surface and ensure adequate controls address those perceived threats.
- Niche security:** Ribbon serves special agencies and critical infrastructure providers – and to that their specific security requirements are covered under this practice to ensure those are fulfilled for applicable products where customers demand as such.

Govern function practices:

- Policy and processes:** Policies and processes are necessary to govern and guardrail the activities of all the stakeholders that contribute to product development. This ensures that required security goals are achieved for products.
- Guidance:** Guidance helps interpret some policies into actionable best practices for key areas. Best practice guidance will provide stakeholders with the necessary industry-based approaches to carrying out an activity that promotes security.
- Awareness:** This practice will help educate stakeholders on our approach to securing our products and help drive the importance of security at each stage of the development cycle.

Assure function practices:

- Security assessment:** Security assessment is the practice by which security requirements are tested to ensure adherence and compliance.
- Vulnerability response:** Responding to urgent vulnerabilities is necessary where customers require assistance in providing a fix/patch to Ribbon’s software in the event of a security incident and/or breach.
- Continual improvement:** A self-improvement feedback loop into Ribbon’s secure software model based on lessons learned, stakeholder feedback and industry changes. Includes a set of metrics and monitoring via score cards to measure products against requirements to improve their security posture.

Ribbon’s product R&D organization utilizes a variety of tools to help manage and maintain product security, leveraging a combination of proprietary and third-party tools. Ribbon engineers receive mandatory annual security training that combines commercial security training and proprietary content training.

# TCFD OVERVIEW

This is our overview of climate-related financial disclosures in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). TCFD is a voluntary, consistent framework for disclosure aiming to provide information to investors, lenders, insurers and other stakeholders. For further information, see also our [CDP Climate Change submissions on the CDP website](#).

## 1. Governance

### 1a. Board oversight

Ribbon's Board of Directors reviews and guides Ribbon's sustainability strategy and climate change goals and aspirations. Our overall sustainability strategy is led by Ribbon's Executive Vice President and Chief Legal Officer, who updates the President and Chief Executive Officer and Board of Directors regularly through the year.

### 1b. Management's role

Our Executive Team takes responsibility for Ribbon's climate change strategy, under the leadership of Executive Vice President and Chief Legal Officer. Our climate change approach is guided by stakeholder feedback and our materiality assessments, supported by a multi-year sustainability strategy that is authorized and supported by our Executive Team. In 2024, we revised our strategy following a Double Materiality Assessment. Climate change mitigation remained material for Ribbon and we continue to drive improved performance in this area. To reinforce our commitment, our Executive Team approved a new Net Zero ambition to deliver Net Zero direct Scope 1 and 2 emissions by 2050.

For more details of our Net Zero transition planning, please see the Net Zero Ambition section in our 2024 Sustainability Report.

Within Ribbon, our Real Estate and Supply Chain Management organizations monitor our energy sourcing and consumption and waste, tracking our performance at each of our sites around the world. These teams are responsible for recommending and implementing operational efficiencies and recommending capital investment where relevant to support improving our energy, emissions and waste performance.

## 2. Strategy

### 2a. Climate-related risks and opportunities

Ribbon is primarily a contributor to climate change mitigation through the products and services we provide that accelerate and amplify digital transformation, a proven, reliable enabler of a low carbon economy. Our business does not directly manufacture products and our infrastructure and direct greenhouse gas emissions are modest.

We outsource our component manufacturing to large, reliable, robust third-party manufacturers who have a presence in multiple international locations. This enables us to implement a flexible and efficient manufacturing and logistics landscape for each product line and target markets. This structure also facilitates business continuity to mitigate risks related to trade tariffs, natural disasters, critical material supply and other climate change impacts.

**Risks:** We review risks to our business annually in our Enterprise Risk Management program and seek to mitigate identified risks through risk management action tool and also through our Business Continuity Management program. A preliminary assessment of climate change risks to our business indicates that there are no expected material impacts in the short term. In the medium to long term, we face potential disruption to services at our facilities, or disruption to Internet infrastructure that could affect our customers. These risks are mitigated through our considerable flexibility of manufacturing, strong supplier relationships and of operations from our R&D and testing sites. Our robust business continuity planning enables us to prepare effectively to safeguard against these risks.

Additionally, in the medium to long term, we may face risks from increasing carbon regulation and pricing. We do not expect that this will materially affect our business, given our low carbon footprint today, which is also a result of our ongoing successes at optimizing our operational efficiencies and reducing our carbon footprint for over a decade. This gives us confidence that, as we plan to further reduce our carbon footprint, we expect this risk to lessen in significance.

**Opportunities:** With Internet and Communications Technology (ICT) being a major contributor to sustainable development and a low carbon economy, we see significant business opportunity in the continuation of provision of our products and services that support digitization of communications and national digital transformations. Currently, we are attracting many customers on the basis of our positive sustainability performance and our ability to help them meet their own climate change objectives and help them protect themselves against energy price volatility and carbon tariffs. In 2024, more than 85% of our annual global revenue was influenced by sustainability considerations and requirements from our customers and more than 90% of 2024 revenue from Ribbon's top 20 global customers (by spend) was linked to sustainability requirements

### 2b. Impact on strategy

Ribbon intends to conduct a science-based analysis of potential climate change impacts on our business strategy, and we expect to disclose more extensively on this in future reports. Given the modest risk exposure of our business, we do not anticipate that a major strategic transformation will be required, but rather adjustments to new and emerging realities.



2c. Climate resilience

ICT is a major contributor to sustainable development and a low carbon economy and we see significant business opportunity in the continuation of provision of our products and services that support digitization of communications and national digital transformations. We deliver 5G and are developing the next generation of network infrastructure, we provide essential services for national governments, utilities, education and healthcare sectors. We believe we are supporting climate resilience in many markets around the world and expect accelerated and expanded demand for our products over time, as global digital transformation continues to advance, especially in emerging economies. In 2024, we invested 22% of our global revenue in innovation to continue to support the acceleration of a low-carbon digital economy.

3. Risk Management

3a. Process to identify climate change risk

Annually we use many expert sources of data, both internal and in the public domain, to assign impact and likelihood scores to newly identified risks that may affect our business. Our Enterprise Risk Management program seeks to track mitigation of our identified risks though risk management actions and also through enhancements to our Business Continuity Management program.

3b. Process to manage climate change risks

Our Enterprise Risk Management program also seeks to review the previous scoring of identified risks and mitigate identified risks through risk management actions and also through our Business Continuity Management program. We maintain a companywide program that is carefully reviewed at each stage and involve reporting to our Executive management.

3c. Climate change integration

We have risk management, disaster preparedness, and business continuity plans that are fully integrated into our business planning and ongoing review. We believe these are robust enough to safeguard against climate change risks to Ribbon's business.

4. Metrics

4a. Metrics

Ribbon measures Scope 1 and 2 GHG emissions, and relevant categories of Scope 3 emissions. In 2024, our disclosure covers at least 99% of our Scope 3 contract manufacturing and other Scope 3 categories.

4b. Emissions performance

GHG emissions summary

Emissions type	Units	2018	2019	2020	2021	2022	2023	2024	YOY
Scope 1 GHG emissions	MT CO <sub>2</sub> e	1,193	1,469	1,289	2,365	2,287	2,178	1,805	-17%
Scope 2 GHG emissions market-based	MT CO <sub>2</sub> e	24,605	22,798	20,911	19,994	15,975	15,191	14,444	-5%
Scope 3 GHG emissions	MT CO <sub>2</sub> e	7,880	11,874	8,456	12,033	11,325	12,882	13,658	6%
Scope 1+2 GHG emissions market-based	MT CO <sub>2</sub> e	25,798	24,267	22,200	22,359	18,262	17,369	16,249	-6%
Scope 1+2+3 GHG emissions	MT CO <sub>2</sub> e	29,193	26,896	26,025	34,392	29,587	30,252	29,907	-1%
Scope 1+2 GHG emissions reduction since 2018	%	0	-6%	-14%	-13%	-29%	-33%	-37%	13%

For full details and for the basis of our reporting, please see “Note to energy and emissions data compilation” in our 2024 Sustainability Report.

4c. Targets

Progress toward a Net Zero (Scope 1 & 2) ambition by 2050 and establish interim targets in 2025.

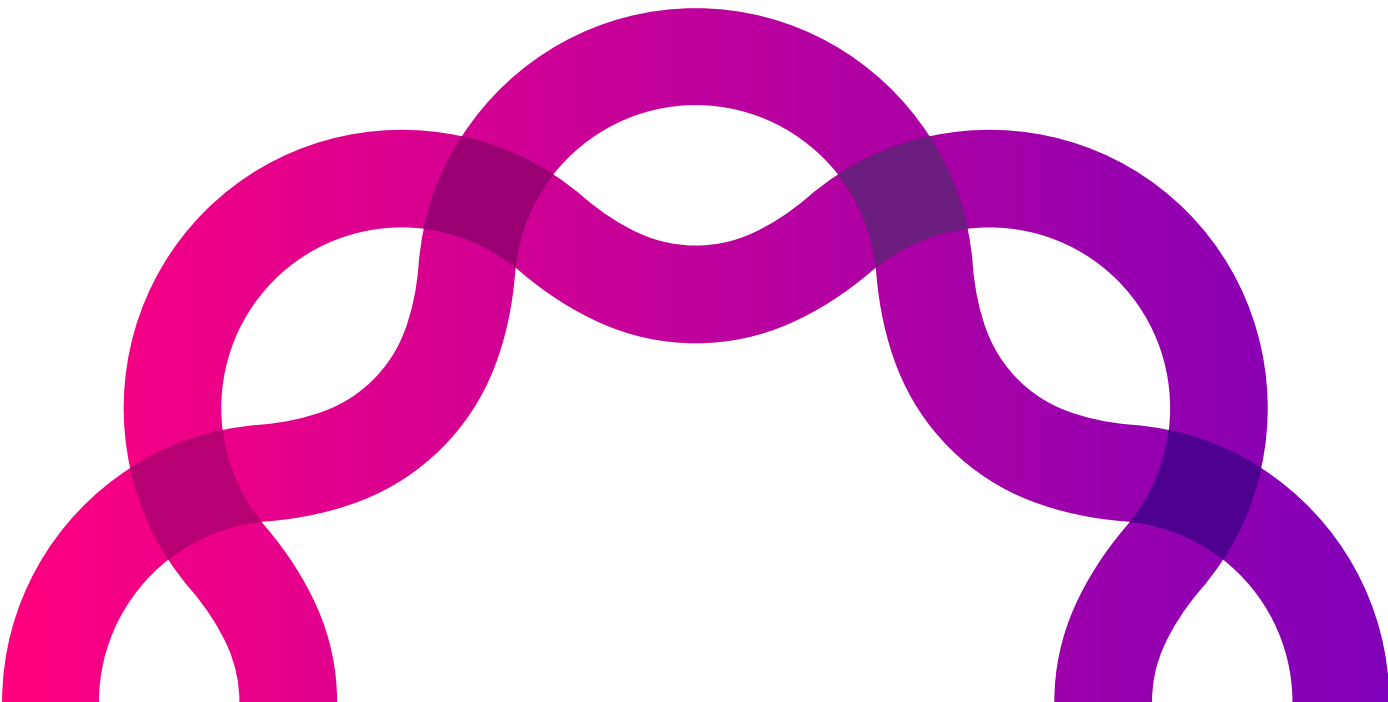
# UN GLOBAL COMPACT INDEX

As a participant in the UN Global Compact, we uphold the 10 Principles across our business. Our disclosures relating to these Principles can be found in this report on the pages indicated below. This Sustainability Report serves as our Communiation on Progress.

Global Compact Principles

Disclosures

Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights.	Page 51
Principle 2	Businesses should make sure that they are not complicit in human rights abuses.	Page 51
Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	Page 51,66
Principle 4	Businesses should support the elimination of all forms of forced and compulsory labor.	Page 51
Principle 5	Businesses should support the effective abolition of child labor.	Page 51
Principle 6	Businesses should support the elimination of discrimination in respect of employment and occupation.	Pages 27, 51,
Principle 7	Businesses should support a precautionary approach to environmental challenges.	Pages 35-42
Principle 8	Businesses should undertake initiatives to promote greater environmental responsibility.	Page 35-42
Principle 9	Businesses should encourage the development and diffusion of environmentally friendly technologies.	Pages 43-44
Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.	Page 51







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