



Ribbon Communications

Our Approach to Climate Change and the Environment

Overview

Ribbon is a leading, publicly traded, global provider of communications technology, employing thousands of people operating in more than 100 countries. Using our trusted solutions, our customers can offer services that improve the quality of life for millions of people around the world, support digital inclusion across markets and lower global greenhouse emissions through efficient bandwidth utilization and cloud-based applications.

Ribbon's business makes a positive impact on global sustainable development through our technology; the Information Technology and Communications (ICT) sector is acknowledged as an enabler of digital and virtual processes and communications that reduce the carbon footprint and resource consumption of society, communities and businesses around the globe. However, our business activities also consume resources and generate environmental impacts. We therefore aim to operate at high levels of resource efficiency to keep our environmental footprint as low as possible for the benefit of society today and in the future.

Our Approach

As a responsible business, we recognize our accountability for the effects of our business on climate change and the planet; we work to minimize negative environmental impacts while seeking, through innovation and efficient operations across our value chain, to advance opportunities to lessen our environmental footprint from development through to use of our products and end-of-life management. In general, we promote opportunities for software solutions rather than hardware where possible. Software enhancements enable greater productivity and longevity of existing hardware components. Additionally, our Software as a Service (SaaS) offerings allow Ribbon to speed up upgrade paths and reduce the overall environmental footprint of hardware by Ribbon or by our customers.

Compliance and Environmental Management

Ribbon aims to operate in accordance with all applicable environmental legislation and regulation in the parts of the world in which we operate. This extends to companies that provide contract manufacturing or logistics services to Ribbon. We maintain a finger on the pulse of emerging environmental regulation and put early plans in place to ensure timely compliance where needed. See also Ribbon's [Approach to Compliance](#).

To support compliance and ensure we operate in accordance with defined environmental stewardship standards, policies and practices, we deploy an Environment Management System (EMS), which applies

ISO 14001:2015 Environmental Management Standard. Our primary facilities actively operate Ribbon's EMS and are certified to this standard. We continue to review and improve our certification site scope.

Design for Environment and sustainable products

We deliver resource efficiency throughout our entire product lifecycle, starting with identification of requirements for our development teams to responsible end-of-life management of our products. In all our processes and designs, we aim to minimize waste and enable recyclability. Our hardware products are designed for very long life use, including features for reparability of components and spare part availability. We design our components to be serviceable to enable product life to be extended, and we expand the usability of our hardware by adding software components to avoid additional hardware requirements. Where possible, at end of use, we redeploy hardware from customers back to our sites for reuse by our R&D, Verification and Operations teams. See also Ribbon's [Approach to Waste Management and Circularity](#).

We also comply with specific regulations covering sustainable materials and lifecycle impacts wherever they apply. In Europe, for example, we comply with the following directives:

- **WEEE Directive 2012/19/EU:** Waste Electrical and Electronic Equipment Directive;
- **RoHS Directive 2011/65/EU:** Restriction on the use of certain hazardous substances in electrical and electronics equipment as amended by RoHS 3 Directive 2015/863/EU.
- **Batteries Directive 2006/66/EC,** amended by 2013/56/EU: Batteries and Accumulators and Waste Batteries and Accumulators Directive.

Climate change mitigation and risk management

Ribbon is primarily a contributor to climate change mitigation through the products and services we provide which 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.

- **Energy efficiency:** Our primary source of direct greenhouse gas emissions is the electricity we use to power our operations around the world. We select our offices for proximity to our employees and our customers. Over several years, we continue to maintain a global Optimization Program that aims to reduce our power consumption by consolidating our facilities which house 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; and data centers for running our internal operation. Through this optimization program, we are able to significantly limit, and even reduce, the overall energy consumption used by our facilities globally, despite business growth.
- **Supply chain:** As all of our own-operated facilities are leased, we engage with landlords where possible to encourage them to source lower-carbon or renewable sources of electricity. In our supply chain, we employ contract manufacturers and other service providers to produce and deliver our hardware; through

our engagement with suppliers, including our [Supplier Code of Conduct](#), we aim to drive improved environmental performance and reduced greenhouse gas emissions.

- **Risk management:** We review risks to our business, including climate change risk, in our Enterprise Risk Management program and seek to mitigate identified risks through our risk management action tool and also through our Business Continuity Management System
- **Target:** Our climate change target is to reduce direct carbon emissions by 30% by 2030 from a base year of 2018 (Scope 1+2 CO₂e). We are on track to achieve this target.
- **Reporting:** Ribbon discloses climate change impacts through our Taskforce on Climate Related Financial Disclosures (TCFD) and CDP annual disclosures. We report progress on climate change mitigation each year in our annual [Sustainability Report](#).

Waste management and circularity

Our operations generate a very minimal amount of waste, most of which is non-hazardous and recyclable, such as paper and cardboard used for packaging and electronic waste from our laboratory operations. We aim to minimize internal waste through material reuse, recovery or repurpose. For example, we reuse packaging wherever possible and aim to procure packaging that is sustainably sourced and recyclable.

We practice waste segregation at our sites and aim to deploy appropriate waste handling solutions that include recycling and reuse wherever possible, minimizing the amount of waste we send to landfill. In particular, we have made significant recent progress in reducing plastic waste at source by avoiding single-use plastics in packaging (elimination of plastic bubble-wrap, for example) and in our labs and offices by providing alternatives to single-use plastics. We have worked to remove single-use plastics from our sites including plastic-coated drinking cups, stirrers and food serving equipment. Ribbon reinforces employee awareness of waste avoidance and minimization through training on waste management and waste segregation and prominent signage at our facilities. See also Ribbon's [Approach to Waste Management and Circularity](#)

Water

Ribbon is not a water intensive business and water withdrawal and consumption are therefore not material for Ribbon. 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. Our low level of water discharge is non-toxic and is treated through municipal water grids.

Supplier management

As part of our [Supplier Code of Conduct](#), we expect our contract manufacturers and suppliers to take a responsible approach to environmental impacts. We expect them to minimize resource consumption in their operations for Ribbon and in their own supply chains. We review their progress as part of our supply chain oversight. We favour manufacturing facilities which are zero landfill-waste certified. See our [Approach to Responsible Supply Chain Management](#).

Training and Education



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We aim to ensure that Ribbon employees have the necessary awareness, knowledge and skills to perform in line with our climate change and environmental policies, procedures and processes, as well as contribute to identifying opportunities to improve. We deliver targeted training for those in roles directly impacting our environmental performance and maintain communications throughout the year on relevant environmental topics for all employees. We also conduct specific training as determined by our EMS, compliance requirements and other certification processes where relevant.

Supporting Global Sustainable Development

Our approach to climate change and the environment directly supports UN Sustainable Development Goals (SDGs) 12 and 13:

	<p>12.2: By 2030, achieve the sustainable management and efficient use of natural resources</p> <p>12.4: Responsible management of chemicals and waste</p> <p>12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse</p>
	<p>13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p> <p>13.2: Integrate climate change measures into national policies, strategies and planning</p>

Governance

Executive direction of climate change mitigation is led by Ribbon's Chief Operating Officer (COO). The COO is supported by senior management in specific business unit functions such as procurement, supply chain management, human resources and others. Ribbon's Board of Directors receive annual updates relating to environmental performance including climate change mitigation and environmental stewardship.

Disclosure

We report transparently to our stakeholders on progress and performance related to environmental stewardship in our [annual Sustainability Report](#).

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