

# **Sustainability Data and Performance Calculation Methodology 2022**

Updated: November 2023

Owner: Bystronic Sustainability

## Table of Contents

1	Introduction.....	3
1.1	Purpose of the document.....	3
1.2	Scope and Boundaries .....	3
1.3	Targets, Base year, and Transparency .....	3
1.4	Data recalculation .....	3
2	Employee General data .....	3
3	Engaged People data .....	3
3.1	Diversity, Equity & Inclusion data .....	3
3.2	Workplace Occupational & Psychological Safety data.....	4
3.2.1	Occupational safety data .....	4
3.2.2	Psychological safety data .....	4
3.3	Talent management data.....	4
4	Sustainable solutions data.....	5
4.1	Resource efficient operations data.....	5
4.1.1	Energy data .....	5
4.1.2	Operations Carbon Footprint data (Scope 1 & 2) .....	6
4.1.3	Waste and water management data .....	8
4.2	Sustainable products and services data .....	9
4.2.1	Value Chain Carbon Footprint data (Scope 3) .....	9
4.2.2	Refurbishment data .....	9
5	Responsible business data.....	9
5.1	Good corporate governance data.....	9

## 1 Introduction

### 1.1 Purpose of the document

This document supports the information presented in the [Bystronic Sustainability Data and Performance Report](#) and provides additional details on our sustainability data collection and calculation methodology.

ESG data is presented in support of Bystronic's long-term ambitions and mid-term targets. Therefore, the document follows the same ESG framework structure adopted by Bystronic.

### 1.2 Scope and Boundaries

Unless otherwise stated, the report covers all Bystronic operations in all countries in which we operate. The data covers 10 development and production sites in Switzerland, Germany, Italy, Romania, the Netherlands, the USA, and China, and 29 sales companies located in 27 countries. Changes in scope in 2022 are mentioned in the [Annual Report 2022](#) (page 99).

### 1.3 Targets, base year, and transparency

In 2022 reporting, Bystronic introduces its ESG long-term ambitions and mid-term targets. The year 2021 will serve as the base year for Bystronic ESG targets across the different areas.

To transparently report on our progress, data for at least two years prior to the reporting year will be included (e.g., in the 2022 report, figures from 2021, 2020 and 2019 are also published).

### 1.4 Data recalculation

In case of a significant change in the organization (a 10 percent change or more in value), the calculation methodology will be adjusted to ensure data accuracy. Historical figures used will be recalculated to ensure our reporting gives a realistic view on our impacts and our progress.

## 2 Employee general data

The Human Resource team (HR) collects employee data in the corporate HR central database. This data is presented in the report according to GRI disclosure standards. Some data is not yet available: distribution by age group and headcount by contract type.

## 3 Engaged people data

### 3.1 Diversity, equity & inclusion data

The Human Resource team collects employee data in the corporate HR central database. This data is presented in the report according to GRI disclosure standards.

## **3.2 Workplace occupational & psychological safety data**

### **3.2.1 Occupational safety data**

Occupational safety data is collected annually through a web interface that also stores it and calculates KPIs in a central database. It is then available for dashboards. The scope of occupational safety data is currently all manufacturing plants. Plant safety managers submit the required data, explanation, and description of the type of recordable injuries. The number and calculation of worked hours by manufacturing plant are also indicated. The central platform then calculates the rate of recordable injuries and other safety indicators based on the collected data in accordance with GRI disclosure standards.

We currently calculate:

- **Rate of recordable injuries:** A recordable injury is a work-related injury that results in any of the following: fatality, loss of consciousness, day(s) away from work, restricted work activity or job transfer, diagnosis of cancer or chronic irreversible disease, punctured eardrum, fractured or cracked bones, medical treatment beyond first aid. Recording is simply the act of tracking an on-the-job injury or illness. As Bystronic is present in many countries, the recording of incidents differs from one country to another. The rate of recordable Injuries is defined as the total number of recordable work-related injuries divided by the number of hours worked, multiplied by 200,000. This rate is one of the key indicators for health and safety materiality. 200,000 represents the hours that 100 employees work on average during a 40-hour week, 50 weeks per year.
- **Number of lost days due to recordable injuries:** calculation is based on number of downtime hours due to recordable injuries reported on the web portal by each manufacturing plant and divided by 8 hours per day. The calculation is centrally made by the web portal.

### **3.2.2 Psychological safety data**

Psychological safety data is the result of specific answers provided by employees throughout the entire company through a survey that is conducted every two years. The result is the average score, on a scale of 100, associated with the following statements:

- I would feel safe to openly discuss a mistake I made.
- I feel safe to talk to my colleagues about their behavior.
- I feel safe to talk to my direct manager about his/her behavior.

## **3.3 Talent management data**

Talent management data is the result of specific employee indicators gathered from the employee survey, which is conducted every 2 years, and from the HR central database:

- **Employee NPS:** The Employee Net Promotor Score (eNPS) shows the extent to which employees promote Bystronic as a good employer. The score is determined as follows: % promoters

(employees who rate their own satisfaction with Bystronic as 9 or 10 on a scale of 0-10) minus % detractors (employees who rate their own satisfaction with Bystronic between 0 and 6 on a scale of 0-10). This score predicts how likely employees are to become ambassadors of their organization.

- Employee engagement score: Engagement is the degree to which employees are inspired and energized by their work. It also refers to their positive connection to an organization. Engaged employees experience their work as meaningful and rewarding; are proud of their jobs; and feel that they fit in the organization. They are willing to go the extra mile because they love what they do and where they work. The Employee Engagement Score tells how enthusiastic the employees are about their work and how connected they feel to the organization. The score ranges from 0 (the most negative assessment) to 100 (the most positive assessment) and is an average of the scores of the many related questions in the survey.
- Voluntary employee turnover: Voluntary employee turnover refers to the ratio between the number of employees who voluntarily canceled their permanent contract with Bystronic AG or a subsidiary of Bystronic AG during a calendar year compared to the average number of employees in that calendar year. The average number of employees is calculated by taking the simple average between the headcount at the beginning of the calendar year (January 1) and at the end of the year (December 31). This indicator is sourced from the HR central database.

## **4 Sustainable solutions data**

### **4.1 Resource efficient operations data**

#### 4.1.1 Energy data

Energy data is collected annually through a web interface that stores the data in a central database and makes it available to various dashboards. The monitored energy consumption is structured in four categories:

- Fuel for fleet (diesel, petrol, LPG): manufacturing sites and sales entities.
- Stationary energy for buildings (natural gas, fuel oil): manufacturing sites and sales entities.
- Purchased energy (electricity, district heating): manufacturing sites and sales entities.
- Produced energy (solar panel electricity): manufacturing sites.

Reported total energy consumption and energy intensity include all the above energy sources.

Bystronic also collects information on the percentage of our energy that comes from renewable and non-renewable sources:

- Renewable energy percentage = Amount of renewable energy divided by total energy consumption.
- Renewable electricity percentage = Amount of renewable electricity divided by total electricity consumption.

A key contact in each entity is responsible for completing the web interface annually and explaining the variations.

#### 4.1.2 Operations carbon footprint data (Scope 1 & 2)

Bystronic's carbon footprint in 2022 and in past years has been calculated in accordance with the requirements of the Greenhouse Gas Protocol (GHG Protocol). No emission sources have been excluded for scopes 1 and 2. When calculating the carbon footprint, only the direct emissions were considered, i.e., no emissions from the upstream value chain, i.e., well-to-tank GHG emissions of fuels.

##### 4.1.2.1 Boundaries of operations carbon footprint data (Scope 1 & 2)

In the present and past calculations of Bystronic's corporate carbon footprint, the operational control approach from the Greenhouse Gas Protocol was used. All GHG emissions that result from the business activities of Bystronic, over which it exercises operational control, are included in the system boundaries.

##### 4.1.2.2 Assurance of operations carbon footprint data (Scope 1 & 2)

Bystronic Scope 1 & 2 carbon footprint has been assured by Swiss Climate. Swiss Climate undertook the assurance in accordance with AA1000 Assurance Standard (AA1000AS v3) Type 2 moderate-level assurance.

Carbon Footprint: Swiss Climate has verified the following greenhouse gas emissions for the year 2022:

Emission source	t CO <sub>2</sub>
<b>Scope 1, total</b>	<b>6'394.7</b>
– stationary energy consumption (natural gas, heating oil)	2'115.6
– mobile energy consumption (service fleet, trucks)	4'239.1
– cooling agents	39.9
<b>Scope 2, total (market-based)</b>	<b>4'303.1</b>
– stationary electricity consumption	3'463.2
– district heating	839.5
– mobile energy consumption (electric vehicles)	0.4
<b>Scope 2, total (location-based)</b>	<b>5'254.5</b>
– stationary electricity consumption	4'414.6
– district heating	839.5
– mobile energy consumption (electric vehicles)	0.4
<b>Total Scope 1 + Scope 2 (market-based)</b>	<b>10'698</b>
<b>Total Scope 1 + Scope 2 (location-based)</b>	<b>11'649</b>

##### 4.1.2.3 Global warming potential and applied methods

Global warming potential is given in the form of CO<sub>2</sub> equivalents. Only the direct effects of greenhouse gas emissions are considered in the carbon footprint. The results are presented using both the location-based and the market-based approach.<sup>1</sup>

##### 4.1.2.4 Generic and external data sources

Generic data sets (emission factors and conversion factors) were taken from the following sources:

- Database ecoinvent 3.8: <https://ecoinvent.org/the-ecoinvent-database/>

- GEMIS 5.1: <https://iinas.org/downloads/gemis-downloads/>
- IPCC's Sixth Assessment Report: <https://www.ipcc.ch/>
- Publications of relevant energy suppliers for the emission factor of the purchased electricity product.

In each case, the data set that came closest to the specific situation at Bystronic was selected.

#### 4.1.2.5 *Scope 1 direct emissions*

Scope 1 includes emissions from the vehicle fleet, stationary energy consumption and refrigerant losses.

##### 4.1.2.5.1 *Fuel for fleet emissions*

For manufacturing/assembly plants, in the 2022 fiscal year, the Bystronic fleet consisted of petrol, diesel, hybrid and electric vehicles, company cars attributed to select employees, trucks and buses, and forklifts. Both emissions from the fuel consumption of vehicles owned by Bystronic and vehicles used in Bystronic's leasing model were considered under Scope 1, following the principles of the operational control approach that was chosen for the selection of organizational boundaries.

For the sales companies, kilometers driven by salespeople and service people were estimated based on a fixed mileage per sales and service person and the number of sales and service people on each site according to the company's internal records.

Fuel consumption and mileage are reported separately because the contact person at each site had the choice to report one or the other data, depending on availability. The web interface was designed to prevent potential duplication of data. Emission factors (per liter or kilometer) were applied according to GHG emissions calculations.

Emissions from diesel, petrol and LPG consumption are calculated by using emission factors from ecoinvent 3.9.1 UPR, GEMIS 5.1, and our own calculation.

##### 4.1.2.5.2 *Stationary energy combustion emissions*

The following emission sources were identified under Scope 1 stationary energy combustion at the Bystronic sites:

- Natural gas
- Fuel oil

Emissions from stationary natural gas and fuel oil consumption calculated under Scope 1 were calculated regardless of whether the objects were owned or rented by Bystronic. This follows the principles of the operational control approach that was chosen for the selection of organizational boundaries.

Emissions from fuel oil and natural gas consumption are calculated by using emission factors from ecoinvent 3.9.1 UPR, GEMIS 5.1, and our own calculation.

#### 4.1.2.5.3 Refrigerant losses

In the 2022 financial year, refrigerant losses were recorded at five Bystronic locations. Refrigerant emission factors are taken from IPCC 2021 (AR6).

#### 4.1.2.6 Scope 2 indirect emissions

Scope 2 includes emissions from the consumption of purchased heat and purchased electricity.

In the 2022 financial year, district heating was recorded at seven Bystronic locations. District heat emission factors are taken from the database ecoinvent 3.9.1 UPR.

In the 2022 financial year, emissions from electricity consumption have been calculated according to the location-based approach, and according to the market-based approach.

- Location-based calculation method: Electricity emission factors are taken from database ecoinvent 3.9.1 UPR.
- Market-based calculation method: renewable electricity instruments/certifications are considered. The emission factors are chosen according to GHG Protocol's Scope 2 guidance.
- When a location uses renewable electricity, they provide annually to the sustainability team their guarantee of origin for electricity.

#### 4.1.3 Waste and water management data

Waste and water data includes our manufacturing locations' data. Sales entity locations are excluded from the report because their waste/water amounts are estimated to be significantly smaller than the figures of our manufacturing locations.

Local HSE Manager annually inputs the waste amounts and treatment methods to a web portal. The data is reviewed by the sustainability team.

Six non-hazardous waste categories are reported:

- Metal scrap: waste streams are mostly directed to recycling.
- Wood: waste streams are mostly directed to recycling.
- Cardboard and paper: waste streams are mostly directed to recycling.
- Plastic: waste stream is split into recycling, incineration.
- Domestic: waste stream is split into recycling, incineration, composting, and landfill depending on location.
- Special waste: waste stream is directed to adequate treatment centers, depending on location.

One hazardous waste category is reported:

- Hazardous and electronic and electrical waste: waste stream handling split into recycling, incineration and other adequate treatments depending on location.



## 4.2 Sustainable products and services data

### 4.2.1 Value chain carbon footprint data (Scope 3)

For financial year 2022, only Scope 3 purchased goods and services (Cat. 1) and use of sold products (Cat. 11) have been calculated. These two categories account for more than 93% of total Co2e emissions based on a full screening realized in one major manufacturing plant. This analysis will be completed by a full screening of Scope 3 at the corporate level.

#### 4.2.1.1 Purchased goods and services (Cat. 1)

This category represents around 30% of total Scope 3 emissions.

Purchased goods data was available in a central procurement database. For three sites, the data has been requested separately. The emissions from purchased goods and services are calculated based on monetary data and the purchased goods category using the Greenhouse Gas Protocol.

Available weight data was collected for steel materials and aluminum materials, the largest source of emissions, and ecoinvent material-specific emission factors were used to calculate the emissions from these raw materials.

#### 4.2.1.2 Use of sold products (Cat. 11)

This category represents around 70% of total Scope 3 emissions.

Sold products data was requested from each manufacturing plant. The emissions associated with the use phase of sold products were calculated by R&D using energy data (electricity), use rate (stand-by, operational phases) and lifetime (~20 years) assumptions for all Bystronic product categories. Total expected lifetime emissions from all products sold in the reporting year were calculated using ecoinvent (for electricity) and IPCC 2021 (AR6) (for refrigerants) emission factors.

### 4.2.2 Refurbishment data

Three manufacturing plants provide data on refurbished machines. The manufacturing plant contact submitted the number of refurbished machines into the web portal.

## 5 Responsible business data

### 5.1 Good corporate governance data

[Ecovadis](#) provides a platform that allows us to get sustainability data from suppliers. Current KPI is the number of suppliers in Ecovadis' platform and the number of suppliers present on a risk monitoring platform.