



em microelectronic

A COMPANY OF THE **SWATCH GROUP**

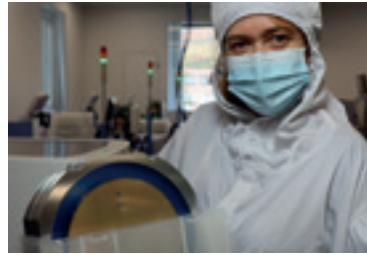
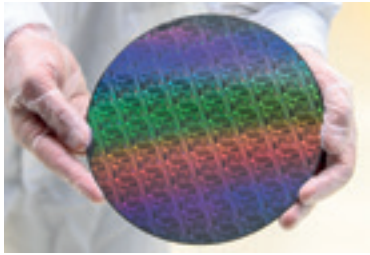
# Sustainability Report 2021







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# Sustainability at EM

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# Message from our CEO



**Dr. Michel Willemin**  
CEO, EM Microelectronic

As many observed, 2021 was the year of resilience. Navigating through the later stages of the COVID-19 pandemic came with important challenges for us to address, both from a business, and an organizational perspectives.

Thanks to the intense efforts from our talented people and partner network, we managed to transform these challenges into new opportunities, by re-imagining our way of doing things.

For sustainability, this meant leaping forward. While sustainability has been a core pillar for EM since its foundation, we are now taking the responsibility to share all our efforts and successes on the topic.

Our Sustainability Report 2020 served as a starting point for this effort, and the present second edition is aiming at pushing these foundations by following through on GRI standards, transparency on our operational data and deepening in our material topics.

There are still numerous challenges to address and overcome. The construction of our new buildings, a mobility plan for our commuting employees, ensuring energy security in a troubled market while being climate conscious, to mention but a few. All these represent great challenges for EM from a sustainability point of view in the coming years.

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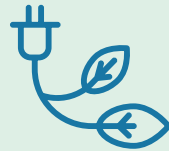
*Similar to 2021 when we re-imagined the way we do things, the talent and resilience of our people will be the key factors to reach our goals.*

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# 2021 Highlights



**67.7%** of the waste generated was either recycled or reused for energy recovery.



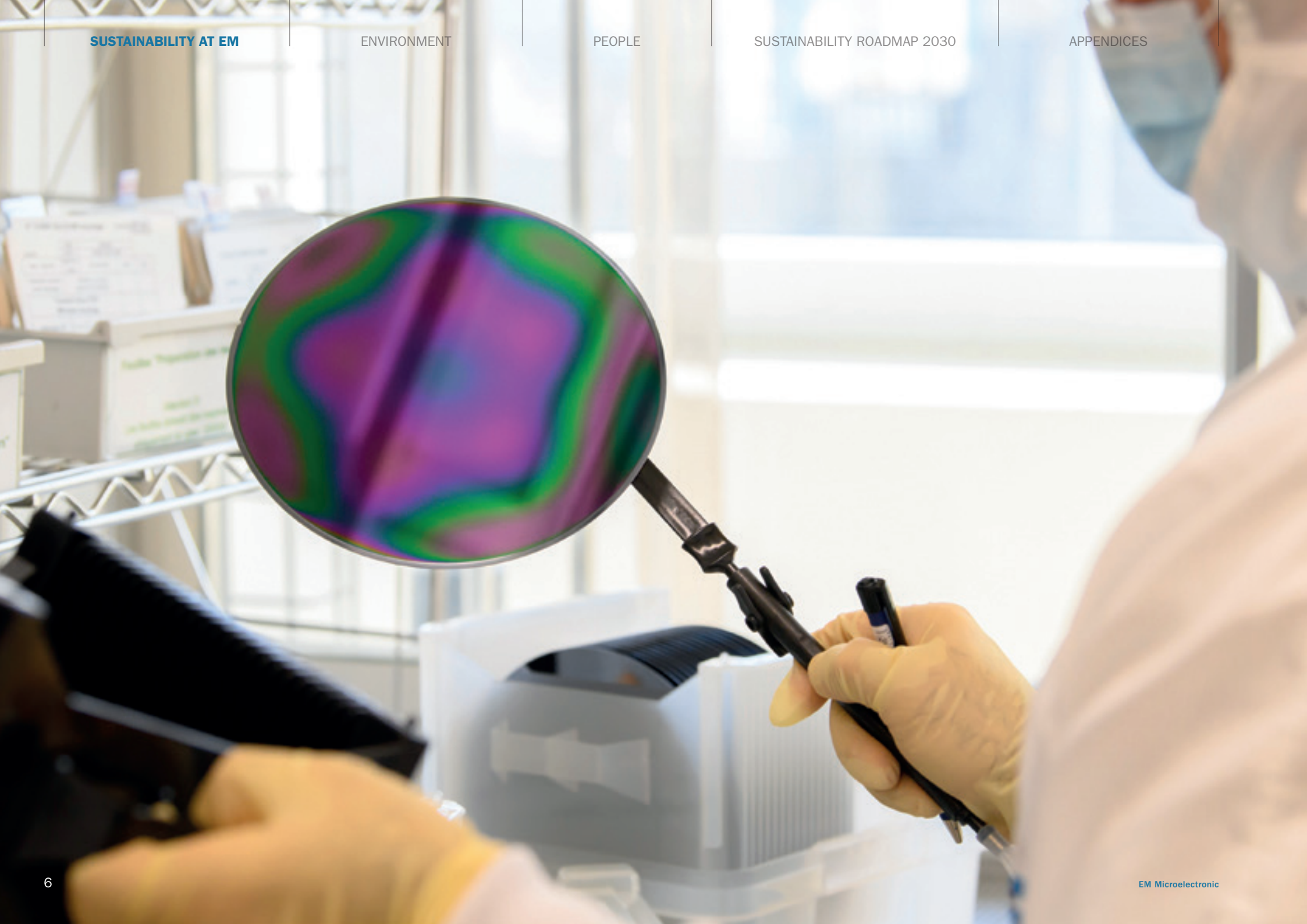
**100%** of the electricity in our Marin manufacturing site came from renewable sources.



Scope 1 and 2 greenhouse gas emissions were reduced by **66.6%**, compared to 2019.



Energy consumption was reduced by **2.7%**, compared to 2019.





# EM Microelectronic

## A global semiconductor company on a human scale

At EM Microelectronic (EM), we design and manufacture ultra-low power Integrated Circuits for small portable devices and green IoT. We merge our extensive talents and resources under a single roof towards developing and manufacturing customized ICs and components.

We are fully dedicated to time-honored Swiss culture in our relentless pursuit to achieve cutting-edge products and long-term customer loyalty.

We enable green, high-performance, user-friendly devices with Swiss-quality microelectronics that make our customers unique via long-term, sustainable partnerships and proximity.

## Main markets



Watches



Communication



Consumer Electronics



Healthcare & Wellness



Industrial



IoT



Traceability & Logistics



Automotive



- **Headquarters in Switzerland**
- **4** design and manufacturing sites
- **620** employees worldwide
- **Worldwide** sales presence

- 1. Marin-Epagnier, Switzerland :** Headquarters | Main sales and marketing  
R&D | Design | Front-end | Back-end
- 2. Prague, Czech Republic :** Design
- 3. Bangkok, Thailand :** Back-end manufacturing
- 4. Colorado Springs, USA :** Sales and marketing | Design

EM Microelectronic is a fully-owned subsidiary of Swatch Group, an international group active in the manufacturing of high quality watches and jewelry.

Within Swatch Group, EM Microelectronic is part of the Electronic Systems Segment. Together with our sister companies, we provide complete solutions for various applications by merging individual expertise and the synergies within the Group.



# Products and Responsible Sourcing



**“Our customers have very high sustainability standards. As a leading-edge Swiss company, these values play at the core of our market positioning and societal role, and we use them as a guideline for all our business strategy.”**

Stefan Barbu, VP Sales & Marketing

**“As a leading high-tech organization, the sustainability of our activity is built on a great team providing best-in-class service to our customers.”**

Paul Muller, VP Development

On compliance, we adhere to the latest legislation on semiconductors as well as substances and materials so our products are conformant to all these standards. REACH SVHC, RoHS and CMRT certificates are some of the key compliance topics we are constantly updating for our products to fulfill these requirements.

Combined with our **Social and Environmental Responsibility (SER) Principle of Conduct**, we ensure that our suppliers are compliant to the highest standards of labor, health and safety, environment, and ethics.

## EM Expertise

**empowering** energy efficiency

**emphasizing** sensing

**embodying** precision

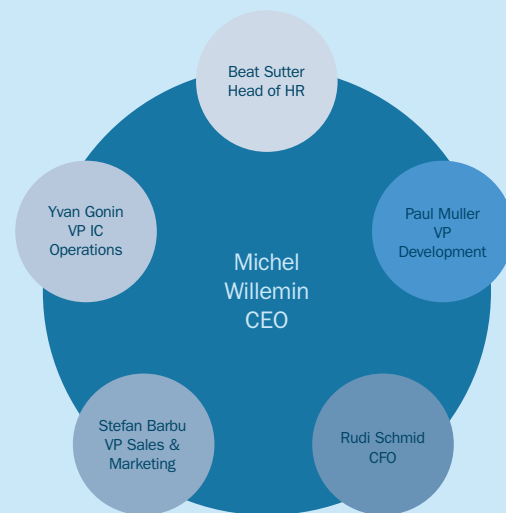
**emboldening** user experience

**emitting** frequencies

**embedding** technologies

# Governance

Our company governance body is the EM Management Board, composed of 5 senior executive members representing all the company departments, along with our CEO. They are accountable for all aspects on the overall efficiency of EM, risk management and strategic decisions, including our impact on economy, environment and people.



The Management Board is responsible for approving all of the policy commitments that guide our operations. It also establishes and overlooks the progress of our Sustainability Roadmap 2030, which was introduced in the previous edition of our Sustainability Report.

-  **Quality Policy**  
Quality improvement, customer satisfaction
-  **Information Security Policy**  
Corporate information, customer information
-  **Risk Management Policy**  
Business partners relationships
-  **Social Policy**  
Human rights, labour, suppliers
-  **Environment Health & Safety Policy**  
Safe workplace, environmental impacts
-  **Sustainability Roadmap 2030**  
Sustainability goals and targets





# About This Report



We published our first sustainability report last year, which compiled the efforts from many different teams at EM through 2020.

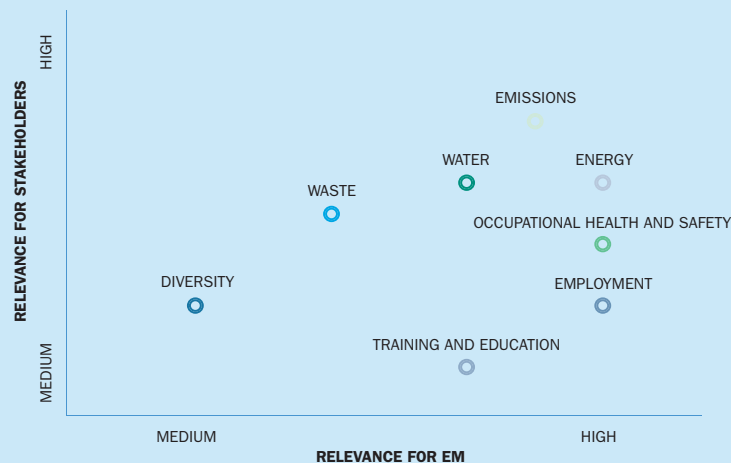
Encouraged by the very positive reception, we are now publishing the second edition. Our Sustainability Report 2021 covers the operations in the calendar year 2021 (January 1<sup>st</sup> – December 31<sup>st</sup>, 2021) from our sites in Marin (EM Microelectronic-Marin SA) and Bangkok (EM-Bangkok), the latter being part of the facilities of ETA Thailand, a sister Swatch Group company.

From this edition onwards, we will report in reference to the GRI Standards, allowing us to better structure our annual sustainability reporting efforts.

For any questions on this report, please contact us at:  
[sustainability@emmicroelectronic.com](mailto:sustainability@emmicroelectronic.com).

Moving forward from last year, the material topics for this year's report were selected with an initial stakeholder engagement. Our internal and external stakeholders influence us and our operations directly and indirectly. We find our Management Board, our employees and Swatch Group as part of our internal stakeholders. And we find our customers, our suppliers, government authorities and universities we collaborate with as part of our external stakeholders.

For our materiality assessment, we selected key stakeholders to understand the relevance different topics have for them. Through internal engagement with members of the EM Management Board and with a benchmarking of the latest sustainability reports of our customers, suppliers and Swatch Group, we were able to create the materiality matrix for this report, shown below. Our material topics were selected on the basis of at least a medium relevance for both EM and our stakeholders, and current availability of data.



# Environment

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# Energy Consumption



Our energy consumption is mainly driven by electricity, representing **77.6%** of the overall energy consumption footprint in 2021.

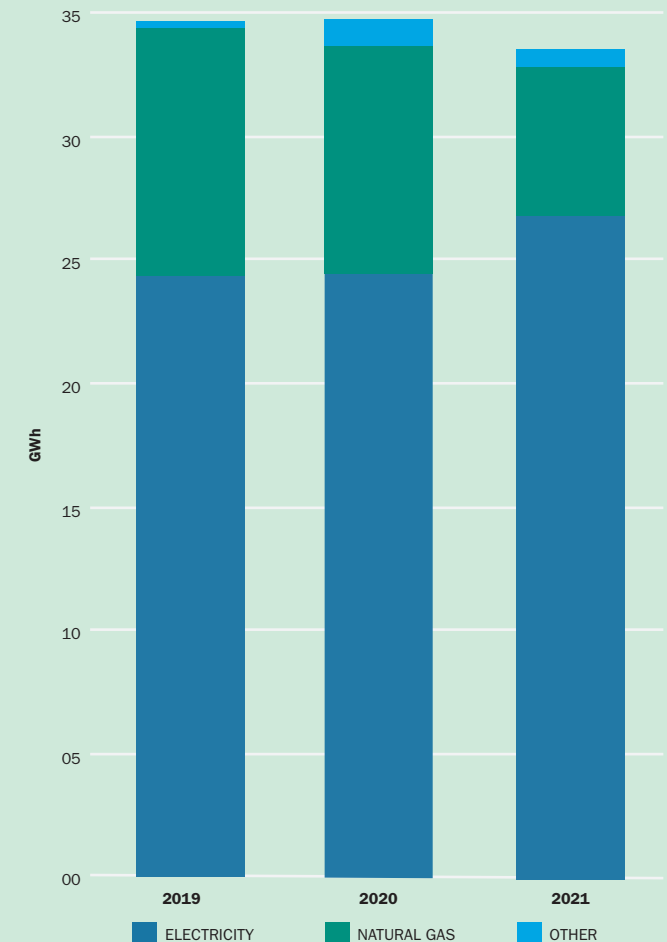
With the operation of our new heat pump in the Marin manufacturing site, the consumption of natural gas **decreased by 34%** from 2020. On the other hand, electricity in this site **increased by 10%** in the same period, mainly due to the heat pump and to the increase in production activity to meet the rise in worldwide demand for semiconductors.

We are constantly implementing new energy efficiency projects. For example, the replacement of a series of industrial vacuum pumps in 2021 allowed us to avoid the consumption of around 90 MWh of electricity.

By transitioning to electrification and implementing electricity efficiency measures, we will be able to keep reducing our energy consumption. And by transitioning to electricity from renewable sources, we will be able to reduce our carbon footprint.



Energy consumption at EM



# Energy Consumption



In 2021, with the purchase of Guarantees of Origin coming from hydropower in Europe, we were able to reach **100% of renewable electricity procurement** in our Marin site. We are assessing the best ways to maintain this momentum going, finding solutions to increase our renewable electricity procurement in the coming years while maintaining our electricity security. However, the uncertainty of the energy scenarios of the future represents an important challenge, such as maintaining 100% renewable electricity, not only for our footprint, but for our operations.

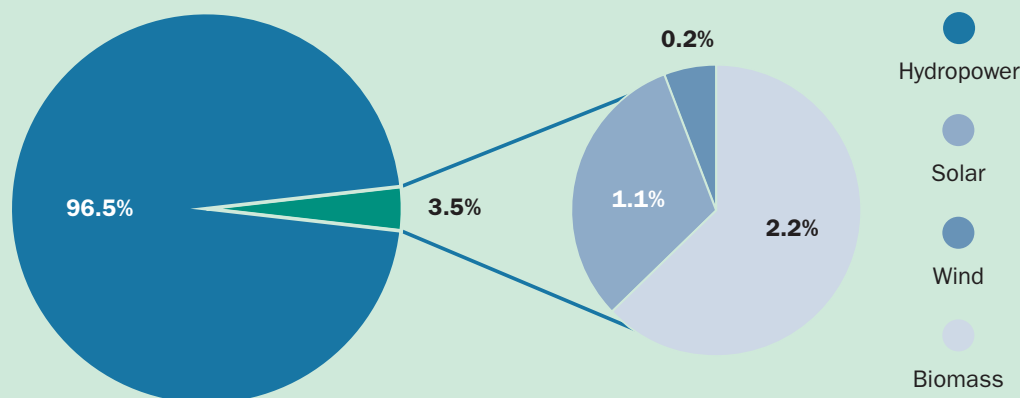
We participate in the voluntary program of the Energy Agency of the Swiss Private Sector (AEnEC in French), which helps us to further monitor our progress on energy efficiency and climate protection.

***100% of the electricity we consumed in 2021 in our Marin site came from renewable sources.***

**Like the rest of the world, EM faces new risks in ensuring constant energy supply. Production dependency on gas is very limited thanks to the described measures. Electricity outage risks are permanently assessed and preparation of risk mitigation plans are in the initial phase.**



## Electricity mix of EM Marin



**“Producing wafers in a highly cost competitive market since 1975, EM has a long track record in optimizing energy consumption. The increasing interest of the community for this discipline values our long-term efforts.”**

Rudi Schmid, CFO

# Emissions



Estimating our carbon emissions has been a very insightful learning experience. We are trying to move forward in this task by adopting a comprehensive approach for our emissions sources and by polishing our estimation methods, based on the GHG Protocol.

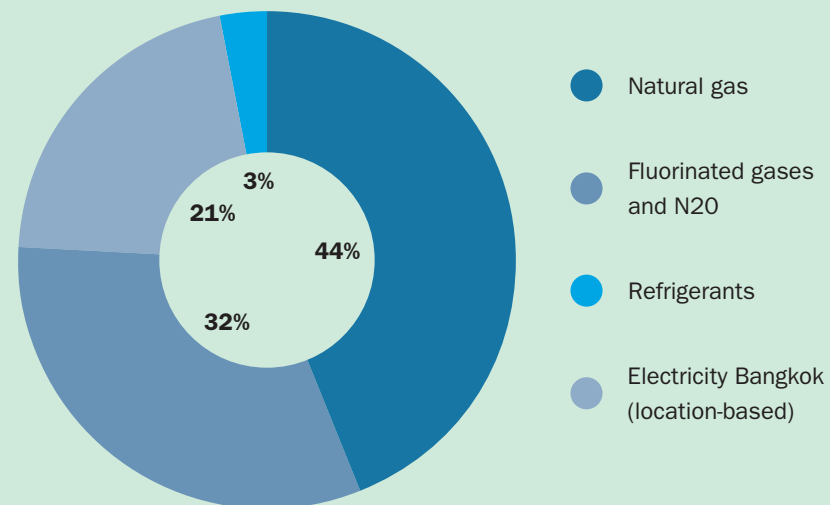
For our 2021 report, we are including the impact of electricity from our production site in Bangkok. We are also initiating, along with Swatch Group, our estimations on scope 3 categories that are of high relevance for us. In this report, we are including our scope 3 emissions from fuel and energy-related activities, business travel, employee commuting, and downstream transportation and distribution, with the goal of including more categories in the next edition of our sustainability report.

**“Having a core competence in ultra-low power and being motivated by strong customers and partners, EM is optimizing constantly its energy consumption, resources availability and post-processing treatments.”**

Yvan Gonin, VP IC Operations

Energy-related emissions represented the highest share of our scope 1 and 2 emissions in 2021, **with 66%**. The second highest share in these scopes comes from emissions from production, **with 32%**.

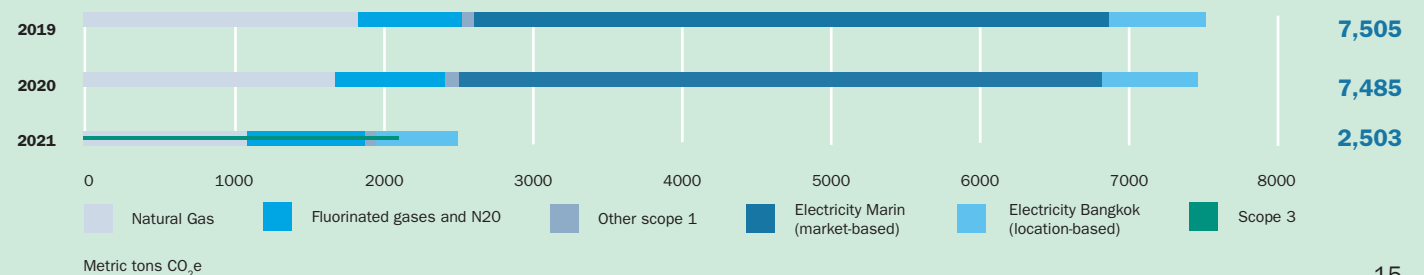
Share of scope 1 and 2 emission sources in 2021



Categories below 1% excluded from the legend.

**With the installation of our heat pump and the adoption of renewable electricity, we were able to reduce our scope 1 & 2 emissions in our Marin site by 71% from our 2019 baseline.**

GHG emissions at EM





# Water

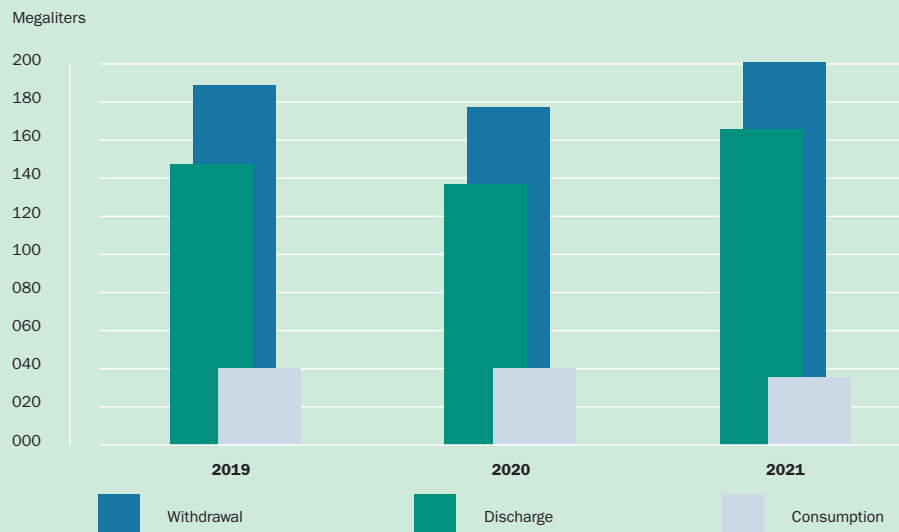


The use of water in our facilities is another major aspect of our environmental impact. As such, we follow strict protocols for the conservation of this life-sustaining resource.

In Marin, our water use is directly shared with two other subsidiaries of Swatch Group present on site. For both our Marin and Bangkok manufacturing sites, our water withdrawal comes directly from the local water supply and our discharges go directly to the local sewage system. The water we use is treated through our wastewater treatment systems, in order to comply with regulations on water discharge, thus avoiding contamination of our rivers and lakes. Also, there is a share of water that evaporates in our cooling towers and as steam in our cleanrooms.

Through our water recycling system in Marin, we are able to keep decreasing our water consumption. In 2021, the rate of water recycling was **10.5%**.

## Water use in Marin

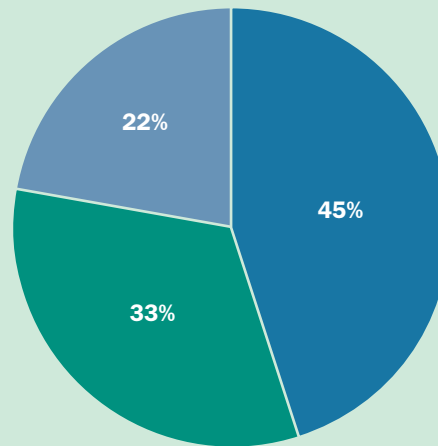
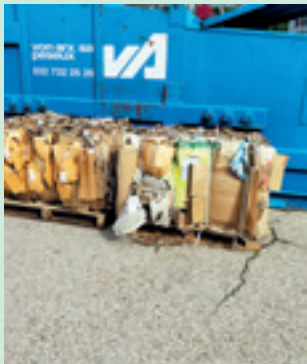


# Waste

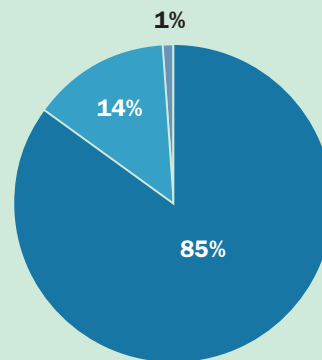
Our waste generation comes greatly in part from our manufacturing processes. Due to the variety of substances we use in our facilities, hazardous waste is generated. We work with our waste management suppliers to implement innovative solutions on recycling our hazardous waste or reusing it for energy recovery. For example, recycling a part of our used sulfuric acid, which is then turned into recycled sulfuric acid, and our used solvents serving as fuel for the cement industry.

Non-hazardous waste also is generated in our manufacturing processes, as well as in our offices and logistics operations. For our offices in Marin, we are planning on implementing a pilot program to maximize recycling in this part of our operations.

We keep assessing different solutions to maximize our waste valorization and minimize our waste disposal, reaching **67%** and **86%** in our two manufacturing sites in 2021.



**Waste management in Marin,  
314 metric tons**



**Waste management in Bangkok,  
15 metric tons**



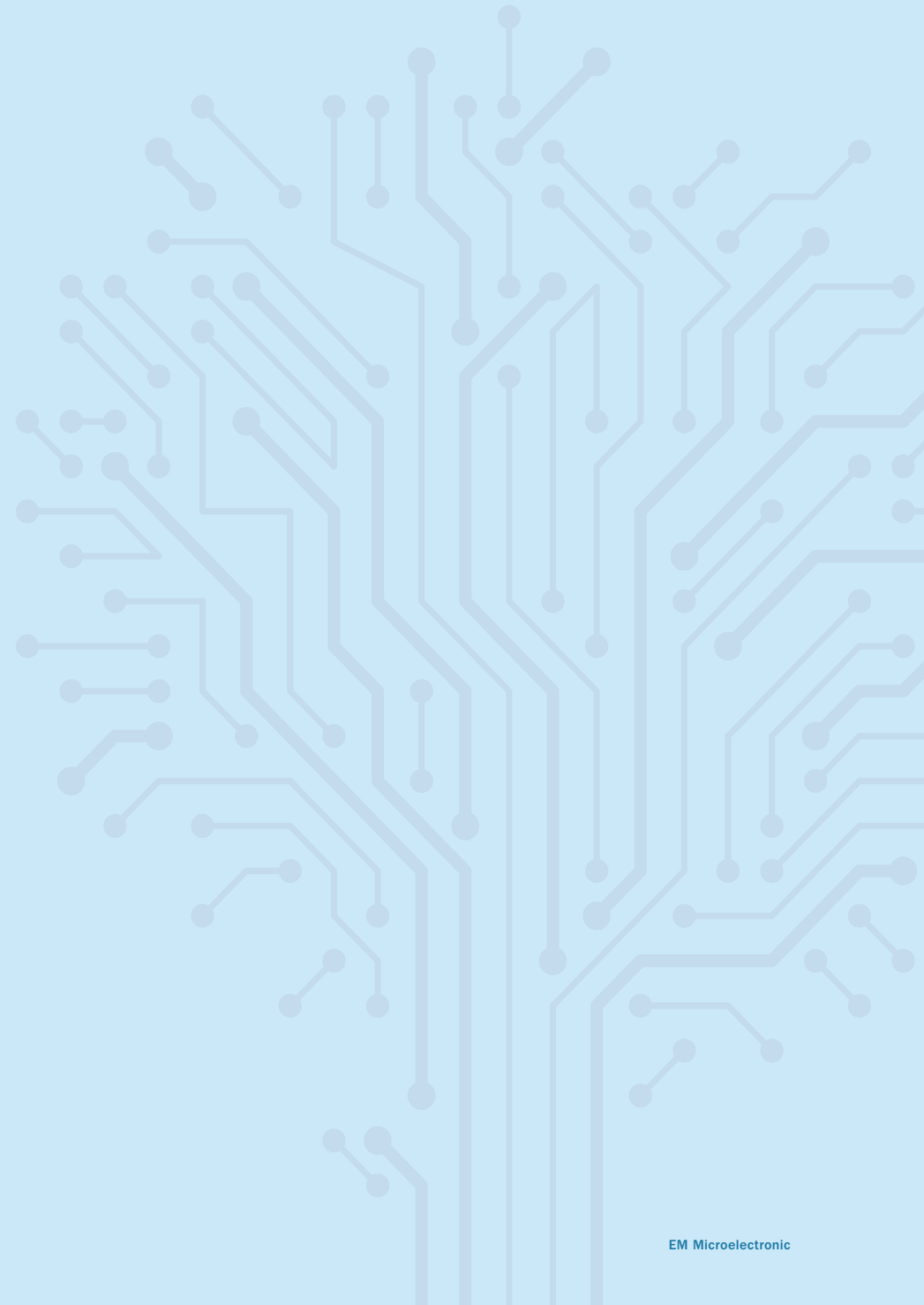
# People

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*Employment and Training* 19

*Occupational Health and Safety* 20

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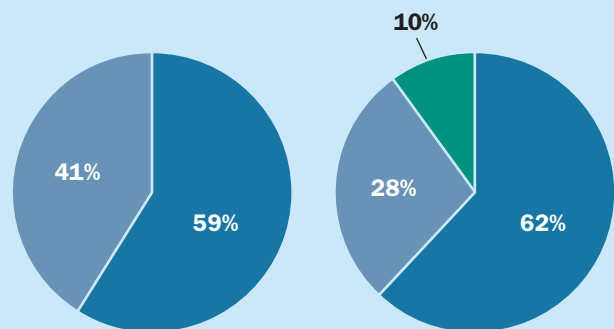




# Employment and Training

We owe our success to our people. Through our recruitment process, we strive to collaborate with the best professionals in their field. Our two manufacturing sites employ 513 people, representing 83% of our coworkers worldwide, exchanging ideas, experiences, and cultures that lead to our highly skilled and dynamic teams.

And just as we strive to collaborate with the best professionals, we also want our people to keep developing themselves. We highly encourage all of our employees to follow training programs that keep improving their skills, which also allows our company to keep on growing.



Distribution of employees by gender

● Male  
● Female

Distribution of employees by age group

● Under 30  
● Between 30 and 50  
● Over 50

## Average training hours per employee

| CATEGORY      | MARIN | BANGKOK |
|---------------|-------|---------|
| All employees | 8.2   | 2.57    |

*With 24 nationalities from all over the world in our Marin site, the multicultural and multidisciplinary environment that our people experience is a key factor in our success.*

**“We are supporting the organization to improve effectiveness, to manage corporate governance and ethical issues beyond economic performance, and to support realignment of the organization’s future direction and vision of new ways of operating.”**

Beat Sutter, Head of HR



# Occupational Health and Safety



Our occupational health and safety system in Marin follows the standards and requirements from the Swiss Federal Coordination Commission for Occupational Safety (CFST, in French), the Swiss National Accident Insurance Fund (SUVA, in German), and the Employer's Federation of the Swiss Watchmaking Industry (CPIH, in French). The system covers all of our coworkers, as well as the other two Swatch Group subsidiaries on site and is overlooked by our Safety Officer. Safety principles are applied to externals, such as visitors and contractors through dedicated safety instructions and trainings.

Health and safety risks are assessed through our Internal Control System, which also covers all other business risks of the company. Three times per year, the Environment, Health and Safety Committee takes place, where the Safety Officer and safety leaders engage to manage risks and incidents throughout the year, and exchange on common practices and lessons learned. Furthermore, our voluntary teams of fire brigade and first-aid brigade support all interventions on fire-fighting, health, rescue, chemicals and natural disasters.

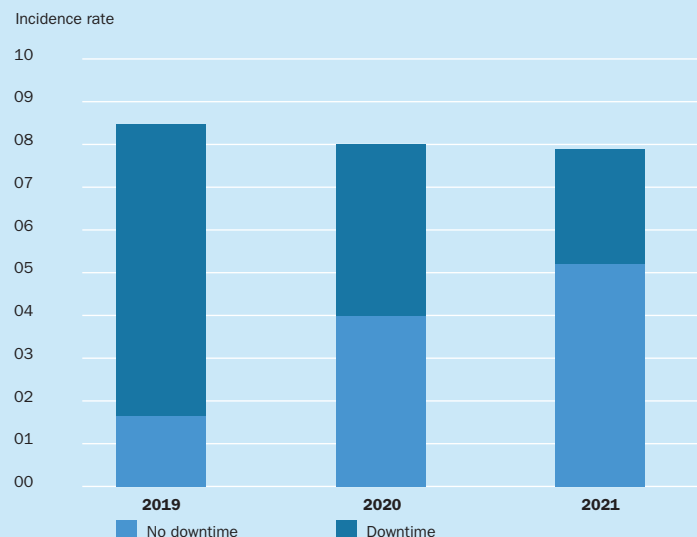
Training plays a key role on maintaining the safety of our coworkers. It is mandatory that everyone receives an introductory safety training when they join EM, and to follow up with trainings refreshing the concepts throughout the years.

We also ensure the specific security and safety training for our operators and technicians or any other function in the company which is exposed to specific risks and equipment at their workplace.

Within our health program, we propose prevention actions such as flu prevention, 'bike to work' and some one-off actions prior summer- and winter-time. During the COVID-19 pandemic period, we followed protocols on sanitation, social distancing, and remote work, based on the Swiss Federal Office of Health.



**Incidence rate of work-related injuries in Marin, per 1 million hours worked**



# Sustainability Roadmap 2030

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*Objectives and SDGs*

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# Objectives and SDGs

We published our Sustainability Roadmap 2030 in last year's edition of our Sustainability Report, where we shared the objectives we have established for 2030 and how they are aligned with the Sustainable Development Goals (SDGs).

We are proud to share the progress achieved in 2021 towards these objectives. We realized that some targets have already been reached. For this reason, we will re-assess and update them for the next edition of our sustainability report towards more ambitious targets.

## SDGs 3, 4, 8, 9 & 17 due to:

Our focus on people health, safety and development.

Our support for innovation and technology.

Our contribution to promote sustainability.

## SDGs 6, 7, 12 & 13 due to:

Our commitment to reduce our water consumption and waste production.

Our commitment to reduce our GHG emissions.

Our contribution to circular economy.

## Environment and energy

### Module

### Energy

EM Microelectronic actively applies measures to increase its energy efficiency.

### SDG



### Target 2030

Increase energy efficiency by at least 2% in our main manufacturing site in Marin.

### Progress



### Status

Energy efficiency, according to the AEnEC, increased 4% compared to 2019.

### CO<sub>2</sub>e emissions

EM Microelectronic company actively applies measures to decrease its CO<sub>2</sub>e emissions.



Decrease CO<sub>2</sub>e emissions in our main manufacturing site in Marin by 30% by 2025 and 50% by 2030, for scope 1 and 2.



By adopting renewable electricity, we surpassed the goal. We are assessing the best way to keep the momentum going in an electricity scarcity scenario, which may result in a lower value in the coming years.

### Materials and waste

EM Microelectronic strives to reduce its non-valorized and landfill waste.



Increase the total valorization rate up to a minimum of 70% in our Marin site.



Limit the landfill rate to a maximum of 5% for the total waste resulting from our activities in Marin.



We are active in the valorization of its industrial and hazardous waste, reaching 67% in 2021.

In 2021, our landfill rate was 0.21%.

### Water

EM Microelectronic strives to decrease its water consumption in its manufacturing sites.



Increase the total recycling rate of water up to a minimum of 30% in Marin.



Recycling rate was 10.5% in 2021.



# Objectives and SDGs



We deploy programs to reduce our GHG emissions.



We focus on providing quality and employment throughout our extended supply chain.



We aim to minimize risks of negative impact of our activities on people's health.



We help our employees to develop their competency through continuous training programs.



We aim to increase efficiency in the use of water resources. We are committed to treat all our wastewater and maximize its recycling.



We foster open innovation with a wide range of universities, companies and researchers all over the world.



We deploy programs to increase the energy efficiency of all our activities. We aim to increase the proportion of renewable energy.



We work with universities and companies to boost sustainability in our technology and products.

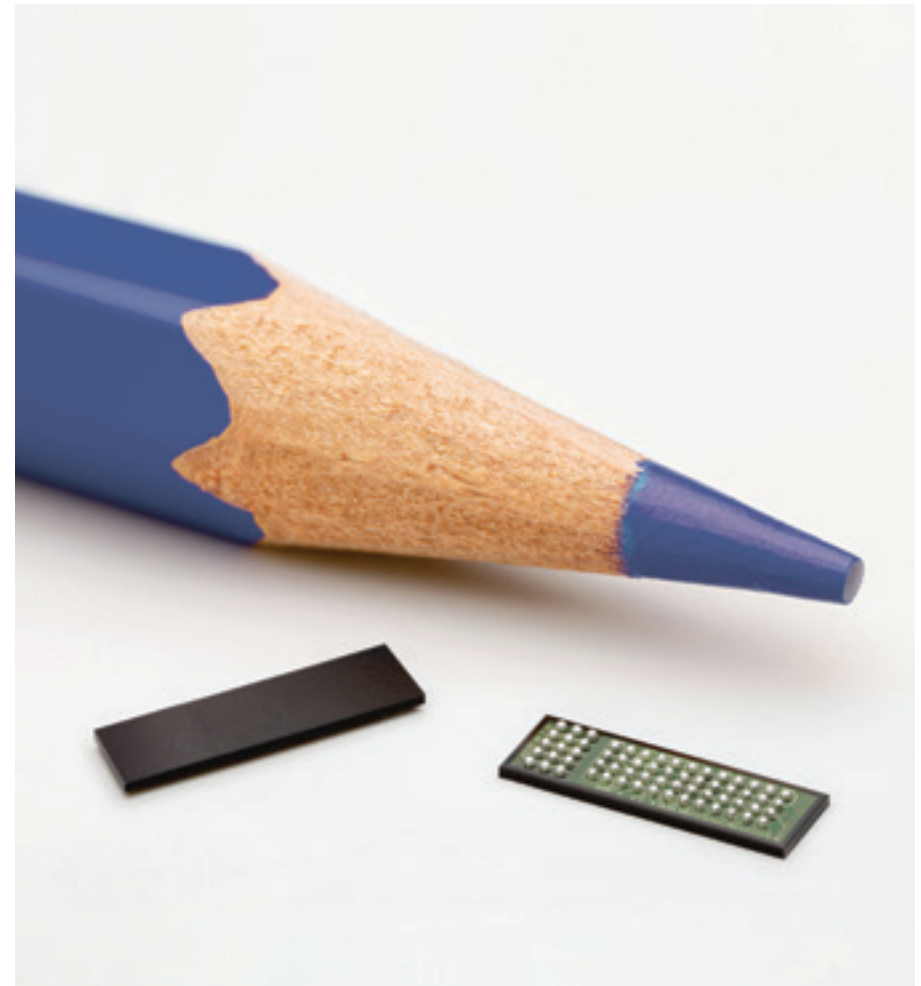


We work to minimize our waste in landfill, reduce our consumption of chemicals and eliminate hazardous material.

# Objectives and SDGs

## Products and Innovation






| Modules                                                                                                                             | SDG                                                                                | Target 2030                                                                        | Progress                                                                           | Status                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Quality</b>                                                                                                                      |                                                                                    |                                                                                    |                                                                                    |                                                                                                                                                            |
| EM Microelectronic actively applies high standards of quality to provide a high-level of customer satisfaction.                     |   | Control low customer quality complaints and return rate (baseline 2019).           |   | In the last years our quality management has been strengthened, resulting in stronger partnerships with our customers.                                     |
| <b>Green products</b>                                                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                                                                                            |
| EM Microelectronic products are optimized with regard to their environmental friendliness, social benefits and resource efficiency. |  | Systematic introduction of eco-design rules in product development and production. |  | Many of our products fulfill sustainable purposes. We are assessing methods on how to increase eco-design and sustainable characteristics in our products. |



## Products and Innovation

| Modules                                                                                                                            | SDG                                                                               | Target 2030                                                                                        | Progress                                                                            | Status                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Supply chain                                                                                                                       |                                                                                   |                                                                                                    |                                                                                     |                                                                                                |
| EM Microelectronic suppliers demonstrably comply with our SER Code of Conduct for socially and environmentally responsible supply. |  | 100% of fulfilled SAQ questionnaire from our key suppliers.                                        |  | All high-risk suppliers in Asia are already audited.                                           |
|                                                                                                                                    |                                                                                   | Systematically integrate sustainability criteria in our supplier and service partner choice.       |  | This type of criteria is already included for our key suppliers.                               |
| Logistics                                                                                                                          |                                                                                   |                                                                                                    |                                                                                     |                                                                                                |
| EM Microelectronic optimizes its logistics in terms of energy consumption, emissions, and packaging.                               |  | Define and implement improvement measures together with transport service providers and customers. |  | We have included scope 3 emissions from downstream transport and distribution of our products. |
|                                                                                                                                    |                                                                                   | Find sustainable alternatives for our packaging materials.                                         |  | EM is working with packaging suppliers to find more sustainable materials.                     |

## Safety and people

| Safety                                                                                       |                                                                                     |                                                                                                                                                     |                                                                                       |                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EM Microelectronic actively applies safety measures to maintain a very low rate of injuries. |  | Maintain our absence rate and incident rate below local median values.                                                                              |  | As a result of continuous efforts our absence and incident rates have been decreased below Swiss median values.                                                                                                                  |
|                                                                                              |                                                                                     | Continue and develop training programs for all of our employees (Health, Safety and Environment).                                                   |  | EM has already several trainings in place and will extend the programs according to the identified needs, legal and company requirements.                                                                                        |
| Employees                                                                                    |                                                                                     |                                                                                                                                                     |                                                                                       |                                                                                                                                                                                                                                  |
| EM supports the development and the engagement of its employees.                             |  | Continue and develop training programs for all our employees (safety, technology and innovation, management, design, production, maintenance etc.). |  | With social distancing measures easing up in 2021, we were able to increase the average training hours per employee compared to 2020. In 2021, we also structured our training programs to be able to provide better statistics. |

# Appendices

|                  |           |
|------------------|-----------|
| <i>Data</i>      | <i>27</i> |
| <i>GRI Index</i> | <i>30</i> |



# Data

This section presents a breakdown in table form of all the data collected and estimated for the material topics presented in this report for the calendar year 2021, which was previously presented in graph form throughout the different sections.

## Greenhouse gas emissions, in metric tons CO<sub>2</sub>e

| Sources                                          | Scope | 2021           | 2020          | 2019         | Emission factor source                         |
|--------------------------------------------------|-------|----------------|---------------|--------------|------------------------------------------------|
| Natural gas <sup>1</sup>                         | 1     | 1,100          | 1,675         | 1,840        | UK Government                                  |
| Biogas <sup>1,2</sup>                            | 1     | 0.1            | 0.2           | 0.03         | UK Government                                  |
| Fluorinated gases and N <sub>2</sub> O           | 1     | 797            | 747           | 704          | IPCC AR5                                       |
| Fuel oil <sup>1</sup>                            | 1     | 1              | 16            | 12           | UK Government                                  |
| Vehicle fleet <sup>1</sup>                       | 1     | 5              | 6             | 8            | UK Government                                  |
| Refrigerants                                     | 1     | 62             | 86            | 62           | IPCC AR5                                       |
| Electricity Marin (market-based)                 | 2     | 0              | 4,295         | 4,235        | Electricity supplier                           |
| Electricity Marin (location-based)               | 2     | 557            | 921           | 908          | ecoinvent database v3.8 cut-off                |
| Electricity Bangkok (location-based)             | 2     | 537            | 660           | 643          | ecoinvent database v3.8 cut-off                |
| Fuel- and energy-related activities <sup>1</sup> | 3     | 752            | -             | -            | ecoinvent database v3.8 cut-off, UK Government |
| Business travel                                  | 3     | 16             | -             | -            | ecoinvent database v3.8 cut-off                |
| Employee commuting                               | 3     | 629            | -             | -            | ecoinvent database v3.8 cut-off                |
| Downstream transport and distribution            | 3     | 716            | -             | -            | Transport suppliers                            |
| Scope 1                                          |       | 1,966          | 2,530         | 2,626        |                                                |
| Scope 2 <sup>3</sup>                             |       | 537            | 4,955         | 4,878        |                                                |
| Scope 3                                          |       | 2,112          | -             | -            |                                                |
| <b>Total scope 1+2</b>                           |       | <b>2,503</b>   | <b>7,485</b>  | <b>7,505</b> |                                                |
| <b>Change from 2019</b>                          |       | <b>-66.64%</b> | <b>-0.26%</b> |              |                                                |

## Energy consumption, in MWh

| Sources                 | 2021          | 2020          | 2019          |
|-------------------------|---------------|---------------|---------------|
| Natural gas             | 5,996         | 9,129         | 10,027        |
| Biogas                  | 666           | 1,014         | 144           |
| Electricity Marin       | 25,998        | 23,663        | 23,334        |
| Electricity BKK         | 834           | 894           | 871           |
| Fuel oil <sup>1</sup>   | 5             | 51            | 37            |
| Vehicle fleet           | 21            | 23            | 32            |
| <b>Total</b>            | <b>33,520</b> | <b>34,774</b> | <b>34,445</b> |
| <b>Change from 2019</b> | <b>-2.68%</b> | <b>0.96%</b>  | <b>-</b>      |

# Data

## Water use in 2021, in m<sup>3</sup>

| Activity    | Marin   | Bangkok |
|-------------|---------|---------|
| Withdrawal  | 197,927 | 2,217   |
| Discharge   | 162,703 | 1,773.6 |
| Consumption | 35,224  | 443.4   |

## Waste categories in 2021, in metric tons

| Category      | Marin<br>Weight | Valorized waste <sup>1</sup> | Bangkok<br>Weight | Valorized waste <sup>1</sup> |
|---------------|-----------------|------------------------------|-------------------|------------------------------|
| Hazardous     | 173             | 40%                          | 0.16              | 100%                         |
| Non-hazardous | 141.30          | 100%                         | 14.72             | 86%                          |
| <b>Total</b>  | <b>314.30</b>   | <b>67%</b>                   | <b>14.89</b>      | <b>86%</b>                   |

## Waste treatment methods in 2021, in metric tons

| Method                            | Marin<br>Weight | Hazardous | Bangkok<br>Weight | Hazardous |
|-----------------------------------|-----------------|-----------|-------------------|-----------|
| Recycling                         | 124.16          | 32%       | 12.85             | 1%        |
| Incineration with energy recovery | 85.11           | 34%       | -                 | -         |
| Physico-chemical treatment        | 104.25          | 100%      | -                 | -         |
| Landfill                          | 0.66            | 0.5%      | 2.03              | 0%        |
| Incineration                      | 0.11            | 100%      | -                 | -         |
| <b>Total</b>                      | <b>314.30</b>   |           | <b>14.89</b>      |           |

# Data

## Employee category breakdown at the end of 2021

| Category                              | Marin<br>Total | New hires | Bangkok<br>Total | New hires |
|---------------------------------------|----------------|-----------|------------------|-----------|
| Female employees                      | 89             | 11        | 120              | 8         |
| Male employees                        | 274            | 17        | 30               | 4         |
| Employees under 30 years old          | 32             | 4         | 20               | 8         |
| Employees between 30 and 50 years old | 201            | 10        | 117              | 4         |
| Employees over 50 years old           | 130            | 22        | 13               | -         |
| <b>Total</b>                          | <b>363</b>     | 32        | <b>150</b>       | 12        |

## Occupational health and safety statistics in 2021

| Incident                               | Marin   | Bangkok |
|----------------------------------------|---------|---------|
| Work-related injuries without downtime | 5       | 0       |
| Work-related injuries with downtime    | 4       | 0       |
| Fatalities                             | 0       | 0       |
| Work-related ill-health                | 0       | 0       |
| Hours worked                           | 757,197 | 361,090 |

# GRI Index

Statement of use      EM Microelectronic has reported the information cited in this GRI content index for the period 01.01.2021 to 31.12.2021 with reference to the GRI Standards.

GRI 1 used      GRI 1: Foundation 2021

| GRI STANDARD |                             | DISCLOSURE |                                                                             | LOCATION     |
|--------------|-----------------------------|------------|-----------------------------------------------------------------------------|--------------|
| GRI 2:       | General Disclosures<br>2021 | 2-1        | Organizational details                                                      | 7, 11        |
|              |                             | 2-2        | Entities included in the organization's sustainability reporting            | 11           |
|              |                             | 2-3        | Reporting period, frequency and contact point                               | 11           |
|              |                             | 2-6        | Activities, value chain and other business relationships                    | 7            |
|              |                             | 2-7        | Employees                                                                   | 7, 19, 29    |
|              |                             | 2-9        | Governance structure and composition                                        | 9            |
|              |                             | 2-11       | Chair of the highest governance body                                        | 9            |
|              |                             | 2-12       | Role of the highest governance body in overseeing the management of impacts | 9            |
|              |                             | 2-22       | Statement on sustainable development strategy                               | 4            |
|              |                             | 2-23       | Policy commitments                                                          | 9            |
|              |                             | 2-29       | Approach to stakeholder management                                          | 11           |
| GRI 3:       | Material Topics 2021        | 3-1        | Process to determine material topics                                        | 11           |
|              |                             | 3-2        | List of material topics                                                     | 11           |
|              |                             | 3-3        | Management of material topics                                               | Each section |
| GRI 302:     | Energy 2016                 | 302-1      | Energy consumption within the organization                                  | 13, 14, 27   |
|              |                             | 302-4      | Reduction of energy consumption                                             | 13, 27       |
| GRI 303:     | Water and Effluents 2018    | 303-1      | Interactions with water as a shared resource                                | 16           |
|              |                             | 303-2      | Management of water discharge-related impacts                               | 16           |
|              |                             | 303-3      | Water withdrawal                                                            | 16, 28       |
|              |                             | 303-4      | Water discharge                                                             | 16, 28       |
|              |                             | 303-5      | Water consumption                                                           | 16, 28       |
| GRI 305:     | Emissions 2016              | 305-1      | Direct (Scope 1) GHG emissions                                              | 15, 27       |
|              |                             | 305-2      | Energy indirect (Scope 2) GHG emissions                                     | 15, 27       |
|              |                             | 305-3      | Other indirect (Scope 3) GHG emissions                                      | 15, 27       |
|              |                             | 305-5      | Reduction of GHG emissions                                                  | 15, 27       |



| GRI STANDARD                                  | DISCLOSURE                                                                                    | LOCATION |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------|----------|
| GRI 306: Waste 2020                           | 306-1 Waste generation and significant waste-related impacts                                  | 17       |
|                                               | 306-2 Management of significant waste-related impacts                                         | 17       |
|                                               | 306-3 Waste generated                                                                         | 17, 28   |
|                                               | 306-4 Waste diverted from disposal                                                            | 17, 28   |
|                                               | 306-5 Waste directed to disposal                                                              | 17, 28   |
| GRI 401: Employment 2016                      | 401-1 New employee hires and employee turnover                                                | 29       |
|                                               | 403-1 Occupational health and safety management system                                        | 20       |
|                                               | 403-2 Hazard identification, risk assessment, and incident investigation                      | 20       |
|                                               | 403-3 Occupational health services                                                            | 20       |
|                                               | 403-4 Worker participation, consultation, and communication on occupational health and safety | 20       |
|                                               | 403-5 Worker training on occupational health and safety                                       | 20       |
|                                               | 403-6 Promotion of worker health                                                              | 20       |
|                                               | 403-8 Workers covered by an occupational health and safety management system                  | 20       |
|                                               | 403-9 Work-related injuries                                                                   | 20, 29   |
|                                               | 403-10 Work-related ill health                                                                | 29       |
| GRI 404: Training and Education 2016          | 404-1 Average hours of training per year per employee                                         | 19       |
| GRI 405: Diversity and Equal Opportunity 2016 | 405-1 Diversity of governance bodies and employees                                            | 19, 28   |

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