

# Sustainability



# Key points

## Our business

Sensirion Holding AG is a joint stock company listed on the SIX Swiss Exchange and headquartered in Stäfa, Switzerland. Sensirion further operates 11 offices in China, Germany, Hungary, Japan, Singapore, South Korea, Taiwan, the Netherlands and the United States. Sensirion develops and produces sensor solutions for measuring environmental parameters, gas flow, liquid flow and machine diagnostics. The company enjoys a good reputation in the semiconductors industry delivering applications for automotive, medical, industrial and consumer goods sectors.

## Main applications per market

- Medical Ventilators and CPAP devices
- Industrial Gas burners, home appliances (e.g. refrigerators, air conditioners, air purifiers), smart gas meters and heating, ventilation and air conditioning (HVAC) systems
- Automotive Tier 1 and Tier 2 suppliers of modules for interior anti-fog, comfort functions and engine control
- Consumer smart thermostats and air quality monitors

Sensirion develops its own sensors from scratch and manufactures most of its products in production facilities in Switzerland, Hungary, China and South Korea. Electronic wafers sourced from global foundries are an essential ingredient for most of our products. Wafers are considered raw materials, as they have a very long shelf life and are specifically designed by us. These wafers are processed at the production site in Stäfa into sensor components through various clean-room and packaging processes as well as calibration steps.

Depending on the application and product, the component is sold directly to the customer or further processed into

higher-value modules in our own facilities. Sensirion relies on its own sales team, which is organized by market and supported by local sales offices in China, USA, Japan, South Korea, Singapore and Taiwan. We also work with local distributors to reach relevant customers as well as global catalogue distributors.

Finally, Sensirion's finished products are shipped through logistics companies that retrieve goods from our manufacturing facilities and deliver them directly to customer product assembly lines. We predominantly operate an Original Equipment Manufacturer business (OEM) – in other words, the products we make are integrated into our customers' devices, they are not considered standalone products. Thus, the destination of our sensor products are usually another large manufacturing facility that builds our sensor products onto a circuit board or directly into the final devices (e.g. a car or an air purifier) and then ships them to the end consumers.

## Built with values

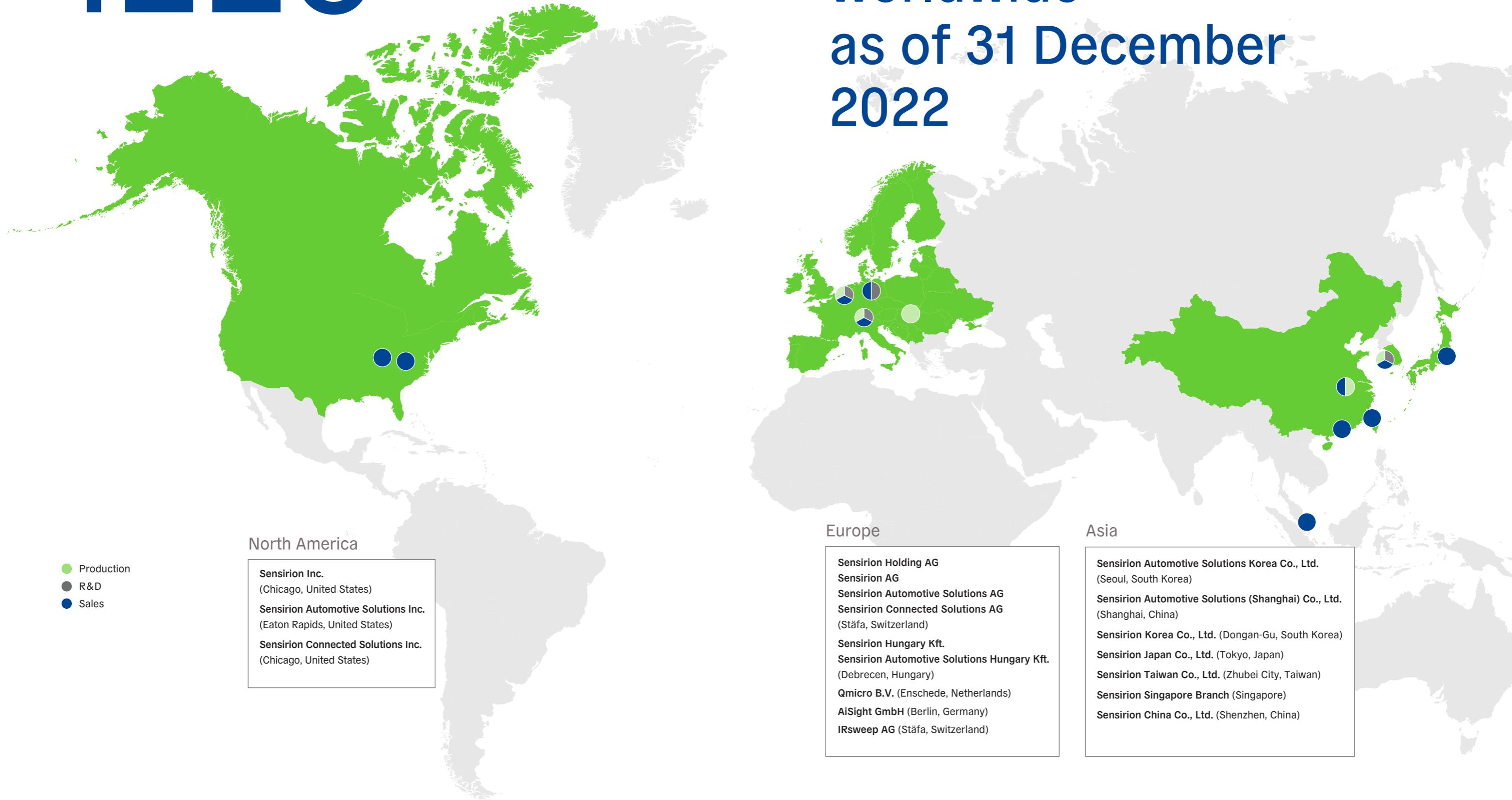
Sensirion was founded in 1998 as an ETH Zurich spin-off by Moritz Lechner and Felix Mayer. Today, Sensirion is a strong, global leader in innovation with a culture and style all its own. We call it the SensiSpirit. For us, the human factor comes first: we forge lasting relationships with our customers, (prospective) employees, shareholders, analysts, suppliers and the general public with both curiosity and passion.

These company values, derived from the SensiSpirit, shape our company's culture:

- **Fairness and honesty** These are the guiding principles for how we work with all involved parties here at Sensirion, be it customers, external suppliers and partners, or our employees.
- **Togetherness** Every employee and supplier can and should be actively involved in the constructive journey to find workable solutions. Teams are not opponents, they are partners who work in concert – and the goals of the individual must dovetail into the overall mission. If we are to succeed, we must succeed together.
- **Top performance** Those who understand the needs of customers and offer innovative solutions set themselves apart from the competition. SensiSpirit also means having a competitive drive – in other words, bringing an entrepreneurial mindset and expertise to the table, thinking innovatively, sharing responsibility and achieving extraordinary things, day in and day out.

# 1225

Employees (FTE)  
worldwide  
as of 31 December  
2022



# Our approach to sustainability



Sensirion is fully committed to sustainable development. For us, sustainability includes many facets: from growing sustainably as a business to protecting the environment through our behavior and activities, and taking our responsibility towards our employees and to society.

For Sensirion, sustainable growth means solving sensor problems with innovative approaches, providing our customers with clear added value. We maintain long-term and trusting relationships with our customers, thanks to which we also receive valuable input for our innovation pipeline. After all, disruptive innovation requires a long-term mindset: We are already working on future technologies to lay the foundation for product development in five years and sales in up to ten years. Steady sales growth with a stable relative margin allows us to invest 20 % of sales in R&D. In this way, we create sustainable value for all stakeholders: from customers to employees to shareholders.

We are aware of our responsibility towards the environment. Our sensors help to increase energy efficiency and prevent greenhouse gas emissions in many applications, from automotive to heating and ventilation systems as well as to methane leakage monitoring. In our own operations, we actively invest in new technologies and prioritize actions that minimize our impact on the environment as much as possible.

Finally, sustainability also applies to our cultural values and how we engage with our employees worldwide. Our award-winning “SensiSpirit” describes a unique culture of innovation and entrepreneurship that we expect all employees to live by, regardless of their function. It means working together as a team, being fair and honest with each other and our customers and partners, and delivering excellence. It is the decisive basis for inspiring and developing talent at Sensirion. After all, our employees are our greatest asset.

Marc von Waldkirch, CEO

# Our policies

## Management manual

## Code of conduct

## Articles of Association & Organizational Regulations

## Company values

## Organizational structure of the company

## IT policies

## Management principles

## Trading policy

### (relates to trading in Sensirion shares)

## Anti-corruption policies

## Responsible mineral sourcing policy

environmental protection according to ISO14001 and occupational health and safety are organized with regards to the ISO45001 standard. The Responsible Business Alliance (RBA) Code of Conduct is lived. At Sensirion, sustainability is managed by a cross-functional team of experts led by the ESG manager. There are monthly update meetings on sustainability topics, measures and their progress. Progress and pending decisions regarding sustainability ambitions are regularly part of the Executive Board's agenda.

### Policies and commitments

Sensirion has a Code of Conduct which exceeds the requirements of RBA. This Code of Conduct is internally trained and published on the intranet. The provisions of the RBA Code of Conduct are derived from and respect internationally recognized standards including the ILO Declaration on Fundamental Principles and Rights at Work and the UN Universal Declaration of Human Rights. The compliance to the provisions of the RBA Code of Conduct was audited in 2022 at the location Stäfa by RBA. Additionally, the Code of Conduct training is mandatory for all employees except management and the Board Directors, who are trained individually. This training covers Laboratory, Environment, Occupational Safety, Ethics (including sourcing of conflict minerals to protect human rights) and Management System topics.

In addition to internal policies and commitments, Sensirion received in 2022 the external IATF 16949 and ISO14001 certifications for Stäfa, Debrecen, Seoul and Shanghai. Regarding control mechanisms, the Senior Environmental Health and Safety (EHS) Manager performs internal audits. Also, customers undergo external audits and we require audits of current suppliers. In 2022, the RBA audit took place in Stäfa.

As an internationally operating company, everything we do has an impact on the environment as well as on society. We strive to ensure our sensor production conserves natural resources and reduces pollutant emissions. We minimize risks relating to workplace safety and protect our employees' health by taking the necessary measures and preparing for emergencies. We are also committed to upholding and protecting the human rights of our employees and treating them with dignity and respect.

To fulfill our social obligations and ensure success in the marketplace, we commit ourselves not only to comply with relevant laws, but to also uphold the highest ethical standards. Sustainability responsibility is integrated in our management system: All our major production sites are certified for

## Stakeholder engagement

Our active dialog with stakeholders is important for managing our impact on sustainable development. Therefore, we have summarized our regular communication channels with stakeholders in the following table.

Stakeholder group	Communication channel	Focus of stakeholder engagement
Customers	<ul style="list-style-type: none"><li>Local on-site technical support through designated field application engineers (FAE)</li><li>Online feedback surveys on general satisfaction level with Sensirion (Echonovum)</li><li>Regular interactions with key customers and Sensirion's executive managers</li><li>Annual partnership event with global distribution and channel partners to provide trainings and strategic alignment</li></ul>	<ul style="list-style-type: none"><li>Our high-quality product offering and efficient delivery</li><li>Trust and long-term partnerships</li></ul>
Employees	<ul style="list-style-type: none"><li>Culture workshops to engage employees on Sensirion's unique way of working together</li><li>Annual and semi-annual performance and well-being reviews for all employees</li><li>Frequent social events to foster Sensirion culture</li><li>Annual international sales meeting where all sales employees from all of our subsidiaries are invited to the HQ for one week of training and engagement</li><li>SensiWeekend where all employees spend two days together in mixed groups for team building and fun.</li><li>We hold town hall meetings every two weeks for employees in Stäfa – sometimes internationally – to foster an open and transparent communication policy</li></ul>	<ul style="list-style-type: none"><li>Workplace safety</li><li>Renumeration</li><li>Company strategy</li><li>Education, and further training events</li><li>Occupational health and safety</li><li>Employees are offered transparency about the company's goals, vision and important topics</li></ul>
Shareholders	<ul style="list-style-type: none"><li>We regularly attend investor meetings, calls, conferences, and roadshows</li><li>We publish an annual report (including a remuneration report) and an interim report</li><li>The Company biannually organizes a meeting for media and financial analysts and holds annually an Annual General Meeting</li></ul>	<ul style="list-style-type: none"><li>Financial information including shareholder returns, management structure, economic development, strategy, remuneration system, new products and economic outlook.</li></ul>
Suppliers	<ul style="list-style-type: none"><li>Initial contact within the scope of the assessment procedure and implementation of the Code of Conduct</li><li>Regular performance monitoring (two to four times per year for all category 1 suppliers)</li><li>Approximately 5% of the supplier base is audited each year</li></ul>	<ul style="list-style-type: none"><li>Order volume</li><li>Risk assessment and mitigation</li><li>Price and contract negotiations</li><li>Sustainable and long term technological and commercial roadmap</li></ul>

## Memberships

### Zurich Chamber of Commerce

### Chamber of Commerce USA/CH

“Sensirion provides me with the freedom to make mistakes and learn, while trusting in my expertise. This empowers me to expand my horizons and explore new frontiers within the medical health industry.”

Sofia Deloudi, Senior Product Manager, Sensirion Stäfa



# Material topics

## Materiality process

In 2022, we updated our materiality assessment to identify our most relevant sustainability topics. To align with current regulatory requirements and reporting standards, we applied the concept of "double materiality". This approach analyzes the potential impact Sensirion's business activities could have on the economy, society and environment, while also investigating how these topics could impact the company's activities and long-term business success.

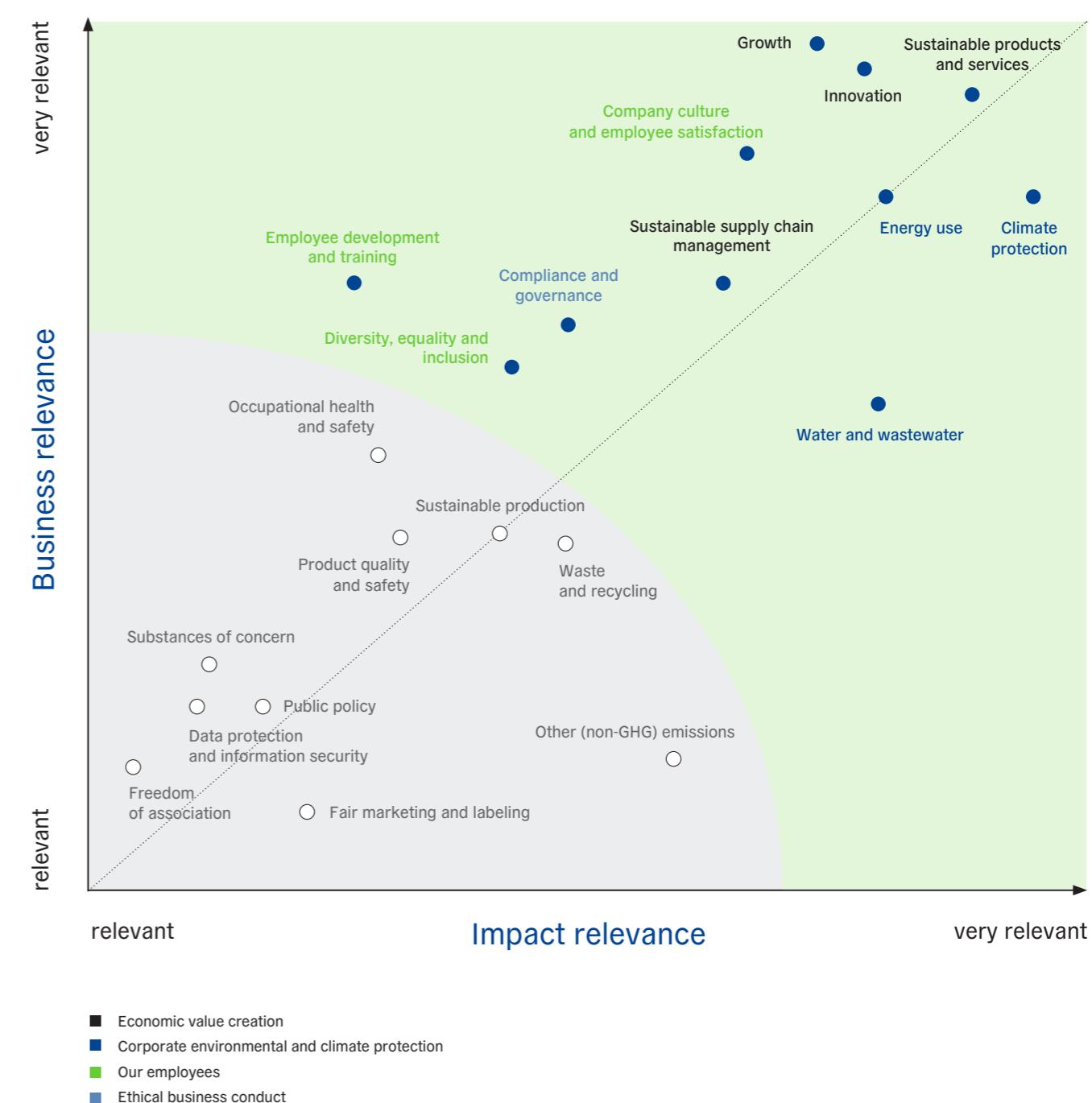
To assess our material topics, we reviewed our former materiality matrix, conducted a peer analysis and considered common reporting standards. As a result, we identified 21 potentially relevant topics, which were assessed by senior leaders from different business departments during a workshop. The senior leaders had to assess the topics according to their impact on society, environment and economy as well as on the long-term business success of Sensirion. The leaders included the Director of Marketing and Communications, the Director Investor Relations and Business Development and the Manager for Corporate Projects. Based on this assessment, the materiality matrix was developed. The materiality assessment with the resulting materiality matrix was validated by the CEO and the executive management team of Sensirion.

”For me, the sustainability of Sensirion comes from the fact that employees are seen as a value and not just a number in the company. It can provide a security where good performance and creative ideas come more easily.“

Sándor Halasi, Teamleader Sensor Integration,  
Sensirion Debrecen

## Our materiality matrix

The accompanying graph shows our newly established materiality matrix. As a first step, we are focusing on the “very relevant” topics (●), which will be reported on in our first sustainability report in accordance with the GRI standards. The topics below the threshold will also be closely monitored, however the topics are not our primary focus.



# Economic value creation

We create economic value through innovation, sustainable products and services, sustainable growth and responsible supply chain management. By meeting our growth plans, staying profitable and achieving capital efficiency targets, Sensirion remains financially stable and creates value for all our stakeholders.

## Growth

### Sustainable growth

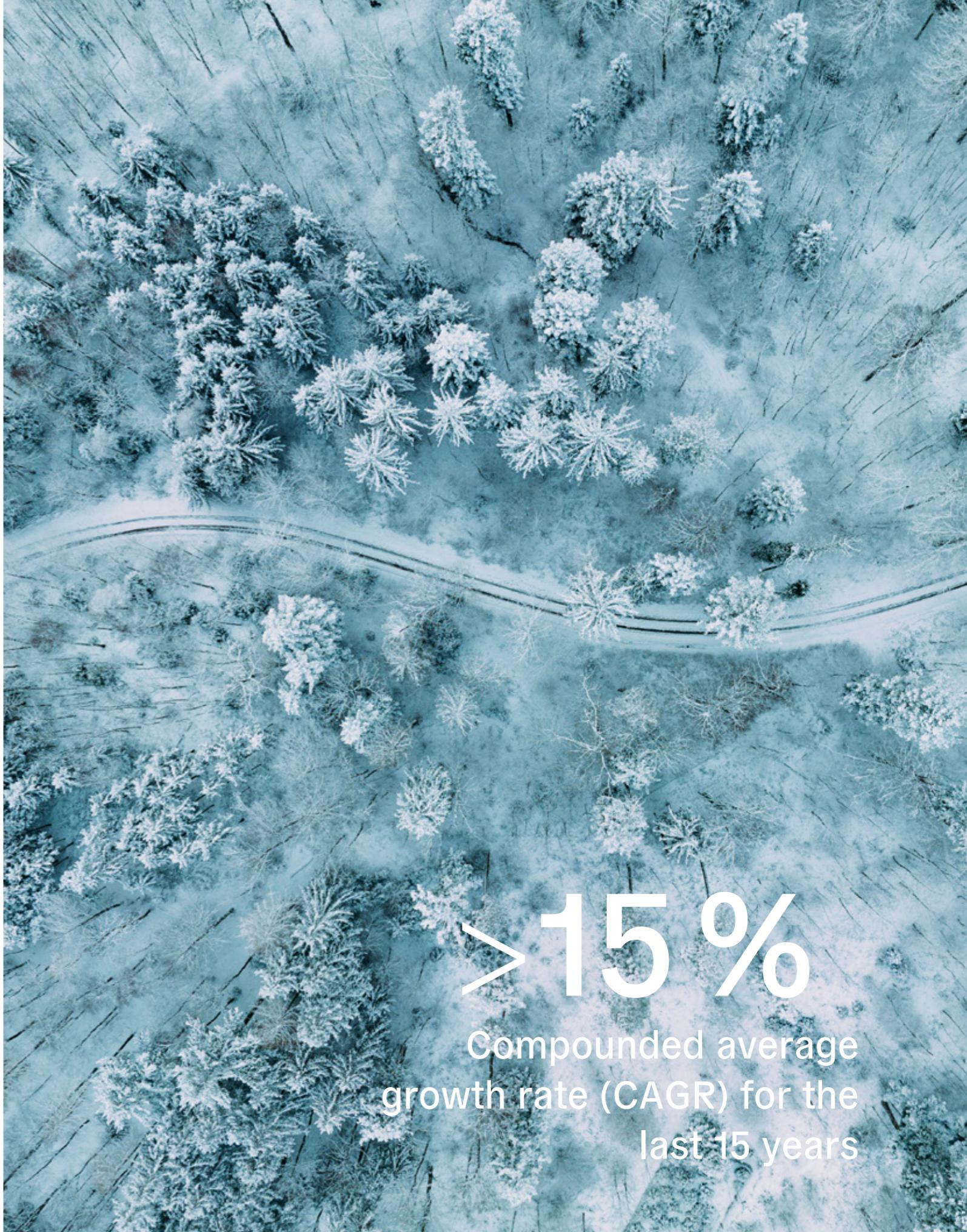
Our annual revenue and our profitability figures are our primary measure of success. Sensirion has proudly achieved a compounded average growth rate (CAGR) of >15% for the last 15 years and aims to achieve 10-15% in the mid-term future by maintaining our leadership position in terms of market share and technology. We follow a top five strategy, which means that our goal is to become a single source supplier to the top five customers in each of our market segments. Innovation, the latest technology and our commitment to research and development, combined with a customer-centric approach and quality technical advice throughout the product life cycle, ensures loyal, long-lasting customer relationships. This results in good visibility across the markets and solid inputs for our innovation pipeline.

We are driven by a growth mindset, long-term approach and an ongoing commitment to our growth strategy. Our Sales Directors host growth strategy sessions every six months, giving Sensirion's management team as well as the CEO and founders updates on market-specific growth and sales, as well as innovation pipelines. The management team is also responsible for conducting biannual review meetings of all business units including evaluating their longer-term growth roadmaps. We firmly believe that we can only deliver sustainable growth if we are financially stable.

We have set several key performance indicators (KPIs) to monitor the performance within our company. While our board and executive management are responsible for meeting financial targets such as top line development, gross margin, EBITDA, capex and cash flow, employee satisfaction is a key component in how we measure our success. Every Sensirion employee is responsible for delivering and maintaining a thriving culture, which we measure through a biannual survey (see page 59).

### 2022 progress

In 2022, we delivered top-line growth of approximately 12%. The financial performance is described in more detail in the Consolidated Financial Statements on pages 130-133 of the annual report.



>15%

Compounded average growth rate (CAGR) for the last 15 years

## Innovation

Innovation and R&D are critical functions for us to bring breakthrough technologies and innovations to market. Customer feedback and the latest technological advances are therefore a key element of how we create economic and environmental value for our company and stakeholders. As a high-tech company, our success is defined by being able to release new, innovative products that address real-life problems and add value for customers. While our R&D team leads innovation, we also have a dedicated business development team that includes our founders, who act as Co-Chairmen of the board and actively participate in identifying innovative products and solutions. We think long term, behave entrepreneurially and work hard, always putting people at the center of our solutions.

### Dedication and long-term thinking

We are dedicated to investing approximately 20% of our group revenue into our R&D. Whenever possible, we develop products based on internally designed and proprietary technologies with nearly 50% of our annual R&D budget spent on next-generation programs of existing product lines, while the rest is earmarked for developing new sensor solutions. Our R&D team screens and evaluates new disruptive technologies while collaborating closely with product management and sales to continually learn from customer feedback.

Identifying the right ideas for our innovation is embedded into a structured process and will take either of the following two approaches:

- Firstly, we emphasize direct engagement with our existing customers such that we identify unsolved and relevant sensor problems. If identified, a small joint team of R&D and sales work closely together to develop innovative solutions in a scrum-like, agile process called “Thesensprint”.
- Secondly, we closely review today's challenges and “Megatrends”, such as Industry 4.0, challenges around climate change or the electrification of the car industry. This effort is spearheaded by our internal “Sensor-Innovation group”.

What both approaches have in common is to be strongly result oriented. The request for early prototypes at certain milestones is a key parameter of our well-defined process which enables us to gather valuable market feedback. Finally, this customer feedback will be a decisive element whether an innovation idea will conclude in an actual product development. Sensirion's innovation capabilities have been proven to be very valuable to our customers as we have been awarded multiple times by them for our outstanding supplier performance.

### 2022 progress

In 2022, we successfully launched several new innovative environmental and flow sensor solutions. Our market share of CO<sub>2</sub> sensors continued to grow in 2022 after a successful launch of the innovative second generation of CO<sub>2</sub> sensors in 2021. Additionally, we launched the first gas flow module capable of measuring the flow rate of any gas mixture, including pure hydrogen and mixtures of hydrogen, biomethane and natural gas. This technological milestone will play a significant role in light of the upcoming transition to a more sustainable energy supply. Further, we launched and sold our first methane leakage solution for the oil and gas industry, helping to reduce a key source of emissions at natural gas exploration sites.

## Sustainable products and services

We believe our solutions must enhance the well-being, health and comfort of the end consumer, be safe to use and manufacture, and help improve the energy efficiency of the final product. The purpose of Sensirion products should also not compromise ethical principles. That's why Sensirion does not supply its solutions for military applications or to the tobacco industry. We also make sure we source our raw materials in compliance with all applicable laws and avoid procurement from conflict regions. We own all our production sites and build them to the highest of standards to ensure minimal energy and water use.

### Built for well-being

Once deployed, most of our sensors increase energy efficiency, reduce CO<sub>2</sub> emissions or enhance health and safety for the end consumers, thereby creating a positive impact on the environment and society. For most sensors, the positive impact generated over the lifetime of the product can therefore exceed the negative impacts caused by production and logistics.

## The impact of Sensirion's sensors

A great variety of our sensors are on the one hand key elements in applications that have a direct impact on people's health and well-being and on the other hand can be critical components that help to achieve a higher level of energy efficiency in the final customer system. With regards to health and well-being, Sensirion serves the medical market, where our flow solutions can be found in hospitals and home care applications such as anesthesia, CPAP and medical ventilators. Notably, during the recent times of the pandemic, Sensirion proved to be a reliable partner who was able to go the extra mile by extending production for flow sensors manifold, which were critically needed for the medical ventilators. Sensirion is proud to have contributed to saving many lives around the globe. Furthermore, Sensirion enjoys a very high level of reputation also in the CPAP market, where our differential pressure solutions are once more a critical component for the product and the sensors of choice for the two dominating CPAP players.

In terms of improving the energy efficiency of customer systems through sensing solutions, applications can be found in the HVAC market, the appliance market (e.g. for refrigerators and air conditioners) and in automotive applications. A quantifiable example is the humidity sensors that are used for the optimization of the combustion process and the air-conditioning system in a car. These sensors help to save approximately 1-10 liters of petrol per car per year amounting to approximately 2.3-23kg CO<sub>2</sub> per year in each case. The same sensor that enables this gain in efficiency causes itself approximately 6-70 g CO<sub>2</sub> (dependent on sensor generation) during its production. As a conclusion, we find that the total amount of reduced CO<sub>2</sub> pollution is much higher than the CO<sub>2</sub> footprint created by the respective sensor throughout its entire lifetime.

**“I have the privilege of collaborating with highly talented individuals on impactful and successful projects.”**

Gijs van Steenwijk, Principal IC Designer, Sensirion Stäfa

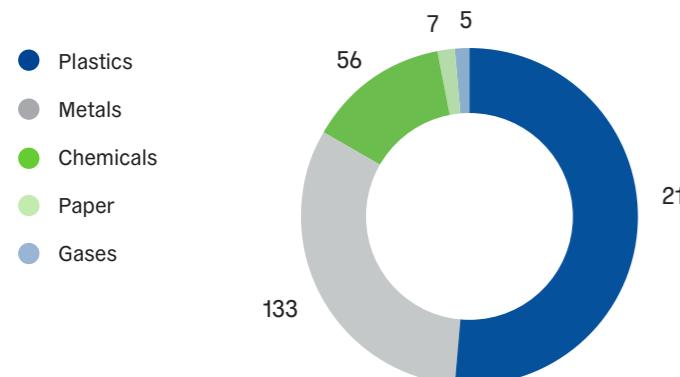
#### 2022 progress

In 2022, we extended our market share of our innovative 2<sup>nd</sup> generation CO<sub>2</sub> sensor that is predominantly designed for applications which help to increase energy efficiency. A growing number of HVAC control units are equipped with CO<sub>2</sub> sensors in order to optimize ventilation systems by enabling on-demand air circulation.

CO<sub>2</sub> is an excellent indoor proxy for this matter and hence air flow and related energy use can be reduced if the room is not occupied by people. Additionally, Sensirion Connected Solutions has successfully launched its methane leakage monitoring service, which enables methane leakages at oil and gas explorations sites to be identified. The environmental impact of detecting leakages is very high as methane is a significant greenhouse gas (GHG) with a global warming potential 25 times higher than CO<sub>2</sub>.

The following graph illustrates the major materials usage of Sensirion's business operations in 2022.

#### Major materials usage in 2022 (in tons)



## Sustainable supply chain management

We believe only sustainable supply chains will be resilient given the simultaneous headwinds of a changing climate, disruptions in the global supply chain and continued geopolitical tensions. Building resilience across our supply chain is non-negotiable and at Sensirion we are responding with a multipronged strategy aimed at maintaining stability and prioritizing responsibility.

#### Active supplier engagement

Our multipronged supply chain strategy includes proactively developing a local/regional supply base to help mitigate risks of disruption from ongoing global tensions. While we do not procure conflict materials directly, our suppliers acquire and use minerals from multiple sources worldwide. Sensirion is therefore committed to following the OECD Due Diligence Guidance for responsible minerals sourcing to ensure that minerals in our products do not directly or indirectly finance or benefit armed groups in conflict-affected and high-risk areas and require our suppliers to extend these expectations to their own suppliers. We have incorporated sustainability principles in our supplier evaluation process for new suppliers and prefer those with clear goals, and we work with existing suppliers to advance their sustainability efforts where possible.

In these efforts, we collaborate on the reduction of CO<sub>2</sub> emissions along the supply chain. While we are in the early stages of establishing environmental KPIs for our suppliers, the suppliers are required to comply with the RBA standards. Additionally, the supplier quality team has also integrated social and environmental factors into the scope of supplier audits.

In 2022, a responsible minerals sourcing policy was published. For further information on this policy or the conflict mineral report, refer to our [website](#).

#### 2022 progress

In 2022, we contacted important suppliers to gather information on the current state of sustainability initiatives and goals. The diversity and complexity of our supply chain makes this task difficult, but we work with intentionality to identify common areas for collaboration and emissions reduction. 85% of Sensirion's suppliers in 2022 signed the RBA Code of Conduct and therefore fulfill the environmental and social requirements of these standards. The remaining suppliers were either currently under review or not obligated due to size.



# Why CO<sub>2</sub> sensing?

## Get the point

### The measurement principle

In photoacoustic gas sensing, an air sample is irradiated with short pulses of infrared light. When the light is absorbed by the target molecule, the surrounding air heats up and expands, generating a pressure wave that propagates through the air cavity.

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This pressure wave can be detected by a microphone and is then used to infer the concentration of the target molecule.

#### Increasing productivity

The incentives for measuring CO<sub>2</sub> levels in indoor spaces, including workplaces, go beyond running energy-efficient and virus-safe offices and homes. Keeping CO<sub>2</sub> levels in check can have a significant impact on the quality and efficiency of our work. At concentrations of greater than >1000ppm, CO<sub>2</sub> has been shown to reduce productivity. Good indoor air quality (IAQ) has been linked to improved cognitive function, better overall health and better sleep quality. All of this gives businesses an additional incentive for managing the CO<sub>2</sub> levels in their workplaces.

#### Reducing aerosol-based viral transmission

The COVID-19 pandemic highlighted the broad ignorance towards the importance of IAQ standards and showed how detrimental poor ventilation is for our well-being. According to Nature journal, COVID-19 spread primarily through airborne aerosols. Higher ventilation rates can significantly reduce the risk of air-transmitted virus infections. Implementing an effective ventilation or purification system starts with identifying areas with low IAQ, which is where our pioneering sensors come in.

#### Improving energy efficiency

What inspired us to start measuring CO<sub>2</sub>? Living things are the main source of CO<sub>2</sub> indoors, which makes measuring the CO<sub>2</sub> levels an effective indicator of human presence indoors. The measurement of CO<sub>2</sub> levels indoors is therefore an integral part of the operation of demand-controlled heating, ventilation, air-conditioning (HVAC) and cooling systems. But this all conflicts with energy efficiency, which needs increased attention in the age of climate change. Especially the last years have shown the serious consequences of the climate crisis and how important the limitation of emissions of fossil fuels is for the future of our planet.

The looming energy crisis in 2022 and the rapidly rising cost of living provide further incentives to reduce consumption of oil, gas and electricity. As a result, the promotion of energy-efficient living, working and driving is now high on the global agenda.

To reconcile this, CO<sub>2</sub> measurement is important. That's why intelligent ventilation systems reduce fossil fuel emissions and reduce household costs by optimizing energy consumption.

**"I believe Sensirion has a fantastic opportunity to become the go-to CO<sub>2</sub> sensor company."**

Kaitlin Howell, Product Manager, Sensirion Stäfa

## Where our CO<sub>2</sub> sensors play a significant role already today:

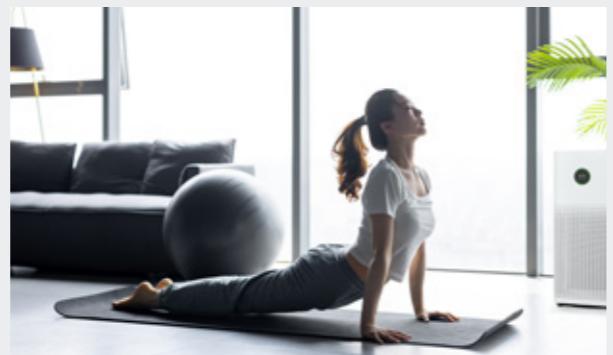


### Air conditioning

Air-conditioning systems are much smarter than they used to be. In the past, cooling homes, offices and public buildings was an energy-guzzling undertaking. Outmoded AC systems are expensive and environmentally unfriendly because all the air that enters a building must be processed, which uses a lot of energy. Demand-controlled AC systems allow us to optimize the amount of air entering our buildings by using IAQ parameters, including CO<sub>2</sub> concentration, which makes CO<sub>2</sub> sensors a key component of this smart technology.

### Air purifiers

Air purifiers are key to tackling low indoor air quality. They filter dust, pollen and particulate matter. By integrating CO<sub>2</sub> sensors, air purifiers become even more powerful to help their customers to identify sources of bad air and suggest effective counter actions.



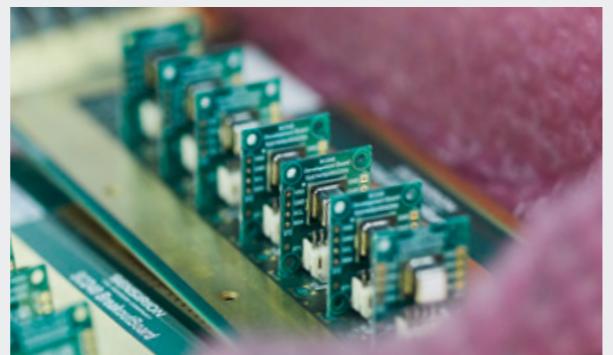
### Ventilation systems

We are learning more and more about the negative effects of poor IAQ on our health and productivity. Ensuring that the air in an indoor space is constantly exchanged by fresh outdoor air reduces the "stuffy" feeling of a room and reduces indoor pollution levels. Optimizing these exchange systems requires accurate monitoring of a variety of IAQ parameters, including CO<sub>2</sub> levels.



### IAQ monitors

To improve the quality of the air we breathe, we need to be able to measure it first. Sensirion's miniature CO<sub>2</sub> sensors can be integrated into IAQ monitors, an all-in-one solution that can also measure pollutants such as formaldehyde, dust and VOCs. This monitoring technology allows building owners to improve the efficiency of their ventilation, purification and emission detection systems.



# Leading the charge An innovation in CO<sub>2</sub> technology vision

The limitations of already pre-existing CO<sub>2</sub> measuring devices opened an opportunity for Sensirion to lead the innovation in the sensing industry with their first-generation CO<sub>2</sub> sensor.

The underlying technology behind our second-generation, innovative CO<sub>2</sub> sensor uses photoacoustic measurement principles, an approach that allows us to optimize costs, miniaturize the sensor and improve processability. All this provides an invaluable foundation for our company's forward-looking vision of becoming a "one-stop-shop" for environmental sensors.

**Cutting-edge CO<sub>2</sub> sensors: Responding to customer demand**  
In recent years, several customers expressed a need for new, upgraded CO<sub>2</sub> sensors. Existing sensors were often too large and expensive to be integrated into innovative customer applications. Sensirion determined that the market for CO<sub>2</sub> sensors would grow significantly if new technologies facilitated the reduction in their size and cost.

### How we designed our innovative CO<sub>2</sub> sensor

Our first sensor cleverly adapted established sensor technology which enabled quick market entry. A variety of existing Sensirion technologies were integrated, including our humidity sensor.

The second-generation CO<sub>2</sub> sensor relies on photoacoustic measurement. This measuring principle has allowed us to reduce sensor size without sacrificing accuracy. As there was no comparable sensor on the market, Sensirion's engineers had to develop many elements of the design themselves. In addition, expertise and experience in chip design, MEMS design and packaging also play a major role.

The resulting sensor is seven times smaller than the first-generation product and is easier to process. Its reduced size and lower price point mean it can be installed in an exciting range of new applications for which the older sensors were too large and costly.

**"Innovation is the ability to see opportunities in changes and trends."**

Marco Gysel, Business Development Manager, Sensirion Stäfa

The lack of recent innovation in the field implied that there was great potential to revolutionize and disrupt the contemporary CO<sub>2</sub> sensor market with new, cutting-edge sensor technologies. Miniaturizing the size and reducing the cost of production of our humidity sensors had already paid off, and we wanted to apply those learnings with the new CO<sub>2</sub> sensor.

### Future developments

Next step miniaturization and associated cost optimization will be key to further introduce CO<sub>2</sub> sensors to our HVAC/IAQ Monitor/IAQ appliance customer base and bring our novel product into every living room and bedroom. We have reached an important milestone with the second generation of CO<sub>2</sub> sensors and remain fully committed to driving miniaturization and innovation forward. Therefore, the next generation is coming, bringing opportunities for growth and development.

We introduce Marco Gysel and Kaitlin Howell, Sensirion's experts in CO<sub>2</sub> sensing. Marco has an MSc in Micro and Nano Systems from ETH Zurich and works as a Business Development Manager. Kaitlin is a Product Manager and holds both an MSc and PhD in Microengineering from EPFL. Their extensive knowledge and experience make them a valuable asset to the industry.

**Especially since the pandemic, measuring indoor air quality has become an increasingly important topic. Looking back on 2022, how would you evaluate Sensirion's contributions to indoor air quality (IAQ) assessment and CO<sub>2</sub> sensing?**

**Kaitlin Howell:** Sensirion has become a market leader and a valuable coach for our customers moving into IAQ and CO<sub>2</sub> sensing.

**Marco Gysel:** CO<sub>2</sub> sensors have become an indispensable tool for quantifying the risk of airborne transmission of viruses. Sensirion has succeeded in meeting the strong increase in demand despite the global supply chain crisis. In addition, we have educated customers about IAQ holistically and supported their product development.

**How specifically have you contributed in your role?**

**KH:** As product manager, I ensure that the sales department has the technical information and marketing material to win over customers. Additionally, I work closely with the R&D department to continuously develop CO<sub>2</sub> sensors that meet actual market needs.

**MG:** My job requires me to have a high degree of flexibility and resilience to tackle problems that sometimes surface overnight. To understand market dynamics, I need to discriminate between hype and long-term trends. I also consult customers on IAQ to provide clarity in situations of global uncertainty.

**There is a change in the consciousness of mankind to good air. How is this affecting the attention toward indoor CO<sub>2</sub> measurements?**

**KH:** In the aftermath of the Covid-19 pandemic, more and more people are becoming aware of the hazards of poor IAQ. Most of the public understand CO<sub>2</sub> because they know about carbon emissions, so extending that understanding to IAQ is a short leap. CO<sub>2</sub> can be directly measured and is correlated with numerous poor IAQ factors.

**MG:** Public awareness about IAQ has increased dramatically. In the words of Winston Churchill, "Never let a good crisis go to waste." We now have a unique opportunity to address and fix poor IAQ.

**There is a lot of work to be done. How do you deal with the pressure to be constantly innovating?**

**KH:** It's exciting to manage such an interesting product series. What is important to me is making sure I remain in the driver's seat and don't let events force my hand. My focus is on coordinating the input from all parts of the company to create the best possible sensors.

**MG:** Innovation is the ability to see opportunities in changes and trends. The secret sauce of continuous innovation is keeping a proactive mindset, being creative and thinking big.

**Sensirion gives employees a lot of room to innovate.**

**How do you experience this in your daily work environment?**

**KH:** I feel empowered to decide the fate of my products and have a fantastic team to collaborate with. Everyone is working together to build the best possible products.

**MG:** I believe that there are several prerequisites for innovation: room for creativity, trust from management, a clear vision and resources. Sensirion maintains a work environment that meets all these requirements.

**If you think of "SensiSpirit" what comes to your mind?**

**KH:** Open collaboration!

**MG:** Valuing the collective and having a cause higher than oneself. SensiSpirit means thinking big and delivering great work as a team to tackle big customer problems.

**Collaboration is highly valued; how have you established positive cooperation with one another?**

**KH:** Marco maintains oversight of the whole initiative, and I focus on products. While I take the lead on the portfolio's future development, we often work together to understand customer applications and new trends.

**MG:** Collaboration across the entire value chain inside Sensirion is key to coming up with disruptive solutions that meet customer needs. Together with Kaitlin, we make sure that the voice of the customer travels through the entire organization such that everyone understands how important each individual contribution really is.

**Any final thoughts?**

**KH:** I believe Sensirion has a fantastic opportunity to become the go-to CO<sub>2</sub> sensor company. I'm looking forward to making sure that happens!

**MG:** Poor IAQ is a real problem that causes great harm to individuals and society; companies should consider it as part of workplace safety and employee well-being.





# Corporate environmental and climate protection

Our commitment to sustainability begins at home. In our work as a manufacturer and leading innovator in the market, we design with sustainability in mind. We incorporate efforts to conserve water, reduce wastewater and decrease energy use, as well as evaluate how we can protect the climate where possible through our solutions. Sustainability is also important because it matters to our employees as well as our customers – to build a resilient Sensirion, we must build a sustainable Sensirion.

As a highlight in 2022, Sensirion Hungary won the Grand Prize “Sustainable Debrecen 2022”. This shows us once more that we took the right decision three years ago when we planned the building in a complete “fossil-free” way.

## Climate protection

For Sensirion, GHG emissions occur at various touchpoints along our supply chain. The biggest driver is our manufacturing process – from using fossil-fueled energy to the gases used for producing our sensors. By decreasing direct and energy-use-related GHG emissions and engaging with suppliers, Sensirion can help reduce global warming. In our climate roadmap, we have prioritized reducing our Scope 1 and Scope 2 emissions and have been reporting on our progress for several years.

For our Scope 3 emissions, which we have less control over, we are working with a consulting firm to analyze our footprint and identify a viable strategy moving forward. Specifically, we want to go beyond the collection of data related to business travel and employee commuting, which we are already mitigating or offsetting.

### Scope 1 and Scope 2

Our sensors help customers save energy. They make building ventilation, cars and appliances such as refrigerators more energy efficient. Whereas we have already ensured the use of state-of-the-art fossil-free cooling and heating recovery systems based on geothermal/heat recovery systems coupled with an accumulator at our manufacturing sites in Stäfa, Switzerland and Debrecen, Hungary, the production and processing of such sensors remains a high emissions process. The majority of our emissions occur at our suppliers' factories during the production and structuring phases of the silicon wafers and then afterwards in the processing phase at Sensirion's site in Stäfa. For example, several climate-damaging process gases are indispensable to process MEMS chips and as such have been treated for years with high quality filter systems. To follow best practice, we calculate emissions using CO<sub>2</sub> intensity that sets CO<sub>2</sub> in relation to gross profit\*.

In 2022, we agreed on a medium-term CO<sub>2</sub> reduction roadmap including the following steps to be taken:

#### For Scope 1, our priorities are:

- Replace the remaining fossil-based heating system in Stäfa including piloting a concept regarding district heating coupled with lake cooling
- Minimize climate-relevant process gases and optimize the filtration so they do not enter the atmosphere

#### For Scope 2, our priorities are:

- Systematically reduce electricity consumption with organizational and technical measures
- Install further photovoltaic systems on the roofs of all our production sites
- Incorporate renewable energy sources for our electricity needs at every facility (hydro-based or wind-based, depending on the country)

### Scope 3

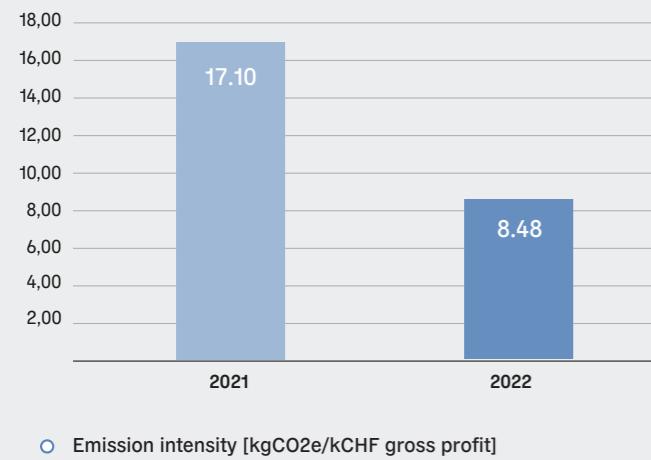
We actively measure our emissions from business travel and our employees' transportation choices and continue to encourage more sustainable options. For example, all GHG emissions from employee flights are offset with credible organizations. At the main site in Stäfa, we subsidize the public transport subscription to motivate employees to commute by public transport. Since 2020, we have also been charging a parking fee in Stäfa for those who drive to work. This money is collected and returned to all employees in the form of an eco-bonus that subsidizes the purchase of SBB Half-Fare subscriptions or other transit passes.

We also offer “Franz”, the Sensi e-car, which can be used for business as well as private trips by employees, alongside charging stations across our sites for those with electric vehicles (EV).

As for our supply chain, we actively encourage, monitor and support our key suppliers in reducing their direct and energy-use related GHG emissions, especially given the emissions driven by the production of silicon wafers, a critical component of our sensors.

\* Gross profits = sales minus material expenses

## Emission intensity

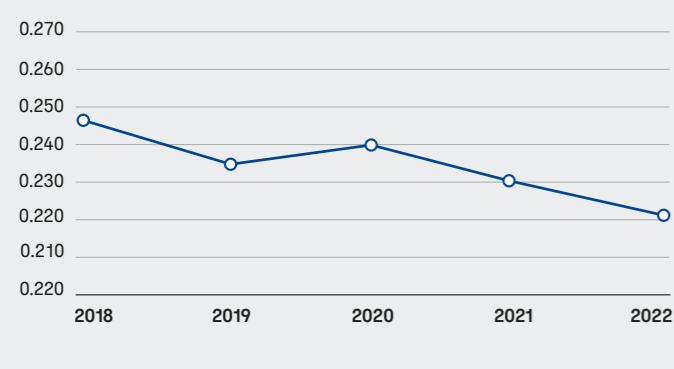


## Energy intensity



**7 %**  
reduced energy  
intensity

## Water intensity



**3.5 %**

## 2022 progress

In 2022, Sensirion has been able to implement various measures to further reduce our environmental impact such as switching to 100 % hydro-based electricity for Switzerland operations. China and South Korea were supplied by 100 % wind energy. In Stäfa, Sensirion changed the gas mix of the gas heating system to 25% of renewable biogas. In addition, we pushed the solar cells installation at our site in

Debrecen, Hungary. Furthermore, we have spent great effort with regards to the optimization of our filtration system of our crucial process gases which are used at our manufacturing in Switzerland. For 2022, the emission intensity for 1,000 CHF gross profit is 8.5 kgCO<sub>2</sub>e.

## Energy and emissions

2022		2021		
	tCO <sub>2</sub> e	MWh	tCO <sub>2</sub> e	MWh
Total emissions / energy consumption	1,616	15,331	3,032	15,265
Scope 1	1,410	1,344	1,231	1,720
Heating	266	1,344	361	1,720
Natural gas	127	627	301	1,488
Heating oil	139	534	60	232
Biogas	0	183	-	-
Other	1,144	-	870	-
Process emissions <sup>1</sup>	1,144	-	870	-
Scope 2 <sup>2</sup>	206	13,987	1,801	13,545
Electricity renewable	-	13,073	-	-
Electricity non-renewable	206	914	1,801	13,545

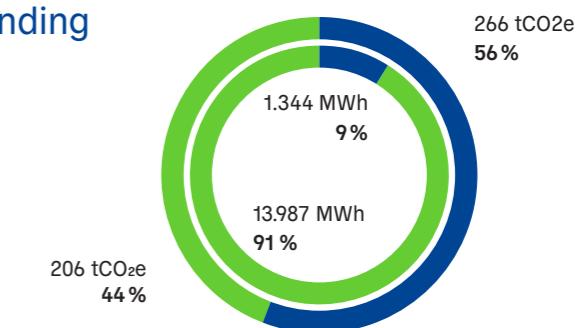
The 2022 data covers our five largest sites: Debrecen (HU), Enschede (NL), Seoul (KR), Shanghai (CN) and Stäfa (CH). Energy and emission conversion data are based on DEFRA 2022, IEA 2022 and local energy suppliers. The 2021 data cover our four largest sites: Debrecen (HU), Seoul (KR), Shanghai (CN) and Stäfa (CH). Energy and emissions conversion data are based on DEFRA 2022 and IEA 2022. In 2022, Sensirion sold 372 MWh, and in 2021, Sensirion sold 473 MWh of district heat externally.

<sup>1</sup> The emissions are mostly attributed to sulfur hexafluoride gases used in production processes.

<sup>2</sup> The 2022 emission data for electricity is calculated on a market-based approach. This includes the locations Seoul (KR), Shanghai (CN) and Stäfa (CH). The emissions of the sites Debrecen (HU), Enschede (NL) were calculated on a location-based approach. Location-based emissions from electricity consumption 2022 amounted 1,980 tCO<sub>2</sub>e which is based on emission conversion data of IEA (2022). 2021 emissions from electricity are calculated on a location-based approach based on emission conversion data of IEA (2022).

## Energy consumption and corresponding CO<sub>2</sub> emissions by Scope (2022)\*

- Scope 1
- Scope 2



\* Excl. other Scope 1 emissions

**“In Stäfa, Sensirion changed the gas mix of the gas heating system to 25% of renewable biogas.”**

Patrick Good, Head of Infrastructure & Capital Goods, Sensirion Stäfa

## Energy use

Sensor production is an energy-intensive business primarily for two reasons: the strict environmental specifications (e.g. humidity, temperature or cleanliness) for production buildings and the energy demands of the production equipment (mainly in the microelectromechanical system cleanrooms, so-called MEMS).

By strengthening energy efficiency and switching to renewable energy, energy consumption can be lowered – reducing the risk of potential energy shortages in the respective regions – and the climate impacts of energy use can be reduced.

### Reducing energy use

The two primary ways we reduce our energy consumption across our operations and supply chain are:

1. Increasing energy efficiency
2. Deliberate selection of technical equipment and more sustainable processes

Along with these efforts, we also continue to improve our sensors' functionalities given their important role in helping customers reduce their energy consumption.

### 2022 progress

During the year 2022, we implemented several measures to ensure our initiatives to cut down energy consumption. For specific energy consumption info, please see the table “energy and emissions” on page 49. Overall, we achieved a saving of 7% on energy intensity (kwh/gross profit) in 2022 compared to 2021.

### In Stäfa

- we continued our renewable activities on the lighting system – in the meantime, more than 30 % of our working area is illuminated by LED
- we started to monitor the energy consumption (in real time) in order to create awareness to save energy (i.e. switch off light/computer, etc.)
- we decreased the room temperature to 20 degrees in order to contribute to the prevention of a possible electricity and gas shortage

## Water and wastewater

Water protection is one of our three operational sustainability priorities. Our primary objective is to reduce water use where possible and ensure all wastewater is being disposed of cleanly. This includes working with our manufacturing sites to continually evaluate water used per sensor every year, along with using a holistic approach to waste and resource management. Sensirion's efforts to reduce water consumption and successfully manage effluents and wastewater in our own operations and along our supply chain affect the availability and quality of water in the region of operations.

### Water protection

In Stäfa as well as in our production facilities and warehouses in Shanghai, Seoul and Debrecen, we are committed to the responsible management of water. We use water primarily for the separation of silicon wafers for the individual sensors: the wafer saw, which dices the wafers using a high-speed rotating diamond saw blade, is cooled with water. As we evolve our products, water management will remain a priority, especially as we ramp up production of miniature sensors. The smaller the sensor, the fewer resources are needed to produce it.

Since water consumption correlates well with the number of units produced, Sensirion has decided to calculate water consumption as intensity in relation to production units (PU). Our goal is to reduce the amount of water per PU by 5% per year until 2026. The reduction activities heavily depend on the product mix we will sell in the future. As we see a certain saturation in terms of the package density of sensors on one wafer, we focus also on a water recycling project. The technical evaluation started in 2022 and will be implemented on a trial base in the first quarter of 2023.

We are confident that we will be able to roll out the optimization on the remaining wafer saws after a successful test phase by the end of 2023.

### 2022 progress

The total water withdrawal of the five sites in Debrecen (HU), Enschede (NL), Seoul (KR), Shanghai (CN) and Stäfa (CH) amounted to 63,267m<sup>3</sup> for 2022. In 2021, the water withdrawal was 64,252m<sup>3</sup> (The water consumption of Debrecen site was included starting September 2021). In 2022, we reached the value of 3.5% savings of water consumption per PU [Liter/PU]. The deviation to our target value mainly comes from the sold product mix and some ongoing optimization activities in Debrecen.

### Wastewater

Wastewater from all sites is discharged into the local sewer system. Only the Stäfa site produces industrial wastewater, which is fed into the sewer system via a two-stage filtration/absorption system that is monitored at regular intervals.

### 2022 challenges

At our Stäfa site, discharged industrial wastewater exceeded the legal limit for copper for four weeks in 2022 due to construction activities. The existing filter system can no longer cope with the increased production capacity, so Sensirion is currently evaluating a new wastewater treatment system of the latest generation, which will be implemented in 2023. The new system will also be a two-stage filtration system fully replacing the existing one. Main advantages besides capacity are easier maintenance handling, better separation efficiency and last but not least a proper monitoring possibility.



# Our employees

At Sensirion, our people make us distinct and keep the SensiSpirit going strong. Our responsibility is to ensure our employees are thriving, growing professionally, balancing work with personal life, and working in a safe and healthy work environ are not just treated as a number ment. By promoting employee engagement and well-being, we influence the satisfaction, motivation and health of our employees.

## Company culture and employee satisfaction

We hold our culture close to our heart. Sensirion is distinguished by its combination of innovation, dynamic energy and unique company culture, called “SensiSpirit”. The three values – “fair and honest”, “work together” and “top performance” – are the cornerstones of our culture. We nurture this atmosphere through flat hierarchies, short decision-making pathways and numerous employee-organized events. The “SensiSpirit” is promoted both inside and outside the office and drives our success story forward every day.

### Employee Structure

In 2022, Sensirion counted 1,225 employees, including 60 apprentices, trainees and interns (FTE). The composition of the workforce by employment contract and by employment relationship is shown in the table below. Further, Sensirion employed 73 workers who are not employees, mostly contingent workers.

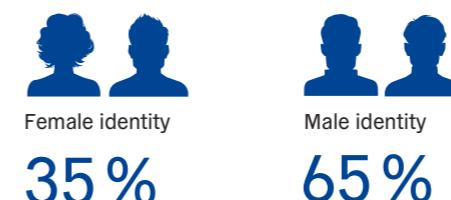
### Composition of the workforce (in FTE)<sup>1</sup>

Gender	2022			
	Permanent	Temporary	Permanent (%)	Temporary (%)
Men	751	11	64.5%	0.9%
Women	398	5	34.2%	0.4%
Total	1,149	16	98.7%	1.3%

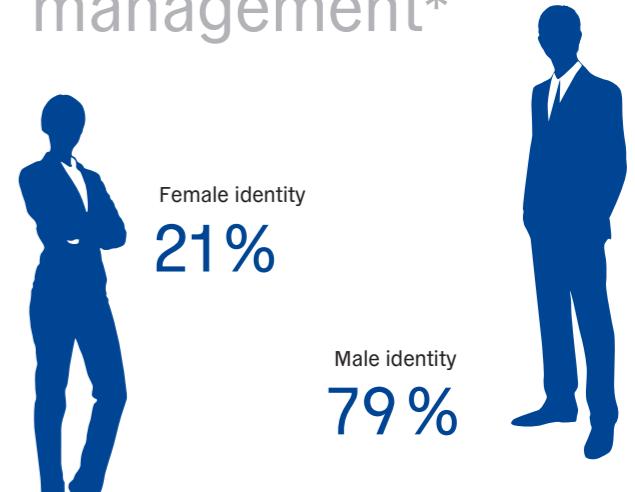
Gender	2022			
	Full time	Part time	Full time (%)	Part time (%)
Men	614	149	52.7%	12.8%
Women	333	69	28.6%	5.9%
Total	947	218	81.3%	18.7%

<sup>1</sup> The 2022 data covers all global employees excluding 60 apprentices, trainees and interns (FTE).

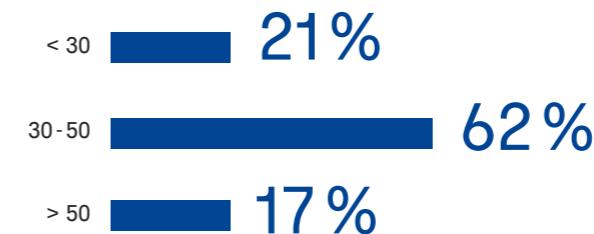
### Gender



### Gender in management\*



### Age\*



\* Data covers China, Hungary and Switzerland

Compared to the previous year, Sensirion grew in 2022 by 232 employees (headcount excl. apprentices, trainees and interns). Further fluctuation details are shown in the following table.

## Fluctuation (gender and age group)<sup>1</sup>

	2022	
	Entries	Exits <sup>2</sup>
<b>Permanent employees (in headcount)</b>		
<b>Gender</b>		
Men	185	48
Women	113	18
<b>Total</b>	<b>298</b>	<b>66</b>
<b>Age</b>		
< 30	82	5 <sup>3</sup>
30-50	197	39 <sup>3</sup>
> 50	19	9 <sup>3</sup>
<b>Total</b>	<b>298</b>	<b>53<sup>3</sup></b>
<b>Permanent employees (turnover in %)</b>		
<b>Gender</b>		
Men	25%	6%
Women	28%	5%
<b>Age</b>		
< 30	41%	2%
30-50	25%	5%
> 50	9%	4%

<sup>1</sup> The 2022 data covers all global employees excluding apprentices, trainees, interns.

<sup>2</sup> Including retirement exits.

<sup>3</sup> Exit rate over age structure currently only available for Switzerland.

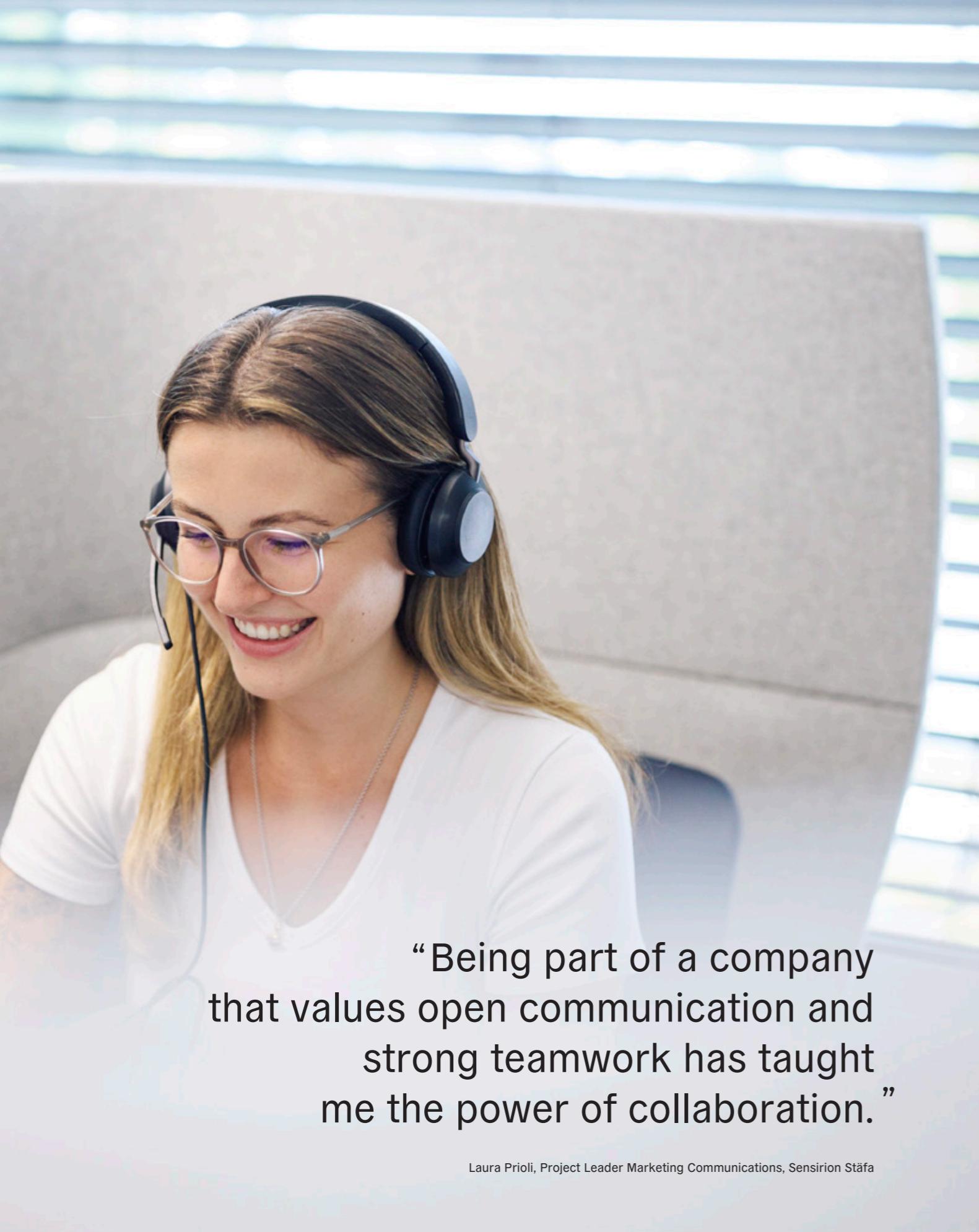
### Engaged employees drive growth

Since 2014, when we first formalized our company values, we have hosted annual culture workshops in Stäfa and in certain regional sites. The purpose of these workshops is to deepen Sensirion's company values in group work and meet new Sensirion colleagues.

In 2022, around 170 employees participated in the culture workshops in Stäfa. Due to the pandemic-related postponement of onsite events, we enjoyed a particularly high participation rate and therefore scheduled two dates in May 2022. In Berlin and Debrecen, culture workshops were

offered for the first time in 2022 with around 125 participants in total. We received positive feedback from the participants, emphasizing the importance of engagement and involvement of top management. Following the culture workshops, all participants are invited to take part in an anonymous survey, the results of which are discussed in a management meeting. Areas assessed as "in need of improvement" are taken as much as possible into account for the next year's culture workshop. Employee participation is recorded in the training system and it is checked that each employee participates once at the workshop.





Sensirion is not a member of an employer association and therefore not subject to any collective labor agreement. Sensirion's employees are not covered under collective bargaining agreements accordingly. We maintain a non-hierarchical and transparent corporate culture, and the management prioritizes and lives by an open-door policy, so that all employees have the opportunity to directly interact with them as needed.

The organizational responsibility lies with the management, especially the Vice President Human Resources. For example, we hire applicants only if we consider them to be a cultural fit with Sensirion, even with excellent qualifications. In the event of repeated misconduct by employees against the company's culture and values, we part ways with them in a fair and honest manner. All managers and employees are responsible for exemplifying the corporate culture and values. We hold meetings with all our employees twice a year during their employee appraisal to survey employee satisfaction, well-being and alignment with company strategy, and to get their feedback on the culture in practice. Since the employee satisfaction data was collected for the first time eight years ago, we have continued to receive consolidated results of the Stäfa site employees in the range of 7.8 to 8.4 (in the scale of 1 unsatisfied to 10 very satisfied). The consolidated results on employee satisfaction are then discussed by the management and presented at the town hall meeting.

Additionally, employee satisfaction is measured since 2017 every two years with an anonymous satisfaction survey in course with the certification label “Great Place to Work”. All

surveys have resulted in our ranking as a top 3 “Great Place to Work” in the category of large companies in Switzerland. In November 2022, the company culture was anonymously evaluated for the same competition in Hungary, Germany and the Netherlands, in addition to re-evaluation in Switzerland. The results of the survey will be published in 2023. We also received a “Top Company” seal from kununu in 2022. Our company page on kununu can be found [here](#).

#### 2022 progress

We hosted multiple events and workshops in 2022 as the height of the Covid-19 pandemic receded, with strong attendance from employees. We also brought back some pre-pandemic face-to-face events to maintain morale and to thank our employees for their hard work and perseverance. As we diversify and grow, we remain vigilant of the challenges by ensuring we continue to work with one company-wide culture despite new hiring across our global sites.

Our open, honest, appreciative and communicative culture is the basis for long-term employee satisfaction, which is reflected in the well-being rate of our employee appraisal survey in 2022 for Stäfa. This result is amongst the highest ever achieved.

#### Employee satisfaction<sup>1</sup>

Year	Scale <sup>2</sup>	2020	2021	2022
Subjective personal well-being in team	0-10	8.4	8.3	8.4
Subjective personal well-being in organization	0-10	7.9	8.1	8.2

<sup>1</sup> Switzerland only

<sup>2</sup> 0 = very bad, 10 = excellent

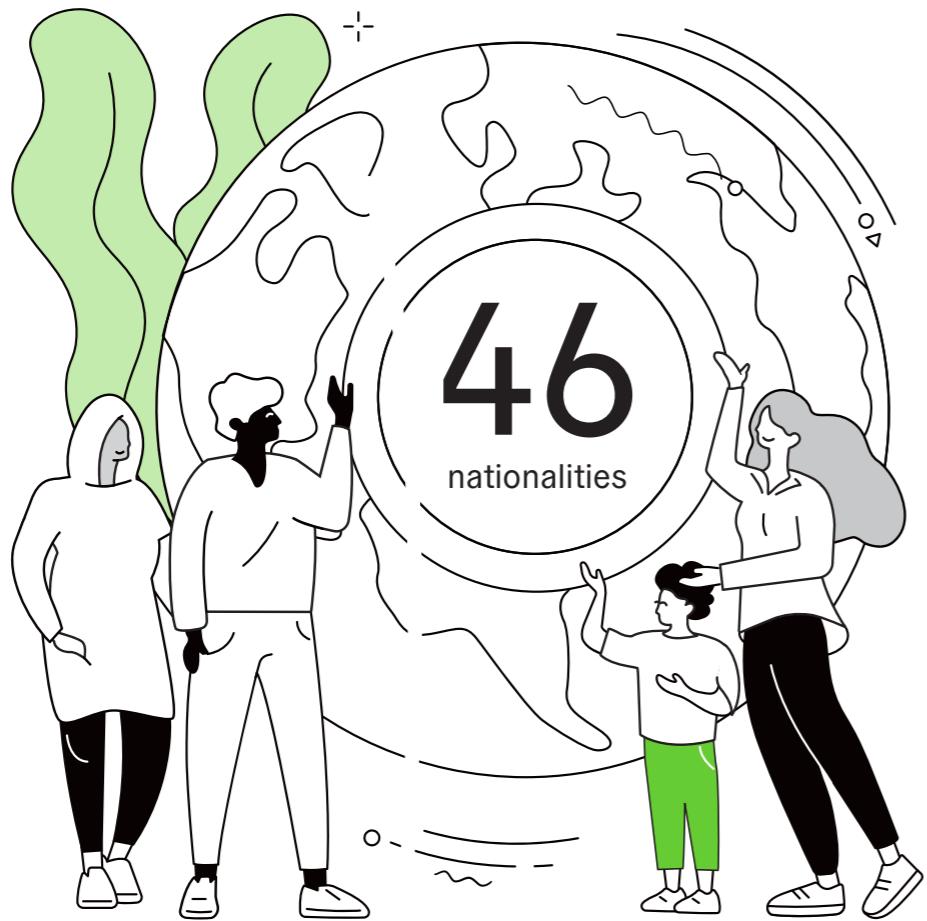
“Sensirion’s horizontal structure offers a dynamic workplace and fast decision-making processes. All employees feel responsible and can have a large impact on the projects they are assigned to.”

Marwan Chehade, Account Manager, Sensirion Stäfa





# Diversity, equality and inclusion



Sensirion's global leadership believes that diversity, equity and inclusion (DE&I) is a mindset shift that takes deliberate effort. DE&I are key elements of our values, and we are committed to ensuring that all individuals feel accepted and part of the Sensirion culture, regardless of their race, gender, sexual or political orientation, or geographic origin.

## Equality and inclusion

By promoting DE&I, we enable equal opportunities and fair conditions for all employees. When recruiting new employees for the R&D, marketing and sales teams where technical skillsets are required, we monitor the gender ratio of the teams compared to the gender ratio of graduating classes in the universities from which we recruit.

As part of this focus, we are planning to hold several events with schools in 2023 to raise awareness among women regarding careers in science, technology, engineering and math (STEM) fields.

Austria, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, China, Croatia, Czech Republic, Denmark, Eritrea, Estonia, France, Germany, Greece, Hungary, India, Ireland, Italy, Korea (the Republic of), Kosovo, Latvia, Liechtenstein, Luxembourg, Malaysia, Mexico, Morocco, Netherlands, New Zealand, Philippines, Poland, Portugal, Republic of North Macedonia, Romania, Russian Federation, Serbia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, Tunisia, Turkey, United Kingdom, United States

Sensirion supports the career advancement of all genders equally and encourages and supports qualified people to take up leadership positions and inspire others with our culture of DE&I.

Our global leadership and Board of Directors are unequivocally aligned on the value of nurturing an inclusive workforce to unite our people into a global team. Discrimination is always off-bounds at our company. In 2022, there were no confirmed cases of discrimination at Sensirion.

In 2021, an externally conducted salary equality analysis commissioned by Sensirion for its employees in Switzerland revealed that women and men earn equivalent salaries for the same function and performance. In addition, we conduct an internal salary comparison on an annual basis.

## 2022 progress

As we expand globally, we are evolving our hiring practices and working with partners to raise awareness about our employer brand to attract diverse candidates, especially at sites outside Switzerland. At the end of 2022, Sensirion employed people from 46 countries. The following table shows the diversity of gender and age in the management body and workforce of Sensirion in 2022.

## Diversity of the management body and workforce

	2022	%
<b>Board of Directors</b>		
<b>Gender</b>		
Men	4	67%
Women	2	33%
<b>Total</b>	<b>6</b>	<b>100%</b>
<b>Age</b>		
< 30	0	0%
30-50	2	33%
> 50	4	67%
<b>Executive Management</b>		
<b>Gender</b>		
Men	6	100%
Women	0	0%
<b>Total</b>	<b>6</b>	<b>100%</b>
<b>Age</b>		
< 30	0	0%
30-50	3	50%
> 50	3	50%
<b>Employees with management function<sup>1</sup></b>		
<b>Gender</b>		
Men	100	79%
Women	27	21%
<b>Total</b>	<b>127</b>	<b>100%</b>
<b>Age</b>		
< 30	3	2%
30-50	95	75%
> 50	29	23%
<b>Employees without management function<sup>1</sup></b>		
<b>Gender</b>		
Men	575	64%
Women	322	36%
<b>Total</b>	<b>897</b>	<b>100%</b>
<b>Age</b>		
< 30	216	24%
30-50	546	61%
> 50	135	15%

<sup>1</sup> The 2022 data covers China, Hungary and Switzerland employees excl. apprentices, trainees and interns.

## Employee development and training

We prioritize the development of our talent and invest in their professional growth. We believe our people are our brand ambassadors and it is incumbent upon us to make their time at Sensirion satisfying and productive by increasing their skills and empowerment.

### Invested in our employees

At Sensirion, we appreciate the effort our employees put into the company's success. Therefore, we invest in them so that they are satisfied in their jobs, continue to grow professionally and consider us an employer of choice. In fact, Sensirion is proud to be considered a benchmark for other companies in the industry for our leading best practices in talent development.

Sensirion provides continuous performance and career development reviews to align individual career path opportunities with its employees. The following table shows the proportion of employees by gender and by position who received a performance/career development review in 2022.

### Performance/career development reviews<sup>1</sup>

	%
<b>Gender</b>	
Male	96%
Female	96%
<b>Management position</b>	
Employees with management function	100%
Employees without management function	95%

<sup>1</sup> The 2022 data covers only Switzerland employees excl. apprentices, trainees, interns, temporary and contract workers.

Our talent development efforts are overseen by Sensirion's Vice President Human Resources who works with several HR business partners on the local level using one common learning platform to roll out courses and evaluate engagement. Our goal is to have all Sensirion companies rolled out and employees trained in the new tool within the next three years. The employee development program of Sensirion comprises the following offers to its employees:

#### A) SensiAcademy

As part of the SensiAcademy, we currently offer digital and on-site trainings on around 180 topics with internal and external speakers. All employees can register for these trainings, provided the supervisor approves it. The costs are fully covered by the company. In addition, employees in certain specialized areas (such as information technology) where frequent training is required to keep skills up to date regularly participate in external courses.



## “ Young talent is essential for a successful future.”

Corinne Osorio, Senior HR Administration Specialist, Sensirion Stäfa

### B) Operator trainings

For operators, a large number of process training courses have to be completed, without which they are not permitted to carry out their work activities. These training costs, often with internal trainers or process managers, are not charged to the operator.

### C) Special talent development trainings preparing for more responsibility and promotions

These talent development trainings focus on our best talents to prepare them for the next promotion. These trainings include external trainings, stays abroad at our subsidiaries and individual coaching. Sensirion covers the full cost of training. Our HR team is in close contact with the line managers in order to develop these talents individually and according to their career plans.

### D) Individual trainings suggested by employees

Individual training suggestions by employees (such as MBA) are assessed case-by-case. Depending on the compatibility of the training with the current or foreseeable career path of the employee and therefore the long-term benefit from Sensirion's point of view, we contribute to the training costs. Employees commit to an agreement to stay employed at Sensirion for at least two years after the end of the training.

The training process and, above all, the effectiveness of these courses are monitored in line with existing processes. Manual tests are also used by the trainers to evaluate content immersion. For training courses at external education institutions, we check in regularly with the training instructor(s) to evaluate the effectiveness of the training, the applicability for the employee to practice new skills in their role and to document their progress. As part of externally required audits and to retain our ISO certifications, training processes are closely monitored. The following table shows the average hours of training received per employee in 2022.

### Average hours of training per year per employee<sup>1</sup>

	hours
Gender	
Male	17
Female	18
Management position	
Employees with management function	20
Employees without management function	14

<sup>1</sup> The 2022 data covers only Switzerland employees excl. apprentices, trainees, interns, temporary and contract workers.

### 2022 progress

In 2022, the new common learning platform was set up for Stäfa and Debrecen with its rollout planned in 2023. Looking ahead, we will prioritize global standardization of our training levels as well as harmonize all training content regardless of location (while keeping the local cultural context in mind).

# Ethical business conduct



As an international company that is committed to creating long-term value, Sensirion maintains high standards of corporate governance and pursues a transparent information policy vis-à-vis its stakeholders. Transparent reporting forms the basis for trust.

## Compliance and governance

Compliance and governance refer to the internal rules, management structures, processes and practices that we uphold at Sensirion to enable fairness, transparency and accountability and ensure ethical and transparent corporate governance. This includes, in particular, compliance with all legal and stock exchange requirements, such as the prevention of anti-competitive behavior, money laundering and corruption. Through good corporate governance, Sensirion ensures sound business practices that promote fairness, transparency and accountability and protect the best interests of its stakeholders.

We ensure that all our business practices are aligned with local/Swiss laws and our Code of Conduct. The Code of Conduct covers ethical topics, including anti-corruption, anti-bribery and whistleblowing, in order to protect our business from risks. We believe in creating value by building a corporate culture that puts people first. Sensirion's Executive Board is responsible for overseeing corporate governance with mandatory guidelines and policies defining our practices. All employees are required to comply with these guidelines and policies. For an overview of all our policies, please refer to "Our Approach to sustainability" on page 26.

In the event of violations against policies, varying actions such as reprimands or extraordinary terminations are taken depending on its severity.

Sensirion has clear processes in place for complaint management and conducts regular audits. The fundamental idea behind this is that employees with legitimate, justified complaints should not be concerned about any consequences of raising their voice. All employees are encouraged to raise issues of concern, including feedback on the strategic and behavioral status of management, to their supervisors or human resources (HR). Additionally, complaints can also be submitted anonymously via the whistle-

blower hotline. Complaints about Executive Committee members are handled discreetly by a member of the Board of Directors; complaints about employees are handled by the Vice President of Human Resources. For complaints from other stakeholders about suppliers, there is an ethics complaint form on our [\\_. Critical risks are presented and discussed in yearly meetings with the Audit Committee and afterwards reported to the Board of Directors.](#)

## Audits and systems controls

Sensirion has an internal control system in place in order to ensure accuracy of bookkeeping. For all fully consolidated legal entities, we conducted internal audits to identify corruption risks in 2022. This also included checking whether all relevant employees had received training on the Code of Conduct. For the audit itself, the focus was on:

- a. Compliance with system controls in the processes (approval limits, compliance with the dual control principle)
- b. For legal entities with a higher risk that do not qualify as low-risk distributors (sales companies), a review of the internal control system and an analysis of contributions per product
- c. For legal entities, random testing of operating expenses (purpose, amount), review of bank transactions and check of payroll accounting (special payments, bonuses, salary)

## Anti-corruption communication and trainings

All Sensirion employees in Stäfa must take the Code of Conduct training when hired and a refresher every five years. Temporary employees and interns in Stäfa must read and sign the most important information of the Code of Conduct. The Board of Directors and general management are responsible for training themselves. Sensirion Automotive Solutions South Korea and Sensirion Hungary KFT both signed an anti-bribery policy and employees are trained in the Code of Conduct and anti-corruption policy.

#### Supplier relationships

Our suppliers are required to comply with the RBA standards. Sensirion audits key suppliers on a regular basis and on-site as needed. The Code of Conduct is a part of this audit. Our ethical complaints process for suppliers is also tested internally by our EHS manager on an annual basis to ensure reports are being received by the correct addressee. As of this report's publication, no human rights violations including child labor have been reported in our supply chain.

#### 2022 snapshot

We continued to maintain our compliance and governance leadership with no reports of significant violations of laws and regulations or ethical misconduct filed for 2022 besides exceeding the legal wastewater limit for copper in Stäfa for four weeks, see chapter "Water and wastewater". There were no significant instances of non-compliance resulting in administrative or judicial sanctions and fines. In 2022, there were no confirmed incidents of corruption. Additionally, there were no legal actions pending or completed regarding anti-competitive behavior and violations of anti-trust and monopoly legislation in 2022.

In 2022, we scored well on the RBA audit with 177/200 points. The validated audit report is disclosed on our [website](#).

"From my point of view, the sustainability is that the company and the management listen to the employees from all areas and try to take their needs into account. Employees matter and are not just treated as a number that is just an element, but in all aspects we are the ones who move the company forward."

Bence Vince Nagy, Teamleader Automatic Assembly,  
Sensirion Debrecen

# Organizational structure

#### Nomination, selection, composition and independence of the Board of Directors

The Nomination and Compensation Committee of the Board of Directors determines the selection criteria for the succession of members of the Board of Directors. In doing so, it considers, among other things, competencies relevant to the further development of the company, the views of stakeholders (including shareholders), diversity and independence. Please find further information in the Corporate Governance Report – pages 96-98.

As of 31 December 2022, the Board of Directors consisted of six members. All members of the Board of Directors are non-executive directors. None of the members of the Board of Directors held an executive position with Sensirion during the last three financial years preceding the financial year 2022. The governance structure and members including the committees of the Board of Directors are described more detailed in the Corporate Governance Report – pages 92-93 and 96-98, in our [Organizational Regulations](#) and in the [Corporate Governance](#) section on our website.

The information on the two founders and Co-Chairmen of the Board of Directors and their function within Sensirion's management can be found in the Corporate Governance Report – page 99.

The information on the Independent Director's Committee to prevent and mitigate conflicts of interest can be found in the Corporate Governance Report – page 99.

Chapter eight "Conflicts of Interest" of the [Organizational Regulations](#) sets out guidelines for dealing with potential and actual conflicts of interest. Its purpose is to clarify and establish appropriate guidelines for conducting business to ensure business judgment and decision-making are not

influenced by improper personal interests. Any other board memberships of the Executive Board or Board of Director members are disclosed in their respective CVs in the Corporate Governance Report – pages 92-93 and 104-105. Related parties transactions are disclosed in the Financial Statements Report – page 157.

#### Policies and processes to determine remuneration

The remuneration policies of the Board of Directors and the Executive Committee are disclosed in the Remuneration Report – pages 113-114 and 116-119.

The processes to determine remuneration of the Board of Directors and the Executive Committee are disclosed in the Remuneration Report – pages 110-114.

The Annual total compensation ratio in 2022 of the CEO compared to the median annual total compensation for all employees (excluding the CEO) based in Switzerland was 6.17.

#### Management and oversight of sustainability

Particularly business relevant sustainability topics such as innovation and growth are anchored in the corporate strategy. The Board of Directors monitors the execution to the strategy and reviews the key activities. The Board of Directors is informed once a year about the progress in the CO<sub>2</sub> strategy, thereby also exerting indirect influence. In the future, further anchoring of sustainability topics in Board meetings is planned. The assessment of the quality and effectiveness of the external audit and the internal control system is performed by the Audit Committee. On a regular basis, members of the Board of Directors perform a self-evaluation and assess the efficiency and effectiveness of their work.

Most of the members of the Board of Directors have experiences from leading or oversight positions at other listed companies where they also face sustainability topics and are hence well aware of recent best practices.

Every year, the Board of Directors and the Executive Committee review the corporate strategy in a joint meeting. This is prepared by a strategy committee (consisting of the two founders and Co-Chairmen and three members of the Executive Committee), which meets several times a year for ongoing reviews and further development of the strategic framework.

Significant adjustments to the strategy must be approved by the full Board of Directors. Additionally, the Audit Committee assesses the quality and effectiveness of the internal control system including risk management on a yearly basis as described in the tasks of the Committee in Corporate Governance Report – page 96.

The Board of Directors has delegated the Company's management to the Executive Committee under the direction of the CEO. At the Executive Committee level, sustainability topics are managed by the CEO. A team of experts led by a representative for ESG matters meet once a month to discuss sustainability topics, measures and progress. Progress and pending decisions regarding sustainability ambitions are discussed with the CEO and the Executive Board on a regular basis.

The interdisciplinary sustainability team consisting of a group of internal experts on topics linked to sustainability (e.g. Investor Relations, Environmental Health and Safety, Maintenance & Infrastructure) drive activities and initiatives towards achieving the set goals. They are also responsible for recommendations to the Executive Board, which leads all strategic initiatives including the achievement of the set sustainability goals. They are also responsible for informing the Board of Directors on all relevant matters related to sustainability.

In 2022, the CO<sub>2</sub> roadmap and the materiality matrix have been approved by the Board of Directors.





# About this sustainability report

This second sustainability report of Sensirion was published on March 14, 2023. The reporting frequency is until further notice annually and the reporting scope of this sustainability report covers the consolidated subsidiaries listed in the Consolidated Financial Statements on page 152 of the financial report, except it is stated differently within this sustainability report. The content of the sustainability report has not been externally assured and restatements of information from previous periods have not been made.

## Regarding questions on this report, please contact:

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# GRI Content Index



2023

Sensirion Holding AG has reported in accordance with the GRI Standards for the period 1 January 2022 to 31 December 2022. For the Content Index – Essentials Service, GRI Services reviewed that the GRI content index is clearly presented, in a manner consistent with the Standards, and that the references for disclosures 2-1 to 2-5, 3-1 and 3-2 are aligned with the appropriate sections in the body of the report. This service was carried out on the English version of the report.

GRI 1 used	GRI 1: Foundation 2021		
Applicable GRI Sector Standard(s)	None		
GRI Standard	Disclosure	Location in Annual Report	Omission

## General Disclosures

### The organization and its reporting practices

GRI 2: General Disclosures 2021	2-1 Organizational Details 2-2 Entities included in the organization's sustainability reporting 2-3 Reporting period, frequency and contact point 2-4 Restatements of information 2-5 External assurance	P. 20, 84 (Corporate Governance Report) P. 78 P. 78 P. 78 P. 78
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### Activities and workers

GRI 2: General Disclosures 2021	2-6 Activities, value chain and other business relationships 2-7 Employees 2-8 Workers who are not employees	P. 20 P. 55 P. 55
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### Governance

GRI 2: General Disclosures 2021	2-9 Governance structure and composition 2-10 Nomination and selection of the highest governance body 2-11 Chair of the highest governance body 2-12 Role of the highest governance body in overseeing the management of impacts 2-13 Delegation of responsibility for managing impacts 2-14 Role of the highest governance body in sustainability reporting 2-15 Conflicts of interest 2-16 Communication of critical concerns 2-17 Collective knowledge of the highest governance body 2-18 Evaluation of the performance of the highest governance body 2-19 Remuneration policies 2-20 Process to determine remuneration 2-21 Annual total compensation ratio	P. 73-74 P. 73 P. 73 P. 73-74 P. 74 P. 73 P. 71 P. 74 P. 73 P. 73 P. 73 P. 73 P. 73 P. 73
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GRI Standard	Disclosure	Location in Annual Report	Omission
<b>Strategy, policies and practices</b>			
GRI 2: General Disclosures 2021	2-22 Statement on sustainable development strategy	P. 25	
	2-23 Policy commitments	P. 26	
	2-24 Embedding policy commitments	P. 26, 71	
	2-25 Processes to remediate negative impacts	P. 37, 51, 71	
	2-26 Mechanisms for seeking advice and raising concerns	P. 71-72	
	2-27 Compliance with laws and regulations	P. 72	
	2-28 Membership associations	P. 26	
<b>Stakeholder engagement</b>			
GRI 2: General Disclosures 2021	2-29 Approach to stakeholder engagement	P. 27	
	2-30 Collective bargaining agreements	P. 59	
<b>Material topics</b>			
<b>Materiality assessment and list of material topics</b>			
GRI 3: Material Topics 2021	3-1 Process to determine material topics	P. 30	
	3-2 List of material topics	P. 31	
<b>Economic value creation</b>			
<b>Growth</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 32	
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	P. 32	
<b>Innovation</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 34	
<b>Sustainable products and services</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 35	
GRI 301: Materials 2016	301-1 Materials used by weight or volume	P. 36	
GRI 302: Energy 2016	302-5 Reductions in energy requirements of products and services	P. 35	
<b>Sustainable supply chain management</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 37	
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	P. 37	
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	P. 37	

GRI Standard	Disclosure	Location in Annual Report	Omission
<b>Corporate environmental and climate protection</b>			
<b>Climate protection</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 46-47	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	P. 49	
	305-2 Energy indirect (Scope 2) GHG emissions	P. 49	
	305-4 GHG emissions intensity	P. 48-49	
<b>Energy use</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 50	
GRI 302: Energy 2016	302-1 Energy consumption within the organization	P. 49	
	302-3 Energy intensity	P. 48	
	302-4 Reduction in energy consumption	P. 50	
<b>Water and wastewater</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 51	
GRI 303: Water and Effluents 2018	303-3 Water withdrawal	P. 51	
<b>Employees</b>			
<b>Company culture and employee satisfaction</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 54-59	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	P. 56	
<b>Diversity, equality and inclusion</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 64-65	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	P. 66	
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	P. 65	
<b>Employee development and training</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 67-69	
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	P. 69	
	404-3 Percentage of employees receiving regular performance and career development reviews	P. 67	
<b>Ethical business conduct</b>			
<b>Compliance and governance</b>			
GRI 3: Material Topics 2021	3-3 Management of material topics	P. 71-72	
GRI 205: Anti-corruption 2016	205-3 Confirmed incidents of corruption and actions taken	P. 72	
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	P. 72	