Observations for a better world

Annual report 2021

VAISALA

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Building on over 85 years of experience, Vaisala provides innovative measurement instruments, solutions, and services that help to solve global challenges related to climate change, resource efficiency, and well-being and health. World-leading measurement technologies for weather, environment, and industrial needs enable customers and societies to keep up critical operations, and reliable data supports decision-making, safety, and efficiency. Vaisala is headquartered in Finland, and Vaisala's A shares are listed on the Nasdaq Helsinki stock exchange.

Move the cursor over the hot spots

Observations for a better world

Measuring the way to a more sustainable future. Our technology works on two planets.

All over the world

Industrial Measurements business area serves a wide range of industrial customers by offering them visibility into their processes. The broad range of accurate and reliable measurement instruments, continuous monitoring systems, and services help customers to optimize their processes, ensure the quality of their end products, as well as minimize emissions and energy consumption, thus mitigating climate change.

Main markets: high-end humidity, high-end carbon dioxide, continuous monitoring systems, liquid measurements, and power

41% OF NET SALES

181.0 MEUR

Weather and Environment business area serves selected weather-dependent customers, to whom accurate, real-time, continuous, and reliable weather data is essential to run efficient operations as well as to understand and adapt to climate change. The business area provides reliable measurements and decision-making support that focus on the safety of people, protection of property, and efficiency of operations under any environmental conditions.

Main markets: meteorology, aviation, ground transportation, and renewable energy

59% OF NET SALES

256.9 MEUR

Even the sky is no limit

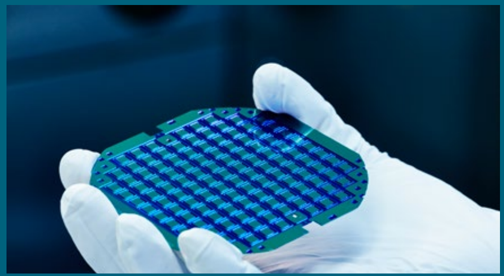
Science-based innovations and the persistent curiosity have characterized Vaisala from the very beginning, reaching from land to space: our sensors are currently measuring the conditions also on Mars.

The basis for our success lies in systematic investments into research and development.

13%

OF OUR NET SALES IN 2021.

We continuously create leading technologies from sensors to digital solutions and help to find solutions to global challenges, building a more sustainable planet.



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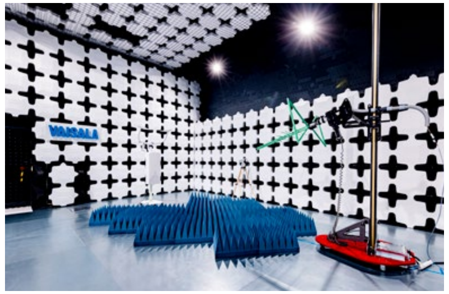
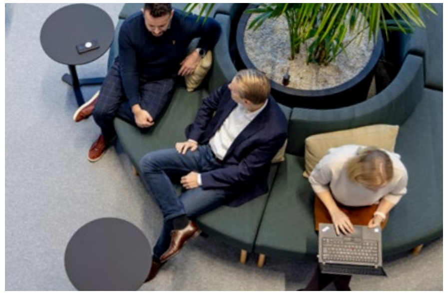
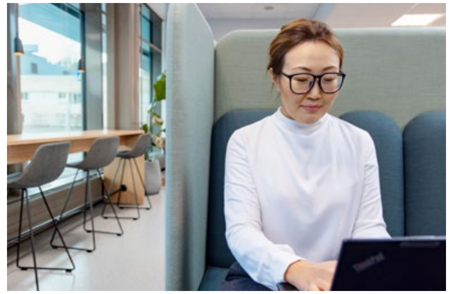




"Corporate sustainability is more than carbon neutrality.
p. 6



About this report:
In its annual report, Vaisala applies the Integrated Reporting Framework, as defined by the International Integrated Reporting Council (IIRC). The primary purpose of an Integrated Report is to describe how a company creates value over time. We started our work towards this goal in 2016: this Vaisala annual report is the sixth one to apply the international <IR> Framework. Our aim is to develop our operations by exploring the different types of value Vaisala creates for its stakeholders. Thus, this comprehensive report includes information about Vaisala's value creation, sustainability, governance, and financials. Vaisala has published standalone sustainability reports since 2008.

This report caters also to those who gather data from GRI (Global Reporting Initiative) reports. You can find the GRI content index at the end of the Sustainable business practices section together with an Independent assurance report. Disclosure of non-financial information in accordance with Finnish Accounting Act chapter 3 a is presented in the Sustainable business practices section as well as in the chapters Business model in Our business section, Dashboard in the Creating value section, and Risk management in the Governance section.

How to navigate this report:

Read more about this topic

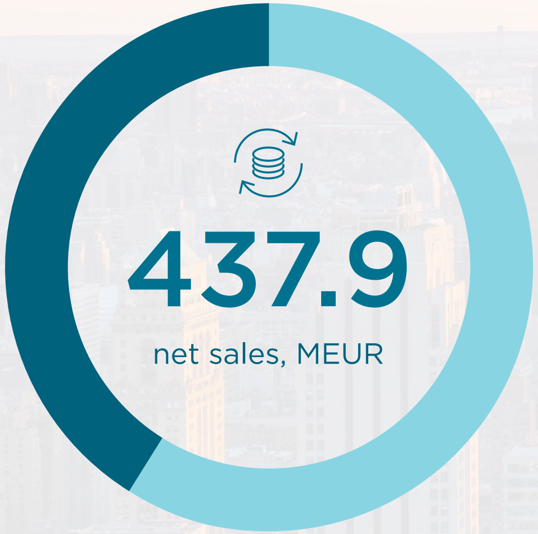
Vaisala 2021: cutting-edge technology, sustainability, and growth in uncertain times

In 2021, we helped our customers with global challenges, as the significance of climate change mitigation and adaptation became ever more important topics around the world. During the year, we also received recognition for our sustainability actions both in Finland and internationally.

Vaisala excelled, as the world economy started to recover from the COVID-19 pandemic. Our investments into product development and scalable business support sustainable growth now and in the future.

41%

Industrial Measurements business area 181.0 MEUR



59%

Weather and Environment business area 256.9 MEUR

Key figures for 2021

50.1
operating result, MEUR

R&D **13%**
of net sales

100%
renewable electricity

1,900+
employees

4.14/5
employee engagement rate

Operating all over the world

25+
offices

16
countries

AMERICAS

34%
of net sales

284
employees

APAC

33%
of net sales

165
employees

EMEA

33%
of net sales

1,518
employees

Sustainable and profitable business is the key to solving climate change

Solving climate change and responding to other global megatrends are prerequisites for companies wanting to succeed in the future. Demand recovered and discourse on climate change increased in 2021 even amidst the pandemic.

The COVID-19 pandemic continued to mark the year 2021. The health and safety of our personnel were priorities for us in Vaisala also this past year, and many of our employees kept working remotely to ensure the safety of those employees who cannot work from home due to the nature of their work. In addition to our own actions, we are proud that our instruments have enabled us to also be a part of the solution and help to alleviate the pandemic. We help our customers to ensure optimal conditions in vaccine development, production, and transfer and thus protect people and societies all over the world.

Despite the pandemic, the economy started to recover during the year, shown in customers' willingness to invest in measurement technology. Our excellent result and net sales demonstrate that even in the uncertain world situation we managed to strengthen our position in the global markets. The component shortage created significant challenges for all companies worldwide, but with active supplier management and operational excellence, Vaisala was able to keep up its delivery capability and even increase market share throughout the year. We served our customers commendably. For this, we want to give our sincere thanks to our personnel globally and especially to our employees in Operations.

For investors, we offer responsible returns and scalable, long-term growth. We raised our growth ambition in 2021, and our updated strategy is to actively seek sustainable growth by solving business-critical challenges for our customers and to aim to the leading position in our selected markets. The success drivers to our strategy are first and foremost our engaged and talented employees as well as product and technology leadership, deep customer understanding and application knowhow, and scalability in high-mix, low volume business.

Vaisala's business is extremely well-positioned at the core of key megatrends, such as climate change, renewable energy, resource efficiency, and health. Our customers' will to invest in Vaisala's solutions stems from our product and solution leadership: we enable them to make business-critical decisions reliably and achieve their own profitability and sustainability targets.

Corporate sustainability is more than carbon neutrality

Sustainability is at the core of Vaisala's business. We continued integrating the UN Sustainable Development Goals into our business, and we are committed to the UN Global Compact initiative and its 10 principles regarding human rights, labor standards, environment, and anti-corruption. We strive to ensure human rights in our network, which is imperative for sustainable business in our global world.

Therefore, we are happy to report that our sustainability work gained outstanding recognition during the past year. Vaisala was in fifth place in Sustainalytics' global ESG comparison covering over 10,000 listed companies. In Finland, private investors voted Vaisala as the most sustainable among Finnish listed companies. Moreover,

President and CEO Kai Öistämö and Chair of the Board Ville Voipio

Vaisala was at the top of Financial Times' listing of 300 European climate leaders – companies that have decreased their emissions the most during 2014–2019.

Climate change took space in the wider discussion after the sixth IPCC report that highlighted the urgency of the situation. It is no longer enough that a company decreases its own environmental footprint and manages its ESG risks. In this day and age, all companies wanting to succeed in the future need to look at how their business relates to the world's challenges and to renew their business accordingly. The business itself should have such an impact that it becomes a part of building our planet into a sustainable place to live for all humankind.

Vaisala aims to minimize its own carbon footprint by, for example, continuing to use 100% renewable electricity and emphasizing energy efficiency in all its facilities. Even more importantly, however, Vaisala participates in understanding, mitigating, and adapting to climate change through its business. Firstly, our weather measurement technology helps experts and scientists to understand the phenomenon. Secondly, we mitigate climate change by helping customers to decrease their emissions and use our planets' scarce resources more efficiently as well as by providing solutions for cost-effective production of renewable energy. Thirdly, through our weather observation solutions, we increase companies and societies' capabilities to adapt to the negative impacts of climate change, such as extreme weather.

To have a long-term positive impact on humankind, our business needs to be both sustainable and profitable.

Research and development is the cornerstone of our success

To keep our market leader position and to create innovations for the world's needs also in the future, we invest significantly in research and development. In 2021, these investments constituted 13% of our net sales.

In the spring of 2021, we opened a world-leading R&D center in Vantaa, Finland. The new building supports our growth ambitions, functioning as the springboard for our continuous innovations. The center houses approximately 40 top-of-the-line specialized laboratories, all of which provide preeminent working environments for our experts. Furthermore, Vaisala is deeply engaged with selected universities and scientific research institutes around the world, which enables us to stay at the forefront of relevant technologies.

We serve our customers comprehensively, building cutting-edge measurement instruments and focusing increasingly on digital solutions, such as recurring revenue business models. Announced in the beginning of 2022, our acquisition of the US-based AerisWeather, subscription-based software company providing weather and environmental information, also supports this.

Employees form the backbone of a healthy company

Engaged and talented employees make Vaisala's success, and they have done tremendous work also during these past two exceptional years. We are very happy that our people have remained engaged and motivated also during these challenging times.

While the pandemic has accelerated more flexible working practices, it has also generated new challenges. We established a Future of Work project group to understand what Vaisala's employees want from their work in the future and started to develop guidelines for future working practices. In the fall, we saw more and more employees gradually moving back to the office only to reverse back to remote work as the COVID-19 situation deteriorated towards the end of the year. The learnings from the new hybrid ways of working during the autumn as well past years will enable us to find the optimal working practices in the rapidly evolving situation.

The well-being of our employees is critical also going forward. We drive to enhance diversity, equity, and inclusion in our work community and in society. We started the development work in 2021 by founding a work group and expanding our employee survey with questions on the topic. This subject is increasingly integral for us, and we will focus on it in 2022 and onwards. Diverse thinking, appreciative culture, and engaged employees are the foundation of a more equal society, new innovations, and companies' performance.

The future is built together

The year 2021 was filled with lots of great stories and highlights that are depicted in this report. One of these was the triumphant Mars journey of our technology, together with the Finnish Meteorological Institute. In February, the Perseverance rover landed on the Red Planet, sending its first successful measurements during the spring. Our space journey is an excellent reflection of the Vaisala spirit. It is a testament to the reliable quality of our products and product development, and it brought our proud employees together even remotely, which was more important than ever in these exceptional times.

With this focus, we continue developing the most reliable measurement technology to solve global challenges. We do this by serving our customers with the best product and application expertise as well as by providing our personnel with development opportunities and work with a purpose. Together, we will continue to build a more sustainable future also in 2022 and beyond.

> "It is no longer enough that a company decreases its own environmental footprint and manages its ESG risks. In this day and age, all companies wanting to succeed in the future need to look at how their business relates to the world's challenges and to renew their business accordingly.

Ville Voipio
Chair of the Board

Kai Öistämö
President and CEO

Highlights 2021

Q1

We launched first-of-its-kind plug-and-play weather solution to support business operations and meteorology. Vaisala Beacon is the only complete and easy-to-use compact weather station solution that provides reliable measurements, data collection, connectivity, and data visualization all in one.

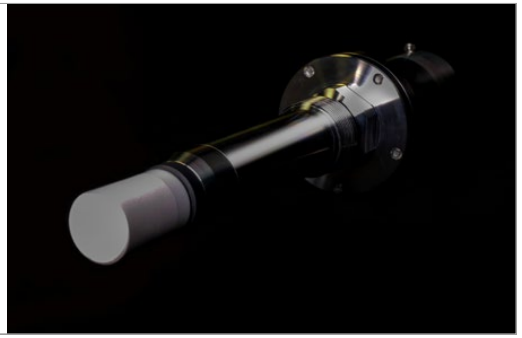
Read more
vaisala.com/annualreport

The next-generation humidity and temperature transmitter series HMT370EX operates reliably even in the most hazardous environments. It exceeds current hazardous area regulations, creating value for customers for instance in the food and beverage as well as pharmaceutical industries.

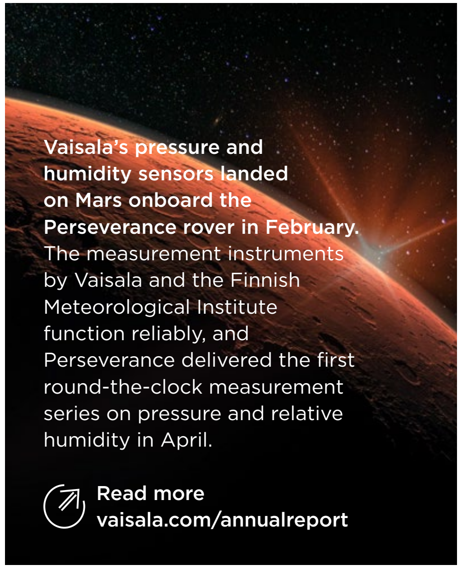
Read more
vaisala.com/annualreport

We launched the MGP262 multigas instrument that provides high-quality data to determine the composition of the off-gas in the biogas upgrading process. The data can be used to optimize biomethane production more efficiently, resulting in greater profits and lower emissions.

Read more
vaisala.com/annualreport



Q2



Vaisala's pressure and humidity sensors landed on Mars onboard the Perseverance rover in February. The measurement instruments by Vaisala and the Finnish Meteorological Institute function reliably, and Perseverance delivered the first round-the-clock measurement series on pressure and relative humidity in April.

Read more
vaisala.com/annualreport

We scored at the top of Financial Times and Statista's Climate Leaders 2021 list. The list includes 300 European companies that achieved the greatest reduction in their greenhouse gas (GHG) emissions between 2014 and 2019, and Vaisala ranks 14th.

Read more
vaisala.com/annualreport

We opened a new R&D and innovation center on the Vantaa campus in Finland. The center has almost 40 custom-made laboratories and is a unique arena for product development from ideation to hardware and software design, development, and product testing.

Read more
vaisala.com/annualreport

Our new and wireless life science environmental solution for carbon dioxide measurements combines our CO_2 probe GMP251 with our RFL100 data logger. It simplifies the monitoring of incubators, used for example in cell culturing, gene therapy, and vaccine research.

Read more
vaisala.com/annualreport

We launched the world-class, cost-effective, and scalable AQT530 air quality sensor. It is easy to set up and puts cities in control of air quality decisions that enhance quality of life, safety, and sustainability in communities

Read more
vaisala.com/annualreport

Q3

We expanded our modular Indigo product family with the introduction of the Indigo510 transmitter. It is an ideal choice for demanding industrial applications where precise measurements are needed for a single parameter at a time.

Read more
vaisala.com/annualreport

We received more recognition for our sustainability work on two fronts. We were on the top of an ESG rating by Sustainalytics, evaluating the sustainability of stock-listed companies, and private shareholders voted Vaisala as the most sustainable stock-listed company in Finland.

Read more
vaisala.com/annualreport and page 38

Q4

Our road weather service was selected by TomTom, the location technology specialist, to improve driver safety. TomTom integrates Vaisala's environmental data capabilities into its Hazard Warnings service to deliver time-critical alerts of road weather hazards.

Read more
vaisala.com/annualreport

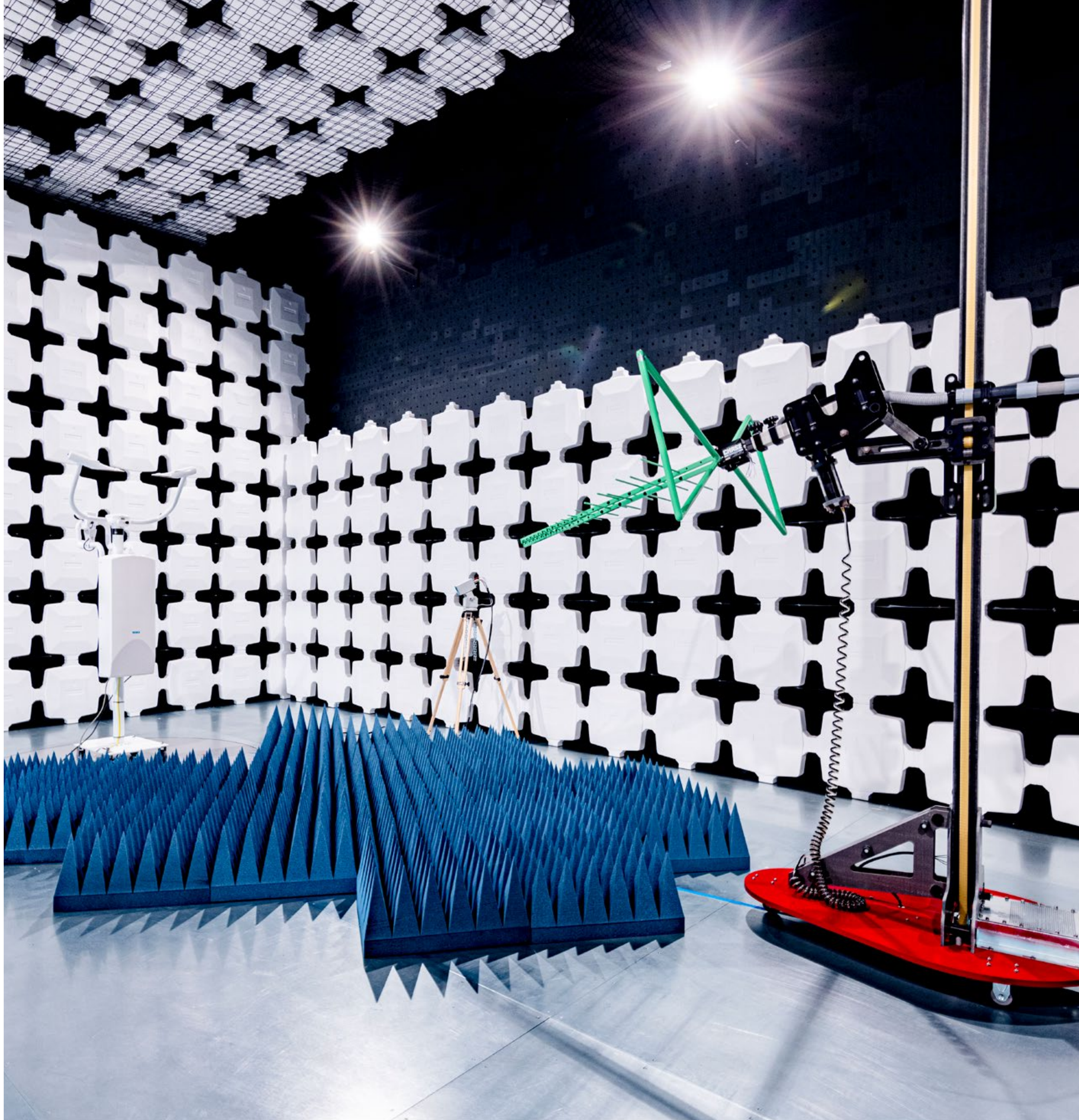
We launched the state-of-the-art Vaisala Cirrus Sounding System MW51 that delivers industry-first capabilities. It conducts simultaneous upper air observations, provides unprecedented visibility into rapidly changing weather conditions, and thus enhances forecasting accuracy.

Read more
vaisala.com/annualreport

Our Automatic Weather Station AWS810 set a new standard for modern and efficient surface weather networks and empowers communities to keep citizens secure. It offers continuous, traceable climatological data for a variety of purposes.

Read more
vaisala.com/annualreport

Our business



Our innovations have an impact at the intersection of megatrends

Global megatrends are transformational shifts that provide both a source of innovation and opportunities for growth for Vaisala. We constantly assess markets and technologies to find new ways to respond to these megatrends. Together with our customers, we create solutions to the pressing societal, environmental, and industrial needs and challenges posed by these megatrends.

CLIMATE CHANGE

Climate change increases the frequency and magnitude of extreme weather events, driving chains of societal, environmental, and economic effects. We help customers to build capabilities to foresee, mitigate, and adapt to changing conditions as well as to increase understanding of the environmental impact of their business and operations. We help societies and institutions to observe climate change and become more resilient with first-rate environmental observations, forecasting, and early warning systems. We support the scientific community to increase knowledge about climate change.

Our measurement instruments offer industrial customers better visibility into their processes. Precise and reliable measurement data enables them to make choices that enhance production process efficiency as well as decrease emissions and thus also the carbon footprint of processes and end-products.

RENEWABLE ENERGY

Various forms of clean and renewable energy are becoming increasingly competitive and common, and they help to mitigate climate change. Our measurement technologies help to make wind and solar power plants even more efficient. Accurate measurements enable our customers to select the optimal site for their wind parks, for example, as well as monitor, predict, and plan operations. Weather observations and modeling can also be utilized to optimize hydroelectric power plants.

Biogas provides significant opportunities for industrial needs and transportation. Our measurement instruments for biogas quality optimization and biomethane production help to generate more value from waste by making the production process more efficient as well as decreasing costs and emissions. Our products enable also the optimal production conditions for fuel cells in the hydrogen economy.

RESOURCE EFFICIENCY

Our measurement instruments make production more efficient, improve productivity, as well as help to decrease the loss of materials and save both energy and natural resources. Our durable and long-lasting instruments enable industrial customers to optimize their processes, resource efficiency, and end-product quality.

With our road weather solutions, transportation customers plan and allocate maintenance resources, such as fleet management, maintenance activities and de-icing during winter months, as well as assess the need for repairs in infrastructure across the network in real time.

WELL-BEING AND HEALTH

By monitoring and predicting environmental indoor and outdoor conditions, people's health and well-being can be assessed and secured. Accurate and reliable monitoring of prevailing conditions is particularly important, for example, in laboratories and hospitals as well as in the cold storages and incubators in these buildings. Our solutions are used to monitor the development and manufacturing conditions in the strictly regulated pharmaceutical industry and supply chains as well as in the bio-decontamination process of spaces and equipment.

Outdoors, our ambient air quality systems monitor urban environments and provide data for better decision-making aiming at improving health and increasing the quality of life of citizens.

SMART ENERGY DISTRIBUTION AND CONSUMPTION

Global energy demand is increasing, and to cope with future needs, generation and consumption of energy need to become more efficient and responsive. Our measurement technologies help to optimize many industrial processes, increasing energy and operational efficiency in a multitude of energy-intensive industries. The energy efficiency of buildings is also enhanced with accurate measurements on indoor air, as ventilation is adjusted based on demand.

In power generation, we support smart electricity grids with lightning detection networks and online condition monitoring of power transformers. With our devices and precise weather forecasts, energy demand can also be anticipated, enabling further responsiveness of energy production.

GREEN AND SMART CITIES

As population, traffic, and economic activities concentrate increasingly in nearby urban areas, weather exposure and dependency of cities also increase. We provide reliable instruments, systems, and digital solutions to measure and model air quality, road and traffic conditions, as well as microclimates critical to specific economic activities. We help to make cities smarter and to overcome new demands and challenges arising from urbanization and changing weather as well as make informed decisions on sustainability, economic growth, safety, and well-being.

We offer diverse and advanced measurement technologies for buildings, industrial environments, and automatized industrial processes. Such environments include, for example, smart buildings, subway networks, industrial hubs, and large manufacturing facilities. In addition, we support construction in cities: our wireless solution monitors the structural moisture of concrete and saves the data safely in a cloud service, provided by Vaisala.

FUTURE OF MOBILITY

Automation, digitalization, and innovative energy sources change traffic patterns and users' behaviors, enabling new modes of transportation, passenger commuting, and delivery of goods. We provide solutions that combine measurement technologies, computer vision, weather forecasts, and open data, delivering insights to operators and users of road infrastructure and vehicles. Based on that data, they can make decisions founded on facts and ensure the safety and efficiency of road, rail, sea, and air transport. Furthermore, we provide cars' navigational and infotainment systems with accurate weather and environmental data that will be essential also for the reliable operation of autonomous vehicles and drones in the future.

In addition, our solutions enable the use of high-quality fuel cells, lithium batteries, and biogas as the energy source of vehicles by helping to ensure the quality and sustainability of their production.

DIGITALIZATION

Digitalization transforms ways of working and operating as well as enables the delivery of products and services in new, more efficient, ways. For instance, air quality and weather sensors can be connected seamlessly to the needs of smart cities, new data sources, and IoT technologies. Our computer vision applications optimize road maintenance and provide data for vehicles. By fusing artificial intelligence, machine learning, and different data sources, we help customers to optimize their operations based on weather and environmental conditions.

In the industrial business, we offer interfaces for our customers' systems, enabling reliable data transfer between systems and smooth process control. In the strictly regulated pharmaceutical industry, digital records and reporting provide improvements for our customers' operations and regulated reporting.

Strategy: an eye into the invisible

We updated our strategy in 2021 to better reflect the core of our business, vision, and the most significant megatrends for us. Our measurement technology provides our customers with an eye into their operating environment and processes as well as helps them to make business-critical decisions.

Our business is situated at the intersection of various global megatrends, which gives us an excellent position in the market, drives our strategy work, as well as offers opportunities for growth and innovation. Our leading technology has a positive impact on our planet's challenges.

Our strategy is based on our science-based technology leadership, deep customer understanding and application know-how, scalable business, as well as engaged and talented people. We provide our customers with data that is relevant for their operations, seek sustainable growth actively by helping them to solve business-critical challenges, and aim to a market leader position in selected markets.

Customer understanding and application expertise

Our measurement solutions are based on a deep understanding of our customers' needs in versatile applications from meteorology and renewable energy to industrial processes and life science. We continuously collaborate with our customers and partners to serve their measurement requirements better. The core of our business consists of our flagship businesses where we have a strong foothold. Moreover, we focus a lot on our growth markets that include both digital services and new technologies. This way, we are able to meet the needs of the world and our customers also in the future.

Read more about our customer understanding in chapters Value for customers on page 28 and Value for society and the environment on page 32.

Product and technology leadership

Product and technology leadership is at the heart of our success. We make significant investments into R&D that provides opportunities for innovation throughout our business. Our high-quality and reliable technologies range from sensors to digital solutions, which allows us to provide comprehensive service to our customers. Digital solutions also enable business models based on recurring revenues.

Read more about our digital solutions in the Megatrends chapter under Digitalization on page 12. More information on our products and technologies can be found in chapters Industrial Measurements business area and Weather and Environment business area on pages 16 and 18.

Scalable business model

Our offering includes hundreds of product families and thousands of products, and we serve customers through our various sales channels in over 150 countries. Different applications require different products and solutions, which is why our products are almost always made to order. All this requires operational excellence, supported by our ways of working, that have been developed accordingly, and our scalable product platforms. By streamlining, we can make our operation more agile and flexible as well as achieve sustainable and profitable growth.

Read more about how we manage high mix and low volumes in the chapter Operations on page 20.

Engaged and talented employees

Our motivated and talented personnel is one of the key factors behind our success. Our purpose and sustainability motivate our employees, and we make sure that they feel well in their work and provide them with development opportunities. In our annual employee survey, we monitor how our employees are feeling in their work. In 2021, the survey was expanded with questions regarding diversity and inclusion to develop equality at the workplace. Additionally, we founded a work group to find new ways of working and ensure that our employees stay motivated also in the years to come.

Read more about our employees and personnel matters in chapters Value for employees on page 30 and Personnel on page 49.

MEGATRENDS

- Climate change
- Renewable energy
- Resource efficiency
- Well-being and health

Observations for a better world

VAISALA

We provide the world's most reliable measurements **where it truly matters.**

We actively seek sustainable growth by solving business-critical challenges, aiming to be #1 in selected markets.

SUCCESS DRIVERS

- Product and technology leadership from sensors to digital solutions
- Deep customer understanding and application knowhow
- Scalability in high-mix, low-volume businesses
- Engaged and talented people

Business model at the core of leading technologies

Partners

- Key customers
- Meteorological institutes
- Distributors
- R&D partners
- Universities and research organizations
- Manufacturing partners
- Suppliers and subcontractors

Activities

- Research and development
- Sales and marketing
- Sensor production
- Manufacturing

Delivery models

- Product shipments
- Projects, including installations, testing, and training
- Services, i.a. calibration, maintenance, and digital solutions (DaaS/SaaS)

Products and technologies

- Large and leading product portfolio based on proprietary technologies and application expertise
- Measurement sensors and instruments, systems, software, digital solutions, and services for measuring weather, environment, and industrial conditions and processes
- Thin-film sensors, optical weather and process sensors, and radio frequency technologies
- 300 product families*

* Our 300 product families include approximately 9,000 products.

Cost structure

- R&D investment 13% of net sales
- Personnel costs MEUR 174.3
- Material costs MEUR 126.6
- Asset-light business model
- Capital expenditure MEUR 19.2

VAISALA

Value propositions

Reliable, high-quality measurements and observations for decision-making, safety, and efficiency

Global technology and market leader in weather, environmental, and high-end industrial measurements

Excellence in high-mix, low-volume businesses

Solid dividend payer

Resources

- Product and technology leadership
- Application knowhow
- Engaged and talented employees
- Vaisala Production System
- In-house cleanroom
- Strong financial position

Sales channel

Direct global sales

- Sales personnel in **approx. 20** countries
- E-commerce

Distribution network

- Distributors and agents in over **100** countries
- Retailers

Customers in over **150** countries

Revenue streams

Net sales MEUR 437.9

Products 73%
Projects 15%
Services 12%

Americas 34%
APAC 33%
EMEA 33%

EBIT MEUR 50.1

Customer segments

Wide customer base covering public and private sector customers

INDUSTRIAL MEASUREMENTS BUSINESS AREA

High-end humidity
High-end carbon dioxide
Continuous monitoring systems
Liquid measurements
Power

WEATHER AND ENVIRONMENT BUSINESS AREA

Meteorology
Aviation
Ground transportation
Renewable energy

Industrial Measurements business area: lower carbon footprint by optimizing processes

Industrial Measurements business area serves customers in selected industrial applications. The business area's measurement instruments and solutions provide customers with reliable and accurate data that helps them to optimize their processes.

The business area has a strong position in high-end humidity and carbon dioxide measurement markets. Additionally, its key growth markets are continuous monitoring systems, liquid measurements, and power.

Industrial measurements business is growing strongly, which is based on continuous investments into research and development, such as expanding the product portfolio to cloud-based measurement solutions. Moreover, focus is put on strengthening customer experience and service business.

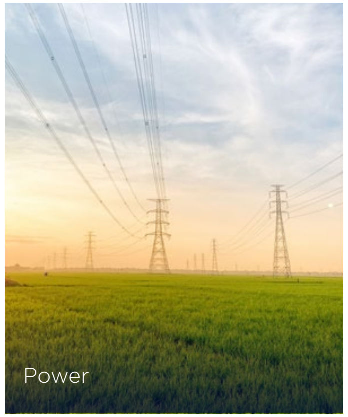
Product categories

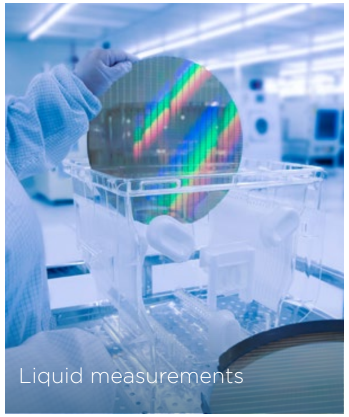
- **Industrial instruments:** The product area serves multiple industries and applications. Key products are instruments optimized for measuring high-end humidity and carbon dioxide as well as hydrogen peroxide vapor.
- **Continuous monitoring systems:** The most important applications are strictly regulated manufacturing and production environments in different industries, such as laboratories, cleanrooms, and warehouses. The product category includes measurement instruments for temperature, humidity, carbon dioxide, differential pressure, and other critical parameters.
- **Liquid measurements:** The core industries are, for example, the semiconductor industry, pulp and paper, as well as food and pharmaceutical industries. The process refractometers, developed for industrial processes, measure the dissolved solids in liquids.
- **Power and biogas:** The product area serves the development of the energy sector by offering measurement solutions for the power and biogas industries. The most important instruments are the multigas DGA monitors, developed for continuous monitoring of high voltage power transformers, and products for biogas process and refinement optimization.

Main markets


High-end humidity


High-end carbon dioxide


Power


Liquid measurements


Continuous monitoring systems

We help customers to improve

- product quality
- productivity
- energy efficiency
- maintenance activities
- regulatory compliance

We partner with

- end-users
- original equipment manufacturers
- integrators
- distribution network
- research and development partners
- manufacturing partners and suppliers

Our competitive advantages are

- science- and research-based technology leadership combined with strong application expertise
- best customer experience
- fast delivery times
- global sales and services network

Global market sizes and growth

Flagship markets

MEUR 800–1,000, CAGR 6% p.a.

- High-end humidity
- High-end carbon dioxide

Growth markets

MEUR 500–600, CAGR 5–10% p.a.

- Life science
- Power
- Liquid measurements

"2021 was excellent for Industrial Measurements business area. The demand for products and measurement solutions, optimized for industrial needs, continued strong and the order book remained on the highest level of all time. Growth was especially strong in measurement instruments, life science, and the power industry.

In addition to strengthening our product development and sales channels, we will also focus especially on developing our customer experience going forward.

Sampsa Lahtinen
EVP, Industrial Measurements business area

Weather and Environment business area: focus on climate change and safety

The customers of Weather and Environment business area focus on people's safety, protection of property, sustainability, and efficient processes, utilizing reliable measurements and decision support systems in all weather conditions. The customers include, among others, meteorological institutes, airports, road operators, and energy companies.

Weather and Environment business area strives for profitable growth by expanding its product and decision support systems portfolio. The main markets are meteorology, aviation, ground transportation, and renewable energy. The business area seeks growth especially in software and data services, large meteorological infrastructure projects, new customers segments, as well as environmental measurements.

Product categories

- Radiosondes and sounding systems
- Pressure, temperature, and humidity sensors as well as wind sensors
- Visibility and present weather sensors
- Ceilometers
- Remote wind sensing instruments
- Lightning sensors
- Weather stations
- Weather radars
- Air quality sensors
- Road state sensors

Decision support systems and data for

- Transportation
- Lightning observations
- Renewable energy
- B2B weather services
- Smart cities

Growth through expansion

- Strengthening our position in weather observation products
- Large meteorological infrastructure development projects
- Decision support systems and data
- New business in environmental measurement markets

Main markets


Meteorology


Aviation


Ground transportation


Renewable energy

We help our customers to

- prepare for increasing extreme weather events
- ensure the functionality of critical transportation infrastructure
- enhance the production of growing renewable energy
- optimize weather-dependent commercial operations
- make well-informed decisions

We partner with

- customers
- meteorological institutes
- governmental organizations
- universities
- research organizations

Our competitive advantages are

- technology leadership based on science and application knowhow
- comprehensive solutions from sensors to analytics
- reliable value creation throughout the product life cycle

Global market sizes and growth

Flagship markets MEUR 750–850, CAGR 0–5% p.a.	Growth and emerging markets MEUR 500–600, CAGR 5–10% p.a.
Meteorology	Renewable energy
Aviation	Weather & air quality in cities and industries
Road winter maintenance	Road asset management & Automotive

"Weather and Environment business area's year 2021 was strong – both sales and orders increased significantly. Business was especially strong in the renewable energy segment, and there was a notable order increase also in the meteorology segment. The core of our business is built upon maintaining global leadership in meteorology and aviation, expanding into customer segments that drive growth, and creating new business models through weather and environmental data and software.

Jarkko Sairanen
EVP, Weather and Environment business area

Operations: delivery capability also in a challenging operating environment

Operations manufactures products for both business areas and delivers operational excellence in high-mix, low-volume business. The command of a large product portfolio without compromising quality has always been Vaisala's core strength. The basis lies in Vaisala Production System.

The threefold Production System incorporates a Lean management system, systematic improvement, as well as standardized ways of working and production technologies. In addition, Operations' strategy is guided by strategic choices: in-house manufacturing of key technologies and partnership-based sourcing.

Operations focus areas in 2021

In 2021, Operations focused on minimizing the risks of disruption in production due to the COVID-19 pandemic as well as ensuring component availability. We also prepared for growth by expanding our production facilities and equipment capacity. Additionally, customer focus is a large theme in the whole company, and Operations also focused on continuous improvement of delivering quality to customers.

The strategic development areas in 2021 were

- supply chain quality improvement
- improving the product development process together with research and development
- Intelligent Factory project for identifying and adopting new technologies

Operations in numbers 2021

4 factories

300 product families

Over **500** production equipment

Over **61,400** different components

Over **450** suppliers

Over **1,100** engineering changes in products

More than **1,000** shipments weekly

To customers in over **150** countries annually

Product life cycles of even over **20** years

"The year was exceptionally challenging in relation to ensuring our delivery capability. The COVID-19 pandemic posed a risk for disruptions in production. Additionally, component availability decreased on a global level and demand increased even more than anticipated, the combination of which formed a complex operating environment. However, we responded to the prevailing world situation excellently, and the supply chain challenges did not affect Vaisala's delivery capability. This is significantly thanks to our talented and engaged employees.

Vesa Pylvänäinen
EVP, Operations

Creating value

UN Sustainable Development Goals accelerate business

In 2021, we continued developing our business and practices in line with the UN Sustainable Development Goals that are the most relevant for Vaisala. Solutions that benefit society and the environment have always been at the core of our business. Integrating the goals to our strategy work helps us to better assess our impacts on sustainable development and get inspiration for developing new business and sustainable practices.

Sustainable solutions

Industrial Measurements business area

UN sustainable development goal (SDG)	The most relevant UN SDG targets for Vaisala	Vaisala's solutions	Read more
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	**9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes.	Improving resource efficiency with industrial measurement solutions	Highlights 2021 Megatrends: Climate change, Resource efficiency, Green and smart cities Value for customers: Reliable decisions Value for society and the environment: Resource efficiency
7 AFFORDABLE AND CLEAN ENERGY	**7.2** By 2030, increase the share of renewable energy in the global energy mix substantially. **7.3** By 2030, double the global rate of improvement in energy efficiency.	Improving energy efficiency in industrial processes Improving energy efficiency in buildings by demand-controlled ventilation Optimizing biogas production and upgrading process	Highlights 2021 Megatrends: Renewable energy, Smart energy distribution and consumption, Green and smart cities, Future of Mobility, Digitalization Value for customers: Productivity Value for society and the environment: Resource efficiency
3 GOOD HEALTH AND WELL-BEING	**3.8** Achieve universal health coverage, including financial risk protection, access to quality essential health-care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all.	Monitoring of conditions in medicine manufacturing, storing, and supply chains Monitoring of conditions in hospitals and laboratories	Highlights 2021 Megatrends: Well-being and health, Digitalization Value for customers Value for society and the environment: Better-informed societies

Weather and Environment business area

UN sustainable development goal (SDG)	The most relevant UN SDG targets for Vaisala	Vaisala's solutions	Read more
13 CLIMATE ACTION	**13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. **13.3** Improve education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning.	Reliable weather measurements and observations of climate change Meteorological infra-structure development projects Measuring hurricanes with dropsondes	Highlights 2021 Megatrends: Climate change Value for customers: Quality, Productivity Value for society and the environment
7 AFFORDABLE AND CLEAN ENERGY	**7.2** By 2030, increase the share of renewable energy in the global energy mix substantially. **7.3** By 2030, double the global rate of improvement in energy efficiency.	Optimizing wind and solar power production	Megatrends: Renewable energy Value for customers: Reliable decisions
11 SUSTAINABLE CITIES AND COMMUNITIES	**11.2** By 2030, provide access to safe, affordable, accessible, and sustainable transport systems for all. **11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality.	Improving the safety of transport systems Air quality measurement networks	Highlights 2021 Megatrends: Resource efficiency, Well-being and health, Green and smart cities, Future of mobility, Digitalization Value for society and the environment

Sustainable business practices

UN sustainable development goal (SDG)	The most relevant UN SDG targets for Vaisala	Vaisala's business practices	Indicators	Read more
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**12.2** By 2030, achieve the sustainable management and efficient use of natural resources. **12.4** Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water, and soil in order to minimize their adverse impacts on human health and the environment. **12.5** By 2030, reduce waste generation substantially through prevention, reduction, recycling, and reuse.	Design for environment and long product life cycles Enabling the safe use and end-of-life processing of products Increasing the recycling rate	% of employees working on ISO 14001 certified sites Recycling rate	Environment: Environmental management, Waste, Sustainable product design and management
7 AFFORDABLE AND CLEAN ENERGY	**7.2** By 2030, increase the share of renewable energy in the global energy mix substantially. **7.3** By 2030, double the global rate of improvement in energy efficiency.	Using renewable electricity Improving energy efficiency in our facilities	% of renewable electricity Energy use and energy intensity Scope 2 emissions	Environment: Energy, Emissions
13 CLIMATE ACTION	**13.3** Improve education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning.	Decreasing indirect emissions for example from commuting Raising awareness of climate change and encouraging personnel's climate friendly choices	Scope 3 emissions	Value for employees Environment: Environmental management, Energy, Emissions

UN sustainable development goal (SDG)	The most relevant UN SDG targets for Vaisala	Vaisala's business practices	Indicators	Read more
8 DECENT WORK AND ECONOMIC GROWTH	**8.1** Sustain per capita economic growth in accordance with national circumstances. **8.7** Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking, and by 2025 end child labor in all its forms. **8.8** Protect labor rights and promote safe and secure working environments for all workers.	Positive economic impact on communities through employment and taxes, both directly and through supply chain Upholding labor standards and occupational health and safety as well as managing human rights risks in our own operations and partner network	Economic value generated and distributed % of suppliers rated with ESG metrics and suppliers that have signed the Supplier Code of Conduct Total Recordable Injuries rate (TRI), Proactive reports	Value for society and the environment: Economic value Ethics and compliance: Respect for human rights, Conflict minerals Responsible supply chains Occupational health and safety
10 REDUCED INEQUALITIES	**10.3** Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies, and practices and promoting appropriate legislation, policies, and action in this regard.	Promoting diversity and providing equal opportunities, for example, in recruitment and development opportunities	Gender distribution (All/Supervisor/ Management/ Board) Equality in remuneration Diversity and equity index	Value for employees: Well-being Personnel: Diversity, equity, and inclusion
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	**16.5** Reduce corruption and bribery in all their forms substantially.	Ensuring compliance with our International Anti-Corruption Policy	% of employees completed the Code of Conduct training	Ethics and compliance: Prevention of corruption and bribery

EU sustainable finance taxonomy

The EU Taxonomy Regulation requires companies falling within the scope of the Non-Financial Reporting Directive to report certain indicators on the extent to which their activities are sustainable as defined by the EU Taxonomy Regulation. There are six key objectives in the EU Taxonomy Regulation, out of which the first two are climate change mitigation and climate change adaptation.

Most of Vaisala's activities fall under the NACE code C26.51 (Manufacture of instruments and appliances for measuring, testing and navigation), which is not yet covered by the climate change taxonomy. Vaisala views, however, that the Weather and Environment business area's products and services have a significant contribution to climate change adaptation, and hence, a great share of Vaisala's net sales should be included in the next version of the screening criteria.

Climate Change Taxonomy eligible activities

According to Vaisala's analysis of the current version of the EU Climate Change Taxonomy, 13.2% of Vaisala's net sales comes from taxonomy eligible activities, while 86.8% of Vaisala's net sales come from activities that are not yet covered by the taxonomy. Taxonomy eligible OPEX was 9.8%. Vaisala does not have any CAPEX associated with taxonomy-aligned activities.

Read more
vaisala.com/annualreport

Activity included in the taxonomy	Vaisala's taxonomy eligible activity	Taxonomy eligible net sales	Taxonomy eligible OPEX*
3.1 Manufacture of renewable energy technologies	Manufacture of remote wind sensing solutions for the wind energy sector: Vaisala manufactures remote wind sensing solutions that enable wind power operators to select the optimal site for their wind parks, as well as monitor, predict, and plan operations, hence increasing the performance of their wind parks. Manufacture of measurement instruments for the biogas process: Vaisala manufactures multigas measurement instruments that help biogas and biomethane producers minimize methane slip and gives them the ability to control their process and increase their biogas yield and quality.	7.4%	7.6%
3.5 Manufacture of energy efficiency equipment for buildings	Manufacture of HVAC instruments for humidity, CO_2, and temperature measurements, which are typically incorporated into building automation and control systems that help to increase energy efficiency in buildings.	5.8%	2.3%

* OPEX represents the proportion of the research and development, sales and marketing, as well as product management expenses associated with taxonomy eligible activities.

Value creation model: we create value for different stakeholders

We create value in continuous interaction with our stakeholders. Our business leaves a positive handprint on society especially through our customers.

With our solutions, customers can make reliable decisions and improve their productivity and processes in the areas of weather and environment as well as industrial measurements. This way we can have an impact at the intersection of multiple megatrends and contribute to the UN Sustainable Development Goals by increasing awareness, resource efficiency, and safety in societies.

Dashboard: key figures of our value creation

Our fundamentals	Topic	Performance 2021	Target
Product and technology leadership Application knowhow	R&D investments, % of net sales	13% (14%)	Over 10% of net sales
Engaged and talented people	Employee engagement index	4.14/5 (4.23/5)	> 4.00/5
	Learning index	3.79/5 (3.88/5)	> 4.00/5
Vaisala Production System Partnerships	On-time delivery accuracy (OTD)	91.9% (94.6%)	95%
Strong financial position	Net sales growth year-on-year	15% (-6%)	7% growth year-on-year
	EBIT % of net sales	11.5% (11.8%)	15%
	Return on equity (ROE)	18.1% (16.3%)	
	Earnings per share (EPS), euros	1.08 (0.91)	
Sustainability	Greenhouse gas emissions (Scope 1–3) in relation to net sales	30.0 tonnes CO_2e/ MEUR (33.9 tonnes CO_2e/MEUR)	Continuous reduction
	Waste recycling rate	55% (59%)	60% by 2022
	Total recordable injuries rate (TRI)	2.2 injuries per million working hours (2.0)	Continuous reduction
	Suppliers scored for ESG metrics, % of spend	90% (83%)	85% by 2022

Towards the future together with stakeholders

Our stakeholders influence the future of our business, and we work in an open and continuous interaction with them.

In 2021, meetings and communication with employees and other stakeholder groups were largely organized in digital communication, sales, and marketing channels due to the COVID-19 pandemic. For instance, the Annual General Meeting as well as other investor and analyst meetings were held mostly virtually.

Customer focus is one of our core values, and during the year, we took actions to further develop and enhance our overall customer experience. This development work was started in 2020 and continues with active programs.

We identify and evaluate our stakeholders as part of our sustainability management and preparatory work for strategy updates. The stakeholder analysis and materiality assessments are typically updated annually. The process can be an internally conducted update, or it can involve surveying or interviewing key stakeholders.

We determine the impact of various stakeholders on the company and analyze how our actions in turn affect them. We maintain a constant dialogue with our most important stakeholders and actively seek partnerships and joint opportunities with customers, suppliers, academia, research institutes, and other parties.

	Description	Main activities
Customers	Thousands of private and public sector customers in more than 150 countries Distributors in more than 100 countries	• Continuous customer relationship development and management, e.g. in online channels, meetings, events, and exhibitions • Ongoing online surveys on customer training and field services operations as well as on technical support and services • Developing and enhancing customer experience further
Employees	Over 1,900 professionals globally	• Learning and career development opportunities • Developing employee satisfaction and well-being • Active internal communication • Diverse remuneration models
Society and the environment	Universities and research collaborators, meteorological institutes, manufacturing partners and suppliers, governments and regulators, local communities, the media, and the public	• Partnerships and collaboration with academic and scientific institutions • Scholarships and donations • Close cooperation with our global supply chain • Sharing expertise with external organizations and decision-makers • Raising awareness of environmental issues among experts and the public • Continuous improvement of media relations, press releases, and activity in social media
Owners and investors	Major shareholders include descendants of the founder Professor Vilho Väisälä, Novametor Oy, Finnish pension funds and other financial institutions, the Finnish Academy of Science and Letters, and private households. Ownership outside Finland and nominee registrations amounted to 20.2% of shares on December 31, 2021.	• Quarterly result presentations and Q&A for investors, analysts, and the media • Annual General Meeting • Stock exchange releases • Roadshows, investor and analyst meetings and conference calls

Creating value for customers

Vaisala's technologies and solutions help safeguard life and property, while enabling critical decision-making that facilitates productive, efficient, and high-quality operations. By measuring the environment or a process accurately, our customers can make more reliable decisions and ensure safer and more sustainable operations in any application area.

Reliable decisions

We enable our customers to make fact-based decisions with accurate environmental observations. For example, investments in wind energy production are based on reliable data on wind conditions and wind field performance. Our remote wind sensing solutions as well as our data services help customers to make profitable investments and decisions. With our solutions, they are able to select the best possible location for efficient wind energy production, monitor profitability, as well as increase the performance of their wind park.

With Vaisala's measurement instruments and solutions, industrial customers can optimize their processes. For example, in primary food production, such as greenhouses, humidity and carbon dioxide measurements help to adjust ideal growth conditions. This way, end-product quality and optimal use of energy are ensured.

Productivity

Vaisala's solutions improve the cost efficiency of our customers' operations as well as increase productivity. Vaisala's innovative MGP261 multigas instrument for the optimization of biogas quality enables biogas plants to generate more value from waste by providing humidity, methane, and carbon dioxide data directly from the production process. The MGP262 instrument, in the same series, monitors the off-gas in the biogas upgrading process. In 2021, MGP261 was recognized in the global Quality Innovation Award competition.

Vaisala's automatic sounding systems enable flexible remote soundings, reducing costs. The systems make it possible to carry out automatic soundings for one month at a time, relieving resources for critical weather forecasts. Thanks to these sounding systems, national weather services can extend the coverage of their upper-air networks to geographically hard-to-reach locations.

Quality

High-quality products and services have always been at the core of Vaisala, but it is equally important to us that our customers can ensure the quality of their own end-products and operations with the help of our technologies and expertise. For example, Vaisala's weather observing systems provide reliable and comparable observations that likewise support reliable weather forecasts and climate projects.

Accurate monitoring of industrial processes helps to guarantee high-quality products. For instance, in food, pulp, and pharmaceutical industries, liquid concentrations need to be measured in every batch to ensure even quality and compliance. The process refractometers, developed for industrial liquid measurements, provide our customers with continuous and accurate digital data on the liquid concentration and thus indicate end-product quality.

Read more examples of how Vaisala creates value for customers at vaisala.com/annualreport.

CASE

Vaisala helps to deliver vaccines in optimal conditions

Vaisala helps the world's largest pharmaceutical companies to ship COVID-19 vaccines and other medicines that require low temperatures. Vaisala's probes monitor the optimal conditions of the thermal shipping containers used in transport.

Read more
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CASE

Fingrid ensures electricity in Finland with Vaisala's Optimus™ DGA Monitor OPT100

Transformers are the basis of all electricity transmission and distribution, which is why their condition and operation is essential for our customers and societies. OPT100 dissolved gas analyzers play a key role in monitoring the condition of Fingrid's transformers. OPT100 provides real-time information on the concentration of fault-generated gases in transformers, helping to detect possible faults early on.

Read more
vaisala.com/annualreport

Creating value for employees

Vaisala offers versatile opportunities for talented and motivated professionals who value work with a purpose and learning opportunities. We support the well-being of our employees and want to make sure they have the chance to develop at work.

Purposeful work

Vaisala's products and solutions have a true positive influence on the environment, societies, businesses, and individuals, and our employees are motivated by the opportunity to solve some of the challenges of our time. Sustainable and ethical behavior is an integral part of the values of both Vaisala and our employees. We invest significantly in research and development, which guarantees that we can continue to respond to global issues also in the future as well as grow our business sustainably. This increases the meaningfulness of working at Vaisala.

Our annual employee survey was conducted in November 2021. The survey shows that Vaisala's employees were engaged and proud of their work even during changes and remote work. The Engagement Index in the survey remained on a good level and was 4.14 on a scale of 1–5. The survey had a response rate of 83%, with answers from 1,559 employees.

We focus on good and motivating leadership, and we support managers and experts systematically in developing their leadership skills by organizing different training programs and courses. In 2021, we focused especially on training managers on change management and coaching skills. Also the Leadership Index remained on a good level and was 4.16 on a scale of 1–5. The key strengths of Vaisala managers are

fairness and objectivity, ability to listen, as well as positive attitude towards initiatives.

To ensure work with a purpose also in the future, we founded a project team focusing on the future of work. In 2021, this Future of Work project planned the transition to hybrid work after the pandemic. To support the work, we conducted qualitative interviews as well as sent a survey to the whole personnel. The survey and interviews revealed that the majority of employees want to continue in a hybrid model, switching between remote and office work. Trust, flexibility, and meeting colleagues are important for all employees. Based on these results, experiences, and discussions, developing work and culture continues also in 2022.

Well-being

At Vaisala, well-being at work is regarded as a whole, including the work community, leadership, the company, and the individuals themselves. Thus, well-being consists of good leadership, motivating work community, balanced workload, meaningful work, as well as a safe working environment. As preventive measures, Vaisala supports well-being and energy at work by supporting sports and recovery, providing occupational healthcare, and preventing problems early on.

With these preventive measures, we aim to support our professionals in managing their work, ensuring recovery, and maintaining a healthy lifestyle. In Finland, we provide our personnel with sports and recreational clubs, sport and cultural benefit, company bike benefit, trainings on time management and recovery, as well as the opportunity to participate in a well-being analysis on stress and quality of sleep. In 2021, we continued offering virtual break exercises to support ergonomics and well-being both in remote and office work. In the United States, Vaisala FIT program supports the well-being of employees.

Employee well-being is measured regularly in Vaisala employee surveys. The results show that Vaisala employees find their work meaningful and are proud to work for Vaisala. There is some room for development in ensuring that workloads are manageable. In November 2021, Vaisala Well-Being Index score was 3.98 on a scale of 1–5.

In 2021, the survey was expanded with questions regarding diversity, equity, and inclusion in Vaisala. These questions help to analyze whether all have the same career opportunities regardless of gender, age, ethnic background, or other non-professional attributes as well as whether employees feel well in their work community. The Diversity and Equity Index in the survey was on a good level: 4.12 on a scale of 1–5, which shows that Vaisala is an appreciative and professional environment. However, the survey also gives a good indication of our development needs as well as forms a basis for developing our culture further so that all our employees feel valued in Vaisala.

Learning and development

Vaisala's competitive strength stems from our talented, motivated, and engaged personnel. Changes in the business environment, technologies, working methods, and tools require our employees to learn and take in new things continuously. We support and encourage the whole personnel to actively develop and keep up their knowledge and expertise. In 2021, we organized customized trainings on artificial intelligence (AI) for all employees to make sure that everyone in Vaisala understands the opportunities AI offers in their work. Mastering the latest technologies helps us to develop our products and services to meet our customers' needs even better.

Managers play a key role in enabling and supporting learning, and it is the responsibility of all managers to plan development and learning activities together with their teams. Developing expertise and knowledge is always in line with Vaisala's values as well as our business needs and objectives. Defining competence development needs is part of the annual People Forum process.

In November 2021, Vaisala Learning Index, derived from the personnel survey, was 3.79 on a scale of 1–5. Employee training costs amounted to 1.23 MEUR and averaged 623 EUR per employee in 2021.

CASE

Vaisala encourages climate-friendly decisions by offering a company bike benefit

In 2021, Vaisala started to offer a company bike benefit for its employees in Finland, where this tax benefit was launched nationally at the start of the year. Climate matters are at the core of our business and our practices, and with this benefit we can help our employees to make sustainable everyday choices easily and affordably as well as promote their well-being.

Read more
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Creating value for society and the environment

We bring value to society through accurate and reliable environmental measurements as well as decision-making support for national and local authorities and businesses. This way we help societies become better-informed, more resource efficient, and safer. In addition, we create value through significant investments in R&D and collaboration with the scientific community.

Better-informed societies

Vaisala works together with nearly all meteorological institutes in the world, supporting them in gathering accurate weather observations for weather forecasts that are critical for societies. We also collaborate with international funding agencies and weather experts to build capacity for weather observing networks and competence in developing economies. This way we help these societies to be better prepared for extreme weather and its impacts. In 2021, Vaisala's weather infrastructure project in Ethiopia started: the project will help Ethiopia to become more resilient to climate change and promote the nation's sustainable development.

Health services are also one of the foundation pillars of an informed society, and for example hospitals require accurate and reliable monitoring of their various activities. Vaisala's viewLinc Continuous Monitoring System safeguards the critical parameters in, among other spaces, blood and tissue banks, where continuous monitoring ensures that the materials are preserved and remain viable. Our solutions are also widely used to monitor the development, manufacture, and storage of different medicines, such as the vaccines for COVID-19.

Resource efficiency

Vaisala's measurement solutions improve resource efficiency in various industrial production processes. Accurate measurements enable our customers to optimize their production as well as reduce their energy consumption and material loss. With the data from Vaisala's measurement instruments, data centers' conditions can be optimized energy efficiently, for example.

Vaisala's road weather stations and MD30 mobile detectors provide real-time data that, combined with road weather model, heat maps, and information systems, helps to optimize road winter maintenance. Timely decisions on anti-icing, de-icing, and snow ploughing increase safety and resource efficiency as well as reduce the environmental effects of chemicals used in road maintenance.

Safety

Our technologies help our customers maintain safe operating environments in many parts of society. Extreme weather, such as hurricanes, can have devastating consequences for local economies and livelihoods. Vaisala's hurricane-tracking dropsondes can make In Situ measurements inside a hurricane, providing essential information for forecasting its path and intensity. This advance information helps to safeguard both lives and infrastructure.

The essential institutions in society, such as hospitals and industrial manufacturing facilities, need power to guarantee continuous operations. The data from our measurement instruments makes it easy to monitor the high voltage transformers that are critical for power production and distribution. Continuous transformer condition monitoring also supports smart power grids, where electricity consumption is controlled and adjusted as needed. Reliable online monitoring enables preventive maintenance. This, in turn, enables operators to detect faults in time and prevent power outages that would risk the safety and operation of society.

Read more examples of how Vaisala creates value for society and the environment at vaisala.com/annualreport.

CASE

Vaisala helps to mitigate impacts of flooding in Poland

Vaisala helps the Polish Institute of Meteorology and Water Management – National Research Institute to improve meteorological observations and build up local capabilities. As a result, Poland is more resilient to extreme weather and other impacts of climate change.

Read more
vaisala.com/annualreport

CASE

Most people want more data on indoor air quality amidst COVID-19 pandemic

A survey conducted by Vaisala during the summer 2021 showed that during the pandemic people would feel safer with more data on indoor air quality and that concerns with indoor air quality impact their motivation to travel and visit public spaces, especially. Vaisala's reliable measurement instruments and their data perform a key role in decision-making to prevent the spread of diseases and protect people's health.

Read more
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Economic value

Vaisala has a positive impact on local communities through employment and taxes, both directly and through its supply chain. Responsible business practices and use of local suppliers create indirect benefits to local communities.

Vaisala as taxpayer

Vaisala's head office is located in Vantaa, Finland. Vaisala has established subsidiaries and branches in 16 countries. Our group structure is simple, and we have companies only in countries where we do business.

In addition to the tax data published in the financial statement, Vaisala provides here more information on its approach to tax, tax management, and global tax footprint.

Approach to tax

Vaisala's values are the basis of all our activities, both within Vaisala and with our partners and customers. We value integrity: we are honest, respectful, and reliable. We promote sustainable and ethical behavior. We recognize that Vaisala has a liability to pay taxes that are legally due in any country in accordance with the rules set by the relevant authorities. Vaisala also has a responsibility to its shareholders to structure its business in an efficient manner to ensure that strategic business objectives are met without incurring unnecessary tax costs.

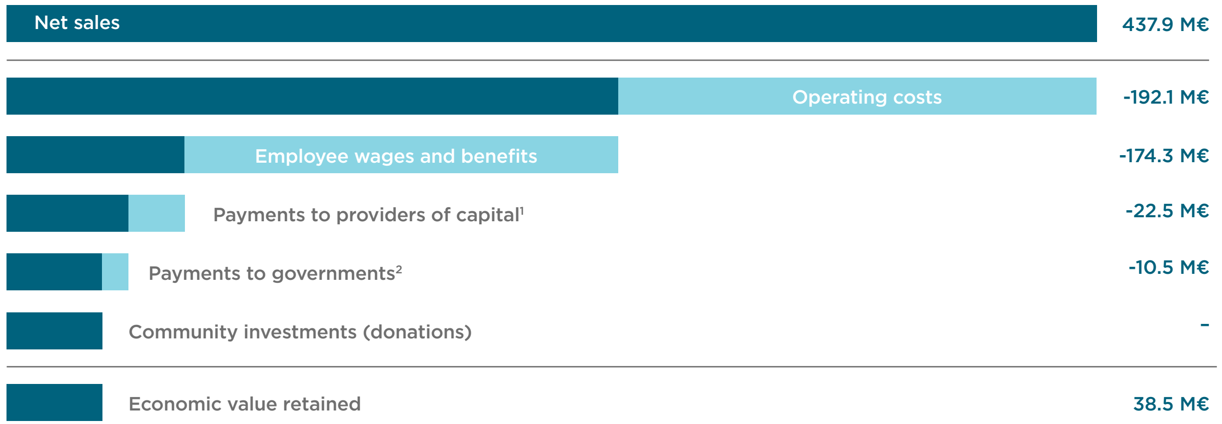
Vaisala is committed to ensuring that it follows local and international tax rules and regulations in all jurisdictions where it conducts its business. We do not operate in tax haven countries for tax reasons. Vaisala does not practice tax planning that would aim at artificially decreasing the Group's taxable income. We pay and report taxes in countries where the reporting obligations are applicable as a result of our activities.

Vaisala´s transfer pricing is aligned with the arm's length principle in accordance with OECD Transfer Pricing Guidelines. The rationale of the chosen transfer pricing methods is properly documented. We comply with OECD transfer pricing guidelines and local legislations in relation to all our intercompany transactions.

Direct economic value generated and distributed in 2021

MEUR	2021	2020	2019	2018	2017
Net sales	437.9	379.5	403.6	348.8	332.6
Operating costs	-192.1	-162.2	-181.9	-166.2	-152.8
Employee wages and benefits	-174.3	-154.1	-157.7	-133.6	-129.9
Payments to providers of capital[1]	-22.5	-22.4	-21.1	-40.2	-17.8
Payments to governments[2]	-10.5	-6.6	-8.4	-8.4	-8.7
Community investments (donations)	-	-0.1	-0.2	-0.1	-0.1
Economic value retained	**38.5**	**34.1**	**34.2**	**0.3**	**23.2**

Direct economic value generated and distributed in 2021



[1] Includes dividends and interest of borrowings
[2] Includes income taxes

Tax management

In Vaisala's centralized Finance & Control function, Chief Financial Officer (CFO) is responsible for the management and strategy of tax matters. A centralized tax team supports the CFO in implementation: the tax team is responsible for implementing and monitoring the tax policies to ensure that all Vaisala's subsidiaries comply with them in a consistent way. Important matters of principle are presented and approved by the Audit Committee in Vaisala's Board of Directors.

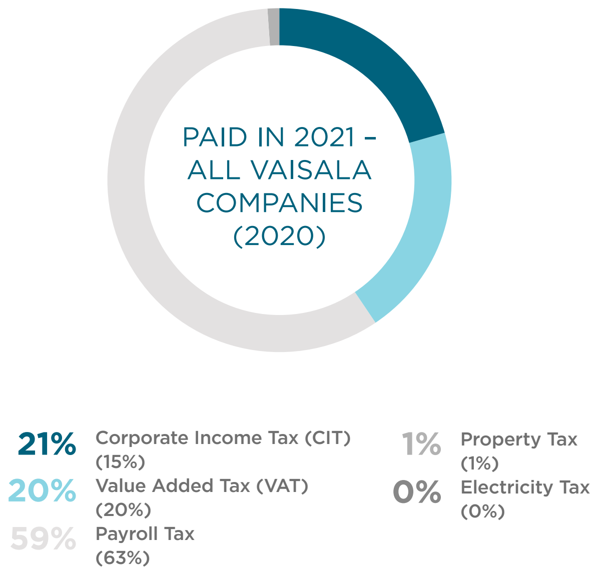
Vaisala Group has outsourced a large part of its foreign recurring tax compliance work to a few professional service providers to ensure competences and resources in complying with the local rules and regulations. Vaisala Finance & Control regularly monitors the transparency, quality, and outputs of these outsourcing engagements.

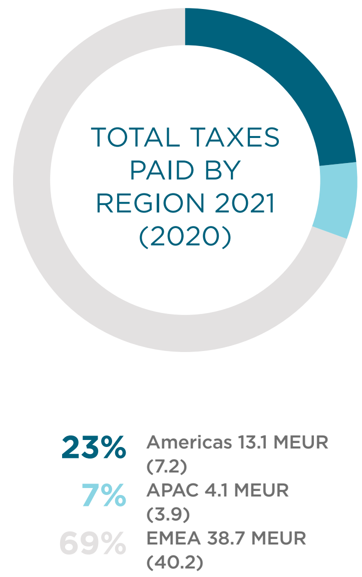
Global tax footprint

To ensure focus on process implementation and comparable data collection, Vaisala decided to start its tax footprint initiative in 2019. Vaisala reports paid corporate income taxes, value added taxes, payroll taxes, excise taxes, and property taxes for the financial year 2021 and comparable figures for 2020. The principle of materiality has been observed in the collection and presentation of figures.

Vaisala benefits from R&D tax credits in the United States, Canada, and France. In addition, Vaisala has prior year tax losses in its subsidiaries located in the United States and France, which reduced their corporate income tax payments in 2021. The tax contribution of the parent company in Finland totaled 30.0 (31.4) MEUR in 2021.

Total taxes paid 2021 – Vaisala Group





Tax	Paid in 2021 (MEUR)	Paid in 2020 (MEUR)
Corporate Income Tax (CIT)	11.5	7.7
Value Added Tax (VAT)	11.3	10.4
Payroll Tax	32.7	32.6
Property Tax	0.3	0.6
Electricity Tax	0.0	0.1
Total	**55.9**	**51.5**

Active community outreach and scientific collaboration

In addition to Vaisala's own research and development work, scientific collaboration strengthens our position as an industry pioneer and an innovative technology leader. Vaisala continues to be a contributor to many organizations, advancing technological development in several fields of study as well as supporting higher education, research, and science education.

Vaisala is a wide-ranging, research- and innovation-focused technology company, and our collaboration partners include several different organizations, research institutions, corporations, meteorological institutes, and universities from around the world and from different fields of technology. Therefore, instead of an exhaustive list of all our cooperation projects, we introduce illustrative and significant examples of our work in the scientific community and society.

Participating in the most significant scientific commissions and organizations in our field

Vaisala's solutions are used to observe and measure aviation weather, and thus Vaisala is active in the International Civil Aviation Organization (ICAO), a specialized agency of the United Nations (UN). The World Meteorological Organization (WMO), likewise an agency of UN, coordinates the study of the state and behavior of the Earth's atmosphere, including weather and climate. Vaisala participates in various expert teams and commissions working under and recognized by WMO. These groups focus on developing weather observations and forecasts globally. Such expert teams include the Commission for Instruments and Methods of Observation (CIMO) as well as the Association of Hydro-Meteorological Equipment Industry© (HMEI) and its Commission for Basic Systems (CBS).

We also participate in various industry standards development work in fields that are important to us, for example as a member of the European Telecommunications Standards Institute (ETSI) as well as in different national committees and groups of the International Electrotechnical Commission (IEC). Vaisala has also participated in the working groups of CIGRE (Conseil International des Grands Réseaux Électriques): the documentation created in these groups forms, for the most part, the basis for IEC's standards.

In Finland, Vaisala operates in close cooperation with various scientific stakeholders, including the Finnish Meteorological Institute (FMI), VTT Technical Research Centre of Finland Ltd., the Helsinki Region Environmental Services Authority HSY, and different universities. Vaisala has representation in the Technology Industries of Finland organization, and we cooperate with Technology Academy Finland TAF as a Millennium Technology Prize partner.

In the United States, our collaboration partners comprise, for example, the National Oceanic and Atmospheric Administration (NOAA) and the National Centre for Atmospheric Research (NCAR). Vaisala is also a strong contributor and corporate sponsor to the American Meteorological Society (AMS) that is a leading scientific organization dedicated to atmospheric, oceanic, and hydrologic sciences. In addition to sponsorships, Vaisala representatives contribute to the AMS through several activities, such as scientific committees, journals, and articles.

Vaisala funds two Professor Dr. Vilho Väisälä Awards

The awards are administered by the World Meteorological Organization (WMO). They are granted to distinguished research in the field of environmental measurement instruments and observation methods as well as meteorological instrument work in developing countries and countries with economies in transition. Both awards carry a cash prize of 10,000 USD, and they are granted in connection with the CIMO TECO conference every other year. The awards from 2020 were announced in 2021, but the award ceremony was postponed to 2022 due to the COVID-19 pandemic. Also the next awards will be granted in 2022.

Regarding software development, Vaisala is a long-term member in the Open Geospatial Consortium (OGC), developing global, open geospatial standards and APIs (Application Program Interface). In the Open Mobile Alliance, we participate in developing open and modern solutions for software device management. We also contribute to the CAR 2 CAR consortium that advances the digital interfaces in vehicles.

Seats in different sustainability and commerce organizations

We are active in the International Chamber of Commerce (ICC) Finland, which promotes international trade and investment worldwide. Vaisala is also a member in FIBS, Finland's leading corporate responsibility network, and in the Climate Leadership Coalition (CLC). The purpose the CLC is to improve the competitiveness of Finnish businesses and research organizations as well as their ability to respond to the threats posed by climate change.

Vaisala is a shareholder and research partner of CLIC Innovation Oy. CLIC is an open innovation cluster with the mission to create breakthrough solutions in bioeconomy, energy, and cleantech by facilitating joint research between industry and academia in Finland.

Enhancing academic research and science education

Academic research around the world is an integral part of the development of Vaisala's science-based innovations. Our experts participate in collaboration with several universities, and our personnel includes Masters' students and doctoral candidates. We equally participate in the EU Research and Innovation program Horizon 2020: the wind lidar business, acquired in 2018, is a part of the Innovative Training Network "Lidar Knowledge Europe (LIKE)". In LIKE, we advance the techniques of remote wind sensing and integrate them into standard tools applied by many industries together with PhD students.

In the United States, we collaborate with the Colorado State University (CSU) in the field of weather radars, among others: in 2020, Vaisala's Board of Directors renewed the annual donation of 25,000 USD to the university for three years. Another example of university collaboration is the Nanjing Air Quality Testbed project, realized together with the University of Nanjing in China. Similar air quality project has been realized in Helsinki with the University of Helsinki. In the projects, dense air quality observation networks and predictive models have been built in the cities, providing data for decision-making.

Vaisala inspires children and youngsters in the field of science also as a long-term partner in Science Centre Heureka's exhibitions Science on a Sphere and Intelligent City in Finland. Overall, we support natural sciences and science education in different projects annually.

Support for important climate and environment projects

In 2021, Vaisala partnered with the European Green Capital 2021 Lahti in Finland. In the project, Vaisala worked with the city of Lahti to find cost-efficient, accurate, and real-time air quality monitoring solutions for the needs of small and midsize cities.

Vaisala provides charitable donations with products, funding, or services to non-profit organizations as part of its community outreach activities. Our overall objective is to support organizations and projects that advance environmental awareness and science education. All our outreach activities are in line with our values and resonate well with topical issues close to our business, such as climate, weather, environmental and industrial measurements, and environmental sciences. Vaisala does not donate funds to political parties, causes, or campaigns.

Another focus are non-profit organizations working for environmental disaster prevention and recovery. Furthermore, impartial humanitarian organizations that provide protection and assistance to people affected by disasters are within the scope of possible donations.

In 2021, Vaisala's personnel in Finland participated in the Kilometer Competition by the Chain Reaction Campaign. In the competition, Vaisala employees kept track of all the kilometers they cycled during the summer. Based on the total 47,500 kilometers, Vaisala made a donation to the Finnish Red Cross to help local and global adaptation to climate change and its impacts – especially in Southern Africa and the harsh mountain range in Tajikistan.

CASE

Teaming up with Unu Mondo Expedition to learn more about climate change

Along their 4-month sailing expedition from France into the Arctic, the Unu Mondo Expedition delivered and installed three Vaisala Automatic Weather Stations to measure wind and air temperature in Greenland. They also gathered scientific data and information from local communities to better anticipate climate change and enhance concrete actions.

Read more
vaisala.com/annualreport

Creating value for investors

Vaisala is a stable, sustainable, and globally operating company headquartered in Finland. As the technological leader in its field, Vaisala aims for long-term growth as well as globally leading position in weather, environmental, and industrial measurements by responding to different megatrends and investing in research and development.

The company's series A shares have been quoted on Nasdaq Helsinki stock exchange since 1994. Vaisala's target is to maintain high solvency and to pay a stable dividend which will increase in line with net profit development.

Vaisala ranks fifth out of 13,650 global companies in an ESG evaluation by Sustainalytics, a company focused on sustainability analytics of listed companies. Additionally in 2021, Finnish private investors voted Vaisala as the most sustainable Finnish stock-listed company.

1

Technology leader and strong market position

- Leading technologies in environmental and industrial sensing with most accurate and reliable instruments, algorithms, and software
- Clear market leadership position in key products, high customer satisfaction, estimated total market size 3 billion EUR
- High continuous investments in R&D (2021: 55.3 MEUR or 13% of net sales)

2

Growth potential in multiple dimensions

- New technologies
- New products, applications, and digital solutions that leverage the latest technologies, platforms, as well as business models based on recurring revenue
- Expansion into new customer segments and geographical regions

3

Well diversified sales mix

- Vaisala is a global player in its relevant markets with representatives in more than 100 countries
- 2021 geographical net sales split: 34% Americas | 33% APAC | 33% EMEA
- Several customer segments in governmental and private sectors

4

Asset-light business model

- High-mix, low-volume business model
- Sales growth does not require CAPEX: related annual CAPEX around 10 MEUR
- Potential for productivity improvement with volume growth

5

Strong cash generation and financial position

- Enable investing in growth and long-term business development
- Strong cash conversion rate (2021: 1.6)
- Solvency ratio 57.2% (2021)
- Gearing -12.0% (2021)

6

Solid dividend payer

- Aim to distribute a stable dividend which will increase in line with net profit development
- Dividend per share for the last five years paid at the average rate of 87% on earnings and the average effective dividend yield of share 2.9%

7

Technology with an impact in a responsible way

- Technologies, products, and digital solutions that enhance customers' decision-making and development of operations and that contribute significantly to solving global challenges related e.g. to climate change, resource efficiency, and well-being and health
- Very low ESG risk: in the evaluation by Sustainalytics, Vaisala's ESG risk score is 4.9 which is defined as negligible.
- Member in several sustainability networks, such as Climate Leadership Coalition, UN Global Compact and Caring for Climate initiatives, as well as the RE100 initiative encouraging use of renewable energy

Sustainable business practices

Reporting principles, policies, and due diligence

Non-financial information

Disclosure of non-financial information in accordance with the Finnish Accounting Act chapter 3 a is presented in the Sustainable business practices section as well as the chapters Business model in Our business section, Dashboard in the Creating value section, and Risk management in the Governance section. The Sustainable business practices section includes information on environmental matters, social and employee matters, respecting human rights, as well as anti-corruption and anti-bribery compliance.

Policies and due diligence

We endorse the United Nations Global Compact strategic initiative for sustainable business practices and follow the Global Compact's Ten Principles, which cover the areas of human rights, labor, environment, and anti-corruption. These ten principles are reflected in Vaisala's Code of Conduct, and we report on the implementation of the principles on an annual basis as part of our sustainability reporting.

The Code of Conduct guides our actions and operations and reflects Vaisala values: integrity, innovation and renewal, strong together, and customer focus. We expect all our employees and partners, such as distributors and representatives, to comply with our Code of Conduct in all their actions. We have a separate Supplier Code of Conduct that sets standards for our suppliers and subcontractors. We comply with all applicable laws and regulations in the countries in which we operate. Where differences exist between regulatory requirements and Vaisala's Code of Conduct, we strive to apply whichever sets the highest standard. We respect and comply with international conventions, such as the United Nations' Universal Declaration of Human Rights and the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work.

Our Code of Conduct includes guidance on environmental matters, social aspects and employment matters, human rights, and anti-bribery and anti-corruption. Moreover, Vaisala Board of Directors has approved more detailed policies, such as the International Anti-Corruption Policy and the Quality, Environment, and Health and Safety (QEHS) Policy. The QEHS Policy is implemented through our global management system that includes our ISO 14001 certified Environmental Management System and ISO 45001 certified Health and Safety Management System.

We train our entire personnel regularly on the contents of the Code of Conduct and aim to bring up new angles on the matters in the trainings. In addition, separate trainings are organized on various topics, such as environment, health and safety, anti-corruption and bribery, and human rights risks management, some of which are mandatory for the entire personnel and others tailored to specific employee groups based on need.

Each Vaisala employee is responsible for complying with the Code of Conduct, and each manager monitors and supervises compliance with the Code of Conduct. Any suspected action against or violation of the Code of Conduct should be escalated either anonymously to our whistleblowing channel or directly to the legal department. We also monitor that our suppliers and other business partners comply with our Code of Conduct, for example through self-assessments and audits.

Implementing the GRI guidelines

To maintain transparency and consistency in our sustainability reporting, we apply the Global Reporting Initiative's (GRI) reporting guidelines. This report has been prepared in accordance with the GRI Standards: Core option. The GRI reference index can be found on pages 62–69 of this report.

Boundaries

Apart from the environmental data, our sustainability data is reported for the entire Group and for all locations. Our carbon footprint includes offices with more than 20 employees or otherwise significant operations as well as indirect sources. The indicators related to energy consumption and waste are reported from the most significant manufacturing sites, located in Finland, the United States, and France.

Independent assurance

According to our reporting process, we seek assurance for the report from a third-party assurance provider. An independent third party, Deloitte Oy, has at Vaisala management's request externally assured the GRI disclosures in the Sustainable business practices section on pages 41–59 as well as disclosure 201-1 on page 34. Independent assurance report can be found on page 61.

Materiality

The material aspects are reviewed annually as part of the reporting process. Also, the development suggestions received from stakeholders are considered in the materiality review update. The material issues are included in the Creating value and Sustainable business practices sections of the annual report.

Environment

Environmental management

Our environmental responsibility work is guided by our Global Quality, Environment, and Health and Safety (QEHS) Policy and our ISO 14001 certified environmental management system, which covers our largest manufacturing sites and offices. Presently, 94% of our employees work in ISO 14001 certified locations. All our certified locations are audited by an independent third party as part of our audit program.

Our environmental management system helps us to identify the most significant environmental impacts and risks at each location and set environmental targets both for the entire company and locally. Many of our locations have voluntary green teams which promote measures needed to achieve the environmental targets.

Our head office in Finland has been committed to the WWF Green Office environmental program for more than ten years now. During 2021, we continued to promote commuting by bicycle at our Finnish sites by offering our employees a bicycle benefit and more changing rooms, participating in the national Kilometrikisa (Kilometer Competition) biking contest with our own Vaisala team, and organizing a subsidized bicycle service campaign.

Environmental impacts

We regularly assess our environmental impacts as part of our environmental management system and aim to continuously reduce the negative environmental impacts of our product portfolio, business operations, and supply chain. The most significant environmental impacts from our business operations are related to energy consumption, waste, the materials our products contain, and indirect emissions. Such emissions arise, for example, from purchased products and services, business travel, logistics, commuting, and energy consumption during product use.

Before 2020, we were also reporting the water consumption of our manufacturing sites, but we have recognized that its share of our environmental impact is minor. Therefore, we are no longer reporting it. However, we will continue to monitor our water consumption and will re-examine the situation, should changes occur in the consumption or availability of water at our sites.

The most significant environmental risks of our operations are related to potential emergency situations that can lead to local contamination. These risks are controlled, for example, as part of our emergency preparedness and management processes for hazardous substances.

Environmental indicators 2021

Renewable electricity

100%

(2020: 100%)

Employees working on ISO 14001 certified sites

94%

(2020: 93%)

Waste recycling rate*

55%

(2020: 59%)

Emission intensity (Scope 1–3)

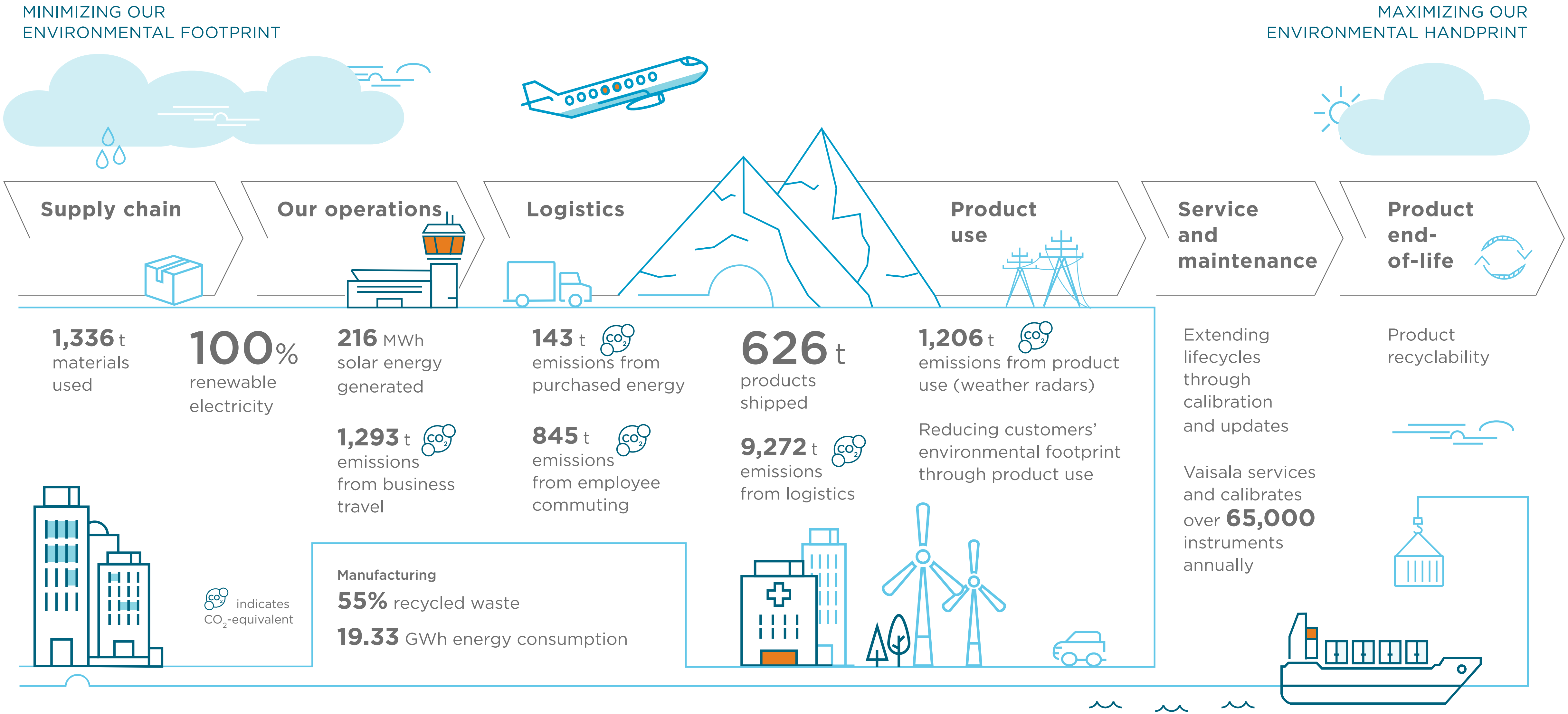
30.0

tCO_2e/MEUR

(2020: 33.9 tCO_2e/MEUR)

* Recycling rate includes reuse, material recycling, and composting.

Environmental impacts



Energy

In 2020, Vaisala reached the target of covering 100% of our electricity consumption with renewable sources, and we maintained this level in 2021 as well. Even though our manufacturing sites in Finland and the United States are already using solar panels to produce clean energy, we still need to purchase most of our electricity from local energy companies. Those of our sites with the most significant energy consumption purchase green electricity products directly from their electricity providers. The origin of renewable energy for these green electricity products has been certified. For those sites where Vaisala cannot negotiate the electricity agreement directly, we purchase unbundled energy attribute certificates from the regional markets to match our consumption.

The energy efficiency of our facilities is important to us. Heat recovery systems, for example, are utilized in the research and development building at our head office, taken into use at the beginning of the year, as well as in the cleanroom in our factory building. We are gradually changing our Vantaa site's lighting to energy efficient LED lights, which are either timer-operated or occupancy-based, depending on the space. Our energy intensity, i.e. our energy consumption in relation to net sales, was 44.1 megawatt hours per million euros (2020: 46.6 MWh/MEUR).

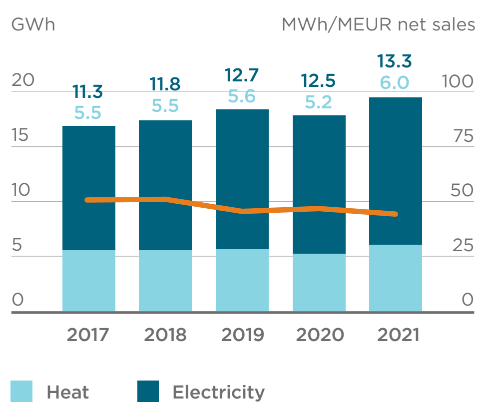
Emissions

The use of renewable electricity reduced our energy consumption emissions by 97% between 2014 and 2020 (Scope 2, market-based). In 2021, our market-based Scope 2 emissions (calculated with supplier-specific emission factors) were 143 metric tons of CO_2e (2020: 213 CO_2e). Our location-based Scope 2 emissions (calculated with country-specific average emission factors) were 2,424 metric tons of CO_2e (2020: 2,986 CO_2e).

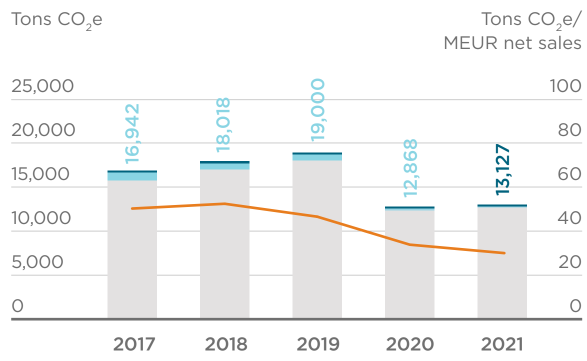
The majority of our emissions are other indirect emissions (Scope 3), mostly business travel, outbound logistics, and commuting. Our target for 2022 is to reduce the Scope 3 emissions in relation to net sales by 15 percent compared to 2019, covering the emissions that are currently within the scope of our emission calculation. The year 2019 was chosen as the comparison period because years 2020–2021 were exceptional due to the global COVID-19 pandemic, especially reflected in reduced business travel. We aim to reduce our indirect emissions especially from business travel and commuting by favoring remote work tools when it is possible and productive for the type of work in question.

Our emissions intensity, i.e. carbon dioxide emissions in relation to net sales, was 30.0 metric tons CO_2 per million euros in 2021 (2020: 33.9 tCO_2e/MEUR).

ENERGY USE



CARBON FOOTPRINT



	2017	2018	2019	2020	2021
Scope 1	220	288	254	218	214
Scope 2	949	667	681	213	143
Scope 3	15,773	17,063	18,064	12,436	12,771

Waste

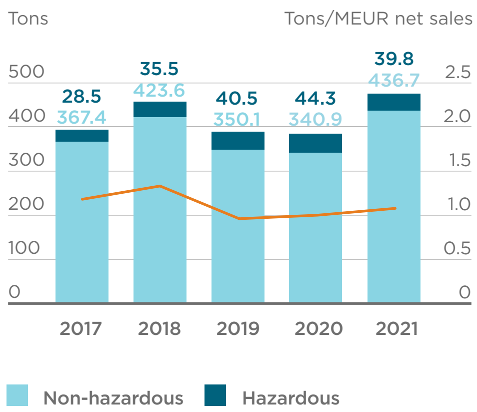
Waste associated with Vaisala's business operations is produced at the beginning of the supply chain in the manufacture of materials and components, in Vaisala's own operations related to manufacturing, repairing, and servicing of products and the work of our personnel, as well as at the end of the value chain when a customer removes a Vaisala product from service. These impacts are depicted in the waste process flow chart.

Our main manufacturing site in Finland generates most of the waste in our own operations. There waste is sorted into 14 categories to enable its efficient processing and further use. In the future, we are going to put even more effort in increasing personnel awareness of waste sorting, so that an ever-larger portion of waste would end up in the correct category. We actively try to find ways to direct an even bigger proportion of waste to recovery in cooperation with our waste management service providers. We make sure that our waste operators have the appropriate licenses for waste treatment.

Our recycling rate was 55% in 2021. Compared to 2020, the recycling rate decreased. This can be attributed to partly unrecyclable construction waste generated in the renovations of our production areas. Also, the amount of energy waste and wood waste, which are directed to energy recovery, was larger compared to the previous year. Our goal is to increase the recycling rate to 60 percent by the end of 2022.

We also aim to reduce the amount of waste generated in the first place, for example by utilizing reusable trays for packaging with some of our suppliers and reducing scrap material produced in our manufacturing processes. We reduce the amount of waste at the end of the value chain by designing our products to last as long as possible and offering diverse maintenance and repair services for our products. In addition, we advise our customers on how to recycle our products at the end of their life cycles.

WASTE*

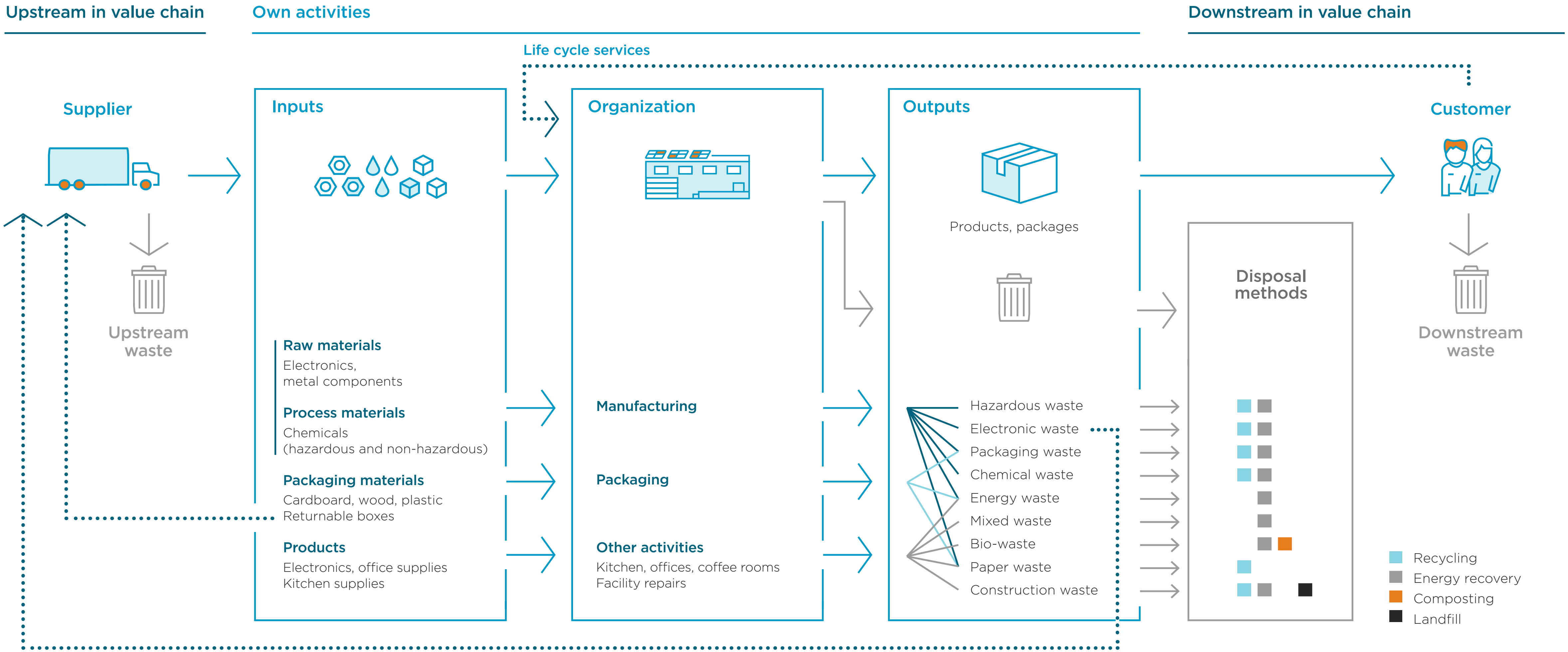


* Waste management takes place offsite in our service provider's premises.

44.3% Recycling
38.8% Energy recovery
13.1% Composting
3.3% Landfill
0.5% Reuse

33.8% Physico-chemical treatment
32.1% Incineration
24.0% Recycling
9.2% Recovery
0.9% Landfill

Waste process flow



Scope of environmental reporting

Most of our Group's energy consumption and waste generation can be attributed to our manufacturing locations in Finland, the United States, and France. Hence, these key indicators are reported only for these three largest manufacturing sites. The energy consumption of these locations does not include the fuel consumption of field-service vehicles due to the low number of such vehicles.

To calculate our carbon footprint, we collect data more extensively from those locations with more than 20 employees or otherwise significant operations. Vaisala's carbon footprint includes various parts of the company's value chain. Our reported carbon footprint is divided into three levels (Scope 1–3) in line with the GHG Protocol (Greenhouse Gas Protocol) Corporate Accounting and Reporting Standard. Scope 1 includes the fuel consumption of field-service vehicles owned by Vaisala. Purchased-energy emissions (Scope 2) include purchased power and heat.

Other indirect emissions (Scope 3) include business travel (flights, rail travel, and rental cars), inbound and outbound logistics, commuting, and waste treatment (only at the Vantaa site in Finland, where 86% of the Group's waste is generated). Emissions originating from the use of our products are calculated only for installed weather radars due to their relatively significant energy consumption and the availability of data. We have also identified purchased goods and services as a relevant category of Scope 3 emissions, but for the time being, we do not have adequate data on our supply chain emissions to be able to include this category in our Scope 3 emissions reporting. Therefore, we are developing our supply chain emissions calculation during 2022 so that in the future we can report emissions related to it and set a more comprehensive Scope 3 emissions reduction target.

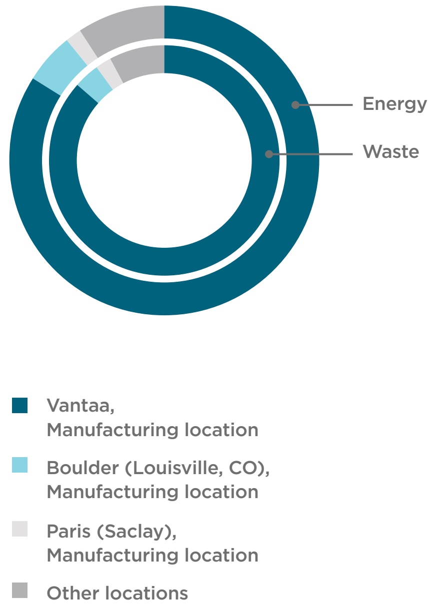
Data sources and assumptions

Energy and waste data are collected from various sources. In addition to having our own monitoring systems at the sites, we collect data from the reporting systems and invoices of our service providers. All our sites in the reporting scope submit their environmental indicators in a centralized reporting system.

For indirect (Scope 3) emissions calculation, we collect business travel data from our travel agency, outgoing logistics data from our logistics partners, and waste treatment data from our waste management service providers. For incoming logistics and the energy consumption of weather radars, we use data from our internal systems, and for commuting, we utilize data from the commuting survey renewed in 2019 to estimate the proportions of different modes of transport. Additionally, we take into consideration the impact that increased remote work due to the global COVID-19 pandemic had on commuting.

The environmental figures for 2021 are based, for the relevant part, on data that was available at the time of the publication of the report for the first 10–12 months of the year. For the missing part, the figures are estimates based on actual data for the previous months. There is no reason to assume that there should be significant differences between the estimates and the actual figures for 2021.

DIVISION OF ENVIRONMENTAL IMPACTS BY LOCATION



Emission factors

Greenhouse gas emissions are calculated using the best available conversion factors. These emission factors mainly come from the BEIS/DEFRA database and GHG Protocol calculation tools. Certain emission factors come from other sources, such as our logistics partners, local energy companies, and vehicle manufacturers. For flights, we use BEIS/DEFRA's emission factor with radiative forcing, which also acknowledges those climate change effects of aviation not attributable to CO_2.

To determine our Scope 2 carbon footprint, we primarily use the market-based calculation method, which takes our purchased-energy specific emissions into account. In 2021, our purchased electricity has been entirely renewable, which means that we use 0.0 g CO_2e/kWh as the emission factor for electricity in the market-based calculation. In addition, we report our location-based Scope 2 emissions, which are based on average country-specific emissions from energy production.

Our carbon footprint includes all greenhouse gases converted into carbon dioxide using global warming potential (GWP-100).

Sustainable product design and management

The environmental footprint generated by products over their life cycle can be influenced during the product design phase. Our product development process includes environmental requirements, and many of the required product qualities, such as energy efficiency, maintainability, and recyclability, are beneficial for the environment. The updateability and modular design of many of our products, combined with our field services, extend the product life cycle, which typically ranges from a year to over 20 years. However, we are aware that the global scarcity of resources and rapidly developing environmental requirements call for us to improve our product design process continuously. In 2021, to support Design for Environment, we have created materials for our designers that will be implemented in product development projects more extensively the following year.

To ensure that our products are safe for people and the environment, we set strict requirements on the materials used in our products during the product design process. Components are analyzed early in the new product development process to ensure compliance. We systematically collect information about substances that the European Union's REACH* legislation has defined to be of very high concern, as well as about compliance with the EU RoHS** Directive and the United States TSCA*** regulation, to enable the safe use and end-of-life treatment of products. Furthermore, we report the required information in the SCIP database**** of the European Chemicals Agency. In 2021, we have recognized certain substances of very high concern which we will strive to remove from our products. We select new suppliers carefully and ensure that they meet our strict requirements. At the end of a product's life cycle, we advise customers to recycle the products in accordance with local best practices for electronics recycling or to return them to Vaisala for recycling.

* REACH = Registration, Evaluation, Authorisation, and Restriction of Chemicals
** RoHS = Restriction of Hazardous Substances in electrical and electronic equipment
*** TSCA = Toxic Substances Control Act
**** SCIP = Substances of Concern In articles as such or in complex objects (Products)

Personnel

Personnel in 2021

The total number of employees at the end of 2021 was 1,979. The average number of personnel employed during the year was 1,967. The average age of personnel was 44 years. At the end of the year, 93% of employees were permanent and 7% temporary.

Employee turnover

During 2021, 176 permanent employees were recruited and 124 permanent employees left the company, out of whom 13 retired. The turnover rate for permanent employees was 7%, and the recruitment rate was 10%.

Collective agreements and trade unions

Vaisala is a member of Technology Industry Employers of Finland. Vaisala's employees in Finland are covered by three collective agreements: the collective agreement for employees in technology industries, the collective agreement for salaried employees in technology industries, and the collective agreement for senior salaried employees in technology industries. Globally, 70% of Vaisala's employees are covered by collective bargaining agreements.

Salaries and wages paid by the company are based on local collective and individual agreements, individual performance, and the requirements of each position. The base salaries are supplemented by a performance-based bonus system, which covers all Vaisala personnel.

Recruitments by age group

	–19	20–29	30–39	40–49	50–59	60–	Total
Male	6	89	52	34	35	5	**221**
Female	2	35	16	13	14	3	**83**
Other		1					**1**
Total	**8**	**125**	**68**	**47**	**49**	**8**	**305**

Turnover by age group

	–19	20–29	30–39	40–49	50–59	60–	Total
Male	10	61	52	22	1	16	**162**
Female	1	38	14	9	1	2	**65**
Other							
Total	**11**	**99**	**66**	**31**	**2**	**18**	**227**

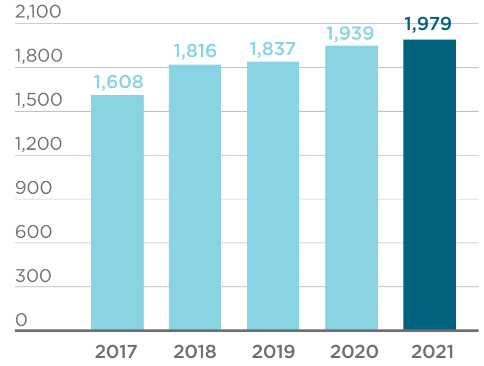
Recruitments by region

	Finland	Americas	EMEA	APAC	Total
Permanent	107	47	15	7	**176**
Temporary	94	4	19	12	**129**
Total	**201**	**51**	**34**	**19**	**305**

Turnover by region

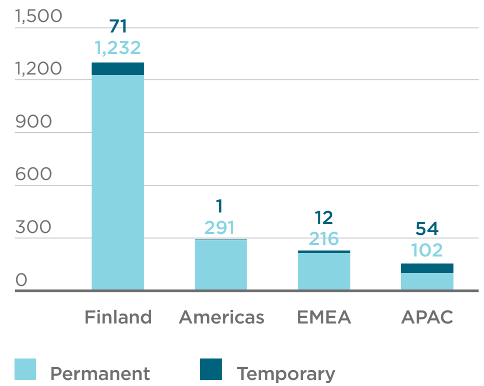
	Finland	Americas	EMEA	APAC	Total
Permanent	73	16	18	17	**124**
Temporary	69	14	12	8	**103**
Total	**142**	**30**	**30**	**25**	**227**

PERSONNEL AT THE END OF THE YEAR*



* Number of employees includes persons in long-time absence as of January 1, 2021. Comparison period 2020 has been adjusted accordingly.

PERSONNEL BY REGION AND CONTRACT



Americas: North and South America
EMEA: Europe, Middle-East, and Africa
APAC: Asia-Pacific

Diversity, equity, and inclusion

In Vaisala, advancing diversity, equity, and inclusion is important from the points of view of employee well-being, attracting new talent, and creating new innovations, for example. By enhancing and fostering diversity and equity in our work community, we can also do our part to promote these topics in society at large.

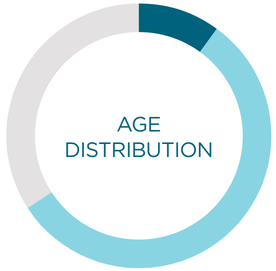
As laid out in Vaisala's Code of Conduct, we recognize the value of diversity and do not accept any form of discrimination. We aim to treat all our employees and applicants equally in all recruitment, hiring, training, development, as well as compensation or benefits plans regardless of their gender or gender identity, age, ethnic or national background, citizenship, language, religion and belief, opinions, physical or mental disability, health, sexual orientation, or any other reason pertaining to their person.

Our aim is that Vaisala's personnel, jobseekers, and the subcontractors operating within Vaisala's guidance and offices as well as leased personnel will be treated equally and that our employees work within a safe, caring, communal, and accessible operating environment. Equality is advanced by developing good practices as well as identifying problems and presenting solutions to them. If discrimination occurs, it will be reacted to immediately and systematically. Local operating environments and their legislation are acknowledged when enhancing equality and equity in our offices around the world.

We want to support our personnel in different stages of life and circumstances. We take a positive view on family leaves, irrespective of gender. The professional capacity and skills of more senior employees are enhanced, among others, with an annual discussion where the employer and an employee of over 58 years of age discuss the actions that support the said employee in continuing their work.

3% Doctoral degree
71% University degree
9% College/vocational school
15% High school/vocational institute
3% Comprehensive school

* Covers 85% of permanent personnel



10% < 30
56% 30–49
34% ≥ 50

1% < 30
57% 30–49
42% ≥ 50

70% Male
30% Female
0% Other

74% Male
26% Female
0% Other

75% Male
25% Female
0% Other

75% Male
25% Female
0% Other

Wage equality between genders is on a good level in Vaisala. In 2021, we conducted a wage survey in Finland and found that there were no systematic differences in wages that could be explained with gender distribution. The women's wage was, on average, 97% of men's wage on the same job requirement level for salaried and senior salaried employees and 101% of men's wage for production employees. In 2022, we will conduct a similar wage survey also in other offices.

In 2021, we aimed to increase our personnel's understanding of diversity, equity, and inclusion by adding related content to our Code of Conduct training and our intranet. Moreover, the level of equity in Vaisala was researched in the annual employee survey, where we added questions on the topic in 2021. The new questions explored whether all have the same opportunities for career development regardless of gender, age, ethnic background, or other non-professional attribute as well as whether our employees feel that they can get their voice heard and that their opinions are valued. The survey was completely anonymous, and the answers were voluntary.

The Diversity and Equity Index in the survey was on the great level of 4.12/5, which indicates that there is an appreciative working culture in Vaisala. However, by analyzing further and researching the open comments, we could take a deeper look into the results: women, other genders, as well as people who identify with different minority groups gave slightly lower evaluations on how well equity is realized in Vaisala. All results are on a very good level, but they also give guidance on developing inclusion and equal career opportunities. We also founded a work group to enhance diversity, equity, and inclusion in Vaisala in the coming years, and the development work is taken forward in 2022.

Occupational health and safety

Occupational health and safety management

Occupational health and safety is an important part of all our activities, from health and safety requirements in product development all the way to product installation. Our occupational health and safety management and development is guided by our Global Quality, Environment, and Health and Safety (QEHS) Policy as well as our ISO 45001 certified occupational health and safety management system, which sets the background for continuous improvement. 94% of our employees work on certified sites, but the system covers all our activities and employees.

The identification and assessment of occupational health and safety related risks is systematic work, and it is done in cooperation with our employees and other stakeholders. The most significant risk of injury occurs in electrical work, working at heights, and working with chemicals or gases. We apply the hierarchy of controls to minimize risks. We aim to eliminate the most significant hazards or substitute them with less dangerous alternatives if removing them is not possible. We aim to further reduce the residual risk by controlling the risk at the source through engineering controls. If personal protective equipment is needed, it is given to employees for free.

We invest in health and safety training for employees and ensure that all employees have the necessary qualifications to perform their work. All employees have the right to refuse work that they believe could endanger their own or their colleagues' safety or health. This and other occupational health and safety practices are covered in a mandatory e-learning course, which is offered in four different languages. Occupational safety training is free for our employees and subcontractors, and the training can be conducted during working hours.

Impacts of COVID-19 pandemic

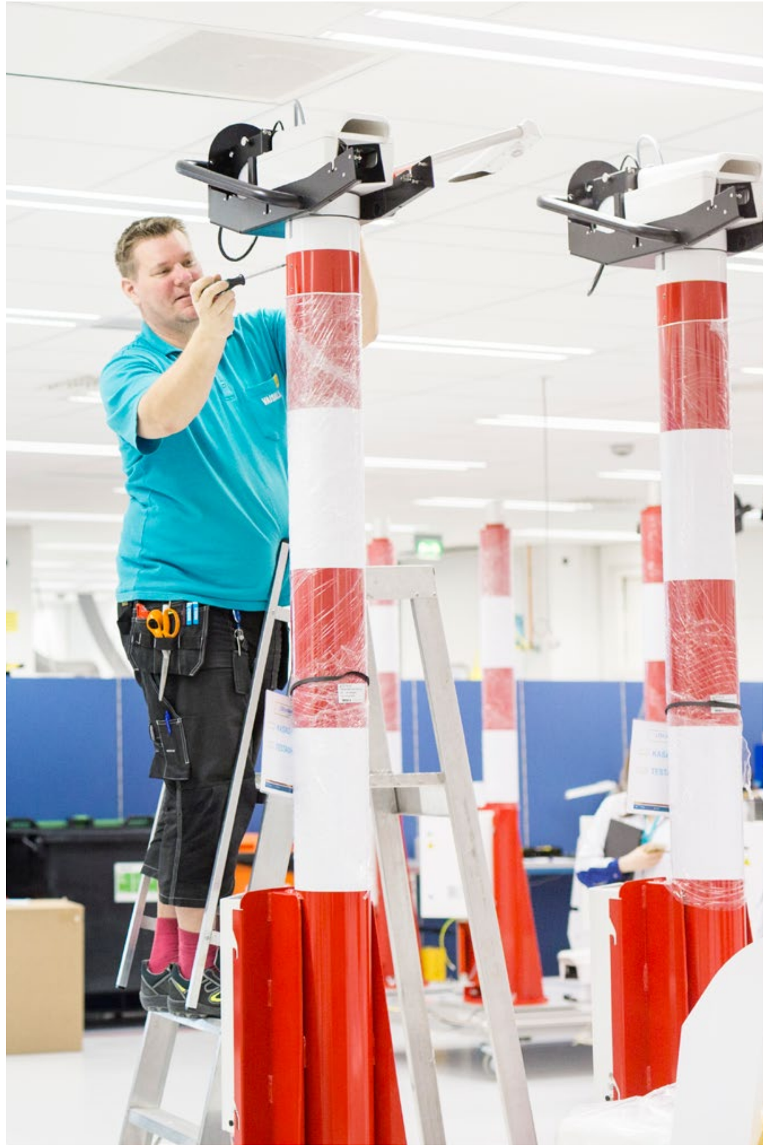
As a result of the COVID-19 pandemic, increased remote work, on the one hand, and ensuring the health security of our employees, on the other, brought their own challenges to health and safety work also in 2021. We managed to prevent the formation of epidemics at our workplaces by increasing remote work and staggering of shifts and breaks, improving hygiene instructions and cleaning, requiring face masks, as well as tightening travel and visitor restrictions according to the changing epidemiological situation.

Risks related to remote work were assessed by analyzing the experiences of remote workers and the results of two personnel surveys conducted in 2020. Based on these results, we provided tools for better management of remote work and the related physical and psychological risks. In returning to the office and moving over to hybrid work, we utilized the results of a recent Future of Work survey. The survey gave us indications of a suitable balance between office and remote work, for example.

Collaboration

We have increased collaboration between employees and the employer by establishing Health and Safety Committees in several locations. The committees have an important role in monitoring and developing occupational health and safety. Currently, active Health and Safety Committees are operating in Finland, Canada, Germany, the United States, the United Kingdom, Japan, France, and China. These local committees cover all employee groups and convene at least twice but usually four times a year, some of the committees even monthly.

The committees handle occupational health and safety collaboration topics that concern the workplace and workers in general. Some of the key tasks of Health and Safety Committees are making development suggestions about occupational health and safety to the employer and monitoring the implementation of health and safety action plans. The committees' tasks also include making proposals for arranging occupational health and safety training, on-the-job training and orientation, as well as participating in actions supporting employees' working capacity.



The Health and Safety Committees monitor occupational safety issue reports and take part in accident investigations. In some of the countries, the committees have a legal right to inspect the working spaces and interview employees. Meeting minutes and other materials produced by the committees are available for employees to read on our intranet. The committees can, using their judgement, promote the health and safety culture with various actions, such as organizing events, which the employer aims to support with suitable measures.

In addition to the committees, our employees can take part in maintaining and developing the health and safety system through, for instance, occupational safety issue reports. We communicate about health and safety regularly, every month as a minimum, and the texts published on our intranet are open to comments. Whenever occupational health and safety risks of a job, area, or organization are assessed, employee representatives are included, either from the local Health and Safety Committee or from the area in question.

Proactive reporting and investigation

We encourage our employees and contractors to proactively report any health and safety risks in the workplace and make improvement suggestions concerning the safety of working conditions and methods. To prevent injuries, harmful exposure, and the recurrence of incidents, line management is responsible for making sure that the reported deviations and their causes are investigated. After the investigation, corrective measures are implemented without delay. A globally consistent reporting procedure and database improve the efficiency and transparency of health and safety performance monitoring.

In 2021, we aimed to increase the frequency of proactive reporting (risks, near misses, and improvement suggestions), and our goal was one reported near miss, risk, or improvement suggestion per six employees. The total number of reports was 323, meaning we reached 98 percent of the target and increased the reporting frequency considerably from the previous year.

We strive to increase the reporting frequency even more by continuing to focus on education and increasing our whole personnel's understanding of the importance of proactive reporting. In addition, we aim to shorten the processing time of issue reports. Our business units' management groups receive regular reports of proactive reporting figures for their areas as well as the average processing time of the reports so that prolonged processing times can be dealt with early on.

Injuries

The injury rate went up slightly in 2021 compared to the previous year. A total of nine injuries occurred, and the injury rate was 2.17 injuries per million hours worked, the total number of hours worked being 4.15 million. The nature of these injuries was mainly minor bruising, strains, or pain, and none of the injuries were fatal or caused severe or long-term disability. We continue to work towards our long-term goal of zero injuries and occupational diseases, and we believe we can achieve this goal through continuous improvement.

Occupational health services

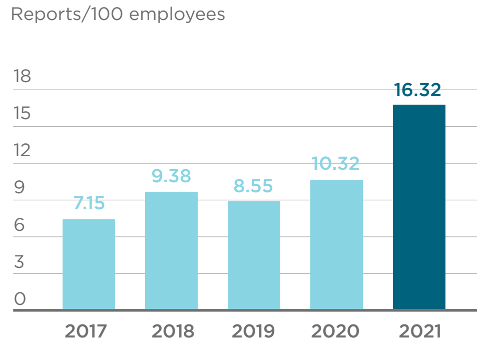
In Vaisala, occupational healthcare is managed by following local legislative requirements, and thus the practices vary in different countries. Employees are informed about the services through our intranet, for example.

In Finland, Vaisala offers all employees general practitioner level medical care. Our work capacity insurance covers specialist level medical services for all but hourly-based employees. Our healthcare contract covers treatment expenses caused by accidents that occur during working hours and free time.

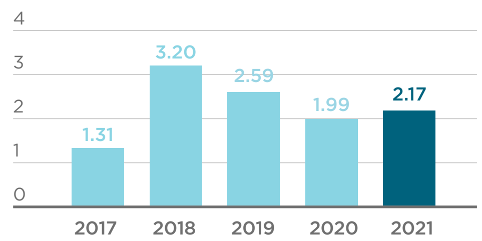
In the United States, Vaisala provides a complete package of health-care benefits including but not limited to medical, dental, and vision coverage. In France, Vaisala pays 50% of employees' mandatory private health insurance that covers a variety of medical specialist treatments. In China, Vaisala provides annual medical check-ups to all employees and regular additional occupational medical examinations for employees who work in risky environments. An exclusive commercial medical insurance has been purchased for employees and their dependents, which covers most treatment costs in public hospitals.

In countries other than the ones mentioned above (the countries mentioned cover approximately 90% of Vaisala's personnel), the occupational healthcare is managed in accordance with local legislation and practices.

PROACTIVE REPORTING



INJURIES PER MILLION WORKING HOURS (TRI)



Ethics and compliance

Vaisala Code of Conduct

The Code of Conduct reflects Vaisala's values: integrity, innovation and renewal, strong together, and customer focus. All our employees, partners, distributors, and agents must comply with the Code of Conduct under all circumstances.

All Vaisala employees must complete the Code of Conduct training at regular intervals and confirm their commitment to the Code and the International Anti-Corruption Policy. The mandatory Code of Conduct training was organized for the whole personnel in late 2021. Of all employees, 98% had completed the training by January 28, 2022. All new employees commit to complying with the Code of Conduct and the International Anti-Corruption Policy as part of their employment contracts as well as participate in induction training on the operating principles and procedures of the company. Violations of the Code of Conduct or the International Anti-Corruption Policy lead to disciplinary action and may even lead to termination of employment.

Prevention of corruption and bribery

Vaisala has a zero tolerance policy towards all forms of corruption. Our International Anti-Corruption Policy strictly forbids offering, giving, soliciting, arranging, demanding, or accepting bribes, whether directly or through third parties. The Policy includes detailed guidelines on acceptable hospitality and entertainment. Periodical training for employees on the Code of Conduct also covers aspects related to the International Anti-Corruption Policy. In addition, a more specific Anti-Corruption Policy training has been tailored to employees who, according to risk analysis, might face challenging situations in their work.

To serve its customers as efficiently as possible, Vaisala conducts business through a network of partners: with distributors, agents, and resellers in more than 100 countries. Our business operations cover a large geographical area, meaning that we also operate in countries with a demanding business environment. For this reason, we pay special attention to selecting our business partners. Our agreements with our partners typically include strict clauses concerning immediate termination if a partner violates any aspects of our Code of Conduct or International Anti-Corruption Policy, both of which are attached to the agreements we sign with partners.

In 2020, we also introduced an e-training on Vaisala's Code of Conduct targeted at our distribution partners. The completion of the training is monitored via the training system. The training emphasizes anti-corruption and bribery, and it aims to ensure that partners understand Vaisala's principles and can act according to them in all situations.

Supplier Code of Conduct

The Supplier Code of Conduct reflects Vaisala's values and operating principles and is based on the principles created by the International Labour Organization (ILO), the United Nations Global Compact initiative, and the Responsible Business Alliance (formerly EICC). In addition, the Supplier Code of Conduct includes requirements concerning standards and procedures in line with the Business Social Compliance Initiative (BSCI) and Social Accountability International (SAI).

Respect for human rights and human rights due diligence

Vaisala is committed to respecting human rights as defined in the United Nations' Universal Declaration of Human Rights and endorses ILO's Declaration of Fundamental Principles and Rights at Work. Vaisala does not condone violations of human rights or labor laws in any part of its supply chain. The company takes appropriate measures to ensure that the risk of violations of its Code of Conduct or Supplier Code of Conduct is minimized in its immediate supply chain.

Vaisala's internal human rights risk assessment suggests that the risk of most salient human rights violations is the highest beyond the third tier of suppliers. These risks are the same as in other electronics manufacturing supply chains, including unpaid or excessive overtime, dangerous working conditions, bonded labor, and low wages. The human rights risks in Vaisala's supply chain are mitigated by carefully choosing preferred suppliers and working closely with first-tier suppliers, insisting on policies that go beyond the requirements of local laws and obliging them to ensure that human rights are respected also in their supply chains.

Another area where we have identified a high need to understand and manage human rights risks is our global project subcontractor network, where we need to ensure, for example, that our partners follow adequate health and safety standards. Therefore, we give, for example, concrete safety instructions and trainings to our subcontractors, in addition to ensuring their commitment to Vaisala's Supplier Code of Conduct.

We also train our sourcing personnel and project managers operating in high-risk areas to identify and manage human rights risks while operating with potential or selected suppliers or subcontractors.

Conflict minerals

Vaisala is committed to responsible sourcing of minerals. Our operating model for ensuring the responsibility of the minerals supply chain follows the Organisation for Economic Co-operation and Development (OECD) Guidance, and we use the Responsible Minerals Initiative's (RMI) reporting template to find out and document the origin of the minerals.

Vaisala's suppliers must aim to ensure that the parts delivered to Vaisala do not contain any minerals that have their origin in conflict areas, currently including but not limited to the tin, tungsten, tantalum, and gold mined in the Democratic Republic of Congo (DRC) or in adjoining countries. If parts or products supplied to Vaisala contain tin, tantalum, tungsten, or gold, the supplier must ensure responsible sourcing of these minerals and report to Vaisala using RMI's Conflict Minerals Reporting Template (CMRT).

Product safety

Vaisala is known for its reliable products, and customer health and safety are key considerations at all stages of our product development. We follow all safety standards applicable to each product in our product design. Our products are carefully designed and type tested, keeping in mind their safe and environmentally friendly delivery, use, maintenance, and decommissioning. User documentation is built to support these goals. Accredited laboratories are widely used to ensure the safe design of our products. Vaisala performs an electrical safety inspection of all applicable products.

Compliance monitoring and violations

Compliance with the Code of Conduct and other guidelines is continuously monitored by regional and business area managers and immediate supervisors as well as by means of internal audits. If any Vaisala employee knows or suspects that the Code of Conduct or the International Anti-Corruption Policy is being violated, they must report the concern. Vaisala provides a whistleblowing channel for reporting concerns anonymously or with name.

At the end of 2021, we started planning a new whistleblowing channel that uses an external secure portal. Through this anonymous channel, employees and external stakeholders can report suspected violations of the Code of Conduct or other concerns either anonymously or with name. The new channel will be introduced in 2022.

Vaisala ensures that the reporting of concerns does not cause any kind of harm to the complainant. The reported concerns are addressed immediately, and the complainants are informed about the progress of the handling process. Vaisala has a Compliance Committee, which processes reports of suspected non-compliance. The Committee consists of members from the Legal Department, Finance & Control, Human Resources and business areas, when needed.

In 2021, the Committee became aware of three suspected violations of the Code of Conduct, which were related to treatment of an employee, a gift received from a supplier, and the way of conducting business with a client. All the suspected violations have been investigated, processed, and resolved.

There were no complaints or sanctions by the authorities during 2021. No incidents of corruption, anti-competitive behavior, anti-trust or monopoly practices, or any other violations of laws or regulations were observed. Furthermore, no violations of human rights, labor rights, or environmental legislation or concerns related to these were observed in the immediate supply chain.

Read more
Read about Vaisala's policies: vaisala.com/standards-and-policies
Vaisala whistleblowing channel can be reached at wbc@vaisala.com

Responsible supply chains

In its supply chain, Vaisala seeks to promote competitive advantage and innovations responsibly through cooperation. Our business operations are based on high mix and low volumes. Managing this complexity requires effective coordination of hundreds of suppliers and selected strategic partners. To deliver on our customer promise and meet stakeholder expectations, we must have a reliable and responsible supply chain. We set strict requirements for our suppliers, and we cooperate with them closely over the long term, which enables both parties to further develop their operations.

Typical product supply chain

Vaisala's direct suppliers are generally located close to its product development operations and manufacturing sites. We purchase subassemblies, components, and mechanical parts mainly from Finland and other European countries as well as the United States. Our upstream supply chains resemble other typical supply chains in the global electronics manufacturing industry.

Supplier management

Vaisala's supplier management model has four categories: potential, approved, preferred, and strategic suppliers. In addition to these categories, suppliers may be, for example, in phase-out when their contracts are being discontinued gradually or on watch list when they are monitored closely due to serious issues experienced over the long term. The classification defines the relationship between Vaisala and the supplier and outlines the management model for each category. All suppliers are expected to meet certain requirements before they can be approved and categorized. The requirements for suppliers are based

on the classification, risk assessment, and spend. Suppliers must also commit to the Supplier Code of Conduct.

We use a Supplier Sustainability Self-Assessment Questionnaire (SAQ) as part of supplier development and in all categories to assess environmental, social, and governance (ESG) risks. The questionnaire exposes risks related to environmental management, occupational safety, social responsibility, governance, and supply chain management. If a supplier's assessment does not meet Vaisala's requirements, the supplier is expected to implement corrective measures to improve their sustainability as part of their comprehensive development plan, and any weaknesses are addressed in cooperation with the supplier. The SAQ is used also for assessing new suppliers' ESG risks. In 2021, we approved two new suppliers, both of which were screened using ESG criteria.

As part of supplier management, we also audit our suppliers to check aspects related to quality and sustainability, such as their knowledge and application of our Supplier Code of Conduct, labor and human rights, occupational safety, environmental management, product safety (RoHS and REACH), and conflict mineral management.

In 2021, we continued the integration of the new suppliers that came through the acquisitions of Leosphere and K-Patents in late 2018 into the sustainability management processes of Vaisala's supply chain, prioritizing the suppliers based on risk and spend. Primarily, effort has been put into having the suppliers sign Vaisala's Supplier Code of Conduct, where a good level has already been reached. In addition, the ESG risk assessments of these suppliers have proceeded well during 2021.

Read more
about supplier management at Vaisala: vaisala.com/suppliers

Key figures of Vaisala's direct supply chain*

457
(2020: 454)
suppliers

34
(2020: 21)
suppliers audited during the year

90%
(2020: 83%)
of purchases (based on spend) were made from suppliers rated on ESG metrics

92%
(2020: 92%)
of purchases (based on spend) were made from suppliers who had signed the Supplier Code of Conduct

* By direct suppliers, we mean suppliers related to our products, which includes manufacturing partners as well as mechanics and other component suppliers.

UN Global Compact

Vaisala joined the UN Global Compact in 2008 and has committed to following the ten guiding principles of the initiative. These ten principles are reflected in Vaisala's Code of Conduct, and we report on the implementation of the principles on an annual basis as part of our sustainability reporting. Our sustainability reports have qualified for the Global Compact Advanced differentiation level since its introduction in 2010.

Human rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.	p. 55 Ethics and compliance
Principle 2: Make sure that they are not complicit in human rights abuses.	p. 55 Ethics and compliance

Labor standards

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	p. 49 Collective agreements and trade unions
Principle 4: The elimination of all forms of forced and compulsory labor.	p. 55 Ethics and compliance
Principle 5: The effective abolition of child labor.	p. 55 Ethics and compliance
Principle 6: The elimination of discrimination in respect of employment and occupation.	p. 51 Diversity, equity, and inclusion, p. 55 Ethics and compliance

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges.	p. 48 Sustainable product design and management
Principle 8: Undertake initiatives to promote greater environmental responsibility.	p. 42 Environmental management, p. 44 Energy, p. 44 Emissions, p. 45 Waste
Principle 9: Encourage the development and diffusion of environmentally friendly technologies.	p. 48 Sustainable product design and management

Anti-corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.	p. 55 Ethics and compliance

Signing of non-financial information

Disclosure of non-financial information in accordance with Finnish Accounting Act is presented in the annual report's Sustainable business practices section as well as the chapters Business model in Our business section, Dashboard in the Creating value section, and Risk management in the Governance section.

Vantaa February 17, 2022

Petri Castrén	Antti Jääskeläinen	Petra Lundström
Jukka Rinnevaara	Kaarina Ståhlberg	Tuomas Syrjänen
Ville Voipio Chair of the Board of Directors	Raimo Voipio Vice Chair of the Board of Directors	Kai Öistämö President and CEO

Independent limited assurance report

To the Management of Vaisala Oyj

We have been engaged by the management of Vaisala Oyj (business ID 0124416-2, hereafter Vaisala) to provide a limited assurance on the GRI indicators disclosed in the Vaisala's annual report for the reporting period of January 1, 2021, to December 31, 2021. In the scope of the assurance were the indicators presented in the Sustainable business practices section on pages 41–59 and the indicator 201-1 on page 34 of the report (hereafter Sustainability Information).

Management's responsibility

Management is responsible for the preparation of the Sustainability Information in accordance with the Reporting criteria as set out in Vaisala's reporting principles on page 41 of the annual report and the Sustainability Reporting Standards (Core) of the Global Reporting Initiative. This responsibility includes: designing, implementing, and maintaining internal control relevant to the preparation and fair presentation of the Sustainability Information that are free from material misstatement, whether due to fraud or error, selecting and applying appropriate criteria, and making estimates that are reasonable in the circumstances.

Assurance provider's responsibility

Our responsibility is to express a limited assurance conclusion on the Sustainability Information based on our engagement. We conducted our assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised). The assurance criteria used was the Sustainability Reporting Standards of the Global Reporting Initiative.

ISAE 3000 standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance whether any matters come to our attention that cause us to believe that the Sustainability Information has not been prepared, in all material respects, in accordance with the Reporting criteria.

We did not perform any assurance procedures on the prospective information, such as targets, expectations, and ambitions, disclosed in the Sustainability Information. Consequently, we draw no conclusion on the prospective information. Our assurance report is made in accordance with the terms of our engagement with Vaisala. We do not accept or assume responsibility to anyone other than Vaisala for our work, for this assurance report, or for the conclusions we have reached.

A limited assurance engagement with respect to responsibility related data involves performing procedures to obtain evidence about the Sustainability Information. The procedures performed depend on the practitioner's judgment, but their nature is different from, and their extent is less than, a reasonable assurance engagement. They do not include detailed testing of source data or the operating effectiveness of processes and internal controls, and consequently they do not enable us to obtain the assurance necessary to become aware of all significant matters that might be identified in a reasonable assurance engagement.

Our procedures on this engagement included:

- Interviewing senior management of the Company;
- Conducting interviews with employees responsible for the collection and reporting of the Sustainability Information and reviewing of the processes and systems for data gathering, including the aggregation of the data for the Sustainability Information;
- Reviewing internal and external documentation to verify to what extent these documents and data support the information included in the Sustainability Information and evaluating whether the information presented in the Sustainability Information is in line with our overall knowledge of corporate responsibility at Vaisala;
- Performing analytical review procedures and testing data on a sample basis to assess the reasonability of the presented Sustainability Information;
- Conducting an interview with Vaisala's Shanghai site through a video conference;
- Assessing that the Sustainability Information has been prepared in accordance with the Sustainability Reporting Standards (Core) of the Global Reporting Initiative.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Our independence, quality control, and competences

We have complied with Deloitte's independence policies which address and, in certain cases, exceed the requirements of the Code of Ethics for professional accountants issued by the International Ethics Standards Board for Accountants. We have maintained our independence and objectivity throughout the year, and there were no events or prohibited services provided which could impair our independence and objectivity.

Deloitte Oy applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements. This engagement was conducted by a multidisciplinary team including assurance and sustainability expertise with professional qualifications. Our team is experienced in providing sustainability reporting assurance.

Conclusion

On the basis of the procedures we have performed, nothing has come to our attention that causes us to believe that the information subject to the assurance engagement is not prepared, in all material respects, in accordance with the Sustainability Reporting Standards (Core) of the Global Reporting Initiative or that the Sustainability Information is not properly prepared, in all material respects, in accordance with the Reporting criteria.

Our assurance statement should be read in conjunction with the inherent limitations of accuracy and completeness for sustainability information.

Vantaa February 17, 2022
Deloitte Oy

Reeta Virolainen
Authorized Public Accountant

Teemu Jaatinen
Authorized Public Accountant

GRI content index

The Global Reporting Initiative (GRI) content index is provided to assist the reader in navigating through the annual report and to compare it to the GRI Standards Guidelines. For more information about the guidelines, please see globalreporting.org.

Topic and disclosure	Disclosure number	References and reasons for omissions
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GRI 102: GENERAL DISCLOSURES 2016		
1. Organizational profile		
Name of the organization	102-1	Vaisala Oyj
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Supply chain	102-9	57–58 Responsible supply chains
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Membership of associations	102-13	36–37 Active community outreach and scientific collaboration, 49 Collective agreements and trade unions

Topic and disclosure	Disclosure number	References and reasons for omissions
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Key impacts, risks, and opportunities	102-15	11–12 Megatrends, 22–23 UN Sustainable Development Goals, 25 Value creation model, 26 Dashboard, 78–81 Risk management
3. Ethics and integrity		
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Mechanisms for advice and concerns about ethics	102-17	55–56 Ethics and compliance
4. Governance		
Governance structure	102-18	71–77 Corporate Governance Statement
Nominating and selecting the highest governance body	102-24	72 Selection criteria, diversity, and the independence of the members
Highest governance body's role in sustainability reporting	102-32	The Board of Directors approves the sustainability information included in the annual report.
5. Stakeholder engagement		
List of stakeholder groups	102-40	27 Stakeholder engagement
Collective bargaining agreements	102-41	70% of employees are covered by collective bargaining agreements.
Identifying and selecting stakeholders	102-42	27 Stakeholder engagement
Approach to stakeholder engagement	102-43	27 Stakeholder engagement
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Topic and disclosure	Disclosure number	References and reasons for omissions
Restatements of information	102–48	Number of employees includes persons in long-time absence as of January 1, 2021. Comparison period 2020 has been adjusted accordingly.
Changes in reporting	102–49	No changes
Reporting period	102–50	Calendar year 2021
Date of most recent report	102–51	2.3.2021
Reporting cycle	102–52	Annually
Contact point for questions regarding the report	102–53	170 Contacts
Claims of reporting in accordance with the GRI Standards	102–54	This report has been prepared in accordance with the GRI Standards: Core option.
GRI content index	102–55	
External assurance	102–56	41 Independent assurance, 61 Independent limited assurance report
ECONOMIC PERFORMANCE		
GRI 103: MANAGEMENT APPROACH 2016	103–1–3	34 Economic value
GRI 201: ECONOMIC PERFORMANCE 2016		
Direct economic value generated and distributed	201–1	34 Direct economic value generated and distributed Figures are reported on Group level. We consider the regional level reporting of these figures proprietary information.
Defined benefit plans and obligations and other retirement plans	201–3	114–116 Consolidated financial statements: Note 6. Pension obligations Percentage of salary contributed and participation level are not reported.

Topic and disclosure	Disclosure number	References and reasons for omissions
ENVIRONMENT		
GRI 103: MANAGEMENT APPROACH 2016	103–1–3	42–48 Environment
GRI 302: ENERGY 2016		
Energy consumption within the organization	302–1	44 Energy, 47 Data sources and assumptions Fuel consumption or sold energy are not considered material, as Vaisala does not consume process fuels or sell electricity in any significant quantities.
Energy intensity	302–3	44 Energy
GRI 305: EMISSIONS 2016		
Direct (Scope 1) GHG emissions	305–1	44 Emissions, 47 Data sources and assumptions, 48 Emission factors
Energy indirect (Scope 2) GHG emissions	305–2	44 Emissions, 47 Data sources and assumptions, 48 Emission factors
Other indirect (Scope 3) GHG emissions	305–3	44 Emissions, 47 Data sources and assumptions, 48 Emission factors
GHG emissions intensity	305–4	44 Emissions
Reduction of GHG emissions	305–5	44 Emissions
GRI 306: WASTE 2020		
Waste generation and significant waste-related impacts	306–1	45 Waste, 46 Waste process flow
Management of significant waste-related impacts	306–2	45 Waste, 47 Data sources and assumptions
Waste generated	306–3	45 Waste, 47 Data sources and assumptions
Waste diverted from disposal	306–4	45 Waste, 47 Data sources and assumptions
Waste directed to disposal	306–5	45 Waste, 47 Data sources and assumptions
SUSTAINABLE PRODUCT DESIGN AND MANAGEMENT		
Sustainable product design and management	non-GRI	48 Sustainable product design and management

Topic and disclosure	Disclosure number	References and reasons for omissions
PERSONNEL		
GRI 103: MANAGEMENT APPROACH 2016	103–1–3	30–31 Value for employees, 49–52 Personnel
GRI 401: EMPLOYMENT 2016		
New employee hires and employee turnover	401–1	49 Turnover
GRI 402: LABOR/MANAGEMENT RELATIONS 2016		
Minimum notice periods regarding operational changes	402–1	The personnel in Finland (65% of Vaisala's personnel) is covered by collective agreements of technology industries, which specify the minimum notice period. For other countries, the notice periods vary depending on legislation.
GRI 404: TRAINING AND EDUCATION 2016		
Percentage of employees receiving regular performance and career development reviews	404–3	31 Learning and development As all of our employees are offered the opportunity to have annual development discussions, regional and gender distribution are not considered relevant to report for this indicator.
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY 2016		
Diversity of governance bodies and employees	405–1	51–52 Diversity, equity, and inclusion, 82–83 Board of Directors (years of birth); 84 Management Group (years of birth)
Ratio of basic salary and remuneration of women to men	405–2	51–52 Diversity, equity, and inclusion The study was conducted only in Finland. The study has not yet been conducted for other locations.
GRI 406: NON-DISCRIMINATION 2016		
Incidents of discrimination and corrective actions taken	406–1	No incidents of discrimination

Topic and disclosure	Disclosure number	References and reasons for omissions
OCCUPATIONAL HEALTH AND SAFETY		
GRI 103: MANAGEMENT APPROACH 2016	103–1–3	53–54 Occupational health and safety
GRI 403: OCCUPATIONAL HEALTH AND SAFETY 2018		
Occupational health and safety management system	403–1	53 Occupational health and safety management
Hazard identification, risk assessment, and incident investigation	403–2	53 Occupational health and safety management, 54 Proactive reporting and investigation
Occupational health services	403–3	54 Occupational health services
Worker participation, consultation, and communication on occupational health and safety	403–4	53 Collaboration
Worker training on occupational health and safety	403–5	53 Occupational health and safety management
Promotion of worker health	403–6	31 Wellbeing, 54 Occupational health services
Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	403–7	55–56 Respect for human rights and human rights due diligence
Workers covered by an occupational health and safety management system	403–8	53 Occupational health and safety management
Work-related injuries	403–9	53 Occupational health and safety management, 54 Injuries Data for contractors is too limited for reporting.

Topic and disclosure	Disclosure number	References and reasons for omissions
ETHICS AND COMPLIANCE		
GRI 103: MANAGEMENT APPROACH 2016	103–1–3	55–56 Ethics and compliance
GRI 205: ANTI-CORRUPTION 2016		
Communication and training about anti-corruption policies and procedures	205–2	55 Vaisala Code of Conduct, 55 Prevention of corruption and bribery
Confirmed incidents of corruption and actions taken	205–3	56 Compliance monitoring and violations (no incidents)
GRI 206: ANTI-COMPETITIVE BEHAVIOR 2016		
Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	206–1	56 Compliance monitoring and violations (no incidents)
GRI 307: ENVIRONMENTAL COMPLIANCE 2016		
Non-compliance with environmental laws and regulations	307–1	56 Compliance monitoring and violations (no incidents)
GRI 407: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING 2016		
Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	407–1	55–56 Respect for human rights and human rights due diligence, 57–58 Responsible supply chains The topic is material only in some parts of the supply chain, not in Vaisala's own operations.
GRI 408: CHILD LABOR 2016		
Operations and suppliers at significant risk for incidents of child labor	408–1	55–56 Respect for human rights and human rights due diligence, 57–58 Responsible supply chains The topic is material only in some parts of the supply chain, not in Vaisala's own operations.
GRI 409: FORCED OR COMPULSORY LABOR 2016		
Operations and suppliers at significant risk for incidents of forced or compulsory labor	409–1	55–56 Respect for human rights and human rights due diligence, 57–58 Responsible supply chains The topic is material only in some parts of the supply chain, not in Vaisala's own operations.
GRI 412: HUMAN RIGHTS ASSESSMENT 2016		
Employee training on human rights policies or procedures	412–2	55 Vaisala Code of Conduct Vaisala's annual Code of Conduct training includes also topics related to human rights.

Topic and disclosure	Disclosure number	References and reasons for omissions
GRI 416: CUSTOMER HEALTH AND SAFETY 2016		
Incidents of non-compliance concerning the health and safety impacts of products and services	416–2	56 Compliance monitoring and violations (no incidents)
GRI 417: MARKETING AND LABELING 2016		
Incidents of non-compliance concerning product and service information and labeling	417–2	56 Compliance monitoring and violations (no incidents)
GRI 419: SOCIOECONOMIC COMPLIANCE 2016		
Non-compliance with laws and regulations in the social and economic area	419–1	56 Compliance monitoring and violations (no incidents)
RESPONSIBLE SUPPLY CHAINS		
GRI 103: MANAGEMENT APPROACH 2016	103–1–3	57–58 Responsible supply chains
GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT 2016		
New suppliers that were screened using environmental criteria	308–1	100%
GRI 414: SUPPLIER SOCIAL ASSESSMENT 2016		
New suppliers that were screened using social criteria	414–1	100%

Governance

Corporate Governance Statement 2021

Vaisala's general governance principles

Vaisala's corporate governance is based on and complies with the laws of Finland and Vaisala's Articles of Association. Consolidated financial statements and other financial reports are prepared according to the International Financial Reporting Standards (IFRS), approved by the EU. The company complies with the rules, regulations, and guidelines for listed companies issued by Nasdaq Helsinki Ltd and Finnish Supervisory Authority as well as Finnish Corporate Governance Code 2020 published by the Securities Market Association.

Vaisala Board of Directors has approved this Corporate Governance Statement in its meeting on February 17, 2022. Deloitte Oy, audit firm, the company's auditor, has verified that the statement has been issued and that the general description of internal audit and risk management systems associated with the financial reporting process conforms to the same in financial statements.

Deviation from the recommendations of the Corporate Governance Code and explanation for the deviation

The term of the members of Vaisala's Board of Directors deviates from the Recommendation 6 of Corporate Governance Code, which recommends a term of one year. The term of Vaisala's member of the Board of Directors is determined in accordance with its Articles of Association. Under the Articles of Association, a member's term is three years, beginning at the close of the General Meeting in which the member is elected and ending at the close of the third subsequent Annual General Meeting.

A longer term of office of the Board members is justified by the long-term development of Vaisala's business as well as by the nature of the business. The practice has worked well, and Vaisala's shareholders are committed to it.

Governing bodies

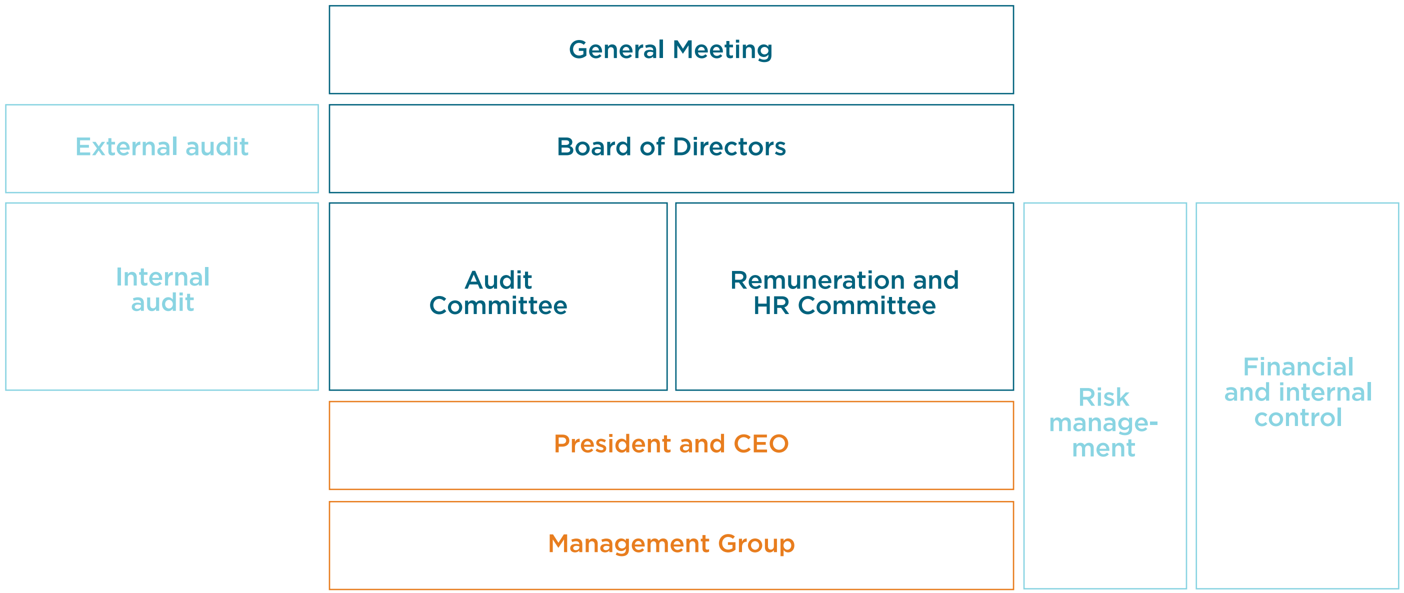
The General Meeting, the Board of Directors, and the President and CEO, assisted by the Management Group, are responsible for the governance of the Vaisala Corporation.

General meeting

The General Meeting is the supreme decision-making body of Vaisala, in which all the shareholders of the company can participate in the supervision and control of the company and exercise their right to vote, speak, and ask questions. The Annual General Meeting is held once a year before the end of June on a date determined by the Board of Directors. It decides on the matters stipulated in the Finnish Limited Liability Companies Act and the Articles of Association. The decisions are mainly made with simple majority of votes.

The Chair of the Board of Directors, members of the Board of Directors, and the President and CEO are present at the Annual General Meeting. The auditor is present at the Annual General Meeting. Board member candidates are present at the Annual General Meeting where they are elected. If the above-mentioned person or persons fail to attend the Annual General Meeting, Vaisala notifies the General Meeting of such non-attendance. The members of the Management Group participate in the Annual General Meeting, if possible.

Participation in the General Meeting requires that the shareholder is registered in Vaisala's shareholder register, maintained by Euroclear



Finland Ltd, on the record date of the meeting and that they register for the meeting by the date mentioned in the meeting notice.

Shareholders are entitled to have an issue placed on the agenda of the Annual General Meeting, provided that the issue can be decided upon by the Annual General Meeting according to the Limited Liability Companies Act. The request must be submitted in writing to the Board of Directors early enough that the issue can be included in the meeting notice. On its website, the company announces the date by which the shareholder must notify the Board of Directors of an issue to be added to the agenda of the Annual General Meeting. The date is available by the end of the previous financial year.

Vaisala publishes a notice of the Annual General Meeting no more than two months before the record date and no less than three weeks before the meeting on the company's website or in any other way that may be decided by the Board of Directors, or Vaisala may deliver it directly to shareholders when required by law. In addition, Vaisala publishes a meeting notice as a stock exchange release after the Board of Directors has decided on the convening of the Annual General Meeting. Agenda of the Annual General Meeting, proposals on decisions, and meeting documents are available on the company's website at least three weeks prior to the meeting. Documents of the Annual General Meeting will be held on the company's website for at least five years from the time of the meeting. Minutes of the meeting will be published on the company's website within two weeks of the meeting.

Due to the COVID-19 pandemic, the Annual General Meeting 2021 was held on March 30, 2021, in accordance with the temporary legislative act approved by the Finnish Parliament on October 2, 2020, and in a manner that the shareholders, auditor, and members of Board of Directors were not present. Shareholders both voted and were allowed to ask questions in advance.

Board of Directors

Competence, composition, and election

The Board of Directors is responsible for the administration and the proper organization of the operations of the company. The Board acts in accordance with the Articles of Association and the applicable legislation as well as the instructions and recommendations of the Financial Supervisory Authority and Nasdaq Helsinki Ltd. In accordance with the Articles of Association, Vaisala Corporation Board of Directors comprises at least four and maximum eight members. The Annual General Meeting elects all Board members.

The Board of Directors elects a Chair and a Vice Chair from among its members. Under the Articles of Association, the term of the Board members is three years. The term begins at the close of the General Meeting in which the member is elected and ends at the close of the third subsequent Annual General Meeting following the member's election.

Selection criteria, diversity, and the independence of the members

The primary goal in Board member election is to gather capability, expertise, and experience from various technologies, international relations, global business, and strategically significant industries to the Board of Directors. The Board should be considered as a whole that is capable of managing its tasks and duties in the best possible way.

The goal of the election of the members of the Board of Directors is to ensure that the Board supports the development of the company's current and future business. In addition, the Board should consist of members of both men and women, and the members should have the chance to allocate a sufficient amount of time to managing their tasks. The goal is that there is at least 25% representation of both men and women in the Board of Directors.

Vaisala complies with the Finnish Corporate Governance Code 2020 in evaluation of the independence of the members of the Board. The majority of the members of the Board must be independent of the company, and at least two members in this majority must be independent of the company's major shareholders. The Board evaluates the independence of the members annually based on an overall evaluation. This evaluation of a member takes into account information and analysis provided by the member themself.

Vaisala Board of Directors in 2021 represents adequate expertise and experience as well as diversity on the established goals. All members of the Board in 2021 were independent of the company and of the company's major shareholders.

Meetings, duties, and decision-making

The Board of Directors convenes at least eight times a year and if otherwise needed. The President and CEO and the Chief Financial Officer also attend Board meetings. The other members of the Management Group attend Board meetings as required on the invitation of the Board of Directors. The Board of Directors may, on the basis of the Chair's decision, establish working groups from among its members in individual cases to prepare the matters allocated for it in order to ensure the effective organization of the Board of Directors' work.

The Board of Directors operates in accordance with an approved written charter, published on the company's website. Meetings may, if necessary, be held as conference calls, video meetings, or e-mail meetings. Minutes of the meetings are compiled in English, with annually running numbering. The General Counsel acts as the Secretary of the Board of Directors.

A member of the Board of Directors is not allowed to participate if they are biased in that issue between themself and the company or between the company and a third party when there is a possibility to achieve essential advantage to themself, which may conflict with the company's interest.

The members of the Board of Directors are bound by obligations related to commercial and trade secrets as well as by the restrictions and requirements of the Market Abuse Regulation (EU) N:o 596/2014 (MAR) and the restrictions and obligations of Vaisala's Insider Policy. In their decision-making and other activities, the Board and its members must act in accordance with the interest of the company and all its shareholders as well as in accordance with the principles of due care and data protection.

The Board will have a quorum when more than half of the members are present. Decisions are made on a simple majority basis, and when the votes are even, the Chair has the casting vote. When the votes for the election of the Chair are even, the Chair is elected by drawing lots.

The President and CEO is responsible for the execution of the Board of Directors' decisions, oversees their implementation, and reports to the Board on deficiencies or problems observed during the execution.

Main responsibilities of the Board of Directors are

- to decide on the election and dismissal of the President and CEO
- to decide on the employment terms of the President and CEO
- to decide on the election and dismissal of the members of the Management Group and their job descriptions based on the President and CEO's proposition
- to ensure that the company has organized internal control of accounting and financial management as well as to monitor the effectiveness of supervision
- to determine the company's strategy and oversee its implementation and to approve the strategic plans of the business areas
- to determine the company's long-term targets and to monitor their implementation and to accept business areas' long-term targets
- to assess the company's and its business areas' annual action plans
- to approve the company and its business areas' financial targets
- to make the business decisions, the value of which exceeds the approval limit of the President and CEO according to the Approval Policy, such as business reorganizations, acquisitions and divestitures, major contracts and liabilities, investments, and financing arrangements
- to review and approve the company's most important policies and instructions, such as Approval Policy, Treasury Policy, Disclosure Policy, Dividend Policy, Risk Management Policy, Insider Policy, Code of Conduct, and Anti-Corruption Policy
- to decide on management remuneration and incentive systems

Members of the Board of Directors in 2021

During January 1–March 30, 2021, the Board of Directors comprised eight members. The Chair of the Board of Directors was Raimo Voipio, the Vice Chair was Ville Voipio, and the members were Petri Castrén, Antti Jääskeläinen, Petra Lundström, Jukka Rinnevaara, Kaarina Ståhlberg, and Tuomas Syrjänen. The Board of Directors' secretary was General Counsel Katriina Vainio.

Composition of the Board of Directors Dec 31, 2021

Member	Member since	End of term	Born	Education	Nationality	Main occupation	Shareholding Dec 31, 2021
Ville Voipio, Chair	2015 Chair since 2021	2024	1974	D.Sc. (Tech.)	Finnish	CTO, Si-Tecno Oy	397,136 (A share) 96,712 (K share)
Raimo Voipio Vice Chair	1989 Chair in 1994–2021	2023	1955	M.Sc. (Eng.)	Finnish	Board professional	570,992 (A share) 454,296 (K share)
Petri Castrén	2017	2022	1962	LL.M., MBA (University of Connecticut)	Finnish	CFO, Kemira Oyj	3,275 (A share)
Antti Jääskeläinen	2020	2023	1972	M.Sc. (Eng.), M.Sc. (Econ.), MBA (INSEAD, France)	Finnish	Executive Vice President, UPM Raflatac	874 (A share)
Petra Lundström	2014	2024	1966	M.Sc. (Tech. Physics)	Finnish	Vice President, Nuclear Services, Fortum Power and Heat Oy	6,675 (A share)
Jukka Rinnevaara	2019	2023	1961	M.Sc. (Econ.)	Finnish	President and CEO, Teleste Corporation	1,594 (A share)
Kaarina Ståhlberg	2016	2022	1966	LL.M (Helsinki and Columbia Universities)	Finnish	General Counsel and M&A, Posti Group Oyj	6,075 (A share)
Tuomas Syrjänen	2019	2022	1976	M.Sc. (El. Eng.)	Finnish	Program Director – AI Renewal, Futurice Oy	2,944 (A share)
Total							**989,565 (A share) 551,008 (K share) 1,540,573 (total)**

Shareholdings include also shares held by the Board of Directors' controlled organizations.
In accordance with the recommendation 10, all Board members are independent of the company and of significant shareholders of the company

The Annual General Meeting held on March 30, 2021, confirmed that the number of Board members is eight. All members of the Board were re-elected. Ville Voipio was elected as Chair of the Board and Raimo Voipio as Vice Chair of the Board. The Board of Directors' secretary is General Counsel Katriina Vainio.

Attendance in Board meetings 2021

Member	Attendance/ Number of meetings	Attendance %
Ville Voipio (Chair as of March 30, 2021)	17/17	100
Raimo Voipio (Chair until March 30, 2021)	17/17	100
Petri Castrén	17/17	100
Antti Jääskeläinen	17/17	100
Petra Lundström	17/17	100
Jukka Rinnevaara	17/17	100
Kaarina Ståhlberg	17/17	100
Tuomas Syrjänen	17/17	100

Board committees

The Board of Directors has two permanent committees: Audit Committee as well as Remuneration and HR Committee. The members and Chairs of the Committees are appointed annually from among the members of the Board of Directors in accordance with the charter of the respective committee.

Audit Committee

The Audit Committee assists the Board of Directors in supervising the company's accounting and asset management, risk management, as well as in organizing internal controls and external and internal audits. The Audit Committee manages its tasks in accordance with the charter approved by the Board of Directors, the Securities Market Association's Finnish Corporate Governance Code, as well as the applicable laws and regulations. The Audit Committee's charter is published as part of the charter of the Board of Directors on the company's website. The Audit Committee reports regularly about its meetings to the Board of Directors.

The Audit Committee comprises at least three members, appointed annually by the Board of Directors from among its members. The members of the committee must be independent of the company, and at least one member must also be independent of significant shareholders of the company. A member of the Audit Committee may not participate in the company's or its group company's daily management. Members of the Audit Committee have sufficient expertise and experience in matters forming part of the Audit Committee's duties and of the mandatory tasks related to audit.

Remuneration and HR Committee

The Remuneration and HR Committee is responsible for preparing human resources matters pertaining to the compensation of the President and CEO as well as top management, evaluation of the performance of the President and CEO and the Management Group, and to remuneration and incentive plans. The Remuneration and HR Committee prepares Remuneration Policy for governing bodies and Remuneration Report. Additionally, the Remuneration Committee oversees the performance evaluation and successor planning of top management. The Remuneration and HR Committee's charter is available as part of the charter of the Board of Directors on the company's website. The Remuneration and HR Committee reports regularly about its meetings to the Board of Directors.

The Remuneration and HR Committee comprises at least three members, appointed annually by the Board of Directors from among its members. The majority of the members of the committee must be independent of the company.

Committee members and their attendance in committee meetings in 2021

Committee	Member	Attendance/ Number of meetings	Attendance %
Audit Committee	Kaarina Ståhlberg (Chair)	5/5	100
	Petri Castrén	5/5	100
	Antti Jääskeläinen	5/5	100
	Raimo Voipio (as of March 30, 2021)	4/4	100
	Ville Voipio (until March 30, 2021)	1/1	100
Remuneration and HR Committee	Ville Voipio (Chair)	5/5	100
	Petra Lundström	5/5	100
	Jukka Rinnevaara	5/5	100
	Tuomas Syrjänen (as of March 30, 2021)	3/3	100

All members of the Audit Committee as well as the Remuneration and HR Committee are independent of both the company and its significant shareholders.

President and CEO

The Board of Directors appoints the President and CEO. The President and CEO is responsible for the day-to-day management of the company in accordance with the guidelines and instructions given by the Board of Directors and informs the Board of Directors of the development of the company's business and financial situation. The President and CEO is responsible for ensuring that the company's accounting is legally compliant and that its financial affairs have been arranged in a reliable manner.

Kai Öistämö has been the President and CEO of Vaisala as well as the Chair of Vaisala Management Group since October 1, 2020. He was born in 1964 and holds a Ph.D. degree in computer science.

Management Group

The President and CEO is the Chair of the Management Group. In 2021, the Management Group comprised eight members. The Management Group meets at least once a month to assist the President and CEO in developing and implementing the strategy, managing operational business, as well as preparing matters handled by the Board. The Management Group draws up annual operational and financial plans as well as targets related to these plans, monitors the implementation of the plans, and prepares major investments and acquisitions. The President and CEO is responsible for the decisions made by the Management Group.

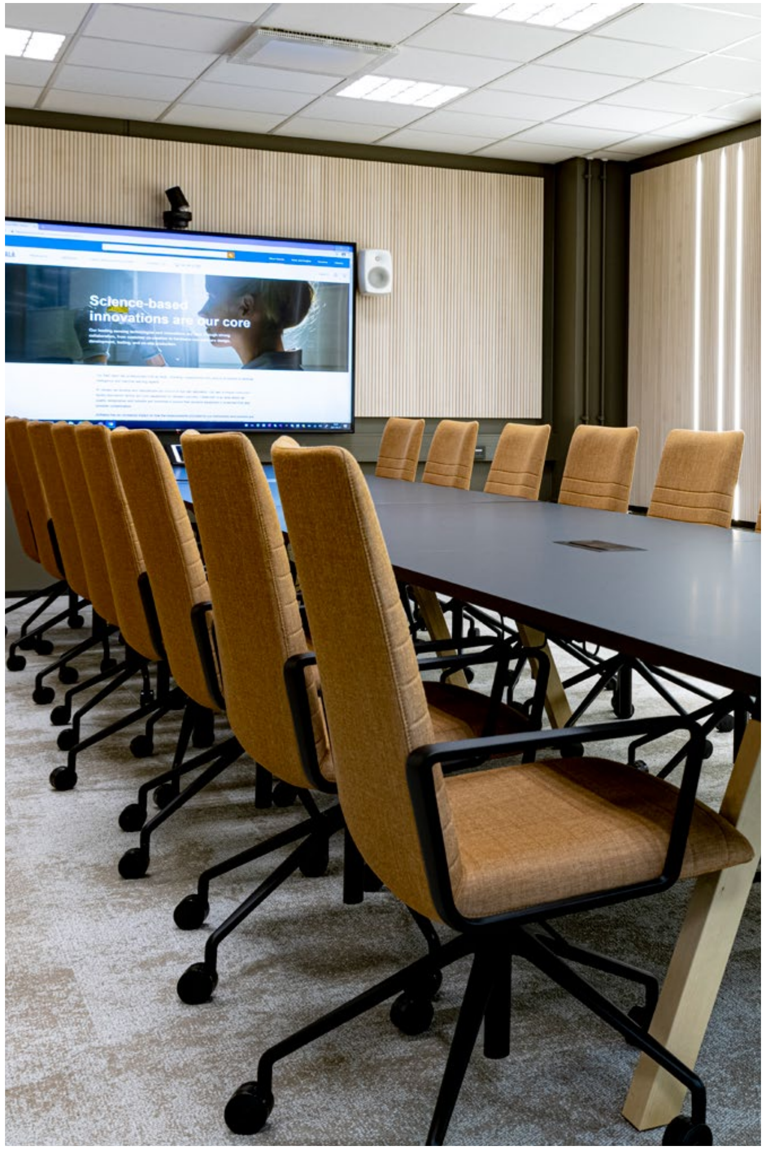
Members of the Management Group are responsible for implementing the decisions in their own areas of responsibility. Members of the Management Group are the Executive Vice Presidents of both business areas, the Chief Financial Officer, the Executive Vice President of Operations, the Executive Vice President of Operational Excellence, the Executive Vice President of Human Resources, as well as the Group General Counsel. The General Counsel acts as secretary to the Management Group.

Members of the Management Group Dec 31, 2021

Director	Member since	Born	Education	Nationality	Position at Vaisala	Shareholding Dec 31, 2021
Kai Öistämö	2020	1964	D.Sc. (Tech.)	Finnish	President and CEO	4,000 (A share)
Sampsa Lahtinen	2013	1963	M.Sc. (El. Eng.)	Finnish	EVP, Industrial Measurements business area	24,970 (A share)
Timo Leskinen	2021	1970	M.Sc. (Psy.)	Finnish	EVP, Human Resources	-
Kaarina Muurinen	2011	1958	M.Sc. (Econ.)	Finnish	CFO	38,360 (A share)
Olli Nastamo	2021	1956	M.Sc. (Eng.)	Finnish	EVP, Operational Excellence	-
Vesa Pylvänäinen	2011	1970	M.Sc. (Econ.)	Finnish	EVP, Operations	16,236 (A share)
Jarkko Sairanen	2016	1963	M.Sc. (Ind. Eng.), MBA (INSEAD)	Finnish	EVP, Weather and Environment business area	22,040 (A share)
Katriina Vainio	2017	1967	LL.M.	Finnish	EVP, Group General Counsel	16,412 (A share)
Total						**122,018 (A share)**

Shareholdings include also shares held by the Management Group's controlled organizations.

Vaisala appointed Olli Nastamo as Executive Vice President, Operational Excellence, as of March 1, 2021, and Timo Leskinen as Executive Vice President, Human Resources, as of October 1, 2021. With Nastamo's appointment, the number of the Management Group rose to eight. Nastamo and Leskinen report to the President and CEO Kai Öistämö.



Controls

Main features of the internal control and risk management systems pertaining to the financial reporting process

Internal control seeks to ensure the company's compliance with applicable laws, regulations, Code of Conduct, and with other recommendations as well as the reliability of financial and operational reporting. Furthermore, internal control seeks to safeguard the assets of the company and to ensure overall effectiveness and efficiency of operations to meet strategic, operational, and financial targets. Internal control practices are aligned with the risk management process. The goal of risk management is to support strategy and achievement of targets by anticipating and reacting to potential business threats and opportunities.

Vaisala's operating model of internal control and risk management related to financial reporting aims to provide sufficient assurance regarding the reliability of financial reporting and that the financial statements have been prepared in accordance with the applicable laws and regulations, accepted accounting principles (IFRS), and other requirements for listed companies. The principal components of internal control are control environment, risk assessment, control activities, communications, and monitoring.

Control environment

The Board of Directors has the overall responsibility for the internal control of financial reporting. The Board of Directors has established a written charter that clarifies its responsibilities and regulates the internal distribution of work of the Board of Directors and its committees. The Board of Directors has appointed the Audit Committee whose task is to ensure that established principles for financial reporting, risk management, and internal control are followed by and to enable appropriate external audit. The President and CEO is responsible for organizing an effective control environment and ongoing work on internal control as regards financial reporting. The internal audit reports all relevant issues to the Audit Committee and the President and CEO.

Internal audit focuses on developing and enhancing controls related to financial reporting by proactively and consistently assessing internal control environment and by monitoring the effectiveness of the control design. Most important internal steering instruments for financial reporting comprise the Code of Conduct, Approval Policy, Treasury Policy, Credit Policy, Disclosure Policy, accounting policies, and other reporting instructions.

Risk assessment

Risk assessment as regards financial reporting aims to identify and systematically evaluate most significant threats at the levels of Vaisala, reporting segments, functions, and processes. As a result of risk assessment, the company defines control targets through which it seeks to ensure that the fundamental requirements placed on financial reporting are fulfilled. Information on the development of essential risk areas as well as reactions to the risks are communicated regularly to the Audit Committee.

Control activities

The President and CEO is operationally responsible for internal controls. Internal control related to financial activities as well as to control of the business and the management has been integrated into Vaisala's business processes. The company has defined and documented significant internal control activities related to its financial statements reporting process as part of business processes. Approval mechanisms, access rights, segregation of duties, authorizations, verifications, reconciliations, and follow-up of financial reporting are essential internal activities.

All business units have their own defined controller function whose representatives participate in planning and evaluating the unit's performance. They ensure that monthly and quarterly financial reporting follows the company's policies and instructions and that all financial reporting is delivered on time. The management follows up the achievement of targets through monthly management reporting routines. The Chief Financial Officer regularly reports the results of the internal control work and the efficiency of the control activities to the Audit Committee.

Communications

Vaisala seeks to ensure that the internal and external communication of the company is open, transparent, accurate, and timely. The Disclosure Policy defines how and when information should be given and by whom it is given. It also defines the accuracy and comprehensiveness of the information in order to fulfill the communication obligations. Code of Conduct, Approval Policy, Treasury Policy, Credit Policy, accounting policies, and reporting instructions as well as Disclosure Policy and Insider Policy are available on the company's intranet.

Monitoring

The Board of Directors, the Audit Committee, the President and CEO, and internal audit monitor the effectiveness of internal control related to financial reporting. The monitoring includes follow-up of monthly financial reports, review of the rolling forecasts and plans, as well as reports from internal audit and auditors. Internal audit assesses the effectiveness of operations and adequacy of risk management and reports the risks and development areas related to the internal control processes. Internal audit compiles an annual audit plan and reports the status of the plan and findings regularly to the Audit Committee and the Management Group. Furthermore, the Chief Financial Officer, the General Counsel, internal audit, and auditor coordinate audit planning and monitoring regularly.

General development measures in internal control and risk management in 2021

In 2021, internal audit focused on digital transformation of Vaisala internal processes, HR strategy and operating model, product information management, as well as R&D system access control and security. Audits provided input to continual improvement of processes and internal controls.

Related party transactions

Vaisala Board of Directors has defined principles for monitoring and assessing related party transactions as well as keeps a record of related parties. The Board of Directors resolves on all related party transactions that are not made in the ordinary course of business or implemented under arms-length terms.

On top of its affiliates, related parties of Vaisala are Vaisala Board members, Vaisala Management Group (VMG) members including President and CEO, as well as their spouses, partners, and children and legal entities where a member of the Board or a VMG member has control. Board of Directors has approved guidelines that stipulate approval process and reporting concerning related party transactions. In accordance with the guidelines, Finance and Control as well as Legal follow related party transactions as part of regular reporting and control procedures. Board of Directors will resolve on all related party transactions that are not made in the ordinary course of business or implemented under arms-length terms.

Vaisala reports related party transactions in a note to financial statements. Vaisala has currently no related party transactions which would be material and in conflict with the ordinary course of business or not implemented under arms-length terms.

Auditing and auditor's fees

According to the Articles of Association, the company has one auditor, who must be a public accountant or an audit firm, authorized by the Finland Chamber of Commerce. If an audit firm is not chosen to perform the auditing, a deputy auditor must be elected as well. Auditor's term of office covers the current fiscal year and expires at the close of the following Annual General Meeting. Annual General Meeting elects the auditor and decides on the compensation paid to them.

The Annual General Meeting held on March 30, 2021, re-elected Deloitte Oy, audit firm, as the Auditor for a term of one year. APA Reeta Virolainen acts as the auditor with the principal responsibility.

Auditor's fees

EUR 1,000	2021	2020
Audit	455	416
Tax advice	19	34
Statements	28	12
Other fees	48	74
Total	**550**	**536**

Insiders

Vaisala maintains project- or event-specific insider lists when needed. 30-day closed window applies to the managers defined by the company before publishing Interim Reports, Half Year Financial Report, Financial Statement Release, and Financial Statements. Closed window ends on the day following the publication day. Closed window also applies to the persons engaged in preparation of those reports. The managers subject to transaction notification obligations comprise the Board of Directors, the President and CEO, as well as members of the Management Group. The company's legal department is responsible for insider management, training, as well as creation and maintenance of project- and event-specific insider lists and monitoring of the same.

The President and CEO, Chief Financial Officer, and/or the General Counsel, two together, can decide, based on an evaluation of the conditions set out in the Market Abuse Regulation being met, to delay publication of insider information. When the company makes the decision on delay of disclosure, a project- or event-based insider list regarding the inside information will be established. Persons, to whom project- or event-specific inside information is disclosed, are entered into the project- or event-specific insider list.

Risk management

The objective of Vaisala's risk management is to identify and manage material risks related to strategy implementation and business operations. Vaisala's Risk Management Policy, approved by the Board of Directors, covers the company's strategic, operational, hazard, and financial risks. The policy aims to ensure the safety of the company's personnel, operations, and products as well as the continuity and compliance of business operations.

The Board of Directors defines and approves risk management principles and assesses the effectiveness of risk management. The Audit Committee reviews compliance with Risk Management Policy and processes. Vaisala's Risk Management Steering Group is responsible for the operational oversight of risk management and assures that all significant risks are identified and reported and that risks are acted upon in the appropriate manner.

Risk management is integrated into key business processes and operations by incorporating risk identification, assessment, management, and risk reporting actions into the core processes. The most significant risks are reported to the Vaisala Management Group quarterly and to the Audit Committee annually.

Various risks may have an adverse effect on Vaisala's business operations. The list in this chapter explains some of the risks with their potential impacts and how Vaisala manages those risks. Risk likelihoods and impacts are estimates, provided by a small group of subject area experts. No quantitative methods have been applied to assess either likelihoods or impacts.

Risks related to sustainable practices

Environment

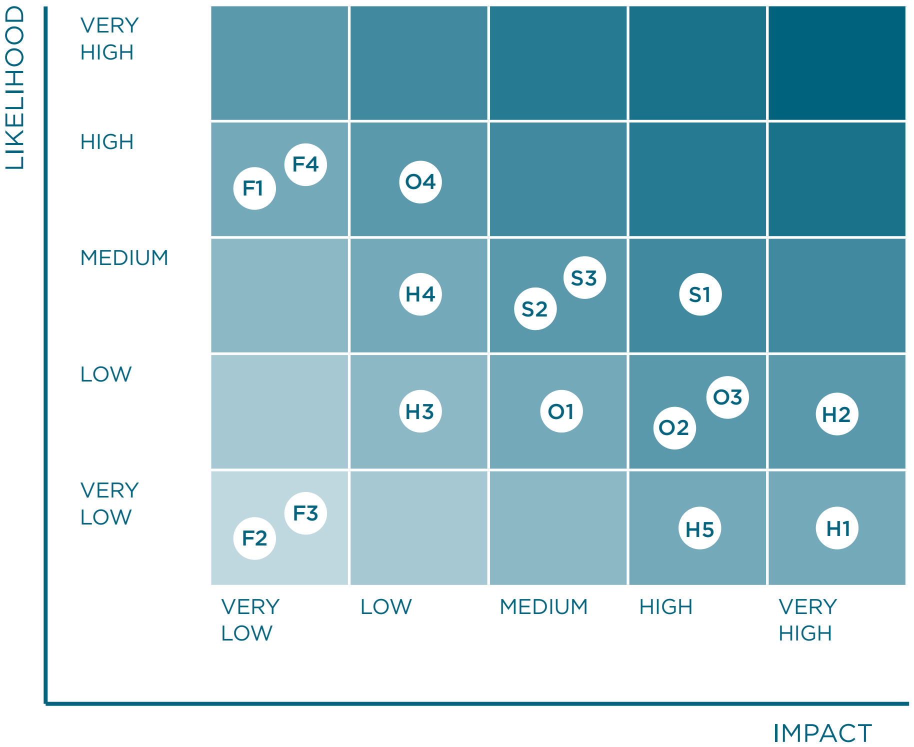
We assess environmental risks as part of our environmental management system. The most significant environmental risks of our operations are related to potential emergency situations that can lead to local contamination. These risks are controlled as part of our emergency preparedness and our management process for hazardous substances. Climate change, on the other hand, has been assessed to increase the likelihood of certain risks (H4 and O1 in the table introduced here). Exceptional weather conditions, storms, floods, and drought – all related to climate change – may provide Vaisala also with business opportunities.

Social and personnel matters

On an individual level, personnel risks relate to occupational health and occupational accidents. On corporate level, the risks are related to the company's ability to retain and attract talent. These risks are controlled through continuous development of Vaisala's occupational health and safety system, support for the well-being of our employees, monitoring employee satisfaction, as well as providing purposeful work, learning opportunities, and an equal work environment.

Respecting human rights and preventing corruption and bribery

Risks related to human rights violations, corruption, and bribery impact corporate reputation, brand, and the company's ability to attract the best talent. Other potential consequences are judicial processes, penalties, contract cancellations, and exclusion from tenders. These risks are managed through recurring and compulsory Code of Conduct trainings as well as audits. We choose our suppliers carefully and verify the sustainability of their practices. Our Supplier Code of Conduct sets the requirement level for their operation. Our other partners, such as distributors and agents, are committed to complying with our Code of Conduct. The compliance of all our partners is assessed and monitored.



Key risks 2021		Impact/Likelihood
Strategic risks		
S1	Slower demand than anticipated after COVID-19, especially in aviation, developing markets, and public sector	high/medium
S2	Delivery delays or additional material costs due to component shortage	medium/medium
S3	Industry consolidation, increased competition, loss of market leader and price premium position	medium/medium
Hazard risks		
H1	Long disruption in the cleanroom operation	very high/very low
H2	Severe field service personnel accident caused by working conditions	very high/low
H3	Critical failure of infrastructure supporting digital solutions	low/low
H4	Natural disaster, epidemic (other than COVID-19), civil unrest, terrorism	low/medium
H5	Long disruption in radiosonde production	high/very low
Operational risks		
O1	Business continuity risks related to suppliers	medium/low
O2	Cyber risk	high/low
O3	Long unavailability of IT systems	high/low
O4	Delay in a significant product launch	low/high
Financial risks		
F1	Credit risk	very low/high
F2	Liquidity and refinancing risk	very low/very low
F3	Financial credit and interest rate risk	very low/very low
F4	Currency risk	very low/high

Strategic risks

S1 Slower demand than anticipated after COVID-19, especially in aviation, developing markets, and public sector
Due to the COVID-19 virus, air traffic has decreased significantly. The aviation industry is facing major financial challenges, affecting the investment needs and capabilities of Vaisala's customers in the near future. The scale of the austerity measures that are implemented due to the COVID-19 virus is not yet known. Global depression is also possible.

Managing risk

- Updating aviation weather solutions instead of renewing them
- Focusing on efficiency and automation in Vaisala's offering
- Researching the demand for new business models
- Highlighting the importance of investments in weather observations
- Utilizing financial stimulus packages and funding mechanisms together with customers
- Managing cost

S2 Delivery delays or additional material costs due to component shortage
It has become difficult to predict component availability, and global component shortage is expected to continue. The component shortage may lead to partial interruption in production or delivery delays or cancellations.

Managing risk

- Finding alternative delivery channels and components
- Increasing Vaisala's component supply
- Product changes to ensure continuation of production

S3 Industry consolidation, increased competition, loss of market leader and price premium position
Vaisala is a market leader in many businesses. Loss of that position would lead to a significant reduction in profitability. Competitor mergers are taking place especially in the Weather and Environment business area, which will affect the competitive situation.

Managing risk

- Continued focus on product leadership, product differentiation, and value sales
- Developing market, customer, and application expertise
- Active management of product portfolio as well as product and technology platforms

Hazard risks

H1 Long disruption in the cleanroom operation
Long disruption of cleanroom operation would have a major impact on the delivery capability of both business areas. Potential causes could include fire, contamination, or breakdown of key equipment.

Managing risk

- Emergency stock of sensor components, management of production equipment and spare parts, safety of facilities
- Business continuity planning
- Manufacturing partnerships
- Business Interruption Insurance

H2 Severe field service personnel accident caused by working conditions
A serious accident caused by hazardous working conditions, for example at roadsides, in tall towers, or in extreme conditions.

Managing risk

- Continuous development of occupational safety, emergency procedures, job hazard analysis
- Tracking system for employees working in hazardous conditions

H3 Critical failure of infrastructure supporting digital solutions
Service unavailability due to, for example, a communications or software failure or power outage, causing significant harm to customers.

Managing risk

- Geographic system redundancy across multiple server sites
- Transition to cloud computing

H4 Natural disaster, epidemic (other than COVID-19), civil unrest, terrorism
Impaired business environment caused by external events.

Managing risk

- Geographic diversity of business
- Business Interruption Insurance
- Monitoring the business environment
- Risk assessment of business opportunities
- Crisis management team

H5 Long disruption in radiosonde production
A long disruption in production can result in the loss of long-term customers.

Managing risk

- Identification of critical production factors and managing their risks
- Safety of facilities
- Reserve stocks
- Business Interruption Insurance

Operational risks

O1 Business continuity risks related to suppliers
Long disruption in the operations of a key supplier, for example due to a natural disaster, equipment breakdown, an accident, or bankruptcy.

Managing risk

- Active supplier risk assessment
- Long-term supplier development plans
- Strategic supplier business continuity audits
- Parts stock at Vaisala

O2 Cyber risk
Interruptions to operations or digital services, financial loss, loss of trade secrets or personal data.

Managing risk

- Maintaining ISO 27000 compliant Information Security Management System (ISMS)
- Cyber insurance
- GDPR controls

O3 Long unavailability of IT systems
Unavailability of systems leads to interruptions in operations, especially in production.

Managing risk

- IT Disaster Recovery Plan as part of Information Security Management System
- Shortening the resolution time of critical incidents
- Change management process of systems, including impact assessments and formal approvals
- Cyber insurance

O4 Delay in a significant product launch
A product development project may be delayed due to technical or resource-related issues, leading to additional costs and delayed profit.

Managing risk

- Continuous improvement of product development processes
- Developing software architecture and product platforms
- Management and prioritization of the product portfolio
- Use of Lean methods as part of product development

Financial risks

F1 Credit risk

Managing risk

- Secured terms of payment
- Business credit checks
- Diverse customer pool

F2 Liquidity and refinancing risk

Managing risk

- Sustainable capital structure

F3 Financial credit and interest rate risk

Managing risk

- High credit rating of financial counter parties
- Low risk cash investment

F4 Currency risk

Managing risk

- Currency hedging

Board of Directors

Ville Voipio

Chair of the Board of Directors, Chair of the Remuneration and HR Committee

b. 1974, Finnish citizen, D.Sc. (Tech.)

Independent member of the Vaisala Board of Directors since 2015 and Chair since 2021. End of term 2024.

Main occupation: CTO, Si-Tecno Oy, R&D and strategy management

Vaisala shares held

Dec 31, 2021: 397,136 A shares and 96,712 K shares

Dec 31, 2020: 396,493 A shares and 96,712 K shares

Raimo Voipio

Vice Chair of the Board of Directors, Member of the Audit Committee

b. 1955, Finnish citizen, M.Sc. (Eng.)

Independent member of the Vaisala Board of Directors since 1989 and Chair 1994–2021. End of term 2023.

Main occupation: Board professional

Vaisala shares held

Dec 31, 2021: 570,992 A shares and 454,296 K shares

Dec 31, 2020: 570,524 A shares and 454,296 K shares

Petri Castrén

Member of the Audit Committee

b. 1962, Finnish citizen, LL.M, MBA (University of Connecticut, USA)

Independent member of the Vaisala Board of Directors since 2017. End of term 2022.

Main occupation: Chief Financial Officer, Kemira Oyj

Vaisala shares held

Dec 31, 2021: 3,275 A shares

Dec 31, 2020: 2,807 A shares

Antti Jääskeläinen

Member of the Audit Committee

b. 1972, Finnish citizen, M.Sc. (Eng.), M.Sc. (Econ.), MBA (INSEAD, France)

Independent member of the Vaisala Board of Directors since 2020. End of term 2023.

Main occupation: Executive Vice President, UPM Raflatac, Member of the UPM Group Executive Team

Vaisala shares held

Dec 31, 2021: 874 A shares

Dec 31, 2020: 406 A shares

Petra Lundström

Member of the Remuneration and HR Committee

b. 1966, Finnish Citizen, M.Sc. (Tech. Physics)

Independent member of the Vaisala Board of Directors since 2014. End of term 2024.

Main occupation: Vice President, Nuclear Services, Fortum Power and Heat Oy

Vaisala shares held

Dec 31, 2021: 6,675 A shares

Dec 31, 2020: 6,207 A shares

Jukka Rinnevaara

Member of the Remuneration and HR Committee

b. 1961, Finnish citizen, M.Sc. (Econ.)

Independent member of the Vaisala Board of Directors since 2019. End of term 2023.

Main occupation: President and CEO, Teleste Corporation

Vaisala shares held

Dec 31, 2021: 1,594 A shares

Dec 31, 2020: 1,126 A shares

Kaarina Ståhlberg

Chair of the Audit Committee

b. 1966, Finnish citizen, LL.M. (University of Helsinki and Columbia University, NY)

Independent member of the Vaisala Board of Directors since 2016. End of term 2022.

Main occupation: General Counsel and M&A, Member of the Executive Board, Posti Group Oyj

Vaisala shares held

Dec 31, 2021: 6,075 A shares

Dec 31, 2020: 5,607 A shares

Tuomas Syrjänen

Member of the Remuneration and HR Committee

b. 1976, Finnish citizen, M.Sc. (El. Eng.)

Independent member of the Vaisala Board of Directors since 2019. End of term 2022.

Main occupation: Program Director – AI Renewal, Futurice Oy

Vaisala shares held

Dec 31, 2021: 2,944 A shares

Dec 31, 2020: 2,476 A shares

Shareholdings include direct holdings and shares held by interest parties and controlled organizations..
Read full CV information on the company's website at vaisala.com.

Management Group

Kai Öistämö

President and CEO,
Chair of the Management Group since 2020

b. 1964, Finnish citizen, D.Sc. (Tech.)

Vaisala shares held
Dec 31, 2021: 4,000 A shares
Dec 31, 2020: –

Olli Nastamo

Executive Vice President,
Operational Excellence since 2021

b. 1956, Finnish Citizen, M.Sc. (Eng.)

Vaisala shares held
Dec 31, 2021: –
Dec 31, 2020: –

Sampsa Lahtinen

Executive Vice President,
Industrial Measurements since 2013

b. 1963, Finnish citizen, M.Sc. (El. Eng.)

Vaisala shares held
Dec 31, 2021: 24,970 A shares
Dec 31, 2020: 25,606 A shares

Vesa Pylvänäinen

Executive Vice President, Operations since 2011

b. 1970, Finnish citizen, M.Sc. (Econ.)

Vaisala shares held
Dec 31, 2021: 16,236 A shares
Dec 31, 2020: 20,412 A shares

Timo Leskinen

Executive Vice President, Human Resources since 2021

b. 1970, Finnish citizen, M.Sc. (Psy.)

Vaisala shares held
Dec 31, 2021: –
Dec 31, 2020: –

Jarkko Sairanen

Executive Vice President,
Weather and Environment since 2016

b. 1963, Finnish citizen, M.Sc. (Ind. Eng.), MBA (INSEAD)

Vaisala shares held
Dec 31, 2021: 22,040 A shares
Dec 31, 2020: 13,176 A shares

Kaarina Muurinen

CFO since 2011

b. 1958, Finnish Citizen, M.Sc. (Econ.)

Vaisala shares held
Dec 31, 2021: 38,360 A shares
Dec 31, 2020: 29,496 A shares

Katriina Vainio

Executive Vice President, Group General Counsel since 2017

b. 1967, Finnish citizen, LL.M.

Vaisala shares held
Dec 31, 2021: 16,412 A shares
Dec 31, 2020: 13,088 A shares

Shareholdings include also shares held by the Management Groups' controlled organizations.
Read full CV information on the company's website at vaisala.com.

Information for shareholders

Vaisala Corporation's Annual General Meeting will be held on Tuesday March 29, 2022. The Board of Directors of Vaisala has resolved on exceptional procedure for the meeting based on the temporary legislative act approved by the Finnish Parliament on May 7, 2021. The company has resolved to take actions enabled by the act in order to hold the meeting in a predictable manner, taking into account the health and safety of the company's shareholders, personnel, and other stakeholders. Notice to Annual General Meeting is available on Vaisala's website at vaisala.com/agm where shareholders can also follow the meeting via live webcast.

Payment of dividends

The Board of Directors proposes to the Annual General Meeting a dividend of EUR 0.68 per share for the fiscal year 2021 to be paid. The dividend would be paid to shareholders registered in the Register of Shareholders held by Euroclear Finland Ltd on the record date of the dividend distribution, March 31, 2022. The Board of Directors proposes that the dividend will be paid on April 11, 2022.

Change of address

Vaisala's shareholders are kindly requested to report written changes of address to the bank where they have their book entry account.

Listing of Vaisala shares

Vaisala Corporation has two classes of shares: the listed series A shares and the non-listed series K shares. The Vaisala series A shares are listed on the Nasdaq Helsinki and are registered at Euroclear Finland Ltd.

Publication of financial information

Vaisala Corporation publishes financial information in Finnish and English. All materials are available on Vaisala's website at vaisala.com.

The printed Finnish Annual Report will be mailed only upon request. The company's mailing list for financial reports can be joined on Vaisala's website at vaisala.com.

Interim Reports and Half Year Report

- April 29, 2022: Interim Report January–March 2022
- July 22, 2022: Half Year Financial Report 2022
- October 28, 2022: Interim Report January–September 2022

Silent period

Silent period begins 30 calendar days before the publishing of the Interim Reports, Half Year Financial Report, and Financial Statement Release and lasts until the publishing of the Interim Reports, Half Year Financial Report, and Financial Statement Release. Exceptions to this rule are the Annual General Meeting (if held during the silent period) and the publication of a stock exchange release regarding a significant business event and the related communication. During silent periods, Vaisala's spokespersons refrain from discussing and commenting on issues related to the company's financial performance or meeting with capital market representatives.

Comprehensive investor relations pages and investor relations contact information can be found at vaisala.com/investors.

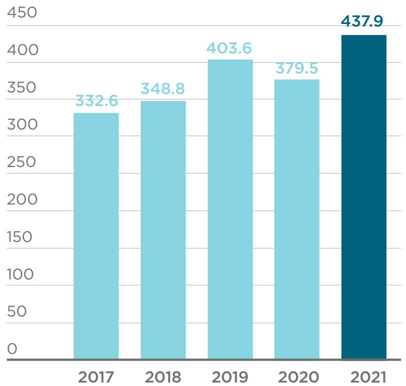
Financial statements and Board of Directors' report

Key figures

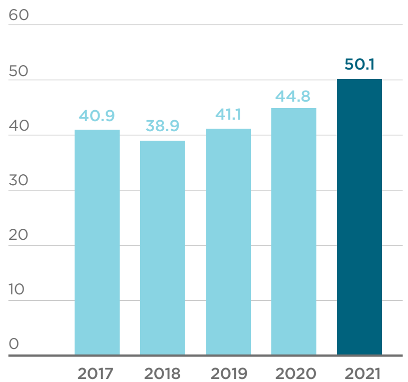
41% Industrial Measurements 181.0 MEUR

59% Weather and Environment 256.9 MEUR

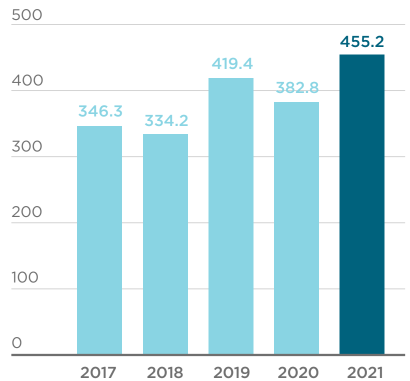
NET SALES, MEUR

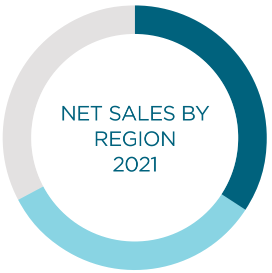


OPERATING RESULT (EBIT), MEUR



ORDERS RECEIVED, MEUR





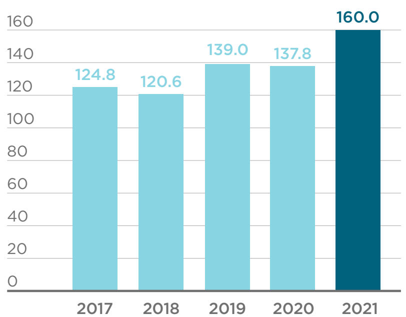
34% Americas 150 MEUR

33% APAC 145 MEUR

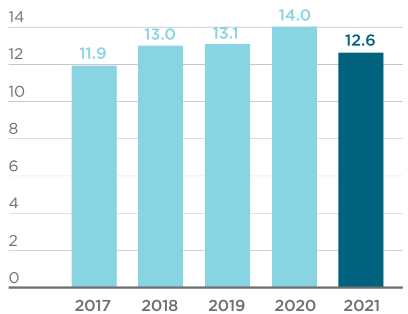
33% EMEA 143 MEUR

Americas: North and South America
APAC: Asia Pacific
EMEA: Europe, Middle-East and Africa

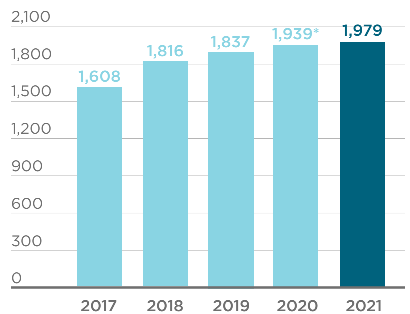
ORDER BOOK, MEUR



RESEARCH & DEVELOPMENT COSTS
% OF NET SALES



PERSONNEL AT YEAR-END



* Number of employees includes persons in long-time absence as of January 1, 2021. Comparison period 2020 has been adjusted accordingly.

Board of Directors' Report 2021

Key figures

Financial key figures

	2021	2020	2019	2018	2017
Net sales, MEUR	437.9	379.5	403.6	348.8	332.6
Exports and international operations, %	98.0	97.0	98.0	98.0	97.0
Gross profit, %	55.2	56.1	54.8	53.1	52.3
Operating result, MEUR	50.1	44.8	41.1	38.9	40.9
% of net sales	11.5	11.8	10.2	11.1	12.3
Result before taxes, MEUR	48.3	41.3	40.2	37.5	38.1
% of net sales	11.0	10.9	10.0	10.8	11.5
Result for the financial year, MEUR	39.5	32.8	33.6	29.5	27.2
% of net sales	9.0	8.7	8.3	8.5	8.2
R&D expenditure, MEUR	55.3	53.2	52.8	45.4	39.6
% of net sales	12.6	14.0	13.1	13.0	11.9
Depreciation, amortization and impairment, MEUR	21.6	21.1	23.5	12.1	9.7

	2021	2020	2019	2018	2017
Cash and cash equivalents, MEUR	77.9	45.4	56.4	72.7	91.3
Equity, MEUR	230.3	205.5	198.3	182.9	185.4
Statement of financial position total, MEUR	408.0	351.8	361.5	334.4	273.8
Return on equity, %	18.1	16.3	17.7	16.0	15.0
Solvency ratio, %	57.2	59.0	55.7	55.6	68.9
Interest-bearing liabilities, MEUR	50.2	57.0	51.5	40.5	-
Gearing, %	-12.0	5.7	-2.4	-17.6	-49.2
Capital expenditure, MEUR	19.2	31.0	26.8	14.5	8.5
% of net sales	4.4	8.2	6.6	4.2	2.5
Cash flow from operating activities, MEUR	80.0	41.0	40.8	48.3	49.2
Orders received, MEUR	455.2	382.8	419.4	334.2	346.3
Order book at the end of financial year, MEUR	160.0	137.8	139.0	120.6	124.8
Personnel expenses, MEUR	174.3	154.1	157.7	133.6	129.9
Average personnel	1,967	*1,929	1,829	1,678	1,592
Personnel at the end of financial year	1,979	*1,939	1,837	1,816	1,608

* Number of employees includes persons in long-time absence as of January 1, 2021. Comparison period 2020 has been adjusted accordingly.

Key figures

Share key figures

	2021	2020	2019	2018	2017
Earnings per share (EPS), EUR	1.08	0.91	0.94	0.82	0.76
Diluted earnings per share, EUR	1.07	0.91	0.93	0.81	0.75
Cash flow from operating activities per share, EUR	2.21	1.14	1.14	1.35	1.38
Equity per share, EUR	6.36	5.70	5.52	5.11	5.20
Dividend per share, EUR	*0.68	0.61	0.61	0.58	1.05
Dividend per earnings, %	**62.9	66.9	65.2	70.7	138.2
Effective dividend yield, %	**1.28	1.51	1.92	3.51	4.72
Price/earnings (P/E)	49.31	44.34	33.78	20.12	29.28
Series A share price development, EUR					
highest price	55.80	42.50	32.80	23.90	24.45
lowest price	30.00	21.65	15.95	15.85	15.94
volume weighted average price	39.45	32.58	23.56	20.14	20.13
closing price	53.30	40.35	31.75	16.50	22.25

	2021	2020	2019	2018	2017
Market capitalization at the end of financial year***, MEUR	1,924.2	1 452.6	1 139.2	590.5	794.1
A shares traded					
pieces	2,939,088	3,852,297	3,442,439	3,710,610	4,298,504
% of total series	9.9	13.0	11.6	12.5	14.5
Number of shares, pieces	36,436,728	36,436,728	36,436,728	36,436,728	36,436,728
A shares	29,705,636	29,705,636	29,685,330	29,658,066	29,658,066
K shares	6,731,092	6,731,092	6,751,398	6,778,662	6,778,662
Outstanding shares at the end of financial year***, pieces	36,101,073	35 999 689	35 880 739	35 790 092	35 692 000

* Proposal by the Board of Directors
** Calculated according to the proposal by the Board of Directors
*** Including series A and K shares, excluding treasury shares. Series K shares are valued using the closing price for the series A share on the last trading day of December.

The share issue without payment approved by Vaisala's Annual General Meeting on April 10, 2018 doubled the total number of series K and A shares. All share related figures in this Board of Directors' Report have been adjusted to reflect the increased number of shares.

Trading information is based on Nasdaq Helsinki Ltd. statistics.

Calculation of key figures

Earnings/share, EUR	=	$\frac{\text{Result for the period +/- non-controlling interest}}{\text{Average number of shares outstanding}}$
Cash flow from business operations/share, EUR	=	$\frac{\text{Cash flow from business operations}}{\text{Number of shares outstanding at the end of the period}}$
Equity/share, EUR	=	$\frac{\text{Total equity attributable to owners of parent company}}{\text{Number of shares outstanding at the end of the period}}$
Dividend/share, EUR	=	$\frac{\text{Dividend}}{\text{Number of shares outstanding at the end of the period}}$
Dividend/earnings, %	=	$\frac{\text{Dividend}}{\text{Result for the period +/- non-controlling interest}} \times 100$
Effective dividend yield, %	=	$\frac{\text{Dividend / share}}{\text{Closing price for the series A share at the end of the period}} \times 100$
Price/earnings (P/E)	=	$\frac{\text{Closing price for the series A share at the end of the period}}{\text{Earnings / share}}$
Market capitalization, MEUR	=	Closing price for the series A share x number of shares outstanding

Alternative performance measures

Vaisala presents in its financial reporting alternative performance measures, which describe businesses' financial performance and its development as well as investments and return on equity. In addition to accounting measures which are defined or specified in IFRS, alternative performance measures complement and explain presented information. Vaisala presents in its financial reporting the following alternative performance measures:

Net sales with comparable exchange rates	=	Net sales converted to euros with exchange rates used during the comparison period
Gross margin, %	=	$\frac{\text{Net sales - Cost of sales}}{\text{Net sales}} \times 100$
Operating result	=	Result before income taxes, financial income and expenses, and share of result in associated company as presented in Consolidated Statement of Income. Operating result describes profitability and development of business areas' performance.
Result before taxes	=	Result before taxes as presented in Consolidated Statement of Income.
Return on equity (ROE), %	=	$\frac{\text{Result for the period}}{\text{Total equity (average)}} \times 100$
Solvency ratio, %	=	$\frac{\text{Total equity}}{\text{Statement of financial position total – advances received}} \times 100$
Investmets	=	Gross investments in non-current intangible assets as well as property, plant and equipment
Order book	=	Undelivered customer orders at the end of the period
Gearing, %	=	$\frac{\text{Interest-bearing liabilities – cash and cash equivalents}}{\text{Total equity}} \times 100$

Financial review 2021

Orders received and order book

MEUR	2021	2020	Change	FX*
Orders received	455.2	382.8	19%	20%
Order book, end of period	160.0	137.8	16%	

* Change with comparable exchange rates

In 2021, orders received were strong with 19% increase compared to previous year and totaled EUR 455.2 (382.8) million. Orders received increased mostly in industrial instruments, life science, renewable energy, and aviation market segments. Orders received increased in both business areas. Second quarter orders received included EUR13 million weather infrastructure project order with the National Meteorology Agency in Ethiopia announced in October 2019.

At the end of December 2021, order book amounted to EUR 160.0 (137.8) million and increased by 16% compared to previous year. Order book increased in both business areas. EUR 125.3 (100.1) million of the order book is scheduled to be delivered in 2022.

Financial performance

MEUR	2021	2020	Change	FX*
Net sales	437.9	379.5	15%	17%
Products	320.3	267.3	20%	
Projects	63.6	59.3	7%	
Services	51.8	52.9	-2%	
Lease income	2.1	-	-	
Gross margin, %	55.2	56.1		
Operating expenses	186.5	169.2	10%	
R&D expenditure	55.3	53.2	4%	
Amortization*	7.6	7.5		
Operating result	50.1	44.8		
% of net sales	11.5	11.8		

* Amortization of intangible assets related to the acquired businesses
** Change with comparable exchange rates

In 2021, operating result increased from previous year to EUR 50.1 (44.8) million, 11.5 (11.8) % of net sales following growth in net sales.

Net sales increased by 15% compared to previous year and were EUR 437.9 (379.5) million. In constant currencies, net sales increased by 17%. Operations outside Finland accounted for 98 (97) % of net sales. Net sales increased mostly in industrial instruments, life science, renewable energy, and meteorology market segments. In the comparison period, services net sales included discontinued assessment services provided for renewable energy customers and lease income.

Gross margin decreased compared to previous year and was 55.2 (56.1) %. Additional costs related to component spot purchases had a one percentage point negative impact on gross margin.

Operating expenses increased to EUR 186.5 (169.2) million. The increase was mainly due to higher incentive costs and headcount increase during the year.

Operating result included expenses arising from valuation increase of contingent considerations of acquired businesses based on 2021 financial results, as well as restructuring costs in Weather and Environment business areas and a settlement payment to a business partner, and related legal fees in the US. These expenses totaled EUR 6.9 million. Comparison period included EUR 1.8 million positive impact of valuation of contingent considerations of acquired businesses.

In 2021, financial income and expenses were EUR -2.1 (-3.6) million. This was mainly a result of valuation of USD denominated receivables and interest expenses. Income taxes were EUR 8.9 (8.5) million and effective tax rate 18.4 (20.6) %. Effective tax rate declined from previous year as Vaisala expects to utilize tax losses carried forward from acquired companies. Result before taxes was EUR 48.3 (41.3) million and result for the period EUR 39.5 (32.8) million. Earnings per share was EUR 1.08 (0.91).

Statement of financial position, cash flow and financing

Vaisala's financial position remained strong in 2021. Cash and cash equivalents increased to EUR 77.9 (45.4) million at the end of December despite EUR 22 million dividend payment and EUR 5 million repayment of revolving credit facility. At the end of December, statement of financial position totaled EUR 408.0 (351.8) million.

In 2021, cash flow from operating activities increased to EUR 80.0 (41.0) million mainly as a result of increase in liabilities as well as improved net result.

On December 31, 2021, Vaisala had interest-bearing borrowings totaling EUR 50.2 (57.0) million. EUR 40.0 million of the interest-bearing borrowings related to a term loan, which has a financial covenant (gearing) tested semi-annually. On December 31, 2021, Vaisala was in compliance with the covenant. For short term liquidity purposes, Vaisala has a domestic commercial paper program and a committed revolving credit facility, which were both unutilized on December 31, 2021 (EUR 0 million and EUR 5 million respectively). In addition, interest-bearing lease liabilities totaled EUR 10.1 (11.9) million.

Capital expenditure

In 2021, capital expenditure in intangible assets and property, plant and equipment totaled EUR 19.2 (31.0) million. Capital expenditure was mainly related to investments in machinery and equipment to develop and maintain Vaisala's production and service operations as well as equipment for the R&D laboratories.

Depreciation, amortization, and impairment were EUR 21.6 (21.1) million. This included EUR 7.6 (7.5) million of amortization of identified intangible assets related to the acquired businesses.

Personnel

The average number of personnel employed in 2021 was 1,967 (1,929*). At the end of 2021, the number of employees was 1,979 (1,939*). 77 (77) % of employees were located in EMEA, 15 (14) % in Americas and 8 (9) % in APAC. 66 (65) % of employees were based in Finland.

Number of employees by region

	Dec 31, 2021	Dec 31, 2020	Change
Americas	292	281	11
APAC	156	166	-10
EMEA (excluding Finland)	228	230	-2
Finland	1,303	1,262	41
Total	**1,979**	***1,939**	**40**

Number of employees by function

	Dec 31, 2021	Dec 31, 2020	Change
Sales and marketing	368	373	-5
R&D	573	547	26
Operations	491	478	13
Services	331	337	-6
Administration	216	204	12
Total	**1,979**	***1,939**	**40**

* Number of employees includes persons in long-time absence as of January 1, 2021. Comparison period 2020 has been adjusted accordingly.

Number of employees increased in R&D as Vaisala continued in-sourcing of software development and strengthen resourcing and competences in order to secure future investments. Resource increase in operations followed increased production volumes. Administration prepared for ERP renewal project by increasing personnel.

In May 2021, Vaisala started co-operation negotiations in Finland in its Project and Customer Services unit within Weather and Environment business area following decrease in project orders. These negotiations covered 57 employees. As a result of the negotiations, nine positions were terminated. Redundancies were avoided as impacted employees were employed in open positions within the company.

In 2021, personnel expenses totaled EUR 174.3 (154.1) million.

Share-based incentive plans

The share issue without payment approved by Vaisala's Annual General Meeting on April 10, 2018, doubled the total number of series K and A shares. All share related figures have been adjusted to reflect the increased number of shares.

Share-based incentive plans are targeted to the Group key employees. The performance criterion for 2017 and 2018 plans was based on the group's profitability in respective calendar year. From 2019 onwards the performance criteria of the plans are based on the development of the total shareholder return (TSR) and the group's profitability during the three-year plan period. The rewards are paid partly in Vaisala's series A shares and partly in cash. The cash portion covers taxes and tax-related costs arising from the reward to a key employee. No reward is paid if a key employee's employment or service ends before the reward payment date. From the plan 2019–2021 onwards, Vaisala's Board of Directors requires that the President and CEO and each member of the Management Group retains his/her ownership of shares received under this plan until the value of his/her ownership in Vaisala corresponds to at least his/her annual gross base salary.

On December 15, 2016, the Board of Directors resolved a share-based incentive plan 2017. On March 3, 2020, the reward corresponding to 237,900 series A shares, 65% of the maximum, was paid to 33 key employees. On June 28, 2019, the reward corresponding to 3,467 series A shares was paid to a key employee. Closing price of Vaisala's series A share was EUR 17.90 on the grant date of the incentive plan. A total expense of this plan of EUR 4.2 million was recorded for 2017–2020.

On February 7, 2018, the Board of Directors resolved a share-based incentive plan 2018. On March 10, 2021, the reward corresponding to 166,200 series A shares, 55% of the maximum, was paid to 27 key employees. On June 28, 2019, the reward corresponding to 923 series A shares was paid to a key employee. On March 10, 2021, the reward corresponding to 8,000 series A shares was paid to Kai Öistämö, President and CEO. Closing price of Vaisala's series A share was EUR 22.10 on the grant date of the incentive plan. A total expense of this plan of EUR 3.8 million was recorded for 2018–2021.

On February 12, 2019, the Board of Directors resolved a share-based incentive plan 2019-2021 for approximately 45 key employees. The reward will be paid in spring 2022. The maximum amount of this plan originally corresponded to 330,000 series A shares. The expenses of this plan are accrued from April 2019 to March 2022. Closing price of Vaisala's series A share was EUR 19.06 on the grant date of the incentive plan. On March 10, 2021, the reward corresponding to 23,040 series A shares was paid to former President and CEO, Kjell Forsén.

On February 12, 2020, the Board of Directors resolved for a share-based incentive plan 2020–2022 for approximately 45 key employees. The reward will be paid in spring 2023. The maximum amount of this plan originally corresponded to 240,000 series A shares. The expenses of this plan are accrued from May 2020 to March 2023. Closing price of Vaisala's series A share was EUR 28.65 on the grant date of the incentive plan. On March 10, 2021, the reward corresponding to 5,529 series A shares was paid to former President and CEO, Kjell Forsén.

On December 17, 2020, the Board of Directors resolved for a share-based incentive plan 2021-2023 for approximately 40 key employees. The reward will be paid in spring 2024. The maximum amount of this plan originally corresponded to 180,000 series A shares. The expenses of this plan are accrued from April 2021 to March 2024. Closing price of Vaisala's series A share was EUR 32.10 on the grant date of the incentive plan.

Expenses for share-based incentive plans

EUR million	2017	2018	2019	2020	2021
Share-based incentive plan 2017	1.1	1.3	1.5	0.3	
Share-based incentive plan 2018		0.6	1.2	1.5	0.5
Share-based incentive plan 2019			0.6	1.6	1.8
Share-based incentive plan 2020				0.6	1.8
Share-based incentive plan 2021					1.0

2021 review by business area

Industrial Measurements business area

MEUR	2021	2020	Change	FX**
Orders received	194.4	146.0	33%	35%
Order book, end of period	32.9	18.0	83%	
Net sales	181.0	143.9	26%	27%
Products	165.9	129.9	28%	
Services	15.1	14.1	7%	
Gross margin, %	62.8	64.4		
Operating expenses	69.8	61.5	14%	
R&D expenditure	21.1	19.2	10%	
Amortization*	1.7	1.7		
Operating result	43.9	31.6		
of net sales, %	24.3	21.9		

* Amortization of intangible assets related to the acquired businesses
** Change with comparable exchange rates

Industrial Measurements business area's 2021 orders received increased strong 33% compared to previous year totaling to EUR 194.4 (146.0) million. Increase in orders received was strong in industrial instruments, life science, power industry, and liquid measurements market segments.

At the end of December 2021, Industrial Measurements business area's order book amounted to EUR 32.9 (18.0) million and increased by 83% compared to previous year. EUR 30.7 (16.6) million of the order book is scheduled to be delivered in 2022. Order book increased in all market segments.

Industrial Measurements business area's 2021 operating result increased compared to previous year and totaled EUR 43.9 (31.6) million, 24.3 (21.9) % of net sales.

In 2021, net sales were EUR 181.0 (143.9) million and increased by 26% compared to previous year. In constant currencies, net sales increased by 27%. Net sales growth was strong in industrial instruments, life science, and power industry market segments. Net sales for liquid measurements market grew slightly from previous year.

Gross margin decreased to 62.8 (64.4) %. Additional costs related to component spot purchases had a two percentage point negative impact on gross margin.

Operating expenses increased to EUR 69.8 (61.5) million. The increase was mainly due to higher incentive costs, continued investments in R&D and headcount increase.

Weather and Environment business area

MEUR	2021	2020	Change	FX**
Orders received	260.8	236.9	10%	11%
Order book, end of period	127.1	119.8	6%	
Net sales	256.9	235.5	9%	10%
Products	154.4	137.4	12%	
Projects	63.6	59.3	7%	
Services	36.7	38.8	-5%	
Lease income	2.1	-	-	
Gross margin, %	49.9	51.0		
Operating expenses	115.2	106.3	8%	
R&D expenditure	34.2	34.1	0%	
Amortization*	5.9	5.8		
Operating result	7.6	14.6		
of net sales, %	3.0	6.2		

* Amortization of intangible assets related to the acquired businesses
** Change with comparable exchange rates

Weather and Environment business area's 2021 orders received increased by 10% compared to previous year and totaled EUR 260.8 (236.9) million. Increase in orders received was strong in renewable energy market segment and good in aviation market segment. Orders received in meteorology market segment were at previous year's level and decreased in ground transportation market segment. Second quarter orders received included EUR 13 million weather infrastructure project order with the National Meteorology Agency in Ethiopia announced in October 2019.

At the end of December 2021, Weather and Environment business area's order book amounted to EUR 127.1 (119.8) million and increased by 6% compared to previous year. EUR 94.6 (83.6) million of the order book is scheduled to be delivered in 2022. Order book grew in ground transportation and meteorology market segments, whereas order book in aviation and renewable energy market segments decreased.

Weather and Environment business area's 2021 operating result decreased compared to previous year and totaled EUR 7.6 (14.6) million, 3.0 (6.2) % of net sales.

In 2021, net sales were EUR 256.9 (235.5) million and increased by 9% compared to previous year. In constant currencies, net sales increased by 10%. Net sales growth was strong in renewable energy and meteorology market segments, were at previous year's level in aviation market segment, and decreased in ground transportation. In the comparison period, services net sales included discontinued assessment services provided for renewable energy customers and lease income.

Gross margin was decreased to 49.9 (51.0) %. Additional costs related to component spot purchases had a one percentage point negative impact on gross margin.

Operating expenses increased to EUR 115.2 (106.3) million. The increase was mainly due to higher incentive costs and investments in IT system renewal.

Operating result included expenses arising from valuation increase of contingent considerations of acquired businesses based on 2021 financial results, as well as restructuring costs and a settlement payment to a business partner in the US. These expenses totaled EUR 5.5 million. Comparison period included EUR 1.8 million positive impact of valuation of contingent considerations of acquired businesses.

Impact of the COVID-19 pandemic

The COVID-19 pandemic continued to impact operation throughout the company during the whole year. However, global economy recovered during the year, and in some market segments, the recovery was stronger and faster than anticipated in the beginning of the year. Picked up demand was reflected in increased demand especially in Industrial Measurements business area. However, it is not possible to quantify the impact of the pandemic on financial results.

Following decrease in project orders, Vaisala's co-operation negotiations in Finland in its Project and Customer Services unit within Weather and Environment business area resulted to termination of nine positions. Redundancies were avoided as other positions were found within the company.

Shortage of components did not affect Vaisala's delivery capability in 2021. However, shortage of components generated additional material costs and had a one percentage point negative impact on Vaisala's gross margin in 2021. Visibility to component availability remains weak and component supply constraints are expected to continue throughout 2022. Additional material costs related to spot purchases are expected to remain at high level during 2022.

Vaisala's financial position and cash flow remained strong. Gearing was -12.0% at the end of December 2021. No material changes were identified in customers' payment behavior and credit loss allowance did not materially change during 2021.

Strategy implementation in 2021

In 2021, Vaisala had strong momentum in its strategy execution and delivered on the strategic promise for profitable growth. Vaisala continued to build technology leadership and renew offering even though the company had to refocus part of its R&D resources to mitigate component shortages. Vaisala progressed in further developing its scalability in high mix low volume operations.

Industrial Measurements business area drives profitable growth through product leadership strategy. Goal is to exceed Vaisala's average growth target. In 2021, Industrial Measurements business area succeeded in all market segments, exceeding expectations in high-end humidity and high-end carbon dioxide, continuous monitoring systems and power industry applications, and winning market share with reliable delivery performance. Industrial Measurements business area made good progress on channel management development and the regional expansion continued well in focus areas.

Industrial Measurement business area's product leadership strategy is based on continuously creating new products. In 2021, business area introduced a new instrument for off-gas methane and carbon dioxide measurements in the biomethane production process. This robust, reliable, and compact multigas instrument provides continuous and accurate measurement data to help optimize and control the biogas upgrading process for greater biomethane yield, process efficiency, and environmental benefits.

In addition, Industrial Measurements business area launched a new next-generation humidity and temperature transmitter series to take advantage of advancements in technology and to meet and exceed current hazardous area regulations. The new transmitter series offers improved user experience, better corrosion resistance, and the latest Vaisala humidity measurement performance. Typical applications for these transmitters include paint booths in automotive industry, hydrogen cooled generators in electricity generation, chemical plants and processes, baking industry, pharmaceuticals manufacturing, oil and gas drilling platforms, and fuel storage tanks.

Industrial Measurements business area also launched an easy-to-install wireless carbon dioxide measurement solution to simplify incubator monitoring and enable cost savings for customers. This new life science environmental measurement solution combines Vaisala's carbon dioxide probe GMP251 with Vaisala wireless RFL100 data logger. The new configuration leverages the superior measurement stability and accuracy and provides reliable carbon dioxide percentage measurements for incubators used for example in cell culturing, gene therapy, and vaccine research.

Moreover, Industrial Measurements business area expanded its modular Indigo-family by introducing streamlined Indigo510 Transmitter. This new transmitter is compatible with all Indigo measurement probes and its features include modular support for one probe at a time, and a large touchscreen display for local data visualization. The Vaisala Indigo510 Transmitter is an ideal choice for demanding industrial applications where precise and accurate measurements are needed for a single parameter at a time. With Indigo510 transmitter, customers benefit from regular platform and software updates.

Weather and Environment business area's strategy strives to offer industry-leading products for weather observations, to excel in large project deliveries, to grow in renewable energy market, to develop digital solutions for selected weather critical operations, and to expand into environmental measurements. In 2021, Weather and Environment business area's success in renewable energy market segment was excellent and expansion to new market segments progressed well in maritime, automotive, and urban weather segments. Large weather infrastructure opportunities continued to suffer from the exceptional market situation. Digital services' gross margin improved, although net sales remained at previous year's level. In January 2022, Vaisala acquired US-based software company AerisWeather, to accelerate growth of weather and environmental data business. AerisWeather enables Vaisala to expand its offering and opens access for Vaisala's leading data offering to several new customer segments.

Weather and Environment business area's strategic objective is to build technology leadership and renew its product and service offering. In 2021, business area launched an unprecedented lidar ceilometer that improves standard ceilometer reporting by leveraging depolarization technology, providing more refined and accurate data for greater situational awareness. The depolarization measurement capabilities enable accurate liquid/frozen differentiation, detection of dust, sand, and volcanic ash layers. This will enable nowcasting for safer air travel and operations, improved air quality modelling, and the ability to make short-term forecasts of precipitation.

Weather and Environment business area also launched world-class air quality sensor to enhance quality of life, safety, efficiency, and sustainability in communities. By identifying pollutant gases and particles in real time, the new sensor advances Vaisala's offering to improve decision-making and empower stakeholders in urban communities around the world. This new sensor can be connected to customer's own system or to Vaisala's innovative weather and environmental intelligence platform. When paired with Vaisala Beacon Weather Station and Wx Beacon UI for measurement data, stakeholders also gain access to additional key weather parameters, plus connectivity to transfer, manage, and visualize all of the data.

In addition, Weather and Environment business area launched industry leading automatic weather station to empower communities across the world to keep citizens safe and secure. This automatic weather station is a comprehensive measurement, communication, and data monitoring solution that makes modern observation networks easy to create, manage, and maintain over a long lifespan.

Moreover, Weather and Environment business area introduced a state-of-the-art sounding system that delivers industry-first capabilities, including readiness to conduct simultaneous upper air observations, to provide unprecedented visibility into rapidly changing weather conditions and enhance forecasting accuracy. It enables superior operational performance and dependability over a long life cycle and its compact design is purpose built for operating in versatile environments. The system is intuitive and easy to use with access to real-time sounding status information and comprehensive diagnostics, and its data security provides protection against data threats and unauthorized access.

Weather and Environment business area also launched a new Strike Damage Potential solution that quickly identifies and locates lightning strikes with greater potential to cause damage or start a fire, allowing preventative action to stop escalation of a problem. The user interface, Lightning Exporter, was updated to make the information easy to access and to be clearly presented on the map display. Customers can incorporate the information in their own applications using the Lightning Integrator API.

In addition, Weather and Environment business area upgraded its solution for road asset management. This version provides better user experience through new segment-based data model, whole network wide map layer, and improved performance. Also traffic sign classification models for Australia and United States were added enabling traffic sign mapping in these countries. RoadAI API was updated allowing more functionalities to be done over the interface including modifying and deleting annotations and using different coordinate systems.

Vaisala Operations manufactures products for both business areas and develops operational excellence in high mix low volume supply chain through Vaisala Production System. Strategic programs are productivity improvement, early involvement to product creation, as well as scouting and deploying latest smart factory technologies.

In 2021, operations expanded its production space as well as warehouse capacity through automation in order to respond to strong increase in demand. Despite shortage of components and capacity increases, delivery capability was solid through-out the year. Operations also introduced several new measures and practices to improve product quality. Operations participated in multiple product development projects together with business areas in order to ensure good producibility and timely production ramp-up.

Vaisala's process development focused on customer facing processes. Implementation of CPQ (Configure Price and Quote) progressed well in both business areas. Development project of new ERP (Enterprise Resource Planning) solution was kicked-off, and project for developing data and analytics solution was initiated.

Strategy update and long-term financial targets

In September, Vaisala's Board of Directors approved the company's strategy and updated long-term financial targets for the next three years.

Vaisala's strategy focuses on driving sustainable growth and global leadership in weather, environmental, and industrial measurements. Through its products and technologies, Vaisala enables business-critical decisions and operations for its customers. Thereby, the company strongly contributes to solving global challenges related to climate change, resource efficiency, and well-being and health.

Vaisala aims to be market leader in the markets where it operates. The company has identified four drivers for successful strategy implementation:

- Product and technology leadership from sensors to digital solutions
- Deep customer understanding and application knowhow

- Scalability in high-mix, low-volume business
- Engaged and talented people

Following updated strategy and increased focus in sustainability, the Board of Directors decided to revise the scope of the Remuneration and HR Committee and consequently, the name was changed to People and Sustainability Committee from the beginning of 2022. This highlights importance of sustainability issues in Vaisala's strategy execution.

Long-term financial targets

Based on the revised strategic objectives with raised growth ambition and focus on operational excellence, Vaisala updated its long-term financial targets. Vaisala's long-term target is to achieve an average annual net sales growth of 7% and an operating result margin (EBIT) of 15% during the strategy period.

Earlier Vaisala's objective was profitable growth with an average annual growth exceeding 5% and operating result margin (EBIT) exceeding 12%.

Vaisala does not consider the long-term financial targets as market guidance for any given year.

Group structure

Vaisala's headquarters are located in Vantaa, Finland. On December 31, 2021, Vaisala had subsidiaries in Australia, Brazil, Canada, China, Finland, France, Germany, India, Japan, Kenya, Malaysia, Mexico, United Kingdom and United States. The parent company has branches in Argentina and Colombia. Vaisala SAS was merged into Leosphere SAS on July 30, 2021. The name of Leosphere SAS was changed to Vaisala France SAS on October 1, 2021.

Board of Directors

The Annual General Meeting held on March 30, 2021, confirmed that the number of the Board members is eight.

Members of the Board of Directors on December 31, 2021

- Ville Voipio, Chair
- Raimo Voipio, Vice Chair
- Petri Castrén
- Antti Jääskeläinen
- Petra Lundström
- Jukka Rinnevaara
- Kaarina Ståhlberg
- Tuomas Syrjänen

Management Group

In January, Olli Nastamo was appointed Executive Vice President, Operational Excellence. He started in his position on March 1, 2021. In July, Timo Leskinen was appointed as Executive Vice President, Human Resources. He started in this position on October 1, 2021. Nastamo and Leskinen are members of the Vaisala Management Group and report to President and CEO Kai Öistämö.

On December 31, 2021, Vaisala's Management Group members were

- Kai Öistämö, President and CEO, Chairman of the Management Group
- Sampsa Lahtinen, EVP, Industrial Measurements Business Area
- Timo Leskinen, EVP, Human Resources
- Kaarina Muurinen, CFO
- Olli Nastamo, EVP, Operational Excellence
- Vesa Pylvänäinen, EVP, Operations
- Jarkko Sairanen, EVP, Weather and Environment Business Area
- Katriina Vainio, EVP, Group General Counsel

Risk management

The objective of Vaisala's risk management is to identify and manage material risks related to strategy implementation and business operations. Vaisala's Risk Management Policy, approved by the Board of Directors, covers the company's strategic, operational, hazard, and financial risks. The policy aims to ensure the safety of the company's personnel, operations, and products as well as the continuity and compliance of business operations.

The Board of Directors defines and approves risk management principles and assesses the effectiveness of risk management. The Audit Committee reviews compliance with Risk Management Policy and processes. Vaisala's Risk Management Steering Group is responsible for the operational oversight of risk management and assures that all significant risks are identified and reported and that risks are acted upon in the appropriate manner.

Risk management is integrated into key business processes and operations by incorporating risk identification, assessment, management, and risk reporting actions into the core processes. The most significant risks are reported to the Vaisala Management Group quarterly and to the Audit Committee annually.

Financial risk management

Vaisala is exposed to a number of financial risks in its operations of which key ones are currency risk, interest rate risk, refinancing and liquidity risks as well as financial counterparty risk and trade receivables credit risks. Vaisala's objective is to limit the impact of these risks on statement of income, statement of financial position and cash flow statement. The management of financial risks is based on the treasury and credit policies approved by the Board of Directors.

Currency risk

Currency risk refers to the uncertainty in statement of income, statement of financial position and cash flow statement arising from exchange rate fluctuations. Vaisala's business is global and is exposed to transaction and translation risks in multiple currencies. The transaction risk is related to the currency flows of sales and expenses. The translation risk arises from net investments in entities outside the euro area.

Vaisala's sales are denominated in various currencies. In 2021, 46% of the group's sales was in EUR, 31% in USD, 9% in CNY, 5% in JPY and 4% in GBP. Expenses and purchases occur mostly in EUR and USD. The group's policy is to hedge foreign currency positions which consists of the order book, purchase commitments, net receivables, cash and cash equivalents and intercompany loans. Vaisala does not hedge forecasted cash flows that are not in the order book. Vaisala does not apply hedge accounting in accordance with IFRS and changes in fair value are recognized in the statement of income.

Intercompany loans and deposits are mainly initiated in subsidiaries' local currencies. Vaisala does not hedge equities of subsidiaries. Translation of subsidiaries' equities into euros caused translation difference of EUR 4.5 (-4.0) million. The most significant translation risk exposures are in USD.

The IFRS 7 currency risk sensitivity analysis is based on the group companies' foreign currency receivables, cash and cash equivalents and liabilities. The calculation does not include internal loans, order book or forecasted cash flows, but includes foreign exchange forwards in their nominal value. The effect of a 10% appreciation in all open net currency positions on Vaisala's result after taxes and equity would have been EUR -0.4 (-0.1) million. Three largest foreign exchange net exposures in euro and their sensitivity analysis based on a 10% change (before taxes) are presented in the following table:

Foreign exchange net exposures against EUR

	2021		2020
USD	-8.3	HRK	-3.0
PLN	-3.1	USD	-2.7
HRK	-3.0	SEK	-2.3

Interest rate risk
Interest rate risk refers to the uncertainty in statement of income, statement of financial position and cash flow statement arising from interest rate changes. The group is exposed to cash flow interest rate risk, if it has floating rate liabilities. At the end of the financial year 2021 Vaisala's interest-bearing liabilities and loans were at floating rates and totaled to EUR 50.2 (57.0) million. EUR 10.1 (11.9) million of interest-bearing liabilities and loans related to lease liabilities.

Refinancing and liquidity risks
Refinancing and liquidity risk refers to the uncertainty in the ability to maintain liquidity. In order to ensure liquidity, cash and cash equivalents and availability of credit facilities are maintained at a sufficient level.

On December 31, 2021, Vaisala's cash and cash equivalents amounted to EUR 77.9 (45.4) million. Vaisala has a EUR 40.0 million unsecured term loan which was signed on May 25, 2020. The loan matures in three years from the signing date and has a financial covenant (gearing), which is tested semi-annually. On December 31, 2021, Vaisala was in compliance with the covenant. This facility is used for refinancing of existing indebtedness as well as for general corporate and working capital purposes.

In addition, Vaisala has a EUR 50 million unsecured revolving credit facility which was signed on October 5, 2018. The committed credit facility agreement matures in 5 years from the signing, and it has no financial covenants. On December 31, 2021, Vaisala had interest bearing liabilities totaling EUR 50.2 (57.0) million. Group has no loans that would mature after five years or more. In addition, Vaisala has a domestic commercial paper program amounting to EUR 150 million that was not utilized as of December 31, 2021.

Financial counterparty risk
Financial counterparty risk refers to the uncertainty about the counterparty's ability to assume the obligations related to the financing. Vaisala is exposed to financial counterparty risk in respect of cash and cash equivalents and derivative financial instruments. Vaisala's cash and cash equivalents amounted to EUR 77.9 (45.4) million and the nominal value of derivative financial instruments to EUR 35.2 (31.4) million. Vaisala deposits its assets and concludes derivative financial contracts with counterparties with good creditworthiness and approved according to Vaisala's treasury policy. The creditworthiness of banks is constantly assessed.

Trade receivables credit risk
Trade receivables credit risk means the customer-related uncertainty about the collectability of receivables. These trade receivables credit risks are managed by using letter of credit, advance payments and bank guarantees as payment terms. Additionally, trade receivables credit risk is managed by utilizing credit risk insurance and by monitoring customer liquidity. Management estimates that the group does not have significant credit risk concentrations. No single customer or a group of customers constitutes a significant risk due to globally distributed customer base. During the financial year, credit losses and related reversals for trade receivables recognized in the statement of income amounted to EUR -0.1 (-0.3) million. Credit loss is recognized once it has been officially declared that the receivable will not be paid as a result of liquidation or bankruptcy.

Further information about risk management and risks is available in the Annual Report's sections Governance/Risk Management and on the company's website at vaisala.com.

Annual General Meeting 2021

Vaisala Corporation's Annual General Meeting was held on March 30, 2021. The meeting approved the financial statements and discharged the members of the Board of Directors and the President and CEO from liability for the financial period January 1–December 31, 2020.

Dividend
The Annual General Meeting decided a dividend of EUR 0.61 per share. The record date for the dividend payment was April 1, 2021, and the payment date was April 12, 2021.

Board of Directors
The Annual General Meeting confirmed that the number of Board members is eight. Petri Castrén, Antti Jääskeläinen, Petra Lundström, Jukka Rinnevaara, Kaarina Ståhlberg, Tuomas Syrjänen, Raimo Voipio and Ville Voipio will continue as members of the Board of Directors.

The Annual General Meeting confirmed that that the annual remuneration payable to the Chair of the Board of Directors is EUR 55,000 and each Board member EUR 40,000 per year. Approximately 40% of the annual remuneration will be paid in Vaisala Corporation's series A shares acquired from the market and the rest in cash. In addition, the Annual General Meeting confirmed that the meeting fee for the Chair of the Audit Committee will be EUR 1,500 per attended meeting and EUR 1,000 for each member of the Audit Committee and Chair and each member of the Remuneration and HR Committee and any other committee established by the Board of Directors for a term until the close of the Annual General Meeting in 2022. The meeting fees are paid in cash. Possible travel expenses will be reimbursed according to the travel policy of the company.

Auditor

The Annual General Meeting re-elected Deloitte Oy as the auditor of the company and APA Reeta Virolainen will act as the auditor with the principal responsibility. The Auditors are reimbursed according to invoice presented to the company.

Authorization for the directed repurchase of own series A shares

The Annual General Meeting authorized the Board of Directors to resolve on the directed repurchase of a maximum of 500,000 of the company's own series A shares in one or more instalments by using company's unrestricted equity. The authorization is valid until the closing of the next Annual General Meeting, however, no longer than September 30, 2022.

Authorization on the issuance of the company's own series A shares

The Annual General Meeting authorized the Board of Directors to resolve on the issuance of a maximum of 835,794 company's own series A shares. The issuance of own shares may be carried out in deviation from the shareholders' pre-emptive rights (directed issue). The authorization entitles the issuance of treasury series A shares as a directed issue without payment as part of the company's share based incentive plan. The subscription price of the shares can instead of cash also be paid in full or in part as contribution in kind. The authorization is valid until September 30, 2022. The authorization for the company's incentive program shall however be valid until March 30, 2025.

The organizing meeting of the Board of Directors

At its organizing meeting held after the Annual General Meeting, the Board elected Ville Voipio as the Chair of the Board of Directors and Raimo Voipio as the Vice Chair.

Kaarina Ståhlberg was elected as the Chair and Petri Castrén, Antti Jääskeläinen and Raimo Voipio as members of the Audit Committee. Ville Voipio was elected as the Chair and Petra Lundström, Jukka Rinnevaara and Tuomas Syrjänen as members of the Remuneration and HR Committee. The Chair and all members of the Audit Committee as well as the Remuneration and HR Committee are independent both of the company and of significant shareholders.

Shares and shareholders

Share capital and shares

Vaisala's share capital totaled EUR 7,660,808 on December 31, 2021. Vaisala has 36,436,728 shares, of which 6,731,092 are series K shares and 29,705,636 series A shares. The series K shares and series A shares are differentiated by the fact that each series K share entitles its owner to 20 votes at a General Meeting of Shareholders while each series A share entitles its owner to 1 vote. The series A shares represented 81.5% of the total number of shares and 18.1% of the total votes. The series K shares represented 18.5% of the total number of shares and 81.9% of the total votes.

Trading and share price development

In 2021, a total of 2,939,088 series A shares with a value totaling EUR 115.8 million were traded on the Nasdaq Helsinki Ltd. During the year, the share price increased by 32% while OMXHCAPPI index increased by 21%. The closing price of the series A share on the Nasdaq Helsinki stock exchange was EUR 53.30. Shares registered a high of EUR 55.80 and a low of EUR 30.00. Volume-weighted average share price was EUR 39.45.

The market value of series A shares on December 31, 2021 was EUR 1,565.4 million, excluding company's treasury shares. Valuing the series K shares – which are not traded on the stock market – at the rate of the series A share's closing price on the last trading day of December, the total market value of all the series A and series K shares together was EUR 1,924.2 million, excluding company's treasury shares.

Treasury shares

In March 2021, a total of 87,100 of treasury shares were conveyed without consideration to the 28 key employees who participated in the Share-based incentive plan 2018 under the terms and conditions of the plan. Of these shares, 4,000 were conveyed to the President and CEO Kai Öistämö and 13,850 to the previous President and CEO Kjell Forsén. In addition, 11,520 shares were conveyed to Kjell Forsén related to the Share-based incentive plan 2019–2021 and 2,764 shares related to the Share-based incentive plan 2020–2022 under the terms and conditions of the plans. This directed share issue was based on an authorization given by the Annual General Meeting held on June 3, 2020.

Following this directed share issue, the number of series A treasury shares on December 31, 2021, was 335,655, which represents 1.1% of series A shares and 0.9% of total shares.

Major shareholders December 31, 2021

	A shares	K shares	Total	% of shares	% of votes
Novametor Oy	2,778,000	998,358	3,776,358	10.36	13.84
Finnish Academy of Science and Letters	272,900	1,757,760	2,030,660	5.57	21.56
Nordea Nordic Small Cap Fund	1,750,710	0	1,750,710	4.80	1.07
Mandatum Life Insurance Company Ltd.	1,196,200	274,800	1,471,000	4.04	4.07
Weisell-säätiö	1,440,000	0	1,440,000	3.95	0.88
Voipio Mikko	666,000	602,312	1,268,312	3.48	7.74
Caspers Anja	406,560	562,936	969,496	2.66	7.10
Voipio Raimo*	514,992	454,296	969,288	2.66	5.84
Voipio Tauno	591,520	315,304	906,824	2.49	4.20
Ilmarinen Mutual Pension Insurance Company	903,275	0	903,275	2.48	0.55
Voipio Lauri	561,692	83,376	645,068	1.77	1.36
Voipio Riitta	561,692	83,376	645,068	1.77	1.36
Voipio Ville	397,136	96,712	493,848	1.36	1.42
Voipio Mari	391,486	96,712	488,198	1.34	1.42
Voipio Timo	391,484	96,712	488,196	1.34	1.42
Total	**12,823,647**	**5,422,654**	**18,246,301**	**50.08**	**73.80**
Nominee registered shares**	7,296,736	0	7,296,736	20.03	4.44

* In addition to direct share ownership, Raimo Voipio's controlled organization Imar Oy owned 56,000 series A shares.
** Includes 1,063,260 series A shares owned by Lannebo Fonder, which represented 2.92% of all shares and 0.65% of all votes (according to Lannebo's notification).

Ownership structure (series A and K shares) December 31, 2021

	Shares	% of shares
Households	14,608,158	40.09
Nominee registered and outside Finland	7,344,011	20.16
Private companies	4,819,887	13.23
Financial and insurance institutions	4,592,461	12.60
Non-profit organizations	3,845,273	10.55
Public sector organizations	1,226,938	3.37
Total	**36,436,728**	**100.00**

Ownership distribution (series A and K shares) December 31, 2021

	Share-holders	% of share-holders	Shares	% of shares
1–100	7,102	56.11	268,856	0.74
101–500	3,595	28.40	963,409	2.64
501–1,000	976	7.71	736,205	2.02
1,001–5,000	757	5.98	1,617,156	4.44
5,001–10,000	94	0.74	645,125	1.77
10,001–50,000	82	0.65	1,667,690	4.58
50,001–100,000	18	0.14	1,226,555	3.37
100,001–500,000	20	0.16	5,272,978	14.47
500,001–	14	0.11	24,038,754	65.97
Total	**12,658**	**100.00**	**36,436,728**	**100.00**
Nominee registered	9			

Shareholders' agreements
The Board of Directors is not aware of any agreements concerning the ownership of the company's shares and the use of their voting rights.

Shareholding by the Board of Directors and the Management Group
On December 31, 2021, the Board of Directors held and controlled 989,565 (985,646) series A shares. These shares accounted for 3.3 (3.3) % of series A shares and 2.7 (2.7) % of total shares. The number of series K shares held and controlled by the Board was 551,008 (551,008). Total votes attached to the series A and K shares held and controlled by the Board were 12,009,725 (12,005,806), which accounted for 7.3 (7.3) % of the total votes of all shares.

On December 31, 2021, Kai Öistämö, the President and CEO, held and controlled 4,000 series A shares but no series K shares. Other Management Group members held and controlled 118,018 (101,778) series A shares but no series K shares.

Corporate Governance Statement includes more details on the shareholdings of the Board of Directors and the Management Group.

More information about Vaisala's shares and shareholders are presented on the company's website at vaisala.com/investors.

Donations

Vaisala collaborates with the Colorado State University (CSU) in the US in the field of weather radars, among others. In 2020, Vaisala's Board of Directors renewed the annual donation of 25,000 USD to the university for three years.

Non-financial information

Disclosure of non-financial information in accordance with Finnish Accounting Act chapter 3 a is presented in the Sustainable business practices section as well as in the chapters Business model in Our business section, Dashboard in the Creating value section, and Risk management in the Governance section. The Sustainable business practices section includes information on environmental matters, social and employee matters, respecting human rights, as well as anti-corruption and anti-bribery compliance.

EU sustainable finance taxonomy

The indicators required by the EU Taxonomy Regulation are reported in the chapter EU sustainable finance taxonomy, located in the Creating value section of the Annual Report.

Corporate Governance Statement

Corporate Governance Statement will be published as a part of the Annual Report as well as a separate report on the company's website at vaisala.com/investors.

Remuneration Report

Remuneration Report will be published as a separate report on the company's website at vaisala.com/investors.

Near-term risks and uncertainties

COVID-19 pandemic's impact on Vaisala's business is depending on the duration of this exceptional situation and development of possible new virus variants. Component shortage may cause delays or interruptions in deliveries or generate additional material costs. Vaisala's delivery capability may deteriorate due to disruptions in suppliers' operations, Vaisala's production or project delivery organization, or disruptions in incoming and/or outgoing logistics. Demand may fluctuate materially by country or market segment.

Uncertainties in geopolitical situation may reduce or delay demand for Vaisala's products and services or cause delays or interruptions in deliveries. New and changing regulations impacting product acceptance, operation's capability to meet changing compliance requirements, and changes in international trade policies may cause delays or interruptions in supply chain. Cyber risk and downtime of IT systems may impact operations and delivery capability.

Customers' preference for local manufacturing may reduce demand for Vaisala's products and services. Customers' budgetary constraints, complex decision-making processes, and missing financing solutions may postpone closing of infrastructure contracts in Weather and Environment business area.

Measures taken to mitigate impacts of the COVID-19 pandemic

Employees
Ensuring employees' wellbeing and their health and safety has been the most important focus area during the COVID-19 pandemic. To enforce containment actions and safe work environment for production workers, access to factories has been limited. Post-COVID-19 pandemic working practices were planned with implementations beginning in the second half of 2021.

Customers
Remote customer meetings, electronic signatures, re-routing of shipments, remote acceptance testing and cooperation with local field service companies and their remote support are examples of measures, which have been taken to fulfill customer expectations.

Supplier relationships and cooperation
Strategic suppliers, which are critical to ongoing business operations, have been assessed for their business continuity and information reliability. Impacts of component shortages have been mitigated by close co-operation and delivery planning together with suppliers, purchases from spot market, and using variant components.

Communications
Vaisala has communicated regularly with multiple stakeholders: employees, customers, suppliers, and authorities to ensure continuity of core operations, including support and services for customers. Digital marketing efforts have been intensified to compensate for absence of conventional marketing events.

Liquidity
Vaisala's financial position and liquidity have been assessed on regular basis.

Scenario planning
Vaisala has done scenario planning and contingency planning in order to make sound decisions in a highly volatile operating environment. Vaisala has identified risks related to delivery capability and demand outlook as well as diverse challenges emerging in the operating environment. Scenario plans and related assumptions have been continuously updated and followed up.

Further information about risk management and risks are available in the Annual Report's Corporate Governance/Risk management section and on the company's website at vaisala.com/investors.

Events after financial year

On January 27, 2022, Vaisala announced acquisition of US-based Whether or Knot, LLC (dba AerisWeather), a subscription-based software company providing weather and environmental information. The purchase price (cash and debt free) was USD 26 million (EUR 23 million), and it was paid with cash. This acquisition supports execution of Vaisala's Weather and Environment business area's strategy to drive growth in Data as a Service and Software as a Service recurring revenue businesses.

AerisWeather's unaudited net sales in 2021 amounted to USD 3.2 million (EUR 2.7 million), operating result (EBIT) was at break-even level, and statement of financial position totaled USD 1.3 million (EUR 1.1 million). The company's net sales are recurring with above 100% net revenue retention and have reached strong double-digit growth during the past years. Following this acquisition, 17 professionals, located in the US, transferred to Vaisala. Vaisala will report AerisWeather's results as part of Weather and Environment business area's financial results as of February 2022.

Market development and business outlook for 2022

Markets for high-end industrial instruments, life science, power industry, and liquid measurements are expected to grow.

Markets for meteorology and ground transportation are expected to be stable. Aviation market is expected to recover towards pre-pandemic level. Renewable energy market is expected to grow.

Visibility to component availability remains weak and component supply constraints are expected to continue throughout 2022. Additional material costs related to spot purchases are expected to remain at high level during 2022. Vaisala estimates that its full-year 2022 net sales will be in the range of EUR 465–495 million and its operating result (EBIT) will be in the range of EUR 55–70 million.

Board of Directors' proposal for dividend

The parent company's distributable earnings amount to EUR 166,440,852.21, of which the result for the period is EUR 14,983,135.68.

The Board of Directors proposes to the Annual General Meeting that dividend of EUR 0.68 per share be paid out of distributable earnings totaling approximately EUR 24.5 million and the rest to be carried forward in the shareholders' equity. No dividend will be paid for treasury shares held by the company.

There have been no significant changes in the company's financial position since the close of the financial period. According to the Board of Directors, the proposed dividend distribution does not endanger the company's financial standing.

Annual General Meeting 2022

Vaisala Corporation's Annual General Meeting will be held on Tuesday March 29, 2022. Board of Directors of Vaisala has resolved on exceptional procedure for the meeting based on the temporary legislative act approved by the Finnish Parliament on May 7, 2021. The company has resolved to take actions enabled by the act in order to hold the meeting in a predictable manner, taking into account the health and safety of the company's shareholders, personnel and other stakeholders. Notice to the Annual General Meeting is available at the company's website vaisala.com/agm where the shareholders also can follow the meeting via live webcast.

Vantaa, February 17, 2022

Vaisala Corporation
Board of Directors

The forward-looking statements in this Board of Directors' Report are based on the current expectations, known factors, decisions and plans of Vaisala's management. Although the management believes that the expectations reflected in these forward-looking statements are reasonable, there is no assurance that these expectations would prove to be correct. Therefore, the results could differ materially from those implied in the forward-looking statements, due to for example changes in the economic, market and competitive environments, regulatory or other government-related changes, or shifts in exchange rates.

Financial statements 2021

The audited financial statements comprise the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of financial position, consolidated cash flow statement, consolidated statement of changes in equity and notes to the consolidated financial statements, as well as the parent company income statement, parent company balance sheet, parent company cash flow statement and notes to the parent company financial statements.

Consolidated financial statements

Consolidated statement of income

EUR million	Note	Jan 1–Dec 31, 2021	Jan 1–Dec 31, 2020
Net sales	1, 2, 3	437.9	379.5
Cost of goods sold	5, 13, 16	-196.0	-166.6
Gross profit		**241.8**	**212.9**
Sales, marketing and administrative costs	5, 7, 16	-131.2	-116.0
Research and development costs	5, 7, 8, 16	-55.3	-53.2
Other operating income and expenses	4	-5.2	1.1
Operating result		**50.1**	**44.8**
Share of result in associated company	27	0.2	0.2
Financial income and expenses	9	-2.1	-3.6
Result before taxes		**48.3**	**41.3**
Income taxes	10	-8.9	-8.5
Result for the financial year		**39.5**	**32.8**
Attributable to			
Owners of the parent company		39.0	32.8
Non-controlling interests		0.5	0.0
Result for the financial year		**39.5**	**32.8**
Earnings per share for result attributable to the equity holders of the parent company	11		
Earnings per share, EUR		1.08	0.91
Diluted earnings per share, EUR		1.07	0.91

Consolidated statement of comprehensive income

EUR million	Note	Jan 1–Dec 31, 2021	Jan 1–Dec 31, 2020
Items that will not be reclassified to profit or loss (net of taxes)			
Actuarial profit (loss) on post-employment benefits	6	-0.1	0.0
Total		**-0.1**	**0.0**
Items that may be reclassified subsequently to profit or loss			
Translation differences		4.5	-4.0
Total		**4.5**	**-4.0**
Total other comprehensive income		**4.3**	**-4.0**
Comprehensive income for the financial year		**43.8**	**28.9**
Attributable to			
Owners of the parent company		43.4	28.8
Non-controlling interests		0.5	0.0
Comprehensive income for the financial year		**43.8**	**28.9**

The notes are an essential part of the financial statements.

Consolidated statement of financial position

EUR million	Note	Dec 31, 2021	Dec 31, 2020
Assets			
Non-current assets			
Intangible assets	16	56.9	63.6
Property, plant and equipment	16	94.1	83.9
Right-of-use assets	17	11.1	12.5
Investments in shares		0.1	0.1
Investment in associated company	27	1.3	1.1
Non-current receivables	20	0.9	0.9
Deferred tax assets	10	9.2	7.3
Total non-current assets		**173.5**	**169.5**
Current assets			
Inventories	13	49.9	44.5
Trade and other receivables	12	73.5	64.0
Contract assets and other accrued revenue	3	28.1	24.2
Income tax receivables		5.1	4.3
Cash and cash equivalents	23	77.9	45.4
Total current assets		**234.5**	**182.4**
Total assets		**408.0**	**351.8**

EUR million	Note	Dec 31, 2021	Dec 31, 2020
Equity and liabilities			
Equity	18		
Share capital		7.7	7.7
Other reserves		7.0	5.6
Translation differences		1.7	-2.8
Treasury shares		-4.6	-6.3
Retained earnings		218.0	200.8
Total equity attributable to owners of parent company		**229.6**	**205.1**
Non-controlling interests		0.7	0.4
Total equity		**230.3**	**205.5**
Non-current liabilities			
Interest-bearing borrowings	21	40.0	40.0
Interest-bearing lease liabilities	17	7.7	9.2
Post-employment benefits	6	2.7	2.3
Deferred tax liabilities	10	6.7	7.7
Provisions	15	0.3	0.1
Other non-current liabilities	21	1.3	2.6
Total non-current liabilities		**58.6**	**62.0**

EUR million	Note	Dec 31, 2021	Dec 31, 2020
Current liabilities			
Interest-bearing borrowings	21	0.1	5.2
Interest-bearing lease liabilities	17	2.4	2.7
Trade and other payables	14	83.9	52.3
Contract liabilities and other deferred revenue	3	29.0	20.9
Income tax liabilities		1.8	1.5
Provisions	15	2.0	1.7
Total current liabilities		**119.1**	**84.3**
Total liabilities		**177.7**	**146.2**
Total equity and liabilities		**408.0**	**351.8**

The notes are an essential part of the financial statements.

Consolidated cash flow statement

EUR million	Note	Jan 1–Dec 31, 2021	Jan 1–Dec 31, 2020
Cash flow from operating activities			
Result for the financial period		39.5	32.8
Depreciation, amortization and impairment	16	21.6	21.1
Financial income and expenses	9	2.1	3.6
Gains and losses on sale of intangible assets and property, plant and equipment	4	0.0	-0.1
Share of result in associated company	27	-0.2	-0.2
Income taxes	10	8.9	8.5
Other adjustments	22	3.1	-5.6
Inventories, increase (-) / decrease (+)	13	-6.7	-1.8
Non-interest bearing receivables, increase (-) / decrease (+)	12	-11.5	12.6
Non-interest bearing liabilities, increase (+) / decrease (-)	14	34.7	-18.4
Changes in working capital		16.6	-7.5
Financial items paid/received	9	-0.2	-3.5
Income taxes paid	10	-11.2	-8.2
Cash flow from operating activities		**80.0**	**41.0**
Cash flow from investing activities			
Acquisition of subsidiaries, net of cash acquired	25	-	-0.2
Capital expenditure on intangible assets and property, plant and equipment	16	-19.2	-31.0
Proceeds from sale of intangible assets and property, plant and equipment	4	0.1	0.1
Proceeds from sale of shares		-	0.1
Cash flow from investing activities		**-19.1**	**-31.0**

	Note	Jan 1–Dec 31, 2021	Jan 1–Dec 31, 2020
Cash flow from financing activities			
Dividends paid	18	-22.0	-22.0
Change in loan receivables		-0.0	0.1
Proceeds from borrowings	21	45.0	100.1
Repayment of borrowings	21	-49.9	-95.0
Principal payments of lease liabilities	17	-3.1	-3.3
Cash flow from financing activities		**-30.0**	**-20.0**
Change in cash and cash equivalents, increase (+) / decrease (-)		**30.8**	**-10.0**
Cash and cash equivalents at the beginning of the financial year		45.4	56.4
Change in cash and cash equivalents		30.8	-10.0
Effect from changes in exchange rates		1.7	-1.0
Cash and cash equivalents at the end of the financial year	23	**77.9**	**45.4**

The notes are an essential part of the financial statements.

Consolidated statement of changes in equity

EUR million	Note	Share capital	Other reserves	Translation differences	Treasury shares	Retained earnings	Equity attributable to owners of the parent company	Non-controlling interests	Total
Equity at Dec 31, 2019		**7.7**	**7.0**	**1.3**	**-7.9**	**190.0**	**198.0**	**0.3**	**198.3**
Result for the financial year	18					32.8	32.8	0.0	32.8
Other comprehensive income	18		-0.0	-4.0		0.0	-4.0		-4.0
Dividend distribution	18					-22.0	-22.0		-22.0
Share-based payments	7, 18		-1.4		1.6		0.2		0.2
Transfer between items	18		0.0			-0.0			
Changes in non-controlling interests that did not result in changes in control						-0.0	-0.0	0.0	
Equity at Dec 31, 2020		**7.7**	**5.6**	**-2.8**	**-6.3**	**200.8**	**205.1**	**0.4**	**205.5**
Result for the financial year	18					39.0	39.0	0.5	39.5
Other comprehensive income	18		0.0	4.4		-0.1	4.3		4.3
Dividend distribution	18					-22.0	-22.0		-22.0
Share-based payments	7, 18		1.3		1.7		2.9		2.9
Transfer between items	18		0.0			-0.0			
Changes in non-controlling interests that did not result in changes in control						0.2	0.2	-0.2	
Equity at Dec 31, 2021		**7.7**	**7.0**	**1.7**	**-4.6**	**218.0**	**229.6**	**0.7**	**230.3**

Notes to the consolidated financial statements

Basic information

Vaisala is a global leader in weather, environmental and industrial measurement. With 85 years of experience, Vaisala provides measurement solutions and services for chosen weather-related and industrial markets.

The parent company, Vaisala Corporation, is a Finnish public limited company, domiciled in Vantaa, Finland. The registered address is Vanha Nurmijärventie 21, FI-01670 Vantaa, Finland (P.O. Box 26, FI-00421 Helsinki). The company's Business ID is 0124416-2.

These financial statements have been approved for publication by the Board of Directors of Vaisala Corporation on February 17, 2022. Under the Finnish Companies Act, shareholders have the right to approve, reject or make changes to the financial statements in the Annual General Meeting to be held after the publication. A copy of the consolidated financial statements is available on the company's website at vaisala.com/investors or at the parent company head office at the address Vanha Nurmijärventie 21, FI-01670 Vantaa, Finland (P.O. Box 26, FI-00421 Helsinki).

Accounting principles for the consolidated financial statements

The consolidated financial statements of Vaisala have been prepared in accordance with International Financial Reporting Standards (IFRS) approved for adoption by the European Union, including International Accounting Standards (IAS) and the SIC and IFRIC Interpretations valid on December 31, 2021. In the Finnish Accounting Act and ordinances based on the provisions of the Act, IFRS refer to the standards and their interpretations adopted in accordance with the procedures laid down in regulation (EC) No. 1606/2002 of the European Parliament and of the Council. The notes to the consolidated financial statements are also in accordance with the Finnish accounting and corporate law.

The consolidated financial statements are presented in millions of euros, if not otherwise stated. All presented figures have been rounded and consequently the sum of individual figures may deviate from the presented sum. Financial statements are based on original acquisition costs, if not otherwise stated in the accounting principles. In the text sections figures from previous years are presented in parenthesis. Calculation of key figures and alternative performance measures are presented in the Board of Directors' Report.

Consolidation principles

Subsidiaries

The consolidated financial statements include the parent company Vaisala Corporation and those subsidiaries in which the group has control. The group has control of an entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Subsidiaries, acquired or founded during the financial period, are consolidated from the date on which control is transferred to the group and are no longer consolidated from the date that control ceases.

Business combinations are accounted for using the acquisition method. The consideration transferred is the fair value of transferred assets, issued equity interests and liabilities incurred to former owners. Any contingent consideration is recognized at fair value at the acquisition date and classified as a liability or equity. Contingent considerations classified as a liability are measured at fair value on each reporting date with changes recognized in consolidated statement of income. Identifiable assets acquired as well as assumed liabilities and contingent liabilities are measured initially at their fair values on the date of acquisition without deducting non-controlling interest. The amount by which the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition date fair value of any previous equity interest exceeds the fair value of identifiable net assets is recognized as goodwill. If the consideration transferred is lower than the acquired net assets, the gain is recognized in the consolidated statement of income on the acquisition date. All acquisition-related costs, except for the costs to issue debt or equity securities, are expensed in the periods in which the costs are incurred and the services are received.

The group's intercompany transactions, unrealized margins on internal deliveries, receivables and liabilities as well as dividends are eliminated. Unrealized losses on internal transactions are also eliminated unless costs are not recoverable or the loss results from an impairment. The consolidated financial statements are prepared applying consistent accounting principles to similar transactions and other events under equal conditions.

Associated companies

The share of results of associated companies, i.e. companies of which Vaisala owns 20–50% or over which it otherwise has significant influence, are included in the consolidated financial statements applying the equity method. If Vaisala's share of an associated company's losses exceeds the carrying amount of the investment, the investment is recognized in the consolidated statement of financial position at zero value and further losses are not recognized unless the group has incurred obligations on behalf of the associated company. Unrealized gains on transactions between the group and its associated companies have been eliminated to the extent of the group's interest in the associated companies. The group's share of associated companies' results is presented in the consolidated statement of income as a separate item before 'financial income and expenses'. Investments in associated companies are initially recognized at cost and the carrying amount is increased or decreased by the share of post-acquisition results. Distribution of profit received from an investment reduces the carrying amount of the results.

Non-controlling interests

The non-controlling interests' share of the result and of the comprehensive income for the financial year are presented in the consolidated statement of income and in the consolidated statement of comprehensive income. The non-controlling interests' share of the equity is presented as a separate item in the consolidated statement of financial position.

Foreign currency translation

Items relating to the consolidated result and financial position are measured using the currency of the primary economic environment in which the entity operates ("the functional currency"). The consolidated financial statements have been presented in euros, which is the parent company's functional and presentation currency.

Transactions in foreign currencies are recorded in the functional currency using the exchange rate on the date of transaction. Receivables and payables in foreign currency have been valued at the rates quoted by European Central Bank on the last trading date of the financial year. Exchange rate differences resulting from the settlement of monetary items or from the presentation of items in the financial statements at different exchange rates from which they were originally recognized during the financial period or presented in the previous financial statements, are recognized as financial income or expenses in the financial period in which they arise.

Statements of financial position of subsidiaries in other functional currency than euro have been translated into euros using the rates quoted by European Central Bank on the last trading date of the financial year. Translating statements of income monthly average exchange rates have been used. Translating net income for the financial year using different exchange rates in the consolidated statements of income and in the consolidated statement of financial position, results in a translation difference, which is recognized in other comprehensive income. Translation differences arising from the elimination of the acquisition cost of foreign subsidiaries and the translation of the accumulated equity items after the acquisition are recognized in other comprehensive income. When a foreign subsidiary or associated company is disposed of or partly disposed of, the translation difference is recognized in the consolidated statement of income as part of the gain or loss on the sale.

Goodwill or fair value adjustments arising from the acquisition of a foreign entity are treated as assets and liabilities in the functional currency of the foreign entity and are translated at the rate of the last trading date of the financial year.

Key exchange rates

	Average rates		Period end rates	
	2021	2020	Dec 31, 2021	Dec 31, 2020
USD	1.1894	1.1384	1.1326	1.2271
CNY	7.6758	7.8807	7.1947	8.0225
JPY	130.00	121.51	130.38	126.49
GBP	0.8633	0.8853	0.8403	0.8990

New and amended IFRS standards that are effective for the year 2021

Vaisala has adopted the following new or revised IFRSs from January 1, 2021 in these consolidated financial statements. Their adoption has not had no impact on the disclosures or on the amounts reported in these financial statements.

Interest rate benchmark reform amendments to IFRS 9, IFRS 7, IFRS 4 and IFRS 16

In the prior year, the group adopted the Phase 1 amendments of Interest Rate Benchmark Reform (amendments to IFRS 9/IAS 39 and IFRS 7) and in the current year, the group adopted the Phase 2 amendments of Interest Rate Benchmark Reform (amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16). These amendments had no impact on these financial statements as the group does not apply hedge accounting.

COVID-19-related rent concessions amendment to IFRS 16

In the prior financial year, COVID-19-related rent concessions (amendment to IFRS 16) and in the current financial year, the extension of the amendment had no impact on these financial statements as Vaisala as a lessee has not received any rent concessions occurring as a direct consequence of COVID-19.

Accounting principles requiring management judgment and the main uncertainty factors relating to estimates

The preparation of financial statements in accordance with IFRS requires management to make estimates and judgment in the application of the accounting policies. The financial statements are based on estimates and assumptions concerning the future, the outcome of which may differ from the estimates and assumptions made. The estimates and judgments made are based on past experience and other factors, such as assumptions about future events that may reasonably be expected to occur in the circumstances. Estimates and assumptions are reviewed on a regular basis.

Estimates and judgment have been used in particular in the following areas for which significant accounting policies and accounting estimates and judgments have been described in the accompanying notes:

- Revenue recognition (note 3) (judgment and estimate)
- Income taxes (note 10) (judgment and estimate)
- Allowances for excess and obsolete inventory (note 13) (estimate)
- Fair value allocation of purchase price in business combinations (notes 16 and 25) (estimate)
- Impairment testing (note 16) (estimate)
- Leases (note 17) from lessee's perspective (judgment)

In addition, estimates, judgment and assumptions are related to the following areas:

- With regard to pension obligations (note 6) assumptions in actuarial calculations related to e.g. discount interest rate, inflation and development of salary and pension indexes (assumption)
- With regard to share-based payments (note 7) estimate related to e.g. profitability forecasts and attrition of participants benefiting from the share-based payment plans (estimate)
- With regard to warranty provision (note 15) estimate related to future costs (estimate)
- With regard to leases (note 17) from lessor's perspective estimate related to exercise of extension and termination option (estimate)
- With regard to credit loss allowance for trade receivables and contract assets (note 21) estimate related to expected credit loss risk for different groups of receivables (estimate)

Financial development

1. REPORTABLE SEGMENTS

Accounting principles

Vaisala has two operating and reportable segments, which are based on the type of business operations: Weather and Environment Business Area and Industrial Measurements Business Area. Operating segments have not been aggregated to build the reportable segments.

Operating segments are based on the management reports reviewed by Vaisala Management Group, which is the chief operating decision-maker. Vaisala Management Group is responsible for allocating resources and assessing performance of the operating segments. Vaisala Management Group assesses the performance of the operating segment based on the operating result. The reporting provided to Vaisala Management Group is prepared in consistency with the principles of IFRS consolidated financial statements. Income and expenses related to discontinued businesses are not allocated to operating segments and are presented in Other operations. Transfer pricing between segments is based on arm's length principle.

Weather and Environment Business Area serves selected weather-dependent customers where accurate, real-time, uninterrupted, and reliable weather data is essential to run efficient operations. Main markets are meteorology, aviation, ground transportation and renewable energy.

Industrial Measurements Business Area serves a wide range of industrial customers. It offers a broad range of accurate and reliable measurement instruments, continuous monitoring systems, and services that help the customers optimize processes, improve efficiency, minimize energy consumption, and ensure the high quality of the end-products. Main markets are high-end humidity and carbon dioxide measurements, continuous monitoring systems, liquid measurements, and new markets.

Revenue recognition principles are presented in note 3, Revenue from contracts with customers and 17, Leases.

Reportable segments

2021 EUR million	Industrial Measurements	Weather and Environment	Other operations	Vaisala total
Products	165.9	154.4		320.3
Projects		63.6		63.6
Services	15.1	36.7		51.8
Lease income*)		2.1		2.1
Net sales	**181.0**	**256.9**		**437.9**
Performance obligations satisfied at a point in time	178.3	168.3		346.6
Performance obligations satisfied over time	2.7	86.5		89.2
Lease income recognized on a straight-line basis*)		2.1		2.1
Net sales	**181.0**	**256.9**		**437.9**
Operating result	**43.9**	**7.6**	**-1.4**	**50.1**
Share of result in associated company				0.2
Financial income and expenses				-2.1
Result before taxes				**48.3**
Income taxes				-8.9
Result for the financial year				**39.5**

*) Changes in accounting principles are presented in note 17, Leases.

Reportable segments

2020 EUR million	Industrial Measurements	Weather and Environment	Other operations	Vaisala total
Products	129.9	137.4		267.3
Projects		59.3		59.3
Services	14.1	38.8		52.9
Net sales	**143.9**	**235.5**		**379.5**
Performance obligations satisfied at a point in time	141.2	154.2		295.5
Performance obligations satisfied over time	2.7	81.3		84.0
Net sales	**143.9**	**235.5**		**379.5**
Operating result	**31.6**	**14.6**	**-1.4**	**44.8**
Share of result in associated company				0.2
Financial income and expenses				-3.6
Result before taxes				**41.3**
Income taxes				-8.5
Result for the financial year				**32.8**

2. GEOGRAPHICAL SEGMENTS

Vaisala's reportable segments operate in geographical areas which are Americas, APAC and EMEA.[1)]

Geographical segments

2021 EUR million	Net sales, by destination country[2)]	Net sales, by location country[3)]	Non-current assets[3)]
Americas	150.2	137.8	37.3
of which United States	116.6	128.2	37.1
APAC	144.7	83.3	3.6
EMEA	143.0	388.7	123.4
of which Finland	7.8	299.7	111.3
Eliminations		-172.0	
Total	**437.9**	**437.9**	**164.4**

Geographical segments

2020 EUR million	Net sales, by destination country[2)]	Net sales, by location country[3)]	Non-current assets[3)]
Americas	134.9	124.3	35.7
of which United States	109.9	117.5	35.4
APAC	110.4	67.1	4.8
EMEA	134.2	324.5	121.7
of which Finland	9.8	258.4	111.1
Eliminations		-136.5	
Total	**379.5**	**379.5**	**162.2**

[1)] Americas: North and South America, APAC: Asia Pacific, EMEA: Europe, Middle East and Africa
[2)] Sales to external customers have been presented as net sales by destination country
[3)] Net sales and non-current assets have been presented according to the group's and associated companies' countries

3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Accounting principles

Vaisala's net sales consist of revenue recognized from contracts with customers and lease income. Net sales from contracts with customers are divided into products, projects and services. Indirect taxes and discounts have been deducted from sales revenue. Exchange rate differences are recognized in the financial income and expenses.

Product net sales include revenue from products, spare parts and system deliveries. A system delivery contains a standard product delivery with limited amount of configuration. Each distinct product delivery is a performance obligation under IFRS 15. Revenue from the sale of products is recognized at a point in time when the control is transferred to the customer.

Projects are integrated projects, in which observation solutions, consisting of products, services and software, are delivered. Solutions are integrated to customer systems according to customer specifications. Therefore, one project is one performance obligation under IFRS 15. Revenue for all projects is recognized over time using percentage of completion method. Progress is measured by cost-to-cost method, comparing incurred costs and forecasted costs, as it best describes the satisfaction of a performance obligation by transferring the promised asset to a customer. Projects meet the over-time revenue recognition criteria mainly by creating an asset without an alternative use and Vaisala having an enforceable right to payment for performance completed to date.

Services are divided into service contracts and one-off service deliverables. Services may include maintenance, calibration and repair, modernization, extended warranties and data-based solutions supporting decisions in weather-dependent operations. Service contracts are continuous services including for example extended warranty, availability of customer support and availability of spare part delivery. One service contract or one service deliverable is one performance obligation. Service contracts are recognized over time or at a point of time depending on the nature of the service and content of a contract. In case of one-off request services, the revenue is recognized at a point in time when the service has been rendered.

Standard warranty period for products is one year and 2, 5 or 10 years for selected products. Standard warranty period for services is 6 or 12 months. Extended warranty is a separately sold and priced service over a separately agreed period. Revenue for extended warranty is recognized over time starting at the time of standard warranty expiration. Provision for warranty costs is recognized as described in Note 15, Provisions.

Accounting principles requiring management judgment and the main uncertainty factors relating to estimates

Revenue recognition over time under IFRS 15 requires management judgment related to cost throughout the project delivery. When the outcome of a project cannot be estimated reliably, project costs are recognized as expenses in the same period when they arise and project revenues only to the extent of project costs incurred where it is probable that those costs will be recoverable. When it is probable that total costs necessary to complete the project will exceed total project revenue, the expected loss is recognized as an expense immediately.

Additionally, judgment is exercised in defining the timing of revenue recognition, estimating the probability of payments related to contracts with customers, defining performance obligations and combining contracts. Judgment related to all of these factors may have an impact on timing and/or amount of revenue recognized.

Disaggregation of revenue

Disaggregation of revenue is presented in Note 1, Reportable segments and Note 2, Geographical segments.

Payment terms

Payment terms vary based on geographical areas. In product and service business, the standard payment term is 30 days net, but in some areas prepayments are commonly used. Project invoicing is based on milestones and typically follows the general project delivery terms (where 30% is advance payment, 60% against delivery documents and 10% after site acceptance test) or terms as per contract. In project business the most common payment terms are letter of credit or as per contract.

Vaisala takes advantage of IFRS 15 practical expedient related to the significant financing component. In those cases, in which Vaisala expects, at contract inception, that the period between when Vaisala transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less, Vaisala does not adjust the promised amount of consideration for the effects of a significant financing component. Additionally, financing component is considered only if significant prepayment is received over one year in advance before related delivery.

Contract balances

The following table provides information about receivables, contract assets and contract liabilities from contracts with customers included in the statement of financial position.

Assets and liabilities related to contracts with customers

EUR million	Dec 31, 2021	Dec 31, 2020
Trade receivables	59.2	52.2
Contract assets	28.1	24.2
Contract liabilities	28.4	20.9

Contract assets include the balance of project and service revenue recognized but not yet invoiced.

In general, most of project revenue is recognized after the product manufacturing as percentage of completion increases and most of the performance obligation is satisfied. According to general project delivery terms, majority of project is invoiced before the delivery. Therefore, the amount of contract assets is typically at its highest between product manufacturing phase of the project and delivery of the product to the customer. For services, which are satisfied over time, the customer is mainly invoiced in advance and only in some cases in arrears after the customer has received or consumed the service. Arrears invoicing generates contract asset balance as revenue is recognized before invoicing.

Contract liabilities include the balance of projects, services and products invoiced but revenue not yet recognized as well as customer payments related to contracts not yet invoiced. Project-related contract liabilities often arise in the early stages of a project, when the prepayment has been invoiced, but the project is only at an early stage and there is none or little revenue recognized under percentage of completion method. Services, which are recognized over time, are often invoiced in advance and therefore contract liability is generated in the beginning of service period. For products and services, which are recognized at a point in time, contract liability is generated when customer has been invoiced, but performance obligation has not been satisfied and consequently revenue has not been recognized.

In 2021, Vaisala recognized EUR 13 (14) million revenue that was included in the contract liability balance at the beginning of the financial year.

At the end of financial year 2021, the order book was EUR 160.0 (137.8) million, of which the performance obligations that were unsatisfied or partially unsatisfied amounted to EUR 159.4 (137.8) million and the amount related to lease income was EUR 0.6 (-) million. Of the performance obligations that were unsatisfied or partially unsatisfied EUR 124.7 (100.1) million is estimated to be recognized as revenue in 2022 and EUR 34.7 (37.6) million is estimated to be recognized later. The whole order book related to lease agreements is estimated to be recognized as revenue in 2022.

4. OTHER OPERATING INCOME AND EXPENSES

Other operating income

EUR million	2021	2020
Indemnities	0.1	0.0
Gain on the disposal of tangible assets	-	0.1
Gain on items related to business combinations	-	2.0
Income related to termination of a contract	-	0.2
Other	0.2	0.2
Total	**0.3**	**2.5**

Other operating expenses

EUR million	2021	2020
Loss on items related to business combinations	4.5	-
Restructuring expenses	0.4	1.4
Loss on the disposal of tangible assets	0.0	0.0
Other	0.6	-
Total	**5.5**	**1.4**
Other operating income and expenses, net	**-5.2**	**1.1**

5. PERSONNEL EXPENSES AND NUMBER OF PERSONNEL

Personnel expenses

EUR million	2021	2020
Salaries	141.1	124.9
Share-based payments	5.0	4.0
Social costs	11.4	11.1
Pensions		
Defined benefit plans	0.1	0.0
Defined contribution plans	16.6	14.1
Total	**174.3**	**154.1**

Personnel expenses by function

EUR million	2021	2020
Procurement and production	49.7	45.3
Sales, marketing and administration	74.3	64.7
Research and development	50.2	44.1
Total	**174.3**	**154.1**

Personnel, average by business area

Persons	2021	2020
Industrial Measurements	486	427
Weather and Environment	780	820
Other operations	701	682
Total	**1,967**	**1,929**

Personnel, average by geographical area

Persons	2021	2020
Americas	284	293
APAC	165	172
EMEA (excluding Finland)	231	234
Finland	1,287	1,230
Total	**1,967**	**1,929**

Information on share-based payments is disclosed in Note 7, Share-based payments.

Information on key management compensation is disclosed in Note 28, Related party transactions.

6. PENSION OBLIGATIONS

Accounting principles

The group has several pension plans around the world based on local practices. These pension schemes are classified either as defined contribution or as defined benefit plans. In defined contribution plans expenses are recognized in the statement of income on an accrual basis. TyEL pensions managed in insurance companies are defined contribution plans.

In defined benefit pension plans, liability to be recognized is the net amount of the present value of the defined benefit obligation in the end of the financial year and the fair value of the plan assets adjusted by the unamortized portion of unrecognized past service cost. The defined benefit obligation is calculated by actuaries independent of Vaisala and it is based on the projected unit credit method in which the estimated future cash flows are discounted to their present value using the interest rates approximating high quality corporate bonds. Pension costs are recognized in the statement of income on an accrual basis over years of service. Actuarial gains and losses are recognized in statement of comprehensive income.

Defined benefit plans

The defined benefit plans are in the parent company. The additional pension coverage of parent company personnel was arranged by Vaisala Pension Fund that was closed on January 1, 1983. The pension fund liability was transferred to a pension insurance company on December 31, 2005 and the fund was dissolved in 2006. The company retains, however, an obligation under IAS 19 for future index and salary increases in terms of individuals covered by the Pension Fund who are employed by the company.

Defined benefit pension liability

EUR million	2021	2020
Fair value of funded obligations	4.6	4.9
Fair value of assets	-3.8	-4.4
Net liability in the statement of financial position at Dec 31	**0.8**	**0.6**

Amounts recognized in the statement of income and the statement of other comprehensive income

EUR million	2021	2020
Current service cost	0.0	0.0
Interest	0.0	0.0
Expense recognized in the statement of income	**0.0**	**0.0**
Net actuarial gain and loss	0.2	-0.0
Total recognized in the statement of income and the statement of other comprehensive income	**0.2**	**-0.0**

Pension costs in the statement of income have been recognized in sales, marketing and administrative costs.

Present value of obligation

EUR million	2021	2020
Changes in the present value of obligation		
Present value of obligation Jan 1	4.9	4.9
Current service cost	0.0	0.0
Interest cost	0.0	0.0
Remeasurements		
Actuarial gain (-) / loss (+) arising from changes in financial assumptions	0.2	0.1
Experience adjustment	-0.1	0.4
Benefits paid	-0.4	-0.4
Present value of obligation Dec 31	**4.6**	**4.9**

Changes in the fair value of plan assets

EUR million	2021	2020
Fair value of plan assets Jan 1	4.4	4.3
Interest income on assets	0.0	0.0
Remeasurements		
Net return on plan assets	-0.1	0.5
Benefits paid	-0.4	-0.4
Contributions	-0.1	-0.0
Fair value of plan assets Dec 31	**3.8**	**4.4**

Changes of liabilities presented in the statement of financial position

EUR million	2021	2020
Liabilities Jan 1	0.6	0.6
Expense (+) / income (-) recognized in statement of income	0.0	0.0
Total recognized in other comprehensive income	0.2	-0.0
Contributions paid	0.1	0.0
Liabilities Dec 31	**0.8**	**0.6**

Actuarial assumptions used

	2021	2020
Discount rate, %	0.87	0.36
Rate of salary increase, %	2.90	2.01
Rate of inflation, %	1.94	1.05
Annual adjustments to pensions, %	2.18	1.29

Sensitivity of the net liability changes in the principal assumptions

Assumption	Change in assumption	Increase in assumption	Decrease in assumption
Discount rate	0.25%	2.46% decrease	2.57% increase
Salary increase rate	0.25%	0.04% increase	0.04% decrease
Pension increase rate	0.25%	14.25% increase	13.90% decrease

Assumption	Increase by one year	Decrease by one year
Life expectancy at birth	5.67% increase	5,37% decrease

The sensitivity analyses presented above are based on the assumption that if one assumption changes, all other assumptions remain unchanged. In practice, this is unlikely, and changes in some assumptions may correlate with each other. The sensitivity of defined benefit obligation to changes in significant actuarial assumptions has been calculated using the same method as that used to calculate the pension liability recognized in the statement of financial position.

7. SHARE-BASED PAYMENTS

Accounting principles

Group's share-based payments are related to share-based incentive plans. Share-based payments are recognized as costs during the vesting period. The costs are based on an estimate of the number of shares to be paid at the end of vesting period. Assumptions, on which estimates are based, are updated whenever changes occur and the effect of changes in assumptions are recognized in the statement of income.

As of January 1, 2018, the cost of the share (equity-settled) part as well as the cash (cash-settled) part of the share-based payments correspond to the value of share (Vaisala's series A) closing price on the grant date of the share-based incentive plan less expected dividends.

Until the end of 2017, the cost of the share part of the share-based payments corresponded to the value of share (Vaisala's series A) closing price on the grant date of the share-based incentive plan, and the cash part of the share-based payments was valued at the closing price of the share in the end of the financial year.

Expenses arising from share-based incentive plans

EUR million	2017	2018	2019	2020	2021	Total
Share-based incentive plan 2017	1.1	1.3	1.5	0.3		4.2
Share-based incentive plan 2018		0.6	1.2	1.5	0.5	3.8
Share-based incentive plan 2019			0.6	1.6	1.8	4.0
Share-based incentive plan 2020				0.6	1.8	2.4
Share-based incentive plan 2021					1.0	1.0
Total	**1.1**	**1.9**	**3.3**	**4.0**	**5.0**	**15.3**

Share-based incentive plans

The share issue without payment approved by Vaisala's Annual General Meeting on April 10, 2018 doubled the total number of series K and A shares. All share related figures have been adjusted to reflect the increased number of shares.

Share-based incentive plans are targeted to the Group key employees. The performance criterion for 2017 and 2018 plans was based on the group's profitability in respective calendar year. From 2019 onwards the performance criteria of the plans are based on the development of the total shareholder return (TSR) and the group's profitability during the three-year plan period. The rewards are paid partly in Vaisala's series A shares and partly in cash. The cash portion covers taxes and tax-related costs arising from the reward to a key employee. No reward is paid if a key employee's employment or service ends before the reward payment date. From the plan 2019-2021 onwards, Vaisala's Board of Directors requires that the President and CEO and each member of the Management Group retains his/her ownership of shares received under this plan until the value of his/her ownership in Vaisala corresponds to at least his/her annual gross base salary.

On December 15, 2016, the Board of Directors resolved a share-based incentive plan 2017. On March 3, 2020 the reward corresponding to 237,900 series A shares, 65% of the maximum, was paid to 33 key employees. On June 28, 2019, the reward corresponding to 3,467 series A shares was paid to a key employee. Closing price of Vaisala's series A share was EUR 17.90 on the grant date of the incentive plan. A total expense of this plan of EUR 4.2 million was recorded for 2017–2020.

On February 7, 2018, the Board of Directors resolved a share-based incentive plan 2018. On March 10, 2021 the reward corresponding to 166,200 series A shares, 55% of the maximum, was paid to 27 key employees. On June 28, 2019, the reward corresponding to 923 series A shares was paid to a key employee. On March 10, 2021, the reward corresponding to 8,000 series A shares was paid to Kai Öistämö, President and CEO. Closing price of Vaisala's series A share was EUR 22.10 on the grant date of the incentive plan. A total expense of this plan of EUR 3.8 million was recorded for 2018–2021.

On February 12, 2019, the Board of Directors resolved a share-based incentive plan 2019–2021 for approximately 45 key employees. The reward will be paid in spring 2022. The maximum amount of this plan originally corresponded to 330,000 series A shares. The expenses of this plan are accrued from April 2019 to March 2022. Closing price of Vaisala's series A share was EUR 19.06 on the grant date of the incentive plan. On March 10, 2021, the reward corresponding to 23,040 series A shares was paid to former President and CEO, Kjell Forsén.

On February 12, 2020, the Board of Directors resolved for a share-based incentive plan 2020–2022 for approximately 45 key employees. The reward will be paid in spring 2023. The maximum amount of this plan originally corresponded to 240,000 series A shares. The expenses of this plan are accrued from May 2020 to March 2023. Closing price of Vaisala's series A share was EUR 28.65 on the grant date of the incentive plan. On March 10, 2021, the reward corresponding to 5,529 series A shares was paid to former President and CEO, Kjell Forsén.

On December 17, 2020, the Board of Directors resolved for a share-based incentive plan 2021–2023 for approximately 40 key employees. The reward will be paid in spring 2024. The maximum amount of this plan originally corresponded to 180,000 series A shares. The expenses of this plan are accrued from April 2021 to March 2024. Closing price of Vaisala's series A share was EUR 32.10 on the grant date of the incentive plan.

8. RESEARCH AND DEVELOPMENT EXPENDITURE

§ Accounting principles

Research and development expenditure is recognized as costs in the financial year in which they incur, except for machinery and equipment acquired for research and development purposes, which are capitalized and depreciated on a straight-line basis.

According to IAS 38, an intangible asset is recognized in the statement of financial position only when it is probable that the expected future economic benefits will flow to the entity. Vaisala does not capitalize costs related to the development of new products and processes as their future returns will not be realized until the products enter the market. According to IAS 38 no intangible asset arising from research shall be recognized and if an entity cannot distinguish the research phase from the development phase of an internal project, the entity treats the expenditure as if it were incurred in research phase only. It is typical for the industry, in which Vaisala operates, that it is not possible to distinguish the research phase of an internal project that aims to create an asset from its development phase.

The statement of income includes research and development costs of EUR 55.3 (53.2) million in 2021.

9. FINANCIAL INCOME AND EXPENSES

§ Accounting principles

Exchange rate differences resulting from settlement of monetary items or from presentation of items in the financial statements at different exchange rates from which they were originally recognized during the financial period or presented in the previous financial statements, are recognized as financial income or expenses in the financial period in which they arise.

All derivative financial contracts are initially recognized at cost and subsequently remeasured at their fair value. Derivative financial contracts are valued at their fair value using the market prices of derivative financial contracts at the closing date of the financial year. Unrealized and realized gains and losses arising from changes in the fair value are recognized in the statement of income in 'financial income and expenses' in the period in which they arise.

Interest income and expenses related to financial assets and liabilities at amortized cost are recognized over time. Principles related to interest expenses related to lease liabilities are presented in note 17, Leases.

Financial income

EUR million	2021	2020
Interest and financial income	0.0	0.0
Gains arising from sale of shares	-	0.1
Gains arising from changes in fair values of derivative financial contracts	1.1	2.3
Foreign exchange gains	4.0	2.5
Total	**5.1**	**5.0**

Financial expenses

EUR million	2021	2020
Interest expenses	0.6	0.6
Interest expenses on lease liabilities	0.4	0.4
Other financial expenses	0.4	0.3
Losses arising from changes in fair values of derivative financial contracts	3.5	1.3
Foreign exchange losses	2.4	5.9
Total	**7.2**	**8.5**
Financial income and expenses, net	**-2.1**	**-3.6**

Foreign exchange gains and losses include gains and losses mainly from revaluation of cash and cash equivalents, trade and other receivables, internal loans as well as trade and other payables.

10. INCOME TAXES

Accounting principles

The group tax expense includes taxes of group companies based on taxable profit for the financial year, tax adjustments for previous years and changes in deferred taxes. Taxes are recognized in the consolidated statement of income except when they are related with items recognized in other comprehensive income or directly in shareholder's equity. Current taxes are calculated on the taxable corporate income based on the tax rates enacted or substantively enacted for each jurisdiction by the end of the financial year. Taxes are adjusted for the taxes of previous financial periods, if applicable.

Deferred taxes are calculated for all temporary differences between the carrying amount of an asset or a liability and its tax base, and those are measured with enacted or substantively enacted tax rates for each jurisdiction by the end of the financial year. Main temporary differences arise from depreciation and amortization, accruals for share-based incentive plans and tax losses carried forward. Other temporary timing differences consist mainly of provisions and accruals of operating expenses. Deferred tax assets are recognized to the extent that it is probable that these can be utilized against future taxable profits.

Accounting principles requiring management judgment and the main uncertainty factors relating to estimates

Defining income taxes and deferred tax assets and liabilities as well as to what extent deferred tax assets may be recognized require management judgment. Group is subject to income taxation in several jurisdictions, in which interpretation of tax legislation may require management judgment and uncertainty may relate to the applied interpretations. Each uncertain tax treatment is considered separately or together depending on which approach predicts the uncertainty the best way. All these effects of uncertainties are reflected in the tax accounting when it is not probable that the tax authorities or appeal courts will accept treatments. Group follows all tax legislation in its operating countries and has limited tax exposure to transactions between group entities located in different jurisdictions.

Management assumptions and estimates are needed especially in recognizing deferred tax assets related to tax losses carried forward. Key assumptions relate to the facts that recoverability periods for tax losses carried forward will not change and enacted tax laws and rates remain unchanged in the near future. When an entity has a history of recent losses the deferred tax asset arising from unused tax losses is recognized only to the extent that there are sufficient taxable temporary differences or there is convincing evidence that sufficient future taxable profit will be generated. At each balance sheet date, the expected utilization of deferred tax assets related to unused tax losses are assessed while considering the likelihood of a) expected future taxable profits including availability of tax credits, b) identifiable causes to unused tax losses to be unlikely recurred c) available tax planning opportunities.

Income taxes

EUR million	2021	2020
Tax based on taxable income for the financial year	10.3	7.5
Taxes from previous financial years	0.2	-0.9
Change in deferred tax assets and liabilities	-1.6	1.9
Total	**8.9**	**8.5**

Reconciliation statement between the statement of income tax item and taxes calculated at the tax rate of the group country of domicile

EUR million	2021	2020
Result before taxes	48.3	41.4
Taxes calculated at the Finnish tax rate	9.7	8.3
Effect of foreign subsidiaries' tax rates	2.2	1.0
Non-deductible expenses, tax-free revenue and tax incentives	-0.5	-0.2
Taxes from previous financial years	0.2	-0.9
Other direct taxes	0.0	0.1
Reassessment of deferred tax assets	-1.8	0.6
Other	-1.0	-0.4
Total	**8.9**	**8.5**
Effective tax rate	**18.4%**	**20.6%**

Vaisala had not any carry forward tax losses for which deferred tax assets have not been recognized as of December 31, 2021 (December 31, 2020 EUR 8.9 million).

Deferred taxes in the statement of financial position

EUR million	2021	2020
Deferred tax assets	9.2	7.3
Deferred tax liabilities	-6.7	-7.7
Total	**2.5**	**-0.4**

Gross change in deferred taxes recognized in the statement of financial position

EUR million	2021	2020
Deferred taxes Jan 1	-0.4	1.7
Items recognized in the statement of income	1.7	-1.9
Effect of business combinations	0.0	0.0
Translation differences	-0.1	-0.2
Items recognized in the equity	0.0	0.0
Items recognized in the statement of comprehensive income	-1.3	0.0
Deferred taxes Dec 31	**2.5**	**-0.4**

Changes in deferred taxes during 2021

EUR million	Jan 1, 2021	Reclassification	Recognized in the statement of income	Translation differences	Recognized in the statement of comprehensive income	Dec 31, 2021
Deferred tax assets						
Internal margin of inventories, intangible assets and property, plant and equipment	1.0	0.6	0.0	-0.1	0.0	1.4
Employee benefits and share-based payments	2.0	0.3	0.2	0.0	1.3	3.8
Unused tax losses	3.1	0.0	0.6	0.0	0.0	3.7
Timing difference of amortization on intangible assets and depreciation on property, plant and equipment	1.7	-0.9	0.0	0.0	0.0	0.7
Other temporary timing differences	2.0	0.0	0.2	0.0	0.0	2.4
Netted against deferred tax liabilities	-2.5		-0.3			-2.8
Total	**7.3**	**0.0**	**0.7**	**-0.1**	**1.3**	**9.2**
Deferred tax liabilities						
Timing difference of amortization on intangible assets and depreciation on property, plant and equipment	9.8	0.0	-0.7	0.0	0.0	9.1
Other	0.5	0.0	0.0	0.0	0.0	0.3
Netted against deferred tax assets	-2.5		-0.3			-2.8
Total	**7.7**	**0.0**	**-1.0**	**0.0**	**0.0**	**6.7**
Deferred tax assets, net	**-0.4**	**0.0**	**1.7**	**-0.1**	**1.3**	**2.5**

Changes in deferred taxes during 2020

EUR million	Jan 1, 2020	Recognized in the statement of income	Translation differences	Recognized in the statement of comprehensive income	Dec 31, 2020
Deferred tax assets					
Internal margin of inventories, intangible assets and property, plant and equipment	0.8	0.2	0.0		1.0
Employee benefits and share-based payments	2.0	0.0	0.0	-0.0	2.0
Unused tax losses	4.0	-0.8	-0.1		3.1
Timing difference of amortization on intangible assets and depreciation on property, plant and equipment	2.3	-0.6			1.7
Other temporary timing differences	3.4	-1.0	-0.2		2.0
Netted against deferred tax liabilities	-2.7	0.2			-2.5
Total	**9.8**	**-2.1**	**-0.4**	**-0.0**	**7.3**
Deferred tax liabilities					
Timing difference of amortization on intangible assets and depreciation on property, plant and equipment	10.4	-0.4	-0.2		9.8
Other	0.4	0.1	0.0		0.5
Netted against deferred tax assets	-2.7	0.2			-2.6
Total	**8.1**	**-0.1**	**-0.2**		**7.7**
Deferred tax assets, net	**1.7**	**-1.9**	**-0.2**	**-0.0**	**-0.4**

11. EARNINGS PER SHARE

Accounting principles

Earnings per share is calculated by dividing the result for the period attributable to the parent company's shareholders by weighted average number of issued shares during the financial year. Diluted earnings per share is calculated by adjusting the weighted average number of shares outstanding during the financial year with the diluted effect of potential shares from the share-based payments.

Earnings per share

	2021	2020
Result attributable to the shareholders of the parent company, EUR million	39.0	32.8
Weighted average number of shares outstanding, 1,000 pcs	36,082	35,979
Effect of share-based incentive plans, 1,000 pcs	272	243
Weighted average diluted number of shares, 1,000 pcs	36,354	36,223
Earnings per share, EUR	1.08	0.91
Diluted earnings per share, EUR	1.07	0.91

Net working capital

12. TRADE RECEIVABLES AND OTHER RECEIVABLES

Accounting principles related to trade receivables and other receivables are presented in Note 21, Financial assets and liabilities.

Trade receivables and other receivables

EUR million	2021	2020
Trade receivables*)	59.2	52.2
Advances paid	1.6	0.7
Value-added tax receivables	4.3	3.4
Other receivables	2.2	1.1
Derivative financial contracts	0.0	1.2
Other prepaid expenses and accrued income	6.2	5.4
Total	**73.5**	**64.0**

*) In 2021, trade receivables included EUR 0.1 million lease receivables.

The fair value of trade and other receivables is, in all material respects, equivalent to their carrying amounts.

Expected credit losses of trade receivables

Dec 31, 2021	Trade receivables, gross amount	Credit loss allowance	Trade receivables, net amount
Current	40.9	0.1	40.7
Due less than 90 days	10.8	0.0	10.8
Due 91-180 days	1.2	0.2	1.0
Due over 180 days	1.2	0.8	0.3
Credit loss allowance other than those based on age analysis	6.6	0.3	6.4
Total	**60.7**	**1.5**	**59.2**

Expected credit losses of trade receivables

Dec 31, 2020	Trade receivables, gross amount	Credit loss allowance	Trade receivables, net amount
Current	34.5	0.1	34.3
Due less than 90 days	11.8	0.0	11.7
Due 91-180 days	0.8	0.1	0.7
Due over 180 days	1.0	0.4	0.6
Credit loss allowance other than those based on age analysis	5.9	1.0	4.8
Total	**53.9**	**1.7**	**52.2**

Reconciliation of credit loss allowance of trade receivables

EUR million	2021	2020
Opening balance for credit loss allowance on Jan 1	1.7	2.0
Change in credit loss allowance recognized in profit or loss during the financial year	0.1	0.2
Receivables recognized as final credit losses during the financial year due to uncollectability	-0.3	-0.5
Exchange rate differences	0.1	-0.1
Total	**1.5**	**1.7**

Credit losses and related reversals arising from trade receivables recognized for the financial year amounted to EUR -0.1 (-0.3) million.

Trade receivables by currency

EUR million	2021	2020
EUR	28.1	23.5
USD	17.1	17.4
GBP	3.1	2.6
JPY	4.1	4.7
AUD	0.9	0.8
CNY	2.8	1.7
CAD	1.5	1.0
SGD	0.7	-
Others	0.9	0.5
Total	**59.2**	**52.2**

13. INVENTORIES

Accounting principles

Inventories are stated at the lower of standard cost or net realizable value. Inventory cost includes the cost of purchase (including mainly purchase price, import duties and transport), direct labor and a proportion of production overhead. An allowance is recognized for excess inventory and obsolescence.

Accounting principles requiring management judgment and the main uncertainty factors relating to estimates

Allowance for inventory is recognized for possible excess, obsolescence and decrease in net realizable value below inventory cost. Estimates and judgment are required in determining the value of the allowance for excess and obsolete inventory. Management analyses estimates of demand and determines allowance for excess and obsolete inventory. Possible changes in the assumptions may cause revaluation of inventory valuation in the future periods.

Inventories

EUR million	2021	2020
Materials, supplies and finished goods	49.9	44.5
Total	**49.9**	**44.5**

At the beginning of financial year 2021 Vaisala amended its accounting principles related to leases from lessor's perspective to include accounting by a lessor. Consequently, the leased assets, EUR 1.2 million, were transferred from inventory to property, plant and equipment.

The cost of inventories recognized in the statement of income as an expense corresponding to net sales was EUR 126.6 (108.2) million.

Write-offs and excess and obsolescence allowances for slow moving and obsolete inventory recognized during the financial year amounted to EUR 1.6 (1.2) million.

14. TRADE PAYABLES AND OTHER LIABILITIES

Accounting principles

Due to the short maturity of trade payables and other liabilities the carrying amount is considered to be the fair value. Trade and other payables are classified as current liabilities if they are due within 12 months from the balance sheet date or are to be settled within the normal operating business cycle. Accounting principles for derivative financial contracts are presented in note 21, Financial assets and liabilities.

Trade payables and other liabilities

EUR million	2021	2020
Trade payables	21.4	13.8
Personnel cost accruals	38.1	27.0
Derivative financial contracts	1.3	0.1
Other accrued expenses and deferred income	7.4	5.0
Other current liabilities	15.6	6.4
Total	**83.9**	**52.3**

Trade payables arise from ordinary course of business, and they relate to purchases of inventories, intangible and tangible assets and other goods and services. Personnel cost accruals are mainly related to bonuses and unused vacations.

15. PROVISIONS

Accounting principles

A provision is recognized when group has a legal or constructive obligation as a result of a prior event, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made. The amount recognized as a provision is the best estimate of the expenditure required to settle the present obligation at the end of reporting period. If the effect of the time value of money is material, the amount of provision is the present value of the expenditure expected to be required to settle the obligation. The discount factor used in calculating the present value is selected so that it reflects the market view of the time value of money and the risks related to the obligations at the time of examination.

Where some or all of the expenditure required to settle a provision is expected to be reimbursed by a third party, the reimbursement is recognized as a separate asset but only when the reimbursement is virtually certain. The amount of provisions is reviewed at end of each reporting period and the amount is adjusted to reflect the current best estimate. A provision is reversed when the probability of financial settlement has been removed. A change in provision is recognized in the same item of the statement of income in which the provision was originally recognized.

Provisions can relate to restructuring of operations, loss-making contracts, warranties, legal disputes and other commitments.

A restructuring provision is recognized when a detailed and appropriate plan for restructuring has been prepared and the company has started to implement the plan or has announced it to those affected by it. Restructuring provisions include mainly lease termination penalties and redundancy payments.

A provision for a loss-making contract is recognized when unavoidable costs of meeting the obligation exceed the economic benefits expected to be received from the contract.

A warranty provision covers the cost of repairing or replacing the products. The warranty provision is based on past experience and an estimate of future costs.

Non-current provisions

EUR million	2021	2020
Provisions Jan 1	0.1	0.1
Increase in provisions	0.2	0.0
Provisions Dec 31	**0.3**	**0.1**

Current provisions

EUR million	2021	2020
Provisions Jan 1	1.7	3.2
Increase in provisions	0.3	0.1
Used provisions	-0.1	-1.5
Provisions Dec 31	**2.0**	**1.7**

In 2021 provisions related to warranties and other contractual commitments. In 2020 provisions related to warranties, restructuring, loss-making contracts and other contractual commitments.

Intangible and tangible assets

16. INTANGIBLE AND TANGIBLE ASSETS

Accounting principles

Goodwill

Goodwill represents the excess of the consideration transferred of an acquisition over the fair value of the group's share of the net assets of the acquired entity at the date of acquisition. Goodwill is calculated in the currency of the operating environment of the acquired entity. If the consideration transferred is lower than the net asset value of the acquired entity, the difference is recognized in the statement of income. Goodwill is not amortized but tested annually for possible impairment and whenever there is an indication that the value may be impaired. For this purpose, goodwill has been allocated to cash-generating units. Vaisala's total goodwill is allocated to the cash-generating unit formed by the Weather and Environment Business Area. Goodwill is valued at acquisition cost less impairment losses. Impairment losses are recognized in the statement of income.

Technology-based and customer related intangible assets

Intangible assets identified in connection with acquisitions are measured at the fair value at the acquisition date. In business combinations consideration transferred has been allocated to technology-based and customer related intangible assets. Initial measurement of technology-based and customer related intangible assets has been prepared by applying income and cost approach method. Intangible assets identified in connection with acquisitions are amortized over their delivery times or estimated useful lifetimes.

Other intangible assets

Other intangible assets include mainly patents, trademarks and licenses. Other intangible assets are recognized initially at acquisition cost and amortized using the straight-line method over their useful lifetime. Intangible assets that have an indefinite useful lifetime are not amortized, but are tested annually for impairment. The carrying amount of these intangible assets is not material.

Estimated useful lifetimes for intangible assets are:

Technology-based intangible assets	7–8 years
Customer related intangible assets	1–5 years
Intangible rights	3–20 years
Software licenses	3–5 years
Other intangible assets	3–5 years

Property, plant and equipment

Property, plant and equipment comprise mainly land and buildings as well as machinery and equipment. The carrying amount of assets is based on original acquisition cost less accumulated depreciation as well as possible impairment losses. The cost of self-constructed assets includes materials and direct labor as well as a proportion of overhead costs attributable to construction labor. If a tangible asset consists of several parts which have different useful lifetimes, these parts are treated as separate assets. Accordingly, expenses relating to the renewal of a part are capitalized and the remaining part is recognized as an expense. Otherwise, expenditures that incur later are included in the carrying amount of the tangible assets only if it is probable that the future economic benefit connected with the asset is for the benefit of group and that the acquisition cost can be reliably determined. Other repair and maintenance expenses are recognized in the statement of income when realized.

Depreciation is calculated using the straight-line method and is based on the estimated useful lifetime of the asset. Land is not depreciated. Estimated useful lifetimes for assets are:

Buildings and structures	5–40 years
Machinery and equipment	3–8 years
Other tangible assets	3–8 years

The estimated useful lifetime of leased assets is three years. However, the assets are not depreciated as the residual value of the assets exceeds the carrying value.

The residual values, depreciation methods and useful lifetimes of the assets are reviewed, and adjusted if necessary, in connection with each financial statement to reflect changes in the expectations of future economic benefit. Gains and losses on disposals are determined by comparing the disposal proceeds with the carrying amount of the asset and are included in the operating result.

Public grants received for investments are recognized as a reduction in the carrying amounts of tangible assets. Thus, grants are recognized in the form of lower depreciation over the useful lifetime of the asset.

Impairment

In the end of each reporting period, the group reviews assets for any indication of impairment. The need for impairment is reviewed at cash-generating unit level, i.e. at the lowest level of units which is mainly independent of other units and whose cash flows are separate and highly independent from the cash flows of other corresponding units. If there is an indication of impairment, the recoverable amount of the asset is assessed. Additionally, the recoverable amount is assessed annually for the following assets irrespective of whether there is indication of impairment: goodwill, intangible assets which have an indefinite useful lifetime, as well as incomplete intangible assets.

The recoverable amount is the higher of the asset's fair value less the cost arising from disposal and its value in use. In determining value in use, the estimated future cash flows are discounted to their present value using discount rates that reflect the average pre-tax cost of capital for the respective country and industry (WACC = weighted average cost of capital). The special risks associated with these assets are also taken into account in the discount rates. For an individual asset that does not independently generate future cash flows, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

An impairment loss is recognized as an expense when the carrying amount of the asset is greater than its recoverable amount. An impairment loss is reversed if there has been a change in the circumstances that led to the estimates and the recoverable amount of the asset has changed since the impairment loss was recognized. An impairment loss is not reversed more than the carrying amount of the asset (less depreciation) without an impairment loss recognized. Impairment losses recognized for goodwill are not reversed under any circumstances.

Accounting principles requiring management judgment and the main uncertainty factors relating to estimates

In business combinations, IFRS 3 requires the acquirer to recognize an intangible asset separately from goodwill, if the recognition criteria are met. Recognition of an intangible asset at fair value requires management estimates of future cash flows. To the extent possible, management has used available market values as the basis for allocating costs to determine fair values. When this is not possible, which is typical especially for intangible assets, valuation is mainly based on the expectations on returns of the asset and its intended use in the business. Valuations are based on discounted cash flows and require management's estimates and assumptions about the future use of the assets and their effect on the financial position of the company. Changes in the focus and direction of the company's business operations may, in the future, result in changes in the original valuation. Group tests goodwill annually for impairment and assesses indications of impairment of property, plant and equipment and intangible assets as described above. The recoverable amounts of cash-generating units are determined using value in use calculations. Although management believes that the assumptions used are appropriate, the estimated recoverable amounts might differ materially from those realized in the future.

Intangible assets

EUR million	Goodwill	Technology-based intangible assets	Customer related intangible assets	Other intangible assets	Advance payments and construction in progress	Total
Acquisition cost Jan 1, 2021	28.5	39.1	14.1	31.7	0.4	113.8
Translation difference	1.2	0.0		0.5	0.0	1.7
Increases				0.2	0.1	0.3
Decreases		-0.0		-0.2		-0.2
Transfers between items				0.2	-0.2	0.0
Acquisition cost Dec 31, 2021	**29.6**	**39.1**	**14.1**	**32.4**	**0.3**	**115.6**
Accumulated amortization and impairment Jan 1, 2021		12.1	8.2	30.0		50.2
Translation difference		0.0		0.5		0.5
Accumulated amortization of decreases and transfers		-0.0		-0.2		-0.2
Amortization for the financial year		5.5	1.9	0.8		8.2
Impairment for the financial year				0.0		0.0
Accumulated amortization and impairment Dec 31, 2021		**17.5**	**10.1**	**31.0**		**58.7**
Carrying amount Dec 31, 2021	**29.6**	**21.6**	**4.0**	**1.4**	**0.3**	**56.9**

Intangible assets

EUR million	Goodwill	Technology-based intangible assets	Customer related intangible assets	Other intangible assets	Advance payments and construction in progress	Total
Acquisition cost Jan 1, 2020	29.8	39.1	14.1	32.9	0.4	116.3
Translation difference	-1.3	0.0		-0.6	0.0	-1.9
Increases				0.2	0.1	0.4
Decreases		-0.0		-0.9		-0.9
Transfers between items				0.1	-0.1	0.0
Acquisition cost Dec 31, 2020	**28.5**	**39.1**	**14.1**	**31.7**	**0.4**	**113.8**
Accumulated amortization and impairment Jan 1, 2020		6.7	6.3	30.5		43.6
Translation difference		0.0		-0.6		-0.6
Accumulated amortization of decreases and transfers		-0.0		-0.9		-0.9
Amortization for the financial year		5.3	1.9	0.9		8.1
Impairment for the financial year				0.0		0.0
Accumulated amortization and impairment Dec 31, 2020		**12.1**	**8.2**	**30.0**		**50.2**
Carrying amount Dec 31, 2020	**28.5**	**27.0**	**5.9**	**1.7**	**0.4**	**63.6**

Impairment testing

Vaisala assesses the value of goodwill, intangible assets which have an indefinite useful lifetime, as well as incomplete intangible assets for impairment annually and whenever there is an indication that the unit may be impaired. The recoverable amount of the cash-generating unit is based on value in use calculations and cash flows are based on three year forecasts approved by Vaisala management. Vaisala's total goodwill is allocated to the cash-generating unit formed by Weather and Environment Business Area.

In Weather and Environment Business Area cash-generating unit the recoverable amount exceeds the carrying amount by EUR 482 million. Weather and Environment Business Area sales are expected to grow in average 3.5% next three years. Terminal growth rate is 2% and Weighted Average Cost of Capital is 7.15%. Key assumptions in impairment testing are net sales, profitability and discount rate. Vaisala's management has estimated it to be unlikely that any expected change in key assumptions would lead to carrying amount of the cash-generating unit exceeding the recoverable amount.

Property, plant and equipment

EUR million	Land and waters	Buildings and structures	Machinery and equipment	Leased assets*)	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost Jan 1, 2021	4.5	92.9	74.9		0.1	8.0	180.4
Translation difference	0.1	1.5	1.2			0.0	2.9
Increases		4.3	6.4	1.0		7.0	18.7
Decreases		-0.4	-3.9	-0.5			-4.8
Transfers between items		0.7	5.1	1.2		-5.7	1.2
Acquisition cost Dec 31, 2021	**4.7**	**99.1**	**83.6**	**1.7**	**0.1**	**9.3**	**198.3**
Accumulated depreciation and impairment Jan 1, 2021		42.5	53.9				96.4
Translation difference		0.4	1.0				1.4
Accumulated depreciation of decreases and transfers		-0.4	-3.9	-0.0			-4.3
Depreciation for the financial year		3.9	6.6				10.5
Impairment for the financial year			0.1	0.1			0.2
Accumulated depreciation and impairment Dec 31, 2021		**46.5**	**57.7**	**0.1**	**0.0**	**0.0**	**104.2**
Carrying amount Dec 31, 2021	**4.7**	**52.6**	**25.9**	**1.6**	**0.1**	**9.3**	**94.1**

*) In the beginning of financial year 2021 Vaisala amended the accounting principles related to leases from lessor's perspective to include accounting by a lessor. Consequently, the leased assets, EUR 1.2 million, were transferred from inventory to property, plant and equipment.

On December 31, 2021, the carrying amount of machinery and equipment used in production was EUR 17.1 (13.3) million.

Property, plant and equipment

EUR million	Land and waters	Buildings and structures	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost Jan 1, 2020	4.7	57.5	79.5	0.1	23.7	165.4
Translation difference	-0.2	-0.5	-1.3		-0.5	-2.6
Increases		21.5	4.1		5.0	30.6
Decreases		-0.8	-12.2			-13.1
Transfers between items		15.2	4.9		-20.2	-0.1
Acquisition cost Dec 31, 2020	**4.5**	**92.9**	**74.9**	**0.1**	**8.0**	**180.4**
Accumulated depreciation and impairment Jan 1, 2020		40.8	61.2			102.0
Translation difference		-0.4	-1.2			-1.6
Accumulated depreciation of decreases and transfers		-0.8	-12.2			-13.0
Depreciation for the financial year		3.0	6.0			9.0
Impairments for the financial year		0.1	0.1			0.1
Accumulated depreciation and impairment Dec 31, 2020		**42.5**	**53.9**			**96.4**
Carrying amount Dec 31, 2020	**4.5**	**50.4**	**21.0**	**0.1**	**8.0**	**83.9**

Depreciation, amortization and impairment by function

EUR million	2021	2020
Procurement and production	4.0	3.8
Sales, marketing and administration	1.2	12.4
Research and development	13.7	1.1
Total	**18.9**	**17.3**

Depreciation, amortization and impairment by asset group 2021

EUR million	Depreciation and amortization	Impairment	Total
Technology-based intangible assets	5.5		5.5
Customer related intangible assets	1.9		1.9
Other intangible assets	0.8	0.0	0.8
Buildings and structures	3.9		3.9
Machinery and equipment	6.6	0.1	6.7
Leased assets		0.1	0.1
Total	**18.7**	**0.2**	**18.9**

Depreciation, amortization and impairment by asset group 2020

EUR million	Depreciation and amortization	Impairment	Total
Technology-based intangible assets	5.3		5.3
Customer related intangible assets	1.9		1.9
Other intangible assets	0.9	0.0	0.9
Buildings and structures	3.0	0.1	3.0
Machinery and equipment	6.0	0.1	6.1
Total	**17.1**	**0.2**	**17.3**

17. LEASES

Leases as lessee

Accounting principles

Vaisala acts as a lessee and its lease contracts consist mainly of offices, other premises, land area, apartments and cars.

Majority of Vaisala's lease contracts are fixed-term arrangements without one-sided extension or termination options and thus the lease term is defined based on the duration of the contract. If an arrangement includes extension, termination or purchase option management estimates the probable lease term for each arrangement based on an understanding of the business needs.

A contract may include both a lease component and other components (such as a service fee), for which the contract consideration is allocated on the basis of relative separate prices. Other components are excluded from IFRS 16 calculation, except for service fees for car leases, which are included in the lease component.

For leases, right-of-use asset and corresponding lease liability are recognized in the statement of financial position.

The cost of initial measurement of the right-of-use asset comprises the following items:

- the amount of the initial measurement of the lease liability;
- any lease payments made at or before the commencement date, less any lease incentives received (such as rent-free period);
- any initial direct costs incurred by the lessee; and
- the potential costs of restoring the underlying asset

Right-of-use assets are tested for impairment as described in Note 16, Intangible and tangible assets.

Subsequently right-of-use asset is measured at cost less accumulated depreciation and impairment losses, adjusted for any remeasurement of the lease liability.

The lease liability is initially measured at the present value of the future lease payments discounted by incremental borrowing rate. Incremental borrowing rate is the rate of interest that Vaisala would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. Subsequently, in valuation of lease liability effective interest rate method is applied, according to which lease liability is recognized at amortized cost and interest expense is accrued over the lease term.

Lease liabilities include the net fair value of the following payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable by the lessee under residual value guarantees;
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option; and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising an option to terminate the lease.

Leases based on extension options that are reasonably certain to be exercised are also included in the liability.

Subsequently, the amount of lease liability is affected by, among other things, the interest accrued by the lease liability, the leases paid, the index increases in leases and the effects of changes in contract.

Depreciation and impairments of right-of-use assets, interest on lease liabilities and items arising from contractual changes are recognized in the consolidated statement of income.

Accounting principles requiring management judgment and the main uncertainty factors relating to estimates

The application of IFRS 16 in the situations, in which Vaisala acts as a lessee, requires management to consider the duration of the lease term if there is an option for extension, termination or purchase. When evaluating the likelihood of the option being exercised and, therefore, the duration of the lease term, management takes into account all known facts and circumstances that create a financial incentive to exercise, or not to exercise, the option on a contractual basis.

Management's estimates of the business needs and hence the likelihood of the exercise of various options are based on known short- and long-term strategies and action plans and on the possible reorganization plans and investment decisions based on them. When evaluating the likelihood of the exercise of options, the decision is also influenced by, among other things, the purpose of the use of the premises and the extent of the investments made.

Amounts recognized in the statement of financial position related to leases

Carrying amounts of right-of-use assets

EUR million	2021	2020
Land and waters	1.3	1.3
Buildings and structures	9.2	10.7
Machinery and equipment	0.6	0.6
Total	**11.1**	**12.5**

Additions to the right-of-use assets during the financial year 2021 were EUR 1.1 (4.4) million.

Interest-bearing lease liabilities

EUR million	2021	2020
Non-current	7.7	9.2
Current	2.4	2.7
Total	**10.1**	**11.9**

Maturity of lease liabilities is presented in note 21, Financial assets and liabilities.

Amounts recognized in the statement of income related to leases

Depreciation of right-of-use assets

EUR million	2021	2020
Buildings and structures	2.4	2.9
Machinery and equipment	0.4	0.4
Total	**2.8**	**3.3**

Write-downs of right-of-use assets

EUR million	2021	2020
Buildings and structures	-0.0	0.5
Total	**-0.0**	**0.5**

Other items recognized in the statement of income

EUR million	2021	2020
Interest expense on lease liabilities	0.4	0.4

The total cash outflow for leases in 2021 was EUR 3.4 (3.7) million.

Leases as lessor

In the beginning of financial year 2021 Vaisala amended its accounting principles to include accounting principles related to leases as a lessor due to the increase of lease arrangements, in which Vaisala acts as a lessor. Due to the change an amount totaling EUR 1.2 million were transferred from inventory to property, plant and equipment. The comparative information has not been restated due to the immateriality of the transactions and balances during the comparison period.

Accounting principles

In Vaisala, all lease agreements, in which Vaisala acts as a lessor, are classified as operating leases as the risks and rewards incidental to ownership of the underlying assets are not substantially transferred to the lessee. The lease payments are recognized on straight-line basis as lease income. Lease income is presented as part of net sales. Vaisala recognizes costs incurred in earning the lease income as an expense in the cost of goods sold.

The lease term is determined as the non-cancellable period of a lease, together with both periods covered by an option to extend the lease if the lessee is reasonably certain to exercise that option and periods covered by an option to terminate the lease if the lessee is reasonably certain not to exercise that option.

Leased assets are included in property plant and equipment. The estimated useful lifetime of the assets is three years. However, the assets are not depreciated as the residual value of the assets is greater than the carrying value, but the assets are tested for impairment in accordance with IAS 36 Impairment of assets.

Vaisala as lessor

Vaisala leases wind lidars for wind measurements. The lease terms are usually short-term, but maximum two years.

Lease income recognized in financial year 2021 was EUR 2.1 million.

At the end of the financial year 2021 the undiscounted lease payments to be received were EUR 0.4 million and Vaisala estimates that those will be received during the financial year 2022.

Capital structure

18. SHAREHOLDERS' EQUITY

Accounting principles

The group's equity consists of share capital, reserve fund, fund of invested non-restricted equity, translation differences and retained earnings.

Shares issued by the parent company are presented as share capital. Expenses related to the share issues or acquisition of own shares are presented as a reduction of equity. If the company acquires back its own shares, the consideration paid including direct costs is deducted from the equity.

The Board of Directors' proposal for dividend distribution is not recognized in the financial statements. The dividends are recognized only after the Annual General Meetings' approval.

Shares and share capital

On July 21, 2020 Vaisala Corporation's Board of Directors decided to convert 20,306 K shares to series A shares. This conversion was registered into the Trade Register on July 31, 2020. After this Vaisala Corporation has 36,436,728 shares, of which 6,731,092 are series K shares and 29,705,636 series A shares. The shares do not have nominal value. The series K shares and A shares are differentiated by the fact that each series K share entitles its owner to twenty (20) votes at General Meeting of Shareholders while each series A share entitles its owner to one (1) vote. The shares have the same rights to dividend. Series K shares can be converted to series A shares according to specific rules stated in the Articles of Association.

On December 31, 2021 and 2020, the fully paid and registered share capital of Vaisala Corporation amounted to EUR 7,660,807.86.

Shareholders' equity

EUR million	Number of shares 1,000	Share capital	Other reserves	Treasury shares	Total
Dec 31, 2019	**35,881**	**7.7**	**7.0**	**-7.9**	**6.8**
Share-based payments	119		-1.4	1.6	0.2
Transfers between items			0.0		0.0
Translation difference			-0.0		-0.0
Dec 31, 2020	**36,000**	**7.7**	**5.6**	**-6.3**	**7.0**
Share-based payments	101		1.3	1.7	2.9
Transfers between items			0.0		0.0
Translation differences			0.0		0.0
Dec 31, 2021	**36,101**	**7.7**	**7.0**	**-4.6**	**10.0**
Own shares held by the company	336				
Total	**36,437**				

Other reserves

Other reserves consist of reserve fund and invested non-restricted equity. Share-based payments are also recognized in other reserves. The reserve fund, EUR 0.5 (0.5) million, includes items based on local rules of subsidiaries. Eligibility of the reserve fund is subject to restrictions based on local regulations.

Invested non-restricted equity includes funds transferred from the share premium fund. On December 31, 2021 the amount of other reserves totaled to EUR 0.1 (0.1) million.

Own shares

Own shares (treasury shares) include the acquisition cost of own shares held by the group and are presented as a deduction from retained earnings.

	Number of shares	Purchase price EUR million
Treasury shares Dec 31, 2019	**555,989**	**7.9**
Distribution of treasury shares to key employees	-118,950	-1.6
Treasury shares Dec 31, 2020	**437,039**	**6.3**
Distribution of treasury shares to key employees	-101,384	-1.7
Treasury shares Dec 31, 2021	**335,655**	**4.6**

On December 31, 2021 the company held 335,655 (437,039) series A shares representing 0.9% (1.2) of the total number of shares and 0.2% (0.3) of the voting rights. The consideration paid for the shares held by the company was EUR 4.6 million.

Treasury shares can be used as consideration in possible acquisitions or in other business-related arrangements, to finance investments, as part of the company's incentive program, or be retained, conveyed, or cancelled by the company.

Translation differences

Translation differences include the translation differences arising from the elimination of the acquisition cost of non-euro area group companies and from post-acquisition equity items, and the translation differences arising from translation of profit or loss for the period. The group has not hedged any equity denominated in foreign currency.

The result for the financial year is recognized in retained earnings.

Dividend

For the financial year 2020 a dividend of EUR 0.61 per share was paid, totaling EUR 22.0 million.

The Board of Directors proposes to the Annual General Meeting to be held on March 29, 2022 that a dividend of EUR 0.68 per share be paid for the financial year 2021, representing a total dividend of approximately EUR 24.5 million. The proposed dividend has not been recognized as a dividend liability in these financial statements.

19. FINANCIAL RISK MANAGEMENT

Vaisala is exposed to a number of financial risks in its operations of which key ones are currency risk, interest rate risk, refinancing and liquidity risks as well as financial counterparty risk and trade receivables credit risks. Vaisala's objective is to limit the impact of these risks on statement of income, statement of financial position and cash flow statement. The management of financial risks is based on the treasury and credit policies approved by the Board of Directors.

Currency risk

Currency risk refers to the uncertainty in statement of income, statement of financial position and cash flow statement arising from exchange rate fluctuations. Vaisala's business is global and is exposed to transaction and translation risks in multiple currencies. The transaction risk is related to the currency flows of sales and expenses. The translation risk arises from net investments in entities outside the euro area.

Vaisala's sales are denominated in various currencies. In 2021, 46% of the group's sales was in EUR, 31% in USD, 9% in CNY, 5% in JPY and 4% in GBP. Expenses and purchases occur mostly in EUR and USD. The group's policy is to hedge foreign currency positions which consists of the order book, purchase commitments, net receivables, cash and cash equivalents and intercompany loans. Vaisala does not hedge forecasted cash flows that are not in the order book. Vaisala does not apply hedge accounting in accordance with IFRS and changes in fair value are recognized in the statement of income.

Intercompany loans and deposits are mainly initiated in subsidiaries' local currencies. Vaisala does not hedge equities of subsidiaries. Translation of subsidiaries' equities into euros caused translation difference of EUR 4.5 (-4.0) million. The most significant translation risk exposures are in USD.

The IFRS 7 currency risk sensitivity analysis is based on the group companies' foreign currency receivables, cash and cash equivalents and liabilities. The calculation does not include internal loans, order book or forecasted cash flows, but includes foreign exchange forward contracts in their nominal value. The effect of a 10% appreciation in all open net currency positions on Vaisala's result after taxes and equity would have been EUR -0.4 (-0.1) million. Three largest foreign exchange net exposures in euro and their sensitivity analysis based on a 10% change (before taxes) are presented in the following table:

Foreign exchange net exposures against EUR

2021			2020		
EUR million	Net position	Sensitivity	EUR million	Net position	Sensitivity
USD	-8.3	+/- 0.8	HRK	-3.0	+/- 0.3
PLN	-3.1	+/- 0.3	USD	-2.7	+/- 0.2
HRK	-3.0	+/- 0.3	SEK	-2.3	+/- 0.2

Interest rate risk

Interest rate risk refers to the uncertainty in statement of income, statement of financial position and cash flow statement arising from interest rate changes. The group is exposed to cash flow interest rate risk, if it has floating rate liabilities. At the end of the financial year 2021 Vaisala's interest-bearing liabilities and loans were at floating rates and totaled EUR 50.2 (57.0) million. EUR 10.1 (11.9) million of interest-bearing liabilities and loans related to lease liabilities.

Refinancing and liquidity risks

Refinancing and liquidity risk refers to the uncertainty in the ability to maintain liquidity. In order to ensure liquidity, cash and cash equivalents and availability of credit facilities are maintained at a sufficient level.

On December 31, 2021 Vaisala's cash and cash equivalents amounted to EUR 77.9 (45.4) million. Vaisala has a EUR 40.0 million unsecured term loan which was signed on May 25, 2020. The loan matures in three years from the signing date and has a financial covenant (gearing), which is tested semi-annually. On December 31, 2021, Vaisala was in compliance with the covenant. This facility is used for refinancing of existing indebtedness as well as for general corporate and working capital purposes.

In addition, Vaisala has a EUR 50 million unsecured revolving credit facility which was signed on October 5, 2018. The committed credit facility agreement matures in 5 years from the signing date and it has no financial covenants. On December 31, 2021, Vaisala had interest bearing liabilities totaling EUR 50.2 (57.0) million. Group has no loans that would mature after five years or more. In addition, Vaisala has a domestic commercial paper program amounting to EUR 150 million that was not utilized as of December 31, 2021.

Financial counterparty risk

Financial counterparty risk refers to the uncertainty about the counterparty's ability to assume the obligations related to the financing. Vaisala is exposed to financial counterparty risk in respect of cash and cash equivalents and derivative financial instruments. Vaisala's cash and cash equivalents amounted to EUR 77.9 (45.4) million and the nominal value of derivative financial instruments to EUR 35.2 (31.4) million. Vaisala deposits its assets and concludes derivative financial contracts with counterparties with good creditworthiness and approved according to Vaisala's treasury policy. The creditworthiness of banks is constantly assessed.

Trade receivables credit risk

Trade receivables credit risk means the customer-related uncertainty about the collectability of receivables. These trade receivables credit risks are managed by using letter of credit, advance payments and bank guarantees as payment terms. Additionally, trade receivables credit risk is managed by utilizing credit risk insurance and by monitoring customer liquidity. Management estimates that the group does not have significant credit risk concentrations. No single customer or a group of customers constitutes a significant risk due to globally distributed customer base. During the financial year, credit losses and related reversals for trade receivables recognized in the statement of income amounted to EUR -0.1 (-0.3) million. Credit loss is recognized once it has been officially declared that the receivable will not be paid as a result of liquidation or bankruptcy.

20. NON-CURRENT RECEIVABLES

EUR million	2021 carrying amounts	Fair values	2020 carrying amounts	Fair values
Non-current deposits	0.7	0.7	0.7	0.7
Other non-current receivables	0.1	0.1	0.2	0.2
Total	**0.9**	**0.9**	**0.9**	**0.9**

21. FINANCIAL ASSETS AND LIABILITIES

§ Accounting principles

Financial assets

Financial assets are classified into following categories: at amortized cost and at fair value through profit and loss. Financial assets are measured on the basis of the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets or by applying fair value option in connection with the original acquisition. All purchases and sales of financial assets are recognized on the clearance date.

Financial assets measured at amortized cost are held to maturity date within a business model to collect contractual cash flows and these cash flows consist solely of payments of principal and interest on the principal amount outstanding. Financial assets measured at amortized cost include mainly trade receivables, prepaid income, accrued income and other receivables.

In initial recognition of financial asset classified as at amortized cost, the asset is measured at fair value including transaction costs that are directly attributable to the acquisition. Due to their nature current trade receivables' and other receivables' carrying amount approximate to its fair value. Interest income related to these financial assets is measured with the effective interest rate method and is included in the financial income. Financial assets are derecognized from the statement of financial position when the contractual rights to the cash flows from the financial asset expire or the entity substantially transfers the risks and rewards outside the group. Profit or loss related to the derecognition of financial assets from the statement of financial position is recognized in the statement of income. Impairment losses are recognized in the statement of income.

Financial assets recognized at fair value through profit and loss are financial assets that are held for trading purposes such as derivative financial instruments for which Vaisala does not apply hedge accounting according to IFRS 9. Realized and unrealized gains and losses arising from changes in fair value are recognized in the statement of income in the period in which they arise. Financial assets held for trading as well as those maturing within 12 months are included in current assets.

Impairment of financial assets

Credit loss allowance for trade receivables and contract assets is measured applying simplified approach according to IFRS 9 as no significant financing component is included in those assets. Lifetime expected credit losses are determined based on the provision matrix, utilizing different credit risk across different receivable groups. The groupings are based on aging buckets, geographical regions, existence of collaterals and insolvency proceedings or other evidence of an increased credit risk of the receivables. Expected credit loss risks for different receivable groups are based on historical loss rates and management estimates. Changes in the credit loss allowance based on lifetime expected credit losses as well as final credit losses are recognized in the statement of income.

Cash and cash equivalents are recognized in the statement of financial position at original cost. Cash and cash equivalents consist of cash on bank accounts and bank deposits.

Financial liabilities

Financial liabilities are classified into following categories: at amortized cost and at fair value through profit and loss. Financial liabilities are initially measured at fair value based on the original consideration received. Transaction costs are included in the original carrying amount of the financial liabilities. Subsequently all financial liabilities, except for derivative financial instruments, are measured applying the effective interest method at amortized cost. Financial liabilities are included both in current and non-current liabilities and those may be both interest-bearing and non-interest-bearing. Liabilities maturing in less than 12 months are presented in current liabilities. Financial liabilities are derecognized from statement of financial position when the obligation specified in the contract is discharged, cancelled or expires.

Derivative financial instruments

The group's all derivative financial contracts are foreign exchange forward contracts. The group has sales in a number of currencies. All derivative financial contracts are classified at fair value through profit and loss and are initially measured at fair value on the closing date of the derivative financial contract. Derivative financial contracts are subsequently measured at fair value through profit and loss at the end of each reporting date. The fair value of a foreign exchange forward contract is measured at the present value of the future cash flows. Unrealized and realized gains and losses arising from changes in the fair value are recognized in the statement of income in financial income and expenses in the period in which they arise. Derivative financial contracts are included in the statement of financial position in other receivables and payables. The group does not apply hedge accounting under IFRS 9 to foreign exchange forward contracts.

The fair value of the derivative financial contracts is based on information that is observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices). In addition to the quoted prices, Vaisala prepares own assessment using commonly acceptable valuation techniques. Hence Vaisala's derivative financial contracts belong to the level 2 in fair value hierarchy. There were no transfers between the hierarchy levels in 2020 or 2021.

The group has a number of investments in foreign subsidiaries whose net assets are exposed to currency risk. The group does not hedge the currency risk related to subsidiaries' net assets.

Classification of financial assets and liabilities as of December 31, 2021

EUR million	Fair value through profit and loss	Amortized cost	Carrying amount of statement of financial position items	Fair value	Note
Financial assets					
Non-current receivables	0.0	0.9	0.9	0.9	20
Trade receivables and other receivables	0.0	73.5	73.5	73.5	12
Cash and cash equivalents		77.9	77.9	77.9	23
Total	**0.1**	**152.2**	**152.2**	**152.2**	
Financial liabilities					
Interest-bearing non-current loans from financial institutions		40.0	40.0	40.0	21
Interest-bearing non-current lease liabilities		7.7	7.7	7.7	17
Other non-current liabilities		1.3	1.3	1.3	21
Interest-bearing current loans from financial institutions					21
Interest-bearing current lease liabilities		2.4	2.4	2.4	17
Interest-bearing current liabilities		0.1	0.1	0.1	21
Trade payables and other liabilities	1.3	82.6	83.9	83.9	14
Total	**1.3**	**134.0**	**135.3**	**135.3**	

Classification of financial assets and liabilities as of December 31, 2020

EUR million	Fair value through profit and loss	Amortized cost	Carrying amount of statement of financial position items	Fair value	Note
Financial assets					
Non-current receivables	0.0	0.9	0.9	0.9	20
Trade receivables and other receivables	1.2	62.9	64.0	64.0	12
Cash and cash equivalents		45.4	45.4	45.4	23
Total	**1.2**	**109.0**	**110.2**	**110.2**	
Financial liabilities					
Interest-bearing non-current loans from financial institutions		40.0	40.0	40.0	21
Interest-bearing non-current lease liabilities		9.2	9.2	9.2	17
Other non-current liabilities	0.1	2.5	2.6	2.6	21
Interest-bearing current loans from financial institutions		5.0	5.0	5.0	21
Interest-bearing current lease liabilities		2.7	2.7	2.7	17
Interest-bearing current liabilities		0.2	0.2	0.2	21
Trade payables and other liabilities	0.1	52.2	52.3	52.3	14
Total	**0.2**	**111.8**	**112.0**	**112.0**	

Vaisala has a EUR 40 million unsecured term loan which was signed on May 25, 2020. The loan matures in three years from the signing date and has a financial covenant (gearing), which is tested semi-annually. On December 31, 2021, Vaisala was in compliance with the covenant. This facility is used for refinancing of existing indebtedness as well as for general corporate and working capital purposes. In addition, Vaisala has a EUR 50 million unsecured revolving credit facility which was signed on October 5, 2018. The committed credit facility agreement matures in 5 years from the signing date and it has no financial covenants. In addition, Vaisala has a domestic commercial paper program amounting to EUR 150 million that was not utilized as of December 31,2021.

On December 31, 2021, Vaisala had interest-bearing liabilities totaling EUR 50.2 (57.0) million. Group has no loans that would mature after five years or more.

Maturity and interest rates of interest-bearing liabilities 2021

EUR million	2022	2023–2026	2027–2031	2032–2033	Interest rates
Loans from financial institutions		40.0			1.1%
Revolving credit facility					0.65%
Other interest-bearing loans	0.1				1.0%
Lease liabilities	2.7	4.7	2.5	1.8	0.52–8.69%
Total	**2.8**	**44.7**	**2.5**	**1.8**	

Maturity and interest rates of interest-bearing liabilities 2020

EUR million	2021	2022–2025	2026–2030	2031–2033	Interest rates
Loans from financial institutions		40.0			1.1%
Revolving credit facility	5.0				0.65%
Other interest-bearing loans	0.2				1.0%
Lease liabilities	3.0	5.9	2.7	2.2	0.5–8.69%
Total	**8.2**	**45.9**	**2.7**	**2.2**	

Derivative financial contracts

EUR million	2021	2020
Nominal value of derivative financial contracts made to hedge against exchange rate risk		
Foreign exchange forward contracts	35.2	31.4
Nominal value, total	**35.2**	**31.4**

Nominal value of derivative financial contracts in currencies

	2021		2020	
	Currency million	EUR million	Currency million	EUR million
USD	22.0	18.5	19.0	16.5
CNH	30.0	3.9	40.0	5.0
GBP	-	-	-	-
HRK	22.5	3.0	22.5	3.0
JPY	300.0	2.3	250.0	2.0
PLN	18.0	3.9	-	-
SEK	32.5	3.1	33.0	3.1
SGD	1.0	0.6	3.0	1.9
Total		**35.2**		**31.4**

Maturity of derivative financial contracts

EUR million	2021	2020
Less than 90 days	16.4	9.6
Over 90 days and less than 120 days	4.2	2.7
Over 120 days and less than 180 days	7.7	5.8
Over 180 days and less than 365 days	5.4	9.1
Over 365 days and less than 545 days	1.5	4.2
Total	**35.2**	**31.4**

Fair value of derivative financial contracts made to hedge against exchange rate risk

EUR million	2021	2020
Fair values of derivative financial contracts, assets	0.0	1.2
Fair values of derivative financial contracts, liabilities	1.3	0.2

22. INTEREST-BEARING LIABILITIES AND OTHER ADJUSTMENTS IN CASH FLOW STATEMENT

Reconciliation of movements of interest-bearing liabilities to cash flow arising from financing activities

EUR million	Dec 31, 2020	Cash flow effect	Non-cash changes	Dec 31, 2021
Loans from financial institutions	40.0			40.0
Credit facility	5.0	-5.0		0.0
Lease liabilities	11.9	-3.1	1.3	10.1
Other interest-bearing liabilities	0.2	-0.1		0.1
Exchange rate differences		0.1		
Total	**57.1**	**-8.1**	**1.3**	**50.2**

Reconciliation of movements of interest-bearing liabilities to cash flow arising from financing activities

EUR million	Dec 31, 2019	Cash flow effect	Non-cash changes	Dec 31, 2020
Loans from financial institutions	-	40.0		40.0
Credit facility	40.0	-35.0		5.0
Lease liabilities	11.3	-3.3	3.8	11.9
Other interest-bearing liabilities	0.2			0.2
Exchange rate differences		0.1		
Total	**51.5**	**1.8**	**3.8**	**57.1**

Specification of other adjustments in the cash flow from operating activities

EUR million	2021	2020
Change in bad debt provision	-0.2	-0.3
Change in excess and obsolete provision in inventory	0.7	-3.6
Change in provisions	0.2	-1.3
Adjustment related to share-based incentive plans	1.7	0.2
Other adjustments	0.5	-0.7
Total	**3.1**	**-5.6**

23. CASH AND CASH EQUIVALENTS

Accounting principles related to cash and cash equivalents are presented in Note 21, Financial Assets and Liabilities.

Cash and cash equivalents

EUR million	2021	2020
Cash and cash equivalents	77.9	45.4

The fair values of cash and cash equivalents are equivalent to their carrying amounts.

24. CONTINGENT LIABILITIES AND PLEDGES GIVEN

Contingent liabilities and pledges given

EUR million	2021	2020
Bank guarantees issued for obligations	15.0	17.4

Investment commitments
Group had commitments related to Vantaa building project in total of EUR (0.0) 0.3 million as of December 31, 2021. In addition, Vaisala had other commitments related to intangible and tangible assets for EUR 3 (4) million.

Purchase commitments
Group had purchase commitments totaling EUR 30 (12) million. Additionally, group had commitments under the purchase agreements totaling a maximum of EUR 29 (18) million, if realized.

Consolidation

25. BUSINESS COMBINATIONS

On January 27, 2022, Vaisala acquired all membership units in US-based Whether or Knot, LLC (dba AerisWeather), a subscription-based software company providing weather and environmental information. The acquisition supports execution of Weather and Environment Business Area's strategy to drive growth in Data as a Service and Software as a Service recurring revenue businesses.

In 2021, AerisWeather's (unaudited) net sales were EUR 2.7 million and the statement of financial position totaled EUR 1.1 million on December 31, 2021.

The preliminary consideration transferred (paid in cash) was EUR 23 million.

Acquisition related costs are EUR 0.5 million, of which the majority will be recognized in the consolidated statement of income for the financial year 2022.

As the acquisition was finished after the end of the reporting period, the initial accounting of the business combination is incomplete at the time financial statements are authorised for issue and the assets acquired, liabilities assumed and consideration transferred related to the business combination have not been recognized in the consolidated statement of income and statement of financial position for 2021. AerisWeather is consolidated as part of Vaisala Group's consolidated statement of income and statement of financial position as of February 2022.

There were no business combinations during financial year 2021 and 2020.

A contingent consideration liability relating to prior acquisitions totaling EUR 1.0 million was paid in 2021 (2020: no contingent consideration liability relating to prior acquisitions was paid). The remaining contingent liability related to prior acquisitions was EUR 5.6 (2.2) million at the end of financial year 2021. In the financial year 2021, contingent consideration liability amounting to EUR 4.5 million was recognized as expense (2020: EUR 1.8 million was recognized as income) based on the financial performance after the acquisition and based on the estimated future performance.

26. SUBSIDIARIES

Name	Country	Group ownership %, Dec 31, 2021	Group ownership %, Dec 31, 2020
Vaisala Holding Oy	Finland	100	100
Vaisala Limited	United Kingdom	100	100
Vaisala Pty. Ltd.	Australia	100	100
Vaisala GmbH	Germany	100	100
Vaisala KK	Japan	100	100
Vaisala Inc.	United States	100	100
Vaisala China Ltd.	China	100	100
Vaisala Canada Inc.	Canada	100	100
Vaisala SAS	France	-	100
Vaisala Sdn. Bhd.	Malaysia	100	100
Vaisala Servicos De Marketing Ltda	Brazil	100	100
3TIER R&D India Private Limited	India	100	100
Vaisala East Africa Limited	Kenya	100	100
Vaisala Mexico Limited, S. de R. L. de C.V.	Mexico	100	100
Vaisala France SAS (former Leosphere SAS)	France	95.79	92.22
Upwind SAS	France	100	100
SCI Septentrion	France	100	100
K-Patents (Shanghai) Co.,Ltd.	China	100	100
Vaisala Shanghai Sensors Ltd.	China	100	100

Vaisala SAS was merged into Leosphere SAS on July 30, 2021. The name of Leosphere SAS was changed to Vaisala France SAS on October 1, 2021.

On April 1, 2020 Vaisala Digital Oy was merged into Vaisala Corporation. On November 1, 2020 K-Patents Inc. was merged into Vaisala Inc.

27. ASSOCIATED COMPANY

Accounting principles related to associated companies are presented in Consolidation principles.

The group has one associated company, SAS Meteorage. SAS Meteorage is a French company, which maintains lightning detection networks and sells information related to lightning strikes. Ownership in Meteorage supports Vaisala's role in the global lightning detection community.

Company name	Place of incorporation and principal place of business	Share of ownership	Measurement method
SAS Meteorage	France	35%	Equity method

Summarized financial information of the associated company

EUR million	2021	2020
Non-current assets	3.5	3.3
Current assets	3.3	3.4
Liabilities	3.1	3.4
Net assets	**3.7**	**3.2**
Vaisala's share of net assets	1.3	1.1
Net sales	4.6	4.0
Result for the financial year	0.7	0.5

The information presented in the table is based on the latest available financial information.

Carrying amount of investments in associated company

EUR million	2021	2020
Carrying amount at Jan 1	1.1	1.1
Share of result	0.2	0.2
Dividend received	-0.1	-0.1
Carrying amount at Dec 31	**1.3**	**1.1**

The carrying value of the associated company does not include goodwill.

Transactions with associated company and receivables and liabilities

EUR million	2021	2020
Sales	0.8	0.3
Receivables	0.0	0.1

Other notes

28. RELATED PARTY TRANSACTIONS

Related parties of Vaisala group are the parent company, subsidiaries, associated company, members of Board of Directors and Vaisala Management Group. Related party transactions are based on market prices of goods and services and on common market terms. Only transactions that are not eliminated in the consolidated financial statements are disclosed as related party information.

The subsidiaries are presented in note 26, Subsidiaries and the associated company in note 27, Associated company. Transactions with the associated company as well as receivables and liabilities are presented in note 27, Associated company.

Kjell Forsén served as the President and CEO until September 30, 2020 and Kai Öistämö assumed the position on October 1, 2020.

Employee benefits of management

EUR thousand	2021	2020
Salary and bonuses of the President and CEO (payment basis)		
Öistämö Kai (from Oct 1, 2020 on)		
Salary	481	114
Short term incentives	40	-
Share-based payment	263	-
Statutory pension	81	17
Supplementary pension	114	29
Total	**979**	**159**
Forsén Kjell (until Sep 30, 2020)		
Salary	-	394
Short term incentives	-	363
Share-based payment	-	1,221
Statutory pension	-	121
Supplementary pension	-	90
Total	**-**	**2,189**

EUR thousand	2021	2020
Remuneration of the members of Vaisala Management Group (excl. the President and CEO) (payment basis)		
Salaries	1,730	1,424
Short term incentives	357	805
Share-based payment	2,185	2,606
Statutory pension	324	351
Supplementary pension	272	245
Total	**4,868**	**5,430**

In 2020, Kjell Forsén was paid EUR 143 thousand salary and EUR 30 thousand supplementary pension in addition to remuneration of President and CEO. In 2021, Kjell Forsén was paid EUR 185 thousand short term incentive for 2020, as well as share-based payment for LTI 2018, LTI 2019–2021, and LTI 2020–2022 programs totaling EUR 1,864 thousand.

The President and CEO Kai Öistämö is entitled to participate in a supplementary defined contribution pension plan with an annual fee corresponding to three month's base salary. The President and CEO's retirement age is 62 years. The notice period for both parties is six months. If the company terminates the agreement, there is an additional severance pay equaling six times the monthly salary.

Remuneration of the Board of Directors 2021 (payment basis)

EUR thousand		Annual remuneration	Compensation, Audit Committee	Compensation, Remuneration and Human Resources Committee	Total
Castrén Petri	Member of the Board	40	5		45
Jääskeläinen Antti	Member of the Board	40	5		45
Lundström Petra	Member of the Board	40		5	45
Rinnevaara Jukka	Member of the Board	40		5	45
Ståhlberg Kaarina	Member of the Board	40	8		48
Syrjänen Tuomas	Member of the Board	40		3	43
Voipio Raimo	Vice Chair of the Board	40	4		44
Voipio Ville	Chair of the Board	55	1	5	61
Total		**335**	**23**	**18**	**376**

Remuneration of the Board of Directors 2020 (payment basis)

EUR thousand		Annual remuneration	Compensation, Audit Committee	Compensation, Remuneration and Human Resources Committee	Compensation, Nomination Committee	Total
Castrén Petri	Member of the Board	35	6	1		42
Jääskeläinen Antti	Member of the Board (since June 3, 2020)	35	3			38
Lundström Petra	Member of the Board	35		6		41
Rinnevaara Jukka	Member of the Board	35	3	5	10	53
Ståhlberg Kaarina	Member of the Board	35	8		10	53
Syrjänen Tuomas	Member of the Board	35				35
Torstila Pertti	Member of the Board (until June 3, 2020)	-				-
Voipio Raimo	Chair of the Board	45			10	55
Voipio Ville	Vice Chair of the Board	35	6	6	10	57
Total		**290**	**26**	**18**	**40**	**374**

To the President and CEO and the members of the Board have not been granted loans nor have guarantees or commitments been given on their behalf.

29. AUDITOR'S FEES

Authorized Public Accountants Deloitte

EUR million	2021	2020
Audit	0.5	0.4
Tax advice	0.0	0.0
Statements	0.0	0.0
Other fees	0.0	0.1
Total	**0.6**	**0.5**

Other audit companies

EUR million	2021	2020
Audit	-	0.0
Other fees	-	0.0
Total	**-**	**0.0**

Other work than audit services given by the principal auditor Deloitte Oy during the year 2021 were EUR 0.1 (0.1) million.

30. APPLICATION OF NEW AND REVISED STANDARDS AND INTERPRETATIONS IN ISSUE BUT NOT YET EFFECTIVE

IASB published the following new or revised standards which the group has not yet adopted and which may have an effect on the consolidated financial statements of the group. The group will adopt each standard as from the effective date, or if the effective date is other than the first day of the financial year, from the beginning of the next financial year after the effective date.

At the date of authorisation of these financial statements, the group has not applied the following new and revised IFRS Standards that have been issued but are not yet effective and had not yet been adopted by the EU (marked with *):

- IFRS 17 Insurance Contracts
- IFRS 10 and IAS 28 (amendments): Sale or Contribution of Assets between an Investor and its Associate or Joint Venture
- Amendments to IAS 1 Classification of Liabilities as Current or Non-current *
- Amendments to IFRS 3 Reference to the Conceptual Framework
- Amendments to IAS 16 Proceeds before Intended Use
- Amendments to IAS 37 Onerous Contracts – Cost of Fulfilling a Contract
- Annual Improvements to IFRS Standards 2018-2020 Cycle Amendments to IFRS 1, IFRS 9, IFRS 16 and IAS 41
- Amendments to IAS 1 and IFRS Practice Statement 2 Disclosure of Accounting Policies *
- Amendments to IAS 8 Definition of Accounting Estimates *
- Amendments to IAS 12 Deferred Tax related to Assets and Liabilities Arising from a Single Transaction *
- Amendments to IFRS 17 Initial Application of IFRS 17 and IFRS 9 – Comparative Information *

The management expects that the adoption of the standards will have no or not material impact on the financial statements of the group in future periods.

IFRS 17 Insurance Contracts and Amendments to IFRS 4: Deferral of IFRS 9

IFRS 17 establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts and supersedes IFRS 4 Insurance Contracts. In June 2020, the IASB issued Amendments to IFRS 17 that defer the date of initial application of IFRS 17 (incorporating the amendments) to annual reporting periods beginning on or after January 1, 2023. The application of the new standard is not anticipated to have an impact on the group's consolidated financial statements in future periods as the group does not hold any insurance contracts.

Amendments to IFRS 10 and IAS 28: Sale or contribution of assets between an investor and its associate or joint venture

The amendments to IFRS 10 and IAS 28 deal with situations where there is a sale or contribution of assets between an investor and its associate or joint venture. Specifically, the amendments state that gains or losses resulting from the loss of control of a subsidiary that does not contain a business in a transaction with an associate or a joint venture that is accounted for using the equity method, are recognized in the parent's profit or loss only to the extent of the unrelated investors' interests in that associate or joint venture. Similarly, gains and losses resulting from the remeasurement of investments retained in any former subsidiary (that has become an associate or a joint venture that is accounted for using the equity method) to fair value are recognized in the former parent's profit or loss only to the extent of the unrelated investors' interests in the new associate or joint venture.

The effective date of the amendments has yet to be set by the Board; however, earlier application of the amendments is permitted. The application of these amendments may have an impact on the group's consolidated financial statements in future periods should such transactions arise.

Amendments to IAS 1: Classification of liabilities as current or non-current

The amendments to IAS 1 affect only the presentation of liabilities as current or non-current in the statement of financial position and not the amount or timing of recognition of any asset, liability, income or expenses, or the information disclosed about those items. The amendments clarify that the classification of liabilities as current or non-current is based on rights that are in existence at the end of the reporting period, specify that classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability, explain that rights are in existence if covenants are complied with at the end of the reporting period, and introduce a definition of 'settlement' to make clear that settlement refers to the transfer to the counterparty of cash, equity instruments, other assets or services.

The amendments are applied retrospectively for annual periods beginning on or after January 1, 2023, with early application permitted. The adoption of the amendment is not expected to have an impact on the consolidated financial statements in future periods.

Amendments to IFRS 3: Reference to the conceptual framework

The amendments update IFRS 3 so that it refers to the 2018 Conceptual Framework instead of the 1989 Framework. They also add to IFRS 3 a requirement that, for obligations within the scope of IAS 37, an acquirer applies IAS 37 to determine whether at the acquisition date a present obligation exists as a result of past events. For a levy that would be within the scope of IFRIC 21 Levies, the acquirer applies IFRIC 21 to determine whether the obligating event that gives rise to a liability to pay the levy has occurred by the acquisition date. Finally, the amendments add an explicit statement that an acquirer does not recognize contingent assets acquired in a business combination.

The amendments are effective for business combinations for which the date of acquisition is on or after the beginning of the first annual period beginning on or after January 1, 2022. Early application is permitted if an entity also applies all other updated references (published together with the updated Conceptual Framework) at the same time or earlier. The application of this amendment may have an impact on the group's consolidated financial statements in future periods should such transactions arise.

Amendments to IAS 16: Proceeds before intended use

The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced before that asset is available for use, i.e. proceeds while bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Consequently, an entity recognizes such sales proceeds and related costs in profit or loss. The entity measures the cost of those items in accordance with IAS 2 Inventories.

The amendments also clarify the meaning of 'testing whether an asset is functioning properly'. IAS 16 now specifies this as assessing whether the technical and physical performance of the asset is such that it is capable of being used in the production or supply of goods or services, for rental to others, or for administrative purposes. If not presented separately in the statement of comprehensive income, the financial statements shall disclose the amounts of proceeds and cost included in profit or loss that relate to items produced that are not an output of the entity's ordinary activities, and which line item(s) in the statement of comprehensive income include(s) such proceeds and cost.

The amendments are applied retrospectively, but only to items of property, plant and equipment that are brought to the location and condition necessary for them to be capable of operating in the manner intended by management on or after the beginning of the earliest period presented in the financial statements in which the entity first applies the amendments. The entity shall recognize the cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at the beginning of that earliest period presented.

The amendments are effective for annual periods beginning on or after January 1, 2022, with early application permitted. The application of this amendment may have an impact on the group's consolidated financial statements in future periods should such transactions arise.

Amendments to IAS 37: Onerous contracts – Cost of fulfilling a contract

The amendments specify that the 'cost of fulfilling' a contract comprises the 'costs that relate directly to the contract'. Costs that relate directly to a contract consist of both the incremental costs of fulfilling that contract (examples would be direct labor or materials) and an allocation of other costs that relate directly to fulfilling contracts (an example would be the allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract).

The amendments apply to contracts for which the entity has not yet fulfilled all its obligations at the beginning of the annual reporting period in which the entity first applies the amendments. Comparatives are not restated. Instead, the entity shall recognize the cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings or other component of equity, as appropriate, at the date of initial application.

The amendments are effective for annual periods beginning on or after January 1, 2022, with early application permitted. The application of these amendments may have an impact on the group's consolidated financial statements in future periods should such transactions arise.

Annual improvements to IFRS Standards 2018-2020 cycle: Amendments to IFRS 1, IFRS 9 and IAS 41

The Annual Improvements include amendments to three Standards:

- IFRS 1 First-time Adoption of International Financial Reporting Standards and IAS 41 Agriculture: The amendments are effective for annual periods beginning on or after January 1, 2022, with early application permitted. The amendments do not have an impact on the consolidated financial statements in future periods.

- IFRS 9 Financial Instruments: The amendment clarifies that in applying the '10 per cent' test to assess whether to derecognize a financial liability, an entity includes only fees paid or received between the entity (the borrower) and the lender, including fees paid or received by either the entity or the lender on the other's behalf. The amendment is applied prospectively to modifications and exchanges that occur on or after the date the entity first applies the amendment. The amendment is effective for annual periods beginning on or after January 1, 2022, with early application permitted. The application of this amendment may have an impact on the group's consolidated financial statements in future periods should such transactions arise.

Amendments to IAS 1 and IFRS Practice Statement 2: Disclosure of accounting policies

The amendments change the requirements in IAS 1 with regard to disclosure of accounting policies. The amendments replace all instances of the term 'significant accounting policies' with 'material accounting policy information'. Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

The supporting paragraphs in IAS 1 are also amended to clarify that accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed. Accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material.

The Board has also developed guidance and examples to explain and demonstrate the application of the 'four-step materiality process' described in IFRS Practice Statement 2.

The amendments to IAS 1 are effective for annual periods beginning on or after January 1, 2023, with earlier application permitted and are applied prospectively. The amendments to IFRS Practice Statement 2 do not contain an effective date or transition requirements. Vaisala will revise its materiality assessment principles related to disclosure of accounting principles in the group's consolidated financial statements to reflect the amendments, but the adoption of the amendments is not expected to have an impact on the consolidated financial statements in future periods.

Amendments to IAS 8: Definition of accounting estimates

The amendments replace the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty".

The definition of a change in accounting estimates was deleted. However, the Board retained the concept of changes in accounting estimates in the Standard with the following clarifications:

- A change in accounting estimate that results from new information or new developments is not the correction of an error
- The effects of a change in an input or a measurement technique used to develop an accounting estimate are changes in accounting estimates if they do not result from the correction of prior period errors

The Board added two examples (Examples 4-5) to the Guidance on implementing IAS 8, which accompanies the Standard. The Board has deleted one example (Example 3) as it could cause confusion in light of the amendments.

The amendments are effective for annual periods beginning on or after January 1, 2023 to changes in accounting policies and changes in accounting estimates that occur on or after the beginning of that period, with earlier application permitted. The adoption of the amendment is not expected to have an impact on the consolidated financial statements in future periods.

Amendments to IAS 12: Deferred tax related to assets and liabilities arising from a single transaction

The amendments introduce a further exception from the initial recognition exemption. Under the amendments, an entity does not apply the initial recognition exemption for transactions that give rise to equal taxable and deductible temporary differences.

Depending on the applicable tax law, equal taxable and deductible temporary differences may arise on initial recognition of an asset and liability in a transaction that is not a business combination and affects neither accounting nor taxable profit. For example, this may arise upon recognition of a lease liability and the corresponding right-of-use asset applying IFRS 16 at the commencement date of a lease.

Following the amendments to IAS 12, an entity is required to recognise the related deferred tax asset and liability, with the recognition of any deferred tax asset being subject to the recoverability criteria in IAS 12.

The Board also adds an illustrative example to IAS 12 that explains how the amendments are applied.

The amendments apply to transactions that occur on or after the beginning of the earliest comparative period presented. In addition, at the beginning of the earliest comparative period an entity recognises:

- A deferred tax asset (to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised) and a deferred tax liability for all deductible and taxable temporary differences associated with:
  - Right-of-use assets and lease liabilities
  - Decommissioning, restoration and similar liabilities and the corresponding amounts recognised as part of the cost of the related asset
- The cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at that date

The amendments are effective for annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. Vaisala will assess the impact of the adoption of the amendments to the group's consolidated financial statements in the future periods.

Amendments to IFRS 17 initial application of IFRS 17 and IFRS 9 – Comparative information

The amendments introduce a narrow-scope amendment to the transition requirements of IFRS 17 for entities that first apply IFRS 17 and IFRS 9 at the same time. An entity that elects to apply the amendment applies it when it first applies IFRS 17. The adoption of the amendments is not anticipated to have an impact on the group's consolidated financial statements in future periods as the group does not hold any insurance contracts.

31. EVENTS AFTER FINANCIAL YEAR

On January 27, 2022, Vaisala announced acquisition of US-based Whether or Knot, LLC (dba AerisWeather), a subscription-based software company providing weather and environmental information. The purchase price (cash and debt free) was USD 26 million (EUR 23 million), and it was paid with cash. This acquisition supports execution of Vaisala's Weather and Environment business area's strategy to drive growth in Data as a Service and Software as a Service recurring revenue businesses.

AerisWeather's unaudited net sales in 2021 amounted to USD 3.2 million (EUR 2.7 million), operating result (EBIT) was at break-even level, and statement of financial position totaled USD 1.3 million (EUR 1.1 million). The company's net sales are recurring with above 100% net revenue retention and have reached strong double-digit growth during the past years. Following this acquisition, 17 professionals, located in the US, transferred to Vaisala. Vaisala will report AerisWeather's results as part of Weather and Environment Business Area's financial results as of February 2022.

Parent company financial statements*

Parent company income statement

EUR	Note	Jan 1–Dec 31, 2021	Jan 1–Dec 31, 2020
Net sales	2	299,731,553.65	258,042,714.61
Cost of production and procurement	4, 5	-151,805,227.80	-125,568,131.61
Gross profit		**147,926,325.85**	**132,474,663.00**
Cost of sales and marketing	4, 5	-34,962,485.64	-28,955,777.72
Cost of administration			
Research and development costs	4, 5	-45,754,708.11	-42,801,165.38
Other administrative costs	4, 5	-48,839,666.98	-34,679,430.27
Other operating income and expenses	3	85,723.75	2,111,678.44
Operating result		**18,455,188.87**	**28,149,968.07**
Financial income and expenses	6	1,600,673.53	518,595.19
Result before appropriations and taxes		**20,055,862.40**	**28,668,563.26**
Appropriations			
Change in depreciation difference		-1,086,208.38	-
Result before taxes		**18,969,654.02**	**28,668,563.26**
Direct taxes	7	-3,986,518.34	-5,190,623.55
Result for the financial year		**14,983,135.68**	**23,477,939.71**

*) The parent company financial statements are prepared in accordance with the principles of Finnish Accounting Standards (FAS).

Parent company balance sheet

EUR	Note	Dec 31, 2021	Dec 31, 2020
Assets			
Non-current assets			
Intangible assets	8		
Goodwill		52,913.86	72,756.55
Intangible rights		931,049.20	1,141,366.40
Other intangible assets		12,269,359.88	15,871,708.60
Advance payments and intangible assets in progress		252,718.15	321,193.74
Total intangible assets		**13,506,041.09**	**17,407,025.29**
Property, plant and equipment	8		
Land and waters		2,904,868.22	2,904,868.22
Buildings		43,042,031.80	41,056,640.74
Machinery and equipment		21,475,340.43	16,519,872.93
Other tangible assets		74,417.51	74,417.51
Advance payments and construction in progress		8,354,294.35	7,320,714.03
Total property, plant and equipment		**75,850,952.31**	**67,876,513.43**
Investments	8		
Holdings in group undertakings		74,480,891.87	74,217,965.75
Other shares and holdings		100,000.00	100,000.00
Total investments		**74,580,891.87**	**74,317,965.75**
Total non-current assets		**163,937,885.27**	**159,601,504.47**

EUR	Note	Dec 31, 2021	Dec 31, 2020
Current assets			
Non-current receivables			
Other receivables		49,586.20	83,286.67
Total long-term receivables		**49,586.20**	**83,286.67**
Inventories			
Materials, consumables and finished goods		35,858,010.93	29,506,789.86
Total inventories		**35,858,010.93**	**29,506,789.86**
Current receivables			
Trade receivables	17	40,072,940.68	39,211,970.89
Loan receivables	17	-	13,853,801.65
Other receivables	9, 17	5,048,548.29	3,172,581.17
Prepaid expenses and accrued income	10, 17	25,362,525.79	23,713,151.75
Total current receivables		**70,484,014.76**	**79,951,505.46**
Cash and cash equivalents		64,634,457.59	35,224,956.85
Total current assets		**171,026,069.48**	**144,766,538.84**
Total assets		**334,963,954.75**	**304,368,043.31**

Parent company balance sheet

EUR	Note	Dec 31, 2021	Dec 31, 2020
Shareholders' equity and liabilities			
Shareholders' equity	13		
Share capital		7,660,807.86	7,660,807.86
Fund of invested non-restricted equity		422,034.34	422,034.34
Retained earnings		151,035,682.19	148,598,395.02
Result for the financial year		14,983,135.68	23,477,939.71
Total shareholders' equity		**174,101,660.07**	**180,159,176.93**
Appropriations			
Depreciation difference		1,086,208.38	-
Provisions	12	97,119.25	97,119.25

EUR	Note	Dec 31, 2021	Dec 31, 2020
Liabilities			
Non-current			
Loans from financial institutions	15	40,000,000.00	40,000,000.00
Other non-current liabilities	14	12,857.19	1,789,283.31
Current			
Advances received		2,068,348.53	1,350,808.01
Trade payables	17	19,209,492.93	12,334,971.34
Loans from financial institutions	15	-	5,000,000.00
Other current loans	17	35,257,332.86	16,840,917.35
Other current liabilities	14	11,842,938.50	3,865,264.19
Provisions	12	1,026,306.92	914,206.85
Accrued expenses and deferred income	16, 17	50,261,690.12	42,016,296.08
Current liabilities total		**119,666,109.86**	**82,322,463.82**
Total liabilities		**160,862,294.68**	**124,208,866.38**
Total shareholders' equity and liabilities		**334,963,954.75**	**304,368,043.31**

Parent company cash flow statement

EUR thousand	Note	Jan 1–Dec 31, 2021	Jan 1–Dec 31, 2020
Result for the financial period		14,983	23,478
Depreciation, amortization and impairment	5	11,617	10,231
Financial income and expenses	6	-1,601	-519
Gains and losses on sale of intangible assets and property, plant and equipment	3	29	-8
Depreciation difference		1,086	
Income taxes	7	3,987	5,191
Other adjustments		1,952	-3,145
Inventories, increase (-) / decrease (+)		-6,410	-1,217
Non-interest bearing receivables, increase (-) / decrease (+)		-5,138	-2,562
Non-interest bearing liabilities, increase (+) / decrease (-)		20,487	-11,608
Changes in working capital		8,939	-15,387
Paid financial items, net	6	1,292	-1,035
Dividend received from business operations	6	2,624	2,967
Income taxes paid	7	-4,458	-6,947
Cash flow from operating activities		**40,450**	**14,825**
Cash flow from investing activities			
Investments in shares	8	-263	-164
Investments in intangible assets	8	-287	-324
Investments in property, plant and equipment	8	-15,841	-20,091
Divestments	8	101	8
Proceeds from sale of shares	8	-	122
Repayments on loan receivables	17	13,856	7,249
Cash flow from investing activities		**-2,434**	**-13,200**

EUR thousand	Note	Jan 1–Dec 31, 2021	Jan 1–Dec 31, 2020
Cash flow from financing activities			
Proceeds from short-term borrowings	14	63,479	104,656
Repayment of short-term borrowings	14	-50,063	-95,000
Dividend paid	13	-22,022	-21,959
Cash flow from financing activities		**-8,606**	**-12,303**
Change in cash and cash equivalents increase (+) / decrease (-)		**29,410**	**-10,678**
Cash and cash equivalents at Jan 1		35,225	45,526
Change in cash and cash equivalents increase (+) / decrease (-)		29,410	-10,678
Cash received in merger		-	377
Cash and cash equivalents at Dec 31		**64,634**	**35,225**

Notes to the parent company financial statements

1. ACCOUNTING PRINCIPLES

The financial statements of the parent company Vaisala Corporation have been prepared according to the Finnish Accounting Standards (FAS). Financial statement data are based on original acquisition costs or nominal value, less possible impairment, if not otherwise stated in the accounting principles outlined below.

Net sales and revenue recognition principles

The parent company's net sales consist of revenue recognized from contracts with customers. Net sales are divided into products, projects and services. Indirect taxes and discounts have been deducted from sales revenue. Exchange rate differences are recognized in the financial income and expenses.

Product net sales include revenue from products, spare parts and system deliveries. A system delivery contains a standard product delivery with limited amount of configuration. Revenue from the sale of product is recognized at a point in time when the control is transferred to the customer.

Projects are integrated projects, in which observation solutions, consisting of products, services and software, are delivered. Solutions are integrated to customer systems according to customer specifications. Revenue for all projects is recognized over time using percentage of completion method. Progress is measured by cost-to-cost method, comparing incurred costs and forecasted costs. Projects meet the over-time revenue recognition criteria, mainly by creating an asset without an alternative use and Vaisala having an enforceable right to payment for performance completed to date. The applied revenue recognition principles fulfill the Finnish Accounting Standard requirement related to the predictability of project margin.

Services are divided into service contracts and one-off service deliverables. Services may include maintenance, calibration and repair, modernization, extended warranties and data-based solutions supporting decisions in weather-dependent operations. Service contracts are continuous services including for example extended warranty, availability of customer support and availability of spare part delivery. Service contracts are recognized over time or at a point in time depending on the nature of the service and content of a contract. In case of one-off request services, the revenue is recognized at a point in time when the service has been rendered.

Standard warranty period for products is one year and 2, 5 or 10 years for selected products. Standard warranty period for services is 6 or 12 months. Extended warranty is a separately sold and priced service over a separately agreed period. Revenue for extended warranty is recognized over time starting at the time of standard warranty expiration. Provision for warranty costs is recognized in the balance sheet.

Other operating income and expenses

Other operating income and expenses include income and expenses, which are not directly attributable to operational activities.

Other operating income consists mainly of gains on the disposal of assets as well as income other than revenue from contracts with customers, such as reversal of liabilities related to acquisitions and indemnities. Other operating expenses consist mainly of losses on disposal of assets.

Research and development expenses

Research and development expenses are booked as cost in the financial period in which they occur.

Share-based incentive plans

Parent company's share-based payments are related to share-based incentive plans. Share-based payments are recognized as costs in the income statement and as accrued expenses in the balance sheet during the vesting period. The cost of the share part of the share-based payments as well as the cash part of the share-based payments correspond to the value of share closing price on the grant date of the incentive plan. The costs are based on an estimate of the amount of shares to be paid at the end of the vesting period. Assumptions, on which the estimates are based, are updated whenever changes occur and the effects of changes in assumptions are recognized in the statement of income.

Pensions

The parent company's statutory pension insurance and voluntary pension plans are managed by external pension insurance companies. The pensions are all defined contribution plans and the contributions are expensed to the statement of income as incurred.

The additional pension coverage of parent company personnel was arranged by Vaisala Pension Fund that was closed on January 1, 1983. The pension fund liability was transferred to a pension insurance company on December 31, 2005 and the fund was dissolved in 2006. The pension liability of the fund is fully covered.

Income taxes

Tax expense includes taxes based on taxable profit for the financial year and tax adjustments for previous years. Current taxes are calculated on the taxable income on the basis of the tax rates enacted by the end of the financial year.

Non-current assets

Non-current assets consist of intangible assets, property, plant and equipment as well as investments. Carrying amounts of non-current assets are measured at cost less accumulated depreciation, amortization and impairment and plus revaluations. Depreciation and amortization according to plan is calculated on a straight-line basis over the expected useful lifetime of the asset. Land and investments are not depreciated.

The cost of assets produced for own use includes also overhead costs attributable to the production work. No interest is capitalized in non-current assets. Estimated useful lifetimes for assets are:

Intangible rights	3–10 years
Buildings and structures	5–40 years
Machinery and equipment	3–8 years
Other tangible assets	3–8 years

Other intangible assets include assets that have an indefinite useful lifetime and are not amortized. Additionally, merger losses have been allocated to other intangible assets and their useful lifetime is 5–6 years.

Inventories
Inventories are stated at the lower of standard cost and probable purchase or selling price. Inventory cost includes the cost of purchase (including mainly purchase price, import duties and transport), direct labor and a proportion of production overhead. An allowance is recorded for excess inventory and obsolescence.

Provisions
Provisions are future expenditure and losses arising from obligations, for which the company is committed and for which it is not certain or likely that revenue will be generated in the future and which are likely to occur. A change in the provision is recognized in the same item of the income statement in which the provision was originally recognized.

Provisions can relate to restructuring of operations, loss-making contracts, warranties, legal disputes and other commitments.

Derivative financial contracts
Vaisala applies in its accounting of financial instruments valuation according to Accounting Act 5.2§ and follows Accounting Board's opinion December 13, 2016 ("KILA 1963/2016") on valuation of derivative financial instruments in fair value. All parent company's derivative financial contracts are foreign exchange forward contracts. The parent company has sales in a number of foreign currencies, of which the most significant in 2021 were USD, CNY and JPY. All derivative financial contracts are initially measured at fair value on the closing date of the derivative financial contract. Derivative financial contracts are subsequently measured at fair value through profit and loss at the end of the financial year. The fair value of a foreign exchange forward contract is measured at the present value of the future cash flows. Unrealized and realized gains and losses arising from changes in the fair value are recognized in the income statement in financial income and expenses in the period in which they arise. Derivative financial contracts are included in the balance sheet in prepaid and accrued expenses. The parent company does not apply hedge accounting.

Foreign currency translation
Transactions in foreign currencies are recorded using the exchange rate on the date of transaction. Receivables and payables in foreign currency have been valued at the rates quoted by European Central Bank on the last trading date of the financial year. Foreign exchange gains and losses arising from revaluation of cash and cash equivalents, trade and other receivables, loan receivables as well as trade and other payables are recognized as financial income and expense in the income statement.

2. NET SALES

Disaggregation of revenue

Net sales by market area

EUR thousand	2021	2020
Americas	86,357	70,030
of which United States	58,046	49,345
APAC	98,953	80,236
EMEA	114,421	107,777
of which Finland	7,672	9,308
Total	**299,732**	**258,043**

Net sales by business area

EUR thousand	2021	2020
Weather and Environment		
Products	61,791	56,621
Projects	40,798	37,077
Services	7,135	6,798
Total	**109,724**	**100,497**
Industrial Measurements		
Products	42,312	34,185
Services	2,266	2,029
Total	**44,579**	**36,213**
Net sales from subsidiaries	145,428	121,333
Total	**299,732**	**258,043**

Net sales by timing of revenue recognition

EUR thousand	2021	2020
Revenue recognized at a point in time	108,191	94,130
Revenue recognized over time	46,112	42,579
Net sales from subsidiaries	145,428	121,333
Total	**299,732**	**258,043**

Net sales from subsidiaries are mainly recognized at a point in time.

Payment terms

Payment terms vary based on geographical areas. In product and service business, the standard payment term is 30 days net, but in some areas prepayments are commonly used. Project invoicing is based on milestones and typically follows the general project delivery terms (where 30% is advance payment, 60% against delivery documents and 10% after site acceptance test) or terms as per contract. In project business the most common payment terms are letter of credit or as per contract.

Assets and liabilities related to net sales

The following table provides information about receivables and liabilities from contracts with customers included in the balance sheet.

Assets and liabilities related to net sales

EUR thousand	Dec 31, 2021	Dec 31, 2020
Trade receivables	40,073	39,212
Accrued revenue	18,949	17,102
Advances received	2,068	1,351
Deferred revenue	10,345	12,436

Accrued revenue includes the balance of project and service revenue recognized but not yet invoiced. In general, most of project revenue is recognized after the product manufacturing as percentage of completion increases and most of the performance obligation is satisfied. According to general project delivery terms, majority of a project is invoiced before the delivery. Therefore, the amount of accrued revenue is typically at its highest between product manufacturing phase of the project and delivery of the product to the customer. For services, which are satisfied over time, the customer is mainly invoiced in advance and only in some cases in arrears after the customer has received or consumed the service. Arrears invoicing generates accrued revenue as the revenue is recognized before invoicing.

Advances received are customer payments related to contracts not yet invoiced.

Deferred revenue includes the balance of projects, services and products invoiced but revenue not yet recognized. Project-related contract liabilities often arise in the early stages of a project, when the prepayment has been invoiced, but the project is only at an early stage and there is none or little revenue recognized under percentage of completion method. Services, which are recognized over time, are often invoiced in advance and therefore deferred revenue is generated in the beginning of the service period. For products and services, which are recognized at a point in time, deferred revenue is generated when customer has been invoiced, but performance obligation has not been satisfied and consequently revenue has not been recognized.

In the financial year 2021, the parent company recognized EUR 6 (7) million revenue that was included in the deferred revenue balance at the beginning of the period.

On December 31, 2021, the order book amounted to EUR 77.9 (67.0) million. Of the order book, EUR 60.7 (46.3) million is scheduled to be recognized as revenue in 2022 (2021) and EUR 17.2 (20.7) million is scheduled to be recognized later.

3. OTHER OPERATING INCOME

Other operating income

EUR thousand	2021	2020
Gains on disposal of assets	1	8
Other operating income		
Reversal of consideration related to investments in shares	-	2,032
Indemnities and other	115	72
Total	**117**	**2,112**

Other operating expenses

EUR thousand	2021	2020
Loss on disposal of assets	30	-
Total	**30**	**-**

4. PERSONNEL EXPENSES AND NUMBER OF PERSONNEL

Personnel expenses

EUR thousand	2021	2020
Wages and salaries	95,770	79,536
Pension costs	13,942	11,858
Other personnel costs	2,897	2,319
Total	**112,610**	**93,712**

Personnel average

Persons	2021	2020
In Finland	1,287	1,210
Outside Finland	9	8
Total	**1,297**	**1,218**

Personnel Dec 31

Persons	2021	2020
In Finland	1,303	1,242
Outside Finland	10	8
Total	**1,313**	**1,250**

Kjell Forsén served as the President and CEO until September 30, 2020 and Kai Öistämö assumed the position on October 1, 2020.

Salary and remunerations of the President and CEO (payment basis)

EUR thousand	2021	2020
Öistämö Kai (from Oct 1, 2020 on)		
Salary	481	114
Short term incentives	40	-
Share-based payment	263	-
Statutory pension	81	17
Supplementary pension	114	29
Total	**979**	**159**

EUR thousand	2021	2020
Forsén Kjell (until Sep 30, 2020)		
Salary	-	394
Short term incentives	-	363
Share-based payment	-	1,221
Statutory pension	-	121
Supplementary pension	-	90
Total	**-**	**2,189**

In 2020, Kjell Forsén was paid EUR 143 thousand salary and EUR 30 thousand supplementary pension in addition to remuneration of President and CEO. In 2021, Kjell Forsén was paid EUR 185 thousand short term incentive for 2020, as well as share-based payment for LTI 2018, LTI 2019–2021, and LTI 2020–2022 programs totaling EUR 1,864 thousand.

The President and CEO Kai Öistämö is entitled to participate in a supplementary defined contribution pension plan with an annual fee corresponding to three month's base salary. The President and CEO's retirement age is 62 years. The notice period for both parties is six months. If the company terminates the agreement, there is an additional severance pay equaling six times the monthly salary.

Remuneration of the Board of Directors 2021 (payment basis)

EUR thousand		Annual remuneration	Compensation, Audit Committee	Compensation, Remuneration and Human Resources Committee	Total
Castrén Petri	Member of the Board	40	5		45
Jääskeläinen Antti	Member of the Board	40	5		45
Lundström Petra	Member of the Board	40		5	45
Rinnevaara Jukka	Member of the Board	40		5	45
Ståhlberg Kaarina	Member of the Board	40	8		48
Syrjänen Tuomas	Member of the Board	40		3	43
Voipio Raimo	Vice Chair of the Board	40	4		44
Voipio Ville	Chair of the Board	55	1	5	61
Total		**335**	**23**	**18**	**376**

Remuneration of the Board of Directors 2020 (payment basis)

EUR thousand		Annual remu-neration	Compen-sation, Audit Committee	Compen-sation, Remuneration and Human Resources Committee	Compen-sation, Nomination Committee	Total
Castrén Petri	Member of the Board	35	6	1		42
Jääskeläinen Antti	Member of the Board (since June 3, 2020)	35	3			38
Lundström Petra	Member of the Board	35		6		41
Rinnevaara Jukka	Member of the Board	35	3	5	10	53
Ståhlberg Kaarina	Member of the Board	35	8		10	53
Syrjänen Tuomas	Member of the Board	35				35
Torstila Pertti	Member of the Board (until June 3, 2020)	-				-
Voipio Raimo	Chair of the Board	45			10	55
Voipio Ville	Vice Chair of the Board	35	6	6	10	57
Total		**290**	**26**	**18**	**40**	**374**

To the President and CEO and the members of the Board have not been granted loans nor have guarantees or commitments been given on their behalf.

5. DEPRECIATION, AMORTIZATION AND IMPAIRMENT

EUR thousand	2021	2020
Amortization of intangible assets	4,176	3,963
Depreciation of property, plant and equipment	7,406	6,246
Impairment of intangible and tangible assets	34	22
Total	**11,617**	**10,231**

In the financial year 2021 amortization of intangible assets included amortization EUR 3.5 (3.3) million related to merger losses included in other intangible assets.

6. FINANCIAL INCOME AND EXPENSES

EUR thousand	2021	2020
Dividend income		
From group companies	2,624	2,967
Other interest and financial income		
From group companies	58	456
From others	1,068	2,443
Interest and other financial expenses		
To group companies	-15	-62
To others	-4,308	-2,010
Foreign exchange gains and losses	2,174	-3,276
Total	**1,601**	**519**

7. DIRECT TAXES

EUR thousand	2021	2020
Taxes from the financial year	4,014	5,277
Taxes from previous years	-27	-87
Total	**3,987**	**5,191**

8. NON-CURRENT ASSETS

Intangible assets 2021

EUR thousand	Goodwill	Intangible rights	Other intangible assets	Advance payments and intangible assets in progress	Total
Acquisition cost Jan 1, 2021	88	29,406	20,361	321	50,175
Increases		205		83	287
Decreases		-71			-71
Transfers between items		151		-151	-
Acquisition cost Dec 31, 2021	**88**	**29,691**	**20,361**	**253**	**50,392**
Accumulated amortization and write-downs Jan 1, 2021	15	28,264	4,490		32,769
Accumulated amortization of decreases and transfers		-71			-71
Amortization and write-downs for the financial year	20	566	3,602		4,188
Accumulated amortization and write-downs Dec 31, 2021	**35**	**28,760**	**8,092**		**36,886**
Carrying value Dec 31, 2021	**53**	**931**	**12,269**	**253**	**13,506**

Intangible assets 2020

EUR thousand	Goodwill	Intangible rights	Other intangible assets	Advance payments and intangible assets in progress	Total
Acquisition cost Jan 1, 2020		29,756	13,428	269	43,453
Increases		218	6,933	105	7,257
Transferred in merger	88				88
Decreases		-619			-619
Transfers between items		50		-53	-3
Acquisition cost Dec 31, 2020	**88**	**29,406**	**20,361**	**321**	**50,175**
Accumulated amortization and write-downs Jan 1, 2020		28,185	1,234		29,419
Accumulated amortization of decreases and transfers		-619			-619
Amortization and write-downs for the financial year	15	698	3,256		3,968
Accumulated amortization and write-downs Dec 31, 2020	**15**	**28,264**	**4,490**		**32,769**
Carrying value Dec 31, 2020	**73**	**1,141**	**15,871**	**321**	**17,407**

Property, plant and equipment 2021

EUR thousand	Land and waters	Buildings	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost Jan 1, 2021	2,820	73,006	57,766	74	7,321	140,987
Increases		4,104	5,043		6,460	15,607
Decreases		-358	-2,797			-3,156
Transfers between items		625	4,628		-5,427	-174
Acquisition cost Dec 31, 2021	**2,820**	**77,376**	**64,641**	**74**	**8,354**	**153,265**
Accumulated depreciation and write-downs Jan 1, 2021		37,566	41,246			78,812
Accumulated depreciation of decreases and transfers		-358	-2,766			-3,124
Depreciation for the financial year		2,743	4,663			7,406
Write-downs			22			22
Accumulated depreciation and write-downs Dec 31, 2021		**39,951**	**43,165**			**83,116**
Revaluation	84	5,618				5,702
Carrying value Dec 31, 2021	**2,905**	**43,043**	**21,475**	**74**	**8,354**	**75,851**

Property, plant and equipment 2020

EUR thousand	Land and waters	Buildings	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost Jan 1, 2020	2,820	49,497	59,663	74	16,816	128,872
Increases		13,641	2,111		4,714	20,466
Decreases			-8,320			-8,320
Transfers between items		9,867	4,312		-14,209	-30
Acquisition cost Dec 31, 2020	**2,820**	**73,006**	**57,766**	**74**	**7,321**	**140,987**
Accumulated depreciation and write-downs Jan 1, 2020		35,489	45,381			80,870
Accumulated depreciation of decreases and transfers			-8,320			-8,320
Depreciation for the financial year		2,077	4,169			6,246
Write-downs			16			16
Accumulated depreciation and write-downs Dec 31, 2020		**37,566**	**41,246**			**78,812**
Revaluation	84	5,618				5,702
Carrying value Dec 31, 2020	**2,905**	**41,057**	**16,520**	**74**	**7,321**	**67,877**

On December 31, 2021, the carrying amount of machinery and equipment used in production was EUR 14.7 (11.1) million.

Investments 2021

EUR thousand	Holdings in group undertakings	Other shares and holdings	Total
Acquisition cost Jan 1, 2021	74,218	100	74,318
Increases	263	-	263
Carrying value Dec 31, 2021	**74,481**	**100**	**74,581**

Investments 2020

EUR thousand	Holdings in group undertakings	Other shares and holdings	Total
Acquisition cost Jan 1, 2020	81,330	112	81,442
Decreases	-7,112	-12	-7,124
Carrying value Dec 31, 2020	**74,218**	**100**	**74,318**

In the financial year 2020, the decreases related to Vaisala Digital Oy's merger into the parent company on April 1, 2020 and sale of Elisa Oyj's shares.

9. OTHER RECEIVABLES

EUR thousand	2021	2020
Advances paid	690	188
Value added tax receivables	2,519	2,221
Grants	1,817	660
Other	22	103
Total	**5,049**	**3,173**

10. DEFERRED ASSETS

EUR thousand	2021	2020
Tax receivables	1,881	1,445
Deferred revenue	18,949	17,102
Derivative financial contracts	44	1,177
Deferred interests	-	89
Other deferred assets	4,489	3,900
Total	**25,363**	**23,713**

Derivative financial contracts

EUR million	2021	2020
Nominal value of derivative financial contracts made to hedge against exchange rate risk		
Foreign exchange forward contracts	35.2	31.4
Nominal value, total	**35.2**	**31.4**

Nominal value of derivative financial contracts in currencies

	2021		2020	
	Currency million	EUR million	Currency million	EUR million
USD	22.0	18.5	19.0	16.5
CNH	30.0	3.9	40.0	5.0
HRK	22.5	3.0	22.5	3.0
JPY	300.0	2.3	250.0	2.0
PLN	18.0	3.9	-	-
SEK	32.5	3.1	33.0	3.1
SGD	1.0	0.6	3.0	1.9
Total		**35.2**		**31.4**

Maturity of derivative financial contracts

EUR million	2021	2020
Less than 90 days	16.4	9.6
Over 90 days and less than 120 days	4.2	2.7
Over 120 days and less than 180 days	7.7	5.8
Over 180 days and less than 365 days	5.4	9.1
Over 366 days and less than 545 days	1.5	4.2
Total	**35.2**	**31.4**

Fair value of derivative financial contracts made to hedge against exchange rate risk

EUR million	2021	2020
Fair values of derivative financial contracts, assets	0.0	1.2
Fair values of derivative financial contracts, liabilities	1.3	0.2

11. DEFERRED TAX ASSETS AND LIABILITIES

Deferred tax assets

EUR thousand	2021	2020
Deferred depreciation and amortization	-	26
Share-based payments	2,542	1,212
Provisions	225	202
Total	**2,767**	**1,440**

Deferred tax assets and liabilities have not been recognized in the parent company's balance sheet. Deferred tax liabilities arising from revaluation have not been taken into account. If realized, the tax effect of revaluation would be EUR 1.1 million at the current tax rate of 20%. Other deferred tax liabilities were not material.

12. PROVISIONS

Non-current provisions

EUR thousand	2021	2020
Provisions Jan 1	97	97
Provisions Dec 31	**97**	**97**

Current provisions

EUR thousand	2021	2020
Provisions Jan 1	914	1,731
Increases	158	125
Decreases	-46	-942
Provisions Dec 31	**1,026**	**914**

The provisions in the financial years 2021 and 2020 include warranty provision, loss-making project provisions and other contractual provisions.

13. SHAREHOLDERS' EQUITY

The parent company's shares are divided into series K shares and series A shares. On July 21, 2020 Vaisala Corporation's Board of Directors decided to convert 20,306 K shares to series A shares. This conversion was registered into the Trade Register on July 31, 2020. After this Vaisala Corporation has 36,436,728 shares, of which 6,731,092 are series K shares and 29,705,636 series A shares. The shares do not have nominal value. The series K shares and A shares are differentiated by the fact that each series K share entitles its owner to twenty (20) votes at General Meeting of Shareholders while each series A share entitles its owner to one (1) vote. The shares have the same rights to dividend. Series K shares can be converted to series A shares according to specific rules stated in the Articles of Association.

On December 31, 2021 and 2020, the fully paid and registered share capital of Vaisala Corporation amounted to EUR 7,660,807.86.

Shareholders' equity

EUR thousand	2021	2020
Share capital Jan 1	7,661	7,661
Share capital Dec 31	**7,661**	**7,661**
Fund of invested non-restricted equity Jan 1	422	422
Fund of invested non-restricted equity Dec 31	**422**	**422**
Retained earnings Jan 1	172,076	170,099
Dividend paid	-22,022	-21,960
Distribution of treasury shares	1,652	1,598
Loss on transfer of treasury shares	-671	-1,139
Retained earnings Dec 31	**151,036**	**148,598**
Result for the financial year	14,983	23,478
Total equity	**174,102**	**180,159**

Distributable funds

EUR thousand	2021	2020
Retained earnings	151,036	148,598
Result for the financial year	14,983	23,478
Fund of invested non-restricted equity	422	422
Total	**166,441**	**172,498**

For the financial year 2020 a dividend of EUR 0.61 per share was paid, a total of EUR 22.0 million.

14. OTHER NON-CURRENT AND CURRENT LIABILITIES

On December 31, 2021, the parent company had other non-current non-interest-bearing liabilities in total of EUR 0.0 (1.8) million. In 2020, non-current non-interest-bearing liability included contingent consideration liabilities relating to prior acquisitions totaling EUR 1.2 million, which were transferred to other current liabilities in 2021. At the end of the financial year, the parent company had no non-current liabilities that will mature after five years.

On December 31, 2021, other current liabilities were EUR 11.8 (3.9) million. They included contingent consideration relating to prior acquisitions in total of EUR 5.6 (1.0) million.

In the financial year 2021, contingent consideration liability amounting to EUR 4.5 million was recognized as expense (2020: EUR 1.8 million was recognized as income) based on the financial performance after the acquisition and based on the estimated future performance. A contingent consideration liability relating to prior acquisitions totaling EUR 1.0 million was paid in 2021 (2020: no contingent consideration liability relating to prior acquisitions was paid).

15. LOANS FROM FINANCIAL INSTITUTIONS

Vaisala has a EUR 40 million unsecured term loan which was signed on May 25, 2020. The loan matures in three years from the signing date and has a financial covenant (gearing), which is tested semi-annually. On December 31, 2021, Vaisala was in compliance with the covenant. This facility will be used for refinancing of existing indebtedness as well as for general corporate and working capital purposes.

In addition, Vaisala has a EUR 50 million unsecured revolving credit facility which was signed on October 5, 2018. The committed credit facility agreement matures in 5 years from the signing date and it has no financial covenants. The facility will be used for working capital needs, for financing of acquisitions and for general corporate purposes. On December 31, 2021, the parent company had interest-bearing liabilities totaling EUR 40.1 (45.2) million. At the end of the financial period, Vaisala had no loans that would mature after five years or more. In addition, Vaisala has a domestic commercial paper program amounting to EUR 150 million, that was not utilized as of December 31, 2021.

16. ACCRUED EXPENSES AND DEFERRED INCOME

EUR thousand	2021	2020
Personnel expense accruals	32,179	24,586
Deferred revenue	10,345	12,436
Derivative financial contracts	1,289	111
Direct tax accruals	-	39
Other accrued expenses and deferred income	6,449	4,844
Total	**50,262**	**42,016**

Notes related to derivative financial contracts are presented in the note to the financial statements 10, Deferred assets.

17. RECEIVABLES AND LIABILITIES FROM OTHER COMPANIES IN VAISALA GROUP

EUR thousand	2021	2020
Reveivables		
Current loan receivables	-	13,854
Trade receivables	20,992	20,286
Other receivables	8	17
Prepaid expenses and accrued income	2,343	3,993
Total receivables	**23,344**	**38,149**
Liabilities		
Current loans	35,165	16,675
Trade payables	1,447	704
Other liabilities	1	1
Accrued expenses and deferred income	1,921	5,372
Total liabilities	**38,534**	**22,752**

18. CONTINGENT LIABILITIES AND PLEDGES GIVEN

Contingent liabilities and pledges gives

EUR thousand	2021	2020
For own debt or liability		
Bank guarantees issued for obligations	14,550	16,934
For group companies		
Guarantees	211	194
Leasing commitments		
Payable during the following financial year	192	224
Payable later	70	133
Total leasing liabilities	**262**	**357**
Total contingent liabilities and pledges given	**15,023**	**17,485**

Investment commitments

On December 31, 2021, the parent company had commitments related to intangible and tangible assets for EUR 3 (4) million. In addition, the commitments related to Vantaa building project were EUR 0.0 (0.3) million.

Purchase commitments

On December 31, 2021, the parent company had purchase commitments totaling EUR 24 (8) million.

19. AUDITOR'S FEES

EUR thousand	2021	2020
Audit	326	287
Statements	28	12
Tax advice	-	17
Other fees	48	57
Total	**402**	**373**

Signing of the Board of Directors' report and financial statements

Vantaa, February 17, 2022

Petri Castrén	Antti Jääskeläinen	Petra Lundström
Jukka Rinnevaara	Kaarina Ståhlberg	Tuomas Syrjänen
Raimo Voipio Vice Chair of the Board	Ville Voipio Chair of the Board	Kai Öistämö President and CEO

Auditor's report (Translation of the Finnish Original)

To the Annual General Meeting of Vaisala Oyj

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Vaisala Oyj (business identity code 0124416-2) for the year ended 31 December 2021. The financial statements comprise the consolidated income statement, statement of comprehensive income, balance sheet, statement of cash flows, statement of changes in equity and notes, including a summary of significant accounting policies, as well as the parent company's income statement, balance sheet, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position, financial performance and cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Audit Committee.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent company and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5(1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 29 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have also addressed the risk of management override of internal controls. This includconsideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

Key audit matter	How our audit addressed the key audit matter
Revenue recognition of product and project sales Refer to Notes 1,2 and 3 • Vaisala group net sales EUR 437,9 million consists of product, service and project sales. Product and project sales account for EUR 384,0 million of the net sales. • Revenue from the product sales is recognized at a point in time when the control is transferred to the customer. Large number of sales contracts and different nature of terms of contracts increase the risk of misstatement in timing of revenue recognition. • Revenue for projects is recognized over time using percentage of completion method. Progress is measured by cost-to-cost method, comparing incurred costs and forecasted costs. • Revenue recognition over time under IFRS 15 requires management estimaterelated to cost throughout the project delivery. • This matter is a significant risk of material misstatement referred to in EU Regulation No 537/241, point (c) of Article 10(2).	• Our audit procedures included an assessment of revenue recognition process and assessment of controls relating to timing of revenue recognition. • We have reviewed Vaisala´s accounting manual and principles regarding different types of revenue contracts to evaluate, whether they are in line with IFRS 15 accounting principles. • We have audited the accurate timing and the amount of revenue arising from the sales of products and from the projects. • As a part of our audit procedures covering the revenue recognition principles of product sales, we have compared the sales transactions recorded in accounting to the related sales agreements and delivery documentation. • Regarding to the projects we have compared the project calculations to the existing agreements and to the possible amendments to the agreements. • We have reviewed the project estimates prepared and reviewed by the management as well as the realization of these estimates and assessed the level of completion based on the documentation received. • We have evaluated the appropriateness of the presentation in the financial statements.
Inventory valuation Refer to Note 13 • Vaisala consolidated balance sheet includes inventory amounting to EUR 49,9 million. Inventory valuation is associated with the excess and obsolescence risk. • As disclosed in the note 13 Vaisala has recognized write-offs and excess and obsolescence allowances for slow moving and obsolete inventory. • Estimation and judgment are required in determining the value of the allowance for excess and obsolete inventory. Management analyses estimates of demand and determines allowance for excess and obsolete inventory. • This matter is a significant risk of material misstatement referred to in EU Regulation No 537/241, point (c) of Article 10(2).	• Our audit procedures included an assessment of inventory process and assessment of controls relating inventory valuation. • We have assessed the valuation principles used by the group and analyzed the slow moving inventory to be able to assure the accuracy of obsolesce provision accounting. • We have audited inventory valuation by comparing the accounting values to the acquisition and manufacturing costs as well as to the net realizable values to evaluate that value of inventory do not exceed the lower of the acquisition and manufacturing costs or net realizable value. • We have assessed management judgements and estimates regarding the future life cycle and demand of products. • We have evaluated the appropriateness of the presentation in the financial statements.

Responsibilities of the Board of Directors and President and CEO for the Financial Statements

The Board of Directors and President and CEO are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and President and CEO are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and President and CEO are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and Chief Executive Officer's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent company or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Information on our audit engagement

We were first appointed as auditors by the Annual General Meeting on March 26, 2014 and our appointment represents a total period of uninterrupted engagement of 8 years.

Other Information

The Board of Directors and President and CEO are responsible for the other information. The other information comprises the Board of Directors' Report and the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to the Board of Directors' Report, our responsibility also includes considering whether the Board of Directors' Report has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the Board of Directors' Report is consistent with the information in the financial statements and the Board of Directors' Report has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed we conclude that there is a material misstatement of the other information, we are required to report that fact. We have nothing to report in this regard.

Other opinions

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the treatment of distributable funds is in compliance with the Limited Liability Companies Act. We support that the Board of Directors of the parent company and the President and CEO should be discharged from liability for the financial period audited by us.

Vantaa, February 17, 2022

Deloitte Oy
Audit Firm

Reeta Virolainen
Authorised Public Accountant (KHT)

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