

# ferroamp

Annual Report  
2022



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This is a translated version of the original Annual Report published in Swedish. In case of deviations, the Swedish Report should be considered.



## FINANCIAL CALENDAR

Interim report Q1 2023	8 May 2023
Annual General Meeting	10 May 2023
Interim report Q2 2023	23 Aug 2023
Interim report Q3 2023	9 November 2023
Year-end report Q4 2023	16 February 2024

# Ferroamp in brief

## Our vision

Our vision is a world powered by 100 percent renewable and reliable electricity.

## What we do

Ferroamp offers property owners sustainable solutions for the future of energy supply through a unique, patented technology for energy and power optimisation. The Ferroamp system integrates solar power, energy storage and electric vehicle charging in a DC nanogrid with intelligent control and real-time monitoring. With PowerShare technology, several buildings can also be connected and share the solar power generated.

## Who we do it for

Our end customers are property owners in these segments: homeowners, housing associations and the public housing sector, private and commercial property owners, industry and agriculture.

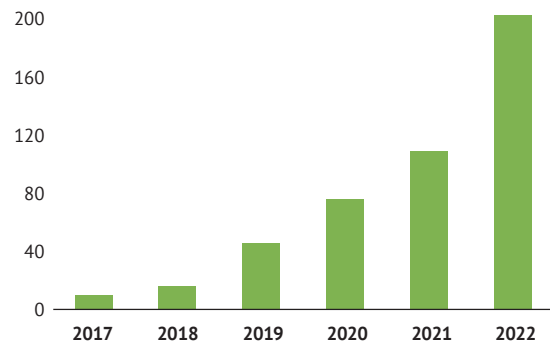
## Working with

Ferroamp works closely with integrators, wholesalers, installers, energy advisors and energy companies to create a seamless solution for the end customer.

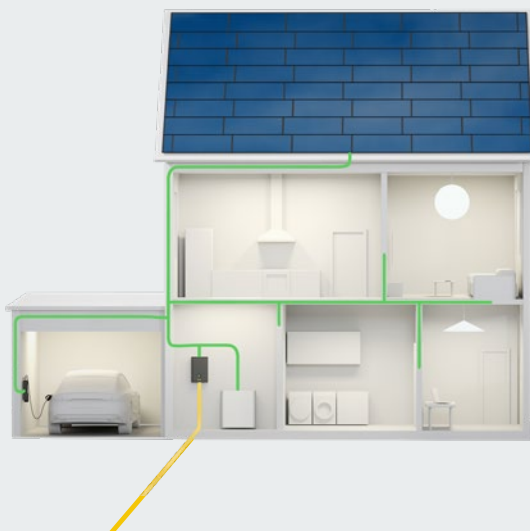
## How we make a difference

The Ferroamp system gives property owners control in a changing electricity market. The flexible, modular system can be expanded and adapted to the needs and opportunities created in the energy system. At the same time, the system contributes to solving the capacity problems in the grid, thus contributing to the energy transition in society.

### Net sales (MSEK)



## The Ferroamp system



### HARDWARE

- EnergyHub
- SSO (Solar String Optimizer)
- Energy storage

### SOFTWARE

- EnergyCloud

### FUNCTIONS

- Charging control with OCPP compatible electric vehicle chargers
- Phase balancing (ACE)
- PowerShare

### TECHNOLOGY

- DC nanogrid

# Rising demand and increased production

**Ferroamp is growing fast. Sales increased by 86 percent in 2022 compared to last year and the last quarter was the strongest so far. The goal now is to be able to meet the high demand for our products and achieve profitability. The order book totalled MSEK 350 at the year-end.**

In 2022 everybody was talking about energy and electricity prices. The development of a fossil-free decentralised electricity system, which had already started to emerge earlier, has been accelerated by the energy crisis in Europe as a consequence of the war in Ukraine. The demand for solar panels is now reaching record levels and more and more people are realising the benefits of connecting solar panels, energy storage and electric vehicle charging in Ferroamp's smart, controllable DC nanogrid.

## Increased growth and satisfied customers

For Ferroamp, the year meant fantastic growth with a strong increase in demand for our EnergyHub systems and battery storage. Sales for the full year reached MSEK 205, an increase of MSEK 94.9 from the previous year. We are seeing the biggest increase in sales among residential customers, who have a short decision-making process and many of whom reacted quickly to the electricity price increase. We are pleased with the growth rate and particularly happy that so many of our customers have been satisfied with our products. In the customer survey that we sent out to end customers, retailers and installers in the autumn, as many as 73 percent responded that they would strongly recommend Ferroamp to others.

## Higher production rate with new agreements

During the year, the company focused on scaling up and industrialising production to meet demand. During the third quarter, we signed two important production agreements which will allow us to accelerate production to meet demand and shorten delivery times in 2023. As a result of the expanded partnership with NOTE, production of the larger EnergyHub XL system will increase significantly during the year. The agreement with Kitron massively increases our production capacity of the EnergyHub 14 system for single-family dwellings and provides Ferroamp with a good platform for an upcoming launch abroad. The first delivery from its factory in Poland arrived in December.

The development towards large-scale production has been rapid, but not without problems. The war and continuing lockdowns in China have disrupted global component supply chains. This has resulted in high additional costs for the purchase of components at spot prices. However, this has been prioritised to deliver on our large order book. Our assessment is that 2023 looks much brighter in terms of component

purchases. The scaling up of production capacity also led to higher pressure on working capital in the form of larger inventories compared to previous periods. However, this is entirely according to plan.

We are not satisfied with the delay in the industrialisation of our processes. Outsourcing production was an important decision as we increased the gross margin by about 8 percentage points excluding spot

**“We are seeing the biggest increase in sales among residential customers, who have a short decision-making process and many of whom reacted quickly to the electricity price increase.”**

purchases since the previous year and we can now see that the situation is improving both on the world market and in our own development.

## Focus on growth and profitability in 2023

The focus for 2023 is on growth and profitability. In addition to increasing volume with our strategic partners, we are working very proactively to improve our profitability. This is being done through previously announced price increases and cost reviews at all levels. At the same time, we are continuing to recruit new employees to strengthen and develop our company, which will be the foundation of our success.

We are also working continuously to improve the functionality of our products. As the system can be updated online, all our customers can easily benefit from the improvements we make. During the year, more electric vehicle chargers became compatible with EnergyHub, thus allowing more property owners to control electric charging as an integral part of the system. We are closely monitoring how the evolution of the electricity grid is creating space for new business models and needs among customers.

Our products are the best tools for allowing property owners to gain control over and optimise their electricity consumption and adjust to the rapid fluctuations in the electricity market. We look forward to a 2023 with continued strong growth in which we will enable more people to save money and become part of the green energy transition.

**Fredrik Breitung**  
Acting CEO and CFO



# The year in brief



## Partnership agreement with Ahlsell

Ferroamp has signed a partnership agreement with Ahlsell, the leading Nordic distributor of installation products for installers, construction companies and property managers, which has 130 stores in Sweden. The agreement consolidates Ferroamp’s channel strategy, which is based on partnership with the major wholesalers in the field.

## Green tax deductions for EnergyHub

The Swedish Tax Agency has stated that it approves green tax deductions for load balancers in conjunction with the installation of electric vehicle chargers. As this is one of the functions of Energy-Hub, it is also covered by the 50 percent tax reduction. In the autumn, the new government also decided to increase the tax reduction on solar panel installations from 15 to 20 percent.



## Changes in company management

Fredrik Breitung, CFO (pictured), has become acting CEO. At the same time, work has begun to find a new CEO to replace Krister Werner. The management team has also been strengthened by the appointment of Robert Gelmanovski as Chief Operating Officer and Björn Jernström as Chief Technology & Innovation Officer.



The company has strengthened its focus on profitability. On 8 March 2023, it was announced that Kent Jonsson would take over as CEO from 1 April.



## Ferroamp in new premises in 2023

Ferroamp’s high growth rate also means an increased workforce. During the year, the company outgrew its current premises in Spånga. With the co-owner and partner Wallenstam, new premises for the head office and lab are now being completed in Umami Park in Sundbyberg and the company will relocate after the summer of 2023.

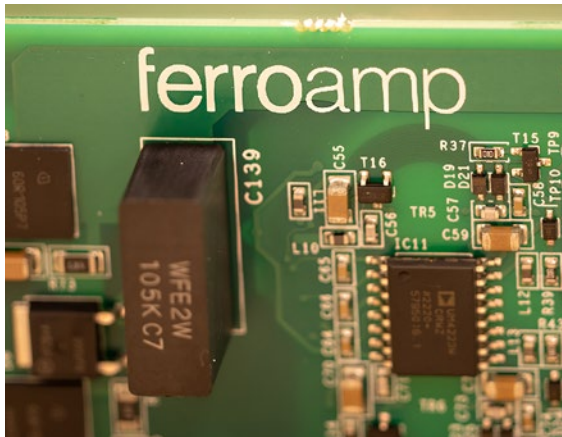
## Financial position

kSEK	2022	2021	2020	2019	2018
Net sales	205,112	110,218	76,772	45,838	15,804
EBITDA*	-46,238	-35,729	-27,776	-22,641	-10,762
EBITDA, %	-23	-32	-36	-49	-68
Profit/loss after financial items*	-54,262	-41,102	-33,138	-24,203	-11,744
Balance sheet total	236,952	188,913	144,778	57,761	20,145
Equity ratio, %	68	80	80	58	18
Earnings per share, SEK	-3.84	-3.19	-3.1	-3.22	-2.4
Cash flow from operating activities	-61,658	-42,065	-25,790	-29,653	-14,899

\* During 2022, costs for senior executives who had left the company impacted earnings by kSEK 2,592.

### Broader energy storage offering

Ferroamp is meeting the growing demand for energy storage with a new scalable battery system suitable for single-family dwellings and multi-family buildings. The battery system, the Energy Storage Stack (ESS), fits well into Ferroamp’s infrastructure due to its high level of modularity, which means it can be adapted and expanded as needs increase. With rising electricity prices, the demand for batteries increased dramatically in the autumn, with orders for batteries increasing by 534% between August and November.



### New agreements allow big increase in production

To meet the high demand and to industrialise production, two strategically important agreements were signed in September. An extended partnership with the Swedish company NOTE has doubled the production capacity of EnergyHub XL. Shortly after that, a new agreement for volume production of the EnergyHub 14 system for single-family dwellings was also signed with the Norwegian company Kitron. The first units were delivered from their factory in Poland in mid-December and the production rate will increase gradually in 2023.

### More charging boxes make smart control possible

At the end of 2021, it became possible to integrate electric vehicle charging in the Ferroamp system via the OCPP communication standard. Wallbox and ChargeAmps, two of the leading charging box manufacturers, enabled the standard in their most popular chargers in December 2022. Ferroamp is testing and verifying the functionality, which means that more people can now use smart control of electric vehicle charging and thus, for example, protect the main fuse and avoid costly power peaks.



Sales, MSEK

205

Equity ratio, %

68

Number of systems

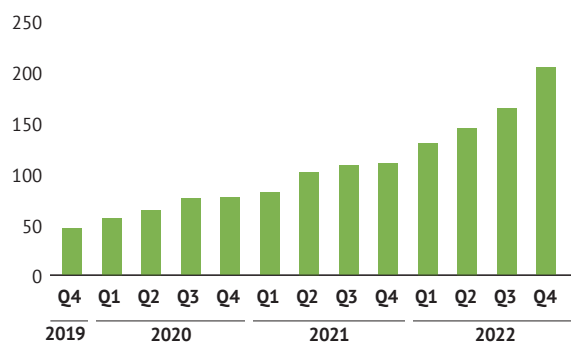
>6,000

Order book, MSEK

350

### Net sales, rolling 12 months

(MSEK)



# A transformative year

**The war in Ukraine has affected the market for Ferroamp's products and services on many levels. The expansion of solar energy was previously driven by climate reasons and falling prices, but now the possibility of becoming energy independent for security reasons has also become an important factor.**

Soaring, increasingly volatile electricity market prices have fuelled the pace of solar panel installations by both businesses and private individuals, interest in energy efficiency has increased significantly, and the market for batteries as energy storage has also really taken off. Ferroamp's offering has thus become a high interest product.

#### **New demands on the grid and new opportunities for property owners**

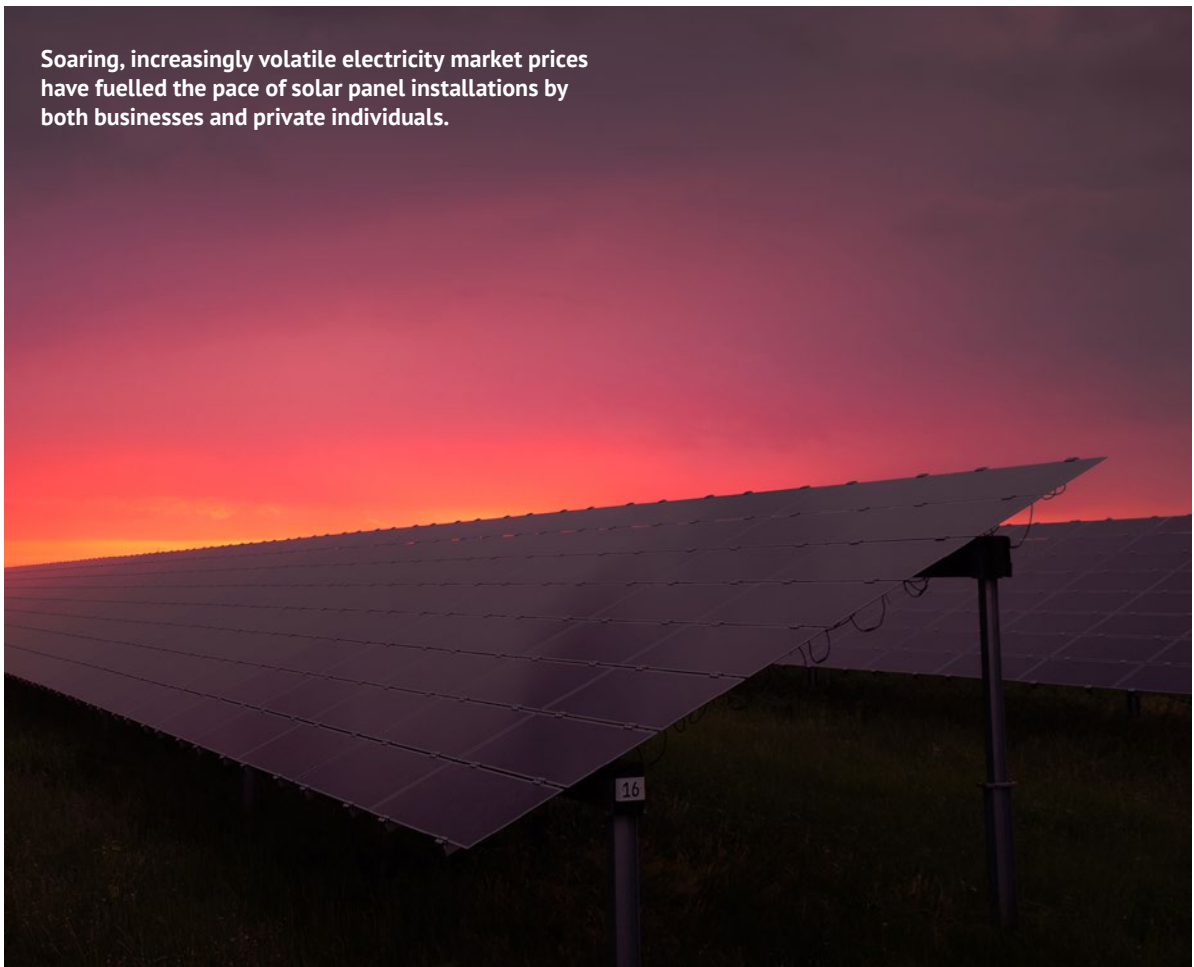
Regardless of developments in the war, experts predict that fluctuations in the electricity market will continue in the future. The increasing share of renewable and weather-dependent energy, combined with

the electrification of both transport and industrial processes, is placing new demands on the electricity grid. The increased flexibility that Ferroamp offers property owners allows the electricity grid to be utilised more efficiently and reduces the urgent need for costly expansion. This is about partially replacing controllable production with controllable consumption.

#### **New initiatives for the green transition**

The green transition continues in Sweden and around the world. The EU's plan to reduce emissions by 55 percent by 2030 was supplemented during the year with new targets for renewable energy to rapidly replace the need for Russian gas, and the US passed the Inflation Reduction Act with major investments in solar energy, energy efficiency and electrification of transport. In Sweden, the new government has made changes such as the climate bonus for electric vehicles, but the climate targets remain unchanged and the budget increased the tax reduction for solar panels from 15 to 20 per cent.

Soaring, increasingly volatile electricity market prices have fuelled the pace of solar panel installations by both businesses and private individuals.





# Five trends affecting Ferroamp

The market for Ferroamp’s smart systems is no longer just in the future. It is here and now. Demand is growing in line with a global wave of electrification, and the transformation in society is now proceeding very quickly. Global megatrends and customer needs shape five strategic areas that underpin our view of the future and our strategy:

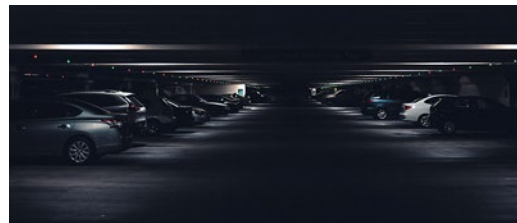
## 1. Solar panel boom

In recent years, we have become accustomed to installation volumes for solar panels breaking new records every year. However, in the wake of high electricity prices in the autumn, interest reached completely new levels this year. The International Energy Agency, IEA, now forecasts that global solar panel capacity will triple between 2022 and 2027, overtaking coal as the main source of electricity generation.



## 2. The power challenge in the electricity grid

The Swedish electricity grid is running close to capacity and expanding it will take time. To deal with capacity shortages, as a society we therefore need to become better at managing loads and limiting power peaks. The increasing introduction of power tariffs by electricity grid companies also creates financial incentives for property owners to actively work on cutting their peak consumption by using batteries and smart control.



## 3. Electrification of transport

Electric vehicle sales are also setting new records. 56 percent of the new vehicles sold in 2022 were chargeable. This poses a challenge for the electrical systems in properties, as many vehicles need to be charged at the same time. Ferroamp’s solution for integrating electric vehicle chargers into the Ferroamp system protects fuses in the property and flattens consumption peaks.



## 4. The increasing strength of electricity consumers

The high prices last autumn have contributed to increased public awareness of energy consumption. The realisation that people have the power to control their consumption by adjusting it and investing in their electricity system is spreading. New business models are also being developed in which Ferroamp’s products make it possible to become active prosumers in the new electricity market.



## 5. Grid stability requirements

A flexible electricity grid with a higher proportion of renewables requires resources that can ensure the balance and frequency of the grid. The market for these balance and frequency regulation services is now being opened up to smaller electricity customers, and it is now possible for both housing associations and homeowners to sell capacity from, for example, their own energy storage facilities to the grid owners. This can have a significant impact on the financial viability of buying your own home battery.

# Properties as resources in the energy system



**The vision of properties becoming resources in the electricity system, contributing flexibility and stability, has now become a reality. Ferroamp's founder and CTO, Björn Jernström, is now seeing the development of means of control and business models in which the company's products and services play a key role. At the same time, interest in generating your own electricity and controlling your electricity consumption has never been higher.**

Is it possible to reduce the main fuse? This was what Björn Jernström wondered when he had moved into a new house and looked at ways to cut energy costs. He found the answer in phase balancing, which involves distributing the loads evenly across all three phases of the house's electricity network, thus avoiding the high loads that can otherwise occur in each phase. Thus began the development of the EnergyHub, which now forms the basis of Ferroamp's energy and power optimisation technology. Phase balancing is now just one part of the system in which solar panels, electric vehicle charging and energy storage can be connected together in a DC nanogrid.

## **The crisis has reinforced a long-term trend**

Accurate measurement and smart control give property owners full control over production and consumption, which is exactly what is needed in an electricity market in which prices are now high and vary greatly throughout the day. We are seeing a situation in which an acute crisis due to the war in Ukraine is reinforcing the long-term market trends of higher shares of renewable electricity generation and electrification of

transport and industrial processes, while the capacity of the electricity grid is lacking.

*"The high prices are driving demand for solar panels and the variations in hourly prices are driving the demand for energy storage. This also increases the need to control the charging of the electric vehicles that are now also starting to fill garages. The integration of this ecosystem is becoming increasingly important, to make it work together," says Björn Jernström.*

**"The interest in the electricity system that we are seeing today will certainly diminish over time, but the needs remain. It is therefore important that we develop offers that make our customers' lives easier."**

## **Smart control gives property owners opportunities**

To address the challenges in the electricity grid, grid owners are now introducing power tariffs and several electricity trading companies are offering the option to pay an hourly rate. This means that customers have much to gain from distributing their electricity consumption more evenly throughout the day and shifting consumption to the hours of the day when electricity is cheapest. At the same time, business models are now being developed so that customers can be paid to provide support services to maintain frequency and balance the grid. All this increases the value of having your own energy storage with smart control.

*"We have seen this development coming for a long time and the conditions are now in place. With our smart control capabilities, we enable our customers to act and participate in the market. Because we have open APIs (Application Program Interfaces), other actors can develop services based on our system," says Björn Jernström.*

## **Developed functionality**

In 2023, Ferroamp will focus on industrialising production and increasing delivery capacity, but also on continuing to develop functionality, both by itself and in collaboration with partners. Since the system can be updated online, new features will also be available to those who have already purchased an EnergyHub.

*"The interest in the electricity system that we are seeing today will certainly diminish over time, but the needs remain. It is therefore important that we develop offers that make our customers' lives easier. You should be able to get a smart system that allows you to avoid thinking about your electricity consumption," says Björn Jernström.*

# A sustainable vision and strategy

**Our strategic framework forms the basis of our value creation. The framework summarises our culture, mission and vision and connects them to our overall offering.**

Ferroamp is an innovation company driven by technical curiosity and a desire to contribute to the transition to a fossil-free society. Our innovative products and services enable large and small property owners to take control of their electricity and help make the world more sustainable. In Sweden, the construction and property sector accounts for around 40 percent of our final

energy use and around 20 percent of greenhouse gas emissions. With our solutions, property owners can gain greater control over their production and consumption of electricity, making an active contribution to a sustainable energy transition.

Ferroamp's unique system is based on DC technology and the ability to create microgrids that link solar panels, battery storage and electric vehicle chargers, establishing a more efficient system with higher controllability and less energy loss. With our products and services, we simply give property owners the opportunity for smarter control of their electricity.

## STRATEGIC FRAMEWORK

### Vision

Our vision is a world powered by 100 percent renewable, reliable electricity.

### Mission

Our mission is to optimise the use of electricity and provide our customers with tools and sustainable innovations to enable them to be part of the energy revolution.

### Values

- Pioneering innovation
- Customer focus
- Stronger together

### Offering

We offer our customers the tools to control their electrification and explore new business models by owning their grid connection.



> More about our strategic framework on p. 17

# The Ferroamp system

## – future-proof and flexible

### The brain of a property’s power system

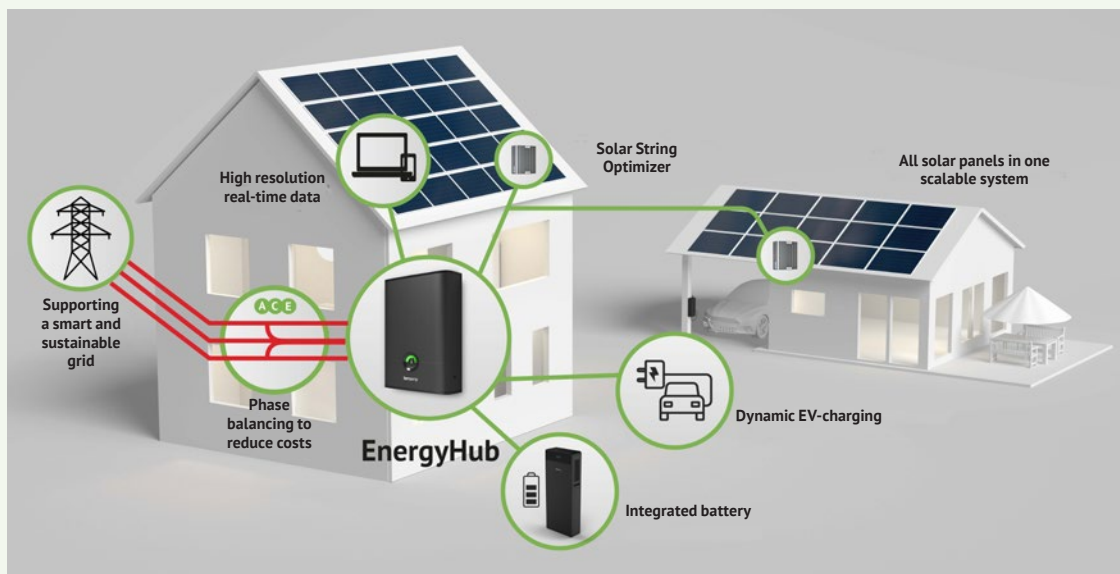
**EnergyHub** is a smart inverter and the brain in intelligent power systems in which solar panels, electric vehicle charging and battery energy storage can easily be connected via a DC nanogrid with intelligent control and real-time monitoring. The system optimises electricity use and solar power production in and between buildings. The system’s scalability and the possibility to update it online provide unique flexibility that enables property owners to meet both current and future needs.

### A new way of thinking

Installing solar panels is just the first step in taking control of electricity usage. By thinking about the whole property’s electrical system right from the very start, it is possible to balance consumption and protect the main fuse while also avoiding costly power peaks. As both energy storage and electric vehicle charging use direct current, conversion losses are avoided and maximum controllability is achieved.

## FERROAMP SYSTEM DESCRIPTION

Integrating solar panels, storage and charging solutions



### Five reasons to choose Ferroamp

#### 1 Take control

Real-time monitoring and control of production and electricity consumption with minimal energy losses.

#### 2 Easy, efficient electric vehicle charging

Protect the main fuse and avoid power peaks by using phase balancing and load control.

#### 3 Get more out of solar panels

Maximise your own use and shorten the payback period. Expand as needed.

#### 4 Smart control of batteries

Use energy storage to harness solar power or to charge at night when electricity is cheap and discharge when it is most expensive, or to flatten power peaks.

#### 5 Adapt to future needs

The system is future-proof and is updated when new opportunities and challenges emerge in power systems. It is also easy to scale up if such needs arise.

## Value creation model

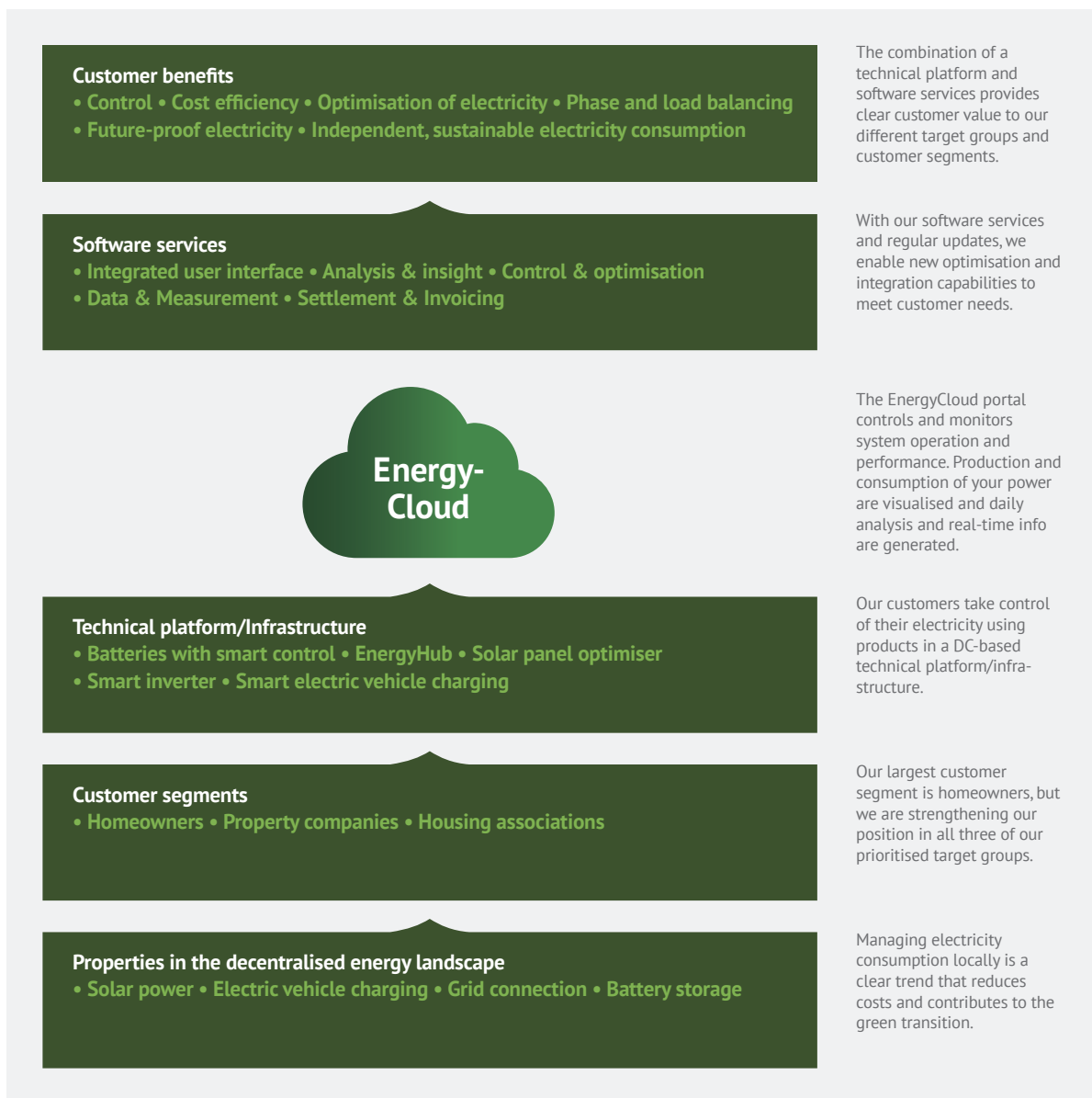
Ferroamp's DC-based platform provides properties with an infrastructure that allows property owners to take control of their electricity consumption and production in the new decentralised energy landscape.

Our smart EnergyHub and the cloudbased user interface, EnergyCloud, connect solar power generation, energy storage and electric vehicle charging with smart information technology in a unified system. The system is modular and can be expanded as needed and also connected to Ferroamp systems in other buildings in an energy-sharing network using PowerShare. All these options enable property owners to

optimise electricity use and make efficient use of their own electricity production.

The controllability, phase balancing, flexibility and modular design contribute to a future-proof solution that also reduces dependence on imported electricity. It also relieves pressure on the grid and thus provides the conditions for sustainable electrification of society.

Ferroamp creates value by enabling our customers to be part of the green transition with integrated, future-proof infrastructure for optimised green electricity in and between buildings.



# Objectives and priorities

Ferroamp’s unique solutions enable property companies and individual homeowners to take control of their electricity use and play an active part in the green transition. The demand for our products and services is growing rapidly, which requires us to scale up our operations. This means that we need to continue to grow in terms of sales, volume and number of employees while developing our offering with new software services.

## Overall objectives for 2026

- Fully industrialised products and development of the existing offering (a hardware offering that also includes energy sharing).
- Developed and launched a digital B2B offering for optimising and controlling electricity in properties.
- Production scaled up to increase sales.

## Our priorities for 2023

- Continue our strong growth journey.
- Improved profitability.
- Scale up production capacity to consistently deliver multiplied volume at high quality.
- Ensure our competitiveness by recruiting staff and developing existing staff.

### SIX INSIGHTS INTO SOCIAL CHANGE

Our objectives are based on six insights into social change processes that affect property owners.

**1** Reducing carbon emissions in the power sector will create a push towards fossil-free energy and demand for electricity will increase as 2/3 of today’s energy use will be electrified. At the same time, the public electricity grid is not designed for decentralised nodes, creating bottlenecks and costs for customers.

**4** Energy systems will become increasingly multi-technological, integrated and local. Property companies require simple, automated data and insights for efficient electricity use to manage flexible assets, control costs and gain knowledge.

**2** Optimising clean energy infrastructure will be crucial to optimising properties’ use of electric vehicle charging solutions, solar panels, battery storage, etc. to support the transition to smart, sustainable urban development and to optimise the capacity and use of electricity.

**5** Regulatory incentives are increasing to further support the energy transition towards net zero carbon emissions. This requires acceptance of local grids and electricity sharing as well as measures to increase demand for solar power, for example.

**3** The construction sector alone accounts for 40 percent of global carbon emissions. Reducing carbon emissions in the sector is crucial to achieving the commitments made under the Paris Agreement and the UN Sustainable Development Goals.

**6** In an extremely variable energy and technology market, multi-actor ecosystems are necessary to deliver customer experience and flexibility in different products and services to property companies and homeowners.

# Focusing on the climate – making properties part of the solution



**The world's energy systems are undergoing rapid change. To achieve the Paris Agreement target and limit global warming to 1.5 degrees, fossil fuels must be rapidly phased out. This includes transport, production of heat and cold, industrial processes and electricity generation. In the case of electricity generation, the mission is twofold as electrification has also been presented as the solution to reduce emissions in several other areas.**

## Electrification for the climate

Sweden is currently implementing several interesting industrial projects that help reduce global emissions. In northern Sweden, the development of fossil-free steel and iron is ongoing, with the old coal-burning blast furnaces being replaced by a hydrogen-based technology. One of Europe's largest factories for the production of electric vehicle batteries is also being built there. Major truck manufacturers are switching to electric trucks and the chemicals industry on the west coast is developing a method to produce fossil-free methanol and biofuels. What these projects have in common is that they require large amounts of electricity. In addition, all cars and large parts of heavy road transport are also expected to become electrically powered in the future. According to Svenska Kraftnät's connection list, the need for electricity in Sweden could double by 2035.

## Need for control

This will require a significant expansion of production capacity and also of the electricity grid itself. Today, we see intense discussion about different types of power and even where new power lines are to be laid, many objectives often conflict with each other. It is natural that a transition of this magnitude cannot be realised without conflicts of interest, but the impor-

tance of it continuing to enjoy popular support cannot be overestimated.

Over the past year, it became clear how high electricity prices can hit both private individuals and businesses hard. It is therefore of the utmost importance to empower people to take control of their electricity consumption and generate their own electricity.

## Controllable consumption and generation

With Ferroamp's technology, more people can generate their own electricity with solar panels and help even out the load on the grid with batteries. This helps balance the grid and allows more renewable and weather-dependent electricity to be integrated in the grid. Particularly in some parts of the grid, space is at a premium, which means that no more consumption or production can be added because the grid is simply too weak. This is where the Ferroamp system can increase the level of consumption of self-generated power and thus free up space in the grid.

The same can be said about smart electric vehicle charging technology. With between two and three million vehicles needing to be charged by 2030, the challenge is not the volume of electricity but what happens if everyone charges at the same time. With the option to control charging, electric vehicles become an integrated part of the electricity grid and can also be used to provide balance in the long term.

This means that property owners will be able to reduce their own electricity costs while the grid becomes more flexible. The debate often calls for controllable production to meet the electricity challenge. Ferroamp supplements this with controllable consumption and enables all property owners to become part of the green transition.

# Ferroamp's sustainability work

**Our business model rests on society's need for the transition to higher energy efficiency. Ferroamp can help make us all smarter electricity consumers. The sustainability at the heart of our business model should be reflected in everything we do.**

Our products help enable the green energy transition, but it is also important that we minimise our own climate impact and that our practices, processes and values contribute to sustainable development.

The strategic framework forms the basis for our sustainability work in terms of how we build our business model, how our products and operations affect social development in Sweden and globally, and how we create a good working environment for our employees.

The review of our governance documents that started in 2021 was finalised in 2022 and started to be implemented. Based on three focus areas, we have developed activities and KPIs that we will start work-

ing on and setting targets for in 2023. This is part of our roadmap to eventually report in accordance with GRI Universal Standards 2021, which will also prepare us for the CSRD Directive.

We have started conducting regular employee surveys and measuring engagement indices. To ensure transparency and good business ethics, we have developed a Code of Conduct for employees, suppliers and partners.

In 2022, we became a member of the UN Global Compact, to which we will report annually on our sustainability work. Most of our environmental and climate impact is upstream and we have now begun





the process of conducting life cycle analyses of our products, a process that will be deepened in 2023.

**Our first materiality analysis**

Ferroamp is not yet subject to the Annual Accounts Act in terms of the requirement for a sustainability report, but we recognise the importance of preparing for this and the new requirements under the CSRD Directive, which replaces the current NFRD from the beginning of the year. The materiality analysis carried out during the year forms the basis for our continued work.

**Significant events in 2022**

- Defined focus areas for sustainability work and decided on KPIs for them.
- Developed a code of conduct for employees, suppliers and partners.
- Started conducting regular employee surveys.
- Became a member of the UN Global Compact.

Focus area	Key issues	Activities	KPIs
<p><b>1 Sustainable business</b> Provide sustainable solutions for society's energy transition supported by an efficient business model and strong financial position.</p>	<p><b>Drive profitability and investment power by:</b></p> <ul style="list-style-type: none"> <li>• Offering competitive products with high quality and product safety.</li> <li>• Developing an efficient, sustainable business model.</li> <li>• Reducing negative impact on the climate and environment from our operations and products.</li> <li>• Contributing to the development of society.</li> </ul>	<p><b>Examples of activities:</b></p> <ul style="list-style-type: none"> <li>• Develop sustainability reporting</li> <li>• EcoVadis rating</li> <li>• LCA</li> <li>• EPD</li> </ul>	<ul style="list-style-type: none"> <li>• Customer satisfaction: NPS - Wholesaler, Retailer, Installer, End customer</li> <li>• Finance: Net sales, EBITDA, Equity ratio</li> <li>• Quality: Maintenance cost per system</li> </ul>
<p><b>2 Transparent operations</b> Ensure transparent operations throughout the value chain, based on core values and the code of conduct.</p>	<p><b>Based on our mission and strong core values, ensure that:</b></p> <ul style="list-style-type: none"> <li>• Our code of conduct is complied with by everyone throughout the value chain.</li> <li>• Strong management systems are developed.</li> <li>• Audits are carried out and key performance indicators are developed to ensure compliance.</li> </ul>	<p><b>Examples of activities:</b></p> <ul style="list-style-type: none"> <li>• Train employees in sustainability and ethics (Code of Conduct).</li> <li>• Conduct supplier audits/risk assessments.</li> <li>• Establish a whistleblowing function and a procedure for reporting corruption and discrimination.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of staff trained in ethics, corruption and discrimination.</li> <li>• Number of supplier audits</li> <li>• Number of signatures on SCoC for Suppliers</li> </ul>
<p><b>3 Attractive workplace</b> Take responsibility for our employees, our workplace and the entire value chain strengthening our ability to innovate.</p>	<p><b>Attract and retain valuable skills by:</b></p> <ul style="list-style-type: none"> <li>• An inclusive working environment.</li> <li>• Leadership that encourages participation.</li> <li>• Creating a workplace that favours well-being and innovation.</li> <li>• Promoting preventive healthcare initiatives.</li> </ul>	<p><b>Examples of activities:</b></p> <ul style="list-style-type: none"> <li>• Develop activities and culture that promote inclusion, gender equality and diversity.</li> <li>• Training and action on health and safety at work.</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement index</li> <li>• eNPS</li> <li>• Sickness absence</li> <li>• Gender distribution</li> </ul>

# We are driving the green transition of the electricity grid

At Ferroamp, we work to enable the transition to an electricity grid powered by renewable energy and in which property owners can take control of their electricity use. Our skilled, committed employees are key to our success and our competitiveness depends on our ability to attract talent across a wide range of expertise.



**Emeline Ståhl**  
Purchaser

**What do you do at work?**

*"I am in daily contact with our suppliers and make sure we get the goods we ordered. This involves placing orders and monitoring deliveries of the different parts of the system to us but also between different manufacturers."*

**Supply chain disruption has been a major focus in the wake of the pandemic and on account of the war in Ukraine." How has this affected your job?**

*"This has meant that we have had to look for alternative components, which has required collaboration throughout the supply chain. It has been challenging but I think it has strengthened the organisation for the future. Now it feels like it will ease up in the future and we will be able to take a more long-term approach."*

**How would you describe Ferroamp as a workplace?**

*"It's great to be part of a fast-growing company where things are happening all the time. There are many nice colleagues and there is a team spirit and a feeling that we are making an exciting journey together."*

**Why did you want to work at Ferroamp?**

*"I truly believe that greentech is the future. At Ferroamp, I saw the opportunity to make a difference and contribute to a better society."*



**Sanket Kulkarni**  
Mechanical design engineer

**What do you do at work?**

*"I develop and improve the design and assembly techniques of our existing and future products. It involves identifying weaknesses in the product and making recommendations for improvements by evaluating and developing different concepts."*

**What makes working at Ferroamp special for you as a mechanical engineer?**

*"To be able to work on the entire development chain of a product in the form of concept generation, evaluation and manufacturing is very exciting and also to be part of the green transition. Solar energy is the future, not least because gas supplies are being used as a weapon of war. Our technology enables more people to get solar panels and to integrate more solar energy in the grid."*

**What do you like most about the Ferroamp system?**

*"I have worked with many different brands of inverter in previous jobs and I would say that it is the DC nanogrid that makes the system unique. This allows the different components to be interconnected, reducing energy losses and therefore the need for cabling. I also like the modularity that allows you to add or replace parts of the system without having to replace the whole system."*

**What are you looking forward to in 2023?**

*"The scaling up of production to meet the demand and remedy the shortage of inverters on the market. I also see our potential to make a name for ourselves in the international market, not just at home."*



Tim Ljunggren,  
CTO and co-owner  
of Senergia.

## Solar cells have become popular

**Selling and installing Ferroamp systems is a team effort involving both wholesalers and installers. Senergia started selling Ferroamp's products back in 2019 and the companies have grown together. They are united in the vision of building future-proof systems in which solar panels are only the first step.**

*"Ferroamp's products really fit into our range. We are a niche distributor of technical solutions. With Ferroamp as a partner, we can help property owners take control of both their energy and power challenges in their properties. There is great interest in the products from both installers and end customers. Especially because Ferroamp's solution is modular and future-proof. It is really the whole system that is the solution and also Ferroamp's strength," says Tim Ljunggren, CTO and co-owner of Senergia.*

### **Senergia trains growing market**

Senergia began its wholehearted commitment to renewable energy products in 2018. At the Intersolar international solar panel exhibition in Munich that year, the company's representatives were struck by the progress made in the rest of Europe and saw the potential of the Nordic market. They completely changed the course of the business and are now a leading distributor of solar panels, energy storage and electric vehicle charging systems in the Nordic region. Tim Ljunggren sees the company as more of a supply chain company than a hardware vendor.

*"At Senergia, we focus strongly on helping our customers with technical support and project planning to guide customers in their purchases so they get an optimised installation. Our technical support and know-how combined with our training programmes have been successful. The market is growing rapidly with a huge influx of new customers, both end users and installers. We also invest a lot in training, holding courses on solar energy technology, installation and of course the Ferroamp system," says Tim Ljunggren.*

There is great interest in training programmes on Ferroamp's DC technology and phase balancing in particular, and they provide great added value for everyone involved. The installers become better at selling the system and installing it, which in turn leads to fewer support cases and more time to focus on the more consultative part for Senergia.

*"The training and courses we hold give us so much. Both in the transfer of knowledge to installers who learn how Ferroamp's technology works and how to explain all its benefits to installers. And it also provides a great opportunity to build partnerships between*

*us as a distributor, the installers and Ferroamp. It really is a win-win-win situation," says Tim Ljunggren.*

### **Ferroamp meets several needs**

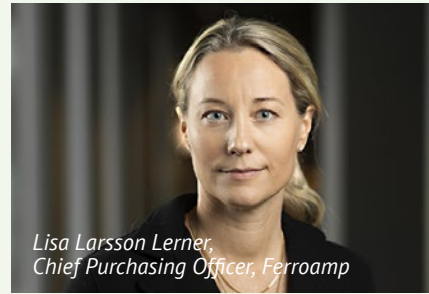
Tim Ljunggren sees two reasons why end customers choose Ferroamp. They have either realised all the benefits and opportunities that the system can provide or they are faced with a problem for which Ferroamp offers the only reasonable solution. It may be that the main fuses keep blowing, that power tariffs have been introduced in the area which creates a great need to cut consumption peaks or that, for example, a housing association needs so many charging points for electric vehicles that it is almost physically impossible to manage without a battery with Ferroamp's smart control.

*"Over the past year, the profile of end customers has changed. Solar panels have become popular and it must be remembered that it is complicated for a private individual to evaluate different offers. Therefore, both we and the installers have a responsibility to explain the differences between different solutions so that customers understand whether a choice closes or opens doors. Being able to demonstrate the benefits of a Ferroamp system is an opportunity for the installer to show the customer that they have the expertise and understand the whole system," says Tim Ljunggren.*

### **The energy transition – an avalanche**

Tim Ljunggren sees the market for solar panels and sustainable energy systems as almost insatiable, and he believes that it is only being slowed down by a lack of materials and capital. Last year's surge as a consequence of high electricity prices only reinforces a trend that has been under way for several years.

*"The energy transition should not be seen as a trend, but rather as an avalanche that is rushing with incredible force across the world. The global trend is that renewable energy is taking over regardless of what people think. It is simply the most economically viable approach and we are only at the beginning of that development. The energy transition and the climate issue are the major challenges of our time. With Ferroamp's system we can offer solutions to both of these while helping property owners reduce their costs," says Tim Ljunggren.*



Lisa Larsson Lerner,  
Chief Purchasing Officer, Ferroamp



Christoffer Skogh,  
Sales Manager & Vice President, NOTE

# Industrialisation to accelerate production

**Ferroamp is now taking big steps to scale up and industrialise the production of the EnergyHub. Two important agreements were signed during the year, doubling the production capacity of the large XL model and significantly increasing the capacity of the EnergyHub 14 system for single-family dwellings.**

In the early years, Ferroamp handled all manufacturing in-house but, due to growing volumes, it has been outsourced since 2020. The EnergyHub, which is the brain of Ferroamp's optimisation and smart control system, is now being manufactured by the Swedish companies Gelab and NOTE and the Norwegian company Kitron. The collaboration with NOTE started in 2021 and was developed in the autumn of 2022 through an agreement to increase the production rate of the EnergyHub XL, which is mainly used in multi-family buildings and commercial properties.

*"NOTE has experience of producing technically complex products like the EnergyHub. It is also a partner that we can grow with," says Lisa Larsson Lerner, Chief Purchasing Officer at Ferroamp.*

### Partnership with NOTE

NOTE specialises in manufacturing electronics-based products that require high technical expertise

and flexibility. The company has manufacturing facilities in Sweden, Finland, Estonia, the UK and China. The EnergyHub is manufactured in Norrtälje.

*"Ferroamp and its products fit perfectly into our business model. It is an advanced product, requiring both a strong supply chain and manufacturing process. The ongoing expansion of our factory in Norrtälje also opens up opportunities for significant expansion in the near future. I feel that we are well equipped for a significantly increased delivery rate in 2023," says Christoffer Skogh, Sales Manager & Vice President, NOTE.*

### Strategic partnerships to secure supply chains

Kitron has been commissioned to start volume production of the EnergyHub 14 in its new factory in Poland and the first deliveries arrived in December 2022. Lisa Larsson Lerner sees the new agreements as strategically valuable for Ferroamp. During the compo-

nent shortage in the wake of the pandemic, it became even more important to mobilise expertise across the value chain to make supply chains work.

*"It has been a challenge for us to scale up production while the component shortage has affected several of our supply chains. We have dealt with this with a longer forecast horizon, and by working more closely with our suppliers. This means going from a purely commercial relationship to working together on a day-to-day basis," says Lisa Larsson Lerner.*

### Further increase in 2023

In 2023, the plan is to continue to scale up production and launch a new generation of Ferroamp products with lower production costs to improve margins.

*"The shortage of components will continue to create challenges in 2023, but thanks to our foresight in the supply of materials, we feel confident about developments. Our scaling up journey has only just begun and we will continue to build our supply chain so that it can meet all the needs we have for continued growth," says Lisa Larsson Lerner.*



Photo: André de Loisted

Johnny Almqvist, homeowner in Staffanstorp in Sweden

# Investment for environmental reasons resulted in financial gains

**It was the environmental aspect and the desire to participate in the green transition that was the driving force. However, circumstances have made the Almqvist family’s decision to install solar panels and a Ferroamp system a good investment that has allowed them to be relaxed about the high electricity prices in the autumn.**

The average price of electricity in Sweden reached a record high of SEK 1.50/kWh in 2022. That can be compared to SEK 0.63 in the previous year, which was then the highest ever recorded. Prices have hit both businesses and homeowners hard, and have also contributed to a surge in solar panel installation. More than 50,000 new installations were connected to the electricity grid in 2022, an increase of 91 percent, according to preliminary figures from the Solar Energy Association of Sweden.

Johnny Almqvist and his family live in a single-storey detached house in Staffanstorp, Sweden. They had been thinking about installing solar panels for years without actually getting started. It was not the financial aspect but sustainability and contributing to the green transition that was the main reason for their interest.

*“We have created a major problem. Everybody needs to contribute now. The politicians obviously can’t get the job done,” says Johnny Almqvist.*

In the end, the acquisition of two electric cars and a holistic approach to energy supply were crucial factors behind the decision. They obtained several quotes and there was an installation company visiting to inspect the roof when a neighbour came by and told them about Ferroamp’s system solution. This made Johnny have a rethink.

*“I quickly realised that the technical solution was superior. Its future-proofing and modular scalability made the choice obvious, despite the higher price,” says Johnny Almqvist.*

### Financial benefits

The system, featuring an EnergyHub Wall 14, four SSOs and solar panels with a peak power of 15.6 kW, was ready for use in August. Although it was the environmental aspect that was the main reason for the installation, Johnny Almqvist now realises there are also financial benefits. When we talk to him at the beginning of a dark January, he is still a few thousand kronor in credit with

the electricity company from the electricity he sold to the grid in the autumn.

“If the prices remain at this level I estimate that the payback period could be four years, although six to seven years might be a more reasonable figure to expect. After that it is pure profit,” says Johnny Almqvist.

In EnergyCloud, he continuously monitors how much they have reduced their consumption, how much solar-generated electricity they use in their house and how much they sell to the grid. The next step for the Almqvist family is to get a charging box that has full integration with the Ferroamp system, in order to take advantage of phase and load balancing to limit power peaks and protect the main fuse.

There has been a noticeable increase in interest in producing one’s own electricity. On the Almqvist family’s street in Staffanstorp, three houses were having solar panels installed at the same time, and by the end of the year panels had been installed on six houses.

*“I have a colleague who was sceptical about solar panels for a long time, but when I told him about Ferroamp’s system he was intrigued and now he is also a fan.”*

# Good reasons to own shares in Ferroamp

## 1 Good conditions for continued rapid growth

- High growth rate with sales increasing from MSEK 10 in 2017 to MSEK 205 in 2022.
- High demand and an order book of MSEK 350 for 2023.
- A clear strategy and action plan for increased supply chain efficiency, improved product profitability and business development will take Ferroamp into profit.
- Planning for European expansion.

## 2 A strong team with strong partnerships

- We work closely with established wholesalers, installers and integrators to provide the market with the best solutions.
- A strong, growing team with broad experience and a focus on innovation and customer value.
- A strong ownership base of stable institutional investors and long-term shareholders.

## 3 Strong market for green technology and energy optimisation

- An investment in Ferroamp is an investment in a Swedish technology of the future that contributes to global energy transition and electrification.
- Ferroamp's patented systems and technology are exactly what is needed now. We are well positioned with unique, innovative solutions in a rapidly growing market.
- Competitiveness is increasing with electrification and the energy transition.
- Increased public awareness of electricity use following the high electricity prices in the past year.
- High, sharply rising electricity prices are benefiting customers' calculations and making the investment in a Ferroamp system pay for itself faster and faster.
- With innovation and technical excellence, we have secured several important patents that give us competitiveness and protect the business model – Ferroamp is leading the way.



# The share

## The share and ownership distribution

Ferroamp AB (publ) has been listed on Nasdaq First North Growth Market, under the ticker FERRO, since 22 March 2019.

The number of shares outstanding at the end of the year was 14,700,951. All shares hold equal voting rights.

The highest price during 2022 was SEK 86.60/share, on 21 April, and the lowest price during the year was SEK 41.80/share, on 20 December. This year's closing price was SEK 48.20/share.

During Q2 2022, on 24 May 2022, a directed share issue that raised MSEK 60 for Ferroamp was carried out. Among several other investors, Swedbank Robur Ny Teknik became one of the company's largest shareholders along with Nordea Fonder, which increased its holding in the company and is now its largest shareholder.

## Ownership structure as at 31 December 2022

Shareholder	No. of shares	% of votes and capital
Nordea Fonder	1,389,289	9.45
Björn Jernström	1,372,440	9.34
Första AP-fonden	1,364,170	9.28
Wallenstam Aktier AB	1,075,000	7.31
Swedbank Robur Ny Teknik BTI	901,000	6.13
Andra AP-fonden	680,000	4.63
Avanza Pension	470,272	3.20
ABN Amro Sweden Client Non-Treaty	412,836	2.81
Åke Rehnman	378,824	2.58
Mats Karlström	334,775	2.28
<b>Total, ten largest shareholders</b>	<b>8,378,606</b>	<b>56.99</b>
Other shareholders (approx. 9,500)	6,322,345	43.01
<b>Total</b>	<b>14,700,951</b>	<b>100.00</b>

## Stock warrant programs

	Year decided	No. of warrants	No. of options	Subscription period	Subscription price, SEK	Target group
Stock warrant program 2020/2023	2020	69,000	69,000	230601–230630	69.56	Employees
Stock warrant program 2021/2024-1	2020	36,500	36,500	240315–240415	114.27	Employees
Stock warrant program 2021/2024-2	2021	101,900	101,900	241115–241215	94.80	Employees
<b>Total</b>		<b>207,400</b>	<b>207,400</b>			

## Share price development, SEK



# Directors' Report

**The Board of Directors and CEO of Ferroamp AB (publ) ('Ferroamp' or 'the company'), with corporate identity number 556805-7029, hereby submit the Annual Report for the 2022 financial year. The company's accounting currency is the Swedish krona (SEK). Ferroamp is a Swedish limited company listed on Nasdaq First North in Stockholm. Ferroamp's corporate governance is based on Swedish legislation and regulations such as the Swedish Companies Act, the Articles of Association and other relevant rules and guidelines.**

## General information about operations

Ferroamp is a greentech company that provides a combined hardware and software platform for power and energy optimisation in buildings. Ferroamp's EnergyHub system integrates solar panels, energy storage and electric vehicle charging in a local DC nanogrid connected to the electricity grid. The technology is currently mostly used in buildings, from detached houses to apartment buildings and large commercial properties, and also has applications outside building installations, such as depot charging of electric vehicles. With PowerShare technology, several buildings can be connected and share local energy. Geographically, the majority, more than 97%, of Ferroamp's sales are in Sweden. In addition, the company also has permanent sales in Norway and the Netherlands. Ferroamp was founded in 2010 and has been listed on Nasdaq First North Growth Market since 2019. At the end of 2022, the company had 68 employees and around 6,000 system installations. The company has its registered office in Spånga.

## Board of Directors and auditor

Since the 2022 Annual General Meeting, the Board of Directors of Ferroamp has consisted of six members: Ylwa Karlgren, Chair, and Anders Persson, Björn Jernström, Erik Hallberg, Stefan Jakelius and Lars-Åke Bokenberger. At the 2022 Annual General Meeting, Öhrlings PriceWaterhouseCooper AB ('PWC') was elected as auditor until the 2023 Annual General Meeting. The auditor in charge is Claes Sjödin.

## Management team

At the year-end, the company management consisted of eight people:

Fredrik Breitung – Interim Chief Executive Officer & Chief Financial Officer

Björn Jernström – Chief Technology & Innovation Officer

Robert Gelmanovski – Chief Operating Officer, Chief Marketing & Communications Officer

Mattias Nyström – Chief Growth Officer

Lisa Larsson Lerner – Chief Purchasing Officer

Johan Frisell – Interim Chief Development Officer

Rikard Brandt – Chief Product Officer

Åsa Hedman – Head of People & Culture

## Employees

The number of employees in the company at the year-end was 68 (50). There has been an increase in all functions. The proportion of women among the company's employees at the year-end was 16% (13). The proportion of women in the management team was 25% (37.5).

## Significant events during the financial year

### New agreements allow big increase in production

In order to meet the high demand and to industrialise production, two strategically important agreements were signed in September. An extended cooperation with the Swedish company NOTE doubles the production capacity of EnergyHub XL. Shortly after that, a new agreement for volume production of the EnergyHub 14 system for single-family dwellings was also signed with the Norwegian company Kitron. This agreement means a considerable increase in the production capacity of EnergyHub 14.

### Green deduction for EnergyHub with charging box installations

The Swedish Tax Agency states that it approves green tax deductions for load balancers in conjunction with the installation of electric vehicle chargers. As this is one of the functions of EnergyHub, it is also covered by the 50 percent tax reduction.

### Ferroamp broadens its energy storage systems portfolio

Ferroamp meets the growing demand for energy storage with a new scalable battery system suitable for single-family dwellings and multi-family buildings. The battery system, the Energy Storage Stack (ESS), is a good fit in Ferroamp's infrastructure due to its high level of modularity, which means it can be adapted and expanded as needs increase.

### Cooperation agreement with Ahlsell

In February, Ferroamp signed a cooperation agreement with Ahlsell, the leading Nordic distributor of installation products for installers, construction companies and property managers, which has 130 stores in Sweden. The agreement consolidates Ferroamp's channel strategy, which is based on cooperation with the major wholesalers in the field.

### Share issue

A number of new institutional investors such as Swedbank Robur Ny Teknik and Nordea Innovation Stars strengthened the shareholder base and Ferroamp received more than MSEK 60.



### Management changes

Krister Werner leaves the post of CEO of Ferroamp. Fredrik Breitung, CFO, steps in as acting CEO at the same time as the search for a new CEO begins. The management team is also strengthened by the appointment of Robert Gelmanovski as Chief Operating Officer and Björn Jernström as Chief Technology & Innovation Officer. The company strengthens its focus on profitability.

### More charging boxes make smart control possible

Wallbox and ChargeAmps, two of the leading charging box manufacturers, enable smart control from EnergyHub for their most popular chargers, via the OCPP communication standard. Using settings in EnergyCloud, the charging can thus be set in a way that, for example, protects the main fuse, avoids costly power peaks or only charges when solar power is available.

### Strong increase in demand for battery storage

In December, Ferroamp reported that in the autumn demand for battery storage increased by 534 percent compared to the same period in 2021. High electricity prices contributed to this increase in demand, as more people now see the economic benefit of charging when electricity is cheap so that the stored electricity can then be used when it is expensive via the grid.

## Financial comments

### Sales and profit

Revenue for the year amounted to MSEK 248.7 (140.2), of which net sales amounted to MSEK 205.1 (110.2). The increase in net sales during the year was 86 percent compared to the previous year. During the year, there was very positive development for all our products, including EnergyHubs, batteries and Solar String Optimisers.

The increase in the number of EnergyHubs sold during the year was 43 percent, batteries 112 percent and Solar String Optimisers 119 percent compared to the same period in the previous year.

Revenue growth is being strongly driven by the green energy transition taking place in society at large, combined with the energy crisis and rapidly rising energy prices. More and more customers want to take control of their energy use and reduce their costs.

A very strong trend is that more and more customers are choosing to buy battery storage to enable them to use produced and stored electricity at their own convenience.

Operating costs for 2022 were MSEK 302.8 (180.8). Raw material and consumables for the full year increased to MSEK 167.1 (93.0). The share of net sales accounted for by raw material and consumables fell to 81 percent (84), and the share excluding spot purchases

was 68 percent (76). The gross margin for the full year including spot purchases amounted to 19 percent (16). The gross margin excluding spot purchases improved for the full year, to 32 percent (24). The decrease in the proportion of raw material and consumables resulted from cost efficiencies in products and a positive product mix. Continuous work to redesign and replace electronic components to minimise the cost of spot purchases is ongoing. The higher costs to secure components and hence ensure that products are available have been crucial for the increased net sales.

The assessment is that the increase in costs for spot purchases of components will continue to have an impact in the next six months, but our best assessment now is that the shortage of components will ease somewhat in the middle of the next calendar year. The cost of spot purchases during the year amounted to approximately MSEK 28.0 (9.7). Other external costs for the full year increased to MSEK 61.5 (36.0). The increase was primarily attributable to consultants and costs/provisions for warranties. Personnel costs amounted to MSEK 66.1 (46.7) and are increasing in line with the company's plan for a stronger, larger organisation to support the company's future growth.

Earnings before interest and taxes for 2022 amounted to MSEK -54.1 (-40.7) and the profit margin improved by 10 percentage points to -27 percent (-37). Earnings for the year were negatively affected by spot purchases of components, which had an impact on earnings of MSEK 28.0 (9.7), and personnel costs for senior executives who had left the company, which were MSEK 2.6 (0.0).

### Cash flow, liquidity and financial position

Cash flow for 2022 amounted to MSEK -43.0 (2.7). Cash flow from operating activities was MSEK -61.7 (-42.1). In addition to the earnings effect, the negative cash flow is due to increased stock and customer receivables. This is linked to the strong increase in net sales. Accounts payable – trade and current liabilities made a positive contribution to cash flow from operating activities. Investment in intangible fixed assets for the full year of 2022 totalled MSEK 41.6 (27.2). The investment was primarily in the development of the next generation of EnergyHubs and Solar String Optimisers. The net proceeds from new share issues for the year were MSEK 64.1 (75.7). During the year, repayments of loans amounted to MSEK 2.3 (2.6). The company's cash and cash equivalents totalled MSEK 55.0 (98.0) on the balance sheet date. During the first quarter of 2023, the company strengthened its liquidity by, among other things, introducing a factoring solution and utilising the possibility of a tax respite. Equity amounted to MSEK 161.9 (152.1). The equity ratio was 68% (80). As at 31 December 2022, total assets amounted to MSEK 237.0 million (188.9). Fixed

assets amounted to MSEK 77.9 (42.5), of which MSEK 75.0 (40.4) relates to intangible assets.

## Significant events after the end of the financial year

### Ferroamp entered 2023 with a record order book

In early January, Ferroamp announced that it had already taken orders for 2023 from the major wholesalers and installers that sell its products for a record MSEK 350, which is well above its total sales for 2022. These deliveries will mainly take place in the first half of the year.

### Ferroamp recruits new Chief Development Officer

Magnus Lindberg became the new Chief Development Officer in February. He was previously at Getinge and before that was Head of Software Development at Svenska Kraftnät. Magnus Lindberg will also be a member of Ferroamp's management team.

### Ferroamp in partnership for frequency regulation services

Ferroamp and Varberg Energi have signed a joint letter of intent to develop an offer to participate in the market for the highly sought-after FCR-D service. By selling frequency regulation services, households and housing associations that own an energy storage battery can earn money from supporting the grid.

### Kent Jonsson new CEO of Ferroamp

Kent Jonsson has been appointed as the new CEO of the company starting in April. Kent's background includes CEO of Volvo Car Retail UM AB after Volvo's acquisition of Upplands Motor AB, where Kent had been CEO and partner since 2013.

### The nomination committee proposes Claes Mellgren and Maha Bouzeid as new Board members.

Ferroamp's nomination committee proposes six ordinary Board members without deputies, with the re-election of Ylwa Karlgren as Chair, for resolution at the Annual General Meeting. The new members proposed are Claes Mellgren, founder and former President and CEO of AQ Group (publ), and Maha Bouzeid, former Executive Director and Head of Growth at Polarium. Björn Jernström and Stefan Jakelius have declined re-election. The other Board members are proposed for re-election.

### Fully underwritten new issue

The Board of Directors of Ferroamp AB has announced the intention to resolve on a fully underwritten new issue of shares with preferential rights for the company's shareholders, corresponding to approximately SEK 220 million before deduction of costs attributable to the transaction.

## Risks and uncertainties

Some of the risk factors and important conditions that could have an impact on Ferroamp's future development and could have a negative impact on the company's operations, financial position and earnings are described below in no particular order of importance. These risks relate both to circumstances attributable to Ferroamp or the industry and those of a more general nature.

### Financial risks

#### *Risks related to the ability to successfully manage growth*

Ferroamp is a fast-growing greentech company that offers property owners sustainable solutions for the energy supply of the future with its patented technology for energy and power optimisation. How electrical energy is produced and transmitted is changing rapidly, creating both challenges and opportunities for the company. The company has expanded in recent years and in the 2022 financial year the company's net sales increased by 86 percent compared to 2021, with the fourth quarter of 2022 being the strongest quarter in terms of revenue in the company's history. In the fourth quarter of 2022, the company entered into two new production agreements to expand collaboration with, among others, the Swedish company NOTE, which manufactures the larger EnergyHub XL, and a new agreement with the Norwegian company Kitron, which will manufacture the wall-mounted EnergyHub Wall system. This represents a significant increase in the company's production capacity.

The expectations regarding the company's future growth rate in the coming years thus place high demands on the company's management and the operational and financial infrastructure. There is a risk of external factors affecting the company's ability to implement this optimally for the company. For example, like many other companies in the industry, the company experienced a shortage of components as a result of the Covid-19 pandemic, which slowed the rate of expansion of solar power systems at customers, and there is still a shortage of components on the world market. Investments in development projects, industrialisation, expansion of the distribution network and outsourcing are examples of measures that Ferroamp is implementing to meet increased production needs, all of which place demands on Ferroamp's management and operational infrastructure.

Ferroamp's future success will therefore depend to some extent on its ability to manage growth effectively. If the company is not able to manage its growth effectively, Ferroamp may fail to execute its business plan and customers and partners may choose not to

continue using the company's products and terminate or reduce the scope of their partnerships. If this risk materialises, it could have a significant negative impact on Ferroamp's net sales and net income, which would affect the company's future prospects.

***Risks related to future earnings capacity, competition and capital requirements***

The company is in a very strong development and expansion phase. The company has historically reported negative operating profit and there is a risk going forward that the company will not be able to generate positive operating profit and generate revenue at the rate and to the extent that Ferroamp wishes. There is a risk that the company will be forced to operate at a more restrained pace than planned if the cash flow is not sufficient to support the investments that the company wants and has planned to make, which risks leading to delayed or non-existent sales revenue and delayed or non-existent commercialisation of the company's new products. This could also result in competing companies launching competing technologies and thus taking market share from the company.

There is a risk that the company will not have sufficient capital to finance its operations and to carry out necessary investments and product development in accordance with the company's business plan. The company may therefore need to raise additional capital or seek financing from shareholders or third parties in the future.

In the event of a changed market situation, recession and similar situations beyond the company's control, Ferroamp may thus have difficulties obtaining financing on the conditions required by the company. There is therefore a risk that the conditions for financing may be significantly worse than the company has experienced historically. If the company does not obtain sufficient financing, the company may have to carry out restructuring, operate at a slower pace and, for example, postpone investments in production and product development, which may have a material adverse effect on the company's future prospects, earnings, cash flow and financial position.

***Risks related to the company's operating activities***  
***Risks related to availability of components, transport capacity and production quality***

Ferroamp's production requires a continuous supply of certain components, including semiconductor and other electronic components. In both 2021 and 2022, the shortage of components on the world market, which also resulted in a cost increase, affected the company's production capacity and thus Ferroamp's revenue. The shortage of electronic components is a challenge for the company and its status as a going concern and growth targets are partly dependent on the company's

success in securing such components. The company's partnerships with NOTE and Kitron, for example, give Ferroamp access to additional contacts with global suppliers, and the company has also expanded its own purchasing department to optimise the situation. The company's assessment is that the availability of components will improve in the future compared to previous periods.

However, this is associated with risks as the market situation is difficult to assess and is largely beyond the company's control.

In the event that production is not of sufficiently high quality in such a way that components and the final product itself are not delivered in accordance with the agreed performance and quality requirements that can be expected, Ferroamp also risks incurring costs for complaints and remedial action and also damage to the company's reputation.

Ferroamp also depends on suppliers for a functioning production stage and reliable delivery and transport capacity, for the delivery of products within Europe, and at the production stage for deliveries between production facilities, as well as for final installation at customer premises. International competition and ensuing difficulties obtaining supplies of semiconductor and other electronic components risk affecting Ferroamp's expansion opportunities and profitability growth.

In addition, general limitations, cost increases and delays in the delivery capacity of products risk hampering and delaying the company's growth. As an example, the outbreak of the Covid-19 pandemic affected, and is expected to continue to affect, the availability of components and also resulted in reduced delivery and transport capacity and increased costs. In addition, there is a risk that the production or delivery capacity of key suppliers is limited, either temporarily or permanently, as a result of pandemics or natural disasters, bankruptcies, strikes or similar events beyond the company's control. If this happens, there is a risk that the company will not be able to replace the supplier at short notice. In the event that Ferroamp had to replace a supplier based on the above-mentioned circumstances, there would be a risk of Ferroamp incurring increased costs and having limited production capacity and of the company's customers making direct compensation claims against the company for delayed or cancelled deliveries. If the above risks were to materialise, they would have a negative impact on Ferroamp's growth, earnings and prospects.

***Risks associated with competing technologies gaining market share***

The company assesses that there are a limited number of existing companies in the market that provide a complete solution for the interconnection of distributed

solar string optimisers, DC loads and energy storage via a local DC nanogrid. However, a growing market for local electricity grids and power-optimising technologies means that Ferroamp may face competition from new players entering the market in addition to those existing today. There is a risk that both new and existing companies will develop technology similar to Ferroamp's or technology that outperforms it. In addition, there is a risk of such companies developing and manufacturing products with lower production costs and launching solutions that cover the technology used by the company, which together lead to increased competition and costs for Ferroamp through reduced profit margins and increased marketing and sales costs.

Furthermore, Ferroamp continues to work closely with wholesalers, installers and integrators. For example, Ferroamp has taken orders for 2023 from the major wholesalers and installers who sell its products for MSEK 350, which is more than its total sales for 2022. This serves to show the impact and importance of these customers for Ferroamp's future growth journey. As the market grows and matures, there is therefore a risk of financially strong new companies and well-established companies entering the market and developing their own solutions, acquiring and/or entering into partnerships with such wholesalers, installers and integrators who then choose to end their partnership with Ferroamp or choose to scale down their existing partnership. There is also a risk of such companies being more able than the company to make large financial and staff-related investments in product development, marketing and sales. Overall, this risks causing Ferroamp to lose market share or relevance in the market, which would have a significant negative impact on the company's earnings and financial position.

There is also a risk of international competition and difficulties associated with supplies of semiconductor and other electronic components, which risks affecting the company's expansion opportunities and profitability growth. There is a risk that Ferroamp will not be able to proactively manage competitors in terms of new products and pricing strategies, which risks having a negative impact on the company's growth and earnings capacity.

#### ***Risks related to key individuals and staff***

Ferroamp is a Swedish greentech company with an EnergyHub system that allows property owners to take control of energy and power optimisation. The system is based on the patented innovation ACE (Adaptive Current Equalisation), which improves the utilisation of a three-phase supply. Implementing the ACE technology required an optimised bidirectional three-phase inverter that has been developed by the company since Ferroamp's formation in 2010. The

company's key individuals are therefore an important component in Ferroamp's growth journey and development.

The company's ability to satisfactorily manage the growth rate that Ferroamp is experiencing, and is expected to experience in the future, requires that the company's employees have adequate training, experience and specialist knowledge that is sought after in the market. There are key employees of the company who have worked for a long time and who Ferroamp believes have been, and will continue to be, particularly involved in the development of Ferroamp's products, including employees in the company's research and development team who have developed the technology for the company's energy solutions over time. These individuals have valuable expertise in the company's products. Furthermore, the company has an experienced and committed management team with extensive knowledge to make the company grow rapidly in the future and become profitable.

One or more of Ferroamp's key individuals could choose to terminate their employment or commitment within the company and such a loss of employees risks causing disruption to operations, which could delay or prevent the development and commercialisation of the company's products and mean that the company's future growth comes to a complete or partial halt. The loss of one or more of Ferroamp's key individuals or staff could result in a short-term loss of skills or resources, which in turn would cause delays in the implementation of the company's planned commercialisation strategy and growth journey.

In addition, it is essential for the company's growth to be able to attract skilled, qualified new employees. The company may compete with other companies and organisations in terms of recruiting management, scientists and research and development team members with relevant skills. There is a risk of unsatisfactory recruitment due to competing employers or difficulties finding the right skills. To retain and attract the necessary skills, the company could be forced to increase the salary levels of its employees to be an attractive employer, which would increase the company's personnel costs and in turn have a negative impact on its operating profit and cash flow.

There is a risk that one or more key individuals within Ferroamp may leave the company at short notice and that Ferroamp may not be able to replace them with persons who possess the right expertise, which would affect the company's level of knowledge. If the above risks materialise, Ferroamp thereby risks delays in development or losing technological advances, which could have a material adverse effect on the company's business development and operating profit.

**Risks related to product development**

The company's innovative products and services enable large and small property owners to take control of their electricity. To meet the rising demand for the company's products, production has been fully outsourced to external production partners since 2021. This allows the company to focus on its core business, developing its product portfolio and software services. One of Ferroamp's stated focus areas in 2023 is product development and, as of the date of the prospectus, the company has entered into a number of strategic partnerships with companies relating to product development for the integration of partners' products with Ferroamp's systems.

The company works continuously to improve and develop the functionality of its products, both by itself and in cooperation with partners. For example, at the end of 2021 it became possible to integrate electric vehicle charging in the Ferroamp system via the OCPP communication standard. In December 2022, Wallbox and ChargeAmps, two of the leading charging box manufacturers, opened up their most popular chargers to the standard Ferroamp is testing and verified the functionality, allowing more property owners to control charging integrated in the system.

On the product, system and technology side, there is a risk that planned development activities will require more time and resources than forecast. The development of the company's products is thus associated with risks such as difficulties carrying out planned development activities satisfactorily or meeting other unexpected challenges, which may result in the company not being able to fulfil delivery commitments to customers or the company not succeeding in obtaining market and customer acceptance to the extent expected by the company. If the company fails to improve and develop the functionality of its products and the implementation of Ferroamp's strategic initiatives therefore fails, in whole or in part, the company may not achieve the revenues, margins and profitability that Ferroamp expects and that are required to enable the company to develop its product portfolio and software services. The company may also lack sufficient financial resources to finance desirable or necessary investments related to such initiatives. If any of the above risks materialise, they risk limiting the company's ability to grow, which could have a negative impact on Ferroamp's future prospects.

**Risks related to the company's ability to enter into strategic partnerships**

Ferroamp continuously develops its partnerships with new and existing partners and considers this to be an important aspect of the company's ability to successfully implement its business model. A wider distribution network both creates and meets increased demand.

Therefore, the company has material partnerships with several companies such as Polestar, CTEK Sweden AB (CTEK), nTricity and other companies on product development for integration of partners' products with Ferroamp's systems. The Ferroamp system is currently compatible with electric vehicle chargers from CTEK, Garo, Wallbox, Charge-Amps and Raymond. The company works continuously with various partners to develop innovative, efficient charging solutions. For example, in 2020, Ferroamp and CTEK launched an integration between CTEK's Chargestorm Connected charging box and the Ferroamp system, a system for integrating solar power, energy storage and electric vehicle charging. In collaboration with Polestar, electric vehicle chargers with V2X functionality are being developed so that the vehicle can supply energy to both the property and the electricity grid. The partnerships with CTEK and other players who provide electric vehicle chargers are thus essential for Ferroamp's continued growth. In terms of strategic partners for the EnergyHub, the company is working with contract manufacturers Gelab, Kitron and Note. Another strategic partner is the company Trio. There is a risk of premature termination and non-renewal of such partnerships or of disputes arising out of them. The company's ability to deepen ongoing partnerships and sign successful new agreements is dependent on successful development work, the quality of the company's products, the quality of the solution and the company's research and related documentation, the robustness of Ferroamp's intellectual property rights and Ferroamp otherwise being a credible, attractive business and collaboration partner, which is associated with risks if the company does not live up to the potential requirements of current and potential partners. If the above risks materialise, they would have a material adverse effect on the company's operations and future development.

**Risks related to innovation and quality**

Ferroamp operates in a rapidly growing market that in many cases shows disruptive patterns in the form of new competitors, new solutions and new customer needs. This is exemplified by major players from other industries such as Huawei and Tesla developing products and services for the energy sector. At the same time, Ferroamp's traditional competitors such as SMA, Fronius, SolarEdge, Growatt and other companies are developing their products rapidly. As a result, Ferroamp's investments in innovation and product development are central to positioning the company in the rapidly changing competitive environment. There is a risk of these investments being delayed or not providing the desired market advantages that the company expects, which risks having a material negative impact on the company's future development.

Ferroamp's assessment is that the company is on

the cusp of expansive growth and ramping up. At the same time, rapid growth entails risks associated with poor quality if the internal organisation and processes and external suppliers are unable to meet the increasing customer demand with sufficient quality and the resulting need for support. This could have a material impact on the company's future sales and profitability.

***Risks related to intellectual property protection and the use of intellectual property rights***

Ferroamp has patented phase balancing/current equalisation solutions that operate dynamically between the three phase conductors into the property, boosting the efficiency of the grid connection (Adaptive Current Equalization, ACE) and PowerShare, a solution that interconnects several EnergyHub systems and makes it possible to share energy between buildings in a local DC nanogrid. The company's success is therefore, to some extent, dependent on patent protection, copyright and other intellectual property rights. The company protects its intellectual property rights by relying on a combination of patent and trademark laws, trade secrets and confidentiality undertakings given by third parties to the Company. Ferroamp currently has 23 registered patents in 3 patent families. The value of the company's recognised intellectual property rights amounts to MSEK 43.2. Innovation and technology development are constant and there is a risk that innovations similar to Ferroamp's are introduced to the market. As assessments regarding patents involve complex legal and technical assessments, there is a risk that the company will not achieve adequate intellectual property protection. Inadequate intellectual property protection for the company's products risks resulting in Ferroamp's products being replaced or circumvented by other players in the market, which could lead to a weakened market position and the company's conditions for revenue generation being significantly impaired. In addition, there is a risk of third parties infringing the company's intellectual property rights or otherwise failing to fulfil confidentiality undertakings entered into with the company. Furthermore, there is a risk of the company itself infringing, or being alleged to have infringed, the intellectual property rights of others, especially those that are not registrable, which could lead to time-consuming, costly litigation. If the counterparty is financially stronger than the company, the risk is even greater than would otherwise be the case. Intellectual property infringements or inadequate protection of intellectual property rights may entail a risk of adversely affecting the company's financial position and revenue potential. Furthermore, this may mean that Ferroamp needs to write down the value of its intangible assets if the above risk materialises. In addition, the company risks being prevented from registering new patents, whether seeking protection

internationally or nationally, and furthermore being prevented from maintaining or renewing existing registered intellectual property rights.

**Risks related to the company's operations based on a market perspective**

***Risks related to legislative action and political decisions***

The company's operations and the conduct of existing and potential customers and end customers may be both influenced and directed by legislative action and political decisions in the energy market. For example, the Ordinance Amending the Ordinance (2007:215) on Exemptions from the Requirement for a Network Concession under the Electricity Act (1997:857) entered into force on 1 January 2022, an amendment to the Ordinance allowing energy sharing in microgrids. Ferroamp's patented PowerShare technology enables just that by allowing shared photovoltaic installations to be utilised by all apartments and buildings in a housing association, or a shared energy storage system to be shared by several buildings, leading to lower costs. In addition, energy policy goals set from both an international and national perspective concern more efficient use of electricity and electricity production from renewable energy. To achieve these energy policy goals, policy decisions have historically included the regulation of subsidies and grants to encourage more sustainable electricity use in various ways. Ferroamp's operations are subject to macroeconomic factors, such as electricity and grid prices and developments in the market for electric vehicles and photovoltaic installations. Such policy regulation of subsidies and grants may influence and direct the behaviour of companies and individuals, which has an impact on the energy market as a whole. A change in policy direction, such as lower or non-existent subsidies related to renewable energy, risks having a material adverse effect on Ferroamp's revenue, earnings and financial position.

There is also a risk of other legislative measures that could have an impact on the company's growth in relation to products such as the PowerShare system. For example, non-beneficial tax treatment of shared photovoltaic installations, or an unfavourable, cumbersome regulatory framework for concessions, would risk affecting Ferroamp's customers' and end users' interest in and willingness to use the company's product offering and could have a negative impact on the company's future prospects and earnings capacity.

***Risks related to regulatory compliance***

The company needs to continuously ensure that Ferroamp's operations and products and related safety requirements are compatible with the national and regional requirements in the markets in which Ferroamp operates. These include, for example,

adaptation to the Electricity Act (1997:857), various ordinances and regulations and guidelines issued by the Swedish Energy Markets Inspectorate, the European Commission's common regulatory framework for ensuring the implementation of the EU's internal electricity market, the taxation of shared photovoltaic installations, the regulatory framework for concessions, the fuse tariffs that exist in Sweden and some other Nordic countries or the conditions for participating in the frequency regulation markets. The company's operations are thus subject to several regulatory requirements that entail time-consuming, cost-intensive compliance measures. The company is affected both directly through requirements that apply to Ferroamp's own operations and also indirectly through requirements imposed on the company's partners.

The company continuously invests resources in achieving regulatory compliance and will need to do so in the future. There is a risk that Ferroamp's compliance activities are not sufficient or are more resource-intensive than Ferroamp has forecast. Furthermore, regulatory requirements and public authority practices vary between jurisdictions in which the Company currently operates and in jurisdictions to which the Company may expand its operations in the future. In addition, expansion of operations into new jurisdictions may require some product adjustment, depending on the regulatory requirements in that market. Furthermore, applicable laws and regulations, public authority practices, guidelines and interpretations may change in the future to the detriment of the company. This could result in an increased documentation burden for Ferroamp, which requires well-established internal procedures. Lack of compliance, sanctions, restrictions on operations and/or criminal sanctions may result in increased costs, delays and/or temporary suspension of production and may limit Ferroamp's ability to successfully develop and commercialise its products. This risks having a negative impact on the company's future earning capacity and operations, and if the regulatory requirements are not complied with, may also result in negative publicity and damage the company's brand and reputation.

#### ***Risks related to market development***

Ferroamp operates in a market that is generally undergoing a transition towards more environmentally friendly products and services and in which there is also a great need to make energy use more efficient. The International Energy Agency, IEA, forecasts, for example, that global solar panel capacity will triple between 2022 and 2027, overtaking coal as the main source of electricity generation. Sales of electric vehicles also rose in 2022. 56 percent of the new vehicles sold in 2022 were chargeable. The company believes this poses a challenge for the electrical systems in properties, as many cars need to be charged at the

same time. The company's product and service offering includes technology relating to energy from solar panels, and the company also makes major investments related to electric vehicle charging. There is still a risk that the market for photovoltaic installations and the need for electric vehicle charging develops more slowly or in a different way than the company has forecast, for example if hybrid vehicles were to take an increasing market share instead of pure electric vehicles and there was less need for efficient electric vehicle charging, which could lead to reduced interest in the company's products among end customers. This risks resulting in a decrease in revenue and would also have a negative impact on the company's operations and future prospects.

#### ***Risks related to macroeconomic and geopolitical factors***

The global market and industry in which Ferroamp operates is influenced by a number of macroeconomic and geopolitical factors such as electricity and grid prices and the development of the market for electric vehicles and photovoltaic installations. Russia's military invasion of Ukraine, which began in February 2022, and the resulting sanctions have resulted in geopolitical tensions that have led to increased energy, fuel and commodity prices, rising inflationary pressure and rising market interest rates, all of which have had a significant negative impact on the overall economic situation. A change in the market situation both globally and nationally as a result of a recession could also have a negative impact on the willingness of property owners to invest. The security situation in Europe after the invasion of Ukraine is characterised by increased uncertainty. This has resulted in a changed market situation affected by increased inflation, reduced willingness to invest and demand, and recession, which entails a risk for the company. The Covid-19 pandemic and the national measures arising as a result of it, such as transport regulations and border regulations, have affected the company historically and Ferroamp sees a risk that, going forward, this may affect its ability to grow production capacity with international partners, thereby hampering or delaying volume and margin growth through delays and increased transport and production costs.

The company's ability to manage international expansion and expand sales and build partnerships and channels internationally in a high-quality manner risks being affected negatively by the above. The extent to which macroeconomic and geopolitical factors, such as the situation in Ukraine, may affect Ferroamp in the future is an uncertainty for the company and also beyond Ferroamp's control, but they may still have a material adverse effect on the company's profitability and financial position.

## Outlook for 2023

Demand for Ferroamp's system solutions is stronger than ever and the company sees good prospects for a high rate of growth in the future.

At the beginning of 2023, Ferroamp had received customer orders for approximately MSEK 350, which is higher than the sales for all of 2022, mainly for delivery during the first half of the year. The increase in production through agreements signed previously with subcontractors is proceeding according to plan. The focus during the year is on growth, achieving profitability and increasing the pace of innovation.

The rate of increase of production and a simplified situation in terms of sourcing components (spot purchases) are the two most important factors in continuing to maintain a rapid rate of growth in the future and achieving profitability. Ferroamp estimates that the component supply challenges will decrease in 2023 compared to 2022.

The company is focusing on both delivering today's business and in parallel developing products and software services linked to the technical platform that is expected to become an important part of Ferroamp's business going forward.

The war in Ukraine has led to a sharp increase in energy costs and volatile electricity prices. Combined with the global megatrends around green energy transition and electrification, this has contributed to an increasingly strong interest among customers in taking control of their electricity use and supply to reduce electricity costs. The products and services that Ferroamp develops and sells are well positioned in relation to this development, which speaks in the company's favour.

Operations are being continuously developed and strengthened with key expertise, making Ferroamp a stronger and stronger company. Overall, the outlook for 2023 looks good.

## Proposed appropriation of profits

The Board of Directors proposes that available profits (kSEK):

Accumulated deficit	-197,089
Share premium reserve	337,296
Loss for the year	-54,262
	<b>85,945</b>
Be carried forward	85,945

Other aspects of the company's profit and financial position are shown in the following income statement, balance sheet, cash flow statement and notes.

## Multi-year review

kSEK	2022	2021	2020	2019	2018
Net sales	205,112	110,218	76,772	45,838	15,804
EBITDA*	-46,238	-35,729	-27,776	-22,641	-10,762
EBITDA, %	-23	-32	-36	-49	-68
Profit/loss after financial items*	-54,262	-41,102	-33,138	-24,203	-11,744
Balance sheet total	236,952	188,913	144,778	57,761	20,145
Equity ratio, %	68	80	80	58	18
Earnings per share, SEK	-3.84	-3.19	-3.1	-3.22	-2.4
Cash flow from operating activities	-61,658	-42,065	-25,790	-29,653	-14,899

\* During 2022, costs for senior executives who had left the company impacted earnings by kSEK 2,592.



# Income statement

kSEK	Note	2022	2021
<b>OPERATING INCOME</b>			
Net sales		205,112	110,218
Capitalised work for own account		43,235	28,672
Other operating income		314	1,263
<b>TOTAL</b>		<b>248,661</b>	<b>140,153</b>
<b>OPERATING COSTS</b>			
Raw material and consumables		-167,120	-92,968
Other external costs	2, 3	-61,471	-35,989
Cost of personnel	4	-66,081	-46,668
Depreciation, amortisation and impairment of tangible and intangible fixed assets	6, 7	-7,868	-4,947
Other operating costs		-227	-256
<b>TOTAL</b>		<b>-302,767</b>	<b>-180,828</b>
<b>EARNINGS BEFORE INTEREST AND TAX (EBIT)</b>		<b>-54,106</b>	<b>-40,676</b>
Other interest income and similar items		14	0
Interest expense and similar items		-170	-427
<b>PROFIT/LOSS AFTER FINANCIAL ITEMS</b>		<b>-54,262</b>	<b>-41,102</b>
<b>PROFIT/LOSS BEFORE TAX</b>		<b>-54,262</b>	<b>-41,102</b>
Tax on profit/loss for the year	5	-	-
<b>PROFIT/LOSS FOR THE YEAR</b>		<b>-54,262</b>	<b>-41,102</b>

# Balance sheet

kSEK	Note	31 Dec 2022	31 Dec 2021
<b>ASSETS</b>			
<b>FIXED ASSETS</b>			
INTANGIBLE FIXED ASSETS			
Capitalised expenditure for development and similar	6	74,978	40,437
<b>TOTAL</b>		<b>74,978</b>	<b>40,437</b>
TANGIBLE FIXED ASSETS			
Equipment, tools, fixtures and fittings	7	2,869	1,997
<b>TOTAL</b>		<b>2,869</b>	<b>1,997</b>
FINANCIAL ASSETS			
Participations in Group companies	8	50	50
<b>TOTAL</b>		<b>50</b>	<b>50</b>
<b>TOTAL FIXED ASSETS</b>		<b>77,897</b>	<b>42,484</b>
<b>CURRENT ASSETS</b>			
INVENTORIES, ETC.			
Raw materials and consumables	9	23,426	5,376
Products in progress		908	40
Finished products and raw material and consumables		11,132	10,503
Advance payments to suppliers		6,507	2,903
<b>TOTAL</b>		<b>41,973</b>	<b>18,822</b>
CURRENT RECEIVABLES			
Accounts receivable – trade		46,424	25,044
Current tax assets		–	–
Other receivables		11,536	1,422
Receivables from Group companies		–	1,721
Prepaid costs and accrued income	10	4,166	1,449
<b>TOTAL</b>		<b>62,126</b>	<b>29,636</b>
CASH AND BANK BALANCES			
Cash and bank equivalents		54,956	97,972
<b>TOTAL</b>		<b>54,956</b>	<b>97,972</b>
<b>TOTAL CURRENT ASSETS</b>		<b>159,055</b>	<b>146,430</b>
<b>TOTAL ASSETS</b>		<b>236,952</b>	<b>188,913</b>

Balance sheet, cont.

kSEK	Note	31 Dec 2022	31 Dec 2021
<b>EQUITY AND LIABILITIES</b>			
<b>EQUITY</b>	11		
RESTRICTED EQUITY			
Share capital		1,470	1,354
Fund for development expenditure		74,502	40,132
<b>TOTAL</b>		<b>75,972</b>	<b>41,487</b>
UNRESTRICTED EQUITY			
Share premium reserve		337,296	301,150
Profit or loss brought forward		-197,089	-149,471
Profit/loss for the year		-54,262	-41,102
<b>TOTAL</b>		<b>85,945</b>	<b>110,577</b>
<b>TOTAL EQUITY</b>		<b>161,917</b>	<b>152,064</b>
PROVISIONS			
Provisions for warranty costs	12	4,605	2,476
<b>TOTAL</b>		<b>4,605</b>	<b>2,476</b>
NON-CURRENT LIABILITIES			
Liabilities to credit institutions	13	-	175
Other liabilities		116	10
Liability for extended product warranty		-	-
<b>TOTAL</b>		<b>116</b>	<b>185</b>
CURRENT LIABILITIES			
Liabilities to credit institutions		175	2,268
Advance payments from customers		7,880	3,863
Accounts payable – trade		35,328	20,732
Current tax liabilities		1,133	687
Other liabilities		6,813	1,807
Accrued expenses and deferred income	14	18,985	4,831
<b>TOTAL</b>		<b>70,314</b>	<b>34,189</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>236,952</b>	<b>188,913</b>

# Consolidated cash flow statement

	NOTE	2022	2021
<b>OPERATING ACTIVITIES</b>			
Profit/loss after financial items		-54,262	-41,103
Adjustments for non-cash items		7,750	4,947
Paid taxes		-727	-576
<b>CASH FLOW FROM OPERATING ACTIVITIES BEFORE CHANGE IN WORKING CAPITAL</b>		<b>-47,239</b>	<b>-36,732</b>
<b>CASH FLOW FROM CHANGE IN WORKING CAPITAL</b>			
Changes in inventories and work in progress		-23,151	-2,520
Change in accounts receivable – trade		-21,381	-11,938
Change in current receivables		-11,105	-1,267
Change in accounts payable – trade		14,596	5,901
Change in current liabilities		26,621	4,491
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>		<b>-61,658</b>	<b>-42,065</b>
<b>INVESTING ACTIVITIES</b>			
Investments in intangible fixed assets		-41,642	-27,168
Investments in tangible fixed assets		-1,639	-1,091
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		<b>-43,281</b>	<b>-28,259</b>
<b>FINANCING ACTIVITIES</b>			
New share issue, net		64,116	75,698
Borrowings		74	0
Loan repayments		-2,268	-2,603
Option programme		0	-25
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>		<b>61,922</b>	<b>73,070</b>
<b>CASH FLOW FOR THE YEAR</b>		<b>-43,018</b>	<b>2,746</b>
<b>CASH AND CASH EQUIVALENTS AT START OF YEAR</b>			
Cash and cash equivalents at start of year		97,972	95,224
<b>CASH AND CASH EQUIVALENTS AT YEAR-END</b>		<b>54,956</b>	<b>97,972</b>

# Change in equity

kSEK	Share capital	Fund for development expenditure	Share premium reserve	Accumulated profit/loss	Profit/loss for the year	Total
AMOUNT AT START OF YEAR	1,354	40,132	301,150	-149,470	-41,102	152,064
Provision to fund	-	34,370	-34,370	-	-	0
New share issue	116	-	68,165	-	-	68,281
Options, employees	-	-	2,351	-2,351	-	0
Reversal of previous year's profit/loss	-	-	-	-41,102	41,102	0
Issue expense	-	-	-	-4,166	-	-4,166
Profit/loss for the year	-	-	-	-	-54,262	-54,262
<b>AMOUNT AT YEAR-END</b>	<b>1,470</b>	<b>74,502</b>	<b>337,296</b>	<b>-197,089</b>	<b>-54,262</b>	<b>161,917</b>

# Accounting and valuation principles

## General disclosures

The annual report has been prepared in pursuance of the Swedish Annual Accounts Act and the Swedish Accounting Standards Board's guidelines BFNR 2012:1 Annual report and consolidated financial statements (K3). The accounting principles are unchanged from the previous year.

## Revenue recognition

Revenue has been recognised at the fair value of the amount already received or to be received and is recognised to the extent that it is likely that the financial benefits will accrue to the company and the revenue can be estimated in a reliable manner.

Sales of goods are recognised when significant risks and benefits are transferred from the seller to the buyer in accordance with the terms of the sale.

Sales are recognised less VAT and discounts.

## Intangible assets

The company recognises internally generated intangible fixed assets in accordance with the capitalisation model. This means that all expenses relating to the production of an internally generated intangible fixed asset are capitalised and amortised during the estimated useful life of the asset provided that the criteria in BFNR 2012:1 are met.

Intangible fixed assets are recognised at cost less accumulated amortisation and impairment. Amortisation is straight-line over the estimated useful life. The amortisation period for internally generated intangible fixed assets is five years.

## Fixed assets

Intangible and tangible fixed assets are recognised at cost less accumulated depreciation/amortisation according to plan and any impairments.

Amortisation/depreciation is straight-line over the expected useful life in respect of material residual value. The following amortisation/depreciation rate is applied: Capitalised development expenditure: 20% Equipment, tools, fixtures and fittings: 20%.

## Financial assets

Financial assets held for long-term investment are recognised at cost. If, at the balance sheet date, the value of a financial asset is lower than its book value, the asset is written down to that lower value if it can be assumed that the decline in value is permanent.

## Leases

All leases in which the company is the lessee are recognised as operating leases, whether the contract is financial or operational. The lease payment is recognised as an expense in a straight line over the lease term.

## Inventories

Inventories have been measured at the lower of cost and net realisable value on the balance sheet date. Net realisable value means the estimated sales price of the goods less selling expenses. Sales of goods are recognised as revenue in full at the time of sale.

Cost is determined using the first-in, first-out (FIFO) method. For raw materials, all expenditure directly attributable to the acquisition of the goods is included in the cost.

## Income tax

Current taxes are measured on the basis of the tax rates and tax rules in force on the balance sheet date. Deferred taxes are measured on the basis of the tax rates and tax rules decided on before the balance sheet date.

Deferred tax assets related to loss carryforwards or other future tax allowances are recognised to the extent that it is probable that the allowance may be set off against surpluses in future tax assessments.

Receivables and liabilities are recognised net only when there is a legal right to set them off.

Relevant tax, and changes in deferred tax, are recognised in the income statement unless the tax is attributable to an event or transaction that is recognised directly in equity. Tax effects of items recognised directly in equity are recognised in equity. On account of the connection between recognition and taxation, the deferred tax liability that is attributable to untaxed reserves is not recognised separately.

## Employee benefits

Short-term benefits in the Group consist of salaries, social security contributions, paid annual leave, paid sickness absence, healthcare and bonuses. Short-term benefits are recognised as an expense and a liability where there is a legal or constructive obligation to pay a benefit.

## Termination benefits

Termination benefits are paid when the company decides to terminate an employee's employment before the normal termination date or when an employee accepts an offer of voluntary redundancy in exchange for such benefits. Where the benefit does not grant the company any future economic benefits, a liability and an expense are recognised when the company has a legal or constructive obligation to pay such a benefit. Benefits are measured at the best estimation of the amount required to settle the obligation on the balance sheet date.

## Stock warrants

The company had three outstanding stockwarrant programs for employees at the end of 2022.

### Foreign currencies

Where currency hedging is not applied, monetary asset and liability items denominated in foreign currencies are measured at the spot rate on the balance sheet date. Transactions denominated in foreign currencies are translated at the spot rate on the transaction date.

### Accounts receivable – trade and other receivables

Receivables are recognised as current assets with the exception of items with a due date more than 12 months after the balance sheet date, which are classified as fixed assets. Receivables are recognised at the amount that is expected to be paid after deduction of uncertain receivables assessed on an individual basis. Receivables that are interest-free or that bear an interest rate that differs from the market rate of interest and have a term of over 12 months are recognised at a discounted present value and the change in the time value is recognised as interest income in the income statement.

### Participating interests

Holdings of participations in another company intended to promote operations in the company by creating a permanent connection to the other company are recognised as participating interests. The holdings are held for the long term. Assets included in the item are initially recognised at cost. In the subsequent financial statements, the shares are measured at cost with an assessment of whether there is a need for impairment.

### Borrowings and accounts payable – trade

Borrowings are initially recognised at cost less transaction costs (amortised cost). If the carrying amount differs from the amount to be repaid on the due date, the difference is distributed as interest expense over the term of the loan using the effective rate of the instrument. This means that the carrying amount and the amount to be repaid match on the due date.

### Public subsidies

Public subsidies that are not associated with a requirement for future performance are recognised as revenue when the conditions for obtaining the subsidy are met. Public subsidies that are associated with a requirement for future performance are recognised as revenue when the performance is performed. If the subsidy has been received before the conditions for recognising it as revenue have been met, it is recognised as a liability. A public subsidy related to the acquisition/development of a non-current asset is recognised in the company as a reduction of the cost of the asset.

### Cash flow statement

The cash flow statement is prepared according to the indirect method. The cash flow recognised only includes transactions that involved inward or outward payments. In addition to cash, the company classifies available balances at banks and other credit institutions as cash and cash equivalents, as well as current liquid investments that are quoted on a marketplace and have a term shorter than three months from the acquisition date. Changes in blocked funds are recognised in investing activities.

### Definitions of key ratios

- Net sales - Main revenue from operations, invoiced expenses, incidental revenue and revenue adjustments.
- Profit/loss after financial items - Profit/loss after financial items but before appropriations and taxes.
- Balance sheet total - The company's total assets.
- Equity ratio (%) - Adjusted equity (equity and untaxed reserves less deferred tax) as a percentage of balance sheet total.

### Consolidated financial statements

The company is the parent company of a Group with the wholly owned subsidiary Ferroamp Incentive AB (559229-0430). Consolidated financial statements are not prepared because the Group is defined as a small Group under Chapter 7, Section 3, of the Swedish Annual Accounts Act.

# Notes

## NOTE 1 PLEDGED ASSETS

kSEK	31/12/ 2022	31/12/ 2021
Company mortgage	1,950	2,050
<b>Total</b>	<b>1,950</b>	<b>2,050</b>

## NOTE 2 FEES TO AUDITORS

kSEK	2022	2021
<b>Öhrlings Pricewaterhouse Coopers AB</b>		
Audit engagement	293	270
Audit business in addition to the audit engagement	7	60
Other services	58	15
<b>Total</b>	<b>358</b>	<b>347</b>

## NOTE 3 TRANSACTIONS WITH RELATED PARTIES AND REMUNERATION OF SENIOR EXECUTIVES

During the period January 2022 to March 2022, Niklas Cassel was engaged as interim Chief Commercial Officer. Niklas is a consultant at Adect AB, where board member Stefan Jakelius is CEO. For this service, Adect AB received consultancy fees as specified below.

Ferroamp currently leases additional office space from Convendum, which is partly owned by Wallenstam, in Umami Park in Sundbyberg. This has a monthly cost of approximately kSEK 70. From the second quarter of 2023, Ferroamp has signed an agreement with Wallenstam to move into brand new premises in the same area. All these transactions are carried out in line with market terms.

kSEK	2022	2021
Stefan Jakelius	513	1,132
<b>Total</b>	<b>513</b>	<b>1,132</b>

## NOTE 4 EMPLOYEES AND COST OF PERSONNEL

### Average number of employees

	2022	2021
Women	9	7
Men	52	42
<b>Total</b>	<b>61</b>	<b>49</b>

### Salaries and other benefits

kSEK	2022	2021
Salaries and other benefits	41,855	31,444
<b>Total</b>	<b>41,855</b>	<b>31,444</b>

### Social security expenses

kSEK	2022	2021
Pension expenses	4,578	3,658
Social security expenses, employees and Board of Directors	13,830	9,443
<b>Total</b>	<b>18,408</b>	<b>13,101</b>

### Total salaries, benefits, social security expenses and pension expenses

kSEK	2022	2021
Total salaries, benefits, social security expenses and pension expenses	60,263	44,545
<b>Total</b>	<b>60,263</b>	<b>44,545</b>

### Gender distribution, Board of Directors

	2022	2021
Women	1	1
Men	5	5
<b>Total</b>	<b>6</b>	<b>6</b>

### Gender distribution among senior executives

%	2022	2021
Percentage of women on the Board of Directors	17	17
Percentage of men on the Board of Directors	83	83
Percentage of women among other senior execu- tives	25	38
Percentage of men among other senior executives	75	63



Note 4, cont.

### Stock warrant programs

There are two stock warrant programs for employees, in both of which the employees have acquired the options on market conditions.

	Year de- cided	No. of options	No. of shares	Subscription period	Subscrip- tion price, SEK	Target group
Subscription option Series 2020/2023	2020	69,000	69,000	01/06/23- 03/06/23	69.56	Employees
Subscription option Series 2021/2024-1	2020	36,500	36,500	15/03/24- 15/04/24	114.27	Employees
Subscription option Series 2021/2024-2	2021	101,900	101,900	15/11/24- 15/12/24	94.80	Employees
<b>Total</b>		<b>207,400</b>	<b>207,400</b>			

## NOTE 5 CURRENT AND DEFERRED TAX

### Tax on profit for the year

kSEK	2022	2021
Current tax	-	-
Deferred tax	-	-
<b>Total recognised tax</b>	<b>-</b>	<b>-</b>

	2022		2021	
Reconciliation of effective tax	%	Amount	%	Amount
Pre-tax profit/loss		-54,262	-	-41,102
Tax at current rate	20.6	11,178	20.6	8,467
Tax effect of non-deductible expenses		-79		-38
Additional deductible expenses				
Effect of loss carryforwards not recognised		-11,099		-8,429
Recognised effective tax		-		-

Unutilised loss carryforwards for which no deferred tax asset was recognised, SEK	185,485,433 (131,605,408)
Potential tax benefit, SEK	38,209,999 (27,110,729)
Tax rate, %	20.60

Deferred tax assets related to loss carryforwards or other future tax allowances are recognised to the extent that it is probable that the allowance may be set off against surpluses in future tax assessments. As the company does not report positive results, an assessment has been made that these losses have not been carried forward.

**NOTE 6 CAPITALISED EXPENDITURE FOR DEVELOPMENT AND SIMILAR WORK**

kSEK	2022	2021
<b>Opening cost</b>	48,682	21,513
Expenditure for the year	43,440	28,771
Sales/disposals	-	-
Capitalised contributions for the year	-1,798	-1,603
<b>Closing accumulated cost</b>	<b>90,323</b>	<b>48,682</b>
<b>Opening amortisation</b>	<b>-8,244</b>	<b>-3,796</b>
Sales/disposals	-	-
Reclassification	-	-
Depreciation for the year	-7,102	-4,448
<b>Closing accumulated amortisation</b>	<b>-15,346</b>	<b>-8,244</b>
<b>Closing carrying amount</b>	<b>74,978</b>	<b>40,438</b>

**NOTE 7 EQUIPMENT, TOOLS, FIXTURES AND FITTINGS**

kSEK	31/12/2022	31/12/2021
Opening cost	3,265	2,218
Purchases	1,639	1,125
Sales/disposals	-	-79
<b>Closing accumulated cost</b>	<b>4,904</b>	<b>3,265</b>
Opening depreciation	-1,268	-814
Sales/disposals	-	45
Depreciation for the year	-767	-499
<b>Closing accumulated depreciation</b>	<b>-2,034</b>	<b>-1,268</b>
<b>Closing carrying amount</b>	<b>2,869</b>	<b>1,997</b>

**NOTE 8 PARTICIPATIONS IN GROUP COMPANIES**

kSEK	2022	2021
Opening cost	50	50
Purchases	0	0
Sales/disposals	0	0
<b>Closing accumulated cost</b>	<b>50</b>	<b>50</b>
<b>Closing carrying amount</b>	<b>50</b>	<b>50</b>

**NOTE 9 INVENTORIES**

kSEK	2022	2021
Component stock	15,716	4,828
Interim stock	7,710	548
Products in progress	908	40
Stock of finished products	11,132	10,503
<b>Total</b>	<b>35,467</b>	<b>15,919</b>

**NOTE 10 PREPAID EXPENSES AND ACCRUED INCOME**

kSEK	2022	2021
Prepaid rent	557	286
Accrued contributions	2,192	537
Other accrued expenses	1,416	626
<b>Total</b>	<b>4,166</b>	<b>1,449</b>

**NOTE 11 NUMBER OF SHARES AND QUOTIENT VALUE**

	No. of shares	Quotient value
FERRO	14,700,951	0.1

**NOTE 12 PROVISIONS**

kSEK	2022	2021
<b>Provisions for warranty commitments</b>		
Amount at start of year	2,476	1,622
Provisions for the year	2,130	854
<b>Amount at year-end</b>	<b>4,605</b>	<b>2,476</b>

**NOTE 13 NON-CURRENT LIABILITIES**

kSEK	2022	2021
Due within 1–5 years	0	175
Liability for extended product warranty	116	10
<b>Total</b>	<b>116</b>	<b>185</b>

**NOTE 14 ACCRUED EXPENSES AND DEFERRED INCOME**

kSEK	2022	2021
Accrued salaries	5,823	1,550
Other prepaid items contributions	871	38
Received in stock, not yet invoiced	8,769	646
Other accrued expenses	3,522	2,597
<b>Total</b>	<b>18,985</b>	<b>4,831</b>

**NOTE 15 SIGNIFICANT EVENTS AFTER THE END OF THE FINANCIAL YEAR****Ferroamp entered 2023 with a record order book**

In early January, Ferroamp announced that it had already taken orders for 2023 from the major wholesalers and installers that sell its products for a record MSEK 350, which is well above its total sales for 2022. These deliveries will mainly take place in the first half of the year.

**Ferroamp recruited a new Chief Development Officer**

Magnus Lindberg became the new Chief Development Officer in February. He was previously at Getinge and before that was Head of Software Development at Svenska Kraftnät. Magnus Lindberg will also be a member of Ferroamp's management team.

**Ferroamp in partnership for frequency regulation services**

Ferroamp and Varberg Energi have signed a joint letter of intent to develop an offer to participate in the market for the highly sought-after FCR-D service. By selling frequency regulation services, households and housing associations that own an energy storage battery can earn money from supporting the grid.

**Kent Jonsson new CEO of Ferroamp**

Kent Jonsson has been appointed as the new CEO of the company starting in April. Kent's background includes CEO of Volvo Car Retail UM AB after Volvo's acquisition of Upplands Motor AB, where Kent had been CEO and partner since 2013.

**The nomination committee proposes Claes Mellgren and Maha Bouzeid as new Board members.**

Ferroamp's nomination committee proposes six ordinary Board members without deputies, with the re-election of Ylwa Karlgren as Chair, for resolution at the Annual General Meeting.

The new members proposed are Claes Mellgren, founder and former President and CEO of AQ Group (publ), and Maha Bouzeid, former Executive Director and Head of Growth at Polarium. Björn Jernström and Stefan Jakelius have declined re-election. The other Board members are proposed for re-election.

**Fully underwritten new issue**

The Board of Directors of Ferroamp AB has announced the intention to resolve on a fully underwritten new issue of shares with preferential rights for the company's shareholders, corresponding to approximately SEK 220 million before deduction of costs attributable to the transaction.

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# Assurance

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The undersigned hereby certify that the annual report has been prepared in accordance with the Swedish Annual Accounts Act and generally accepted accounting principles, that the current accounting standards have been applied and that the information provided is in accordance with the facts.

Stockholm, 19 April 2023

Ylwa Karlgren  
Chair of the Board of Directors

Lars-Åke Bokenberger  
Board member

Erik Hallberg  
Board member

Stefan Jakelius  
Board member

Björn Jernström  
Board member

Anders Persson  
Board member

Kent Jonsson  
CEO

Our auditor's report on this annual report was submitted on 19 April 2023  
Öhrlings PricewaterhouseCoopers AB

Claes Sjödin  
Authorised Public Accountant

# Auditor's report

To the Annual General Meeting of Ferroamp AB (publ), corporate identity no. 556805-7029

## Report on the annual report

### Opinions

We have audited the annual report for Ferroamp AB (publ) for the 2022 financial year. The company's annual report is presented on pages 24–44 of this document.

In our opinion, the annual report has been prepared in accordance with the Swedish Annual Accounts Act and provides, in all material respects, a true and fair view of the financial position of Ferroamp AB as of 31 December 2022 and of its financial performance and its cash flow for the year then ended in accordance with the Swedish Annual Accounts Act. The directors' report is consistent with the rest of the annual report.

We therefore recommend that the Annual General Meeting adopt the income statement and balance sheet for Ferroamp AB (publ).

### Basis for opinions

We conducted the audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibility under these standards is described in further detail in the 'Responsibility of the auditor' section. We are independent of Ferroamp AB (publ) in accordance with generally accepted auditing standards in Sweden and have fulfilled our ethical responsibility under these standards.

We consider that the audit evidence we obtained is sufficient and appropriate to provide a basis for our opinions.

### Information other than the annual report

This document also contains information other than the annual report. This is on pages 1–23. The Board of Directors and the CEO are responsible for this other information.

Our opinion concerning the annual report does not cover this information and we provide no opinion with assurance concerning this other information.

In connection with our audit of the annual report, it is our responsibility to read the information identified above and consider whether the information is materially inconsistent with the annual report. In this review, we also take into account the knowledge we have obtained during the audit and assess whether the information appears to contain material misstatements in other respects.

If, based on the work performed concerning this information, we conclude that the other information contains a material misstatement, we are liable to report this. We have nothing to report in this respect.

### Responsibilities for Board of Directors and CEO

The Board of Directors and the CEO are responsible for preparing an annual report that provides a true and fair view in pursuance of the Swedish Annual

Accounts Act. The Board of Directors and the CEO are also responsible for the internal control they deem necessary to prepare an annual report that does not contain material misstatements, whether these are due to fraud or error.

In connection with the preparation of the annual report, the Board of Directors and the CEO are responsible for assessing whether the company is a going concern. Where appropriate, they disclose circumstances that may affect the company's ability to continue as a going concern and to apply a going concern assumption. However, a going concern assumption is not applied if the Board of Directors and the CEO intend to liquidate the company or cease business operations or have no realistic alternative to doing one of these.

### Responsibility of the auditor

Our objectives are to obtain reasonable assurance that the annual report as a whole does not contain material misstatements, whether due to fraud or error, and to submit an auditor's report that contains our opinions. Reasonable assurance is a high level of assurance, but is no guarantee that an audit performed in accordance with ISA and generally accepted auditing standards in Sweden will always identify a material misstatement if such a misstatement is present. Misstatements may occur due to fraud or error and are deemed material if, taken individually or in combination, they may reasonably be expected to affect the financial decisions that users make based on the annual report.

A further description of our responsibility for the audit of the annual report is available on the website of the Swedish Inspectorate of Auditors: [www.revisorsinspektionen.se/revisornsansvar](http://www.revisorsinspektionen.se/revisornsansvar). This description is part of the auditor's report.

## Report on other legal and regulatory requirements

### Opinions

In addition to our audit of the annual report, we also reviewed the Board of Directors' and the CEO's management of Ferroamp AB (publ) for 2022, and the proposed appropriation of the company's profit or loss.

We recommend to the Annual General Meeting that the profit be appropriated in accordance with the proposal in the directors' report, and that the members of the Board of Directors and the CEO be discharged from liability for the financial year.

### Basis for opinions

We conducted the audit in accordance with generally accepted auditing standards in Sweden. Our responsibility under these standards is described in further

detail in the 'Responsibility of the auditor' section. We are independent of Ferroamp AB (publ) in accordance with generally accepted auditing standards in Sweden and have fulfilled our ethical responsibility under these standards.

We consider that the audit evidence we obtained is sufficient and appropriate to provide a basis for our opinions.

#### **Responsibilities for Board of Directors and CEO**

The Board of Directors is responsible for the proposal for appropriation of the company's profit or loss. In connection with the proposed dividend, this partly involves an assessment of whether the dividend is fair in respect of the requirements made by the nature of the operations, scope and risks of the company for the size of the company's equity, consolidation requirements, liquidity and position in other respects.

The Board of Directors is responsible for the organisation of the company and management of the company's affairs. Among other things, this involves continual assessment of the financial situation of the company and ensuring that the company is organised so that the accounting, asset management and other financial affairs of the company are adequately monitored. The CEO is responsible for ongoing management in accordance with the guidelines and instructions issued by the Board of Directors and for taking the measures necessary to ensure that the company's accounts are completed in accordance with the law and the company's assets are managed adequately.

#### **Responsibility of the auditor**

The objective of our audit of the management of the company, and thus our opinion on discharge from liability, is to obtain audit evidence to be able to assess, with a reasonable level of assurance, whether any Board member or the CEO has, in any material respect:

- taken any action or been guilty of any negligence that that may lead to the company being liable for damages,
- in any other way acted in contravention of the Swedish Companies Act, the Swedish Annual Accounts Act or the Articles of Association.

The objective of our audit of the proposed appropriation of the company's profit or loss, and thus our opinion on this, is to assess, with a reasonable level of assurance, whether the proposal is consistent with the Swedish Companies Act.

Reasonable assurance is a high level of assurance, but is no guarantee that an audit performed in accordance with generally accepted auditing standards in Sweden will always identify actions or negligence that may result in liability for damages to the company, or identify that a proposal for appropriation of the company's profit or loss is not consistent with the Swedish Companies Act.

A further description of our responsibility for the audit of the management is available on the website of the Swedish Inspectorate of Auditors: [www.revisorsinspektionen.se/revisornsansvar](http://www.revisorsinspektionen.se/revisornsansvar). This description is part of the auditor's report.

Stockholm, 19 April 2023  
Öhrlings PricewaterhouseCoopers AB

Claes Sjödin  
Authorised Public Accountant

# Board of Directors



**Ylwa Karlgren**  
Chair of the Board of Directors since 2018.

**Born:** 1956.

**Education:** Graduate in business administration at Uppsala University

**Previous experience:** Background in finance services industry, venture capital and the property sector. Held senior positions at SEB and was a Board member of VPS Verdipapirscentralen ASA and Markedskraft ASA.

**Current Board positions:** Chair of the Board of Directors of Plejd AB (publ), member of the Board of Directors of Gullberg & Jansson AB (publ) and member of the Board of Directors of Acrinova AB (publ).

*Independent of shareholders, independent of companies.*

**Shareholding:** 45,250 shares



**Erik Hallberg**  
Member since 2021.

**Born:** 1956

**Education:** Mechanical engineer

**Previous experience:** Background in Telia Sonera, most recently as Executive Vice President of TeliaCompany. Chair of and ownership responsibility for Telia's Baltic subsidiaries, responsible for Telia's landline and mobile network services in Sweden, CEO of Telia Carrier with around 30 international subsidiaries. Previous Board positions at HiQ International AB, Edgeware AB and Prevas AB and founder and Chair of Globalnet AB.

**Current Board positions:** Chair of the Board of Directors of Fidesmo AB, iotcomms ab and Haltian OY and member of the Board of Directors of EyeonID Group AB and Th1ng AB.

*Independent of shareholders, independent of companies.*

**Shareholding:** 500 shares



**Stefan Jakelius**  
Member since 2017.

**Born:** 1967

**Education:** MSc in Engineering (Energy and Organisation), Executive MBA and School of Journalism, Stockholm University.

**Previous experience:** Background in venture capital and seed financing and Board member of several growth companies in international markets. Worked for Industriefonden, Malmberg Group and the Swedish Energy Agency.

**Current Board positions:** Chair of the Board of Directors of Phoenix Biopower AB and Utilifeed AB, and member of the Board of Directors of Elpaneteknik Sweden AB and Megin AB. CEO of Adect AB.

*Independent of shareholders, independent of companies.*

**Shareholding:** 2,900 shares



**Björn Jernström**  
Founder. On the Board of Directors since 2010.

**Born:** 1971

**Education:** MSc in Electrical Engineering, KTH Royal Institute of Technology in Stockholm.

**Previous experience:** Specialised in high voltage engineering and plasma physics. Founder of successful startups in the electric power industry. Positions in project management, product development, research and development. Engineering roles at TC Tech, M2 Engineering and GE Energy. Inventor behind four different patents related to Ferroamp.

**Current Board positions:** Chief Technology Officer, Ferroamp.

*Not independent of shareholders, not independent of companies.*

**Shareholding:** 1,372,440 shares

**Warrants 2020-2023:** 4,000

**Warrants 2021-2024:** 8,000



**Anders Persson**  
Member since 2019.

**Born:** 1957

**Education:** MSc in Engineering, Chalmers University of Technology, Göteborg

**Previous experience:** More than 25 years of experience in senior positions with a focus on growth. Since 2014, member of the Board of Directors of various companies. Formerly Vice CEO and CEO of Net Insight AB (publ) and before that various positions, both nationally and internationally, within the Ericsson Group.

**Current Board positions:** Chair of the Board of Directors of Hexatronic Group AB and member of the Board of Directors of Coloreel Group.

*Independent of shareholders, independent of companies.*

**Shareholding:** 4,000 shares



**Lars-Åke Bokenberger**  
Member since 2022.

**Born:** 1968

**Education:** Graduate in business administration from the School of Business, Economics, and Law at the University of Gothenburg.

**Previous experience:** Background in the financial services industry as Swedish head of equities at AMF, equity analyst and head of analysis at Alfred Berg Fondkommission. Broad experience of business and Board work in both listed and unlisted companies.

**Current Board positions:** Chair of the Board of Directors of Wallenstam AB, Chair of the Board of Directors of Mattssons Fastighetsutveckling AB and Vice Chair of the Board of Directors of Convendum Corporation AB. Member of the Board of Directors of Mertzig Asset Management AB.

*Independent of shareholders, independent of companies.*

**Shareholding:** 6,000 shares

## Auditor

Claes Sjödin  
Authorised Public Accountant  
Member of FAR SRS and partner at PwC Sweden.



# Company management



**Kent Jonsson**

Chief Executive Officer since 2023.

**Born:** 1968

**Education:** Master of Science in Electrical Engineering from Chalmers University of Technology. MBA in International Marketing from the School of Business, Economics, and Law at the University of Gothenburg.

**Previous experience:** CEO of Volvo Car Retail UM AB after Volvo Cars' acquisition of Upplands Motor AB, where Kent had been CEO and partner. Various executive roles within the Telia Group, where Kent was responsible for creating and building up Halebop, Telia's TV venture and the partnership with Spotify.

**Shareholding:** 5,000 shares



**Fredrik Breitung**

Chief Financial Officer since 2022.

**Born:** 1972

**Education:** Master of Business Administration from Linköping University, studies at Universität Innsbruck and Lund University.

**Previous experience:** CFO of PostNord Strålfors AB, Svenska Spel Sport & Casino AB and Finance Director at Wasabröd/Barilla. Mainly involved with transformation, digitisation, streamlining, internationalisation and acquisitions.

**Shareholding:** 0



**Robert Gelmanovski**

Chief Operating Officer, Chief Marketing & Communications Officer since 2022.

**Born:** 1969

**Education:** Graduate in business administration in International Economics from the School of Business, Economics, and Law at the University of Gothenburg and a degree in journalism from Stockholm University.

**Previous experience:** 25 years of experience in brand and reputation development in Sweden and internationally as a management consultant and in senior positions. Most recently as CEO Sweden and Chief Marketing & Communications Officer at C-Medical Group AS.

**Shareholding:** 1,000 shares



**Åsa Hedman**

Head of People & Culture since 2022. Employee since 2021.

**Born:** 1977

**Education:** Graduate in business administration specialising in marketing from Karlstad University, Communication Management at Berghs School of Communication in Stockholm.

**Previous experience:** Extensive experience of CSR and brand management based on values-driven communication in the banking and financial services industry. Most recently at CAB Group AB, where responsibilities included communication strategy and brand positioning.

**Shareholding:** 229 shares

**Warrants 2021-2024\_1:** 4,000

**Warrants 2021-2024\_2:** 4,000



**Björn Jernström**

Member of the Board of Directors, founder, Chief Technology & Innovation Officer since 2010.

**Born:** 1971

**Education:** MSc in Electrical Engineering, KTH Royal Institute of Technology in Stockholm.

**Previous experience:** Specialised in high voltage engineering and plasma physics. Founder of successful startups in the electric power industry. Positions in project management, product development, research and development. Engineering roles at TC Tech, M2 Engineering and GE Energy. Inventor behind four different patents related to Ferroamp.

**Shareholding:** 1,372,440 shares

**Warrants 2019-2022:** 10,000

**Warrants 2020-2023:** 4,000

**Warrants 2021-2024\_2:** 8,000



**Lisa Larsson Lerner**

Chief Purchasing Officer since 2021.

**Born:** 1977

**Education:** MSc in Engineering (Industrial Economics) with a focus on logistics from Luleå University of Technology.

**Previous experience:** Roles in purchasing and procurement at Atlas Copco, Skanska and SAS. Most recently senior positions as Purchasing Manager and Plant Manager at Stockholm Exergi.

**Shareholding:** 250 shares

**Warrants 2021-2024\_2:** 8,000



**Mattias Nyström**

Chief Growth Officer since 2020.

**Born:** 1968

**Education:** MSc in Electrical Engineering from KTH Royal Institute of Technology in Stockholm.

**Previous experience:** Broad experience in senior positions such as CEO, Business Area Manager, Product Management and Development Manager and Operations Manager. Most recently from Handicare, where he was responsible for commercial product management at group level.

**Shareholding:** 3,300 shares

**Warrants 2021-2024\_1:** 4,000

**Warrants 2021-2024\_2:** 8,000



**Magnus Lindberg**

Chief Development Officer since 2023.

**Born:** 1967

**Education:** MSc and PhD in Chemical Engineering from KTH Royal Institute of Technology in Stockholm.

**Previous experience:** 20 years of experience in the development and maintenance of products with high quality and availability requirements. Magnus comes most recently from Getinge, where he was Software Design Development Manager. He was previously Head of Software Development at Svenska Kraftnät.

**Shareholding:** 0



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**Mattias Stragne**

Head of Sales since 2022.

Employee since 2020.

**Born:** 1972

**Education:** MSc in Electrical Engineering specialising in radio and telecommunications systems from KTH Royal Institute of Technology in Stockholm.

**Previous experience:** Worked in sales and commercial product management. Business Director, Head of Product Management and VP Sales with business and human resources responsibilities. Broad international experience from Ericsson AB.

**Shareholding:** 0

**Warrants 2020-2023:** 4,000

# Industry-specific glossary

**AC/alternating current**

Standard used in the general electricity network and in home electrical outlets.

**ACE - Adaptive Current Equalization**

Ferroamp's patented phase balancing/current equalisation solution that operates dynamically between the three phase conductors into the property, boosting the efficiency of the grid connection.

**DC/direct current**

Photovoltaic cells produce direct current. Batteries and electric vehicles store and use it.

**DC nanogrid**

The basis of the Ferroamp system, due in part to increased controllability of energy and a higher voltage level, which provides savings in both money and carbon dioxide emissions due to reduced material consumption.

**Power**

Power is measured in kilowatts (kW) and indicates the volume of energy per unit of time. Indicates the force with which the energy acts.

**Power tariff**

Part of the network charge that is based on the times at which the customer had their highest electricity consumption.

**Demand peak**

Demand peaks occur when many people want a lot of power from the grid at the same time, for example if many electric vehicles are being charged at the same time.

**EnergyCloud**

Ferroamp's cloud-based portal where data on a property's electricity production, storage and consumption is stored and visualised.

**EnergyHub**

The heart of Ferroamp's system solution, a bidirectional inverter that regulates the flow between solar panels, energy storage, the grid and a property's electricity consumption. Acts as a bridge between the electricity grid and the property's local DC nanogrid.

**Energy storage**

The collective name for various energy storage technologies. In Ferroamp's system, energy is stored in batteries.

**EV**

Electric Vehicle. Electric vehicle.

**Grid**

The electricity distribution network.

**Green tax relief**

A tax reduction for investments in photovoltaic cells, charging stations and solutions for storing self-produced electricity.

**Kilowatt**

Unit of power and means 1,000 Watt. Watts (W) and kilowatts (kW) are a way of specifying power.

**Kilowatt hours**

Unit of energy, how long stored energy lasts or how much energy can be stored in, for example, a battery. If a battery is charged at 11 kW for two hours, it has been filled with 2 x 11 kWh, i.e. 22 kWh.

**Microgrid**

A local electricity distribution network in or between buildings.

**Network charge**

Fixed charge from the electricity grid company.

**PowerShare**

Ferroamp's patented solution that links multiple Energy-Hub systems and enables energy sharing between buildings in a local DC nanogrid.

**Prosumer**

Someone who is both a producer and a consumer, especially a producer for own use of electricity.

**SSO - Solar String Optimizer**

Used to connect photovoltaic cells to the EnergyHub system.

**Support services/balancing services/flexible services/aggregation services**

Services that help maintain a stable power system and can be provided, for example, by production plants, plants that can adjust their electricity consumption or energy storage facilities. Can also be created by aggregating flexible resources, such as combinations of solar power and batteries.

**Ferroamp system/EnergyHub system**

Ferroamp's award-winning system solution for integrating solar power, energy storage, electric vehicle charging and other loads in a DC nanogrid, and for measuring, controlling and optimising a property's electricity production and consumption.

**Fuse tariff**

Fuse tariffs consist of a subscription charge (SEK/year) and a transmission charge (öre/kWh). The subscription charge is paid for the size of the main fuse in Ampere (A).

**Vehicle-to-Grid (V2G), Vehicle-to-Home (V2H), Vehicle-to-Everything (V2X)**

Enables parked cars to contribute their battery capacity for, for example, reduction of demand peaks, backup power during power cuts or grid support services.

Components of the EnergyHub system



EnergyHub



Solar string optimizer



Energy storage



EnergyCloud

# Smart Electricity Control.

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