

KUUSAKOSKI

ANNUAL REPORT 2023

ALUMINIUM

GREEN TRANSITION ELEVATES
DEMAND FOR RECYCLED ALUMINIUM
TO A NEW LEVEL

A LEAP FORWARD IN CLIMATE WORK

Kuusakoski ahead of targets

R&D PARTNERSHIP

Alteams teams up to develop
new 5G network product





The Age of Aluminium

In the light of calculations assessing the future need for aluminium, demand for recycled aluminium is only in its dawn. The energy efficiency of aluminium recycling significantly promotes the green transition – no other metal achieves the same

95%

energy savings in the production process. Best of all, aluminium can be recycled almost endlessly.



KUUSAKOSKI



KUUSAKOSKI
RECYCLING

Alteams

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12 Recycled aluminium ingots are alloyed with extreme precision according to customer-specific recipes.

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Kuusakoski Group comprises the recycling company Kuusakoski Oy, the foundry company Alteams Oy, and the property companies Jokirantakiinteistöt Oy and Kiinteistö Oy Lahden Norokatu 5. The parent company of Kuusakoski Group is Kuusakoski Group Oy, which is owned in its entirety by the Kuusakoski family.

KUUSAKOSKI ANNUAL REPORT

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WE SUCCEED TOGETHER

WITH OUR SUSTAINABLE CUSTOMERS



Alongside technology, we invest heavily in people and developing expertise.

I am extremely proud of how Kuusakoski has evolved to become a pioneer in sustainability in recent years. The past year was another step forward for the Group in the field of sustainable development. The company

has received recognition from stakeholders and in various sustainability assessments for both the quality of our reporting and the results of our environmental work. We have also made excellent progress on our sustainability goals, such as our ambitious long-term climate targets, and are even ahead of schedule. Fast and focused progress is also a competitive advantage. For example, in 2023 we were the first to bring a dynamic carbon footprint report to the market to support the sustainability work of our customers.

Our Green Investment Program strengthens our position as a pioneer and ensures the competitiveness of both of the Group's business areas – recycling and foundry operations – in the future as well. We have reported on our significant investments of more than 40 million euros, for example in our new Copper Centre, a carbon-free steel recycling plant, composites recycling and aluminium separation, die casting technology and energy efficiency. In addition, we made investments in the preprocessing of electric and hybrid vehicles. In accordance with our strategy, we have improved our ability to serve customers with higher quality, more comprehensively and more sustainably.

Operationally, the year was marked by a struggle against the weakening economic cycle. In our main area of operation in Europe, growth was weak, sometimes even negative. The business environment was very divided, and some customer sectors suffered from weak growth, inflation and the impact of interest rates. Operations were characterised by caution; some had survival mode on. On the other hand, several of our customers grew faster than the market and invested heavily in the future. The common denominator among these growing companies was the green transition: pioneers of clean energy and sustainable metal production in particular were successful.

In 2023, the circular economy became the focus of the self-sufficiency debate. Both in Europe, the United States and Asia, the importance of recycling in securing metal production has been awakened. In Europe and the United States, new concrete targets, financial control measures – such as recycling rate and self-sufficiency targets – and



direct subsidies were introduced into legislation. Kuusakoski operates in all three areas, and we are following these developments with great interest. It is important for us to try to anticipate possible changes in the operating conditions of international trade. In both of our business areas, we did scenario work and updated our strategy and medium-term goals. We want to be competitive in a changing world.

Expertise and innovation have always been at the core of what we do. Alongside technology, we invest heavily in people and developing expertise. Our people and our ability to learn as an organisation are vital for building business operations and processes for completely new solutions. The artificial intelligence-based machine-learning separation line we introduced in England is just one example of an innovation that requires new skills.

Our clear international growth strategy also received public recognition. One of the absolute highlights of the year was receiving the Internationalisation Award of the President of the Republic of Finland, which was awarded to Kuusakoski Group in the Growth Company category.

In this context, I would like to warmly thank all our customers, employees, partners and stakeholders for the past year. Let us continue our successful cooperation!

Johan Kronberg
Chairman of the Board
Kuusakoski Group Oy



KUUSAKOSKI

RECYCLING

Green transition is accelerating growth of the recycling business group

During the past year, we have faced both challenges and opportunities, and I am proud of how our company has responded to them. An analysis of our business environment highlights uncertainty and unknowingness – these have in fact already become the new norm. The past year was no exception to this, and it is still difficult to predict the future with any precision. On the other hand, interest among our customers in implementing the green transition is growing all the time. This can be seen, for example, in the strengthening of demand for secondary raw materials, especially copper, ferrous and aluminium.

The green transition is a central theme for us, especially because we can enable it in society through our own activities. Everything we develop, process, manufacture and deliver contributes to a more sustainable tomorrow and helps our customers in the green transition. Understanding and responding to customer needs has been another key theme for us for many years already. I am grateful for the trust and open dialogue I have had with our customers this past year.

Changing customer needs also affect Kuusakoski's operations. Our investments in recent years to increase capacity, achieve better material yields and produce purer recycled raw materials have helped prepare us to respond to these changes. At the same time, we have had to adapt

our operations due to changes in market demand. We understand that changes always open up new opportunities. We will work hard over the next few years to ensure that we can continue to meet and exceed our customers' expectations.

Changes in consumer behaviour also have a significant impact on the recycling industry. Reuse, extending the life cycle of products and the electrification of transportation are creating new opportunities that we have invested in at Kuusakoski over the past few years. It is important to understand how market changes affect our business environment and to create sustainable business from these opportunities.

It is clear that at the end of the 2020s, industrial recycling will have changed considerably from what it was at the beginning of the decade. We can already see that customer demands on the operating environment are becoming even stricter. Faced with these changes, we are committed to remaining a pioneer in building a sustainable recycling industry.

Finally, I would like to thank all our employees. Your commitment and work contribution have been decisive factors this year as well. Together, we are ready to seize opportunities and face future challenges. Thank you also to our customers, partners and stakeholders for joining us on our journey.

Mikko Kuusilehto
CEO
Kuusakoski Oy



The green transition is a central theme for us, especially because we can enable it in society through our own activities.



Alteams

Foundry business group strongly involved in promoting sustainability

Years are not brothers to each other. Even though Alteams had a good year in 2022, 2023 turned out to be difficult for us. Strong market swings and uncertainty have become the new norm that we have to learn to cope with. At the same time, however, the electrification of transportation and energy saving solutions in industry are opening up new business opportunities for us now and in the future. Cars and trucks, mining equipment, excavators and earthmoving machines, frequency converters, telecommunications products – all of these and many more require high-quality aluminium components.

Our customers are struggling in the crosswinds of sustainability goals and cost pressures. Industry's interest in moving manufacturing out of China is growing steadily. Manufacturing will move to countries such as India, Vietnam, Indonesia and Morocco. Although Europe remains an interesting manufacturing environment, significant cost differences are limiting production volumes. The prevailing global situation and high interest rates have slowed down demand.

Understanding the market and our customers while listening with a sensitive ear are the keys to a sustainable business. Working close to our customers, our technology know-how and our ability to respond rapidly to changes will help us meet the changing demands of our customers.

The future for aluminium foundries looks bright. Aluminium is superior to competing materials due to its malleability, lightness and good electrical and thermal conductivity. The lightness of components and heat management are critical product development issues that we are constantly working on together with our customers.

My 25-year journey at Alteams, the last 14 years as CEO, is coming to an end this year as I prepare to retire. This journey has been very colourful. The company has changed a lot during this time – of course, so has the world and working life in general. It has been a period of strong expansion and investment, but also factory closings and layoffs. Things happen to those who do things, as the saying goes.

Serving as CEO of a family enterprise has been very rewarding. I have always felt trust in my work. Family enterprises tend to look at things in the long term, and monthly fluctuations are not that significant.

I want to thank everyone from the bottom of my heart for all these years, our collaboration and our shared experiences. A huge thank you to our committed and competent employees, as well as our customers and partners. Continue in the same way – always pulling in the same direction, keeping your eyes on the future and following the path of innovative and sustainable development. Especially in difficult times, it is important to maintain faith in one's actions and future prospects. At the same time, it is important to be open to necessary changes and to adapt to new conditions quickly.

Asko Nevala
CEO
Alteams Oy



Continue in the same way – always pulling in the same direction, keeping your eyes on the future and following the path of innovative and sustainable development.

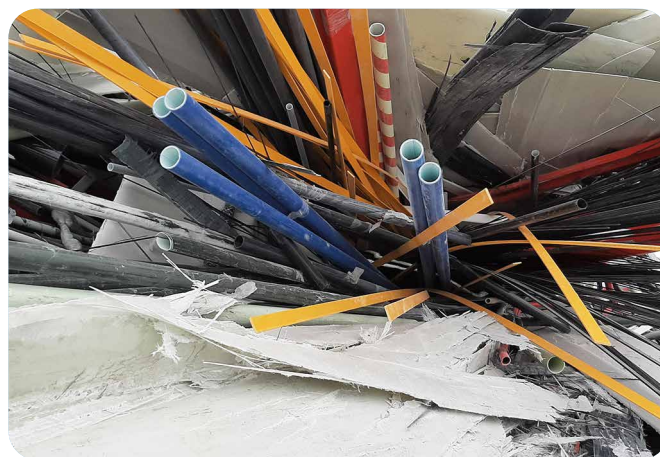
Green Investment Program advances

In autumn 2022, Kuusakoski launched a multi-year investment program, the purpose of which is to create the conditions for the company's competitiveness and growth in the coming years. The program aims to increase capacity, achieve better material yields and produce high purity end products in the form of recycled raw materials.

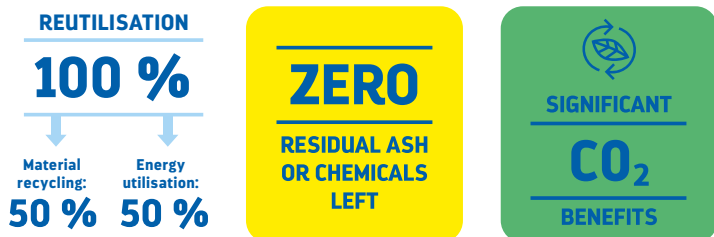
The benefit of the circular economy is greater the more that primary and non-renewable raw materials can be replaced with recycled materials. For example, by producing purer steel, copper, and aluminium fractions, Kuusakoski provides its customers with a higher utilisation rate of recycled materials. The whole of society benefits from this. Emission savings achieved by Kuusakoski's products, our carbon handprint, is over ten times more than the emissions caused, our carbon footprint. •

NEW COMPOSITE PLANT WILL INCREASE CAPACITY BY SIXFOLD

Construction of a new recycling plant for plastic composites is on schedule. The new processing line will be indoors, making it possible to better prevent adverse effects on both the environment and the health of employees. Kuusakoski is already the only company in Finland able to offer a sustainable solution for plastic composites, and the new plant will increase the processing capacity sixfold. Shredded plastic composite is used as a raw material in cement production. Referred to as parallel processing, this method enables 100% of the composite materials to be utilised. In addition, the production of cement is an energy-intensive process, and the utilisation of composite significantly reduces CO₂ emissions. •



i The shredded plastic composite is not poured into the concrete. Plastic composites are used in the production of clinker, an intermediary product in cement production. No fibre residues remain in the cement from which concrete is made, as they melt in the process. Plastic composites are used not only in wind turbine blades but also in boats, cars, aircraft, sports equipment and many other consumer products.





Non-ferrous recyclable metals include copper, zinc, lead and aluminium, as well as brass, bronze and some stainless steels.



Non-ferrous metals can be separated from recycled cars, waste electrical and electronic equipment, and household metal waste, for example.

RECYCLING CAPACITY OF NON-FERROUS METALS INCREASED

The total investment in the production line for non-ferrous metals is being implemented in phases, the first of which was completed in 2023 on schedule and on budget. This phase included a new storage facility and screening line. In addition, a new X-ray separator increased the separation capacity of non-ferrous metals. The schedule for the next phases will be evaluated in spring 2024.

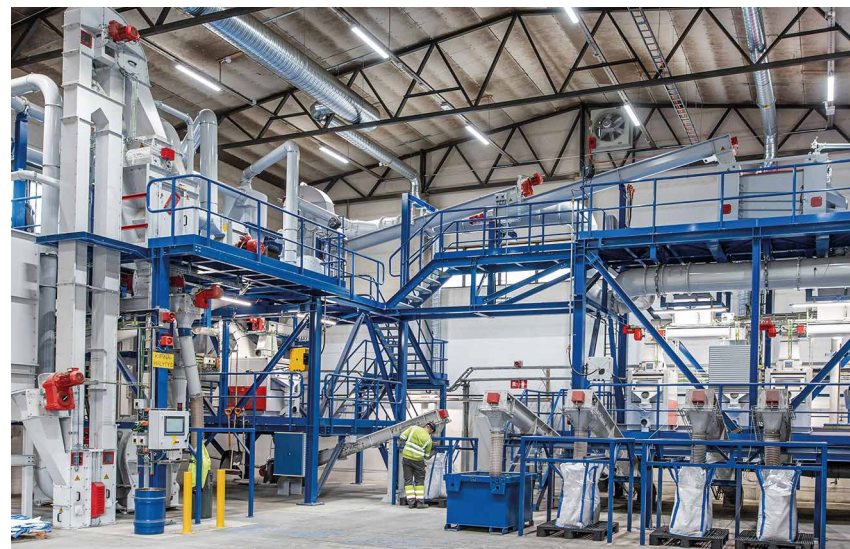
Aluminium is a non-ferrous metal. Read more about the development of our aluminium production process on the following pages 12-19. •

COPPER CENTRE PRODUCES ENOUGH COPPER A WEEK FOR 500 ELECTRIC CARS

The new Copper Centre in Heinola, Finland, was inaugurated according to plan in spring 2023. The processing capacity of the new facility, approximately 2.5 tonnes per hour, is enough to produce around 40 tonnes of pure copper a week. This is enough copper to produce around 500 electric cars.

The Copper Centre is able to effectively separate the copper and aluminium in cables, for example, before the aluminium fractions proceed to a smelter. The facility can process cables, radiators, transformers and other copper containing fractions nationwide.

There is certainly demand for recycled copper. Producing copper from ore causes 10 times more CO₂ emissions compared to using recycled materials. •



In low-pressure die casting, molten metal is fed through a riser into the mould under pressure. In this method, the overpressure of the gas (such as air) introduced into the crucible causes the metal to rise into the mould. The excess pressure is maintained until the piece has solidified inside the mould. When the excess pressure is removed, the excess molten metal flows back into the crucible. Low-pressure castings can be heat-treated, and the method is typically used to cast larger and heavier pieces than with high-pressure casting method. •

NEW INVESTMENTS ACCELERATE GROWTH AT ALTEAMS FOUNDRY IN LAIHIA

In 2023, the Alteams foundry in Laihia, Finland, commissioned a new low-pressure casting machine and a horizontal machining centre. The foundry's products are used in a wide range of industries, such as power electronics, energy transmission, industrial automation, marine engines and electricity production, and electric mobility.

"These investments mark a leap for the growth and development of the Laihia foundry. They not only significantly increase our production capacity, but they also enable a more efficient production process and the production of even higher quality products," says **Tony Panttila**, Factory Manager at the Laihia foundry.

The new low-pressure casting machine enables more complex castings to be produced without compromising quality or speed. The machine also offers wider adjustment possibilities, for example in terms of temperature.

The new horizontal machining centre in turn enables even challenging castings to be precisely finished, such as threads, holes and planes, according to the exact needs of the customer. The machine is also 25% faster than older machines, which improves energy efficiency. •



New plant will enable carbon-free processing and increase the annual recycling capacity of Kuusakoski by 25 percent.

TOWARDS ZERO EMISSIONS

Kuusakoski invests in first carbon-free steel recycling plant to be located in Veitsiluoto, Finland.

In March, Kuusakoski announced major plans to invest in building a steel recycling plant in Veitsiluoto, Finland, that will operate 100% carbon free.

The investment responds to growing demand for recycled metals in Finland and Sweden, and it will increase the annual recycling capacity of Kuusakoski by 150,000 tonnes, or 25 percent.

The new plant will be built in Veitsiluoto, Kemi. The port connection effectively links sea freight to rail and road transport.

"In Veitsiluoto, we are close to our largest end customers, and we can offer superior, smart delivery models and competitive delivery times," says **Mikko Kuusilehto**, President and CEO.

"We are seeing the steel industry beginning to move towards carbon free production. Our new plant will bring with it carbon-free processing, which will enable our customers to further reduce their climate impact throughout the value chain."

Investment supports carbon neutrality goals of the steel industry

With the investment, Kuusakoski's customers, such as Outokumpu, the global leader of sustainable stainless steel, will have the opportunity to

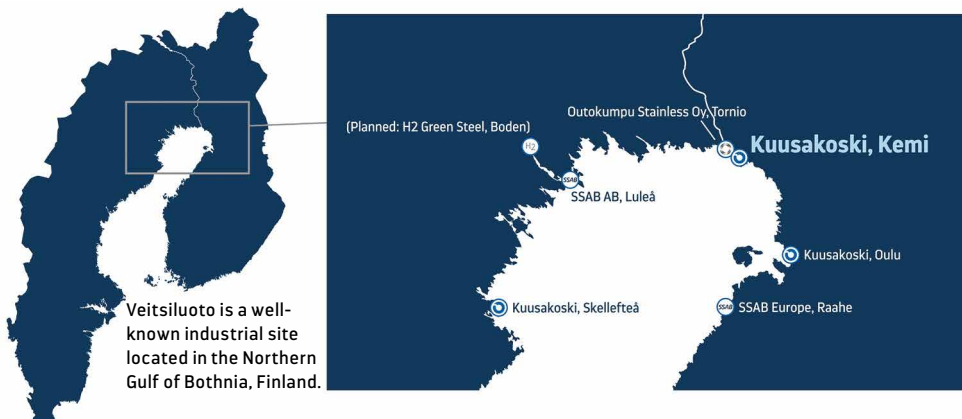
use even more precise carbon footprint calculations and cleaner recycled steel in their production, which can further reduce the carbon footprint of steel products.

"Outokumpu is committed to ambitious climate goals, and we already use mainly recycled steel in our production. Kuusakoski's new steel recycling plant is being built in a logistically ideal location from the perspective of our Tornio steel mill. In addition to carbon-free operations and their proximity, the quality of materials and the traceability of the entire supply chain are key to us as a responsible operator," says **Juha Erkkilä**, Vice President, Innovation, Outokumpu.

Unique project ready in 2025

The new plant will produce significantly higher levels of purity in its recycled raw materials, and it will have improved separation capabilities. The investment will be financed in part by Business Finland from RRF (Recovery and Resilience Facility) funding. The new plant is scheduled to be in operation in 2025, and once in operation it will employ approximately 20 people.

The carbon-free steel recycling plant is part of Kuusakoski's multi-year Green Investment Program. Kuusakoski has set a target of carbon-free operations by 2035. The Veitsiluoto recycling plant is just one concrete step on the company's carbon roadmap. The investment is projected to result in over 150,000 tonnes of avoided CO₂ emissions annually throughout the entire supply chain. •

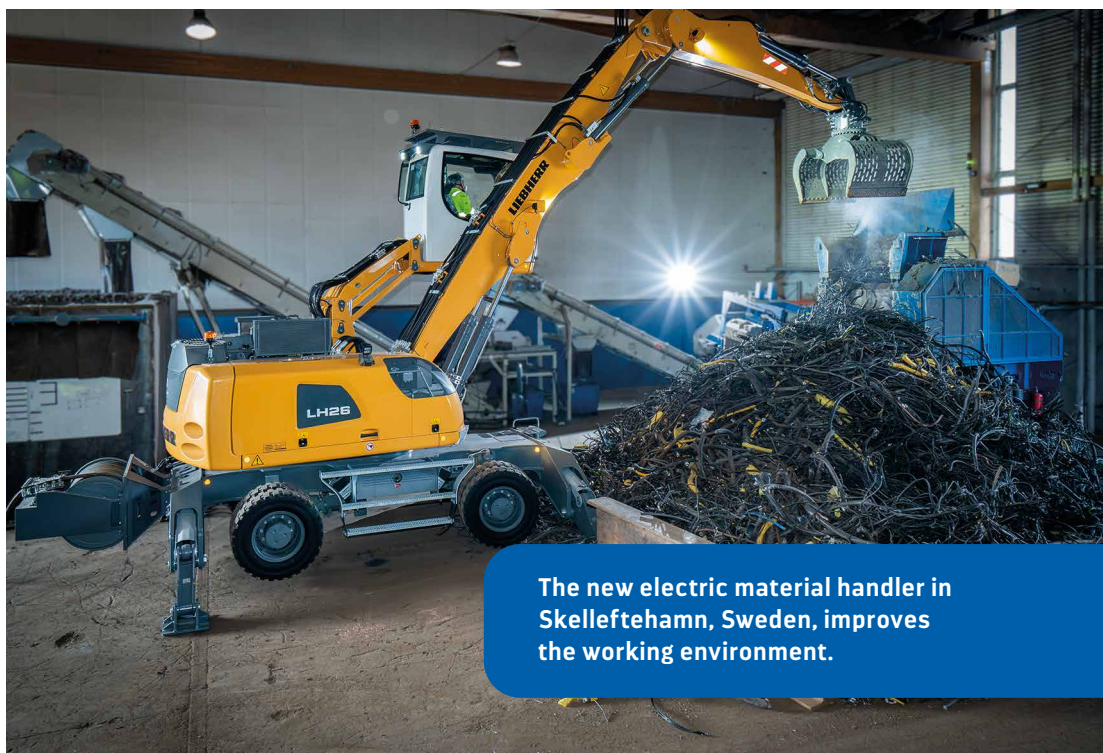


ELECTRIFICATION OF MACHINERY PROGRESSES

Kuusakoski took determined steps in 2023 towards the electrification of operations – and at the same time towards long-term climate goals. Altogether 8 new electric machines were ordered, and they now account for approximately 4% of the machine stock. When in use, these machines are emission-free, and they contribute to the company's goal of being carbon neutral by 2035. (Read more in our Sustainability Report.)

For example, a new Liebherr LH26 material handler was delivered to Skelleftehamn, Sweden, already in the spring. The machine was acquired for our cable processing plant that previously used diesel-powered machines.

"It significantly improves the working environment for our employees, while at the same time supporting our environmental work," says a satisfied **Jonas Möller**, Site Manager at Skelleftehamn. •



The new electric material handler in Skelleftehamn, Sweden, improves the working environment.



INVESTMENTS AND ENERGY EFFICIENCY SOLUTIONS AT ALTEAMS FOUNDRY IN LOPPI

Next to the Alteams foundry in Loppi, Finland, a new warehouse was built on its own plot to centralise the storage and maintenance of casting tools. At the same time, the oil-heated warehouse located further away was decommissioned, significantly reducing daily logistics and enabling the transition to the use of green energy. In addition, the foundry invested in several details that also improve energy efficiency:

- To improve fire safety, a thermal camera monitoring system was installed that can also be used to monitor the condition of the smelting furnaces and detect possible heat leaks.
- The old overhead doors were replaced with new electrically operated ones, which helps retain heat energy in the hall despite the forklift traffic between the outdoor and indoor areas.
- New water-to-air heat pumps intended for industrial use replaced the electric heating system in the shell moulding foundry.

"Energy saving measures do not always have to involve large and expensive investments. Identifying areas for improvement and implementing them - such as additional insulation on the lids of our furnaces - is more about good ideas and motivation," says **Sami Oksanen**, Factory Manager at the Loppi foundry. •

New sites

Kuusakoski opened two brand-new sites in 2023.

Sweden: A new site specialising in ITAD (Information Technology Asset Disposition) services opened at Länna Park south of Stockholm in Sweden. The site processes end-of-life IT equipment and provides environmentally friendly data destruction capabilities.

Estonia: In Estonia, we opened a new site in Haapsalu. Kuusakoski now has sites in 12 Estonian municipalities. •

ALUMINIUM CONDUCTS

HEAT, ELECTRICITY AND THE GREEN TRANSITION

Aluminium, the third most common element in the earth's crust, is a desirable commodity when it comes to the needs of the green transition and the rapidly electrifying world. In terms of recycling, aluminium is also an ideal material.

Aluminium can be shaped easily and is the most used metal in the world after iron. Light, durable and able to conduct heat and electricity, aluminium plays a big role in our everyday lives. Due to its corrosion resistance, light weight and good mechanical properties, it is used in electric cars, electronics, telecommunications technology, transport, packaging and construction. An ecologically sustainable economy and economic growth require not only aluminium but also responsible operations, so there is a clear

need for recycled aluminium, the production of which saves 95% of energy compared to the production of primary aluminium.

Explosive growth in demand

Whatever the application, the demand for aluminium is growing. For example, in its Circular Aluminium Action Plan (4/2020), the European Aluminium member-based industry association estimates that the demand for aluminium will increase by 40% from the level of 2019 by 2050.



Aluminum
conducts electricity
well and is a cost-
effective material
for transferring
energy in an
electrifying world.

Also, according to a report published by Fastmarkets, the demand for low-carbon aluminium, steel and copper is expected to grow significantly by 2030. The estimate is based on the growing demand within the automotive and construction industries in response to the goals of reducing carbon dioxide emissions.

Demand for low-carbon “green” products is on the rise as end customers, manufacturers and governments strive to increase sustainability and promote the circular economy, the report states. In addition, it points out that most greenhouse gas emissions from industrial products originate from the processing of the primary materials, which has led to even more attention being paid to the material content of products. The demand for green aluminium is estimated to grow from approximately 26 million tonnes in 2021 to as much as 62 million tonnes by 2030. (Consulting firm McKinsey, 28 October 2022, Fastmarkets).

Primary aluminium is energy intensive

The production of aluminium from primary raw materials such as bauxite consumes very high levels of energy. When compared to other metals, the production of aluminium consumes up to ten times more energy than, for example, the production of steel. In terms of the green transition, aluminium is indeed one of the most needed recyclable metals – especially as it can be recycled almost endlessly without losing its properties. As a result, high-quality recycled aluminium is increasingly replacing primary aluminium.

“Most of the energy consumption and CO₂ emissions in the manufacturing process of recycled aluminium products arise from the smelting and casting of the material. However, thanks to the development of renewable energy sources and recycling technology, recycled aluminium can be produced with ever-lower CO₂ emissions. In this way, the end customer gets aluminium with the lowest possible emissions as a raw material for their own products,” notes **Tuomas Haikka**, Chief Sustainability Officer at Kuusakoski Recycling.

Kuusakoski’s product development and recent green investments aim to ensure that a greater proportion of high-quality recycled aluminium products are produced without smelting. Both cast aluminium and recycled raw materials with a high aluminium content are collected for recycling. The latest XRT separation technology enables these two

material streams to be effectively separated from each other. In this way, cast aluminium containing the required alloys is not diluted, and pure aluminium fractions can be used without the need for smelting.

World’s most sustainable aluminium

With over a century of recycling behind it, Kuusakoski is committed to constantly improving its operations and aims to produce the most sustainable aluminium in the world. Kuusakoski’s sustainable production chain is based, among other things, on efficient processing and optimised logistics. The Heinola unit is the largest integrated recycling plant in Northern Europe and processes approximately 30,000 tonnes of aluminium scrap annually. Since crushing and further processing take place on the same site, transport emissions are minimal.

The carbon handprint of recycled aluminium in terms of avoided emissions is

38

TIMES GREATER
than its carbon footprint.

X-RAY TRANSMISSION TECHNOLOGY ENABLES PURER ALUMINIUM PRODUCTS

In 2023, a completely new device was acquired for the Heinola aluminium plant: an X-ray transmission (XRT) separator. R&D Manager Eero Jokinen explains the new technology.

What does an XRT separator do?

The main purpose of the device is to sort different aluminium alloys. XRT analysis detects the atomic density of the materials on the conveyor belt and separates them with the help of compressed air by “shooting” lighter objects away from heavier objects one by one.

What benefits does XRT bring?

The device enables us to sort aluminium materials based on the amount of their alloying elements:

This way we can enrich the aluminium castings we want into the aluminium smelting charge more corresponding to our alloys, and at the same time we can produce a high-quality wrought aluminium fraction. All of

this reduces the need for alloying elements and emissions.


What is meant by functional recycling?

The term refers to when a material that has been produced once and is at the end of its life cycle is used again to produce a similar material, preserving the same material properties. This is not new to the recycling industry; for example, sorting in yards is routine for us. With our XRF and XRT investments, we are approaching functional recycling also for shredded fractions.

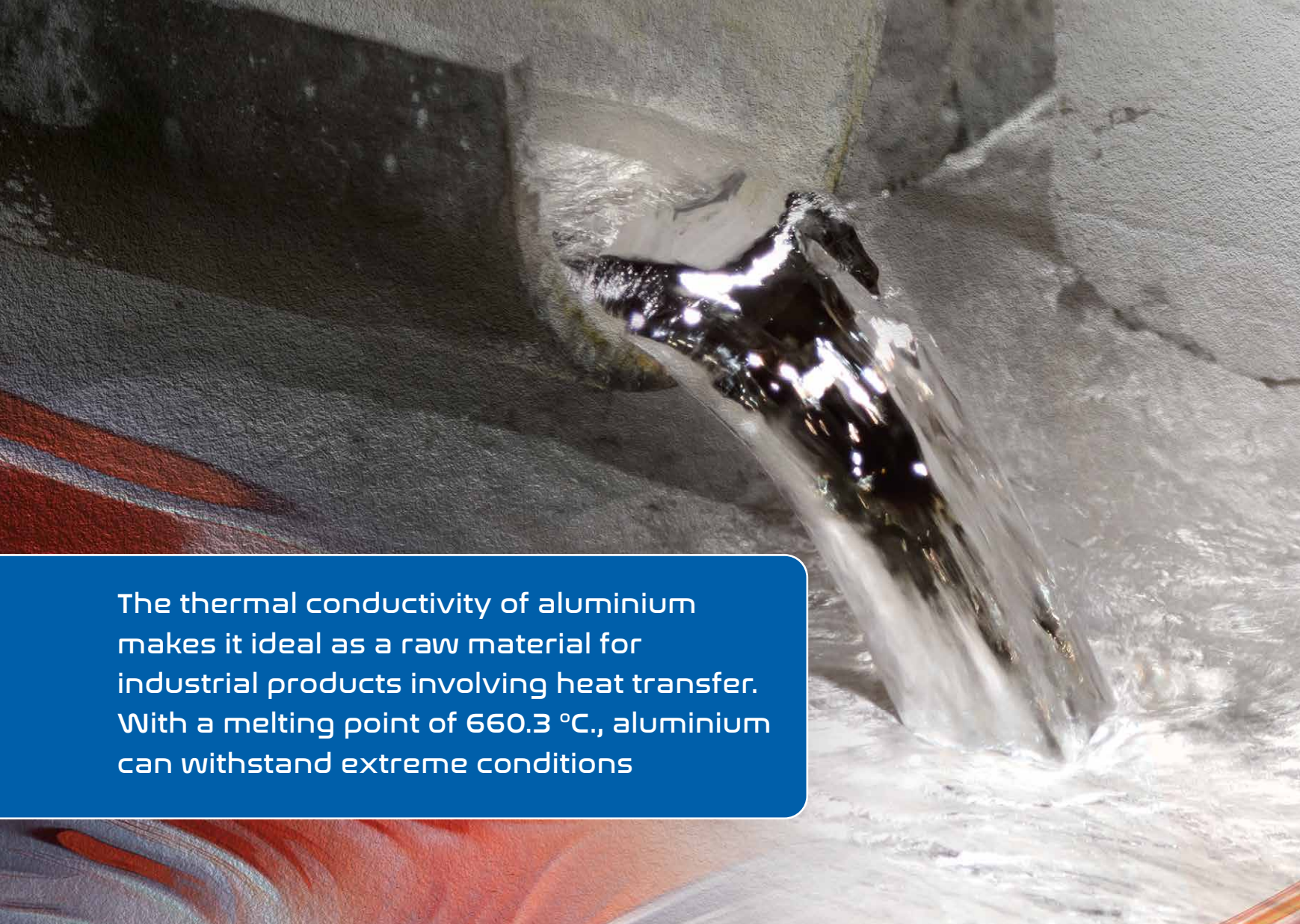
What is the difference between XRT and XRF?

Good question! Both are based on X-rays, but X-ray fluorescence technology – XRF – does not analyse the density of an object, but its elemental composition. We use XRF technology to separate, for example, copper and zinc. As a technology, XRT is more suitable for sorting aluminium due to its cost efficiency and analysis speed. •



A photograph of a white sailboat with a tall mast and white sails, sailing on a calm blue lake. The boat is positioned in the center-left of the frame. In the background, there are blue mountains under a clear sky. The water shows concentric ripples around the boat. A blue rounded rectangular text box is overlaid on the right side of the image.

Durable, tough and easily shaped aluminium has found its way into the automotive industry, aviation and other modes of transport.



The thermal conductivity of aluminium makes it ideal as a raw material for industrial products involving heat transfer. With a melting point of 660.3 °C., aluminium can withstand extreme conditions

The demand for low-carbon aluminium is expected to grow by

130%

by 2030

“Kuusakoski is the only operator in the Nordics that has such an integrated recycling plant and its own smelter on the same site. Thanks to the short transport distances, the carbon footprint of the recycled aluminium we produce in Heinola is on average less than 0.5 t CO₂e/t, while in the production of primary aluminium it can be up to 20 t CO₂e/t, depending on the country of manufacture and raw material procurement chains,” says Haikka. The carbon handprint of recycled aluminium

in terms of avoided emissions is 38 times compared to the carbon footprint caused by its production.

One and only in Finland

The Heinola recycling plant has the only aluminium smelter in Finland that uses only recycled aluminium. Approximately 80 percent of production is exported, for example to the automotive industry and its subcontractors. Ingots made from recycled aluminium are used as raw material for various components, such as engine parts, which are manufactured using the die-casting method.

Kuusakoski uses aluminium scrap that often also contains silicon and other alloys. Silicon is an element that lowers the melting temperature and improves fluidity. Ingot casting is always made to order, since the amount of silicon, copper and iron in the alloys varies depending on the intended use. The alloys have exact limit values that are met thanks

to the leading expertise at the Kuusakoski smelter. The elements are defined with an accuracy of up to 0.05% by weight.

“We are known for achieving the exact concentrations required by the customer. If the desired element content is between 0.03 and 0.047 percent, for example, it will be exactly within the specified tolerance in our final product. The maximum concentration of an element can be determined as accurately and as low as 0.002 percent by weight, since different ingredients affect the properties of aluminium alloy even at low concentrations,” explains **Saila Lehtomäki**, Product and Sales Manager at Kuusakoski Recycling.

Entire chain within one Group

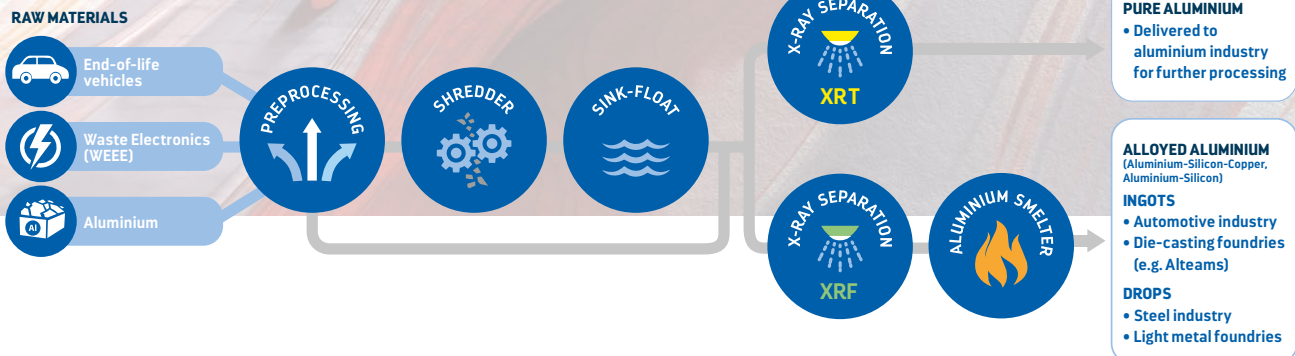
The Kuusakoski Group possesses considerable aluminium know-how, because in addition to the recycling business and the smelter, the Group also includes the foundry business Alteams Oy. The sustainability requirements of customers

Aluminium grades – growing demand for green aluminium



The problem with so-called brown aluminium is not only the use of fossil fuels but also bauxite, whose origin and production method is not verified. For example, the production of brown aluminium in China causes emissions of up to 20 tonnes for every tonne of aluminium produced. At the other extreme is truly green aluminium, which is sustainably produced in Europe using recycled truly green aluminium as the raw material.

Aluminium recycling process



Kuusakoski's investments in recent years have improved the recovery of metals from recycled materials, while state-of-the-art separation technology ensures the purest possible fractions. Aluminium fractions can also be used without requiring additional smelting.

Kuusakoski's recycled aluminium products



PURE ALUMINIUM
Aluminum granulate made from cables, for example, is a top-quality recycled raw material for industrial needs.



ALUMINIUM INGOTS
Aluminum alloy ingots are manufactured according to customer-specific orders.

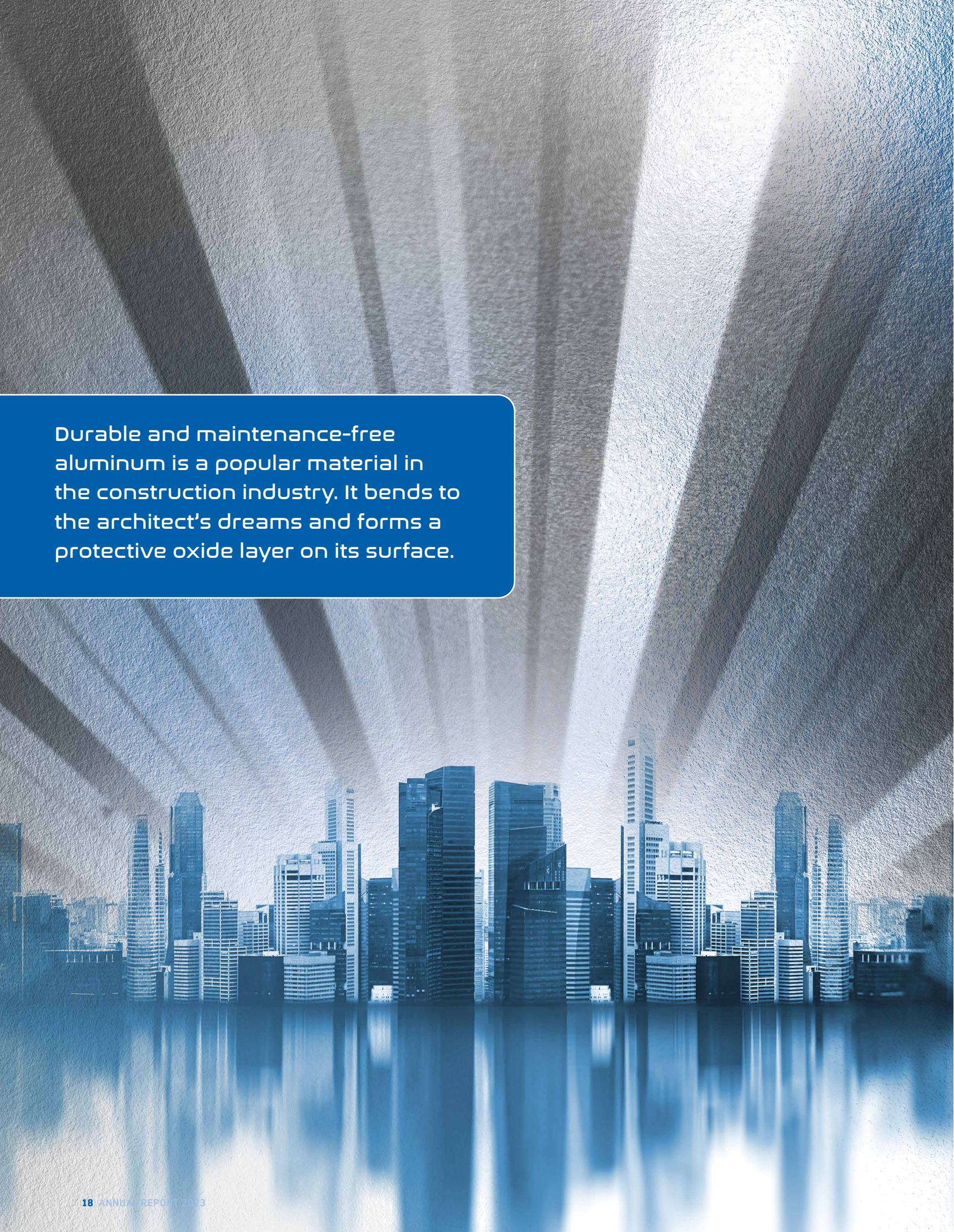


ALUMINIUM DROPS
Aluminum drops are used by the steel industry in the smelting process to remove oxygen.

Alteams' aluminium casting products



Alteams manufactures products according to customer drawings and 3D models. Many of the products are delivered to the customer as ready-to-install components. Manufactured products can be machined, painted and also assembled.



Durable and maintenance-free aluminum is a popular material in the construction industry. It bends to the architect's dreams and forms a protective oxide layer on its surface.

Producing aluminium from recycled materials requires

95%

less energy compared to primary aluminium.

are also taken into account at Alteams, which manufactures components for the electric vehicle industry and customers in the telecommunication network industry, for example.

Ingots are delivered from the Heinola smelter directly to the Alteams foundry in Poland, which uses 100% recycled aluminium as the raw material. The circulation of aluminium within the Group is exemplary: for example, aluminium millings from the Alteams foundries in Laihia and Loppi are returned to the Kuusakoski smelter as raw materials for recycled aluminium.

Special aluminium alloys developed according to specific customer and industry needs are especially emphasised in the collaboration of Group companies. Alteams' and Kuusakoski's joint product development has resulted in, among other things, the HTC170 aluminium alloy with high thermal conductivity that Kuusakoski, unlike many other companies, is able to produce from recycled raw materials. The name comes from the thermal conductivity of the alloy, which is at least 170W/mK.

Demand heats up, aluminium cools down

Heat transfer is one of the main reasons why aluminium is used in products. It is essential, for example, in all components for the telecommunication network segment supplied by the Alteams aluminium foundry.

"The electronic components in a circuit board produce a lot of heat that has to be removed from the product. Heat transfer can be improved by adding a heat-conducting material to the product – or by improving the thermal conductivity of the material," says **Kimmo Pesonen**, Chief Technology Officer at Alteams.

From the perspective of the environment and sustainability, the best solution is to consume less material. Kuusakoski's HTC170 aluminium alloy made from high-quality recycled raw materials is the answer to this.

"This alloy has a higher thermal conductivity than ordinary alloys and meets the thermal conductivity and strength requirements of our customers," Pesonen explains.

The HTC170 alloy is already used in several products in the telecommunication network segment. The future goal is to develop an alloy with a thermal conductivity of at least 190W/mK.

Purity is decisive

With its investments at the Heinola recycling plant, Kuusakoski is aiming for better recovery and purer recycled raw materials. Purity improves the range of possible uses, and for aluminium this means the lowest possible copper and iron content. Kuusakoski's own product development and research laboratory produce valuable information for developing both separation technologies and aluminium alloys. The fewer other elements are in the

aluminium alloy, the better the electrical and thermal conductivity of the final product produced from it. This is essential, for example, in the components manufactured by Alteams for the telecommunication network segment.

Another important product segment is electrification-related products in which magnetism is not desired. Accordingly, the aim is to make the iron content of recycled aluminium even lower than at present. Removing iron is technically difficult, so the R&D team will continue to have plenty to think about.

New innovations and investments will no doubt still be needed, but the Kuusakoski Group has already tackled the requirements and opportunities of the green transition like a true pioneer. ●



WORKING WITH ALUMINIUM FOR 46 YEARS

Over the 46-year career of **Matti Rönkkö**, operations manager at Kuusakoski's aluminium plant in Heinola, huge quantities of aluminium ingots and drops have been delivered to customers, adding up to approximately 900,000 tonnes. Matti started his career at Kuusakoski as a young man shortly after graduating from vocational school. He left behind his work as an electrician when the interesting recycling industry took off. He has since worked in many positions at the aluminium plant, including the last few years as operations manager for the aluminium smelter.

Over the years, Matti has witnessed firsthand how work tasks and working life have changed,

especially with the development of technology and occupational safety.

"Working for a family business has been good. The tasks have been versatile, and my colleagues are like another family," Matti says.

As retirement approaches, Matti's extensive know-how has been passed on to a new generation, and he will be celebrating his last day at Kuusakoski this summer.

"It may take some time before I understand that there is no need to wake up when the rooster crows. I will certainly keep myself busy, and I will even be able to visit my summer cottage during the day," Matti says, thinking about his future. •

NOKIA AND ALTEAMS PARTNER ON NEW 5G PROTECTION PRODUCT

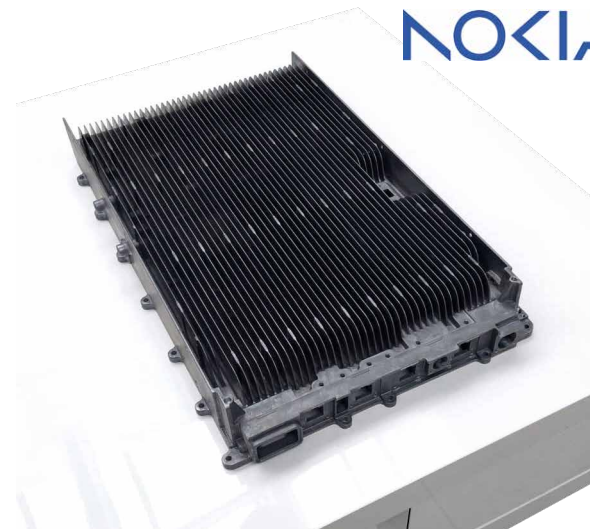
Nokia, a leading provider of mobile and fixed networks and attached services, and Alteams launched a new product project in September 2022, with mass production starting at the Alteams plant in Poland in spring 2024.

The aim of the project was to develop a RRH (Remote Radio Head) aluminium casting product for mast-mounted 5G radio units. The role of the die-cast aluminium part is to protect the circuit boards from dust and moisture, act as an electromagnetic shield, and transfer heat away from the hot components of the circuit board to the environment. The product had to be lightweight and have good thermal and electrical conductivity, dimensional accuracy, corrosion resistance and rigidity. Low CO₂ emissions and recyclability were also targets.

"This has been an interesting project. The product was exceptional because of the electromagnetic shielding and heat transfer of the circuit boards. For example, the product contains a lot of thin moulded heat sinks. In cooperation with the customer, we successfully completed the project," says **Kimmo Pesonen**, Chief Technology Officer at Alteams.

It took a lot of development work and numerous tests before the product was ready. The product dimensions, aluminium composition and rigidity, as well as the capability of the product process, were all carefully measured. Before final approval, the customer carried out salt spray testing to ensure corrosion resistance. Quality assurance continues in the production phase with testing of each production batch.

The finished product is moulded from recycled aluminium produced by Kuusakoski, resulting in low CO₂ emissions. Assembly and testing of the 5G radio unit will take place at Nokia's own factory in India and at the factory of Nokia's subcontractor in Hungary, where Alteams will deliver its castings. •



- **Wireless network technologies** are used to carry mobile data and voice calls, enabling fast internet connections and high-quality calls. Key components of these networks are masts and radio units.
- **Masts** are tall structures located in strategic areas around the country. Their main function is to extend the coverage of the network.
- **Radio units** are devices installed on the masts. They act as a link between the user's mobile device and the rest of the network infrastructure. Radio units receive and transmit radio signals that enable data transmission. They also convert radio signals into electrical signals that can be transmitted over the network.



THYSSENKRUPP AEROSPACE FINLAND OY AND KUUSAKOSKI – SUSTAINABILITY AND EFFICIENCY IN THE CORE OF THE COLLABORATION



In the heart of Scandinavia, a thriving collaboration between Kuusakoski and thyssenkrupp Aerospace Finland Oy highlights the power of tailored solutions and sustainable practices. As a partner for the world's leading aerospace companies, providing them with high-quality aluminium products, precision and responsibility are at the forefront of the thyssenkrupp Aerospace's operation.

thyssenkrupp Aerospace Finland Oy provides their customers with meticulously crafted aluminium products, cut to exact dimensions or shaped through waterjet cutting. This attention to detail is not only a mark of quality but also a testament to their commitment to sustainability.

CEO **Petri Laaksonen** shares their ethos, stating:

"The materials we handle are not only expensive but also unique. It has been our long-standing aim to utilise them as carefully as possible. This approach is not just economically sensible but also environmentally responsible."

Recycling excellence

Despite the precision in processes, residual waste is inevitable. However, the collaborative effort between the two companies ensure that all waste material is responsibly recycled. Every piece of material entering the thyssenkrupp facility in Finland leaves either as a product for their clients or heads towards recycling.

Segregating waste materials like turnings and offcuts at the factory itself by material type maximises recycling opportunities.

Leveraging technology for efficiency

A key reason for the success of the partnership is Kuusakoski's customer-focused digital portal. This solution – which has gone through a facelift since its initiation in 2018 and gained even new features – allows for self-service in making pick-up requests and accessing reports at the customer's convenience.

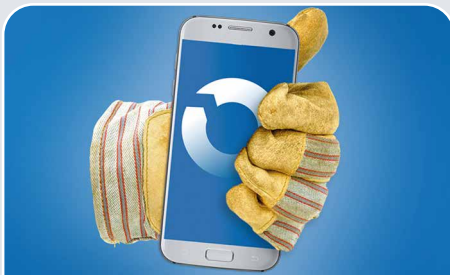
"This has freed us to focus on what truly matters in our operations," **Toni Mikkola**, Operation Manager remarks.

The partnership between Kuusakoski and thyssenkrupp Aerospace Finland Oy is also founded on shared values of responsibility, with a keen focus on aspects like trust, security, and stringent work safety. •



thyssenkrupp Aerospace Finland Oy
Location: Jämsä, Central Finland.

thyssenkrupp Aerospace is a leading supply chain management and 3PL service provider in the market for raw materials. With a network of more than 30 sites in over 20 countries, the company provides materials and supply chain services to more than 3,500 customers, including the world's biggest aerospace manufacturers and their suppliers.



**Glove Days,
May, Finland**

Fun and eagerly awaited recycling events for the whole family were organised in 2023 in no less than ten locations around Finland. At these Glove Day events, we especially promoted the secure recycling of smart devices. At our Muurame site in Central Finland, the event turned out to be the busiest day in many years.

“Really great! My son was so excited when he got to recycle the old toy cars and saw the material processing machine: 10+,” commented one satisfied customer.

**Tech Show,
3-4 May, Stockholm,
Sweden**

The Stockholm Tech Show is an event for discovering and understanding new technologies that are taking companies and society forwards. At the event, we launched our end-to-end ITAD (Information Technology Asset Disposition) business line. We were happy to meet and discuss with a number of environmentally and data conscious visitors.

**Classic Motor Show,
4-5 May,
Lahti,
Finland**



**VIP Event for Car
Importers,
11 May, Heinola, Finland**

**World Circular Economy
Forum, 30 May – 1 June,
Helsinki, Finland**

“The role of scrap in the steel sector decarbonization” was an Accelerator Session organised by WWF Finland in connection with the World Circular Economy Forum (WCEF) in Helsinki on 1 June. Among the inspiring speakers was our CSO **Tuomas Haikka**, who talked about the role of recyclers in overcoming the scarcity and quality challenges in the the steel value chain.

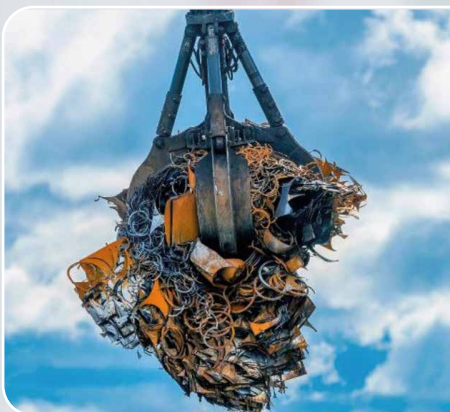


**E-Waste World Conference
& Expo, 28-29 June,
Frankfurt, Germany**

Industry experts gathered at the E-Waste World Conference & Expo in Frankfurt to find the latest innovations and solutions for creating a perfect cycle for electronic waste.

“It’s great to be here – just amazing atmosphere, lots of networking and the venue full of enthusiastic people in creating a more sustainable future,” commented Business Development Manager **Ben László**.

Pictured from right to left: Business Director WEEE **Tapio Kuusakoski**, Project Manager **Hendrik Vedder**, R&D Engineer **Walteri Leskinen**, WEEE Production Manager **Martti Hirvonen** and Ben László.



**OKRA Farm Fair,
5-8 July, Oripää, Finland**



**CIWM visit,
September 2023,
Sittingbourne, UK**

CIWM (the Chartered Institution of Wastes Management) key personnel visited SWEEP Kuusakoski.



**E-Scrap Conference,
18-20 September, New Orleans, USA**

The E-Scrap Conference is one of the leading industry events focusing on electronics recycling and sustainability. Kuusakoski was represented by our US organisation (pictured from right to left): COO **Antti Kukkola**, Legislative Program Manager **Lisa Kneller**, Production Manager **Melinda Ryan**, Sales and Sourcing Manager **Rita Palmer** and CEO **Chris Proctor**.

**Pink October,
October, Sweden**

During the Pink October campaign, we placed pink containers in our sites across Sweden. Individuals and businesses were invited to leave their scrap metal in them.



UK Metals Expo, 11-12 September, Birmingham, UK

Metal industry experts and exhibitors gathered to share their views and present new innovations at the UK Metals Expo. Among the participants was also **Matt Hunt**, Kuusakoski Ltd's new Head of Operations. Important topics such as the Carbon Border Adjustment Mechanism (CBAM) and its potential impact on the British metal industry and sustainable development played a central role. The discussions also covered the supply, demand and processing of materials.

Aluminium Days, 21-22 November, Lahti, Finland

Annual event organised by the aluminium products industry group of the lobbying organisation Technology Industries of Finland.

**E-Scrap Recycling Event,
16 October 2023,
Darlington, Lafayette, USA**



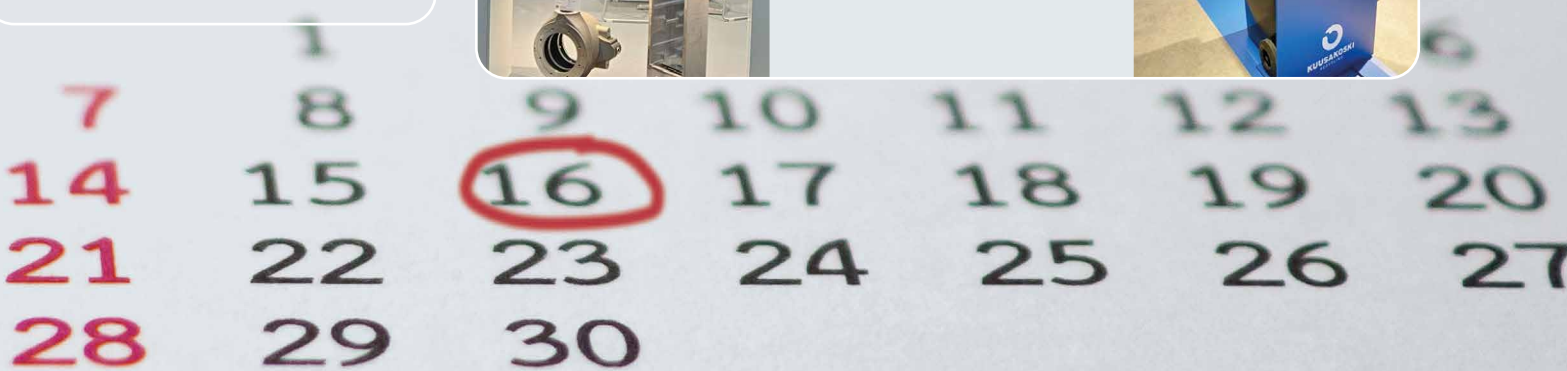
Green Hunt, September 2023 – April 2024, Estonia

Our Green Hunt campaign that kicked off in September 2023 continued into spring 2024. The campaign encouraged young people from all across Estonia to collect the aluminium cases of used tea light candles and small electronic waste.



**ELMIA Subcontractor,
14-16 November, Jönköping, Sweden**

ELMIA is one of the leading subcontractor fairs in Northern Europe. Alteams and Kuusakoski attended the event with their own stands.





This cutting-edge sorter not only cleans up the e-waste using AI-powered innovation, but it also enhances the recycling of materials and makes them purer for the manufacturing industry.

AI FURTHER ENHANCES MATERIAL HANDLING AT SWEEEP KUUSAKOSKI

In recent years, artificial intelligence and machine learning processes have advanced in the UK waste sector. Before now, these processes had not yet been widely applied to waste electrical and electronic equipment or metals.

In 2023, our joint venture SWEEEP Kuusakoski, which specialises in recycling of electrical and electronic equipment, and Recycleye, a company that offers innovative AI robotics solutions for waste and materials management, joined forces to bring AI into the world of recycling of e-waste.

Together we have developed a smart sorter that uses AI and machine learning to remove batteries, for example, from e-waste. This is critical as the number of batteries in the material stream is constantly increasing and, due to the risk of ignition, they can cause problems in the recycling process.

SWEEEP Kuusakoski is the only electrical and electronic equipment recycling company in the UK



with a similar sorter in operation. This is the first time Recycleye has combined its AI with an air jet system.

Using AI to detect materials means that objects are identified by their features, just like a human eye. •

From left to right: **Zoe Cook**, Technical Sales Manager, Recycleye, **Barry Walker**, SWEEEP Kuusakoski, **Christophe Parrot**, Head of Sales, Recycleye, **Kirk McGrady**, SWEEEP Kuusakoski, **Marian Piersiak**, SWEEEP Kuusakoski and **Farley Jones**, SWEEEP Kuusakoski.



The University of Notre Dame and Kuusakoski began working together in 2015.

Kuusakoski supports sustainability goals of the UNIVERSITY OF NOTRE DAME

Notre Dame is a 181-year-old leading Catholic university in the US state of Indiana and strives to be a pioneer in sustainable development, education and research in concert with its faith-based mission and a storied athletics program.

The university brings together thousands of students, teachers and other staff representatives. Over the years, the partnership between Notre Dame and Kuusakoski has grown and deepened, bringing significant benefits to both parties.

Initial partnership

In the early days of the partnership, collecting and recycling Notre Dame’s electronic equipment was simple. Materials were collected from various parts of the campus, such as classrooms, students, university offices and athletic events, and stored on site. When the warehouse was full, the university ordered a pick-up from Kuusakoski, which took care of logistics and recycling. The pricing of the service was based on the transport fee and the weight of the equipment to be recycled.

Improvements in efficiency increased recycling and reduced overall costs

Due to the Covid pandemic, the university switched to online learning, so only essential staff worked on campus. The amount of material collected decreased, and in 2020 there were only two collections.

After the pandemic, in autumn 2021, the university launched a new recycling strategy for electronic devices that included, among other things, the hiring of a new IT contact person. The efficiency of material collection and sorting improved significantly, which also brought financial benefits to the university. In two years, the university collected as much material as in the five years before the pandemic.

“A good partnership is based on continuous collaboration. We are committed to helping the University of Notre Dame achieve their sustainability goals. One way we do this is by improving the university’s recycling processes and guiding them to sort more efficiently. We believe that this collaboration will not only contribute to sustainable development, but also create learning opportunities for both parties”, says **Chris Proctor**, CEO of Kuusakoski US. •



Notre Dame’s strong commitment to sustainability involves much more than just complying with waste management programmes. It also includes using the stadium’s old bleachers in works of art.



Recycling of **electric and hybrid vehicles** puts occupational safety first

In spring 2023, Kuusakoski invested in a new preprocessing line for electric and hybrid vehicles in Heinola. The company's purpose is to point the way for the entire industry as the number of electric and hybrid vehicles continues to grow in the future, also in recycling.

The completely new type of car preprocessing line was built at Kuusakoski's 25-hectare recycling plant in Heinola, Finland. The fully indoor space was designed especially for the preprocessing of electric and hybrid vehicles, so electrical safety in particular was a priority.

"In the future, more and more electric and hybrid vehicles are expected to be recycled, and we are now prepared for their safe preprocessing. Just removing the battery carries risks. When you start disassembling the battery, the risk level rises," says Service Manager **Ari Turunen**.

The new preprocessing line was built according to operating models that have proven to be effective in Central Europe. Fire safety was developed together with local rescue services.

"The recycling of electric and hybrid vehicles is taken into account in the new end-of-life vehicles (ELV) regulation that has been proposed by the European Commission, and our new preprocessing facility responds well to the stricter requirements that are already planned."

Once the traction battery and any fluids have been safely removed from the electric or hybrid



vehicle, the rest of the car continues to the same recycling processes as internal combustion engine vehicles. These processes include shredding the car body and separating the shredded materials, as well as processing them into recycled raw materials for industry. At Kuusakoski, all processes are located within the same plant in Heinola.

"Aluminium, for example, can also be separated from electric and hybrid vehicles and returns to the car industry in the form of ingots from our smelter," Ari Turunen explains. •



WHAT'S NEW?

To safely remove the power source of an electric or hybrid vehicle, several new methods are needed to ensure occupational safety:

- The work area has a massive battery handling table with a basin of water inside (into which the battery can be dropped in the event of a fire).
- The electricity to the work area can be cut off using emergency switches next to the doors.
- Employees require three different qualifications to work in the area.
- Employees must use fire and arc protection clothing, voltage tools, high-voltage gloves and arc flash helmets. The work is always performed in pairs.
- The preprocessing line for electric and hybrid vehicles is surrounded by a quarantine area that is monitored around the clock with thermal cameras. Electric and hybrid vehicles that are waiting to be recycled, as well as batteries, are stored in this area.
- In addition, there is a container with a cover outside that can be filled with water in the event of a fire, into which a burning vehicle can be lowered to cool down.

FIRST VEHICLE CHARGING UNITS DELIVERED FOR RECYCLING IN THE UK

The public charging network for electric and hybrid vehicles in the UK comprises more than 40,000 charging points. Approximately 19% of these are high-voltage fast charging points. Charging technology is developing rapidly, and the charging network continues to expand. This year, the first fast charging units for electric and hybrid vehicles were delivered to SWEEEP Kuusakoski for recycling.

"The high-voltage capacitors inside each unit must be dismantled before recycling. This year, we have already recycled more than 100 high-voltage chargers for electric and hybrid vehicles. Among other things, the devices contain copper, the demand for which is estimated to increase by 50 percent by 2040. The role of high-quality recycling in ensuring the circulation of copper is essential," says **Justin Greenaway**, Commercial Manager at SWEEEP Kuusakoski. •



New ELV Directive accelerates recycling and promotes a sustainable automotive industry

The European Commission has proposed amendments to the ELV* and 3RTA** directives to improve the processing of end-of-life vehicles and promote a circular economy in the automotive industry. The goal is to increase the durability of vehicles and reduce dependence on primary raw materials. One key goal is to increase the proportion of recycled materials in new vehicles – for example, at least 25% of the plastic should be recycled. Stricter targets for the collection and recycling efficiency of end-of-life vehicles are also proposed.

The proposal is expected to generate EUR 1.8 billion in net income within the EU and reduce CO₂ emissions by 12.3 million tonnes by 2035. Kuusakoski actively monitors the development of EU legislation. •

* ELV = End of Life Vehicle

** 3RTA = The 3R Type-Approval Directive 2005/64/EC, also referred to as the RRR (or 3R) Directive, established guidelines for reusability, recoverability, and recyclability as a necessary component of EU type-vehicle registration.



Solar panels were installed across an area of 12,000 square metres, which corresponds to the area of approximately two football fields.

ALTEAMS GREEN MANUFACTURING FACTORY

project in full swing in China

In spring 2023, Alteams launched its Green Manufacturing Factory project at its Chinese plant. As a result of the project, Alteams Suzhou has been certified with the ISO 50001 energy management system, the ISO 14064-1 and ISO 14067 standards for measuring and reporting greenhouse gas emissions, and the ISO 45001 occupational health and safety system. China's green transition strategy goes hand in hand with the sustainability goals of Alteams, which aims to halve its 2019 carbon dioxide emissions by 2030.

"I am very proud of our sustainable development achievements in recent years, which have helped to reduce our environmental impact and minimise

the costs of energy consumed at the factory," says **David Twomey**, CEO of Alteams Suzhou.

Already in 2021, Alteams Suzhou began planning a solar power system to be installed on the roof of the factory. After tripartite negotiations between the lessor, the electricity company and Alteams Suzhou, preparations began with roof repairs and strengthening of the structures in early 2022. During the spring and summer, solar panels were installed across an area of 12,000 square metres, which corresponds to the area of approximately two football fields. The peak power of the system is 1.5 MW, and in summer it produces 8–10% and in winter 5–6% of the factory's electricity needs. •

WHAT IS THE GREEN MANUFACTURING FACTORY PROJECT?

China's manufacturing industry, such as the automotive industry, plays an important role in the country's economic development, but rapid growth has led to high energy consumption. China has increased its efforts to promote more environmentally sustainable manufacturing methods. The change towards more sustainable operating methods is outlined in the Chinese government's "Made in China 2025" strategy. Companies are offered incentives, but progress must be demonstrated. One such incentive is the Green Manufacturing Factory project.

KUUSAKOSKI GROUP RECEIVES INTERNATIONALISATION AWARD OF THE PRESIDENT OF THE REPUBLIC OF FINLAND

Sauli Niinistö, President of the Republic of Finland, granted the annual Internationalisation Award to successful Finnish companies in November 2023. Kuusakoski Group received the award for Growth Company.

"Kuusakoski has grown throughout the period of industrialisation in Finland after the wars, and strong internationalisation in the following decades also helped us grow. Now the driver for growth is our customers' increased need for low-carbon raw materials. I am particularly proud of our consistent product development and investments in cutting-edge technological know-how throughout our company's 110-year history," says **Veikko Kuusakoski**, CEO of Kuusakoski Group.

The Internationalisation Award of the President of the Republic of Finland is bestowed annually in recognition of internationally successful companies or communities. Particular attention is paid to competitiveness, the international nature of the business and profitability. In addition, the evaluation emphasises the ethical nature of operations, the impact on the development of Finnish competence and employment, as well as foreign investments and the promotion of Finland's innovation ecosystem.

In addition to Kuusakoski Group, the recipients of the award in 2023 were Neural DSP Technologies (Newcomer Company), AGCO Corporation (Long-term International Investor) and EnergyVaasa (Community Award).

"The awarded companies demonstrate in an excellent way the importance of continuous inno-



The Internationalisation Award of the President of the Republic of Finland is bestowed annually in recognition of internationally successful companies or communities.

Mariella Kuusakoski-Toivola, **Veikko Kuusakoski** and **Tapio Kuusakoski** received the award from the President of the Republic of Finland **Sauli Niinistö**.

vation both in terms of competitive advantage, internationalisation and sustainable development. In addition to international success, the evaluation emphasised green transition and sustainable development," says **Ilona Lundström**, Chairman of the Team Finland Executive Group and Director-General at the Ministry of Economic Affairs and Employment. •

ALTEAMS FINLAND AWARDED CARBON FOOTPRINT CALCULATED LABEL

The Carbon Footprint Calculated Label

awarded by the Finland Chamber of Commerce allows Alteams to demonstrate that the emissions caused by energy use in its Finland's operations have been calculated according to the GHG protocol. Alteams has been calculating the CO₂ emissions caused by its energy use globally since 2018. The goal is to reduce CO₂ emissions by 50% from the 2019 level by 2030. •



STRONG PERFORMANCE IN ECOVADIS EVALUATION: SILVER AND BRONZE

Kuusakoski Group has demonstrated its commitment to sustainable development by achieving excellent scores in the EcoVadis ratings, a globally recognised measure of sustainability.

In 2023, EcoVadis awarded Silver Medal status to Kuusakoski Recycling and Bronze Medal status to Alteams. Kuusakoski was ranked among the world's best 20 percent of rated companies. The strong performance reflects the entire Group's commitment to environmental, social and governance (ESG) factors. Both companies were also awarded medals in 2022, Alteams gaining Silver Medal status and Kuusakoski Bronze Medal status.

"EcoVadis is more than a comparison of sustainability. In particular, our largest customers face ever-tightening monitoring and reporting requirements related to the sustainability of their supply



chains. The EcoVadis evaluation is one of the most widely used tools that our customers and partners use as a reliable, external measure. In addition to the comparison, EcoVadis produces a comprehensive profile that we can pass on directly to our customers," say **Tuomas Haikka**, Chief Sustainability Officer at Kuusakoski, and **Anne-Mari Järvinen**, Executive Vice President Sourcing and Sustainability at Alteams. •

SUSTAINABILITY



Kuusakoski Recycling

According to our vision, our ambition is to be the preferred partner for our customers through excellence in recycling and sustainability. We are at the heart of the circular economy – sustainability is the cornerstone of our competitiveness, long-term growth and success.

Responsibility and sustainable development are an integral part of our business. Our operations are based on Kuusakoski's values, code of conduct and a proactive partnership with our stakeholders. We see our sustainable business model, management of the supply chain and developing responsible operations as a great opportunity. Sustainability is an integral and essential part of our strategy and business processes.

OUR SUSTAINABILITY HIGHLIGHTS IN 2023



Faster-than-target progress in long-term climate goals



Green investments significantly improve the sustainability of our processes



Construction of first carbon neutral* steel recycling plant



Recognition by EcoVadis evaluation



Dynamic carbon footprint calculator launched for our customers



Avoided emissions equalling some 560,000 passenger cars' annual emissions

* Scope 1 & Scope 2 (market-based) = 0 tCO_{2e}

Recognition for sustainability work

EcoVadis, a collaborative platform that provides Supplier Sustainability Ratings for global supply chains, awarded Silver Medal status to Kuusakoski Recycling. Kuusakoski was ranked among the world's best 20 percent of rated companies. The strong performance reflects our commitment to environmental, social and governance (ESG) factors. It is also recognition of our hard work and commitment to sustainable development. Read more on page 29.

Focusing on the right things

Kuusakoski's latest materiality analysis guides our sustainability decision-making and strategy, as well as our targets and related key performance indicators (KPIs), operations, opportunity and risk management, and reporting. The analysis helps us determine which themes we should be investing our time, energy and resources in. Kuusakoski has conducted

a materiality analysis based on the latest standard approach, a so-called double materiality analysis. The concept of double materiality acknowledges that a company should report simultaneously on

sustainability issues that are: **a)** financially material in terms of their impacts on business value; and **b)** material from the point of view of the market, the environment and people.

ESG topic	Inward impact (business)	Outward impact (society)
Circular economy & climate	● ● ●	● ● ●
Sustainable value chain & partnerships	● ● ●	● ● ●
Provider of sustainable & secure solutions	● ● ●	● ● ●
Workforce safety, health & wellbeing	● ●	● ● ●
Workforce attraction, development & retention	● ●	● ●
Environmental impacts of own operations	● ●	● ●
Ethics & compliance	● ●	● ●
Economic value creation	● ●	● ●
Workforce diversity, equity & inclusion	●	●
Stakeholder relations & outreach	●	●

SUSTAINABILITY PROGRAM

In 2023, we continued the focused implementation of our Sustainability Program. This program serves as a Kuusakoski Recycling Group-wide framework for planning, coordinating, communicating and steering our sustainability activities. Based on the materiality analysis, we have identified four main themes for the program. Each theme is systematically pursued with an action plan consisting of concrete initiatives and development projects. The four themes are outlined below:

1. Proactive partnership with customers



We support the sustainability work of our customers through our products and operations. Together, we make the entire value chain more sustainable. Enabling the "eco-design" and full life-cycle optimisation of products for our customers is key to this. We proactively seek ways to deepen collaboration and partnerships with our customers.

2. Material and energy efficiency of our operations



We reduce the energy consumption and emissions of our production and recycling operations. This theme focuses on reducing the environmental impact of our own operations, improving energy efficiency, and reducing fuel consumption and emissions. In recycling operations, the focus is on maximising the share of waste that is recovered and recycled and on constantly developing new and better recycling processes through in-house R&D.

3. Occupational safety and wellbeing of employees



We care for the wellbeing and safety of our own employees and those of our contractors. We support the participation of employees in the active development of the company and promote equity and diversity in the work community.

4. Continuous improvement of sustainable business practices and supply chain



We are a stable and trustworthy business partner. We have transparent business practices and open stakeholder dialogue. We ensure a sustainable supply chain through responsible contractors and suppliers.

We worked on each of the above themes in 2023, and you can read more about the progress, actions and results in the following sections of this report.

Implementation is the key to achieving results

One of the main objectives of our Sustainability Program is to invite all Kuusakoski employees and partners along on our joint sustainability journey. In order to enable effective collaboration between our international units and various functions, we have established a Sustainability Network with members representing different functions, countries and business areas. The members of the network play a key role in embedding sustainability throughout the organisation, acting as messengers within their home organisations.

Together with our reporting model, our Sustainability Program and Sustainability Network enable the management of sustainability issues to be integrated into Kuusakoski's strategy, risk management process and management system.

In 2023, the Sustainability Network convened three times, reviewing our sustainability reporting, monitoring progress regarding the Group's targets, setting targets for 2024, and harmonising the reporting and collection of data. Together, we have prepared and

approved Group-wide sustainability initiatives and actions.

The circular economy, the green transition and growing concerns about climate change are increasing the importance of product life-cycle information, as well as the demands for environmentally, socially and economically sustainable practices throughout the supply chain. Our customers also need information on the sustainability of our products, such as carbon footprint calculations, as they work towards their own sustainability goals. Legislative and norm-based requirements for both reporting and transparency are increasing. The ability to report on the sustainability and goal-oriented development of operations has also been taken into account in the objectives of our Sustainability Program.

Our products and services – implementing the circular economy in practice

Kuusakoski is a company that offers sustainable recycling services. Our strength is based on competence with materials, recycling and environmental technology.

In addition to metal recycling, we recycle electrical and electronic equipment and manufacture high-quality solid recovered fuel from energy-containing waste that is unsuitable for recycling. All our products are recycled raw materials made from recyclable materials, and the services we provide are all connected to the reuse, recycling, processing and safe disposal of these materials.

Everything we develop, process, manufacture and deliver contributes to a more sustainable tomorrow. The raw materials we supply enable our customers to achieve significant emission reductions and a more sustainable life cycle for their products. Our products and services are a response to global challenges, such as climate change, energy and resource scarcity, urbanisation and the electrification of society. Recycling enables sustainable economic growth.

Kuusakoski is prepared for stricter reporting requirements

The European Union's Corporate Sustainability Reporting Directive (CSRD) expands and tightens corporate sustainability reporting requirements in the EU. Accordingly, companies must report more extensively on sustainability-related issues, such as climate change, biodiversity and human rights.

The EU taxonomy provides a classification system for economic activities based on their environmental sustainability. It sets criteria for determining the environmental sustainability of economic activities. The classification system helps determine which economic activities can be considered sustainable, thereby supporting the EU's climate goals.

The EU taxonomy and CSRD are key components of the EU's sustainable finance framework and are interconnected in many ways. The taxonomy provides a framework for defining the sustainability of economic activities, while CSRD focuses on corporate reporting on these sustain-

ability issues. Companies must report not only on how environmental changes affect their business, but also on how their operations affect the environment, which is known as the concept of "double materiality".

The directive's obligations will enter into force in stages starting during the 2024 financial year. These obligations will apply to Kuusakoski as of 2025. However, we have wanted to proactively develop our operations and prepare for future mandatory requirements already now. We have made a double materiality analysis as early as 2022, our report is third-party verified in terms of chosen sustainability information, we comply with GRI reporting guidelines, and we also take the taxonomy requirements into account in our reporting. Although tightening obligations increase the workload, we see them above all as an opportunity: we can help our customers with reporting, especially in questions related to the circular economy and its climate impacts. •

Obligations will apply to Kuusakoski as of 2025. However, we have wanted to proactively develop our operations and prepare for future mandatory requirements already now.

STRONG COMMITMENT

through ambitious targets

Kuusakoski's greatest contribution towards combating climate change globally is made in the form of avoided emissions when our recycled products replace virgin materials. Despite our significant carbon handprint, we are committed to participating in the common cause of combating climate change by reducing the emissions of our own operations.

OUR CLIMATE TARGETS

Kuusakoski Recycling's own operations carbon neutral by 2035*

Entire value chain carbon neutral by 2045**

*Scope 1 and 2 **Scope 1,2 and 3

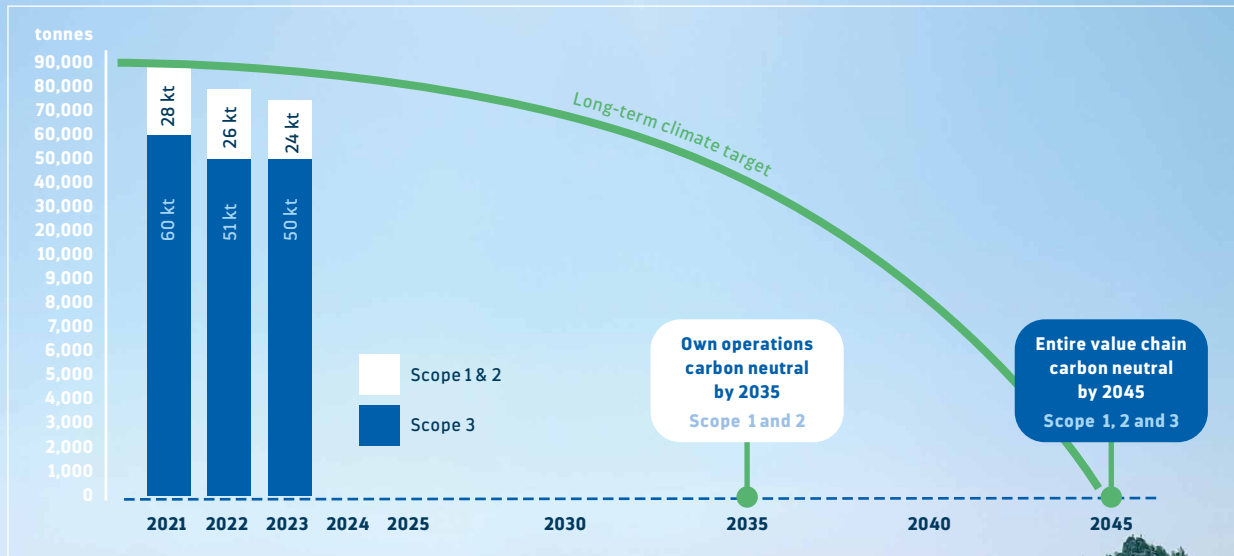
Scope 1 = direct emissions from operations
Scope 2 = indirect emissions from purchased energy
Scope 3 = other indirect emissions from operations



We are committed to actively promoting the UN Sustainable Development Goals, focusing especially on goals 8 (Decent work and economic growth), 9 (Industry, innovation and infrastructure), 11 (Sustainable cities and communities), 12 (Responsible consumption and production) and 13 (Climate action). We also participate in the UN Global Compact initiative.

We report on the progress of the goals on the following pages, as well as on Global Compact Finland's CoP (Communication on Progress) reporting platform.

We are already 13% ahead of our target



Kuusakoski Recycling's sustainability targets for 2024

Safety

- Application of safety culture and training
- Proactive safety observations (6/person)
- Auditing scheme for contractors and suppliers, specific focus area for fire safety

TRIF below 18
LTIF below 11

Material and energy efficiency

- Energy efficiency improvement
- Green Investments
- Improved material recycling rates
- CO₂ emission reductions

Energy efficiency +0.5 %
CO₂ emissions -2 % / t

Sustainable supply chain

- Improved supply chain sustainability and risk management
- Compliance with supplier auditing scheme

Implement Code of Conduct in procurement agreements covering +95% of the overall spend

Social responsibility

- Social responsibility reporting
- Update ethics and sustainability policies


Target and personal development discussions, participation rate +95%

As part of the target setting process, we have defined quantitative targets for each sustainability theme. These Group-wide targets are monitored and the results reported annually in our Sustainability Report. The realisation of the targets for 2023 is reported under the relevant sections.

At Kuusakoski we focus on recycling WITH THE AIM OF LIFE CYCLE OPTIMISATION

Our aim is to increase the metal recovery rate to

97 %



The entire life cycle of products or materials must be taken into account when considering the efficient use of resources, sustainable production and consumption. Recycling, recyclability and product design that takes recycling into account – “eco-design” – are of decisive importance in life cycle analyses. Reuse and recycling are by far the best solutions for achieving eco-efficiency

The raw materials we recycled enabled our customers to avoid

1.39

million tonnes of emissions in 2023.

1

Efficient recycling of materials

We strive to maximal recycling of products and materials at the end of life. Practical examples of this include producer responsibility agreements, recycling campaigns, and making collection simpler and more efficient.

We advise our customers to sort waste materials correctly where they are generated. Thanks to our comprehensive service network, we are close to our customers and do not have to transport materials long distances for processing.

2

Recycling efficiency and material quality

The green transition and circular economy are based on the efficient recycling of materials at the end of their life cycle. The recycling rate determines the overall life cycle efficiency of the end material and product. This is especially important for metals that can be recycled several times at the end of their service life without any deterioration in quality.

Kuusakoski is the leading recycler of metals and our recycling rates are very high. We are aiming to further increasing the metal recovery rate towards 97%.

3

Maximising the life cycle

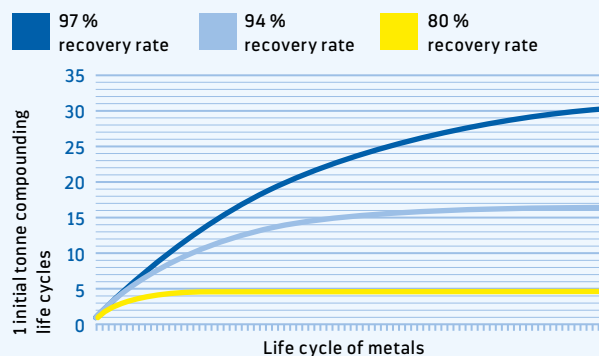
By productising recycled materials, we maximise their usability. The more virgin and non-renewable raw materials can be replaced by recycled materials, the greater the benefits of the circular economy. For example, by producing purer aluminium fractions, we enable a higher utilisation rate of recycled materials for our customers. In this way, we strive to maximise the efficiency of the entire life cycle of materials.

4

A new life cycle begins for the products and raw materials we recycle

The benefits of recycling are realised when virgin materials are replaced by recycled raw materials in production. This saves natural resources, avoids CO₂ emissions, improves energy efficiency and makes the supply chain more sustainable. The raw materials we recycled in 2023 enabled our customers to avoid 1.39 million tonnes of CO₂e emissions.

Recovery rate and life cycle benefit



As a theoretical example, a recycling rate of 97% leads to twice the potential life cycle efficiency compared to a recycling rate of 94%. Compared to an 80% recycling rate, the benefit is more than 6 times.

Circular economy became the focus of industrial policy

In Europe and the USA as in Asia, the importance of recycling in securing metal production has been recognised. In Europe and the USA, new concrete targets, financial control measures – such as targets for recycling rates and self-sufficiency – and direct subsidies were introduced in legislation.

Improving the efficiency of recycling is one of the EU's most important ways to improve self-sufficiency, and the benchmark is a recycling capacity of at least 15%.

For example, in 2023, the EU published the latest list of critical raw materials (CRMs) containing 27 metals. Critical raw materials are defined according to their economic importance for the EU economy and supply risks. These materials are considered to be particularly critical for five strategic sectors: renewable energy, e-mobility, industry, information and communication technology, and aerospace and defence industry.

The EU's Critical Raw Materials Act (CRMA) aims to increase the EU's self-sufficiency regarding these materials. The goal is that by the 2030s, the EU's level of self-sufficiency in these strategic resources would improve significantly. Improving the efficiency of recycling is one of the EU's most important ways to improve self-sufficiency, and the benchmark is a recycling capacity of at least 15%.

The US Inflation Reduction Act (IRA) also includes goals and measures related to supply chains and recycling of critical raw materials. These reduce dependence on imported raw materials, but also support the goals of sustainable development.

Technological development and international cooperation play a key role in achieving sustainability goals. Kuusakoski operates in all three regions – Europe, the USA and Asia – and an essential part of our strategy is to improve recycling efficiency and sorting capabilities through investments. Global developments increasing the importance of recycling are in line with our goals and confirm that we are on the right track. •



OUR PRODUCTS HAVE A SMALL CARBON FOOTPRINT AND A LARGE HANDPRINT

Product stewardship is important to Kuusakoski. We want to ensure the quality, safety and regulatory compliance of the materials and services we supply. Just as our own emission reduction goals are at the heart of our operations, we aim to help our customers achieve the greatest possible benefits during the life cycle of their own products.

In 2022, we completed the first collection of life cycle data in accordance with the international Greenhouse Gas Protocol for all our main products: recycled metal raw materials (aluminium, copper, steel, zinc and stainless steel), metal alloys and electronics.

In 2023, we continued development work and launched the first fully digital carbon footprint calculator in the recycling industry. We have received extremely good feedback about our service, which enables customers themselves to search for carbon footprints and recycling benefit calculations for different periods, for example by product, site location or country. Data is reported based on actual material flows and emissions.

It is important for us to offer reliable carbon footprint information to our customers. The calculated data is based on data verified by a third party and cover the emission impacts of the entire value chain, including both direct (Scope 1) and indirect (Scope 2, Scope 3) emissions.

In addition, we have developed service processes, as well as recycling and utilisation concepts, to better address the needs of our service customers for sustainability information. During the year under review, we compiled several tailored carbon footprint and handprint reports for our customers.

Fulfilling our vision – to be the preferred recycling partner for our customers – requires us to be the industry forerunner. Our dynamic



carbon footprint calculator and developing end-of-life statements is an excellent example of what this involves in practice. These statements not only help our customers reach their own goals but also increase overall awareness regarding the opportunities provided by eco-design, the circular economy and life cycle optimisation.

New Carbon Footprint Calculator provides reliable emission data for our customers

We support our customers' sustainability work by producing reliable and transparent emission calculations. In 2023, we launched a new carbon footprint calculator, with which we can easily calculate for the customer their share of the emissions caused by logistics, processing and raw materials, as well as the carbon handprint.

The calculation is based on the Greenhouse Gas (GHG) Protocol, a globally recognised standard for measuring and managing greenhouse gas emissions. The calculation takes into account both the material flows from the customer to Kuusakoski and from Kuusakoski to the customer.

The calculator illustrates the important role played by recycling and recycled raw materials in reducing product lifecycle emissions. It also clearly shows how the carbon handprint of Kuusakoski's operations is almost always greater than the emissions of our operations, regardless of the material. •



= Kuusakoski's sustainability network includes experts in different sectors from our various country units. We present a few of them on the pages of the sustainability section.

Who?

Sara Tikka

What? Life Cycle Expert

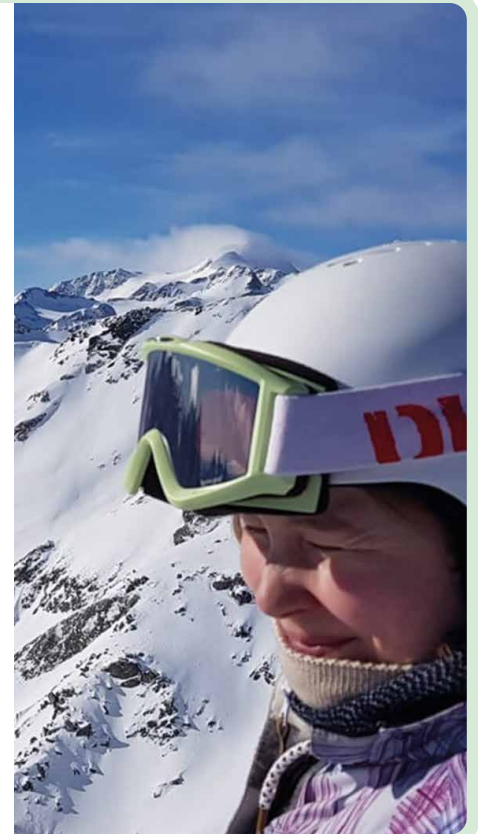
Where? Espoo, Finland

How is sustainability visible in my work?

Sustainability is at the core of what I do.

Where the life cycle of our products dictates their sustainability, we also want to be able to measure this and give our customers the best possible data for them to succeed in their own goals. We constantly develop our data so that we are able to communicate efficiently to our entire supply chain about what we do and what separates us from our competitors.

Fun fact about me: I have worked at Disneyland. I have also been figure skating for 13 years, but it would take a long time to find a lazier athlete these days.



Investments secure our leadership position

In 2022, we announced our multi-year Green Investment Program. The goal of the program is to ensure that Kuusakoski has leading expertise and the best technical processes that are both sustainable and competitive. In addition, the goal is to increase and build new capacity for selected strategic recycling value streams.

These investments will make our products even more sustainable by increasing the recovery rate and improving the final degree of purity.

Last year, we reported a total of more than **EUR 40 million** in new investments, including in the following:

- A **unique copper centre** that enables even better purity and a higher recycling rate.
- Possibly the world's first fully carbon neutral **steel recycling plant** in Veitsiluoto.
- The first **composite recycling plant** that enables, for example, the recycling of wind turbine blades in the Nordic region.

Our green investments improve energy efficiency and material recovery rates.



- **Improved separation of aluminium** and carbon-neutral production chain.
- State-of-the-art and safe preprocessing of **electric and hybrid vehicles**.

These investments create significant environmental benefits and synergies throughout the value chain, for example by enabling a higher recycling content in refined products, by reducing processing and emissions at the beginning of the production chain, and by achieving a higher degree of recycling for materials in everyday solutions, such as vehicles, household appliances and electronic devices. •





ENVIRONMENT

The management of environmental issues at Kuusakoski is based on continuous development of our operations and minimising adverse environmental impacts. We are committed to ensuring that our operations are safe and sustainable, and we take care of both people and the environment. Our operations are guided by certified country-specific environmental management systems that comply with the ISO 14001 standard.

Environmental systems are a key part of our site management system and day-to-day operations. Compliance is monitored with the help of internal and external audits. All sites with significant environmental aspects have management systems in accordance with the standard.

The environmental impacts caused by the handling and processing of recycled materials were well controlled in 2023. We operated within the permit limits, and small and temporary deviations from the environmental permits occurred six times throughout our entire yard network in Finland. All exceedances were reported to the relevant authorities, and corrective actions were taken.

The main environmental impacts and risks at our sites are dust and particulate emissions to the air, emissions to water, direct and indirect energy consumption in processes and related emissions, landfill waste generated as a byproduct of the production of materials, and noise from site processes. The environmental impact of Kuusakoski's operations in relation to the recycling benefits is very small. The use of recycled materials in contemporary society reduces emissions

during consumption and enables the efficient use of resources. For example, in the recycling process, increased energy consumption due to more precise separation and metal recovery leads to energy savings and environmental benefits in the later stages of the life cycle, as virgin raw materials are replaced by recycled materials. Continuously developing recycling processes and high-quality productisation are solutions for combating climate change and nature loss and environmental protection in accordance with UN Sustainable Development Goals 9 and 13.

In 2023, the development of environmental issues in Finland focused on managing emissions from new activities as part of the design and permit processes. In addition, continuous monitoring of air emissions from our Heinola plants and leachate emissions from the Rajavuori final disposal site was enhanced. A lot of new covered processing and storage space was also built in Heinola, which reduces emissions to the environment. At our Finnish yards, the monitoring and maintenance of runoff water systems was enhanced, which was reflected in the calculated oil concentrations in the monitoring results. In Heinola,

Kuusakoski supports Finnish nature

Kuusakoski Oy is a supporting member of the Finnish Association for Nature Conservation. The support of companies is worth its weight in gold for nature conservation. Diverse nature is also vital for commerce. It is estimated that more than half of global GDP is directly dependent on nature. As a supporting member of FANC, we are involved in protecting our unique nature and combating climate change and the loss of nature. •

the renewal and transfer of sediment pools enabled the cleaning of soil pollution caused by previous operations.

Biodiversity

Combating the loss of biodiversity and the collapse of ecosystems is extremely important. This is one of the biggest threats to humanity in the next decade. The economic and social costs of not acting would be enormous. More than half of the global economy is directly linked to nature and natural resources. The risks of nature loss endanger the entire food supply and nutrition. The loss of biodiversity is also intrinsically related to climate change and worsens it. The progression of nature loss can be viewed through five key factors that cause it: climate change, changes in land and sea use, the direct exploitation of natural resources, pollution and invasive species.

Companies are dependent on nature in their operations, while at the same time their operations have an impact on nature. As a recycling company, Kuusakoski produces products that directly reduce climate impacts and the need to use virgin natural resources. Our products and services have a positive

effect on biodiversity. We monitor our impacts on biodiversity and strive to minimise negative impacts throughout the value chain. Our operations do not use or take up large areas of land or cause adverse changes, such as nature loss. Kuusakoski does not operate in or in close proximity to conservation areas or areas of significant biodiversity, such as UNESCO World Heritage Sites, Ramsar sites or UNESCO Biosphere Reserves. Our operations have not been found to interfere with local biodiversity

or threaten species on the International Union for Conservation of Nature (IUCN) Red List, which identifies and documents species that are most in need of protection or are endangered. In addition to Kuusakoski's own operations, no threats to biodiversity or nature loss have come up in our supply chain.

Donation to Rafael Kuusakoski Memorial Fund

Kuusakoski Group Oy donated 25,000 euros to the Finnish Nature Conservation Foundation for the **Rafael Kuusakoski Memorial Fund**. The Rafael Kuusakoski Memorial Fund directs support to young researchers, primarily for projects related to Baltic Sea birdlife and archipelago life, marine ecology, and climate and landscape protection. The Fund operates under the auspices of the Finnish Foundation for Nature Conservation. The Board of the Fund annually selects the most suitable targets for support from among the applicants. •

MATERIAL AND ENERGY EFFICIENCY

In 2023, we collected a total of 870,350 tonnes of recyclable materials, and we consumed 10,474 tonnes of excipients in our recycling processes. From these amounts, final disposal of unrecyclable materials accounted for 71,495 tonnes, and 46,976 tonnes were recovered in the form of solid recovered fuel or as materials. In total 819,621 tonnes of recycled raw materials were delivered as products, including 652,175 tonnes of metal raw materials. The total utilisation rate of materials delivered to Kuusakoski was 94.6 %.

Improving energy efficiency and minimising the direct and indirect effects of energy consumption are among the key objectives of our Sustainability Program. A variety of energy sources is used at our sites, including light and heavy fuel oil, LPG, diesel and electricity. Kuusakoski Recycling's energy consumption decreased 7,8 % in 2023 compared to the previous year and amounted in total to 114,301 MWh (123,964 MWh in 2022).

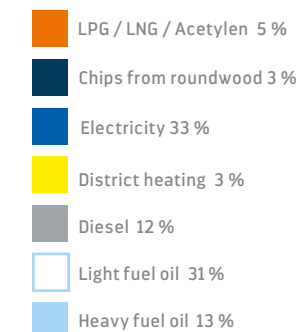
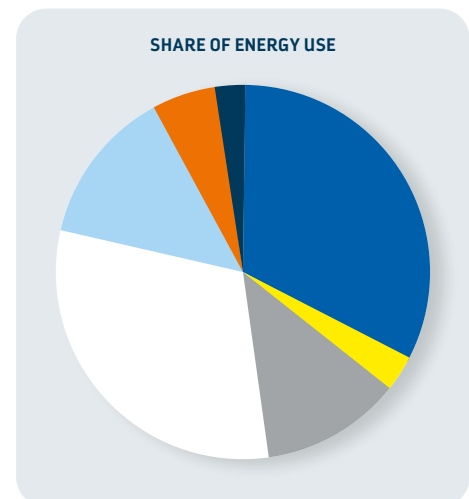
The Group's approach to long-term energy efficiency is based on our strategic targets and continuous improvement. Energy efficiency is an essential part of our Green Investment Program that we launched already in the previous year and that strives to improve process integration and waste heat recovery. We also encourage employees to propose energy-saving ideas as part of our initiative system. A separate committee reviews all submitted ideas on a monthly basis, decides on their approval and transfers the approved ideas to the line organisation for implementation. As part of our Sustainability Program, we also created a roadmap for improving and optimising energy efficiency and reducing the environmental impact of our energy consumption in the coming years.

Climate change

We determined the carbon footprint of our operations globally for 2023 in accordance with the Greenhouse Gas Protocol, which provides the world's most widely used greenhouse gas accounting standards for companies.

Our direct and indirect operative greenhouse gas emissions (scope 1 & Scope 2) were reduced by 7,5 % compared to 2022. The greenhouse gas emissions from our production in 2023 amounted to 24,029 tCO₂e (Scope 1 and Scope 2). Reducing emissions from our own operations and throughout the value chain is an important goal for Kuusakoski that we will continue to take forward in the coming years. Our goal is to make Kuusakoski Recycling's operations carbon neutral by 2035 (Scope 1 and Scope 2) and to have an entirely carbon neutral value chain by 2045 (Scope 1, Scope 2 and Scope 3).

Each year we strive to reduce emissions and develop emission-free processing options for the recycled materials we collect. The general trend, however, is that recyclable materials are increasingly complex, impure and poorer, so separating and processing them into high-quality, clean products will require



ever more efficient processes and even more processing.

Kuusakoski's recycling operations nevertheless reduce the global environmental impact, as every recycled product and tonne of raw material in our operations enables significant emission reductions for our customers. These reductions are realised when our



New career for ring crusher at SWEEP Kuusakoski

In 2023, a ring crusher weighing over 100 tonnes made the long journey from Philadelphia in the USA to Sittingbourne in the UK, packed into as many as ten containers. The journey marked the beginning of a new chapter in the crusher's career.

The surplus crusher had been used by Kuusakoski USA and found a new use in the operations of our joint venture SWEEP Kuusakoski in the UK. This is a concrete example of our company's commitment to the efficient and sustainable use of resources. Equipment that is redundant in one organisation can find a valuable use in another, promoting circular economy principles in our operations.

The ring crusher represents a strategically important UK infrastructure installation. It will liberate low-carbon and resource-efficient copper from challenging waste impacted by persistent organic pollutants (POPs). •

demands for controlling runoff and rainwater. All rainwater that is in contact with recycled materials, i.e. runoff water, is collected and either treated or cleaned and safely returned to the water system – either by our own process or by a local water company. To ensure that the water is treated correctly, we measure the concentrations of organic and inorganic substances that can be leached into the water from the recycled materials at our sites.

Green investments

Continuously improving the level of environmental protection and developing more sustainable processes requires investments. Almost all process investments in recycling or processing capacity can be considered green investments. In 2023, Kuusakoski continued to implement its multi-year Green Investment Program in order to strengthen our position as a forerunner in recycling industry (read more on pages 8-11 and 39).

In addition to major technology investments, we are investing in existing processes and equipment. In this way, we can reduce our environmental impact and improve resource and energy efficiency. For example, we invest in electric, emission-free alternatives instead of fuel-driven machinery and equipment. In 2023, we invested in eight electric machines, including forklifts and bucket loaders, which replaced fuel-driven equipment. In addition to major process and technology investments,

we made many smaller investments to improve nature conservation and environmental protection. For example, we invested in soil protection in Finland and water treatment in Sweden. In England, we also invested in transferring processing indoors to reduce harmful environmental loads. Our investments in sustainable, cleaner, more energy-efficient production, occupational safety and environmental protection amounted to EUR 23.3 million during the year under review. This reflects the company's strong commitment to continuously developing sustainable operations.



We support our customers in the sustainable and efficient use of natural resources, and we reduce the amount of waste generated through recycling and reuse.

customers replace virgin raw materials with recycled raw materials or fossil fuels with bio-fuels and solid recovered fuels. The emissions avoided due to our operations, our carbon handprint, amounted to 1.39 million tonnes in 2023. At the same time, we are supporting the UN Sustainable Development Goal 12: We support our customers in the sustainable and efficient use of natural resources, and we reduce the amount of waste generated through recycling and reuse.

Water separates, rinses and cools

Only our production plant in Heinola, Finland, uses significant amounts of water directly in its processes. In the sink-float process, metals are separated by water based on their specific gravity, and water cooling is used in the aluminium and metal separation process. These processes are based on a closed water circuit and best available techniques.

In addition to its use in processes, rainwater affects all of our sites through the

Electric shear baler increased our energy efficiency in Sheffield

In 2023, we continued to increase our optimisation of the electric shear baler that was installed in late 2022, and we have managed to increase the density of our products by over 35% per load. This has seen significant gains on emissions from logistics in addition to significant energy gains for the end users. •

MATERIAL BALANCE SHEET

Total material used	2023	2022	2021
1.1. Recycling materials input, tons			
1.2. Metals	681,835	693,173	955,216
1.3. Energy	69,549	74,500	84,126
1.4. Tires	3,123	69,745	69,313
1.5. Other materials	115,844	117,897 ⁶	102,895
Production excipients			
1.6. Production excipients ¹	10,474	10,991 ⁶	12,887
Total material input	880,824	966,306	1,224,438
Renewable materials ²	98.8 %	98.9 %	98.9 %
Non-renewable materials	1.2 %	1.1 %	1.1 %
Recycled materials, share of production inputs	98.8 %	98.9 %	98.9 %
Other production inputs			
Energy, MWh			
6.1. Electricity	37,403	39,514	43,272
6.2. District heating	3,822	4,125	4,009
6.2. Energy consumption of fuels ³	73,076	80,233	85,401
Total energy consumption	114,301	123,964	132,682
Energy intensity, all energies, kWh/delivered ton	139.5	131.3	131.2
Water used in production, m³			
2.1. Water intake	40,040	42,290	40,472
2.2. Drainage water	39,278	35,329	27,956
2.3. Runoff water at production sites	434,508	284,752	369,836
Waste and emissions			
Waste			
3.1. Total amount of waste, tonnes	118,471	138,024	129,175
3.2. Non-hazardous waste, recovery	30,699	48,525	-
3.3. Non-hazardous waste, disposal	33,662	25,253	-
3.4. Hazardous waste, recovery	16,277	26,648	-
3.5. Hazardous waste, disposal	37,833	37,599	-
Emissions to air (production)			
Total emissions, scopes 1 & 2	24,029	25,972 ⁶	28,236
4.1. CO ₂ -emissions, scope 1, tCO ₂ e	21,395	23,202 ⁶	24,968
4.2. CO ₂ -emissions, scope 2, tCO ₂ e ⁴	2,634	2,770	3,268
Products			
Deliveries and products			
5.1. Total products, tons	819,621	943,362	1,011,370
5.2. Metal products	652,175	642,957	745,871
5.3. Solid recovered fuels	80,491	121,094	125,672
5.3. Tyre-based products	31,710	155,243	112,225
5.4. Other products ⁵	55,245	24,068	27,602
Crushing concrete and asphalt as service, tons	497,664	932,695	921,183

¹ includes mainly aluminium production supplements (silicon, oxygen, salt, other metals)

² inbound materials are recycled materials, applicability of concept of "renewable" is limited

³ Includes: diesel, light fuel oil, heavy fuel oil, liquefied petroleum gas, LNG, chips from roundwood, acetylen, propane

⁴ market based emissions

⁵ Main fractions: WEEE-materials, lead batteries, plastics

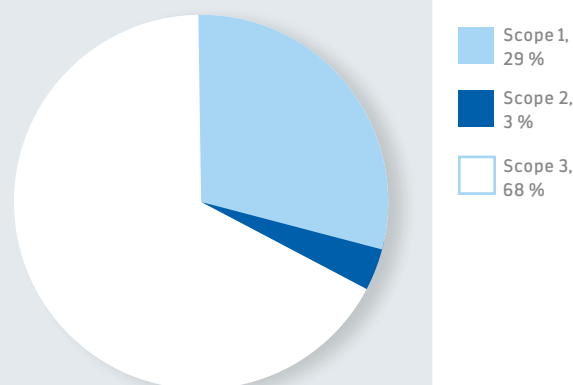
⁶ The reported figure for 2022 has been modified

Total GHG-emissions by scope and emission intensity	2023	2022	2021
Scope 1 emissions, tCO ₂ e	21,395	23,202 ³	24,968
Scope 2 emissions, market based, tCO ₂ e	2,634	2,770	3,268
Scope 2 emissions, location based, tCO ₂ e	5,927	6,180	6,834
Scope 3 emissions, tCO ₂ e, total	50,289	51,454³	60,156
Scope 3, Logistics	43,093	42,897 ³	48,641
Production raw materials and consumables ¹	7,196	8,557	11,515
Total²	74,318	77,426³	88,392
Emissions intensity kgCO ₂ e / tonne delivered	91	82	87

¹ Includes melting and casting raw materials, supplements for aluminium processing and sink & float

² Contains scope 2 market based emissions

³ The reported figure for 2022 has been modified

GHG-EMISSIONS BY SCOPE 1-3, tCO₂e

GHG-emissions 2023, tCO₂e

Country	Scope 1	Scope 2*	Scope 3	Total emissions, scope 1-3	Deliveries	Intensity kgCO ₂ e/ tonne	Intensity change from 2022
Finland	16,747	165	37,897	54,809	431,242	127	24 %
Sweden	2,353	18	9,195	11,566	186,268	62	18 %
Estonia	813	1,540	1,401	3,754	106,942	35	4 %
UK	749	65	1,043	1,857	83,783	22	-50 %
USA	733	846	753	2,332	11,386	205	-4 %
Total	21,395	2,634	50,288	74,317	819,621	91	11 %

* market based emissions

Logistics emissions, TTW, tCO ₂ e	2023	2022	2021
Road transports			
Finland	14,975	17,346	18,382
Sweden	9,026	9,110*	8,824
Estonia	1,401	1,121	1,115
UK Sheffield	151	211	236
UK SWEEEP	892	1,134	1,093
USA	753	1,422	1,212

* The reported figure for 2022 has been modified

Logistics emissions, TTW, tCO ₂ e	2023	2022	2021
Sea transports			
Coasters and deep sea			
Finland	12,309	10,349	13,878
Sweden	169	208	195
Containers			
Finland	3,417	1,997*	3,708
Total Kuusakoski Recycling	43,093	42,897*	48,641



Who?
Justin Greenaway

What? Commercial Manager

Where? SWEEEP Kuusakoski, Kent, UK

How is sustainability visible in my work?

I used to work for a big retail corporate company. The work was unfulfilling, and I gained more pleasure from weekend volunteering for an environmental charity. Things are very different now because of the SWEEEP Kuusakoski work being so satisfying - working for the benefit of the planet. I count myself as very fortunate to be going to work and feeling so good about the virtue of the work.

Fun fact about me: I run a lot and set myself a target to run over 100 miles every month for a year. Friends think I am a little crazy running so much, but I find it very interesting to push myself over long distances when the legs don't want to run anymore but the mind says yes. (Photo: Snow running at the SWEEEP Kuusakoski board meeting Nov 2023, Heinola, Finland).



Who?
Saila Lehtomäki

What? Product and Sales Manager (Aluminium products)

Where? Heinola and Lahti, Finland

How is sustainability visible in my work?

I sell recycled aluminium products that have a great climate handprint and that reduce the CO₂ footprint of our customers. In details, I also try to avoid increasing emissions: transports are made efficient with the maximum weight per vehicle, and we try to favour shorter transports. When I need to travel, I avoid driving, if possible, and take the train instead. And my own car runs on biogas.

Fun fact about me: I sometimes take exaggerated sports challenges. Recently, I participated in the Finnish championship in long-distance cross country (58 km) – in my age group naturally(!) – and was defeated by all the other six participants!



SUSTAINABLE SUPPLY CHAIN MANAGEMENT

For both us and our customers, the sustainability of the entire value chain is key in achieving our ambitious goals.

Supply chain sustainability is one of the key themes of our Sustainability Program. In our materiality analysis in 2023, “Sustainable Value Chain and Partnerships” was one of the main topics. Our commitment and long-term work have now also been recognised by EcoVadis, a globally recognised platform that provides holistic sustainability ratings for corporations, which has awarded Kuusakoski Recycling Silver Medal status.

During the year under review, we introduced a new procurement process in Finland in which our Code of Conduct is automatically included in the supplier requirements for indirect procurement and logistics procurement contracts and orders, as well as the approval process for new suppliers. In 2023, we also updated our sourcing policies to include requirements for compliance with our Code of Conduct and communicated this with our suppliers. Our Code of Conduct defines and requires a minimum level of occupational safety, human rights, ethical practices and conformity. During the year under review, we also renewed our risk-based supplier classification and updated our supplier management processes, including supplier approval, monitoring and auditing plans. Extending sustainability management processes and requirements to all suppliers is an important goal.

In 2023, Kuusakoski directly employed contractors in several production functions, amounting to 231 person years.

Environmental impacts of logistics

Logistics account for the largest portion of Kuusakoski’s carbon dioxide emissions and are therefore at the centre of our emission reduction plans. In 2023, we deepened our cooperation with our transport partners in order to increase low-emission transports and, among other things, set a minimum re-

quirement for the emission classification of our fleet. In addition, we maintain regular dialogue with truck manufacturers to monitor the development of transport fleet and its suitability for Kuusakoski Recycling’s transports.

Along with alternative fuels, system developments play a key role in reducing carbon dioxide emissions in logistics. During 2023, we introduced updates to our transportation planning system that promote transportation efficiency and prepared a roadmap for further system developments in the coming years.

Test drive: Volvo FME 6X2 Electric

A significant portion of the emissions in our value chain comes from logistics. Although the market already offers some alternatives for electric heavy equipment, for Kuusakoski’s own transportation needs, we still need to wait for the technology to develop. However, we are actively monitoring the availability of emission-free transport alternatives. As part of this work, in November 2023, we tested an electric truck in Skellefteå, Sweden. •



Environmental impacts from the supply chain

Emissions and operating costs go hand in hand in logistics. It is therefore vital for our competitiveness and sustainability targets to continue this development work rigorously. In 2024, the focus will again be on developing our transport planning system in order to support the action plan for emission reductions and to provide accurate data for emission reporting. In addition, it is extremely important that our logistics partners commit to emission reductions in the coming years.

For example, together with customers we have tailored low-emission logistics solutions and routes that enable, in addition to a low carbon footprint, the achievement of the customer's sustainability goals in terms of logistics. Sharing information and working in close collaboration with suppliers will be key in achieving the defined company-level emission reduction targets.

In 2023 our overall emissions from logistics increased due to a higher share of maritime transport. The emissions from road transport decreased due to smaller volumes transported as well as more efficient planning.

Supplier responsibility for logistics

Partner management is of primary importance for ensuring sustainable business. During 2023, we have developed our supplier evaluation more systematically, and we will implement a supplier evaluation survey among our transport partners during 2024. The supplier evaluation covers topics related to safety, quality, the environment and sustainability.

In addition to supplier evaluations, we will introduce regular audits for our transport partners. The audits will be carried out onsite and include, for example, audits of premises, interviews and a review of documentation.

Kuusakoski participates in Outokumpu's Inner Circle initiative

Together with our customers, we are striving to create a more sustainable value chain. An inspiring example of this commitment is our partnership with Outokumpu.

Outokumpu has launched the Inner Circle initiative, which aims to bring transparency, sustainability and active commitment to the scrap supply chain. Stainless steel plays a key role in a functioning circular economy, and we are proud to be one of six recyclers involved in this impressive project. Scrap suppliers accepted into the Inner Circle adhere to high standards, such as ISO 9001 certification, EcoVadis classification and transparent procurement, and are able to offer a wide geographic coverage. •



OCCUPATIONAL HEALTH AND SAFETY

Our safety management and practices are based on the international ISO 45001 standard for occupational health and safety management.

In accordance with UN Sustainable Development Goal 8, our goal is to guarantee a safe working environment for all our employees. Our goal is to be a pioneer in the field of occupational health and safety, and our vision is to achieve zero accidents. The safety of our employees is of primary importance to us, and that is why we strive to ensure that everyone gets home safe and sound at the end of each working day.

In 2023, 47% of employees within Kuusakoski were covered by ISO 45001 occupational health and safety certification. Kuusakoski Sweden underwent the certification process for all sites during 2023, and the certification entered into force at the beginning of 2024. At Kuusakoski sites outside the scope of certification, safety work is nevertheless guided by the same principles of continuous development: occupational safety risks are assessed, incidents and accidents are investigated and learned from, and employees are encouraged to make preventive safety observations. In addition to Kuusakoski's employees, Kuusa-



koski's contractors and suppliers, as well as everyone working on our premises, are also covered by our occupational safety processes and safety practices. Within Kuusakoski, key safety indicators are discussed monthly by the steering groups of our country units, and they are reported to Kuusakoski Recycling's Management Team and Board of Directors.

Orientation is provided at the start of each employment relationship in order to ensure the safety of our employees. The orientation covers Kuusakoski's safety policies, general and local safety routines, actions to be taken in case of an emergency, reporting incidents and accidents, our Code of Conduct, and much more.

Practical occupational health and safety is based on risk assessments, which are reviewed regularly and updated as necessary. These risk assessments cover physical, psychosocial and organisational risks. Risk assessments are always updated in connection with changes in operations, as well as in response to serious accidents or near misses. Risk assessments are also made before new tasks or processes are introduced in order to ensure that every-

thing has been taken into consideration and that working is safe. In addition to production employees and supervisors, experts from Kuusakoski's QEHS organisation are involved in preparing new risk assessments and introducing updates. Safety walks and fire safety rounds are made at all sites at regular intervals depending on the site-specific risk level.

Risk assessments are supplemented by safety observations recorded in an electronic system and daily safety walks carried out at the sites. In both safety training and day-to-day activities, employees are encouraged to observe and actively report all issues that endanger safety and to refrain from performing dangerous work until any possible deficiency or shortcoming has been corrected.

The practice of investigating accidents, serious near misses and fires ensures that information about them reaches all employees and that lessons are learned from the incidents. When investigating accidents, a root cause analysis of the cases is performed, and corrective and preventive measures complete with schedules and responsibilities are always determined. To take the preventive work even further, Safety Alert material is prepared for all accidents and serious near misses that is then distributed to all other sites. These situations are then discussed at the sites during quarter-hour safety briefing which helps prevent the same types of incidents and accidents from reoccurring. Accident investigation reports are also reviewed by management and steering groups.

Employee participation in developing occupational health and safety

Preventing and managing exposure to hazardous substances and physical risk factors are vital aspects of our safety work. All our employees are covered by occupational healthcare in accordance with the applicable national legislation, as well as occupational accident insurance. Occupational exposure and workload factors are investigated at Kuusakoski sites on a regular basis and whenever operations change significantly. Based on these investigations, measures are planned to reduce the load and exposure. The percentage of absences due to sick leave for all employees in Finnish operations was 5.1% (sick leave / theoretical working time).

Our employees participate in the development of safety in their day-to-day work by reporting safety observations, contributing safety ideas and participating in safety briefings organised by their supervisors and the



Who?
Anders Isberg

What? HR Manager

Where? Skellefteå, Sweden

How is sustainability visible in my work?

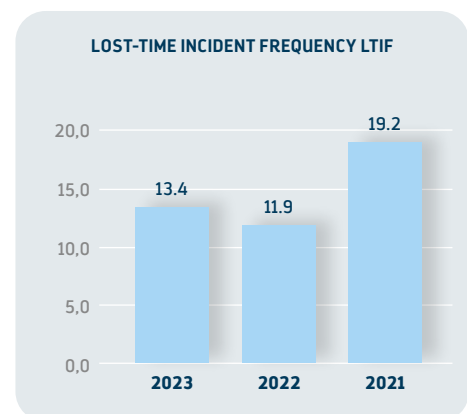
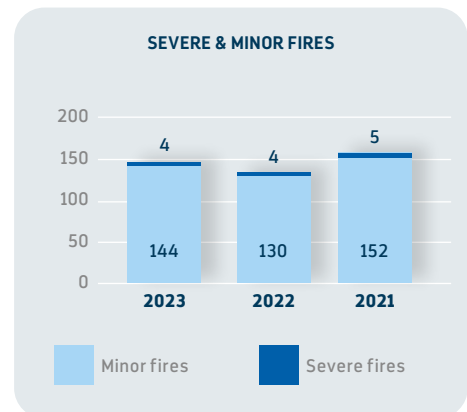
I have done a fair share of recruitments during my years at Kuusakoski. I have, in my presentation of the company, always proudly presented Kuusakoski as a sustainable forerunner in several aspects, not least in the aspect of sustainable work life.

Fun fact about me: I once won a gold medal in the regional championships in walking.



activities of occupational health and safety committees in different countries. These committees are responsible for occupational health and safety cooperation between employees and employers and for proposing ideas to improve safety. In 2023, the committees in different countries met regularly. Employees have elected their own occupational health and safety officers and representatives for the committees.

Occupational health and safety training was organised regularly in Kuusakoski's country units in 2023. In Sweden, the focus was on developing a management system and using it to share information with all employees. For this purpose, a new electronic platform was introduced, which improves the availability of safety guidelines. Training with the new platform was organised for employees, supervisors and management. Also in Sweden, SSG Employee Safety online training was continued as in the previous year. SSG Employee Safety is an e-learning platform that is available in 13 languages. Employees are required to take this training every third year. The training aims to increase awareness, competence and understanding of risks at the workplace. In Finland, QEHS information briefings were organised for new employees, and employees were also trained on the contents of our updated emergency plans. In addition, employees were trained locally for specific safety issues related to radiation safety, the safe handling of gases, the safe use of forklifts and cranes, chemical safety and occupational exposure.



Safety Days boost the development of safety

In November 2023, we launched the first Safety Day at our Heinola plant. Safety Days will be subsequently organised for all plant processes, and the implementation will continue at the plant into the beginning of 2024. During Safety Day, teams take turns suspending their production for the day and focus on safety development. The goal of this initiative is to improve the scope of risk assessments by identifying risks together with employees and finding effective solutions to them together. The focus is on identifying risks in the day-to-day work tasks of employees, taking into account such aspects as maintenance work performed on the processes themselves and how to respond in the event of process disruptions. Additional training aimed at improving safety is also organised, and the role of employees in improving safety is discussed.

“Safety Days are part of the broader development of safety at Kuusakoski, one of the goals of which is the introduction and implementation of new safety processes. Safety Days have been successful thanks to the active participation and interaction of employees. We are considering expanding the operating model to other locations and making it part of our regular safety work,” says **Janne Haaksluoto**, Manager, QEHS & Sustainability. •



Who?
Tanel Tälli

What? Environmental Specialist
Where? Tallinn, Estonia

How is sustainability visible in my work?

Our work has been focused on sustainability from the beginning. There has been an interesting and rapid development in the area of the circular economy and sustainability recently. I contribute to ensuring that we have good sustainable solutions for our customers and a safe and pleasant working environment for our employees. I am satisfied that I can directly participate and develop in this area.

Fun fact about me: I am a hobby brewer and I have my own craft beer brand, Kalamaja Pruulikoda, which can be found in the best craft beer stores and bars in Estonia. I am also a passionate fisherman.

Our safety vision is zero accidents

One of Kuusakoski’s strategic targets is to be a forerunner in the field of occupational health and safety, and our vision is to achieve zero accidents. Our systematic and long-term development of occupational safety continued in 2023, although we did not achieve our target in terms of the frequency of accidents. There was a slight increase in the frequency of accidents leading to absences per million hours over a 12-month period compared to the previous year. The lost time injury frequency (LTIF) rate for the entire recycling business group at the end of 2023 was 13.4 (11.9 in 2022). Safety is indeed one of this year’s most important themes in our sustainability work, and we have set a numerical target for LTIF of below 11 for 2024.

The proactiveness of employees in reporting safety deficiencies and therefore also in helping to prevent accidents has increased steadily in recent years. In 2023, our employees reported over 2700 safety observations worldwide. In addition, near-miss reports were made, and the cases were handled in the appropriate manner.

Fire safety

Improving fire safety was again at the heart of our safety operations in 2023. The focus at Kuusakoski Recycling was on detecting and reporting ignitions, as well as on effective initial extinguishing measures in order to avoid more serious fires. As a result, the coverage of reporting improved, and all incidents classified as fires that occurred in the operations of Kuusakoski in 2023 (4 in total) were successfully controlled using initial firefighting methods without any significant injuries or damages. The number of fires has decreased steadily in recent years. A total of 144 minor fires were recorded at all Kuusakoski production sites.

In 2023, we piloted a fire safety inspection routine at Lahti Ekopark, where a facility-specific inspection round is conducted at least once a month to ensure that all factors related to fire safety are in order. During the inspection round, attention is paid to such aspects as alarm systems and fire safety automation, fire extinguishing readiness, fire loads, exit routes and hot work. In addition, the systematic development of the fire safety infrastructure continued at our locations with the further addition of camera surveillance and fire extinguishing equipment, for example.

Certified occupational health and safety in Sweden

Kuusakoski’s occupational health and safety development work is bearing fruit in Sweden. All our sites in Sweden are now certified according to the international ISO 45001 standard, which specifies requirements for occupational health and safety management systems. The standard emphasises leadership in particular, as occupational safety starts with the commitment of management.

“In the external audit, we received excellent evaluations of our comprehensive Kompassen management system, which covers quality and the environment, as well as occupational health and safety. The goal of our development work with Kompassen has been to make the system clearer for the entire organisation, not only to support management and business monitoring, but also to make it easier for our employees to find what they need,” says Sustainability and QEHS Manager **Kristina Runsten** with satisfaction. •





EMPLOYEES



A thriving, skilled and respected workforce is essential for our success. By taking care of our employees, steering everyone towards a common direction and ensuring the clarity of our goals, we establish a solid foundation for meaningful work and wellbeing.

Changes in our operating environment and working life demand continuous development. We actively develop and improve the occupational safety and wellbeing of our employees, our company culture and our leadership and management work. In accordance with UN Sustainable Development Goal 8, our goal is to protect employee rights and guarantee a safe working environment for everyone.

For us at Kuusakoski, caring is responsibility, and we want our employees feel that their work environment is safe both physically and psychologically. In 2023, we received one notification through our anonymous Whistleblowing channel, and it was handled according to our documented process. The notification concerned a contractor outside Kuusakoski and led to immediate action, which was com-

municated to the individual who made the notification via the anonymous system. In 2023, no incidents of harassment or discrimination were reported in Kuusakoski's own operations. Kuusakoski has 100% freedom of association, and we are committed to and comply with the International Labor Organization (ILO) Collective Bargaining Convention.*

Regular feedback is the key

We regularly measure employee satisfaction and systematically develop our activities both at the organisational and team levels based on the results.

Annual employee development discussions are held in countries in which we operate (with the exception of Estonia). In 2023, the participation rate was 89%. We are continuing to work towards our target of 95% by sharing best practices systematically.



Summer workers value their time with Kuusakoski

Kuusakoski hires dozens of summer workers in Finland each summer, most of whom work at our Heinola recycling plant, in production tasks. It is important to us that summer workers feel comfortable and gain valuable experience. In their summer jobs, young people get a good orientation, support and feedback, as well as nice colleagues and a relaxed work atmosphere. The experience provides a great start for young people on their journey towards their future careers.

Based on the 2023 feedback survey, our summer employees enjoy their time with us. In summer 2023, **Anu Mansikkasalo** worked for four months at the Heinola recycling plant as a scale operator and had a great time.

"From the first day I felt welcome. The feeling was reinforced at the first orientation given by the supervisor. I felt that this is definitely a good job and that it's nice to work here." •

*International Labour Organization (ILO), Collective Bargaining Convention, 1981, (No. 154); modified

Improving Finnish language skills

At the end of 2023, our year-long Finnish language training aimed at our foreign employees was concluded. The goal of this training was to improve their Finnish language skills, which will help them succeed in their work. Twelve employees of Kuusakoski together with three employees of a staffing company participated in the training.

“The training proved to be an excellent way to support the integration our employees and success in their work. Good language skills have been found to have a positive effect on both customer and job satisfaction, for example. Our employees have already asked about the next training, and we hope to implement a similar programme again in the future,” says **Outi Saunamäki**, Employment Relationship Manager. •



Who?
Tiina Malin

What? Head of R&D

Where? Lahti, Finland

How is sustainability visible in my work?

Sustainability is an essential part of my work. I work with various initiatives and project proposals and support several ongoing research, development and investment projects in their various stages. Sustainability is an obvious element in all our innovation and project activities. And it is, of course, also part of good leadership.

Fun fact about me: In my spare time, I am a keen home gardener. I probably have more enthusiasm than actual skills. However, in recent years I have managed to grow a wide variety of organic vegetables and berries. I try to start the next growing season already in the winter, at least planning-wise.



At the end of February 2023, we conducted an employee survey in Sweden. The results show that we are on the right track, as on a five-point scale we had risen from 3.79 in 2022 to 3.83 in 2023.

In Finland, the response rate to the employee survey conducted at the end of the year was 81% (77% in 2021, 74% in 2019). The average of all claims in the survey on a scale of 1–5 was 4.1 (4.0 in 2021, 3.8 in 2019). When asked how likely you are to recommend your employer to a friend or colleague, we achieved an excellent eNPS result of 31 (36 in 2021, 12 in 2019).

We also gather feedback outside of official employee surveys: in the UK, for example, informal “Gemba walks” are organised to collect feedback, while in the USA, an anonymous survey system was introduced.

A wide range of development opportunities

We offer employees versatile training and internal opportunities for task and career rotations. Our employees want to be, and are also encouraged to be, actively involved in developing the company’s operations.

In Finland, our supervisors participated in monthly training, and we also regularly organised joint events for all employees. In 2023, the focus was especially on increasing cyber security skills: all employees completed an online cyber security course, and we launched the Cyber Coffees concept in May. In the UK,

a new online training platform was introduced. In Sweden, we continued leadership training for supervisors, and we also increased the business skills of all those working with customers.

Comprehensive onboarding for new employees is important to us. In the USA, for example, new employees have a 60-day on-the-job learning period, and in Sweden, all new employees are given material training. In Finland, a more extensive training programme was organised separately for those moving into the role of supervisors.

Events and collaboration projects improved employer brand

To further strengthen our employer brand, we have participated in both local community projects and larger trade fair events. Examples of larger events include the UK Metals Expo, the E-Scrap Conference in the USA, and the Stockholm Techshow and Elmia industrial fairs in Sweden. In addition, our innovative campaigns in Estonia, such as Green Hunt (Rohejaht), have effectively engaged younger generations.

We also organised two significant internal events to which all employees of the country unit in question were invited: During the Kuusa Day in Sweden, the focus was on psychological safety and strategy implementation. In Estonia, summer days for employees were organised with a programme that included team



Kuusa Day – celebrating team spirit and growth

Kuusakoski’s Swedish organisation gathered in Umeå in February 2023 to celebrate Kuusa Day. The aim of the event was to strengthen team spirit and our commitment to common goals, recall the achievements of the past years, and of course celebrate them. The programme included workshops and group discussions on strategy, the future, core values and psychological safety. The day culminated in a trivia quiz, dinner and musical performances.

“What a great event! We now better understand each other’s work and what is important to us,” thanked **Christian Gunnarsson**, who works at our Vetlanda site and travelled over a thousand kilometres to get to Umeå.



Number of employees by gender, age and employee type	Under 30	30-50	Over 50	Male	Female	Other	Total
Kuusakoski Recycling							
Wage employees	100	180	141	352	68	1	421
Salaried employees	58	220	173	311	140	0	451
Upper salaried employees	3	86	49	101	37	0	138
Total	161	486	363	764	245	1	1,010

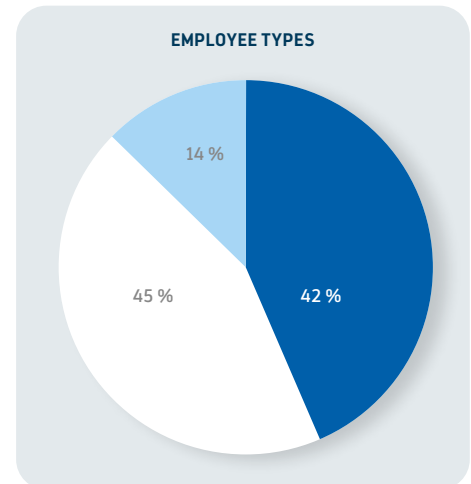
Ratio of basic salary and remuneration of women to men	2023	2022
Northern Europe (Finland, Sweden, Estonia)		
Wage employees	95 %	95 %
Salaried employees	96 %	93 %
Upper salaried employees	88 %	88 %
UK and USA		
Wage employees	96 %	95 %
Salaried employees	86 %	88 %
Upper salaried employees	62 %	75 %

New employee hires	Under 30	30-50	Over 50	Male	Female
Finland	8	12	5	17	8
Sweden	3	13	6	16	6
Estonia	1	5	0	5	1
UK Sheffield	0	0	0	0	0
UK SWEEEP	34	28	12	63	11
USA	5	4	4	12	1
Total Kuusakoski Recycling	51	62	27	113	27

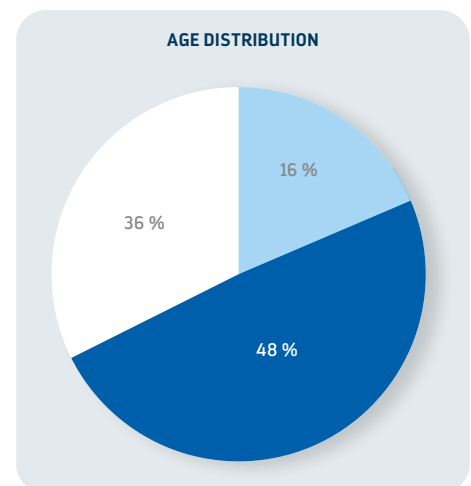
Hires & Turnover	Finland	Sweden	Estonia	UK and USA
New employee hires	25	22	6	87
Hire rate	6 %	10 %	6 %	34 %
Employee turnover rate	5 %	5 %	0 %	24 %

Average training hours Kuusakoski Recycling*	2023	2022
Wage employees	8.7	7.7
Salaried employees	3.9	6.4
Upper salaried employees	5.0	9.1
Male	6.0	7.6
Female	4.9	6.2
Total Kuusakoski Recycling	5.7	7.3

* UK not included



Wage employees Salaried employees Upper salaried employees



Under 30 30-50 Yli 50

In 2023, we offered training and coaching in different country units, for example, in the following areas:

- Soft leadership skills
- Working capacity management
- Everyday health coaching
- Sustainability
- Artificial intelligence
- Occupational safety
- Business expertise and customer relationships
- Investments
- Cyber and information security

games involving the company’s strategy and also entertainment. In the UK, SWEEP Kuusakoski also organised a summer event that has already become a tradition.

In Finland, we deepened our collaboration with the Salpaus training centre in the Päijät-Häme region, where our largest sites in terms of the number of employees are also located. This collaboration helps us find future talent for internships and apprenticeships, as well as training services for the various needs of our existing employees.

Business benefits from diversity

Our open operating culture ensures genuine teamwork and increases trust and a sense of equality. The diversity of our employees has increased, which creates a basis for everyday learning, operational development and knowledge sharing. Our diverse teams and extensive expertise enable us to respond better to customer needs, requirements and the often rapid changes in them.

We constantly strive to improve the experience of equity and inclusion. In 2023, for example, we developed the following initiatives: In the USA, our anonymous CV evaluation system protects the applicant’s identifying information at the beginning of the recruitment process. In the UK, the focus was on everyone having equal opportunities to develop regardless of learning difficulties, for example. In Finland, a Finnish language training programme was offered to foreign workers. In Sweden, we established a new equity council.



In Finland in 2023, a total of **142** safety, energy conservation and development ideas were proposed.

Kuusakoski develops tailored training for the recycling industry in the UK



The mission of the Education and Training Committee of the British Metal Recycling Association (BMRA) is to ensure the availability of a skilled workforce for the ever-changing metal recycling industry. The Metals Recycling Operative Apprenticeship is a nationally recognised degree that has been tailored to the needs of the industry.

“I was excited when I was asked to be a member of the committee in autumn 2023. In my opinion, we have succeeded in creating a very successful and attractive educational package that is strongly supported by an interactive learning platform. In addition, company visits offer students excellent networking opportunities for the future,” says **Matt Hunt**, Head of Operations, Kuusakoski UK. •

Cyber Coffees: a new way of learning about cyber security

The Cyber Coffees concept was launched in 2023 and offers our Finnish employees topical and practical information about cyber security four times a year. It involves a prerecorded short training session designed in a fun and approachable format.

The team behind the concept comprises information security specialist **Sami Orasaari** and IT project manager **Maria Pylkkä**. The two explain, without confusing acronyms or professional jargon, how we can improve cyber security at work and at home. Topics covered so far include multi-factor authentication, the use of WhatsApp and other private apps for business purposes, and the password management software KeePass. Employees are also encouraged to suggest topics. •



Who? **Matt Hunt**

What? Head of Operations

Where? Sheffield, UK

How is sustainability visible in my work?

A career in the Recycling sector has given me the privilege to develop and promote sustainable practices. Prior to Kuusakoski, my role as “Green Steel Lead” in a multinational recycling firm enabled me to widen my knowledge further on the sustainability potential of our industry practices. My role at Kuusakoski has enabled the integration of many of these values across the team.

Fun fact about me: I am a very sporty individual and enjoy nothing more than coaching kids football and cricket. I am



a fully qualified FA Football Coach, coaching Stockbridge Park Steels Juniors (Under 6’s). I am also qualified as an ECB Cricket Coach and help run the ECB ‘All Stars’ Cricket.

Donation to UNICEF Disaster Fund

Kuusakoski Group Oy donated 25,000 euros to the UNICEF Disaster Fund in 2023. The donation goes towards helping children living in crises and in the most vulnerable positions around the world. Companies play a key role in achieving the UN's sustainable development goals and realising the rights of the child. •



KUUSAKOSKI AND STAKEHOLDERS

Materiality analysis and stakeholder engagement

Creating and maintaining open interactions with stakeholders is the foundation of sustainability for a traditional family business like Kuusakoski. In 2023, we further deepened the creation and maintenance of active relationships with our key stakeholders. This work was based on the materiality analysis we performed, which helped clarify the expectations of stakeholders. The aim of the materiality analysis was to define the key sustainability topics, to better understand the needs and expectations of our stakeholders, and to develop stakeholder engagement and sustainability reporting on the basis of the results.

In 2023, we focused on developing stakeholder communications and engaging in dialogue on the development of sustainability work. The main topic of Kuusakoski's sustainability work was the company's role as an accelerator of the transition to a circular economy. The company plays a particularly significant role in this as a circular economy operator in metals processing and an enabler of low-carbon supply chains. In addition, the sustainability of the value chain, the safety and occupational wellbeing of employees, and the ability



to supply data-secure services were highlighted in stakeholder engagement.

Kuusakoski's stakeholder engagement supported UN Sustainable Development

Goal 13: Take urgent action to combat climate change and its impacts. For its part, Kuusakoski is involved in Improving education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. In 2023, Kuusakoski participated in several

seminars and various customer and stakeholder events, at which we talked about our work in the field of recycling and the possibilities of the circular economy in mitigating and adapting to climate change. For example, in connection with the World Circular Economy Forum, the Accelerator session "The role of scrap in steel sector decarbonisation" coordinated by WWF Finland enabled a valuable dialogue with research communities, the steel industry and non-governmental organisations and communicated the importance of recycling to reduce emissions in the steel industry.

Dragonfly sculpture donated to Bluebell Wood Children's Hospice

Sheffield artist and designer Robin Widdowson created a unique Dragonfly sculpture and donated the work of art to the Bluebell Wood Children's Hospice at its annual Remembering Day ceremony in September. Bluebell Wood Children's Hospice offers palliative care to children suffering from serious illnesses, such as cancer. They also offer support to families who have experienced loss.

Kuusakoski is grateful for the opportunity to be part of this important charity work, having donated the 100% reclaimed stainless steel components to Robin Widdowson for his sculpture. The Dragonfly sculpture is a permanent reminder of how we can together create hope and memories for children and their families during times of hardship. •



On the move for a good cause

During the year, Kuusakoski has been involved in several “moving” charity events, of which here are a few examples:

Kilometre Race: For nine years in a row, our Kuusakoski reCycling team has participated in the Kilometre Race, a cycling competition between companies and various organisations that encourages everyday cycling and strengthens community spirit. We donate one euro for every 25 kilometres the team cycles to the Chain Reaction fundraising campaign of the Finnish Red Cross.

Great North Run: In September 2023, the SWEEP Kuusakoski team participated in the Great North Run half marathon. Representing the charity Military vs Cancer, the team raised funds for the fight against cancer. The Great North Run is one of the biggest sporting events in the UK and one of the biggest running races in the world.

WEEE Cycle Network: In June 2023, SWEEP Kuusakoski hosted the closing event of the WEEE Cycle Network cycling event in Sittingbourne. The event was organised by Repic, the producer responsibility organisation for electrical and electronic equipment. The fifteen-day, 850-mile cycling event focused not only on cycling but also on the future of re-use and recycling in the UK. A total of GBP 15,000 was also donated to local charities. •



Building a sustainable future together with customers and society

One of Kuusakoski’s sustainability themes is a proactive partnership with customers. Together with our customers, we develop processes that serve their business and sustainability. We support the sustainability work of our customers by providing recycling benefit calculations and CO₂ reports.

As part of our engagement with stakeholders, Kuusakoski participates in the activities and working groups of various interest groups. Our purpose is to promote the circular economy and the operating conditions of recyclers, for example by producing facts and impact assessments and communicating objective information openly to support decision-makers in industry and society.

Internal Sustainability Network

Involving internal stakeholders in our sustainability work is important to us. Kuusakoski’s internal Sustainability Network, which comprises experts from Kuusakoski’s different functions and country units, convenes regularly to discuss current sustainability issues, promote projects related to the Sustainability Program and set sustainability targets. The aim of the network is to increase the participation of employees and different functions

in the planning and development of our sustainability work, as well as to deepen collaboration between Kuusakoski’s different country units.



Kuusakoski and local communities

An important part of Kuusakoski’s environmental sustainability and local stakeholder outreach is to know and communicate the local environmental impact of our operations and the entire value chain. All Kuusakoski sites have an environmental permit that defines measures to reduce emissions and environmental impacts. Discussions with municipal decision-makers, authorities, neighbours and other stakeholders are an important part of Kuusakoski’s local outreach in order to take environmental aspects into account and develop operations. We organise discussion forums and informative briefings for local residents, students and companies, who are also invited to visit our sites. For example, in Finland, Sweden and Estonia, Kuusakoski is a significant nationwide operator with more than 50 sites. An extensive service network guarantees good access to recycling services even for customers outside larger cities. Locally, Kuusakoski is an important employer, business partner and taxpayer, promoting regional economic development and wellbeing.

Public sector and sponsorship

Kuusakoski’s sponsorship decisions are based on clearly defined criteria and are directed towards targets that promote recycling, our corporate image, responsibility and sustainable development. The company also makes discretionary donations for the common good as a responsible corporate citizen. These donations are approved by the Management Team or the Board of Directors. Donations in 2023 amounted to approximately EUR 90,000.

The regulation of Kuusakoski’s business environment is developing and renewing at a rapid pace. In particular, several current legislative packages in the European Union contain elements that affect the recycling business and the entire supply chain. Kuusakoski participates in the work of national and regional industrial organisations, the aim of which is to produce transparent, fact-based information and techno-economic impact assessments as a basis for legislative work. Our goals are an open operating environment and a fair competitive environment based on level playing field.

Kuusakoski does not conduct direct political influence or participate in or otherwise support political activities, whether local, national or international. The company does not make donations to political parties or groups, either directly or indirectly.

Support for breast cancer associations in Sweden and Finland

In 2023, Kuusakoski once again supported the Swedish Breast Cancer Association's Pink October campaign with a donation of SEK 50,000 (approximately EUR 4445). Throughout October, we put out a pink container at our reception sites throughout Sweden in which private individuals and companies could deposit their scrap metal.

In addition, Kuusakoski employees in Finland donated a total of EUR 1150 to the Pink Ribbon campaign of the Finnish Cancer Foundation. This fundraising initiative was conceived and implemented by employees. •



Young players on Team TUSS and their coach **Inger Arnesson** (left) at the Sörvallan football grounds in Sunnanå, Skellefteå.

Promoting inclusion in youth sports

In Sweden, we signed a new three-year cooperation agreement for the TUSS project with Sunnanå Sportsklubben from Skellefteå. TUSS comes from the Swedish words Trygghet (security), Uppmuntran (encouragement), Självförtroende (self-esteem) and Självförtroende (self-confidence). Sunnanå SK is a sports association founded in 1939 that is not only a successful football club but also a social actor that supports inclusive work. The goal of the TUSS project, which was launched in 2016, is to give more girls the opportunity to be physically active in their free time.

teamtuss.se/om-oss/

In Finland, Kuusakoski is proudly supporting the Aulis Rytönen Fund, an initiative by HJK Helsinki that ensures football is accessible to all young players, irrespective of their economic barriers. These partnerships exemplify our commitment to community support and the promotion of inclusivity in sports.

www.hjk.fi/seura/aulis-rytkonen-rahasto/

These partnerships demonstrate our commitment to community support and promoting inclusion in sport. •



Who?
Johan Holmgren

What? Director, Energy & Waste

Where? Stockholm, Sweden

How is sustainability visible in my work?

The quick solution for all non-metals, "just send it for incineration", is not viable anymore. The clear trend among our customers is the demand for material recycling to both close the loop and cut CO₂ emissions. Kuusakoski is in a great position to serve our customers by developing our recycling processes. This helps Kuusakoski broaden its customer offer and makes society more sustainable as well!

Fun fact about me: To find calm, I enjoy spending time in the forest hunting. My favourite hunting rifle is a Valmet 412 combi produced in Jyväskylä. When all goes well, hunting gives me the possibility to serve the best food there is to my family: wild game.



Green Tiger network promotes cross-sector collaboration in Estonia

In 2023, we became a member of the Green Tiger network in Estonia. Green Tiger promotes collaboration between the private and public sectors, and its aim is a sustainable society where wellbeing and environmental protection go hand in hand.

"We all bear responsibility for the environment. It is important for Kuusakoski to be involved in these activities and bring our strong expertise to the social debate on sustainable development," says Kuusakoski Estonia CEO **Urmo Viisitamm**.

The network has already prepared roadmaps for the energy and construction sectors. These guidelines help industries adapt to the changes brought about by sustainable development. The roadmaps for transportation, the circular economy and land use will be completed by 2025. In addition, the Green Tiger network actively influences politics and has contributed especially to climate legislation in Estonia.

Read more about the Green Tiger network: rohetiiger.ee/ •

FINANCIAL RESPONSIBILITY

For Kuusakoski, financially sustainable growth is the basis of our operations. In order for us to grow sustainably, we take care of our business profitability and competitiveness on a long-term basis. Our multi-year investment program that we launched in autumn 2022 is making good progress and will significantly increase our competitiveness and business in the coming years. Ethical and compliant operations, as well as sustainable supply chains, are also very much at the heart of financial responsibility. We are constantly developing our operations so that we can continue to bear our responsibilities also in the future. In 2023, for example, we implemented in Finland the classification of procurement and transport suppliers and developed supplier auditing.

By maintaining our financial responsibility, we enable value creation for our stakeholders. We are a significant part of the sustainable value chain of our customers and partners, we employ hundreds of people, and we look after our employees. We have a positive impact on society especially by promoting regional economic development by being a responsible employer and business partner that creates value locally. We also create added value for society by paying taxes.

In 2023, Kuusakoski Group received EUR 1.5 million in state support, including EUR 1.0 million from Finland and EUR 0.5 million from Sweden. Kuusakoski Group has no state ownership.

Taxonomy

The EU Taxonomy aims to promote the achievement of the EU's environmental goals by directing funding to sustainable and green projects. According to a preliminary assessment, up to 98% of Kuusakoski Recycling's revenues in 2023 were taxonomy-eligible. However, revenues related to the Energy & Waste business, such as sales related to construction waste, energy waste and wood, were assessed as taxonomy-non-eligible in the calculation.

In terms of capital expenditure, all of Kuusakoski Recycling's investments belonging to taxonomy eligible business activities were deemed as taxonomy-eligible. The taxonomy-eligible capital expenditure during the period under review corresponded to approximately 98 % of total capital expenditure. Operating expenses were assessed accor-



Kuusakoski Recycling	MEUR	%
TAXONOMY-ELIGIBLE FUNCTIONS		
Revenues	565.4	98 %
Capital expenditure (capex)	22.9	98 %
Operating expenses (opex)	27.0	88 %
TAXONOMY-NON-ELIGIBLE FUNCTIONS		
Revenues	11.5	2 %
Capital expenditure (capex)	0.6	2 %
Operating expenses (opex)	3.8	12 %
Revenues, total	576.9	100 %
Capital expenditure (capex), total	23.5	100 %
Operating expenses (opex), total	30.8	100 %

ding to EU taxonomy principles and of the total operating expenses, approximately 88 % were deemed taxonomy-eligible. Expenses assessed as taxonomy-non-eligible were related to the Energy & Waste business.

Managing sustainability and compliance

Key principles and reporting are discussed by the Group's Board of Directors and Management Team. The Sustainability function is managed by the Chief Sustainability Officer, who is in charge of corporate sustainability and public relations and is a member of the Management Team of Kuusakoski Recycling. The Chief Sustainability Officer is responsible for developing and implementing a business-oriented sustainability strategy. The Sustainability Network, supported by steering groups, is responsible for developing, coordinating and reporting on sustainability work. The management of the business

groups is responsible for implementing practical measures. During 2023, sustainability was on the agenda twice in the board meetings of Kuusakoski Recycling, where the Board was updated on progress and strategy, and commitments and targets for coming periods were approved. In addition, the Board of Directors of Kuusakoski Group had one sustainability briefing during 2023.

Compliance is a vital aspect of Kuusakoski's operations, and the operating model reinforces a compliant approach in terms of compliance with laws, rules and regulations. The basis and core of the operating model is our Code of Conduct and guidelines. Identifying responsibility and compliance risks is part of the Groupwide risk management process. These risks are related to combating corruption and bribery, competition law, data protection and consumer protection, which can have significant negative consequences for our business, including serious financial or reputational risks. Kuusakoski also has a Whistle-Blowing channel that is available to everyone, allowing employees or outsiders to anonymously highlight any grievances or observations about non-compliance with our Code of Conduct.

In 2023, Kuusakoski had no cases related to breaches of competition law, corruption, bribery, data protection or consumer protection. Based on the risk assessment and supply chain analysis, our operations do not cause any negative effects within the value chain. We have not observed or received any reports or statements regarding discrimination, human rights, the use of child labour or forced labour. Our operations and sourcing are based in low-risk areas.

From vision to implementation of our strategy

In order to realise our vision in recycling services and developing the sustainability of our business, Kuusakoski updated its sustainability strategy for 2023. The key elements of our sustainability strategy are the development of a sustainable supply chain and production, so that we can provide sustainable products to our customers. The strategy is based on ethical operating principles, the implementation of which is guided by our Group-wide sustainability policy.

Occupational health and safety, environmental and quality management systems

At Kuusakoski, activities related to occupational health and safety, the environment and quality are managed on the basis of international management system standards and local material-specific standards. Our quality, environmental and occupational health and safety management systems have been certified by an external partner and cover 50–80% of employees (ISO 9001: 69%, ISO 14001: 80% and ISO 45001: 50%). Kuusakoski locations that do not have certifications comply with the principles of these management systems.

In addition to international management system standards, Kuusakoski also complies with the ISO 17025 standard for fuel analysis (Kuusakoski Research Centre, Finland), as well as the e-Stewards standard for ethical and responsible reuse, recycling, and disposition of electronic equipment and information technology and the NAID AAA standard (USA).

Kuusakoski employs occupational health and safety, environmental and quality professionals in all the countries it operates in. These experts are responsible for coordinating and developing the relevant systems within their own countries, as well as for collecting and compiling the information needed for reporting. The key figures related to these systems are reported monthly to Kuusakoski's management.

Kuusakoski's Sweden organisation went through the ISO 45001 certification process for all sites during 2023, and the certification entered into force at the beginning of 2024.



Who?
Anu Söderena

What? Business Development Manager

Where? Espoo, Finland

How is sustainability visible in my work?

With our recycling solutions, such as the upcoming composite processing facility, I am helping customers to turn the circular economy into reality. This facility represents a crucial step towards a more circular economy, as it will turn previously non-recyclable products into valuable secondary raw materials.

Fun fact about me: In addition to working at a metal recycling company, I also enjoy metal in the form of music - I am a hardcore fan of classic bands like Metallica, Iron Maiden and Mötley Crüe. I believe that music is best enjoyed (a bit too loud) on the go while running, cycling or driving.



DISTRIBUTION OF FINANCIAL ADDED VALUE BY STAKEHOLDER GROUP, M€ KUUSAKOSKI GROUP

Stakeholder group	Sources of Added Value	2023	2022	2021
Customers	Sales, other income and financial income	653.9	761.7	719.5
	Distribution of added value	643.9	731.8	694.7
Suppliers of goods and services	Purchased goods and services, paid rents	547.4	628.3	600.7
Employees	Salaries, wages, social security and pension contributions	79.0	79.0	75.1
Financiers	Financial expenses	8.3	4.9	3.1
Public sector	Taxes	3.0	5.8	7.9
Shareholders	Dividends	6.1	13.6	7.8
Communities	Donations and public interest support	0.1	0.2	0.1
	Business development	10.0	29.9	24.8

Sustainability reporting in accordance with the Global Reporting Initiative

This is the third Sustainability Report for Kuusakoski Recycling in accordance with the Global Reporting Initiative (GRI). The report is based on a double materiality analysis, and selected sustainability information has been assured by an external party (Ernst & Young Oy). Kuusakoski Recycling's Sustainability Report is integrated with Kuusakoski Group's Annual Report and covers the reporting period 1.1.2023- 31.12.2023 with reference to GRI. The reported figures generally include all the production operations of Kuusakoski Recycling. If the coverage deviates from the definition or is narrower, it is reported in the reporting principles or Sustainability Report in connection with the figure in question. Companies / functions: Kuusakoski Oy, Kivikolmio Oy, Kuusakoski Sverige AB, Kuusakoski AS, Kuusakoski US LLC, Kuusakoski Ltd, SWEEP Kuusakoski Ltd.

Reporting principles, see page 59.

Supplementary tables, Kuusakoski Recycling

Percentage of employees by gender and employee type	Under 30	30-50	Over 50	Male	Female	Other	Total
Kuusakoski Recycling							
Wage employees	10 %	18 %	14 %	35 %	7 %	0 %	42 %
Salaried employees	6 %	22 %	17 %	31 %	14 %	0 %	45 %
Upper salaried employees	0 %	9 %	5 %	10 %	4 %	0 %	14 %
Total	16 %	48 %	36 %	76 %	24 %	0 %	100 %

Percentage of employees receiving career reviews	2023	2022
Kuusakoski Recycling		
Wage employees	66 %	69 %
Salaried employees	69 %	67 %
Upper salaried employees	83 %	92 %
Male	70 %	73 %
Female	67 %	67 %
Total Kuusakoski Recycling	70 %	71 %

Number of employees by country	2023	2022
Finland		
Wage employees	231	238
Salaried employees	94	95
Upper salaried employees	110	104
Male	324	325
Female	111	112
Other	0	0
Total	435	437
Sweden		
Wage employees	13	18
Salaried employees	191	177
Upper salaried employees	15	12
Male	171	162
Female	48	45
Other	0	0
Total	219	207
Estonia		
Wage employees	0	0
Salaried employees	97	97
Upper salaried employees	2	0
Male	64	62
Female	35	35
Other	0	0
Total	99	97
UK Sheffield		
Wage employees	20	19
Salaried employees	8	7
Upper salaried employees	0	0
Male	26	24
Female	2	2
Other	0	0
Total	28	26
UK SWEEP		
Wage employees	122	114
Salaried employees	49	60
Upper salaried employees	8	0
Male	141	142
Female	38	32
Other	0	0
Total	179	174
USA		
Wage employees	35	66
Salaried employees	12	22
Upper salaried employees	3	0
Male	38	68
Female	11	20
Other	1	0
Total	50	88
Total Kuusakoski Recycling	1,010	1,029

Employment types Kuusakoski Recycling	2023	2022
Kuusakoski Recycling		
Permanent employees	984	991
Temporary employees	24	38
Non-guaranteed hours employees	2	0
Full-time employees	975	1,016
Part-time employees	35	13
Total	1,010	1,029

Diversity in Governance bodies Kuusakoski Recycling*	2023	2022
Gender		
Male	78 %	67 %
Female	22 %	33 %
Age		
Under 30 years old	0 %	6 %
30-50 years old	73 %	59 %
Over 50 years old	27 %	35 %

* Country Steering Groups and Recycling Management Team

Parental leave	Male	Female	Total
Entitled to parental leave	848	263	1,111
Took parental leave	42	28	70
Returned to work after leave	29	22	51
Stayed at work after leave	32	24	56

Total energy use, MWh	2023	2022	2021
Electricity	37,403	39,514	43,272
District Heating	3,822	4,125	4,009
Diesel	13,649	15,162	14,989
Light Fuel Oil	34,890	41,548	41,639
Heavy Fuel Oil	15,352	14,135	17,866
LPG / LNG / Acetylen / Propan	6,249	6,148	8,487
Chips from roundwood	2,934	3,332	2,421
Total	114,301	123,964	132,682

Renewable & non-renewable energy, MWh	2023	2022
Renewable energy	34,441	36,408
Non-renewable energy	79,860	87,557

Health & Safety KPI's	2023	2022	2021
Fatalities (employees)	0	0	0
Fatalities (non-employees)	0	0	0
Lost-time incidents - LTI (employees)	23	20	32
Total recordable incidents - TRI (employees)	40	33	46
Total recordable incidents - TRI (non-employees)	13	18	-
High-consequence injuries (employees)	0	1	-
High-consequence injuries (non-employees)	1	0	-
Fatalities as a result of work-related ill health (employees)	0	0	0
Cases of recordable work-related ill health (employees)	0	6	-
Fatalities as a result of work-related ill health (non-employees)	0	0	-
Cases of recordable work-related ill health (non-employees)	0	0	-
Near misses	218	247	285
Safety observations	2,728	2,779	2,419
Severe fires	4	4	5
Minor fires	144	130	152
Working hours (employees)	1,715,875	1,676,259	1,663,451
Working hours (non-employees)	392,769	441,891	-

Incident frequencies*	2023	2022	2021
Lost time incident frequency LTIF (employees)	13.4	11.9	19.2
Total recordable incident frequency TRIF (employees)	23.3	19.7	27.7
Total recordable incident frequency TRIF (non-employees)	33.1	40.7	-
Total recordable incident frequency TRIF - all	25.1	24.1	-
High-consequence injury frequency (employees)	0.0	0.6	-
High-consequence injury frequency (non-employees)	2.5	0.0	-

* frequencies are calculated based on 1000 000 hours worked

Incident frequencies by country (employees)	2023	2021	2021
Finland			
Lost time incident frequency LTIF	17.8	11.3	20.3
Total recordable incident frequency TRIF	20.6	11.3	21.8
Sweden			
Lost time incident frequency LTIF	8.0	13.7	11.6
Total recordable incident frequency TRIF	16.0	16.4	17.4
Estonia			
Lost time incident frequency LTIF	0.0	6.3	0.0
Total recordable incident frequency TRIF	6.5	12.6	12.6
UK Sheffield			
Lost time incident frequency LTIF	0.0	0.0	0.0
Total recordable incident frequency TRIF	0.0	0.0	0.0
UK SWEEP			
Lost time incident frequency LTIF	15.4	20.0	34.3
Total recordable incident frequency TRIF	21.5	30.0	40.0
USA			
Lost time incident frequency LTIF	21.8	0.0	23.7
Total recordable incident frequency TRIF	120.2	78.4	106.6

Code of conduct communication & training	Communication	Training
Kuusakoski Recycling		
Governance body members	100 %	32 %
Employees	100 %	37 %
Total	100 %	36 %

Water consumption by country (m ³) *	Water withdrawal (m ³)	Water discharge (m ³)	Water consumption (m ³)
Finland	22,879	22,460	419
Sweden	7,911	7,911	-
Estonia	1,753	1,753	-
UK	6,957	6,613	344
USA	540	540	0
Total	40,040	39,278	763

* No water use in water stress areas

Reporting principles

Calculation of greenhouse gas emissions

Kuusakoski's emissions inventory includes the emissions of Kuusakoski Recycling's production locations in the countries where it operates (operational control), as well as the emissions from the transportation of materials and the emissions of the most significant excipients used in aluminium production. Emissions are reported as carbon dioxide equivalents (CO₂e), and other greenhouse gases or environmental impact categories are not reported separately. The inventory consists of the following scopes in accordance with the GHG protocol:

Scope 1: Direct emissions from operations – emissions from the consumption of fuel at production sites.

Scope 2: Indirect operational emissions from purchased energy – emissions generated by the consumption of electricity and district heat at production locations. For Scope 2 emissions, both location-based and market-based emissions have been calculated. In the total emission figures, the market-based emissions are used.

Scope 3: Other significant indirect operational emissions – emissions generated during the transportation of materials (logistics) (Category 4) and emissions from the production of additives and excipients used in production (Category 1).

The emission factors used in the calculation of greenhouse gas emissions are based on generally known written and public sources, as well as on information received directly from suppliers. Some of the emission factors have been estimated based on the best available data.

The emissions calculation of logistics for Finnish and Swedish road transports and for maritime transports is based on the withdrawn SFS-EN 16258 standard. For road and maritime transports, Tank-to-Wheel (TTW) emissions are reported. The best available data, such as direct fuel consumption data, kilometres driven and total costs related to logistics, has been used in the calculation of emissions from logistics in other operating countries.

In contrast to the previous reporting year, emissions from container transport have all been allocated under the emissions for Finland. The reporting of the results was modified for 2023, as container sales mainly belong to Kuusakoski Oy and contracts are made between Finland and the customer. In the reporting for 2022, emissions were allocated to the country of origin of the container.

The emissions calculation of production additives and excipients includes aluminium production excipients for Finland. The largest product groups are included in the calculations, and they represent approximately 75% of the excipients used in production.

Some changes were made for the 2022 reporting year, such as the correction of incorrectly declared material quantities. Incorrect emission factors were also changed for certain raw materials and light fuel oil. In logistics, assessment on the emissions for container transport were unified with the 2023 reporting year, so that they would remain comparable.

GRI Content index 2023

Statement of use: Kuusakoski has reported the information cited in this GRI content index for the period 1.1.2023-31.12.2023 with reference to the GRI Standards.

GRI used: GRI 1: Foundation 2021

GRI Standard	Disclosure	Location of disclosure report
GRI 2: General Disclosures 2021	2-1 Organizational details	Report of the Board of Directors, p. 64; Contact Information, p. 78
GRI 2: General Disclosures 2021	2-2 Entities included in the organization's sustainability reporting	Sustainability reporting in accordance with the GRI, p. 57; Reporting principles, p. 59
GRI 2: General Disclosures 2021	2-3 Reporting period, frequency and contact point	"Sustainability reporting in accordance with the GRI, p. 57; Accounting principles, p. 70; Managing sustainability and compliance, p.56"
GRI 2: General Disclosures 2021	2-4 Restatements of information	Sustainability reporting in accordance with the GRI, p. 57; Reporting principles, p. 59; GRI Content Index p. 60
GRI 2: General Disclosures 2021	2-5 External assurance	Accountant's assurance report, p. 63
GRI 2: General Disclosures 2021	2-6 Activities, value chain and other business relationships	Report of the Board of Directors, p. 64-67; https://www.kuusakoski.com ;
GRI 2: General Disclosures 2021	2-7 Employees	Employees, s. 51; Supplementary tables, p.58; Report of the Board of Directors, p. 68
GRI 2: General Disclosures 2021	2-8 Workers who are not employees	Sustainable Supply Chain Management, p. 45
GRI 2: General Disclosures 2021	2-9 Governance structure and composition	Corporate Governance, p. 76
GRI 2: General Disclosures 2021	2-10 Nomination and selection of the highest governance body	Corporate Governance, p. 76, 2-10a
GRI 2: General Disclosures 2021	2-11 Chair of the highest governance body	Corporate Governance, p. 76, 2-11a
GRI 2: General Disclosures 2021	2-12 Role of the highest governance body in overseeing the management of impacts	"Managing sustainability and compliance, p. 56, Risks and risk management p.68, Accounting principles p. 70"
GRI 2: General Disclosures 2021	2-13 Delegation of responsibility for managing impacts	"Managing sustainability and compliance, p. 56"
GRI 2: General Disclosures 2021	2-14 Role of the highest governance body in sustainability reporting	"Managing sustainability and compliance, p. 56"
GRI 2: General Disclosures 2021	2-16 Communication of critical concerns	"Managing sustainability and compliance, p. 56; Risks and risk management p.68; https://report.whistleb.com/en/kuusakoski
GRI 2: General Disclosures 2021	2-17 Collective knowledge of the highest governance body	"Managing sustainability and compliance, p. 56"
GRI 2: General Disclosures 2021	2-18 Evaluation of the performance of the highest governance body	Report of the Board of Directors, p. 64
GRI 2: General Disclosures 2021	2-22 Statement on sustainable development strategy	https://www.kuusakoski.com/en/global/sustainability/
GRI 2: General Disclosures 2021	2-23 Policy commitments	https://www.kuusakoski.com/globalassets/global/shared/sustainability/kuusakoski_code_of_conduct_a4_2021-002.pdf
GRI 2: General Disclosures 2021	2-24 Embedding policy commitments	"Managing sustainability and compliance, p. 56, "
GRI 2: General Disclosures 2021	2-25 Processes to remediate negative impacts	Risks and risk management p.68, https://report.whistleb.com/en/kuusakoski
GRI 2: General Disclosures 2021	2-26 Mechanisms for seeking advice and raising concerns	Risks and risk management p.68, https://report.whistleb.com/en/kuusakoski
GRI 2: General Disclosures 2021	2-27 Compliance with laws and regulations	Risks and risk management p.68, https://report.whistleb.com/en/kuusakoski
GRI 2: General Disclosures 2021	2-28 Membership associations	Public sector and sponsorship, p. 54,
GRI 2: General Disclosures 2021	2-29 Approach to stakeholder engagement	Kuusakoski and Stakeholders, p. 53-54, Materiality analysis and stakeholder engagement, p.53
GRI 2: General Disclosures 2021	2-30 Collective bargaining agreements	Employees, p. 49
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Materiality analysis updated, p. 31; Kuusakoski and Stakeholders, p. 53
GRI 3: Material Topics 2021	3-2 List of material topics	Materiality analysis updated, p. 31
GRI 3: Material Topics 2021	3-3 Management of material topics	Sustainability Report, by topic, p. 30-57; Sustainability Program, p. 32-33.
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Financial Responsibility, p. 56

GRI Standard	Disclosure	Location of disclosure report
GRI 201: Economic Performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	Environment p. 40, Report of the Board of Directors, p. 66-67; https://www.kuusakoski.com ;
GRI 201: Economic Performance 2016	201-4 Financial assistance received from government	Financial Responsibility, p. 56
GRI 205: Anti-corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	Sustainable supply chain management, p. 45; Supplementary tables, p. 59
GRI 205: Anti-corruption 2016	205-3 Confirmed incidents of corruption and actions taken	Managing sustainability and compliance, p. 56
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Managing sustainability and compliance, p. 56
GRI 301: Materials 2016	301-1 Materials used by weight or volume	Material Balance Sheet, p. 43
GRI 301: Materials 2016	301-2 Recycled input materials used	Material Balance Sheet, p. 43
GRI 301: Materials 2016	301-3 Reclaimed products and their packaging materials	Not reported, not applicable
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Material Balance Sheet, p. 43; Supplementary tables, p. 58; Conversion factors from several different written sources
GRI 302: Energy 2016	302-2 Energy consumption outside of the organisation	Not reported, data not available
GRI 302: Energy 2016	302-3 Energy intensity	Material Balance Sheet, p. 43
GRI 302: Energy 2016	302-4 Reduction of energy consumption	Not reported, data not available
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Water separates, rinses and cools, p. 42
GRI 303: Water and Effluents 2018	303-2 Management of water-discharge related impacts	Water separates, rinses and cools, p. 42
GRI 303: Water and Effluents 2018	303-3 Water withdrawal	Water separates, rinses and cools, p. 42; Material Balance Sheet, p. 43, Supplementary tables, p. 59
GRI 303: Water and Effluents 2018	303-4 Water discharge	Water separates, rinses and cools, p. 42; Material Balance Sheet, p. 43, Supplementary tables, p. 59
GRI 303: Water and Effluents 2018	303-5 Water consumption	Water separates, rinses and cools, p. 42; Material Balance Sheet, p. 43, Supplementary tables, p. 59
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity, p. 40-41
GRI 304: Biodiversity 2016	304-2 Significant impacts of activities, products and services on biodiversity	Biodiversity, p. 40-41
GRI 304: Biodiversity 2016	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Biodiversity, p. 40-41
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Material and Energy Efficiency, p. 41; Total GHG-emissions by scope and emissions intensity, p. 43; Reporting principles, p. 59; Biogenic emissions account for 122 tCO ₂ e of total emissions.
GRI 305: Emissions 2016	305-2 Energy indirect (Scope 2) GHG emissions	Material and Energy Efficiency, p. 41; Total GHG-emissions by scope and emissions intensity, p. 43; Reporting principles, p. 59
GRI 305: Emissions 2016	305-3 Other indirect (Scope 3) GHG emissions	Material and Energy Efficiency, p. 41; Total GHG-emissions by scope and emissions intensity, p. 43; Reporting principles, p. 59
GRI 305: Emissions 2016	305-4 GHG emissions intensity	Material and Energy Efficiency, p. 41; Total GHG-emissions by scope and emissions intensity, p. 43; Reporting principles, p. 59
GRI 305: Emissions 2016	305-5 Reduction of GHG emissions	Climate chance, p. 41-42, Partially reported
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Material and Energy Efficiency, p. 41-44
GRI 306: Waste 2020	306-2 Management of significant waste-related impacts	Material and Energy Efficiency, p. 41-44
GRI 306: Waste 2020	306-3 Waste generated	Material and Energy Efficiency, p. 41
GRI 306: Waste 2020	306-4 Waste diverted from disposal	Material and Energy Efficiency, p. 41
GRI 306: Waste 2020	306-5 Waste directed to disposal	Material and Energy Efficiency, p. 41

GRI Content index 2023

GRI Standard	Disclosure	Location of disclosure report
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Not reported, data not available
GRI 308: Supplier Environmental Assessment 2016	308-2 Negative environmental impacts in the supply chain and actions taken	Environmental impacts of logistics, p. 45; Environmental impacts from the supply chain, p. 46; Points a, b, d, e not reported, data not available
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Employees, p. 51
GRI 401: Employment 2016	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Not reported
GRI 401: Employment 2016	401-3 Parental leave	Supplementary tables, p. 58
GRI 402: Labor management relations	402-1 Minimum notice periods regarding operational changes	We comply with the statutory number of working hours and labour legislation of the applicable country of operation.
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Occupational Health and Safety, p. 46-47
GRI 403: Occupational Health and Safety 2018	403-2 Hazard identification, risk assessment, and incident investigation	Occupational Health and Safety, p. 46-47
GRI 403: Occupational Health and Safety 2018	403-3 Occupational health services	Occupational Health and Safety, p. 46-47
GRI 403: Occupational Health and Safety 2018	403-4 Worker participation, consultation, and communication on occupational health and safety	Occupational Health and Safety, p. 46-47
GRI 403: Occupational Health and Safety 2018	403-5 Worker training on occupational health and safety	Occupational Health and Safety, p. 46-47
GRI 403: Occupational Health and Safety 2018	403-6 Promotion of worker health	Employees, p. 51
GRI 403: Occupational Health and Safety 2018	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Supplier responsibility for logistics, p. 46 and Occupational Health and Safety, p. 46-47
GRI 403: Occupational Health and Safety 2018	403-8 Workers covered by an occupational health and safety management system	"Occupational Health and Safety, s. 46-47; Occupational Health and Safety-, environmental and quality management systems, p. 57"
GRI 403: Occupational Health and Safety 2018	403-9 Work-related injuries	Occupational Health and Safety, p.46-47; Supplementary tables, p. 59
GRI 403: Occupational Health and Safety 2018	403-10 Work-related ill health	Supplementary tables, p. 59
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Employees, p. 51
GRI 404: Training and Education 2016	404-2 Programs for upgrading employee skills and transition assistance programs	Regular feedback is key, p.49-50; A wide range of development opportunities, p. 50; Employees, p. 51
GRI 404: Training and Education 2016	404-3 Percentage of employees receiving regular performance and career development reviews	Supplementary tables, p. 58
GRI 405: Diversity and Equal Opportunity 2016	405-2 Ratio of basic salary and remuneration of women to men	Employees, p. 51
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	Employees, p. 49
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Employees, p. 49; No identified risks related to freedom of assembly or collective bargaining in the supply chain
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	No cases or identified risks of child labour in the supply chain
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	No incidents or identified risks related to forced labour in the supply chain
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Sustainable supply chain management, p. 45-46; https://www.kuusakoski.com/globalassets/global/shared/sustainability/kuusakoski_code_of_conduct_a4_2021-002.pdf
GRI 415: Public Policy 2016	415-1 Political contributions	Public sector and sponsorship p. 54
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Managing sustainability and compliance p.56

Independent accountant's assurance report to the Management of Kuusakoski

Scope

We have been engaged by Kuusakoski Oy (hereafter "Kuusakoski") to perform a 'limited assurance engagement,' as defined by International Standards on Assurance Engagements, here after referred to as the engagement, to report on Kuusakoski's selected sustainability indicators listed below and presented in the Annual Report 2023 on pages 30-62 for the period 1.1.-31.12.2023 (the "Subject Matter"). The engagement described above does not include future targets.

- GRI 301 Materials 2016 (301-1 and 301-2)
- GRI 302 Energy 2016 (302-1)
- GRI 303 Water and effluents (303-3, 303-4 and 303-5)
- GRI 305 Emissions (305-1, 305-2, 305-3 and 305-4)
- GRI 306 Waste (306-3, 306-4 and 306-5)
- GRI 403-1 Occupational health and safety management system
- GRI 403-9 Work-related injuries
- GRI 201-1 Direct economic value generated and distributed
- GRI 205-2 Communication and training about anti-corruption policies and procedures

Criteria applied by Kuusakoski

In preparing the non-financial disclosures and the selected indicators, Kuusakoski applied Global Reporting Initiative (GRI) Sustainability Reporting Standards and Kuusakoski's own reporting principles (the "Criteria"). As a result, the subject matter information may not be suitable for another purpose.

Kuusakoski's responsibilities

Kuusakoski's management is responsible for selecting the Criteria, and for presenting the sustainability disclosures and the selected indicators in accordance with that Criteria for the reporting year 2023, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the subject matter, such that it is free from material misstatement, whether due to fraud or error.

Ernst & Young's responsibilities

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000 (Revised)'), and the terms of reference for this engagement as agreed with Kuusakoski on 27.12.2023. Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

Our Independence and Quality Control

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, and have the required competencies and experience to conduct this assurance engagement.

EY also applies International Standard on Quality Management 1, Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other

Assurance or Related Services engagements, which requires that we design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Description of procedures performed

Procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the selected sustainability information as well as applying analytical and other appropriate procedures.

Our procedures included:

- a) gathering an understanding of Kuusakoski's material sustainability reporting topics,
- b) interviews with senior management to understand Kuusakoski's sustainability management,
- c) interviews with personnel responsible for gathering and consolidation of the sustainability information, processes and controls related to gathering and consolidating the information,
- d) conducting recalculations on a sample basis for the reported information as well as checking the accuracy of the information underlying the text of the report.

We also performed other procedures we considered necessary in the circumstances.

Conclusion

Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to the sustainability information in the Annual Report 2023 for the period 1.1.-31.12.2023, in order for it to be in accordance with the Criteria.

Helsinki, 11th of April 2024

Ernst & Young Oy
Authorized Public Accountant Firm

Juha Hilmola
Authorized Public Accountant

Nathalie Clément
Leader of Climate and Sustainability Services

KUUSAKOSKI GROUP

Kuusakoski Group comprises the recycling company Kuusakoski Oy, the foundry company Alteams Oy, and the property companies Jokirantakiinteistöt Oy and Kiinteistö Oy Lahden Norokatu 5. The parent company of Kuusakoski Group is Kuusakoski Group Oy, which is owned in its entirety by the Kuusakoski family. Kuusakoski Oy and its subsidiaries form the recycling business group and Alteams Oy and its subsidiaries the foundry business group.



Market situation and business performance

Kuusakoski Group had a challenging financial year on the whole. The downturn in the global economy and the weakened market situation in both the recycling and foundry businesses weakened the Group's profitability compared to previous years.

The recycling business group had a challenging financial year despite a strong start to the year. The downturn in the global economy, general reduction in recyclable materials, weaker demand among end customers and decreased global market prices for metals had a negative impact on the recycling group's profitability in 2023. The operating result for the year under review was clearly lower than in previous years, which were particularly strong. During the year under review, the company promoted its long-term strategy by investing in the opportunities offered by the green transition, for example by developing technical production processes and adapting to changing demands among end customers.

The foundry business group had a difficult financial year in 2023 due to the deterioration in the market situation after a good start to the year. In the telecommunications network segment, customer inventory levels were high. Investments by operators in new networks slowed down, which reduced the demand for related aluminium components. In the industrial applications segment, the turnover of customers also decreased due to the general uncertainty in the market increased. The growth of the electric vehicle business, on the other hand, continued strongly, driven by the electrification of mobility. The desire in industry to shift manufacturing away from China is growing steadily, the effects of which were also visible at the Alteams plants in China, Poland and India.

The cost inflation of production factors levelled off in the Group's operating countries, but rising costs and higher interest rates have had significant direct and indirect effects on the company's result for the financial year. The war in Ukraine has not had a direct impact on the Group's business. Kuusakoski has not had any business in Russia since 2020.

Kuusakoski Group posted revenues in 2023 of EUR 651.1 million, which is 14% less than the previous year (759.8 million in 2022, 717.6 million in 2021).

The consolidated operating result was EUR 8.9 million, which represents 1.4% of revenues (31.6 million and 4.2% in 2022, 51.7 million and 7.2% in 2021).

The net result for the financial period after taxes was EUR -0.9 million (21.1 million in 2022, 40.0 million in 2021).

The return on investment (ROI) was 4.6% (14.1% in 2022, 24.3% in 2021) and the return on equity (ROE) -0.6% (13.3% in 2022, 29.0% in 2021).

In both the recycling and foundry business groups, revenues decreased and profitability weakened compared to the previous year. The recycling business group posted revenues in 2023 of EUR 576.9 million (656.7 million in 2022, 625.9 million in 2021). The operating result amounted to EUR 9.1 million (27.9 million in 2022, 51.5 million in 2021), representing 1.6% of revenues (4.3% in 2022, 8.2% in 2021). The foundry business group posted revenues in 2023 of EUR 79.0 million (109.1 million in 2022, 96.0 million in 2021). The operating result weakened and amounted to EUR 0.0 million (3.9 million in 2022, -0.2 million in 2021). Revenues from the recycling business accounted for approximately 88% of the Group's consolidated revenues.

Financing and capital expenditure

Kuusakoski Group's cash flow from operating activities before investments totalled EUR 24.1 million (34.2 million in 2022, 32.8 million in 2021) and after investments EUR -3.8 million (6.9 million in 2022, 14.0 million in 2021). The amount of working capital tied to Group activities decreased by EUR 4.5 million compared to the previous year.

The recycling business group continued developing its own operations and investing in further processing during the year under review. Investments within the recycling business group increased slightly compared to the previous year. Investments within the foundry business decreased compared to the previous year. Investments focused on basic repairs and modernisations of existing machinery and equipment, increasing the degree of automation and improving energy efficiency at its plants. Kuusakoski Group's investments totalled EUR 27.9 million (27.1 million in 2022, 19.6 million in 2021), which represents 4.3% of revenues (3.6% in 2022, 2.7% in 2021).

Kuusakoski Group's liquidity remained good. Unused committed revolving credit facilities at the end of the year under review amounted to EUR 40 million (50 million in 2022, 50 million in 2021). The Group had no short-term commercial papers issued at the end of the year under review.

The Group's equity ratio at the end of 2023 remained at the same level and was 50.3% (50.2% in 2022, 47.6% in 2021). The net gearing ratio increased and was 26.1% (18.5% in 2022, 14.0% in 2021). The amount of net debt increased during the year under review by EUR 10 million and amounted to EUR 40 million at the end of the year.

The parent companies of the business groups owned by Kuusakoski Group Oy are responsible for their own financing in accordance with the Treasury Policy of Kuusakoski Group. The Treasury Department of Kuusakoski Oy monitors the implementation of the Treasury Policy throughout the entire Group.



The systematic and long-term development of occupational safety within the recycling business group continued in 2023.

Parent company Kuusakoski Group Oy

The parent company **Kuusakoski Group Oy** had revenues in 2023 of EUR 1.1 million (1.1 million in 2022). The net result for the financial period after taxes was EUR 11.6 million (10.5 million in 2022). The parent company had an average of 2 employees in 2023 (2 in 2022). The Kuusakoski family owns the entire shareholding in Kuusakoski Group Oy (60,000 shares). All shares have equal voting rights and the right to dividends and the company's assets.

Sustainability

Sustainability is at the centre of Kuusakoski Group's strategy and is expected to open up new business opportunities and strengthen current operations. Both business groups have created and are developing their own sustainability programs.

In accordance with the strategy of the **recycling business group**, Kuusakoski focuses on customer-oriented growth. Sustainability is a key strategic success factor on the company's growth path. The aim is to build a sustainable supply chain that proactively responds to customer needs, as well as the future demands of stakeholders and evolving legislation. At the same time, the company

is preparing for the ongoing green transition of industry in its future investments and decisions.

The recycling business group developed its sustainability work significantly in 2023, as reflected in the improvement in its EcoVadis corporate sustainability rating to Silver Medal status among the world's best 20 percent of rated companies. In addition, the company launched its product- and function-specific emissions calculator for customers. The company also continued its climate actions in order to achieve its set goals of carbon neutral operations by 2035 and a carbon neutral value chain by 2045.

As part of this sustainability work, a comprehensive Sustainability Report will be published in connection with the 2023 Annual Report covering Kuusakoski's recycling business and with reference to the GRI reporting standards for the third year in a row. The 2023 Sustainability Report has been prepared based on the definition of double materiality and audited by the Group's auditor. The main themes of the Sustainability Program in 2023 were: proactive partnership with customers, occupational safety and wellbeing of employees, continuous improvement of sustainable business, and material and energy efficiency.

During 2023, external audits were conducted for operations at different country units of the recycling business group in accordance with the ISO 9001 quality management system, the ISO 14001 environmental management system and the ISO 45001 occupational health and safety management system. Internal audits of environmental, occupational health and safety, and quality management systems were conducted according to schedule.

The Sustainability Program of the **foundry business group** was published in autumn 2023. The program provides an overview of the company's current performance in the area of sustainable development, as well as a road map that guides the company's future development and operations. The UN Sustainable Development Goals were used as the reference framework for the Sustainability Program. Targets were set and measures planned in the following three areas: environment and climate, people and society, and ethics.

In the foundry business, in addition to reducing direct emissions from its own operations, reducing indirect emissions, especially the carbon footprint of aluminium used in production, will play an increasingly important role also in the future. Many of the investments made at its plants were also related to

saving energy, such as the purchase of more energy-efficient furnaces in Poland, the installation of solar panels in China, and heat pump investments to replace fossil fuels in Finland.

The transition towards more sustainable operating methods is progressing in China. In spring 2023, the Green Manufacturing Factory project was launched at the Alteams plant in China. As a result of the project, Alteams Suzhou has been certified with the ISO 50001 energy management system and the ISO 14064-1 and ISO 14067 standards for measuring and reporting greenhouse gas emissions. China's green transition strategy goes hand in hand with the sustainability goals of Alteams, which aims to halve its 2019 carbon dioxide emissions by 2030. The intermediate goals have been achieved.

Alteams was awarded Bronze Medal status in 2023 by EcoVadis, which supplies sustainability ratings for global supply chains.

The foundry business group's management system is based on international quality management standards (ISO 9001 and TS 16949), and its environmental management system is based on the ISO 14001 standard. The automotive industry's IATF 16949 standard is also used by the company in China, Poland, Finland (Laihia) and India.

Research and development

The recycling business group focused during the year under review in supporting long-term sustainable growth and promoting innovation by launching several investment projects and increasing R&D resources. The common themes of R&D projects were new energy-efficient and smart technologies, functional recycling and maintaining the added value of materials. Promoting the reuse of devices and components was the most significant goal of the company's research, development and innovation work alongside the development of recycling.

The Kuusakoski Research Centre and laboratory in Lahti served the company and its partners, producing experimental research-based data on recycling and reuse processes and various material flows. During the year under review, the accuracy of research work and the reliability of results were again ensured in connection with the accredited operations management system and the periodic evaluation of technical operations.

Within the foundry business group waste heat management and reducing the weight of products play an important role in several of



The foundry business group responded to the need among customers to reduce carbon dioxide emissions by developing a new recycled aluminium alloy.

the company's R&D projects. In addition, the company responded to the need among customers to reduce carbon dioxide emissions by developing a new recycled aluminium alloy.

Occupational and fire safety

One of the strategic goals of the **recycling business group** is to be a leader in the field of occupational health and safety. Our target is zero occupational accidents. The systematic and long-term development of occupational safety continued in 2023. Employees continued to be active in reporting safety deficiencies and helping to prevent accidents. In 2023, employees made more than 2700 safety observations. The frequency of accidents leading to absences did not develop favourably, as the accident frequency increased slightly. The lost time injury frequency (LTIF) rate per million hours was 13.4 at the end of 2023 (11.9 in 2022).

A lot of attention was paid again to further improving fire safety. In the Finnish operations of the recycling business group, fire safety inspections were carried out with an external partner for the most critical sites, and business continuity planning was developed.

The recycling business group is also testing technology based on artificial intelligence to improve fire safety. The operational readiness of employees was improved with an extensive update of rescue plans.

Creating a safe and healthy work environment is also a strategic goal of the **foundry business group**, and the target is zero occupational accidents. The focus has increasingly been on proactive occupational safety work, such as active reporting of safety observations in order to prevent accidents. The lost time injury frequency (LTIF) rate per million hours developed positively during 2023 and was 10 (14 in 2022). A thermal camera monitoring system was acquired for the Loppi foundry to further improve fire safety.

The decision was taken within the foundry business group to begin developing an occupational health and safety system in accordance with the ISO 45001 standard at its plants in Finland and Poland, which has already been implemented in spring 2023 at its plant in Suzhou, China.

The goal of the foundry business group is to further expand the company's customer base.

Risks and risk management

The aim of Kuusakoski Group's risk management is to identify the most significant risk factors and to manage them optimally so that the Group's strategic and financial objectives are achieved. Both business groups are responsible for their own risk management, taking into account the special features of their businesses and operating environments. The main focus of the risk management process is on identifying risks and especially defining management measures, as well as evaluating their effectiveness. Risks are divided into strategic, operational and financial risks.

Within the recycling business group, work continued in 2023 on embedding the risk management process that was introduced in 2022 in the group's country units. The purpose of the risk management policy is to ensure that all operations follow jointly agreed and approved risk management practices and guidelines. The risk management model in use is an application of the ISO 31000 risk management standard. The Board of Directors of the recycling business group supervises the implementation of risk management once and the Management Team of the recycling business group

twice a year in accordance with the risk management process.

The majority of the identified risks in the recycling business are operational. Operational risks affect employees, operations, production, property and information systems. The most significant operational risks identified in the risk management work are the availability of recyclable materials and new competitors in the sourcing markets. Significant risks also include fires in key facilities,

accidents involving personnel and cyber security risks. According to the risk assessment, however, the probability of these risks is not high. Both business groups invested in continuity planning and insurance coverage during the year under review.

Within the foundry business group, strategic risks are emphasized that, if realised, could endanger the achievement of short- or long-term goals. The group has a few large customers on which it is relatively dependent. The goal is to further expand the company's customer base in order to reduce the negative impact of changes in the operations of individual customers on revenues and operations. In the recycling business, strategic risks are related to changes in the operating environment.

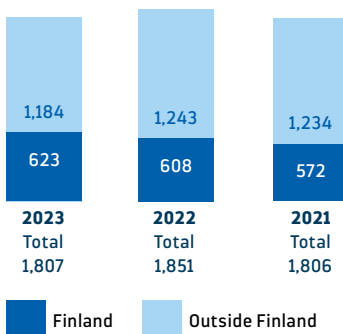
Both business groups operate in global markets and are exposed to the price risk of metals and other commodities, as well as foreign exchange and interest rate risks. For both groups, the most significant operational risk is related to rapid fluctuations in the prices of raw materials, and the greatest financial risk arises from foreign exchange and interest rate risks.

Changes in group structure

During the year under review, Crown Works Ltd in England merged with its parent company Kuusakoski Ltd. There were no other changes in group structure within Kuusakoski Group during the year under review. ●

Personnel

At the end of the year under review, the Group had 1,807 employees.



The number of personnel decreased by 5 in the recycling business group and 39 in the foundry business group. The biggest decreases were in the Chinese companies of the foundry business group, where the use of temporary workers also decreased significantly.

The total sum of salaries, wages and rewards paid to personnel during the year under review in Kuusakoski Group was EUR 65.9 million (66.6 million in 2022, 63.6 million in 2021).



The focus of operations within the recycling business group is on improving collecting activities, cost efficiency and cash flow, as well as implementing new business models and investments.

Kuusakoski Group prospects for 2024

Global economic growth is expected to remain weak in 2024, which does not support business growth. In accordance with the strategy of the recycling business group, the focus of operations is on improving collecting activities, cost efficiency and cash flow, as well as implementing new business models and investments. In 2024, revenues for the recycling business group are expected to remain at the same level as in the previous year, but profitability will improve. For the foundry business group, revenues and profitability in 2024 are expected to remain at the same level as in 2023.

Events after the financial period

The company has not faced any significant events after the end of the financial period.

Proposal of the Board

The distributable funds of Kuusakoski Group Oy amount to EUR 110.8 million, of which the net profit for the financial year accounts for EUR 11.6 million.

The Board of Directors proposes to the Annual General Meeting that the distributable funds be used as follows:

For payment of a dividend of EUR 75.00/share.....	EUR 4,5 million
To be retained in shareholders' equity	EUR 106.3 million
Total	EUR 110.8 million

Organisation, management and auditor

The Members of the Board elected by the Annual General Meeting on 27 April 2023 comprise **Johan Kronberg, Veikko Kuusakoski, Mariella Kuusakoski-Toivola, Lauri Peltonen** and **Arno Pelkonen**. **Tapio Kuusakoski** and **Tiina Orasaari** have served as deputy members. **Johan Kronberg** has served as Chairman of the Board.

Authorised Public Accountants Ernst & Young Oy has acted as the company's regular auditor and Authorised Public Accountant **Juha Hilmola** as the responsible auditor. Veikko Kuusakoski has served as CEO of Kuusakoski Group Oy.

Espoo, 4 April 2024

Johan Kronberg, Chairman of the Board
Veikko Kuusakoski
Mariella Kuusakoski-Toivola
Lauri Peltonen
Arno Pelkonen

ACCOUNTING PRINCIPLES

Consolidated Financial Statements

The consolidated financial statements and those of the parent company Kuusakoski Group Oy have been prepared in accordance with the Finnish Accounting Act.

The consolidated financial statements include the parent company, as well as companies in which the parent company directly or indirectly held more than 50 percent of the voting rights at the end of the financial year or in which the parent company has the power to exercise control.

All inter-company receivables and liabilities, internal margins and the effects of other internal transactions have been eliminated. Share ownership has been eliminated using the acquisition cost method. The difference between the acquisition cost and the equity of subsidiary companies at the time of acquisition is presented as goodwill. Goodwill is depreciated on a straight-line basis over 5 years.

Minority interests are separated from the Group's result and shareholders' equity and pre-sented as separate items in the consolidated income statement and balance sheet.

The financial information of associated companies is included in the consolidated financial statements using the equity method. The Group's share of the results in associated companies is presented in the financial items. Similarly, the Group's share of the shareholders' equity of associated companies is presented in the balance sheet as the value of the shares and any possible goodwill. Associated companies are companies in which the parent company held 20 to 50 percent of the voting rights at the end of the financial year.

Revenue Recognition

Revenue from sales of products and services is reported as net sales adjusted for indirect taxes, discounts and exchange rate differences on foreign currency sales. The recycling business group sells recycled metal and other recycled materials and offers various recycling services to its customers. Income from material sales is recorded when the product is delivered to the customer under the terms of delivery and the risks and benefits associated with it have been transferred to the recipient. Revenue from services is recognised when the service has been performed.

The foundry business group sells aluminium castings to its customers, as well as the tools used to manufacture their products. Income from product sales is recorded when the product is delivered to the customer under the terms of delivery. Income from tool projects is recorded on a billing basis in accordance with the terms of the customer agreement. Specific margins for projects are recognised at the end of each project. Anticipated losses from non-profitable projects are recognised as an expense in their entirety.

Foreign Currency Items

Foreign currency receivables, liabilities and commitments are valued according to the European Central Bank's average exchange rates on the closing date. Currency derivatives are valued at market value on the closing date, and profits and losses are charged to the appropriate items in the income statement.

The balance sheets of non-Finnish subsidiaries are translated into euros at the average exchange rate on the closing date and their income statement at the average of the monthly average exchange rates for the financial year. Exchange rate differences arising from translating shareholders' equity are presented in retained earnings.

Research and Development Costs

Research and development costs are charged to the income statement as annual costs.

Inventories

Inventories are presented in the balance sheet at the lower of cost or net realisable value; they are calculated using the FIFO method as the amount of the variable costs arising from acquisition and

manufacturing, or the probable sales price. In addition to variable costs, the value of inventories includes fixed costs arising from acquisition and manufacturing.

Fixed assets and depreciation

The balance sheet values of tangible and intangible fixed assets are based on their original acquisition costs, less accumulated depreciation. The acquisition cost of assets manufactured by the company includes variable manufacturing costs.

Straightline depreciation is made according to the plan for depreciation, which is based on the estimated useful economic life of the assets.

Estimated useful economic life of fixed assets:

Intangible assets	3–5 years
Goodwill	5–10 years
Other long-term expenditure	5 years
Buildings and structures	10–30 years
Machinery and equipment	5–12 years
Other tangible assets	5–20 years

Financial Assets

Financial assets are valued according to their acquisition cost or the probable sales price.

Pension Arrangements

Pension costs for Group companies outside Finland are calculated in accordance with local legislation and practice and recorded in the consolidated financial statements. Pension obligations for Group personnel in Finland are covered through payments to pension insurance institutions.

Deferred Taxes

Deferred tax liabilities and assets in the consolidated financial statements are calculated for temporary differences between the tax basis of assets and liabilities and their carrying amounts for financial reporting purposes using the official tax rate confirmed on the balance sheet date for the following financial periods.

Taxation requirements in Finland and certain other countries allow companies to reduce or increase their taxable income through appropriations. Any increase or reduction in these is recorded in the income statement as a change in appropriations, with the counterentry in the balance sheet appropriations. In the consolidated financial statements, appropriations are divided between the result for the year, accumulated reserves and deferred tax liability.

Recognition and Measurement of Derivative Instruments

Derivative instruments include currency options, forward foreign exchange contracts, interest rate swaps and commodity derivatives as part of an overall risk management policy. Currency options and forward foreign exchange contracts are used to reduce anticipated foreign currency risks related to sales and purchases. Section 5:2a of the Finnish Accounting Act is applied to derivatives. Derivatives are valued in principle at market value on the closing date, and their changes in value are recorded in the income statement. The fair value of derivatives can also be presented outside the balance sheet in the notes using hedge accounting if the cash flows of the hedged item and the hedging instrument can be shown to be completely identical by means of an efficiency calculation. The change in value of electricity derivatives is recorded only in the notes to the consolidated financial statements.

Environmental Provisions

Kuusakoski Oy's location-specific environmental permit regulations are complied with closely and monitored throughout the financial year. Upcoming environmental investments and any possible soil cleaning provisions for land on which operations are to be discontinued and that are located on leased plots or that are subject to other restoration requirements are recorded in the financial statements as mandatory provisions.

AUDITOR'S REPORT

To the Annual General Meeting of Kuusakoski Group Oy

Report on the Audit of the Financial Statements**Opinion**

We have audited the financial statements of Kuusakoski Group Oy (business identity code 0200662-5) for the year ended 31 December, 2023. The financial statements comprise the balance sheets, the income statements, cash flow statements and notes for the group as well as for the parent company.

In our opinion, the financial statements give a true and fair view of the group's and the company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the *Auditor's Responsibilities for the Audit of Financial Statements* section of our report. We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but

not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

— Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.

— Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.

— Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Other reporting requirements**Other information**

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. Our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement of the report of the Board of Directors, we are required to report that fact. We have nothing to report in this regard.

Other opinions

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the profit shown on the balance sheet is in compliance with the Limited Liability Companies Act. We support that the Board of Directors of the parent company and the Managing Director should be discharged from liability for the financial period audited by us.

Helsinki, 4 April 2024

Ernst & Young Oy
Authorized Public Accountant Firm

Juha Hilvola
Authorized Public Accountant



Our printed annual report has green credentials



Our annual report is published in both electronic and printed formats. In the implementation of the printed product, we have taken into account environmental issues when selecting the paper, printing technology and printing house. The paper we use is G-Silk, which is made at the comprehensively certified Arctic Paper Grycksbo AB paper mill in Sweden. The raw material for the paper is sourced from PEFC-certified, sustainably managed forests.

The annual report is printed by our long-term partner Markprint Oy, for whom environmental issues and sustainability are important values. Operating on green district heat and carbon-neutral electricity, Markprint was one of the first printing houses to receive the Nordic Swan Ecolabel, the official environmental label of the Nordic countries – and one of the world's toughest environmental certifications. The requirements of the Nordic Swan Ecolabel take into account the entire printing process, including papers and chemicals.

Our cooperation also covers recycling: in 2023, Markprint delivered 3265 kg of aluminium offset printing plates and 469 kg of mixed sheet metal to Kuusakoski for recycling.

CONSOLIDATED INCOME STATEMENT		
EUR MILLION	2023	2022
Revenues 1)	651.1	759.8
Other operating income 2)	1.3	1.5
Materials and services 3)	477.9	564.0
Personnel expenses 4)	79.0	79.0
Depreciation and write-downs 6)	16.6	16.6
Other operating expenses	70.0	70.1
	643.5	729.7
Operating profit	8.9	31.6
Financial income and expenses 7)	-6.3	-2.9
Profit before taxes	2.6	28.6
Income taxes 8)	-2.9	-6.5
Minority interest	-0.5	-1.0
Net profit for the financial year	-0.9	21.1
CONSOLIDATED BALANCE SHEET		
EUR MILLION	2023	2022
ASSETS		
Non-current assets 9)		
Intangible assets	3.0	3.5
Tangible assets	135.4	123.7
Investments	7.4	7.4
	145.8	134.6
Current assets		
Inventories 10)	80.1	79.3
Long-term receivables	0.1	0.1
Short-term receivables 11)	51.3	65.4
Cash and cash equivalents	28.0	41.1
	159.5	185.9
	305.3	320.5
SHAREHOLDERS' EQUITY AND LIABILITIES		
Equity and reserves 12)		
Share capital	0.1	0.1
Share premium fund	0.2	0.2
Retained earnings	151.4	136.6
Net profit for the financial year	-0.9	21.1
	150.8	158.0
Minority interest	2.3	2.2
Obligatory provisions 13)	10.3	9.3
Liabilities 14)		
Non-current liabilities	58.2	44.3
Current liabilities	83.8	106.6
	141.9	150.9
	305.3	320.5

CONSOLIDATED STATEMENT OF CHANGES IN FINANCIAL POSITION		
EUR MILLION	2023	2022
Cash flow from operations		
Profit (loss) before appropriations and taxes	2.6	28.6
Adjustments:		
Depreciation and write-downs	16.6	16.6
Gains (-) and losses (+) on fixed assets	-0.1	0.2
Share of results of associated companies, gains (-) and losses (+)	-0.4	-1.5
Unrealised exchange rate profits and losses	1.0	-0.5
Financial income and expenses	5.9	4.5
Cash flow before change in working capital	25.5	47.9
Change in working capital		
Increase (-), decrease (+) in inventories	-0.8	4.9
Increase (+), decrease (-) in non-interest-bearing trade receivables	11.1	8.7
Increase (+), decrease (-) in non-interest-bearing liabilities	-5.9	-10.9
Cash flow from operations before financial items and taxes	30.0	50.6
Interest paid and other financial expenses	-6.8	-4.9
Dividends received	0.4	0.4
Interest received	0.6	0.4
Taxes	-0.1	-12.3
Cash flow from operations	24.1	34.2
Cash flow from investments		
Investments in tangible and intangible assets	-27.9	-27.1
Investments in associated companies	0.0	-0.3
Cash flow from investments	-27.9	-27.4
Cash flow from financing		
Increase (+), decrease (-) in non-current liabilities	23.3	15.5
Increase (+), decrease (-) in current liabilities	-25.7	-12.9
Dividend distribution	-5.9	-13.6
Cash flow from financing	-8.3	-11.0
Change in cash and cash equivalents	-12.2	-4.2
Cash and cash equivalents 1 Jan	41.1	45.8
Effect of exchange rate changes	-0.9	-0.5
Cash and cash equivalents 31 Dec	28.0	41.1

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
EUR MILLION
2023
2022
INCOME STATEMENT
1. Revenues by business sector and market area
Revenues by business sector

Recycling	572.1	650.7
Foundries	79.0	109.0
Total	651.1	759.8

Revenues by market area

Finland	134.1	177.9
Other Europe	363.4	439.5
Asia	136.8	120.1
Other areas	16.9	22.4
Total	651.1	759.8

2. Other operating income

Gains on sale of fixed assets	0.2	0.2
Other operating income	1.1	1.3
Total	1.3	1.5

3. Materials and services

Materials, goods and supplies		
Purchased during the financial year	389.3	460.1
Increase(-), decrease (+) in inventories	-0.6	4.9
	388.7	464.9
Outside services	89.2	99.1
Total	477.9	564.0

4. Personnel expenses

Wages and salaries	65.9	66.6
Pension expenses	7.3	7.0
Other personnel expenses	5.8	5.4
Total	79.0	79.0

Salaries and remuneration to senior management

Managing Directors and Members of the Board of Directors	3.2	3.5
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Group management had no loans from the parent company.

Average number of personnel

Wage earners	1,279	1,304
Salaried employees	558	557
Total	1,837	1,861

5. Auditor's fees

Auditing	0.4	0.4
Other services	0.1	0.1
Total	0.5	0.5

6. Depreciation and writedowns

Planned depreciation, intangible	0.5	0.5
Planned depreciation, tangible	15.9	16.1
Writedowns	0.2	-0.1
Total	16.6	16.6

7. Financial income and expenses

Income from associated companies	0.4	1.5
Other interest and financial income, from others	1.2	0.4
Other interest and financial expenses, to others	8.3	4.9
Total financial expenses and expenses	-6.3	-2.9
Foreign currency exchange differences included in total financial income and expenses	0.3	0.0

8. Income taxes

Income taxes payable from current and previous tax years	1.9	5.1
Change in deferred tax liability	0.7	1.2
Other direct taxes	0.4	0.3
	2.9	6.5

EUR MILLION
BALANCE SHEET, ASSETS

9. Non-current assets	Acquisition cost 1 Jan 2023	Translation difference	Increases	Decreases	Re-classifications	Accumulated depreciation 1 Jan 2023	Translation adjustment	Accumulated depreciation on decreases	Depreciation for the financial year	Writedowns	Total 31 Dec 2023
Intangible assets											
Intangible rights	2.3	0.0	0.0	0.0	-0.1	-1.2	0.0	0.0	0.0	0.0	1.0
Goodwill	54.5	0.0	0.0	-0.7	0.0	-54.5	0.0	0.7	0.0	0.0	0.0
Other intangible assets	17.5	-0.1	0.1	-1.2	0.4	-15.2	0.0	1.2	-0.5	0.0	2.1
Capital work in progress	0.3	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total	74.5	-0.1	0.1	-1.9	0.0	-71.0	0.1	1.8	-0.5	0.0	3.0
Tangible assets											
Land	7.7	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	8.4
Buildings and structures	114.2	-1.0	1.0	-0.4	2.6	-67.4	0.9	0.3	-3.9	0.0	46.3
Machinery and equipment	241.7	-2.4	5.4	-10.2	12.0	-191.1	2.5	10.1	-11.5	-0.2	56.4
Other tangible assets	7.0	-0.1	0.3	-0.1	0.1	-5.7	0.1	0.1	-0.5	0.0	1.2
Capital work in progress	16.6	-0.1	21.8	-0.5	-14.8	0.0	0.0	0.0	0.0	0.0	23.0
Total	387.2	-3.6	28.5	-11.2	0.0	-263.5	3.5	10.6	-15.9	-0.2	135.4
Investments											
Shares in associated companies	7.3	0.3	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	7.2
Other shares and shareholdings	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total	7.4	0.3	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	7.4
Total non-current assets	469.1	-3.4	28.6	-13.4	0.0	-334.5	3.5	12.4	-16.4	-0.2	145.8

EUR MILLION	2023	2022
10. Inventories		
Materials and supplies	48.5	51.0
Finished goods	31.6	28.4
Advance payments	0.0	-0.1
	80.1	79.3
11. Current receivables		
Long-term receivables		
Deferred tax liabilities	0.1	0.1
Short-term receivables		
Deferred tax liabilities	2.5	2.4
Trade receivables	40.0	53.0
Other receivables	4.0	3.4
Accrued income	4.9	6.6
	51.3	65.4
Balance sheet, assets		
12. Shareholders' equity		
Share capital	0.1	0.1
Share premium fund	0.2	0.2
	0.3	0.3
Retained earnings 1 Jan	157.7	153.9
Dividends paid	-5.6	-13.0
Translation adjustment	-0.7	-3.8
Retained earnings 31 Dec	151.4	137.1
Net profit for the financial year	-0.9	21.1
Other direct entries to retained earnings	0.0	-0.4
Total retained earnings	150.5	157.7
Total	150.8	158.0
13. Provisions		
Environmental provisions	7.1	7.6
Other provisions	3.2	1.7
Total	10.3	9.3
14. Liabilities		
Non-current liabilities		
Loans from financial institutions	51.8	38.8
Deferred tax liabilities	6.3	5.5
Other non-current liabilities	0.1	0.1
Total non-current liabilities	58.2	44.3
Current liabilities		
Loans from financial institutions	10.5	25.2
Advances received	1.3	1.2
Trade payables	44.8	50.4
Other current liabilities	8.4	10.5
Accrued expenses	18.2	18.7
Deferred tax liabilities	0.5	0.7
Total current liabilities	83.8	106.6

EUR MILLION	2023	2022
Main items in accrued expenses		
Accrued personnel expenses	9.4	9.9
Taxes	1.3	1.7
Accrued financial expenses	0.5	0.2
Other	7.0	6.9
	18.2	18.7
OTHER NOTES		
15. Collateral given		
Liabilities for which collateral given		
Loans from financial institutions	20.4	20.4
Mortgages given as collateral		
Business mortgages	46.8	46.8
Book value of pledged shares	5.5	5.5
16. Contingent liabilities		
Leasing and rental liabilities		
Payable within one year	9.7	8.2
Payable after one year	25.6	24.9
Total leasing and rental liabilities	35.3	33.1
Guarantees given on behalf of companies belonging to the same group	12.5	11.5
Other guarantees	6.7	6.4
Total contingent liabilities	54.6	51.0
17. Derivative instruments		
Open derivative instruments 31 Dec 2023		
Forward foreign exchange contracts		
Fair value	0.5	0.0
Contract amounts	36.5	15.6
Change in value marked to the Income Statement	0.5	-0.4
Electricity derivatives		
Fair value	0.0	0.0
Contract amounts	1.2	0.0
Interest rate swaps		
Fair value	0.0	0.1
Contract amounts	9.0	9.0
Forward foreign exchange contracts, currency options and metal options have been made for hedging purposes, and they have been booked for the most part as a gain or loss in the financial statements at their fair value. Exercised and terminated electricity derivatives have been booked in the income statement upon their termination. The values of open agreements are not booked in the balance sheet but are instead listed here. At the end of the financial year the Group had open forward foreign exchange contracts and electricity derivatives. All open forward foreign exchange contracts mature within 12 months. All open electricity derivatives mature within 3 years. The interest rate swaps valid at the end of the financial year were made to hedge against the interest rate risks of variable-rate bank loans. The interest rate swaps have been accounted for as hedges and will mature during the 2024-2025 financial period.		

18. Group holdings in other companies

	Country	Group Share-holding %	Parent Company Share-holding %
GROUP COMPANIES			
Alteams Oy	Finland	100	100
Alteams Finland Oy	Finland	100	
Jokirantakiinteistöt Oy	Finland	100	100
Kivikolmio Oy	Finland	100	
Kuusakoski Oy	Finland	100	100
Koy Lahden Norokatu 5	Finland	100	100
Revanssi Oy	Finland	51	
Alteams Eesti Oü	Estonia	100	
Alteams Japan K.K.	Japan	100	
Alteams Poland Sp.zo.o	Poland	100	
Alteams Stilexo AB	Sweden	100	
Alteams Suzhou Co. Ltd.	Kiina	100	
Alteams Suzhou Industrial Technology Co. Ltd.	Kiina	100	
Kuusakoski AS	Estonia	100	
Kuusakoski Glass Recycling LLC	USA	100	
Kuusakoski Inc	USA	100	
Kuusakoski Ltd	UK	100	
Kuusakoski Poland Sp.zo.o	Poland	100	
Kuusakoski Sverige AB	Sweden	100	
Kuusakoski US LLC	USA	100	
SWEEEP Kuusakoski Ltd	UK	61	
Vintage Tech LLC	USA	100	

ASSOCIATED COMPANIES

Suomen Erytisyjäte Oy	Finland	49
Sähkö-Saarnikannas Oy	Finland	20
Ashley Alteams India Private Limited	India	50

KEY FIGURES

	2023	2022	2021	2020	2019
Group key financial indicators					
Revenues, MEUR	651.1	759.8	717.6	486.5	517.5
Exports and sales outside Finland, MEUR	517.0	581.9	542.4	384.3	398.1
% of revenues	79.4	76.6	75.6	79.0	76.9
Operating profit, MEUR	8.9	31.6	51.7	9.9	-1.3
% of revenues	1.4	4.2	7.2	2.0	-0.2
Net financing expenses (excluding exchange rate differences), MEUR	6.6	3.0	1.4	2.0	4.8
% of revenues	1.0	0.4	0.2	0.4	0.9
Profit before taxes, MEUR	2.6	28.6	50.5	7.4	-5.8
% of revenues	0.4	3.8	7.0	1.5	-1.1
Return on equity (ROE), %	-0.6	13.3	29.0	4.0	-5.6
Return on investment (ROI), %	4.6	14.1	24.3	5.5	-0.7
Equity ratio, %	50.3	50.2	47.6	43.7	42.9
Interest-bearing debt, MEUR	68.0	70.7	67.6	73.4	88.1
Net debt, MEUR	40.0	29.6	21.8	27.4	49.7
Net Gearing, %	26.1	18.5	14.0	22.8	41.7
Investments, MEUR	27.9	27.1	19.6	9.3	20.3
% of revenues	4.3	3.6	2.7	1.9	3.9
Number of personnel (average)	1,837	1,861	1,814	1,934	2,095
Information per share					
Number of shares	60,000	60,000	60,000	60,000	60,000
Net profit per share, EUR	-15.1	350.9	666.9	80.6	-115.7
Equity per share, EUR	2,512.7	2,633.2	2,570.7	1,986.4	1,970.9
Dividend per share, EUR	75.0	93.0	217.0	120.0	55.0
Dividend as % of net profit	-498.2	26.5	32.5	74.4	-47.6

PARENT COMPANY INCOME STATEMENT

EUR MILLION	2023	2022
Revenues	1.1	1.1
Other operating income	1.1	1.2
Personnel expenses	0.6	0.6
Depreciation and write-downs	0.0	0.0
Other operating expenses	1.9	2.1
Operating profit	-0.3	-0.4
Financial income and expenses	12.0	10.9
Profit before appropriations and taxes	11.7	10.5
Income taxes	0.0	0.0
Net profit for the financial year	11.6	10.5

PARENT COMPANY BALANCE SHEET

EUR MILLION	2023	2022
ASSETS		
Fixed assets and other long-term investments		
Non-current assets	0.0	0.0
Tangible assets	1.2	1.1
Investments	95.9	95.9
	97.0	96.9
Current assets		
Long-term receivables	7.9	8.3
Short-term receivables	1.1	2.0
Cash and cash equivalents	13.5	7.5
	22.5	17.7
SHAREHOLDERS' EQUITY AND LIABILITIES	119.5	114.6
Shareholders' equity		
Share capital	0.1	0.1
Share premium fund	0.2	0.2
Retained earnings	99.2	94.3
Net profit for the year	11.6	10.5
	111.1	105.0
Liabilities		
Non-Current liabilities	1.4	1.9
Current liabilities	7.1	7.8
	8.4	9.6
	119.5	114.6

NOTE TO PARENT COMPANY FINANCIAL STATEMENT

EUR MILLION	2022	2021
Specification of shareholders' equity		
Share capital	0.1	0.1
Share premium fund	0.2	0.2
Retained earnings on 1 Jan	104.7	107.3
Dividends paid	-5.6	-13.0
Retained earnings on 31 Dec	99.2	94.3
Net profit for the financial year	11.6	10.5
Total retained earnings	110.8	104.7
Total	111.1	105.0
Parent company's distributable funds	110.8	104.7

CORPORATE GOVERNANCE

Kuusakoski Group comprises the recycling company Kuusakoski Oy, the foundry company Alteams Oy, and the property companies Joki-rantakiinteistöt Oy and Kiinteistö Oy Lahden Norokatu 5. The parent company of Kuusakoski Group is Kuusakoski Group Oy, which is owned in its entirety by the Kuusakoski family.

General Meeting

Kuusakoski Group Oy's highest governing body is the General Meeting. It decides on the approval of the financial statements and the distribution of dividends, the granting of discharge from liability to the members of the Board of Directors and the CEO, as well as the selection of the Board of Directors and the auditor and the fees paid to them. According to the Articles of Association, the Annual General Meeting shall be held by the end of June.

Nomination Committee

The Nomination Committee appointed by the General Meeting prepares and presents to the Annual General Meeting proposals for the Chairman of the Board, members and deputy members and their remuneration. The Nomination Committee also looks for candidates to succeed board members and deputy members. The Nomination Committee consists of five (5) members. The Chairman of the Board serves as a member of the Nomination Committee. The members of the Nomination Committee are appointed annually.

The Chairman of the Nomination Committee is **Lauri Peltonen** and its other members are **Johan Kronberg**, **Timo Kuusakoski**, **Mariella Kuusakoski-Toivola** and **Tiina Orasaari**.

Board of Directors

According to the Articles of Association, the Board of Directors of Kuusakoski Group Oy shall consist of a minimum of three (3) and a maximum of six (6) members. A maximum of six (6) deputy members may be appointed for the members of the board.

The General Meeting held on 27 April 2023 appointed the following members of the board:



Johan Kronberg, Chairman of the Board (b.1956)

Independent of the company and significant shareholders

Member of the Board: Since 2018, Chairman of the Board since 2021

Nomination Committee: Member

Education: MSc (Econ)

Key work experience: PricewaterhouseCoopers Oy 1980–2016:

Partner 1988–2016, CEO 2003–2007, Territory Senior Partner 2003–2013, Chairman of the Board 2013–2015

Key elected positions: Auraprint Oy: Member of the Board (2017-), Elomatic Oy: Member of the Board (2017-), Jaakkoo Taara Oy: Member of the Board (2017-), Nordic Business Group Oy: Member of the Board (2017-), Saariston Kaivonporaus Oy: Chairman of the Board (2014-), Uniogen Oy: Member of the Board (2021-)



Veikko Kuusakoski (b.1945)

CEO of Kuusakoski Group Oy,

Chairman of the Board of Kuusakoski Oy

Member of the Board: Since 1980

Education: MSc (Law)



Mariella Kuusakoski-Toivola (b.1947)

Shareholder

Member of the Board: Since 1980

Nomination Committee: Member

Education: Commercial College Graduate



Arno Pelkonen (b.1954)

Independent of the company and significant shareholders

Member of the Board: Since 2020

Education: MSc (Econ)

Key work experience: Uudenkaupungin Rautavalimo Oy: CEO 2012–2015,

Taito Capital Partners Oy: Chairman of the Board 2006–2012,

Stora Enso Oyj/ Enso Oyj: Senior Executive Vice President 2003–2006,

Executive Vice President 1998–2003, Enso Timber Oy: CEO 1994–1998

Key elected positions: Alteams Oy: Chairman of the Board/Member of the Board (2004-), Valucast Oy/Uudenkaupungin Rautavalimo Oy: Chairman of the Board (2007-)



Lauri Peltonen (b.1971)

Shareholder

Member of the Board: Since 2018, Deputy Member 2014–2018

Nomination Committee: Chairman

Education: MD, PhD

Key work experience: Clinical work and research work (1996-),

FVR: Research Doctor 2020–2023, FILHA: Medical Expert 2015–2018,

Leiras-Takeda: Medical Expert 2008–2011

Deputy members:

Tapio Kuusakoski (b.1983)

Shareholder

Deputy Member of the Board: Since 2018

Education: MSc (Econ)

Tiina Orasaari (b.1977)

Shareholder

Deputy Member of the Board: Since 2018

Education: BBA

Board diversity

When appointing board members, the aim is to ensure that the Board of Directors as a whole supports the company's business and its development. In terms of the functioning of the Board of Directors, it is important that members have complementary experience and versatile skills.

Independence of board members

Member of the Board **Veikko Kuusakoski** is also CEO of Kuusakoski Group Oy. Deputy Member of the Board **Tapio Kuusakoski** is also a Business Director at Kuusakoski Oy. Deputy Member of the Board **Tiina Orasaari** provides communications and marketing services to Kuusakoski Oy through her own company.



KUUSAKOSKI

CEO of Kuusakoski Group Oy

Veikko Kuusakoski has served as CEO of Kuusakoski Group Oy since 1970.



KUUSAKOSKI RECYCLING

Board of Directors of Kuusakoski Oy

Veikko Kuusakoski, Chairman of the Board

Pekka Erkkilä

Harri Nikunen

Johan Viklund

CEO of Kuusakoski Oy

Mikko Kuusilehto, MSc (Eng)

Management Team of Recycling Operations

Mikko Kuusilehto, CEO

Olov Boman, CEO, Sweden

Tuomas Haikka, Chief Sustainability Officer (CSO)

Teuvo Kuusakoski, Business Director, Non-Ferrous & Stainless Steel

Timo Kuusakoski, Director, Business Development

Tuomas Mantere, Director, Production

Lauri Siukonen, Chief Financial Officer (CFO)



Alteams

Board of Directors of Alteams Oy

Arno Pelkonen, Chairman of the Board

Mika Hassinen

Risto Kuusakoski

Timo Kuusakoski

Petteri Walldén

CEO of Alteams Oy

Asko Nevala, MSc (Eng)

Management Team of Foundry Operations

Asko Nevala, CEO

Daniel Eklund, Executive Vice President, Global Accounts, NET 1 CBU

Anne-Mari Järvinen, Executive Vice President, Group Sourcing and Management Systems

Petteri Kiili, Chief Financial Officer (CFO)

Alicja Kobiela, Managing Director, Alteams Poland z. o.o

Kimmo Pesonen, Executive Vice President, NET 2 CBU & Group CTO

Timo Puska, Executive Vice President, e-Mobility & Industry CBU

David Twomey, President & CEO, Alteams (Suzhou) Ltd., Co.

Auditor

Authorised Public Accountants Ernst & Young Oy was appointed as the company's regular auditor by the Annual General Meeting in 2023.

Authorised Public Accountant **Juha Hilmola** serves as the responsible auditor.

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