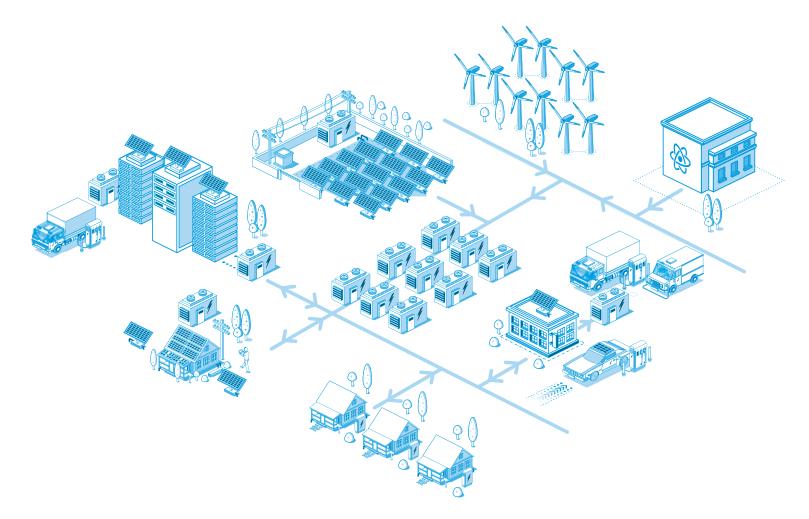
# Sustainability is in Nilar's DNA. We are supporting the electrification of society with sustainable solutions.



#### We ensure that renewable energy functions in everyday life, that electricity is available when and where we need it and at the right price









Sustainable industry, innovations and infrastructure



Goal 11: Sustainable cities and societies



Goal 12: Sustainable consumption and production

The phase-out of fossil fuels is an important part of the UN's Agenda 2030 and four of the 17 goals are addressed directly by Nilar's solutions.

#### SUSTAINABILITY REPORT

#### Prioritising essential sustainability issues

In order to contribute to a sustainable energy transition and to achieve the UN's global sustainability goals, we believe that Nilar needs initiatives within research and development, production and work environment. Nilar's management has therefore identified the company's most important sustainability issues and grouped them in the following focus areas: **Sustainable products, Sustainable production** and **Sustainable workplace**.



#### I. SUSTAINABLE PRODUCTS

- Our product can be replenished through the ReOx® technology.
- Our product contains water-based electrolyte.
- Material included is not flammable.
- Designed for recycling.



#### **II. SUSTAINABLE PRODUCTION**

- Our production uses 100% renewable energy.
- We are working to reduce waste and increase the proportion of recycled material in the production.
- In the future we will be able to reuse the active material.
- Production with dry rolling produces low energy consumption.



#### **III. SUSTAINABLE WORKPLACE**

- We support each other and resolve tasks together.
- It is with joy and desire to achieve that we constantly produce better results.
- We regard the personnel as our most important resource and safeguarding the environment as our most important task.
- The customer permeates all stages of the operation with respect to quality, treatment and reliability.



#### **Control and tools**

The focus of Nilar's sustainability efforts is determined by the Board of Directors and implemented by the management as part of the ongoing operational work. Tools that are used for this are policies and goals, as well as various different regulations and standards. Life Cycle Analysis (LCA) has been conducted in collaboration with Triathlon Greentech in order to better understand the effects of Nilar's products over the entire life cycle and to identify focus areas for future research initiatives.

#### Risks

Nilar conducts regular risk assessments, which are presented on page 48-51 in the annual report. The most important sustainability risks are environmental impact, social responsibility, organisation and skills provision.

#### Policy document

We work proactively to guide our employees and facilitate control within our business areas. The below policies are especially important to take into account when working on sustainability issues:

- Code of conduct
- HR policy
- Finance policy
- Work environment policy

#### **Product safety standards**

All companies that work with chemicals have a responsibility to handle them properly and to

comply with standards for this. All our chemicals are registered and continuously monitored in our risk inspections. When purchasing new chemicals, a risk assessment is conducted and the chemical is registered. We then look at both safety and environmental aspects and utilise the Reach regulation as well as the RoHS directive:

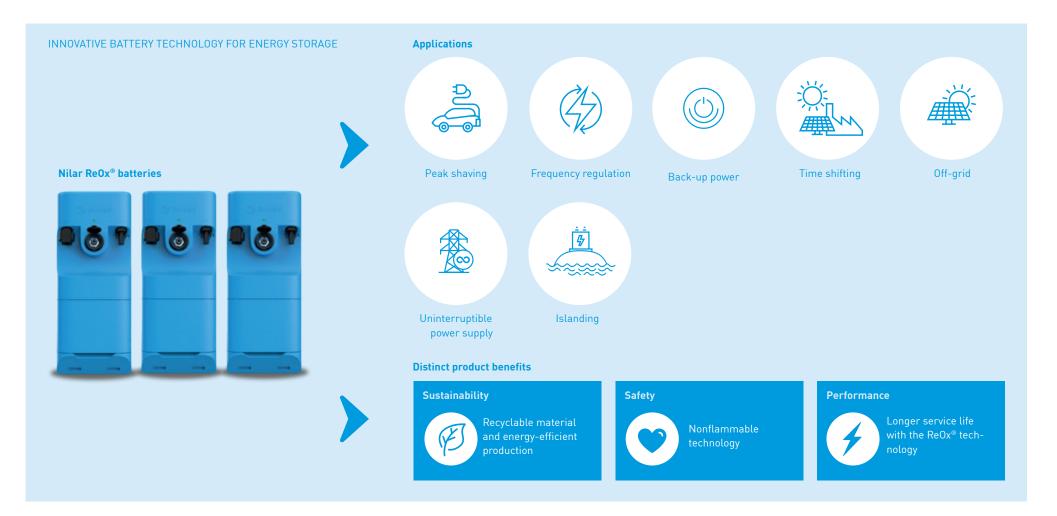
- **Reach:** The Reach regulation concerns registration, evaluation, authorisation and restrictions of chemical substances. Reach also includes requirements for use of chemicals.
- **RoHS:** The RoHS directive has the aim of reducing the risks for people's health and for the environment through replacing and restricting hazardous chemical substances in electrical and electronic equipment.

# Focus area Sustainable products

All products that leave the production plants must meet our high standards.



Nilar's battery has major environmental benefits. The principal benefit is the degree of recycling. This is always an important parameter and goal within Nilar's research and development. The production processes are also adapted as far as possible to a circular approach. Nilar is currently engaged in developing a process to reuse the left-over material in the manufacture of electrodes. The ambition is also to be able to reuse the active material in scrapped products in newly produced batteries. Our long-term strategic goal is to find suppliers located closer to us.



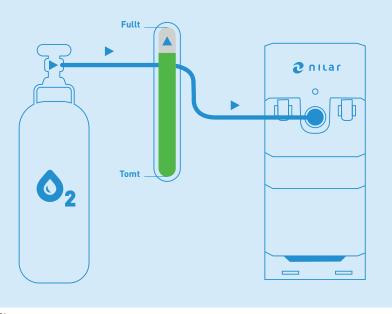
## Sustainable design for increased service life and lower life cycle cost

Manufacture and recycling of batteries is resource-intensive. Furthermore, most batteries have major limitations on their service life. Nilar is first in the world with a technology that enables spent batteries to be restored and given a new service life. The technology is called ReOx<sup>®</sup> and it enables batteries to be replenished with new oxygen before they are worn out, extending the battery's service life by at least three times. There are numerous benefits, the battery's performance is retained for longer, at the same time as the circular life cycle is beneficial for both the environment and the users' wallet. With ReOx®, Nilar is building a reliable and safe source of power designed to last for a long time. Our battery management system (BMS), software and sensors that ensure that the battery is used as efficiently and safely as possible are also important for the service life.

GLOBALLY UNIQUE PATENTED TECHNOLOGY BALANCES THE ELECTRODES AND REFILLS THE ELECTROLYTE THROUGH A CONTROLLED ADDITION OF OXYGEN.



### Nilar ReOx<sup>®</sup> batteries **The sustainable choice**





The ReOx<sup>®</sup> technology triples the battery's life span.



Manufactured with 100% renewable energy

Our batteries are manufactured with three times less energy compared with other alternatives.

#### SUSTAINABLE

**LESS ENERGY** 

USE



100% of our batteries are used again or recycled<sup>1</sup>.

1. 74% of our batteries go to material recycling, 26% to energy recovery.

# Choice of material and design increases the battery's performance and safety

Nickel, the central component, is a raw material that is accessible, fire-proof and recyclable. Nickel-based chemistries function well within a wide temperature range. This is an advantage compared with other battery chemistries that are flammable and that furthermore emit toxic gases in connection with a fire. Thanks to unique solutions within design and integration, our products have a high safety performance. The electrodes cannot ignite spontaneously. Every fire close to a Nilar battery can be treated in the same way as any other electrical fire and extinguished with a carbon dioxide extinguisher. There is no risk of explosion or severe uncontrolled fire in Nilar's battery chemistry.

The bipolar design is the key to efficiency in relation to materials and space. The flat battery modules are stacked serially, with few intermediate connectors, resulting in a uniform flow of current across the cells, reducing electrical resistance and optimising performance. The modular design facilitates simple installation.

Nickel, the central component, is a raw material that is accessible, fire-proof and recyclable. The bipolar design is the key to efficiency in relation to materials and space.





#### Tailored solutions with system integrators

Energy storage will be the key in the transition to renewable energy. The intermittent character of renewable energy sources requires the flexibility and support of the electricity grid that energy storage offers. Improvements in efficiency and the battery's life span enables the resource-efficiency and infrastructure upgrades that are needed to achieve the goals set by the UN's Agenda 2030.

We have established partnerships with system integrators that have a high level of technical expertise. Through these collaborations, the batteries can be adapted to numerous applications. End users and partners are given major opportunities to have a system adapted for their needs.

#### **Continuous innovation**

Nilar's research and development processes place a major focus on circularity. There has been significant investment in research into direct recycling strategies to advance the sustainability of the production process. The batteries' software is under continuous development in order to increase efficiency and functionality. Furthermore, our research into extending the service life makes it possible for batteries to go on after their conventional end date, leading to a long-lasting solution.

#### STRATEGIC PARTNERSHIP WITH SYSTEM INTEGRATORS - ENEQUI

The market for stationary solutions for energy storage is growing substantially and there is major demand in the European market. As developer and supplier of intelligent solutions for energy storage and energy management, it is important for Enequi to listen attentively to what the market wants. Innovative battery technology with high safety and recyclability are important parameters. Batteries from Nilar meet the high requirements and furthermore offer a unique oxygen filling technology that enables repeated renewal of the batteries' service life.

"Our customers are looking for safe and reliable energy storage solutions that can provide them with sustainable and stable energy supply. We have been working with Nilar for several years, and the new partnership reinforces our offering, at the same time as creating conditions to accelerate our growth in Europe," says Håkan Svärd, CEO of Enequi.

Enequi's QuiPower platform gives home and property owners access to clean and environmentally friendly energy through intelligent energy storage and energy management, with well selected hardware combined with software for control and energy optimisation. By entering into a long-term strategic partnership with Nilar, Enequi wants to meet the customers' needs for safe, reliable and sustainable solutions.





Håkan Svärd, CEO of Enequi

#### **Recyclable product**

The circular concept permeates everything we do, from design to production. The battery cells' flat design is formulated in order to simplify reuse and recycling, where material can be used in new batteries.

The constituent raw material, nickel, is easy to recycle. Any residues are sent for recycling. There is a minimal amount of cobalt in Nilar's batteries (<0.5%), however, as cobalt is a material that has unfavourable health effects, we are actively engaged in minimising our usage and have a strategic goal to entirely eliminate our usage in the future. When Nilar batteries that have been in operation are worn out, they are returned to Nilar for re-use and processing prior to recycling of the constituent material. As a part of our sustainability efforts, we are developing processes so that we can maximise the proportion of material that can be re-used for new Nilar batteries in the future.

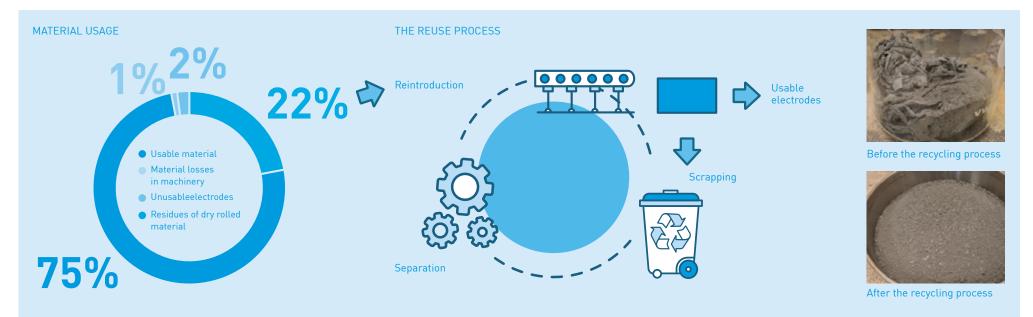
#### Re-use of powder in the production process

There is currently a certain amount of material waste in our production of electrodes. Material waste is currently sent to external partners for recycling, but the aim is to return this material to the production process. Method development has taken place together with Uppsala University and ReSiTec, with tests of the method now underway in our production.

#### Life Cycle Analysis

We have conducted a life cycle analysis in order to gain a better understanding of how our Nickel Metal Hydride batteries affect our environment, as well as to identify areas where we can become better. The analysis has been conducted in collaboration with Triathlon Greentech.

As far as possible, underlying data has been obtained from Nilar, along with supplementary data from transparent sources and databases that are considered relevant based on temporal- and geographic aspects.



#### **INSIGHTS FROM THE LIVE CYCLE ANALYSIS**

INSIGHTS	DESCRIPTION		ALTERNATIVE TO REDUCE THE IMPACT		THE POTENTIAL ALTERNATIVE'S FEASIBILITY AND EFFECT
<b>Nickel</b> is the type of material that causes the greatest impact in both GWP100 and the ADP category	<ul> <li>It contributes 43% of the GWP100 effect in the first phase</li> <li>Use of recycled nickel can reduce the effect by 14–39%</li> </ul>	>	Purchase recycled nickel	>	Purchasing recycled nickel is profitable, and it would have significant positive effects
<b>Cobalt</b> causes significant impact in both GWP100 and ADP category	<ul> <li>It contributes 14% of the GWP100 effect in the first phase</li> <li>Use of recycled cobalt can reduce the impact by 8%</li> </ul>	>	Purchase recycled cobalt	>	Purchasing recycled cobalt is possible, but the effect would be relatively minor
Aluminium causes a major impact in the GWP100 category	<ul> <li>It contributes 8 % of the GWP100 effect in the first phase</li> <li>Use of recycled nickel can reduce the impact by 2%</li> </ul>	>	Purchase recycled aluminium	>	<b>Purchasing recycled aluminium is possible</b> as it is easily accessible, <b>but the effect is very limited</b>
The planned <b>recycling of scrap from</b> active material would have positive effects	<ul> <li>kgC02-eq/kWh throughput for GWP100 is 19% lower if active material is re-used</li> <li>kgSb-eq/kWh throughput for GWP100 is 25% lower if active material is re-used</li> </ul>	>	Reduce waste of active material	>	Reduced waste of active material is already planned, and it would entail significant improvements

#### Impact categories in the life cycle analysis

**GWP100:** Global warming potential based on a hundred years value (Global Warming Potential, GWP). Represents the heat that is absorbed by greenhouse gases in the atmosphere. Measured in kg carbon dioxide equivalents (CO2-eq), where other greenhouse gases are indexed based on equivalent carbon dioxide mass that would have the same effect. **ADP:** Abiotic Resource Depletion Potential, ADP. Represents the depletion of non-living resources such as fossil fuels and minerals.

Measured in kg antimony equivalents (Sb-eq), where antimony is selected as reference substance to compare other abiotic resources.

# **Focus area Sustainable production**

To minimise the environmental impact from the production process, 100% renewable energy is used throughout the production plant in Gävle.

#### Sustainable production

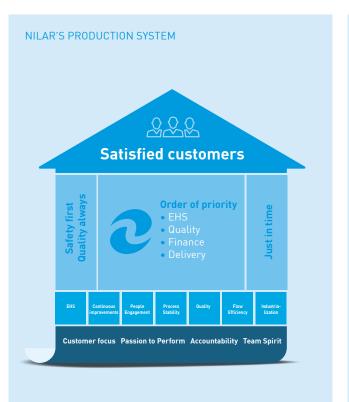
We have continued to invest in order to maintain a sustainable production plant. The production process benefits from automated efficiency, which ensures that it is as resource-efficient and environmentally friendly as possible. Newly integrated production lines have the potential to speed up the automated stages, with clearly established quality procedures that control the production. To develop the optimum production process, Nilar has continued to invest in enlisting recognised and qualified expertise. To minimise the environmental impact from the production process, 100% renewable energy is used throughout the production plant in Gävle.

Nilar's operations are subject to permit and registration requirements. Nilar is licensed under the Environmental Code to manufacture batteries in the factory in Gävle that do not contain cadmium, lead or mercury. We have a licence to produce a maximum of two million batteries per year, and also to dismantle batteries as an element in introducing our own recycling, in accordance with the company's strategy.

## An efficient production process that creates value

In order to create as efficient a production as possible, we are gradually implementing Lean throughout the entire operation. The basis for our production system rests on our values. The aim of Lean Production is to produce a satisfied customer. To ensure that the customer is satisfied, we simultaneously want to minimise waste of resources through different types of streamlining and rationalisation. We are perceiving a distinct improvement in our operation when it comes to streamlining as everybody has been involved in the improvement work. Structured improvement work means that we have revised all standardised instructions (SOB) and made instruction films that can be used in the training of new personnel. Our focus on the Lean principle "Right from me" has led to clear improvements in our way of working and recognising everybody's joint responsibility to deliver quality. We are careful to survey where we want to become better in order to place the focus on areas of improvement, and we evaluate the production based on criteria derived from our production system.

**RESULTS AREAS OF IMPROVEMENT 2022** 





#### Supply chain audited for sustainability

Nilar purchases raw material from all over the world, with most of the large suppliers located in Europe and Asia. With a dispersed supply of raw materials, there are risks of a lack of sustainability in the supply chain in relation to environmental or social issues. When establishing collaborations with new suppliers, we require them to work according to ISO 9001, ISO 14001 and ISO 45001/OHSAS 18001. Nilar has started the work of evaluating the current supplier base according to a formal auditing process, in order to ensure that we maintain a desired level of quality in our supply chain. The audit process functions as a countermeasure to the risks associated with environmental and social issues.

Nilar works proactively, with its purchasing strategy under continuous review and updating. This optimises all of Nilar's purchases with respect to volume, price and quality.

# Feedback of electricity in the production process

All our testing equipment for mass production that is used for charging and discharging of our batteries has functions that enable current to be reused or sent back to the electricity grid. This results in power consumption being reduced to essentially just the loss from the equipment and batteries.



> Tomas Sandin, Lean coordinator/Operational support

#### Our Lean work is creating engagement

Our employee Tomas Sandin is engaged in introducing 5S, which is one of the LEAN tools in our operation. He describes the work as follows: "Our work with LEAN, the 5S tool and our regular improvement meetings every week have contributed to everybody being seen and heard. All proposals for improvement – large and small – are discussed in the group and elevated to those who can have an influence. This way of working has contributed to the utilisation of everybody's individual qualities and knowledge. We share our knowledge and work to remove distractions which means that we can focus on what we do best, and make the most of what is of value for our customers"

III. FOCUS AREA SUSTAINABLE WORKPLACE

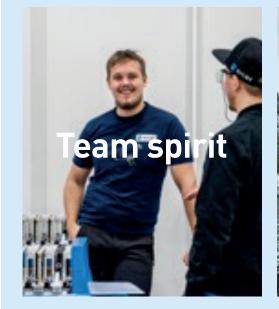
# Focus area Sustainable workplace

Our values are a result of solid, mutual work that has emerged over many year in dialogues together with our employees based on our mission, vision and goal.

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We believe in a sustainable workplace for several reasons, both for us and our employees. We want to promote healthy practices and a good work environment, as we believe that it enhances both well-being and productivity. We show engagement through sustainability in many ways. Through taking social responsibility, reducing our consumption and emissions and saving resources and energy. We know that through our sustainability efforts and working to strengthen our brand, we will continue to attract talented people, customers, suppliers and other stakeholders who are in line with our values. We want to continue to strengthen our role as an important member of society and contribute to a better environment and a sustainable society. Our values are a result of solid, mutual work that has emerged over many years in dialogues together with our employees based on our mission, vision and goal.

#### OUR VALUES

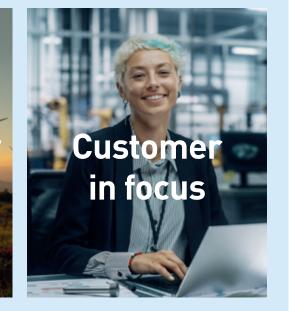


We boost each other and resolve tasks together.

It is with joy and a drive to succeed that we constantly achieve better results and higher goals. We are proud of what we achieve. We regard the personnel as our most important resource and safeguarding the environment as our most important task.

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The customer permeates all stages of the operation with respect to treatment, quality and reliability.

# Respectful culture that promotes collaboration

Our corporate culture concerns our shared values, norms and attitudes that we have in our organisation. It is our invisible power which influences how our employees conduct themselves and how they work and behave at our workplace. Our corporate culture has been influenced to some extent by our transitional journey last year, but it has also strengthened us in many different ways. Even though we have undergone a major and tough change for many of us, we have worked hard on activities to develop our processes and to strengthen our employees. This has included training initiatives and an optimum use of resources with a lean organisation. The results of this are demonstrated in that we improved our engagement index in the employee survey by +0.3, and are thereby above the industry average. We can also deduce from the employee survey that we have strengthened our sense of a joint direction through the solid work on strategy and management by objectives that permeates our entire organisation. This has led to our employees feeling that they belong to a larger whole and that they have a meaningful working day.

# Changes that have created space for development and forward thinking

After large increases in volume and recruitment in 2021, last year we implemented a major change that entailed consciously reducing the workforce by more than 50% as we also halted a large part of our production. Back to the drawing board became a word on many people's lips, and it affected individuals as well as the organisation as a whole. Our concerns regarding this transition included the fact that the change could damage the organisation's reputation and make it more difficult to attract and recruit new employees, but also that it could lead to inferior performance from existing employees due to an increased workload. To prevent this, a number of cooperation forums were

A large part of my role requires a crossdisciplinary approach, the training included reviewing communication and collaborations between different groups within organisations with different opinions and varying backgrounds.

> Mayte Puig Cortegoso, System architect

set up, internally and externally. All collaborations have had a number of common denominators; structure, openness and transparency. Our external transition partners have also contributed positively throughout the year, above all through supporting us with internal and external training initiatives. 75 training courses were granted support during the year, which has given us the opportunity to reduce our costs for skills development at the same time as we have further developed and utilised existing personnel.



#### What training did you attend and what was it about?

System Architect(ing), it focused on structure surrounding a role that is otherwise very broad with complex boundaries. With the help of resources, study cases and practical exercises, I learned more about different ways to work, as well as which tools to use and when. A large part of my role requires a cross-disciplinary approach. The training included reviewing communication and collaborations between different groups within organisations with different opinions and varying backgrounds.

#### How has the training helped you in your work at Nilar?

At Nilar we work with a very complex product and manufacturing process, which requires a systematic and structured analysis where all disciplines within the company contribute solutions. Among other things, the training gave me resources and tools to use in the analysis. A part of my job is also to produce new ways to work with procedures and in that context I can derive a lot of inspiration from the training material that I subsequently adapted for our operation.



#### **Our Employees**

Our employees are our most important resource and we endeavour to always put their well-being and development first. We show our engagement in several different ways. Some examples of this are to constantly work with the opportunity for learning and development, to proactively work with feedback and support, to offer a pleasant work environment, to set goal for the organisation and also to work with our values. For Nilar as employer, it is important to have an active collaboration in order to create a positive and inclusive working culture and to always be attentive to our employees' needs and wishes. An important step in succeeding with this is that all managers have been followed-up to ensure that they hold 100% of their performance appraisals, which was achieved during the year.

We have actively followed up last year's employee surveys and worked to make Nilar a more attractive employer. It transpires that the activities have produced a positive outcome in our employee survey for 2022. All parameters have increased in comparison with last year.

The results are in line with the industry average within eight out of twelve areas, and above the industry average within work environment, work processes, leadership and communication.

Our ambition is to strive at all times to be an attractive employer and offer our employees market-based benefits and a healthy workplace. Despite cutbacks during 2022, we have enjoyed a low staff turnover during the year and placed a major focus on attracting new talents and ensuring rapid introduction process for new employees. During the year, we have strengthened and developed our quality in everyday operational HR processes and drawn up a long-term strategic plan for future production volumes.

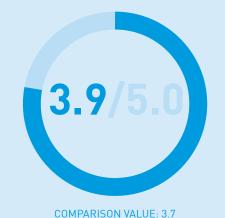
# A secure and safe workplace produces a high level of engagement

Several improvements within health and safety have been put in place and implemented during 2022. These include strengthening our procedures to follow-up both short- and long-term absence due to illness. Following-up and ensuring actions in relation to relevant risks are now conducted continuously and followed-up on a weekly basis. The effect has been reduced sick leave and more risk observations reported. We need to continue to work proactively on these issues in order to also ensure in the long-term that it is not only an effect of reduced production volume. A reporting programme has been implemented for incidents, accidents and risks, and has gradually been improved in order to optimally reflect connections between cause and effect. Risk reporting is measured in relation to accidents, a so-called Birds-ratio. The goal is to work proactively to mitigate and manage problems more effectively. It is therefore particularly important that our risk reporting continues to increase to a level where we can ensure that we can identify and manage potential risks in good time, so that we can minimise their effect and prevent problems.

The risk reporting is a way for us to retain our profitability and improve business results in the long-term, through minimising undesirable events and crises that can adversely affect the operation. Our risk reporting is now a part of the organisation's overall management system and integrated in all operational processes.

Many other minor initiatives and activities have been implemented during the year, including theme week, safety day, and ergonomy inspections. A focus on a healthy workplace has been crucial to retain a high level of engagement after the transitional journey that we have undertaken.







#### Human rights

It is important that our organisation has a culture and a work environment that respects and protects human rights and that all our employees receive the support and the encouragement that is needed to be able to exercise their rights in the workplace. Respect for people's health, well-being and rights are fundamental values for us.

Our overall ambition is to treat all interest groups ethically and respectfully. A new procedure for how we handle victimisation and bullying has been developed during the year and we have implemented a first stage of management training and developed our employees within cultural competence.

#### BASED ON NUMBER OF FULL-TIME WORKERS

27%

#### FORM OF EMPLOYMENT % 87% Employees 13% Contracted 73% **EMPLOYEES PER DEPARTMENT** % Production 47% Development 39% Sales. market and aftermarket 11% 3% Administration

BASED ON NUMBER OF FULL-TIME WORKERS

