TRILUX
SIMPLIFY YOUR LIGHT.

SUSTAINABILITY REPORT 2023/24

Natural efficiency and innovation in harmony

The fascinating world of bioluminescence – the natural ability of living organisms to generate light – forms the visual theme of our sustainability report this year. Remarkable parallels between nature and technology exist in the principles of efficient resource utilisation.

Just as luminous marine organisms act selectively and save energy in their environment, our adaptive LiveLink light management system also enables needs-based and resource-saving lighting. Our spectrally optimised LEDs take into account the needs of people and the environment to equal degrees.

This symbiosis of technological innovation and natural efficiency is the result of continuous development work with a consistent focus on sustainability. Our commitment to circular design, with long-life, repairable and recyclable luminaires, is based on the cycles of nature in which resources are optimally utilised.

In the following sections we present our progress, goals and objectives in the area of sustainability, illustrated with striking images of bioluminescent creatures such as algae, fungi and fireflies. These serve as an inspiring visual backdrop to remind us of just how many pioneering solutions nature has already yielded.

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CHAPTER 1
INTRO

In dark and humid, cave-like or sheltered places under tree roots, rock overhangs, or in earth crevices, thousands of glowing larvae of the fungus gnat Arachnocampa luminosa illuminate the darkness. A symbol of concentrated radiance and careful resource utilisation.

FOREWORD EXECUTIVE BOARD

WELCOME!

Dear Readers,

Light does not only make the world visible. Light designs spaces, sets the tone of atmospheres and establishes safety and security, and also influences moods, well-being and quality of life. For these reasons light also means responsibility – towards people and nature.

As one of the leading companies in the lighting market, we see it as our task to make lighting sustainable and fit for the future – with innovations that create ecological and social added value. Sustainability is deeply rooted in our corporate DNA. For over 113 years, TRILUX has been developing lighting solutions that efficiently utilise energy, conserve resources, and meet the highest standards in terms of quality.

We will continue to pursue ambitious goals in the future. Our internal programme for implementing our strategy also consistently drives the topic of sustainability at all levels of the company. We set new standards in the industry with our 2040 transformation concept, compensation of our Scope 1 and Scope 2 residual emissions for our German production sites from 2025 and a clear alignment towards circular product design. Our objective: lighting solutions that are not only functional and aesthetically pleasing, but that also make ecological sense in the long term. For us, the values that point the way are expertise, performance, courage and passion, as well as working with and for one another.

This sustainability report documents how we fulfil our corporate responsibility towards the environment, society and our employees – and the progress we make towards a sustainable and circular future.

Accompany us in a world where light is part of the solution.

We wish you an informative and inspiring read.

“As a privately managed company, we think and act for the long term – beyond the short-term optimisation of profit. With our innovative lighting solutions we want to make a contribution to protecting resources, improving the quality of life and shaping a world that will remain liveable for future generations.”

Hubertus Volmert, CEO TRILUX Group

“Sustainability starts with the people who shape it, and our employees pioneer our responsible transition. That’s why we foster a culture based on trust, development and respect. After all, only those who experience sustainable framework conditions can communicate them to the outside.”

Johannes Huxol, CFO TRILUX Group

“Technology is our strongest lever for sustainable transformation. With networked, adaptive light management systems and recyclable, long-life products, we develop solutions that save energy, conserve resources and place people at the centre.”

Sebastian Trägner, CTO TRILUX Group

“Sustainability isn’t simply an add-on, but an integral part of our product and solution development. We take responsibility for each and every step ranging from selecting raw materials to the lifespan of our lighting solutions, and this lets us achieve long-term ecological and social impact.”

Klaus Röwekamp, Senior Vice President Sustainability, Products and Solutions TRILUX Group

The TRILUX Group

TRILUX SIMPLIFY YOUR LIGHT is the most simple and reliable path to customised, energy-efficient and future-capable lighting solutions. In the dynamic and increasingly complex lighting market, customers receive optimal advice, ideal orientation and perfect light for their individual applications.

To consistently ensure this, TRILUX makes the most of a broad portfolio of technologies and services as well as efficient partners and companies within the TRILUX Group. As a lighting specialist, we bring together individual components to create customised complete solutions which are always ideal for customer requirements and the field of application. This allows complex and extensive projects to be simply and rapidly realised from a single source. In addition to quality and efficiency, the focus is always on simple lighting design, easy installation and easy use of the products and services.

TRILUX employs almost 4,300 people worldwide with company headquarters in Arnsberg, Germany. The TRILUX Group has six production locations in Europe and Asia, and supports international customers via 30 subsidiaries which include twelve legally independent subsidiaries in France, Spain, the UK, the Netherlands, Belgium, Switzerland, Austria, Italy, Poland, Slovakia, the Czech Republic, Hungary and Dubai, as well as numerous international sales partners.

The Light division includes the brands TRILUX SIMPLIFY YOUR LIGHT, Oktalite, Ansorg and Zalux. Associated companies are Seitec, ICT, LED Luks and Monolicht. Our Innovation Centre, as a department for research and development, brings together the company's innovative strength under the TRILUX umbrella.

With locations in Germany, Great Britain, the Netherlands, Belgium, Austria, France, Switzerland and the United Arab Emirates as well as in Poland and Spain, the TRILUX Akademie provides the necessary expertise on topics, trends and new developments in the lighting industry.

For further information see: www.trilux.com

OUR VISION FOR A SUSTAINABLE FUTURE

The TRILUX Group sees itself as a pioneer, driver and participator of the ecological transformation in the global lighting market. We are convinced that we can only achieve sustainable corporate growth from the efficient development of products. To achieve this, we place our trust in our employees – in their expertise, creativity and commitment with which they shape sustainable solutions and drive innovation every day.

Change is a challenge for companies – and they need a clear vision for this. Our vision is not only focused on growth and profitability, but also includes responsibility towards the environment and society. We are aware that our actions have an impact, and this is why we constantly strive to minimise such actions and make our contribution to a sustainable future.

Our sustainability strategy

TRILUX follows a wide-ranging sustainability strategy based on ecological, economic and social responsibility, which is deeply rooted in the company's DNA and reflected in various corporate areas and divisions:

1. Reduction of emissions: TRILUX pursues the concise goal of consistently reducing its greenhouse gas emissions along the entire value chain, from production and logistics through to the use of our products. We help customers to save energy and reduce carbon emissions through energy-efficient lighting systems, intelligent control of light and the optimisation of our processes.

2. Strengthening the circular economy: TRILUX researches and carries out measures for the circular economy. Topics such as energy and material efficiency, climate protection, biodiversity and recycling are paramount.

3. Development of sustainable products and solutions: TRILUX focuses on the consistent development of sustainable innovations and technologies in the field of lighting. As a pioneer in LED transformation, we consistently set benchmarks for efficiency, quality and technology.

4. Corporate responsibility: TRILUX sees the respectful treatment of all employees and partners as an essential criterion for sustainable action. The company is committed to its employees and to society, nature and the environment.

We are guided by sustainability goals

Our sustainability strategy is based on the Sustainable Development Goals (SDGs) of the United Nations. We deliberately focus on five selected SDGs in order to specifically develop our sustainability activities, achieve an impact and make progress measurable:

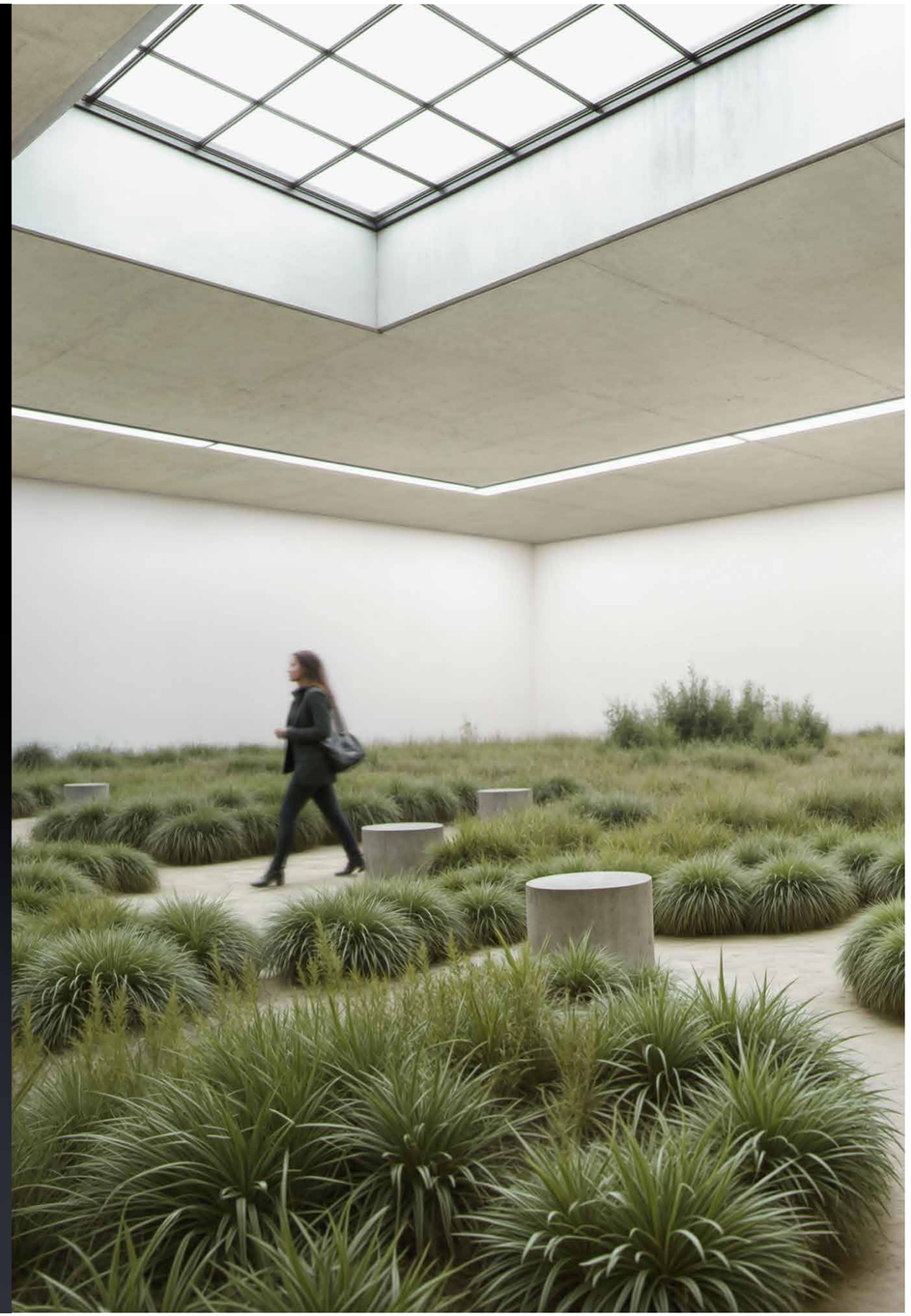
SDG 8
Decent Work and Economic Growth

SDG 9
Industry, Innovation and Infrastructure

SDG 11
Sustainable Cities and Communities

SDG 12
Responsible Consumption and Production

SDG 13
Climate Action



Our mission: Light for people and the environment

Digitalisation and climate change are driving the transformation of the economy and society – rapidly and irreversibly, and the global system of values is being fundamentally reset. The need to conserve resources, decarbonise and achieve social justice, health and quality of life for us and for future generations requires disruptive business models.

At TRILUX we will help shape technological change as pioneers and make a positive contribution to society and the environment – in keeping with our 112-year tradition as an innovative company that focuses on values. After all, developing the especially economical TRILUX linear luminaire with triple luminous efficacy in 1948 gave us our name. We are pioneers of the LED transformation.

Social justice, ecological responsibility and fair business practice have been our non-negotiable values since the company was founded in 1912. This has made us bold and creative pioneers as well as drivers and participators in the market, and we tangibly contribute to our valuable planet and to the sustainable development of a society that is worth living in.

A significant innovation for customers is our promise to guarantee product availability for selected luminaires for ten years from their date of purchase, with up to fifteen years for spare parts. This increases the service life of a lighting installation and thus ensures greater sustainability as well as efficient and safe maintenance – yet another important step towards a more circular economy and resource conservation.

Memberships, initiatives, certificates

We are excellently networked in numerous organisations in the field of sustainability. Together with industry associations, scientific and research institutions and in cooperation with other manufacturers, we drive forward technical developments worldwide, develop standards and political framework conditions, and discuss and evaluate these. Some examples:

FIELDS OF ACTION OF OUR TRILUX SUSTAINABILITY STRATEGY

Field of action: **Climate**

Description	Key topics and SDGs	Specific goals	Previous successes
TRILUX pursues the concise goal of consistently reducing its greenhouse gas emissions along the entire value chain, from production and logistics through to the usage phase of our products. We make an active contribution to decarbonisation through energy-efficient lighting systems, intelligent light controls and the optimisation of our processes.	**E1** Climate Change 13 CLIMATE ACTION **SDG 13** Climate Action	• Our reduction targets to 2030 for Arnsberg and Cologne (base year 2020): **Scope 1 emissions:** 25 % absolute reduction **Scope 2 emissions:** 50 % absolute reduction **Voluntary target for Scope 3:** at least 2.5 % per year • Data collection and reduction plan Scope 1 & 2 for European production sites to 2026/27 • Scope 3 Action Plan Development 2026 • Carbon footprint assessment for 80 % of our products over the entire product life cycle to 2028	• Sumatra project: detailed findings on the GWP potential of products • New production site in Poland with BREEAM Excellent certification • Switch to green energy for the Arnsberg and Cologne sites from 1 January 2025 • Transformation concept 2040 at the Arnsberg site • Gradual switch to e-mobile vehicle fleet • Expansion of e-charging infrastructure

FIELDS OF ACTION OF OUR TRILUX SUSTAINABILITY STRATEGY

Field of action: **Circular Economy**

Description	Key topics and SDGs	Specific goals	Previous successes
TRILUX researches and implements targeted measures for the circular economy. Topics such as energy and material efficiency, climate protection, biodiversity and recycling/reuse are of primary importance.	**E5** Resource Use and Circular Economy **SDG 9** Industry, Innovation and Infrastructure **SDG 12** Responsible Consumption and Production	• Development of the Circular Economy Action Plan 2025/26 • 92 % recycling quota of all production waste to 2030 • >92 % annual separate collection rate • Setting up of a resale strategy for selected product groups in 2025 • Design rules with a focus on circularity to 2027	• Sumatra project: ADP potential and recyclability of products • Packaging reduction for E-line: 180 tonnes per year via the E-Line Shuttle • Black Satino paper: 6 tonnes of CO2e saved and 117,000 litres of water saved through recycling programme • Savings of 8,900 tonnes through recycling of recyclable materials with Interzero • "Circular Changemaker" Madaster award • Refurbishment campaign for existing lighting installations

FIELDS OF ACTION OF OUR TRILUX SUSTAINABILITY STRATEGY

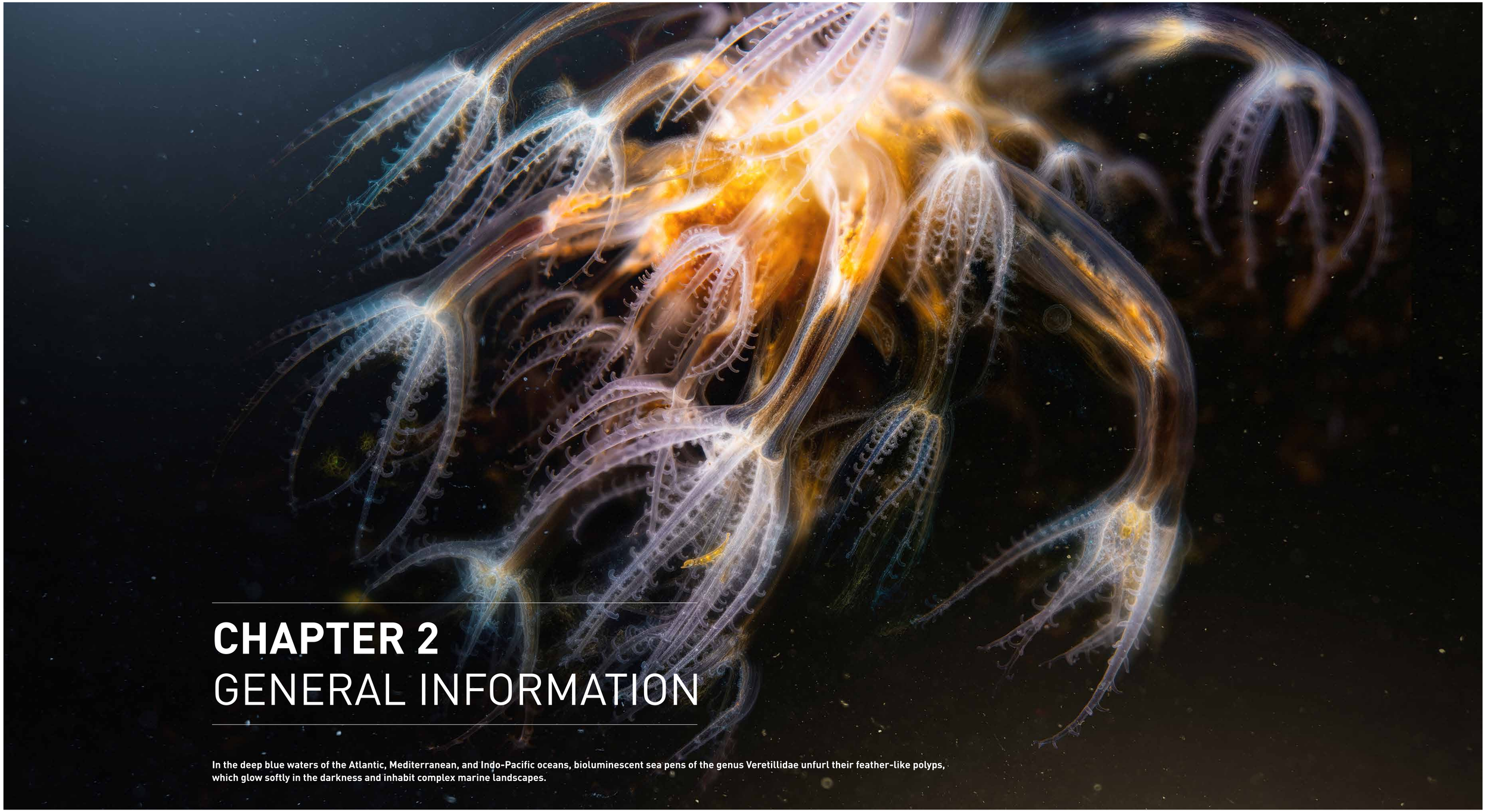
Field of action: **Sustainable Products and Solutions**

Description	Key topics and SDGs	Specific goals	Previous successes
TRILUX focuses on the consistent development of sustainable innovations and technologies in the field of lighting. As a pioneer in LED transformation, we consistently set benchmarks for efficiency, quality and technology.	**E5** Resource Use and Circular Economy **S4** Consumers and End-Users **SDG 9** Industry, Innovation and Infrastructure **SDG 11** Sustainable Cities and Communities **SDG 12** Responsible Consumption and Production	• Integration of intelligent light management systems in 85 % of all offered solutions to 2027 • Reduction of installation time by 30 % via optimised product designs to 2027 • Sustainable lighting design focusing on light quality and space efficiency • 80 % of product ranges with verified EPD (Environmental Product Declaration) to 2028 • Implementation of sustainability criteria in all product categories to 2027	• Sumatra project: findings and potential for product development • Launch of the Yonos product range • EPD process set up

FIELDS OF ACTION OF OUR TRILUX SUSTAINABILITY STRATEGY

Field of action: **Corporate Responsibility**

Description	Key topics and SDGs	Specific goals	Previous successes
TRILUX sees the respectful treatment of all employees and partners as an essential criterion for sustainable action. The company is committed to its employees and to society, nature and the environment.	**S1** Own Workforce **S2** Workers in the Value Chain **S4** Consumers and End-Users **G1** Business Conduct **SDG 8** Decent Work and Economic Growth	• Diversity and equal opportunities training 100 % completed to 2026 • 100 % of workforce uses three training days for further development in 2025 • All managers sensitised regarding 'corruption, conflicts of interest and anti-competitive practices' • Establishment of compulsory modules in the Sustainability Akademie and a participation rate of over 80 % to 2026	• Setting up and integrating the Akademie programme for sustainability • Development of the champions and experts network and the green building network • Setting up of CSRD programme • Implementation of the ESRS-compliant double materiality analysis



CHAPTER 2
GENERAL INFORMATION

In the deep blue waters of the Atlantic, Mediterranean, and Indo-Pacific oceans, bioluminescent sea pens of the genus Veretillidae unfurl their feather-like polyps, which glow softly in the darkness and inhabit complex marine landscapes.

ABOUT THIS REPORT

BP-1

TRILUX is committed to sustainability reporting in accordance with the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS). These European standards form the basis for our reporting on sustainability issues. This publicly accessible document offers our stakeholders a transparent insight into our activities relating to sustainability. We have deliberately focused on the most strategically relevant topics and key figures for our company for which we can provide reliable information, and this targeted approach enables us to present meaningful and qualitative data about our key sustainability aspects. In future, the report will be an integral part of our management report and will provide a clear overview of our sustainability performance and goals.

Our sustainability declaration relates primarily to Trilux GmbH & Co. KG at the Arnsberg, Germany location. The report and the data and key figures it contains mainly reflect the activities and performance of this specific company. In cases where information, data or facts relate to other companies within the Trilux Group, these are explicitly declared as such at the relevant points in the report.

BP-2

TRILUX adheres to the definitions of medium and long-term time horizons as set out in ESRS 1 Section 6.4. We pay particular attention to taking a comprehensive view of our entire value chain, but are faced with the challenge that not all data is directly measurable. We rely in such cases on well-founded estimates based on indirect sources such as sector-average data or other approximate values. Sources for estimates, earnings uncertainties, changes in the display of information and the incorporation of information by reference are reported with the corresponding disclosure requirement where applicable.

In the future, we will endeavour to continuously improve the accuracy of the parameters stated in our sustainability declaration, and this will contribute to ensuring an even more accurate and reliable representation of the impact of our upstream and downstream value chain.

Administration and management

GOV-1, GOV-2, GOV-3, GOV-5

Our administrative and management body consists of three managing members with extensive expertise of the lighting industry:

- **Hubertus Volmert (CEO)** – Lead responsibility for corporate strategy, transformation and innovation / sales and marketing
- **Johannes Huxol (CFO)** – Financial strategy, compliance and sustainable corporate governance
- **Sebastian Trägner (CTO)** – Technology development, innovation and digitalisation

The workforce is represented by an active works council which is regularly involved in important company decisions. A voluntary advisory board of independent, external experts advises the management.

Sustainability governance

The TRILUX Management Board is responsible for the strategic supervision of all sustainability topics. For operational implementation, it has delegated sustainability work to Klaus Röwekamp, Senior Vice President Sustainability, and a dedicated sustainability team. The team directly reports weekly to the management, ensuring regular communication and close coordination.

The Management Board systematically considers sustainability aspects in its decision-making processes – particularly with regard to strategic orientation, investments and risk management. It evaluates potential conflicts of interest between economic, environmental and social aspects and strives to achieve balanced solutions.

Reporting

TRILUX adopts a systematic approach to preparing its sustainability report. A dedicated team from various areas of the company is responsible for collecting, validating and processing all relevant sustainability data. The structured process includes clearly defined areas of responsibility, time schedules and quality controls to provide relevant, accurate and comparable information for our stakeholders.

Key stakeholders of the company

The following lists our most important stakeholders and indicates how we take them into account in our strategy and our business model:

- **Customers and consumers** have a growing interest in sustainable products and wish to understand their impact along the value chain.
- **Suppliers and business partners** expect a fair and reliable business relationship in which intensive communication and close cooperation are maintained.
- **Employees** wish for fair working conditions and want to be supported, challenged and empowered to contribute to sustainable development.
- **Associations and non-governmental organisations (NGOs)** demand that we actively drive forward sustainable developments, and for this reason we are involved in numerous initiatives.

The open exchange with stakeholders serves to familiarise ourselves with expectations and perspectives and allows us to conduct a targeted, solution-oriented dialogue. This, in turn, establishes a basis for mutual understanding and social acceptance of our business decisions. The dialogue is also an important source of new ideas and makes a key contribution to our innovation and risk management as well as to the further development of our sustainability strategy and sustainability reporting.

The views of the various stakeholders flow into the materiality analysis. Company representatives continuously contribute decision-relevant findings to the relevant committees, where issues such as climate, circular economy and product safety are discussed. The committees address strategically relevant sustainability topics and decide on the further procedure.

Materiality analysis

We use the materiality analysis to determine which sustainability topics are particularly relevant for TRILUX and its stakeholders. In doing so, we assess both the impact of our actions and the expectations of external interest groups. The Executive Board has received and taken into account the results of the materiality analysis, including the associated material effects, risks and opportunities.

	Theme
ESRS E1	Climate Change
ESRS E5	Resource Use and Circular Economy
ESRS S1	Own Workforce
ESRS S2	Workers in the Value Chain
ESRS S4	Consumers and End-Users
ESRS G1	Business Conduct

CHAPTER 3
CLIMATE

In the pelagic zones of the world's oceans, the jellyfish Pelagia noctiluca strategically releases signals with its briefly flashing light bursts – a highly efficient energy management strategy in the ocean.

CLIMATE PROTECTION STRATEGY

E-1

Our commitment to a sustainable future

As a leading provider of professional lighting solutions, TRILUX GmbH & Co. KG bears a special responsibility regarding climate protection. We are aware of the direct environmental impacts of our actions – from product development through the usage phase to the end-of-life of our products. For this reason, we have drawn up a wide-ranging climate protection strategy that covers all areas of our company and that we continuously develop. Our objective is not only to systematically reduce our own emissions, but also to make a positive contribution to global climate protection via innovative, energy-efficient lighting solutions. The following report provides an overview of our strategic approaches, specific measures and measurable targets along this path.

Recording and analysis of our emissions

The Corporate Carbon Footprint (CCF) for the Arnsberg site was prepared in accordance with the Greenhouse Gas Protocol (GHGP) guidelines. This systematic recording and analysis of our emissions forms the basis for our comprehensive climate protection strategy at TRILUX GmbH & Co. KG, which we are continuously developing.

In addition to the company-wide carbon footprint, we also publish Environmental Product Declarations (EPDs) for our core portfolio, which transparently present detailed information on carbon emissions and other environmental impacts across the entire life cycle at product levels. The methodology and significance of these EPDs and their role in our sustainability strategy are explained in detail later in this report.

A holistic approach to climate protection

Our approach to managing climate-related impacts is based on three main pillars:

1. **Reduction of emissions and decarbonisation:** consistent minimisation of greenhouse gas emissions
2. **Climate adaptation and risk management:** proactive measures to cope with unavoidable climate impact
3. **Promotion of innovation:** development of future-fit solutions for greater sustainability

Energy management and activities at our locations

TRILUX began implementing climate protection measures several years ago. A key component of our strategy is the comprehensive transformation concept which covers several key areas:

- **Transformation concept for heating energy:** systematic optimisation of our heating systems to reduce energy consumption
- **Optimisation of energy consumption and recovery systems:** implementation of efficient technologies to minimise energy losses
- **Intelligent light management:** as part of this concept, the outdoor lighting system at the Arnsberg site was upgraded in 2022 and equipped with intelligent light management, achieving annual energy savings of up to 64 %.
- **Conversion of the Arnsberg site:** extensive energy modernisation of our main site
- **Sustainable production sites:** certification of our production facility in Poland according to green building standards as a model for other locations
- **Sustainable mobility:** systematic expansion of e-mobility for the company fleet

These integrated measures demonstrate how we are specifically using our own technology to reduce our ecological footprint and how we are gradually making all areas of our operations more climate-friendly.

The following data was collected:

Scope 1: Direct emissions
Carbon emissions* from our own plant and vehicles – for example from company vehicles, heating systems and production machinery

Scope 2: Emissions from purchased energy
Carbon emissions resulting from the generation of electricity and heat that we purchase from external suppliers

Scope 3: Emissions from the supply chain
Carbon emissions that occur before and after our direct business activities

Operational system boundaries

Our Scope 3 values currently consist of the following categories:

3.1 Purchased goods and services (excluding production materials)
3.3 Fuel and energy-related activities
3.5 Waste generated during operations
3.6 Business travel
3.7 Employee commuting

Emissions from raw material production, transport and product utilisation are not yet recorded. In future sustainability reports, we will systematically expand Scope 3 to include these categories to ensure an even more comprehensive presentation of our value chain.

Quality and collection of data

In the carbon calculation, activity data (consumption quantities such as energy, fuel and materials) are multiplied by emission factors (scientifically determined carbon values per unit). In this way, measurable activities give concrete emission values.

The emissions were calculated using activity data and emission factors from ClimatePartner. The GHG protocol distinguishes here between primary data (directly from the company and partners) and secondary data (industry averages, databases and statistics). Secondary data was only used in this evaluation if primary data was not available, and emission factors are taken from scientifically recognised databases.

Electricity emissions were calculated using both methods recommended by the GHG Protocol: market-based (with specific emission factors or electricity mix) and location-based (national average). Market-based data was used for electricity consumption at the Arnsberg site. The location-based method was used for electricity consumption levels without direct control via the electricity mix.

* The carbon footprint shows all emissions as CO_2 equivalent (CO_2e) – referred to as CO_2 or carbon for simplicity

Systematic approach to carbon reduction

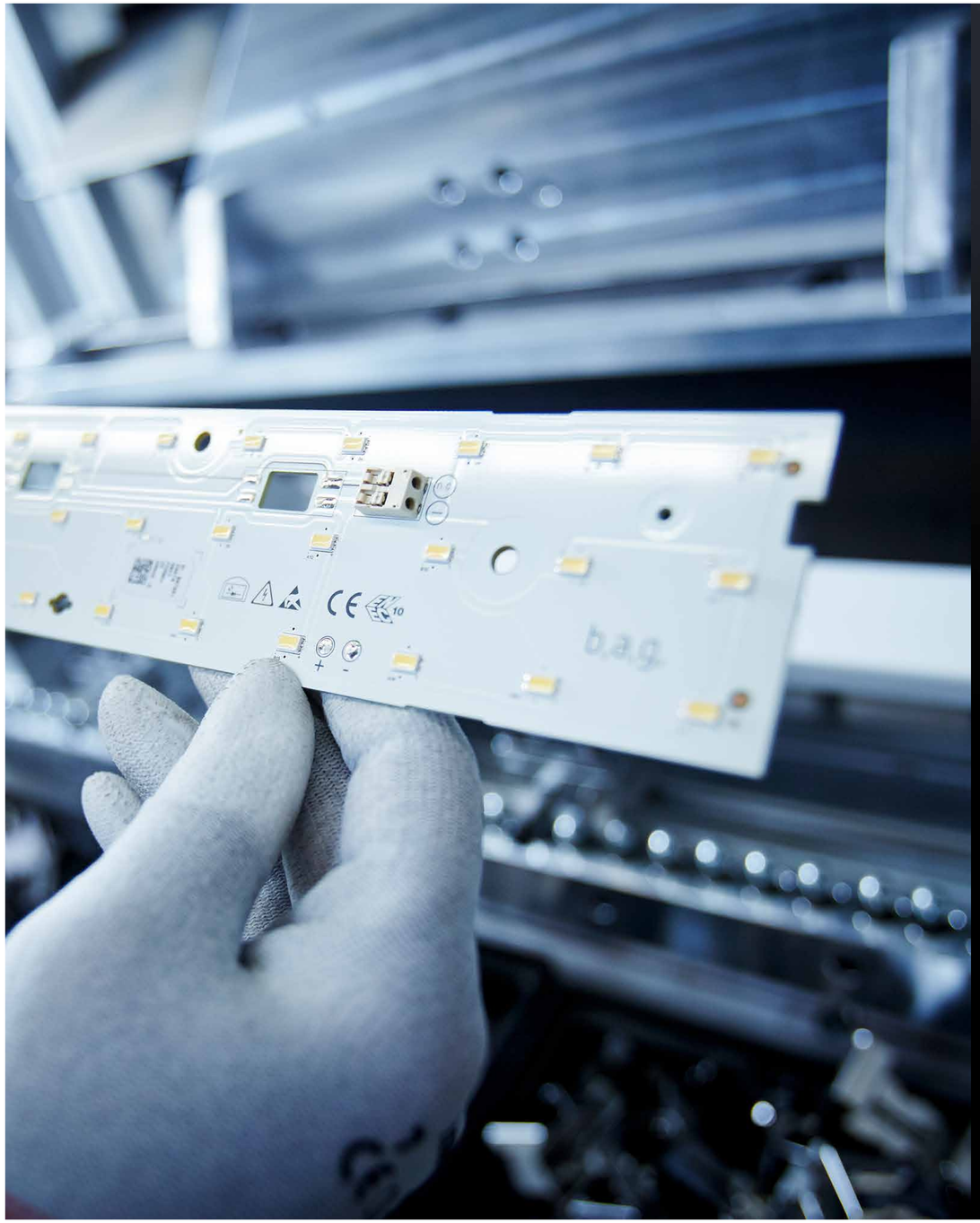
We have already established a reduction plan for Scope 1 and 2 emissions for our German sites. With a view to 2026, we plan to draw up a reduction plan at Group level to include all of our international production sites. We are simultaneously establishing a reliable database for the entire Group, including as the basis for a concrete reduction plan for our Scope 3 emissions.

Our three most important goals

E1-4

We base our reduction targets for greenhouse gas emissions on science-based methods. This will ensure that they are in line with the 1.5 °C target of the Paris Climate Agreement. We have already defined clear targets for our carbon reduction oriented to the Science Based Target Initiative:

Scope 1: 25 % absolute reduction by 2030 (base year 2020)
Scope 2: 50 % absolute reduction by 2030 (base year 2020)
Scope 3: voluntary annual reduction target of at least 2.5 %



STRATEGIC LEVERS FOR DECARBONISATION

Energy-efficient lighting solutions as the biggest lever

By far the greatest lever for our climate protection strategy is the development and production of energy-efficient lighting systems. Over 90 % of carbon emissions in the life cycle of a luminaire are generated during the utilisation phase. We thus concentrate on consistently optimising the energy efficiency of our products – this is a core aspect of our TRILUX product philosophy and the most important base point for significant emission savings. With intelligent (sensor-)controlled solutions we can achieve energy savings of up to 85 % compared to conventional systems.

Our measures for emission reduction and decarbonisation

- **Energy-efficient production:** we are increasing energy efficiency in production by implementing a cross-site energy efficiency programme – with a focus on renewable energies.
- **Circular economy and sustainable materials:** we promote recycling, highly durable product designs and resource-saving materials.
- **Carbon-optimised supply chain:** we cooperate with suppliers to reduce transport emissions and utilise sustainable procurement strategies.
- **Systematic carbon monitoring:** we record and analyse our emissions in accordance with the Greenhouse Gas Standard.
- **Energy-efficient information technology:** our digital infrastructure also contributes to carbon reduction. We renew our IT hardware in three to five-year cycles via our leasing partner, who then refurbishes and resells it. This ensures that we only use energy-efficient units and devices. Selected servers already run entirely on green power.

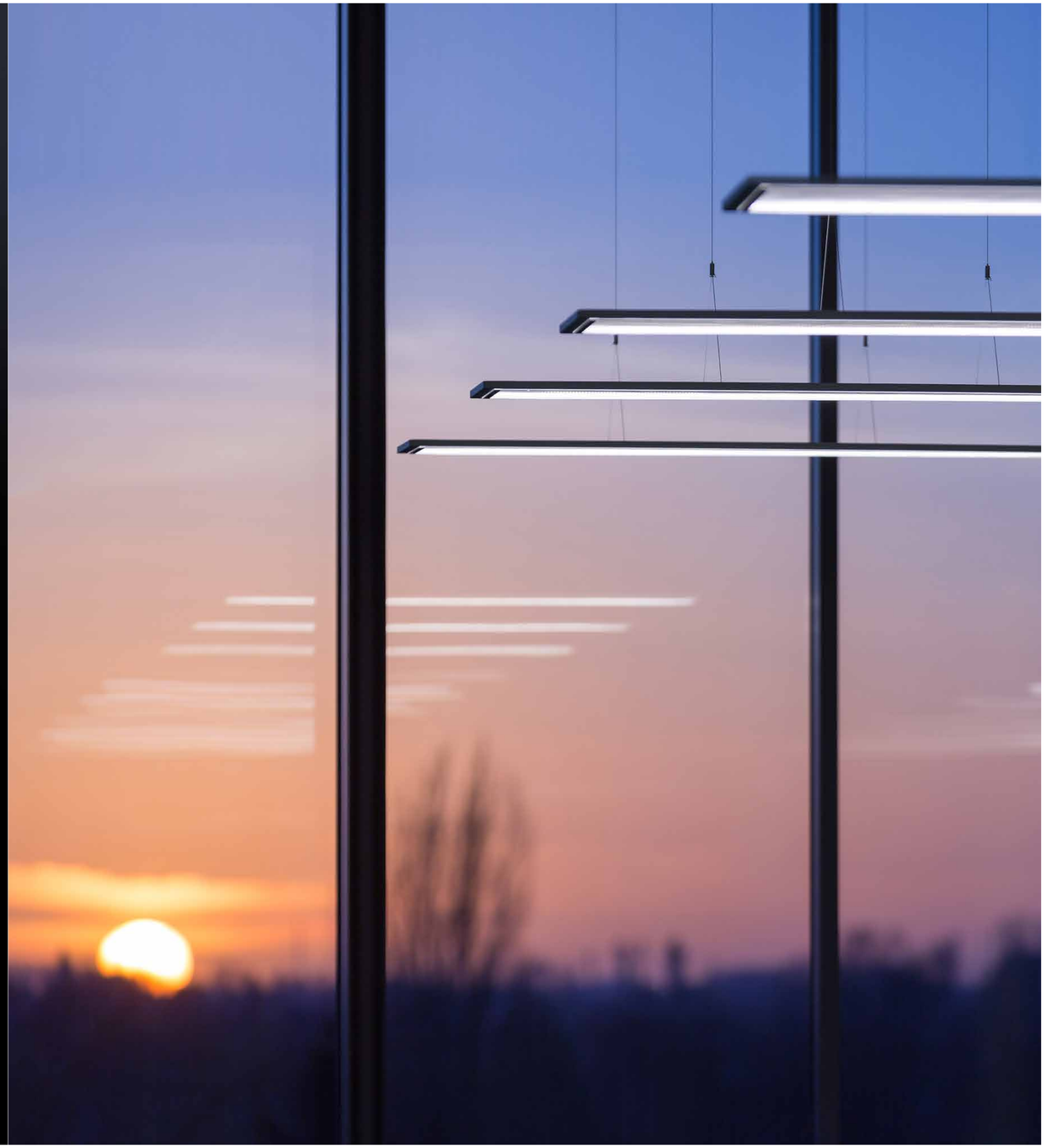
Climate adaptation and risk management

- **Site and infrastructure resilience:** when considering climate-related risks, we consider the potential impacts of extreme weather events on our production facilities and suppliers.
- **Product design for climatic challenges:** robust and durable lighting solutions are an important criterion in our product development.
- **Scenario planning and climate risk analyses:** we use scientifically sound climate models to prepare for future challenges. We plan possible scenarios and analyse climate risks on the basis of IPCC scenarios.
- **Sustainable water management:** transparency and quality assurance form the foundation of our water management. Wastewater discharge occurs exclusively into municipal wastewater systems. We ensure compliance with all regulatory requirements, including limit values for heavy metals, through regular water quality testing. Our in-house water treatment plant regulates pH levels and filters harmful substances from the wastewater. Filtered solids are subjected to separate, professional disposal.

Innovations and opportunities for a sustainable future

- **Integration of smart building technologies:** digital solutions such as smart building technologies enable further **energy savings**. They help to optimise energy consumption in buildings.

- **Partnerships and research projects:** we see much potential in collaborating with the scientific community, start-ups and industry partners. Together, we want to drive forward solutions and a sustainable future.



SUCCESSES IN THE 2023/2024 REPORTING YEAR

In the reporting year, TRILUX made important progress in climate protection:

- **Sustainable production: our production facility in Poland was certified in accordance with recognised green building standards.**
- **Sustainable product development: we have further developed our portfolio to focus on energy and material-efficient lighting solutions.**
- **Sustainable supply chain: optimised packaging, shorter transport routes and recycled materials have enabled us to reduce carbon emissions along the supply chain.**

FUTURE PLANS

We will implement the following measures from 1 January 2025:

- **Clean energy: we are switching to green electricity and green natural gas in Arnsberg and Cologne, with compensation for combustion emissions.**
- **Compensation: we will specifically offset unavoidable emissions. We are purchasing high-quality certificates for residual emissions from Scope 1 and 2 to support selected climate protection projects.**
- **More circular economy: we are increasing the proportion of recycled materials in our products and introducing the first take-back programmes for old products.**

This integrated approach enables us to use our expertise not only for customers but also in our own company – a strategy that highlights our responsibility for the environment and society.

Emissions at the main site in Arnsberg*

	2020	2021	2022	2023	2024	Δ prev. year
Scope 1	3,228	3,734	3,331	2,982	3,020	**1 %**
Scope 2	2,989	2,476	2,653	2,519	3,177	**26 %**
Scope 3	3,709	4,280	4,155	3,462	3,135	**-9 %**
	9,926	**10,490**	**10,139**	**8,963**	**9,332**	**4 %**

*** Figures in tonnes CO2e.**

2024

Explanation of changes

Scope 1: +1 % compared to previous year

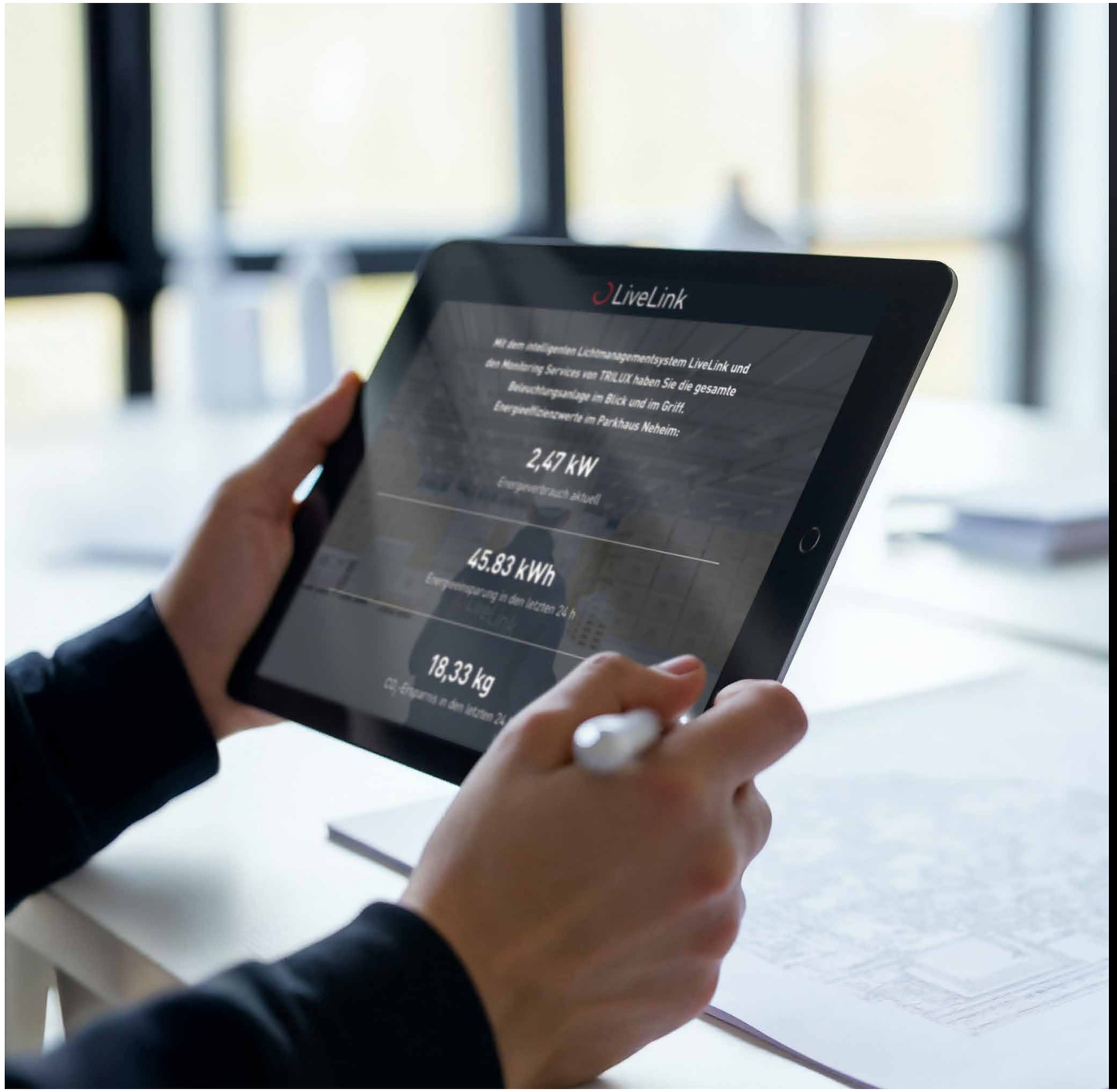
The slight increase in direct emissions is mainly due to more precise data collection, which now also includes the consumption of our company-owned lorries. In contrast to this, natural gas consumption at the site fell by 3 %. The switch to green natural gas will take place from 2025 onwards, whereby any emissions will be offset directly by the supplier through climate protection projects.

Scope 2: +26 % compared to previous year

Electricity consumption at our site increased by around 6 % due to increased production. Expanded storage space and a growing proportion of electric vehicles in our fleet also contributed to higher consumption. However, the biggest influence on our overall emissions was the 35 % increase in the emissions factor of our electricity supplier – a consequence of the tense global energy supply situation in 2024. By switching completely to green electricity from January 2025, we will achieve a significant reduction in our emissions.

Scope 3: -9 % compared to previous year

This reduction results from the change in data collection for the journeys of our employees to work. To ensure a consistent calculation basis for the future, we will use a standardised methodology. This is based on proven assumptions about average commuting distances, means of transport, working days and typical home office energy consumption. The underlying emission factors and assumptions are based on recognised statistical sources and are regularly updated. In parallel to improving our quality of data, we continuously develop specific measures to actively reduce our Scope 3 emissions.



SUSTAINABLE PRODUCTS AND SOLUTIONS

LiveLink: sustainable lighting control for maximum efficiency

TRILUX has long been aware that the most potential for sustainability lies in the intelligent control of our already highly efficient LED technology. We offer a key technology in the form of our LiveLink light management system that enables additional energy savings of 30-50 % compared to the use of efficient LED luminaires without a lighting control system. This significant savings potential was demonstrated as part of the Sumatra research project (p.46). In combination with our highly efficient LED luminaires, overall savings of up to 85 % are possible compared to conventional lighting – this is a decisive contribution to our climate protection goals and those of our customers.

Ecological benefits through intelligent light management

LiveLink (LL) realises its ecological potential through needs-based lighting control that functions on several levels:

- **Daylight-dependent control:** the automatic adjustment of light intensity to available daylight significantly reduces energy requirements, especially in buildings with large window surfaces.
- **Presence-dependent control:** light is only provided where actually needed – triggered by the movement of people or vehicles. In less frequented areas such as warehouses, corridors and car parks, this leads to significant savings.
- **Time-based control:** pre-programmed lighting scenarios automatically adapt to times of day and usage profiles and prevent unnecessary energy consumption outside of operating hours.

The extended lifespan of the LED luminaires due to needs-based operation and optimised dimming is a further important factor for sustainability. This not only reduces maintenance work and costs, but also resource consumption by minimising replacement needs.

Modular system variants for a wide range of requirements

We have designed LL modularly to cover a wide range of applications. The portfolio ranges from simple entry-level solutions such as LL Basic with integrated sensors to complex server-based systems such as LL Premium that connects to a building management system. Specialised variants such as LL SwarmSens for car parks, LL Workplace for modern office concepts and LL Retail for the retail sector meet industry-specific requirements. The technology base includes both wired DALI solutions and wireless Bluetooth systems, the latter being used especially for refurbishment projects that have no existing control lines.

Innovation for user-friendliness and sustainability

Our LiveLink One app, launched in 2023, makes the installation and configuration of lighting systems particularly easy. The app automatically identifies networked luminaires, push-buttons and sensors and immediately puts them into operation with a basic configuration. This technology minimises the risk of errors and thus ensures optimum energy efficiency of the system from the start.

The combination of high-quality, durable LED luminaires and intelligently networked light management systems forms a central component of our sustainability strategy. By consistently developing our LiveLink technology, we make a decisive contribution to reducing energy consumption in buildings and thus significantly lowering carbon emissions.

E-LINE: **SYSTEMATIC EFFICIENCY**

E-Line has been setting standards in the lighting industry for 30 years, and our E-Line Next won the German Sustainability Award in the design sector in 2022. The overall concept convinced the jury: our highly efficient continuous line system makes lighting more climate-friendly and environmentally friendly.

The latest generation, E-Line Pro, achieves efficiency levels of up to 207 lm/W, and thanks to its high market penetration it makes a significant contribution to carbon reduction.

MIRONA FIT R: **ROBUST, EFFICIENT, SUSTAINABLE**

Water, sparks and vibrations – Mirona Fit was developed for use in the toughest conditions and achieves efficiencies of up to 187 lm/W with a service life of 100,000 hours. Thanks to a modular design it is particularly recyclable, and thus contributes to a resource-saving circular economy.

OLISQ: **DESIGN MEETS SUSTAINABILITY**

Olisq combines high energy efficiency with architectural sophistication. The modular luminaire system is ideal for modern working environments and, with daylight-dependent control, provides additional climate protection with simultaneously outstanding quality of light.

SUSTAINABILITY STARTS IN OUR OWN COMPANY

For us, sustainability not only means developing efficient products and solutions for others, but also implementing the highest sustainability standards in our own company.

With specific measures and actions, we are improving energy efficiency, infrastructure and working conditions within the TRILUX Group.

Our location in Arnsberg, Germany

Investments in the Arnsberg site: a modern world of work with a sustainable infrastructure

As part of our strategic site development, we have made significant investments in Arnsberg that strengthen both the quality of work and sustainability. With the location's newly created 'New Work Floor' we make targeted investments in our location – along with optimal working conditions for our employees.

Working with flexible interior design

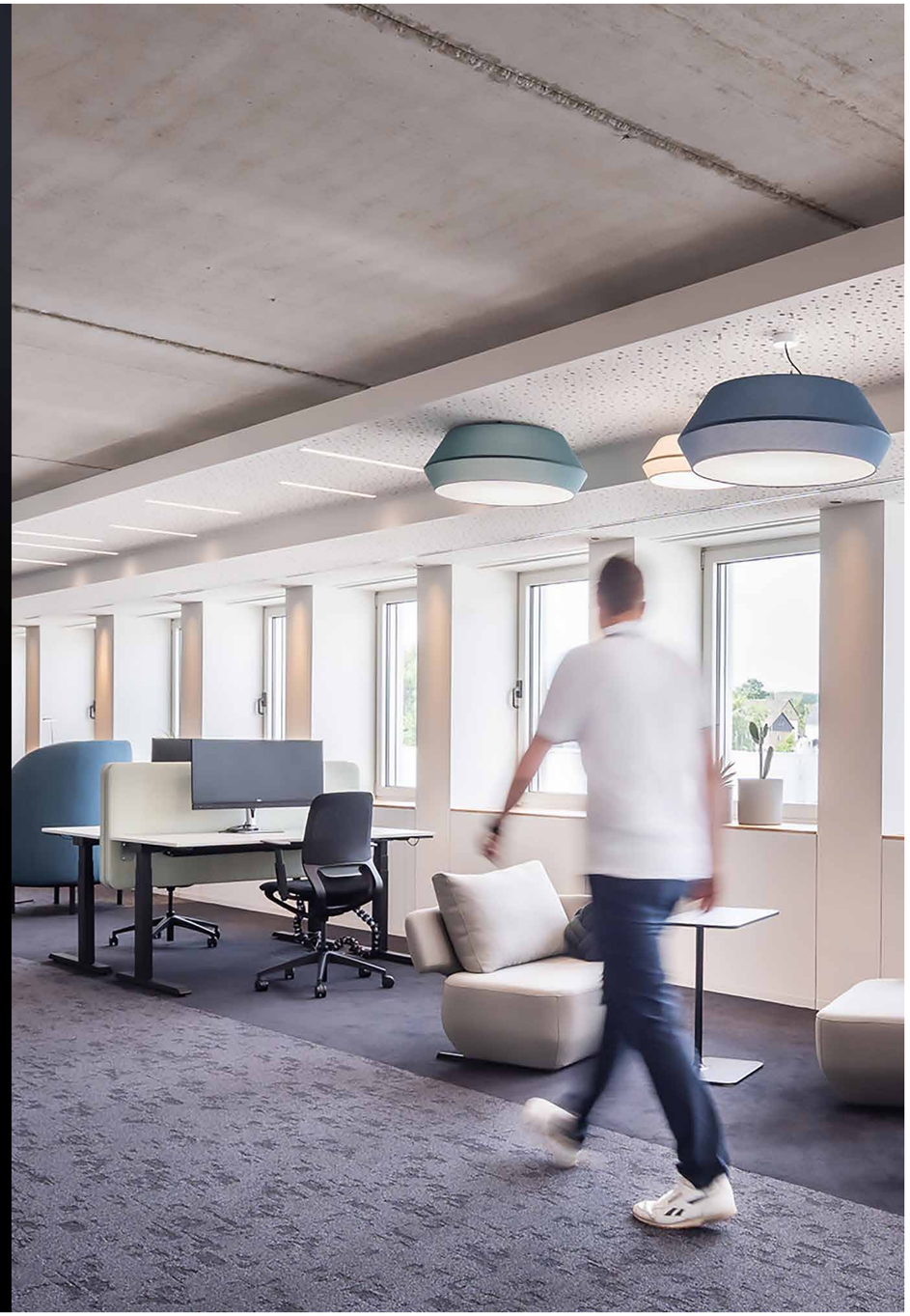
The innovative multispace office concept was specially developed to host different ways of working. Flexible interior design with differing zones ranging from quiet work areas to collaborative team spaces allows each employee to choose the right environment for the specific task. The high-quality acoustic solution ensures concentrated working, even in open-plan areas.

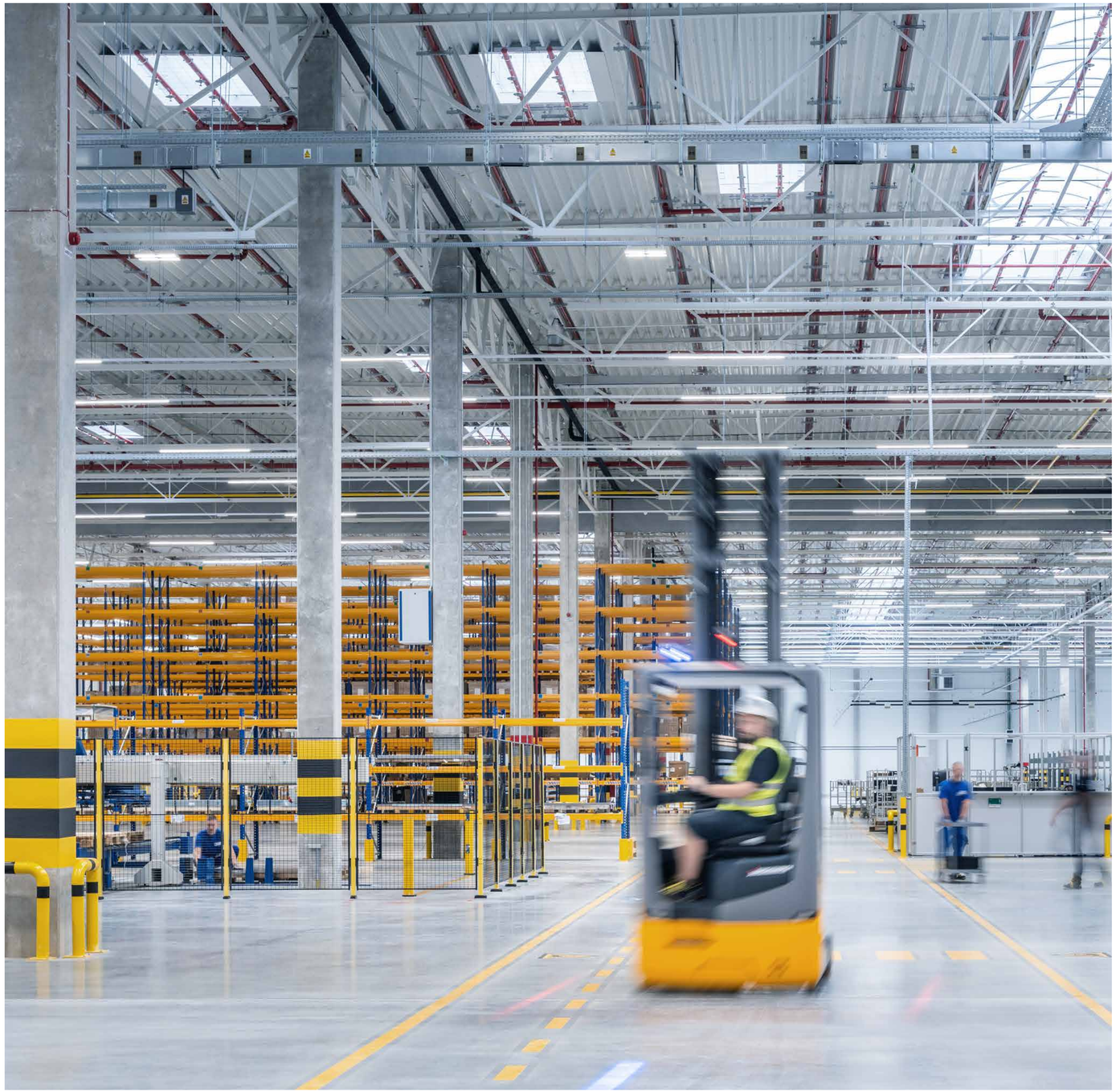
In addition to the modern working environment, we have expanded the infrastructure at Arnsberg with ten new charging stations for electric vehicles with a total of 20 charging points. This not only supports our sustainability goals, but also offers our employees and visitors using electric vehicles an important charging infrastructure.

Building for high sustainability requirements

We will continue to modernise the Arnsberg site over the next years, with the planning of extensive investments for structural changes to fulfil the high standards of sustainable building planning. The aim of these measures is to significantly reduce energy consumption, thus cutting operating overheads and minimising our ecological footprint.

With these targeted investments in the work environment along with sustainable mobility and energy-efficient building structures, we strengthen the Arnsberg location in the long term and position ourselves as an attractive employer in the region that looks confidently into the future.





OUR LOCATION IN ŚWIDNIK/LUBLIN

Investments in the new Polish production and development site

In September 2024, we inaugurated our new production and development site in Świdnik/Lublin, Poland. With an investment of around 32 million euros, we are strengthening our production capacities and our market presence in Eastern Europe. The 23,000 square metre plant has an annual production capacity of up to one million luminaires, primarily for use in offices and the retail sector.

Strategic importance

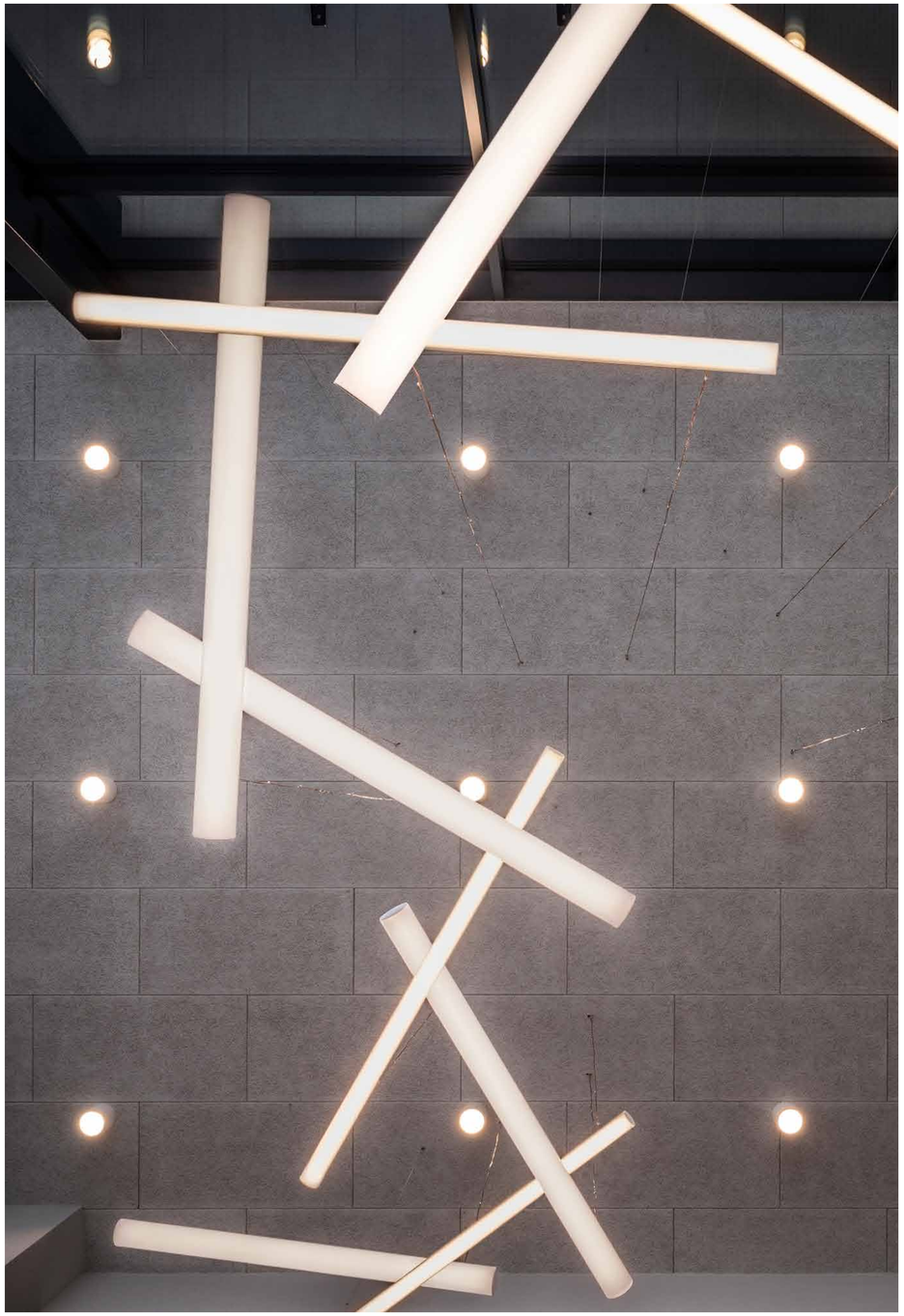
"The new site underlines the strategic importance of Eastern Europe for TRILUX, and it's also a central pillar of our global growth strategy," explains CEO Hubertus Volmert. "This third facility in Europe allows us to respond more quickly to local needs, shorten delivery routes and strengthen our independence."

Świdnik/Lublin was selected due to its excellent infrastructure and access to qualified specialists. There will initially be approximately 70 employees with a planned increase to 250.

Sustainable infrastructure meets modern working

Our plant combines the latest production technologies with a New Work concept in over 3,000 square metres of office space. The BREEAM-certified building complex is carbon-optimised and has a photovoltaic system and charging stations for electric vehicles. The outdoor installations also meet our sustainability philosophy: native plant species and specially created insect hotels help the local biodiversity.

"We don't just want to produce efficiently – the new production site at Świdnik demonstrates how sustainable production can be brought together with modern site management," states Arkadiusz Lewenko, Managing Director Central & Eastern Europe.



PROTECTING BIODIVERSITY

TRILUX is aware of the importance of biodiversity. We are committed to the responsible use of natural resources and already consider the promotion of biological diversity during the development of our luminaires.

Sustainable and insect-friendly lighting design for outdoor lighting

Modern outdoor lighting must do more than just provide brightness. Thoughtful lighting design relies on demand-oriented illumination, warm light colors, and targeted light direction.

Ecological dimension: avoidance of light emissions

A key ecological challenge is light pollution, and especially radiation into the upper hemisphere. These emissions not only impair the visibility of the starry sky, but also directly impact natural ecosystems. The effects on animals are manifold:

- **Light corridors** dissect habitats and form barriers for nocturnal animals.
- **Artificial light** disrupts biological rhythms and disturbs natural behaviours as well as reproductive cycles.
- **Insects** are attracted to light sources, exhaust their energy reserves and become easier prey.
- **Migratory birds** that navigate by the Earth's magnetic field can be thrown off course by artificial light.

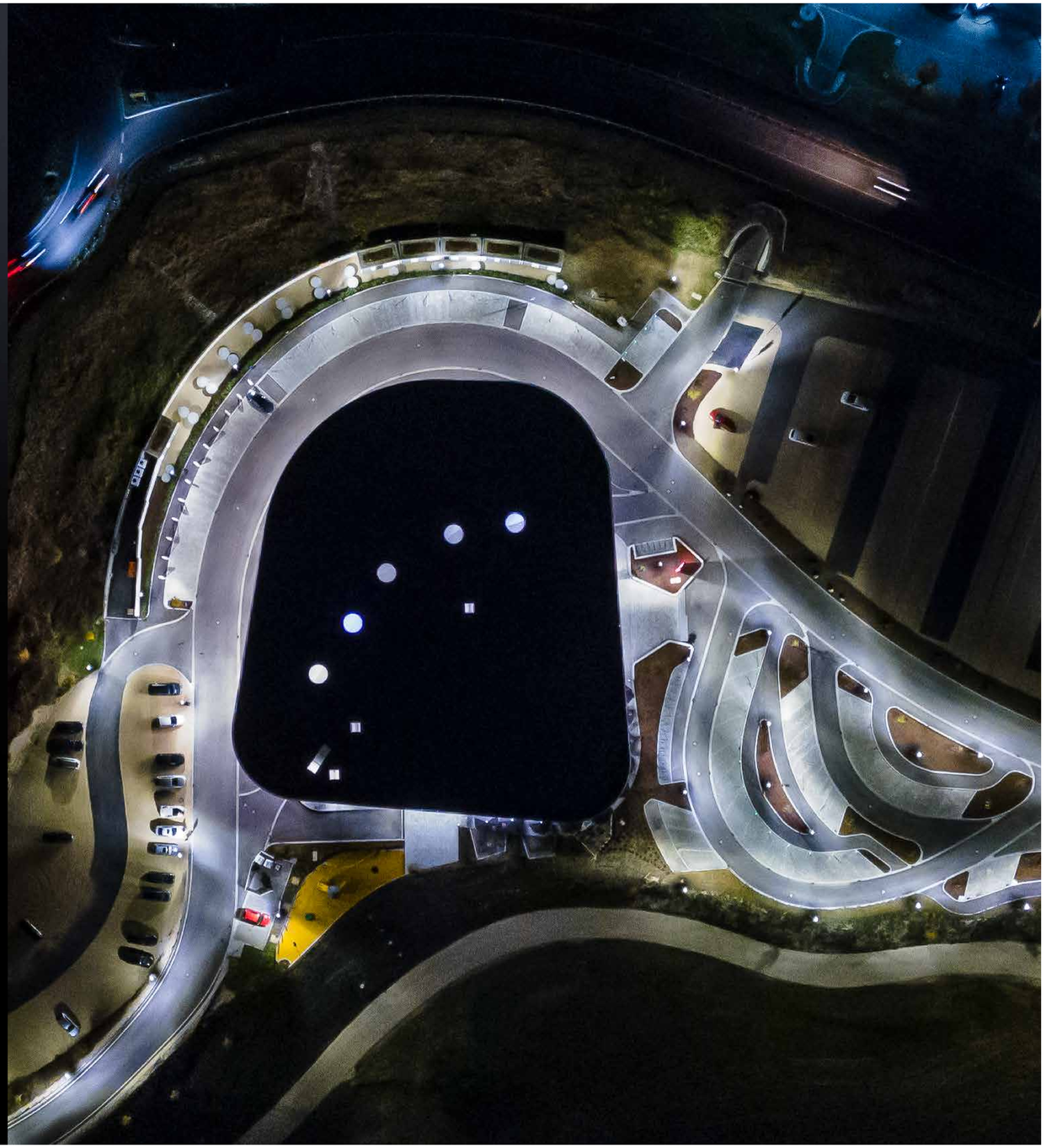
TRILUX has a variety of outdoor luminaires certified according to the Dark Sky-Standard. This global initiative is committed to protecting the night sky and combatting light pollution. The goal is to reduce light emissions, as biological diversity and functioning ecosystems depend heavily on natural day-night rhythms.

An important lever for this is LED technology: precise light control using reflectors and lenses directs the light in a targeted manner to where it is actually needed. Intelligent light management reduces the illuminance to the actually required level – in intensity and duration. This not only increases efficiency and comfort, but also enables energy savings of up to 80 per cent – while simultaneously minimising ecological impacts.

Technical solutions for insect-friendly lighting

Modern LED systems enable environmentally appropriate and biodiversity-friendly outdoor lighting. The most important technical approaches include:

- **Precise light direction** through direct-emitting luminaires – without radiation into the upper hemisphere (0 % upward light emission)
- **Intelligent light management** with demand-responsive control, e.g., ‘following light’ on low-traffic pathways
- **Adapted light distribution** according to application situation as well as low mounting heights where possible
- **Insect-friendly light colors** in the warm white range (≤ 3,000 K)
- **High protection rating** (min. IP54) and a maximum housing temperature of 60°C for protecting insects



Economic and social dimensions

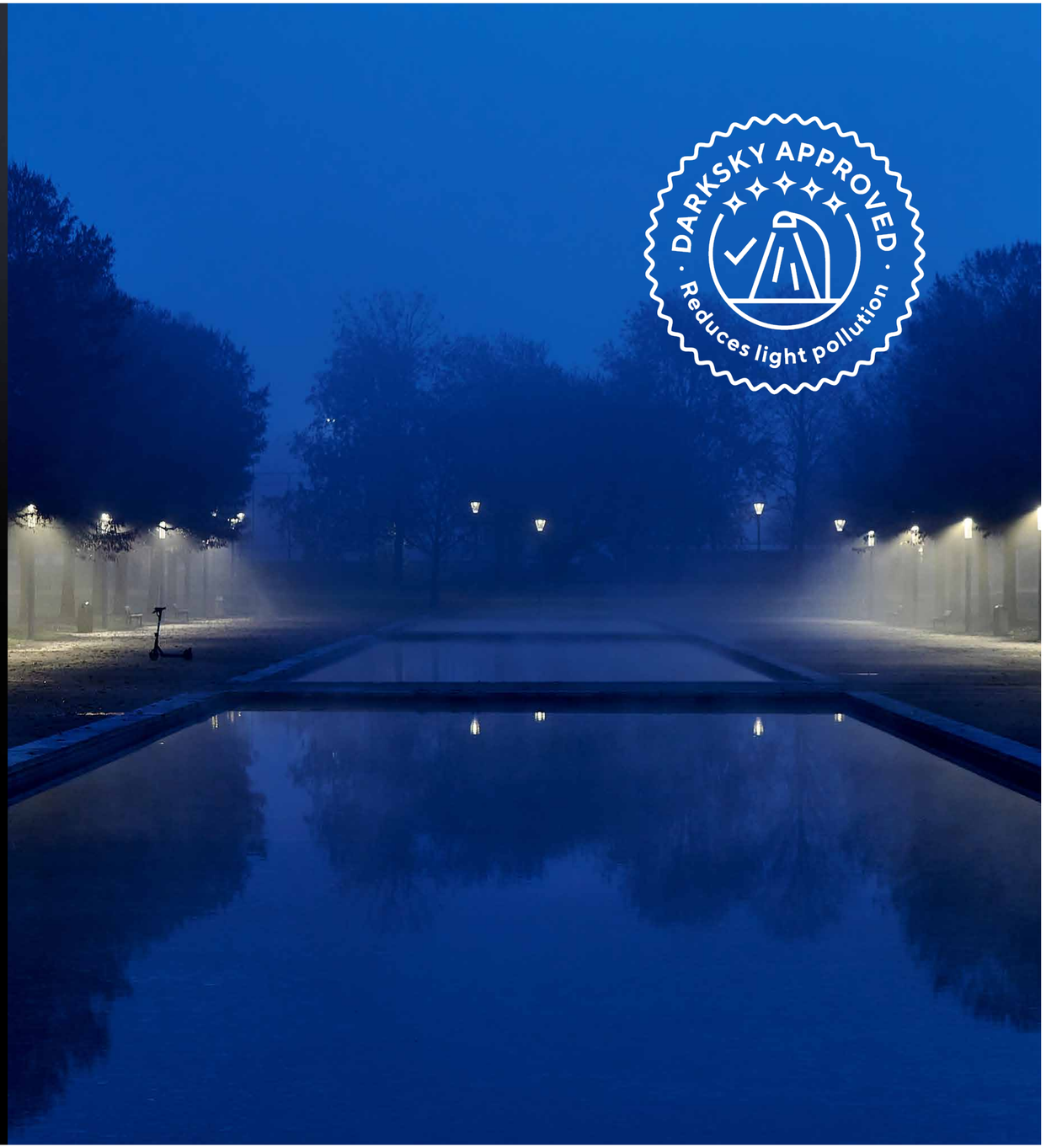
The long service life of LED luminaires (over 100,000 hours) significantly reduces maintenance costs and resource consumption. As part of smart city concepts, street lighting can be used as multifunctional infrastructure – for example, for e-mobility, sensor technology, and communication solutions.

Well-planned outdoor lighting enhances quality of life in cities and communities, increases the sense of security, and simultaneously reduces disruptive light emissions for residents.

100 % DARK SKY

Ecological outdoor lighting for a starlit night sky – completely without light pollution

With our Dark Sky luminaires, light is directed precisely and environmentally friendly to where it is needed. Light pollution is significantly reduced and the night sky is kept darker, as 0 % of light emissions reach the upper hemisphere (ULR = 0). This keeps the night sky visible – and protects natural nocturnal ecosystems.



LUMANTIX

The Lumantix series combines clear, attractive design language with innovative lighting technology. Thanks to Multi-Lens-Technology (MLT IQ), streets, squares, pathways, and areas close to buildings are always optimally illuminated.

Particularly noteworthy is the Smart-Lighting-Ready variant (SLR), which enables simple and future-proof integration into modern light management systems. With its high flexibility, the Lumantix complements the TRILUX portfolio with an advanced solution for a wide variety of application scenarios.

JOVIE

Jovie offers optimum lighting solutions for a wide variety of environments: streets, squares and areas around buildings for industry, offices and retail. Thanks to innovative Multi-Lens Technology (MLT IQ) and Constant Light Output (CLO), the luminaire guarantees consistently optimum visual conditions.

This flexible and elegantly designed luminaire family impresses with its high-quality design and is suitable for a particularly broad range of applications. With an impressive 100,000 hour service life, Jovie is a future-oriented and resource-efficient lighting solution. The light source is replaceable according to ecodesign directives.

SUSTAINABILITY THROUGH BUILDING CERTIFICATION

Building certifications are becoming increasingly important due to subsidy incentives and legal requirements for sustainability (the Renewable Energies Act). With TRILUX lighting solutions, building owners and planners can score points with leading certification systems such as BREEAM (the international evaluation system for ecological and socio-cultural aspects of building sustainability), LEED*, WELL** and DGNB***.

High-quality lighting concepts contribute to various evaluation criteria, including energy efficiency, comfort and convenience for users and ecological quality. Sustainable lighting solutions in particular can therefore make a valuable contribution to the overall certification of the building.

* LEED (Leadership in Energy and Environmental Design) is an internationally recognised certification system for ecological construction, which certifies by an independent third party that a building has been designed and constructed with environmentally friendly methods. The programme is supported by the USGBC (United States Green Building Council), the independent body generally regarded as the most important source of standards for sustainable construction.

** The German Sustainable Building Council (DGNB) has developed a certification system to make sustainable building plannable, measurable and comparable. This planning and optimisation tool supports all parties involved in construction in implementing holistic sustainability quality.

*** The WELL Building Standard (WELL = Wellness + Environmental design + Living systems + Light) is a certification system that focuses on the health and well-being of people in buildings. The system, which originated in the USA, was developed in 2013 by Delos and the International WELL Building Institute.

The **benefits of building certification** are manifold:

CHAPTER 4
CIRCULAR ECONOMY

The fluorescent tentacles of the tube anemone show how natural systems use materials durably and keep them fully in circulation.

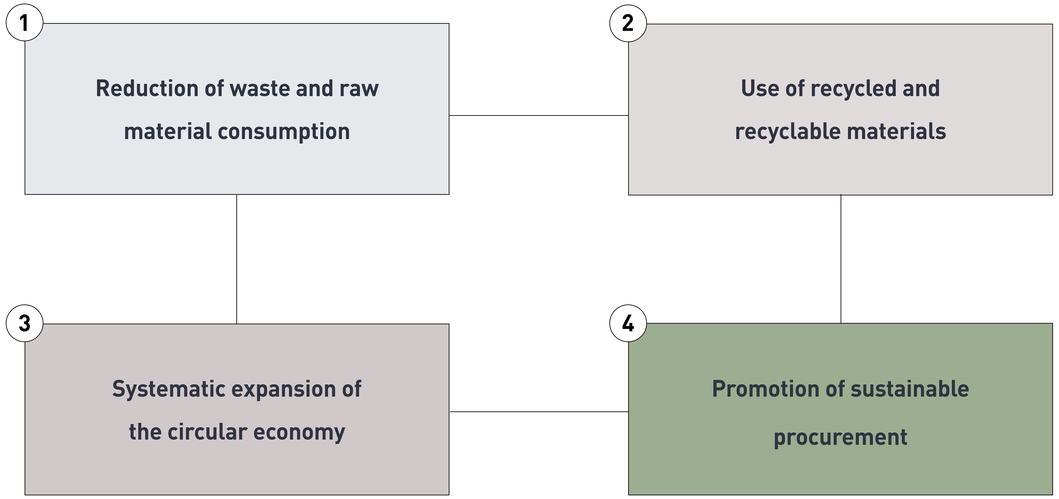
OUR STRATEGY FOR SUSTAINABLE MATERIAL USE

E5-1

TRILUX pursues a clear strategy for managing material impacts, risks, and opportunities in the areas of resource efficiency and circular economy. The focus is on four key areas of action: the reduction of waste and raw material consumption, the use of recycled and recyclable materials, the systematic development of the circular economy, and the promotion of sustainable procurement. Our measures are based, among other things, on insights from the Sumatra research project as well as our internal objectives for moving away from primary raw materials, utilizing renewable resources, and minimizing environmental impacts along the entire value chain.

At TRILUX, we consistently follow the principle **"Avoid before Utilise before Dispose."** We apply this rule to all substances and materials – particularly substances considered hazardous to health or the environment, which are subject to especially strict monitoring.

Key areas of action in our strategy



SUMATRA RESEARCH PROJECT

The Sumatra research project (Sustainable Materials in Future Luminaire Designs – from Recycling back to Application) creates a scientific foundation for circular economy strategies in the lighting sector. The Sumatra project, funded by the Federal Ministry for Economic Affairs and Climate Action (BMWK), develops practical methods for the ecological assessment of LED luminaires and promotes concrete solutions for circular product design.

In cooperation with Fraunhofer IZM, Interzero, Inventronics, and the associated partner Kardoff Ingenieure Lichtplanung, a comprehensive life cycle assessment of professional LED luminaires was conducted. The analysis captured environmental impacts across the entire life cycle – from raw material extraction to recycling – with particular focus on Global Warming Potential (GWP) and Abiotic Depletion Potential (ADP).

The results show:

- The usage phase causes up to 99 per cent of a luminaire's carbon footprint.
- The consumption of abiotic, non-renewable, mineral and fossil raw materials occurs primarily during manufacturing.
- Modern flip-chip LEDs consume up to 500 times fewer resources than technologies with gold bond wires.
- Resource-efficient design with small circuit board areas and few materials offers significant optimization potential.

The recycling studies reveal: While metals are easily recyclable, plastics usually go to thermal recovery – not for technical reasons, but due to economic factors. **A true circular economy therefore requires the integration of product design and disposal infrastructure.**

Based on these insights, TRILUX created a design guideline for sustainable luminaire development. This is already being incorporated into new product generations. In parallel, the company is committed to knowledge transfer to the industry through technical presentations, publications, and participation in shaping normative frameworks.

The Sumatra project demonstrates how systematic research and collaboration lead to practical solutions. TRILUX uses the data gained to make tomorrow's lighting efficient, resource-conserving, and circular.

Structured environmental responsibility through certification

TRILUX has been ISO 14001 certified since 2012 – an internationally recognized standard for environmental management systems. The current certification by TÜV NORD CERT GmbH confirms our systematic approach to identifying and reducing ecological impacts at our main locations. It applies to the development, design, production, and distribution of technical luminaires and is regularly reviewed and further developed.

Particularly in the context of the circular economy, ISO 14001 provides an important foundation: It enables us to systematically analyze material flows, use resources more efficiently, avoid waste, and promote recycling processes. Through clearly defined processes and responsibilities, the standard is an integral part of our sustainable corporate strategy.

MEASURES FOR THE CIRCULAR ECONOMY AND EFFICIENCY OF RESOURCES

E5-2

Designed for durability and recyclability

TRILUX takes a holistic approach to conserving resources and the circular economy. Our products have a modular design and are durable and repairable – many luminaires achieve a service life of up to 100,000 hours and can be recycled by type. Recyclability is a key criterion in the choice of materials and the design of our products. We increasingly focus on recycled materials and recyclable product design to minimise the use of materials and reduce waste.

We bundle our areas of expertise within the TRILUX Group in the Innovation & Development (IDEO) division. Through our standardisation and committee work, as well as via our own company norms and standards, we specifically support our product development in order to meet the increasing requirements of the circular economy.

Our company standard for sustainable product development defines how we want to proceed regarding selection of materials and construction as well as simple disassembly and repair of our luminaires. Our standardised LED modules enable a rapid response to market requirements and can be integrated into new and existing products in a resource-saving manner via this modular strategy.

We set standards in the refurbishment of still functional luminaires via specific new developments in the LED kit segment. We also offer a resource-saving option for upgrading to energy-efficient lighting technology without high-cost room refurbishments. One example of this is the lighting modernisation of the Federal Chancellery in Berlin and other office refurbishment projects, in some of which more than 14,000 light points were converted per project.

In 2023 and 2024, we completed over 30 pre-development and research projects, including the “Analysis and optimisation of the reparability of luminaires” and “Recycling of used PMMA luminaires”.

Closed material loops

During production, excess acrylic glass is shredded, processed into new granulate and reused so as not to produce more waste.

A successful example of our circular approach is the recycling project with VfL Wolfsburg: after the end of the coronavirus protective measures, hygienic protective panes made of acrylic were taken back, recycled for new luminaire covers and reused - thus saving resources without any loss of quality.

This transformed a short-lived product into a consistent component of modern luminaires. In this tried-and-tested loop system, our diffusers can contain up to 40 % regranulated material, as is the case with our Olisq series.

Our digital lighting systems can be used for longer thanks to updates. At the end of life, we focus on recycling, upcycling and extended manufacturer responsibility. Packaging and materials are increasingly being managed in closed loops.

1. **Bulk packaging:** for products such as Tugra, AragonFit and OleveonFit we use intelligent bulk packaging. Up to 96 % of cardboard can be saved depending on the variant – which is 375 grammes less packaging per luminaire. A leading automotive manufacturer was thus able to avoid 8.1 tonnes of packaging.

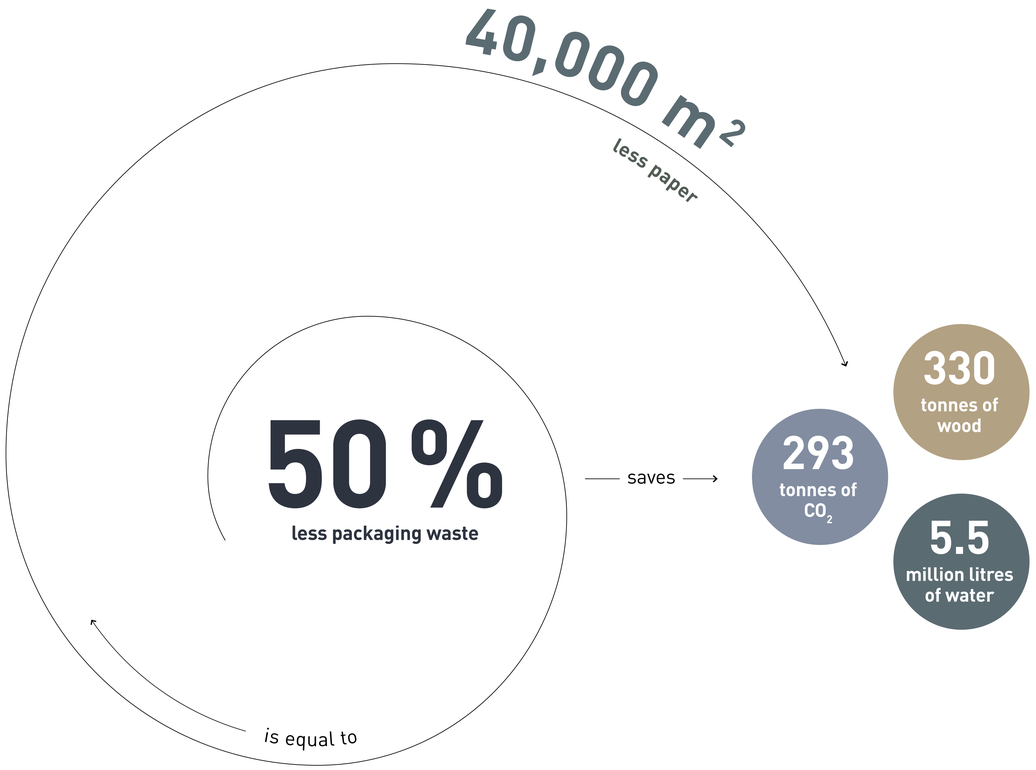
2. **New packaging technologies:** Since 2022, TRILUX has avoided the use of styrofoam wherever possible and instead used recyclable cardboard cushioning with minimal film content. This can be disposed of via paper waste. The changeover saves around 9.7 tonnes of polystyrene per year – and improves the carbon footprint through more efficient storage and transport utilisation.

3. **Digitalisation and automation:** thanks to automated packaging and smart storage, we can save over 110 tonnes of packaging every year.

Innovative packaging solutions

For TRILUX, packaging is much more than just protection during transport – it is a key lever for conserving resources and reducing CO_2. We pursue a clear packaging strategy: avoid, reduce and reuse. All materials used are tested for environmental friendliness, purity of type and recyclability. Our packaging guidelines are based on high standards and are continuously developed.

One example of optimised packaging solutions is E-Line Pro: the trunking is bundled in layers of 5 with minimal cardboard wrapping, and luminaire inserts are automatically packed in layers of 10, which reduces packaging waste by up to 50 % compared to single packaging. With these measures, TRILUX saves at least 110 tonnes of packaging for E-Line Pro, corresponding to almost 40,000 m² of paper. This would require over 293 tonnes of carbon, 330 tonnes of wood and 5.5 million litres of water in conventional production.



Innovative service model and take-back solutions

Our activities include maintenance, refurbishment and take-back programmes. In 'Light as a Service' projects, we offer customised light in TRILUX quality without any investment required by the customer. We assume all tasks, ranging from lighting design, installation and operation to disassembling of the old system.

The German Electrical and Electronic Equipment Act (ElektroG) applies to the majority of TRILUX products. As the German implementation of the European WEEE Directive (Waste of Electrical and Electronic Equipment), it regulates the placing on the market, return and disposal of electrical and electronic equipment. In order to fulfil the take-back obligations resulting from the law in Germany, we cooperate with INTERSEROH-Dienstleistungs GmbH and Lightcycle for the professional return and disposal of our old electrical appliances.

Safe processes for special materials

We use large quantities of metal in the lighting industry, which entails special demands:

- TRILUX uses solvents to degrease and clean metal parts such as sheet steel – and recycles these in a closed circuit using fully automatic filter systems. The cleaned substances flow directly back into the cleaning process. The oil sludge thus produced is retained in separators and residues are disposed of separately.
- Our coatings are based on solvent-free powder coatings.

Partnerships for efficient recycling

TRILUX relies on strategic partnerships to optimise its material cycles. Since February 2022 we have been cooperating with the neighbouring hygiene paper group WEPA Professional. We collect used towel paper in our washrooms in Arnsberg and Röhrtaler Wertstoff GmbH collects the used paper, takes it to WEPA and feeds it back into their paper production cycle. By using BlackSatino recycled paper we were able to recycle 3,890 kg of paper in 2024. This corresponds to savings of 5,990 kg of carbon, 116,902 litres of water and 1,818 kWh of energy.

TARGETS FOR RESOURCE EFFICIENCY AND THE CIRCULAR ECONOMY

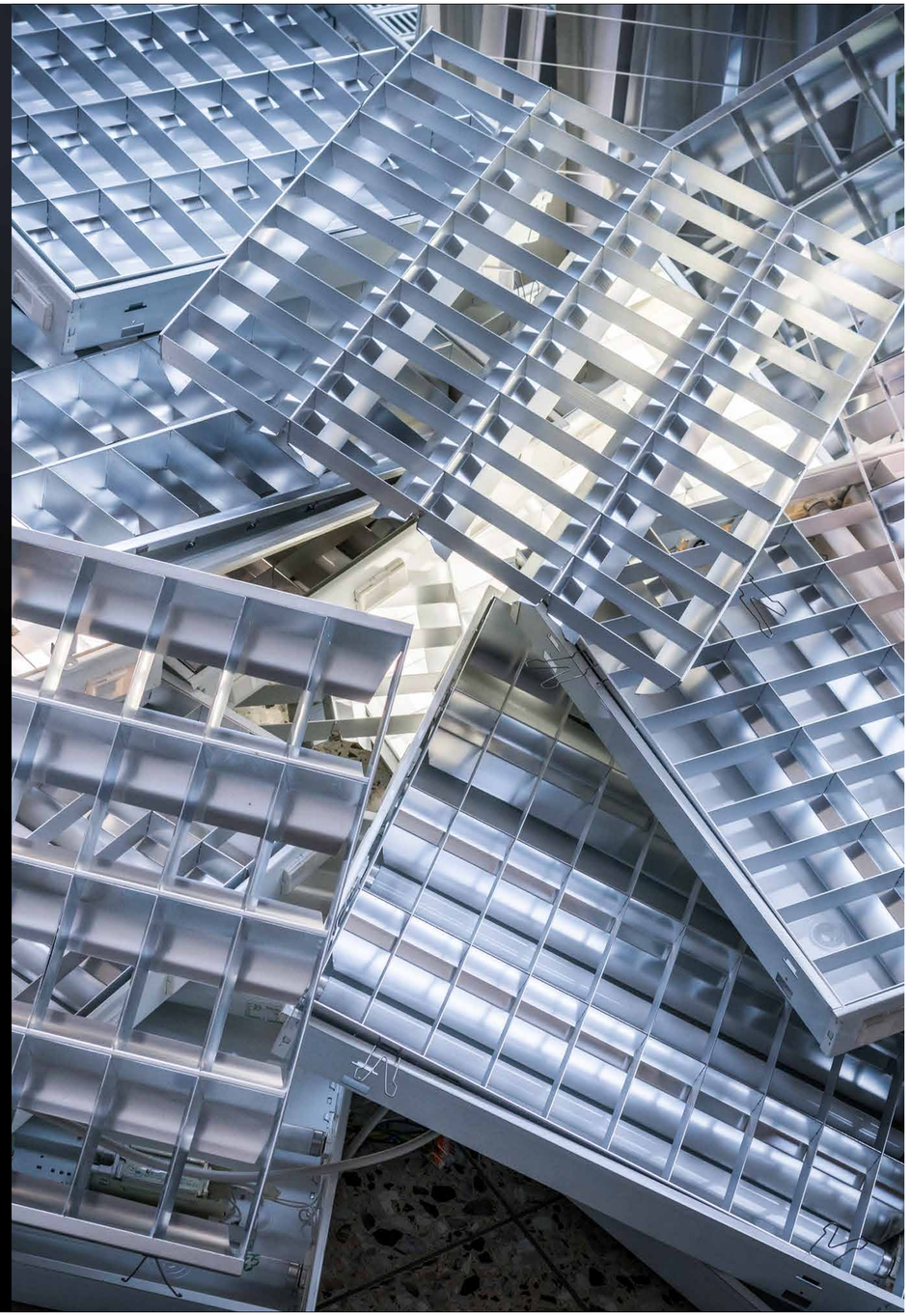
E5-3

With our design guidelines, we set specific goals to promote resource efficiency and the circular economy. These are aimed at reducing primary materials, increasing material transparency and raising the proportion of recycled materials.

A key objective is to record all materials used, including raw materials, packaging and auxiliary materials, in a quantifiable and transparent manner. On this basis, ecological effects such as the reduction of carbon, material savings and reusability can be systematically evaluated and improved.

To continuously reduce our corporate footprint, we aim to record the carbon footprint of every single product. With the help of detailed data on materiality and carbon emissions, products can be further optimised in terms of various sustainability aspects.

We fulfil the legally prescribed recycling quotas and supplement these with our own targets – for example for consistent separate collection and the promotion of recyclable product design. In this way we want to specifically reduce environmental pollution and at the same time utilise economic potential through higher resource efficiency.



Environmental Product Declarations (EPDs)

The drive towards a sustainable economy requires not only consistent action, but also measurable and comprehensible facts. TRILUX invests specifically in the creation of Environmental Product Declarations (EPDs) – one of the most effective instruments for transparency and environmental assessment in product development.

An EPD is an independently verified environmental product declaration by a third-party organisation that applies to the entire life cycle of a product – from raw material extraction, production, packaging, transport and use through to disposal or recycling. EPDs are a key decision-making criterion for our customers, lighting designers and partners, whether for sustainability certifications such as DGNB, LEED and BREEAM, or for their own ESG targets.

To meet these increased requirements, TRILUX launched a company-wide EPD project in 2023, and together with external specialists and internal experts we developed a detailed life cycle assessment model. We processed the results as part of the internationally recognised PEP Ecopassport® programme – an industry standard for environmental product declarations in the lighting sector. More than a dozen luminaire types have already been verified in the first stage – for example E-Line Next, Mirona Fit, Opendo, Olisq, Creavo, Sonnos and Valineo G4.

The aim is to document all central product ranges with verified EPDs in the future, thus providing customers with sound, trustworthy information for sustainable decisions.

RESOURCE INFLOWS AND CIRCULARITY

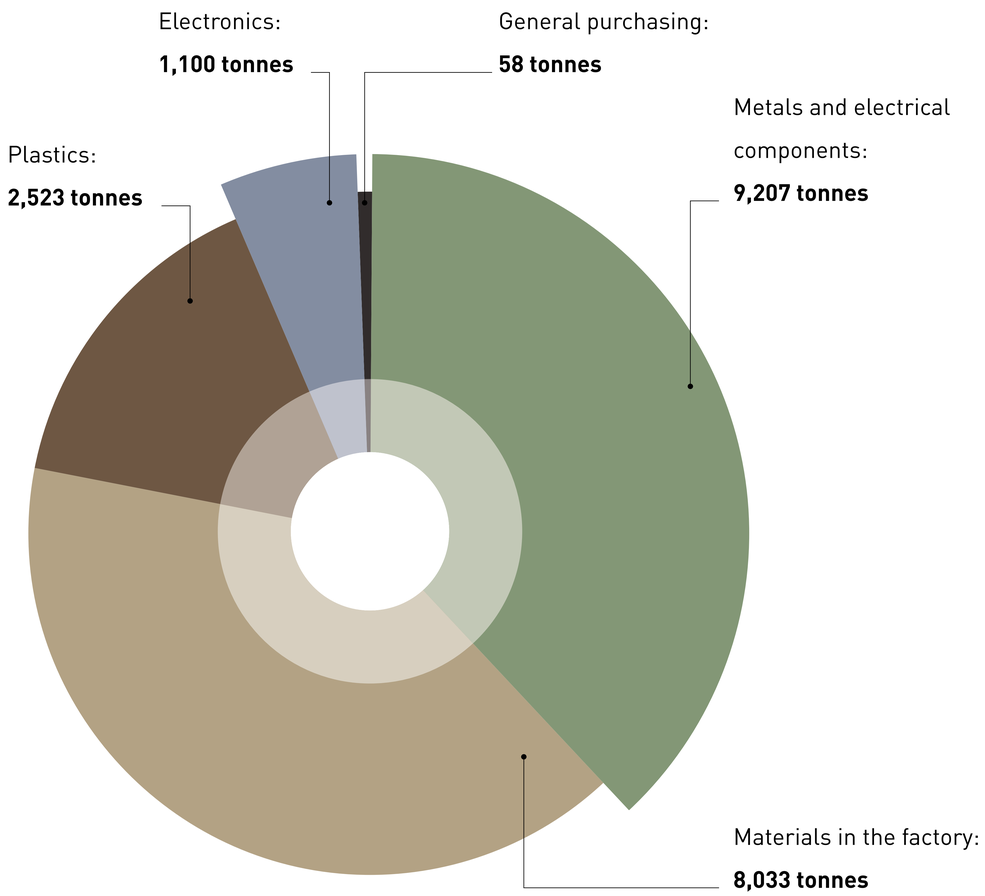
E5-4

Materials and use of resources

For TRILUX, materials such as aluminium, steel, technical plastics and cardboard are key resources, and these are used both in our products and in packaging. Furthermore, we use water as a process medium in closed-loop systems, particularly in production. Through this recirculation, water is reused and resource consumption is reduced. The use of rare earths is continuously reviewed and reduced, in particular via innovation-driven product developments.

The diagram displays the total weight of materials used. The proportion of biological materials is currently low because technical materials are mainly used. However, the aim is to increasingly incorporate sustainably certified bio-based materials in the future.

Total weight of products and technical and biological materials used during the reporting period (total)



Use of recycled materials

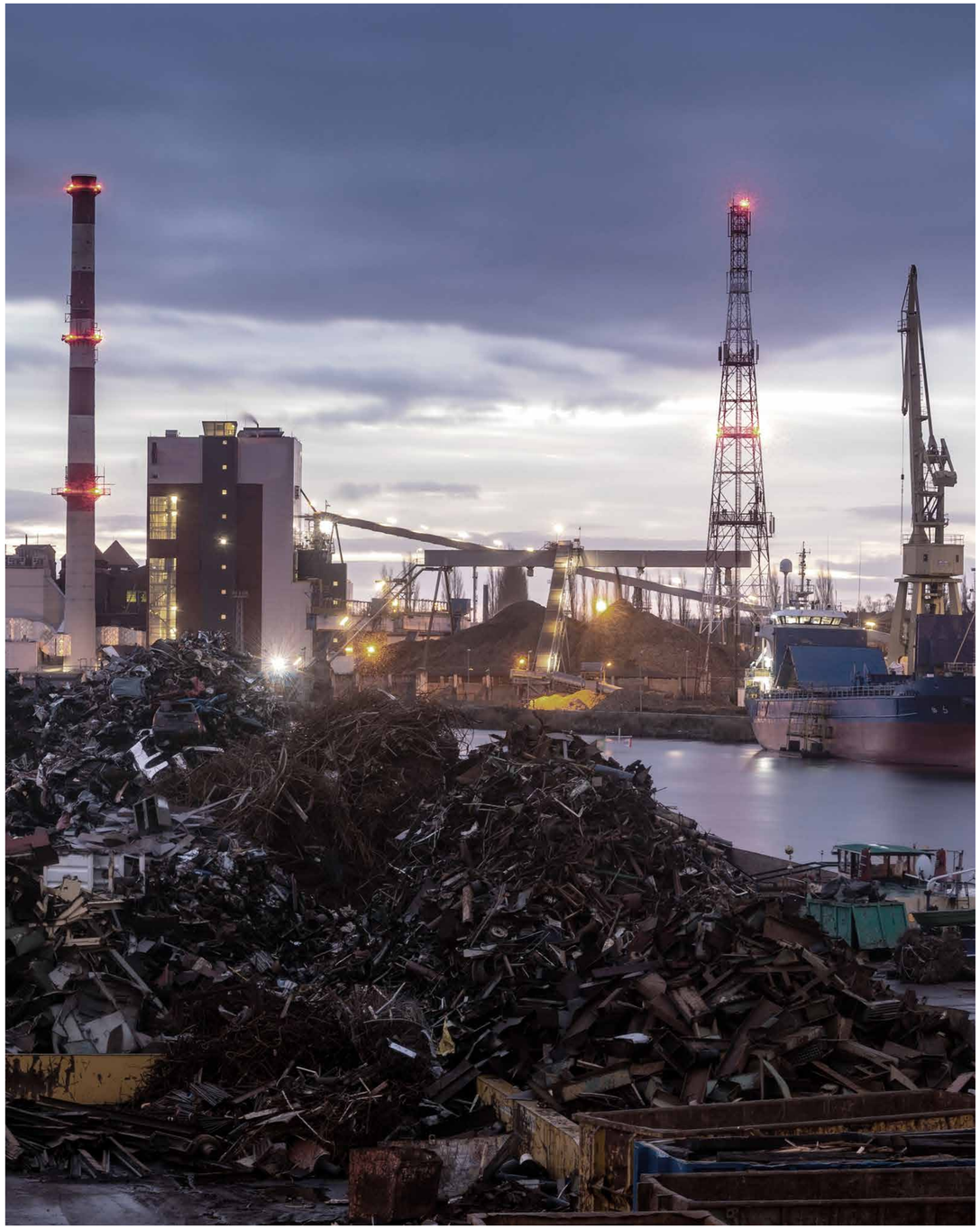
TRILUX already uses recycled materials, particularly in packaging (cardboard) and in selected product lines – e.g., with the Aragon and Oleveon Fit RCY, whose housings and optical components are made from 100 % recycled plastic. The precise recording is based on internal material accounting, incoming goods data and specific supplier declarations.

The data used as a basis comes partly from direct measurements and partly from reliable estimates, especially for standardised packaging solutions. The methodology takes into account product weight, type of packaging, purchase quantities and declared recycled content, and the aim is to further standardise the database and increase the transparency of resource inflows across the Group.

Madaster – digital material passports for buildings

As a pioneer in the circular economy, TRILUX has been part of the Madaster Kennedy network since 2021 – a digital material register for the construction industry. The objective is to systematically record components and materials to be able to document their reuse and recyclability. Our luminaires are integrated into the platform as digital twins with all material data, which is an important step towards more transparency and resource conservation.

On 14 November 2024, TRILUX hosted the Madaster CONNECT Vision event at the Light Campus in Cologne, and as hosts we welcomed around 50 participants from the fields of architecture, construction, industry and certification. We were honoured with the Circular Changemaker award for this commitment.



WASTE MANAGEMENT AND OUTFLOWS OF RESOURCES

E5-5

Avoidance of waste and circular economy

TRILUX follows comprehensive waste and resource management along its entire value chain and this management is geared towards efficiency, reuse and a consistent circular economy. A sustainable product does not end with its delivery, but with responsible handling at the end of life. TRILUX therefore pursues a comprehensive waste and recycling concept with a clear priority – prevention before recycling before disposal.

TRILUX continuously analyses all stages along the value chain with the aim of identifying and utilising as many options as possible for recovering and recycling valuable and auxiliary materials. Recovering raw materials from discarded products protects the environment, but recycling also has other advantages – recovery is often more energy and cost efficient, and recycled materials are also usually sourced locally.

Waste volumes and recycling routes

The systematic recording and categorisation of our waste streams provides an essential basis for the continuous optimisation of our resource efficiency. With a material recycling rate and separate collection rate of over 90 % in each case, we ensure that almost all waste remains in the material cycle through thorough separation and subsequent recycling. The chart below shows the development of our waste volumes in tonnes between 2023 and 2024, broken down according to respective recycling categories.

The waste consists of paper, plastics, metals, wood, electronic waste, sludge, oils and greases among others. Anything that cannot be recycled or reused is correctly disposed of, and all waste is pre-collected internally by type, which mainly involves metal, plastic and cardboard residues.

Arnsberg	2023	2024
Total amount of all waste*	**2,749**	**2,917**
Total recycling	2,523	2,679
Recycling non-hazardous waste	2,516	2,654
Recycling hazardous waste	6	25
Recycling rate	**91.77 %**	**91.83 %**
Total thermal recovery	202	206
Thermal recovery non-hazardous waste	202	206
Thermal recovery hazardous waste	-	-
Total disposal	24	32
Disposal non-hazardous waste	6	10
Disposal hazardous waste	18	22
Separate collection rate Arnsberg	**92.99 %**	**93.08 %**

*** Data in tonnes. Totals may not add up due to rounding.**

Quality assurance in waste management

TRILUX ensures through monthly document checks and visits to waste disposal facilities that all waste is treated in accordance with contractual and legal obligations. Our disposal partner issues invoices, credits, weighing certificates, and disposal certificates. TRILUX additionally verifies the stated collection quantities using a company-owned vehicle scale at the secondary gate of the Arnsberg plant.

Compliance with the legal requirements is regularly validated by external environmental auditors (ENVIZERT) – and in the most recent case completely without objections. Particularly strict requirements apply to hazardous waste, which is disposed of by certified partners.

TSUSTAINABLE PRODUCTS AND SOLUTIONS FROM TRILUX

YONOS

Carbon footprint during production

With Yonos, we aim to reduce the carbon footprint along the entire product life cycle. The product design is designed from the start for resource-efficient procurement and production. The modular system design reduces transportation efforts and reduces storage space requirements. We manufacture Yonos at a TRILUX production site in Germany and thus ensure short delivery routes within the EU.

Carbon footprint in operation

The extremely efficient LED lighting technology can be further enhanced through the use of intelligent light management systems. Yonos is light management ready and designed for automated light control via LiveLink and Casambi. This means: artificial light only when it is needed and only as much as is needed. With high efficiency and automated light control, Yonos becomes a component for sustainable building certification, such as BREEAM or DGNB.

Material quality and conservation

- Durable aluminium with high recyclability
- Resource-conserving avoidance of base element coating
- Elimination of superfluous materials, such as cable harnesses in individual luminaires

Repairability

- Light inserts, LED modules, optics, or drivers can be replaced separately with minimal effort, even after decades.

High Efficiency for more sustainability and economic viability

- Highly efficient lighting technology with up to 190 lm/W
- Integrable into DALI or radio-based light management systems for even greater energy savings

Time-saving installation

- The patented closure enables the electrical and mechanical connection of the base element and luminaire module in a single work step.

Future-readiness

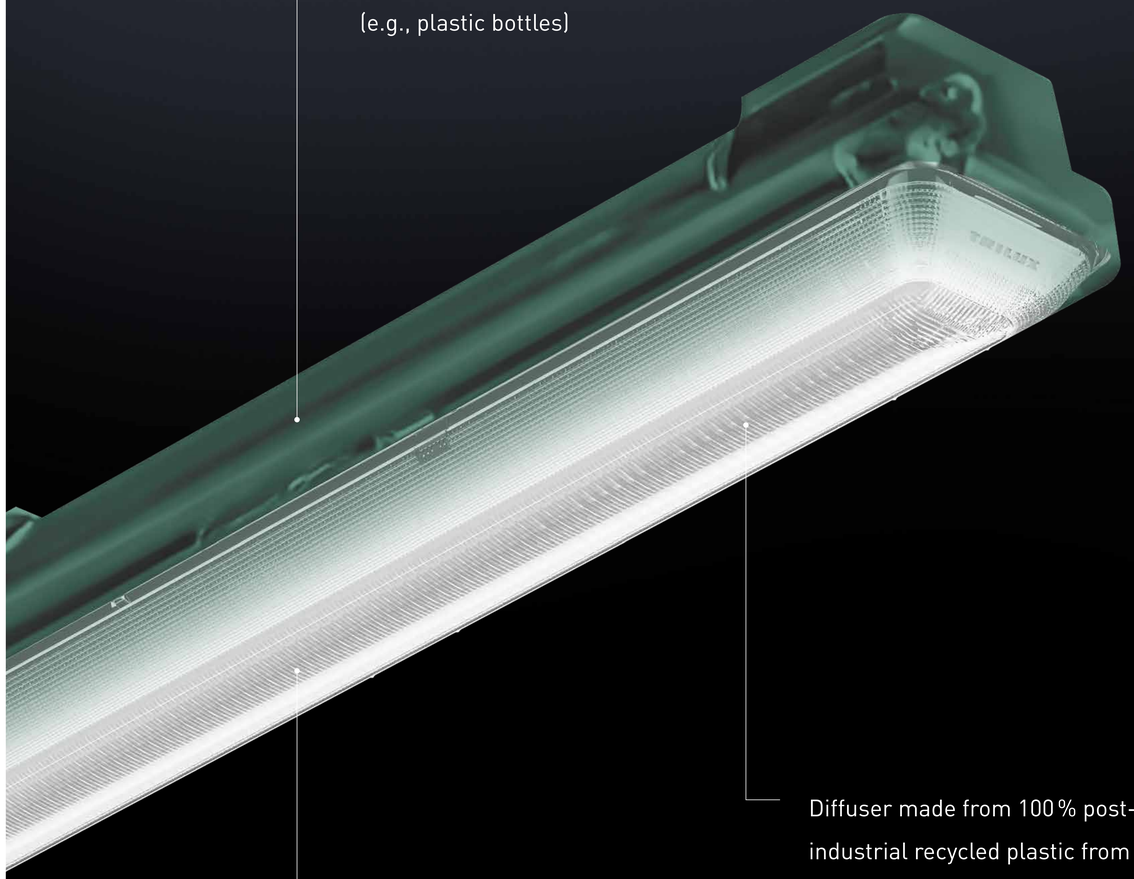
- The modular system remains flexible and adaptive throughout its entire lifespan.
- Luminaire inserts and other modules can be detached from the base element and repositioned at any time with just a few simple steps.

Dismantlability

- Simple and fast disassembly of all system components
- Good recyclability thanks to separability of the components and materials used

Circularity

The main components of the system consist of high-quality aluminium, which once manufactured can be kept in circulation with virtually no loss of quality. The avoidance of base element coating saves resources and reduces the ecological footprint. The connections of the individual electrical components are designed so that they can be separated from each other in the recycling process and fed into the appropriate material streams.



OLEVEON & ARAGON RCY

Oleveon and Aragon recycled – the sustainable lighting solution

This is our commitment to sustainability and circular economy through the use of post-industrial and post-consumer plastic.

Advantages

- RCY luminaires made from 100 % recycled plastic
- Diffuser made from 100 % post-industrial recycled plastic from the automotive industry
- Housing made from 100 % post-consumer recycled plastic from collected plastic waste (e.g., plastic bottles)

CHAPTER 5
CORPORATE RESPONSIBILITY

Bioluminescent ghost mushroom (Omphalotus nidiformis) that glows green at night. It is primarily found in southern and eastern Australia.

OUR SOCIAL SUSTAINABILITY MANAGEMENT

S1

Our employees are the foundation of our success. In this section we document how TRILUX fulfils its responsibility as an employer and the strategic measures we use to promote a corporate culture based on fairness, protection of health, continuous development and equal opportunities.

Average number of employees	**911**	Men (724) Women (187)
Permanent employees, broken down by gender	**835**	Men (671) Women (164)
Temporary employees, broken down by gender	**77**	Men (53) Women (24)
Total number of employees who departed the company during the reporting period	**74**	
Average number* (headcount) of non-employees in own workforce	**118**	
Number of employees under collective agreements	**854**	Metal and Electrical Industry NRW
Total number of employees represented by employee representatives	**902**	
Distribution of all employees by age groups	**<30 (117)** **30-50 (368)** **>50 (426)**	

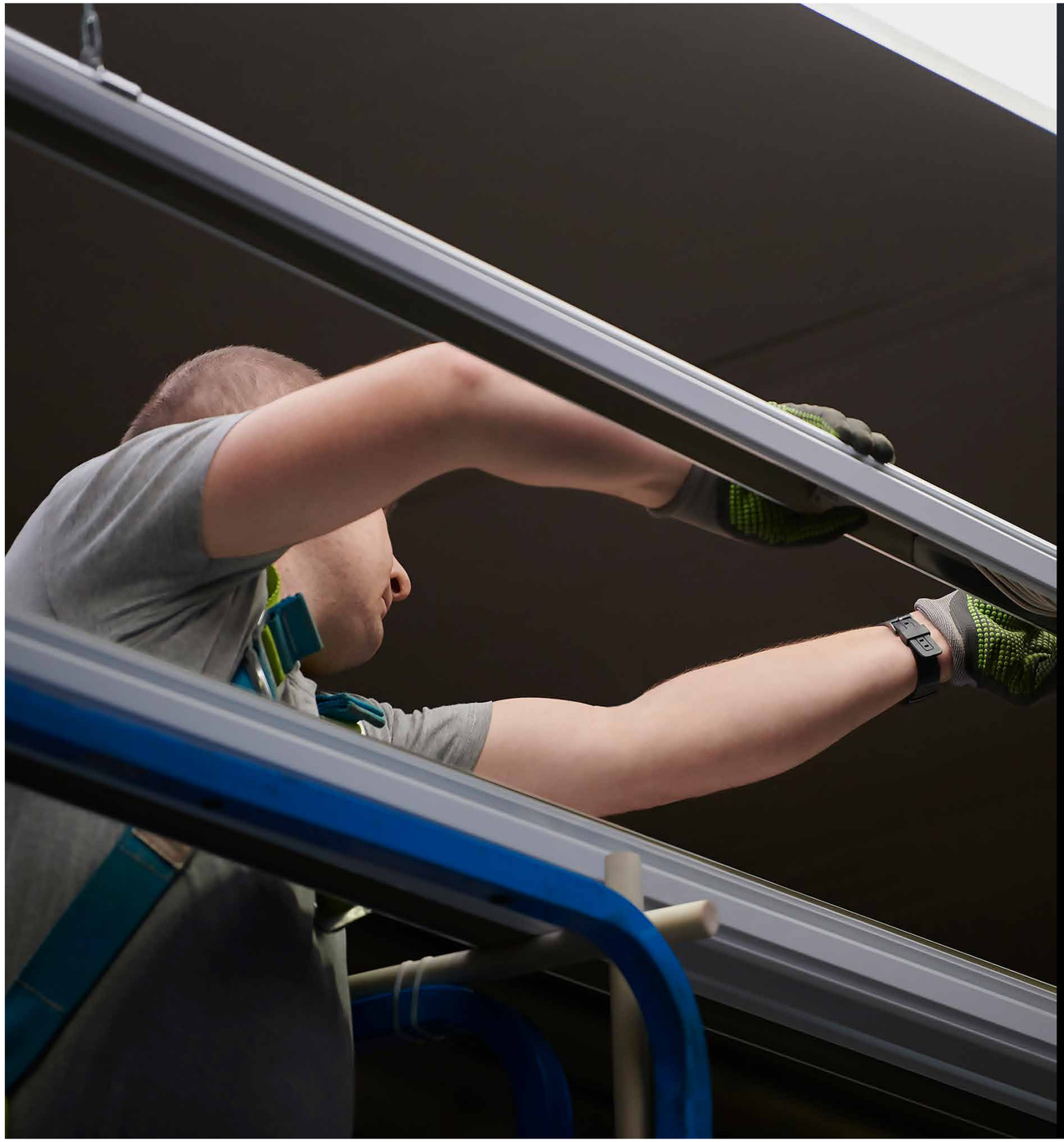
*Totals may not add up due to rounding.

Principles and management concepts

At TRILUX, our concepts for managing significant impacts, risks and opportunities relate to the entire workforce. We have established extensive guidelines that relate to various aspects:

- **Human rights and labour rights** on the basis of the ZVEI-VDMA Code of Conduct and the General Equal Treatment Act (AGG)
- **Occupational health and safety** with ISO 45001 certification
- **Prevention of discrimination** and guarantee of freedom of assembly
- **Flexible working time models** and collective labour agreements at the Arnsberg site

Our corporate concepts are based on the UN Declaration of Human Rights, the principles of the UN Global Compact and the ILO core labour standards. These standards are anchored in daily practice through regular training, an accessible complaints management system and internal reviews.



Social employment policy

For TRILUX, fair working conditions and fair pay for all employees are highly important. We guarantee each single person compliance with the site-specific minimum wage requirements and thus the payment of a living wage. Our standard starting salaries are always above the statutory minimum wage, regardless of gender and according to job description.

We pay significantly above the collectively agreed rates for temporary and agency workers. In addition to these endeavours, we want to carry out a benchmark analysis on living wages for 100 % of the workforce by 2027. The Arnsberg site accords to the collective labour agreement of the metal and electrical industry in North Rhine-Westphalia. In addition to this, a company-specific future collective agreement for TRILUX was negotiated and signed between the trade union and the employers' association. Comprehensive works agreements were adopted for the workforce, including a further increase in the level of training. We have also have set three training days per year for all employees to promote continuous professional development. If additional training is required we also provide access to further training programmes.

Employee participation and dialogue

TRILUX promotes an open corporate culture with active employee participation in decision-making and development processes. The TRILUX Ideas Management (TIM) enables employees to contribute improvement suggestions for processes and products, thereby strengthening the company's innovation potential.

Formal representative bodies and agreements

Works councils and employee representatives actively participate in operational decisions and ensure transparent communication. The occupational safety committee (ASA), which convenes quarterly, develops measures for occupational health and safety and analyses accident occurrences. Future collective agreements with IG Metall create planning security for qualification and employment development. Collaboration with the Metalworkers' Union NRW and collective bargaining agreements ensure fair working conditions.

Direct discussion and transparency

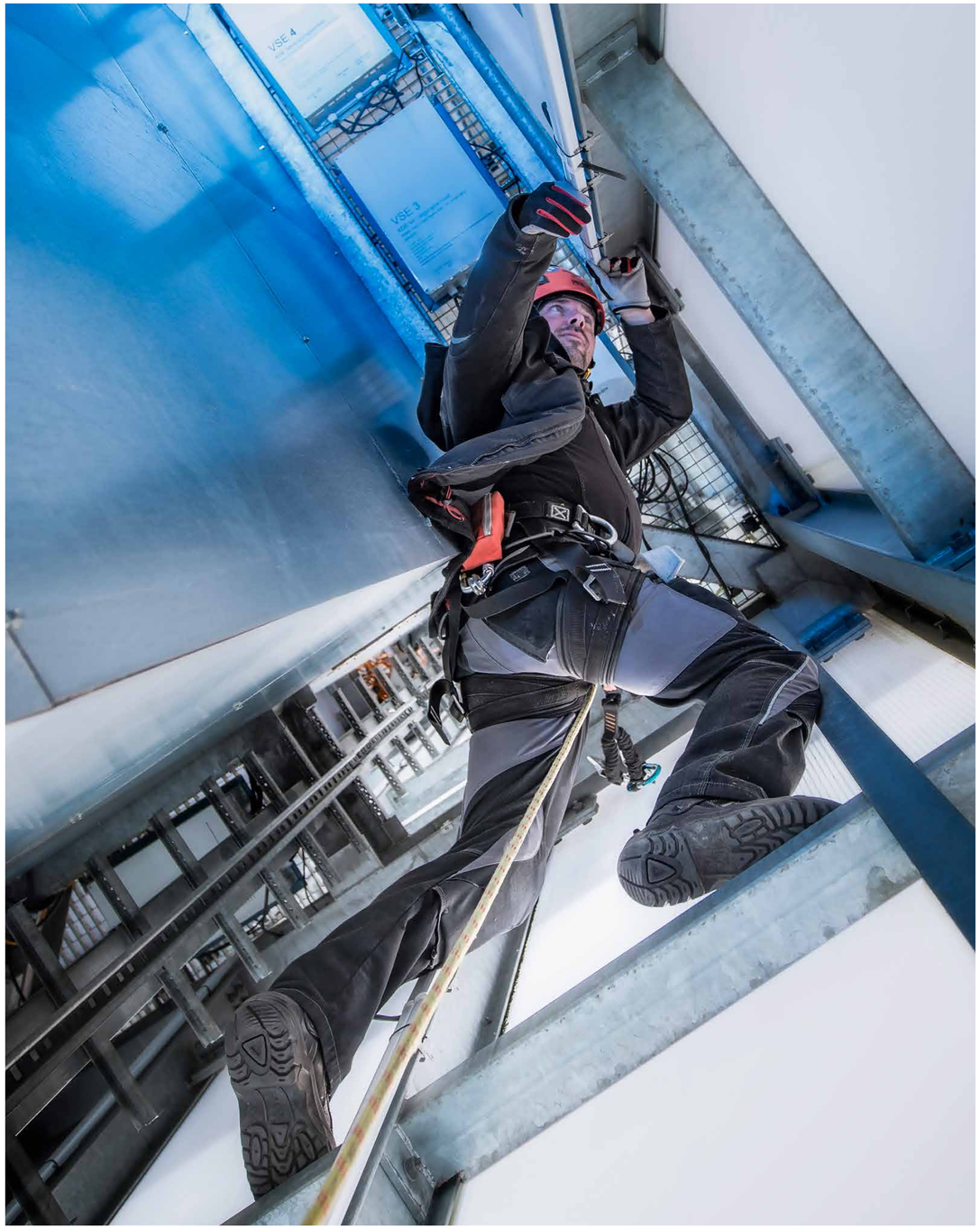
We promote an open communication culture with direct access to management, regular performance evaluations, and continuous dialogue on working conditions between employees and supervisors through quarterly company meetings. Our anonymous whistleblower system enables confidential communication, and a clearly structured complaints procedure with comprehensible escalation levels is available for all issues.

Complaints and redress procedures

Our multi-level complaints system consists of:

1. **In a first step, employees can directly contact their supervisor.**
2. **If there is no response or if it is inadequate, a written complaint can be submitted.**
3. **Where problems persist, the matter can be escalated to the HR department or works council.**

Dedicated contact persons are available for specific concerns (e.g., Human Rights Officer, HR Business Partners, social workers). All procedures are documented in detail in the employee handbook and are communicated as part of the work familiarisation process.



RISK MANAGEMENT AND PREVENTIVE MEASURES

Occupational health and safety management

The highest standards of occupational health and safety apply at the German sites and all international subsidiaries are obliged to strictly comply with country-specific legal and official regulations. Occupational health and safety management is deeply embedded in all structures and processes. In addition to the mandatory requirements, a framework for action is also in place that ensures systematic prevention.

Our systematic risk assessment consists of:

- Regular risk assessments are carried out for all workplaces – also with regard to mental stress.
- Our integrated management system is certified in accordance with ISO 45001 (occupational health and safety), ISO 14001 (environmental management) and ISO 50001 (energy management).
- We have been applying systematic risk management in accordance with DIN EN ISO 9001:2015 since 2011.
- The Health Safety Environment team and company doctor carry out regular inspections and internal audits to check the safety standards.

Certified occupational health and safety management system

S1-14

Prevention is most effective when organised and implemented according to systematic methods. TRILUX has thus introduced integrated management systems (IMS) for occupational health and safety (in accordance with ISO 45001) and environmental protection (in accordance with ISO 14001) for all operating sites in Arnsberg, Zaragoza and Alhama de Aragón in Spain, as well as, at Arnsberg, energy management (in accordance with ISO 50001). Establishing this voluntary system began in 2010.

In the first quarter of 2021, TRILUX changed from OHSAS 18001 to the international ISO 45001 standard. This switchover demonstrates the intention to continuously improve the management system for health and safety at the workplace. All employees were reached with the IMS during the reporting period.

For TRILUX GmbH & Co. KG and TRILUX Group Management GmbH, the occupational health and safety management system has been certified by BG ETEM – the Employer's Liability Insurance Association for Energy Textile and Electrical Media Products – since 2012.

Regular recertifications confirm the effectiveness and further development in operational practice. As do the occupational safety specialists, the staff commissioned for this report directly to the executive management of the respective companies. All managers are obliged to contribute to the positive development of these issues. The success of this strategy is confirmed by the long-term decline in the number of reportable accidents at work.

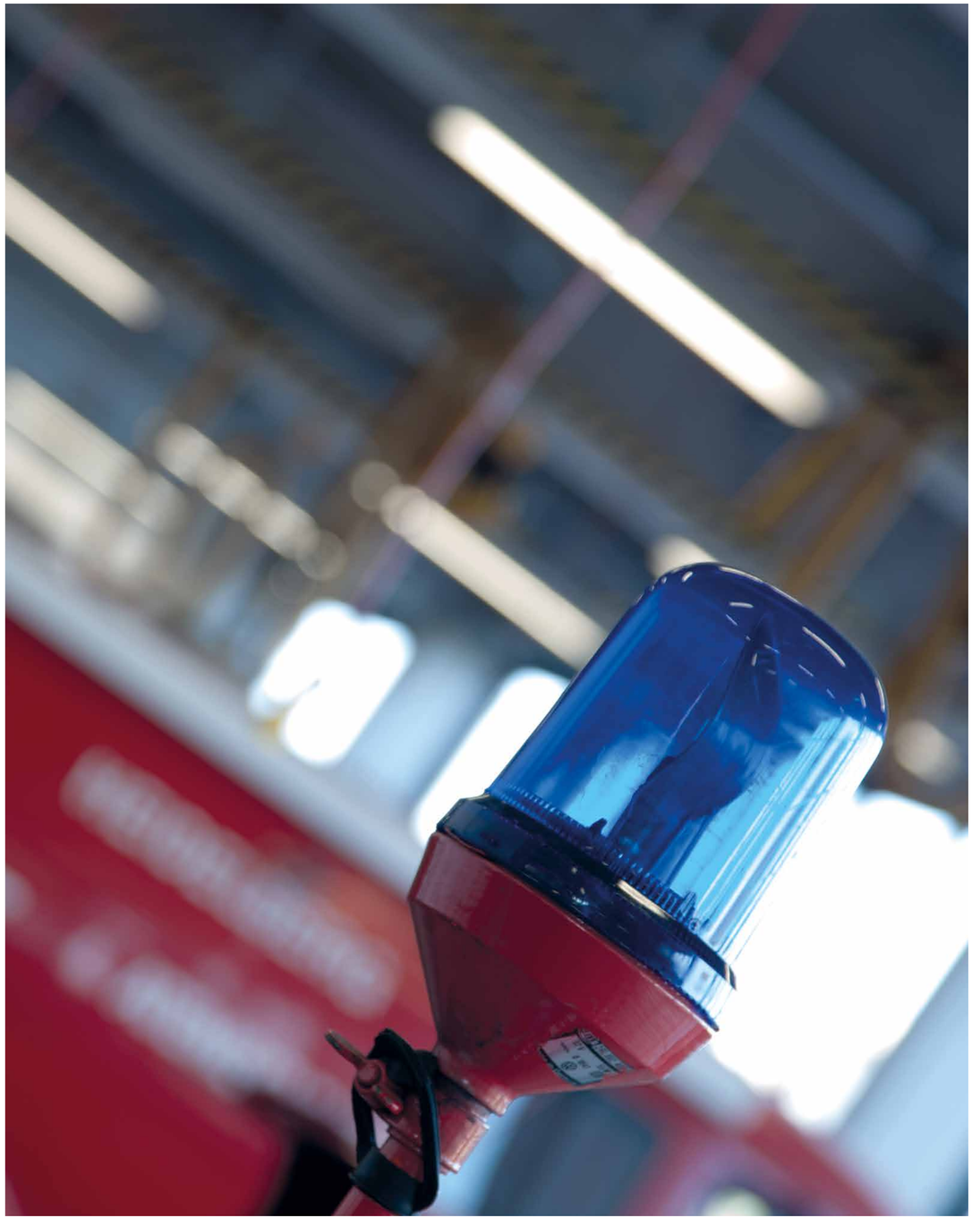
911
Number of employees covered by health and safety management

0
Number of deaths resulting from work-related injuries and work-related illnesses

9
Number of reportable workplace accidents

0
Number of reportable work-related illnesses

196
Number of days lost due to work-related injuries and fatalities resulting from work-related accidents and work-related illnesses



Company fire department

In Arnsberg, TRILUX has an 18-strong company fire brigade with its own fire engine, which is responsible for protecting both the production site and the surrounding region, and supporting the local fire brigade if necessary. The team includes employees from almost all areas of the company.

Our fire brigade is equipped with the web-based GroupAlarm platform, a powerful software for alerting the emergency services. TRILUX also temporarily releases employees involved in the voluntary fire brigade or the technical relief organisation from their work if required.

Training courses for the workforce

Employees in administration and all those working on computers receive detailed training on health and safety in the workplace. This is conducted annually and usually via our e-learning programme, which ends with a mandatory test. Its results are documented and communicated via the Akademie.

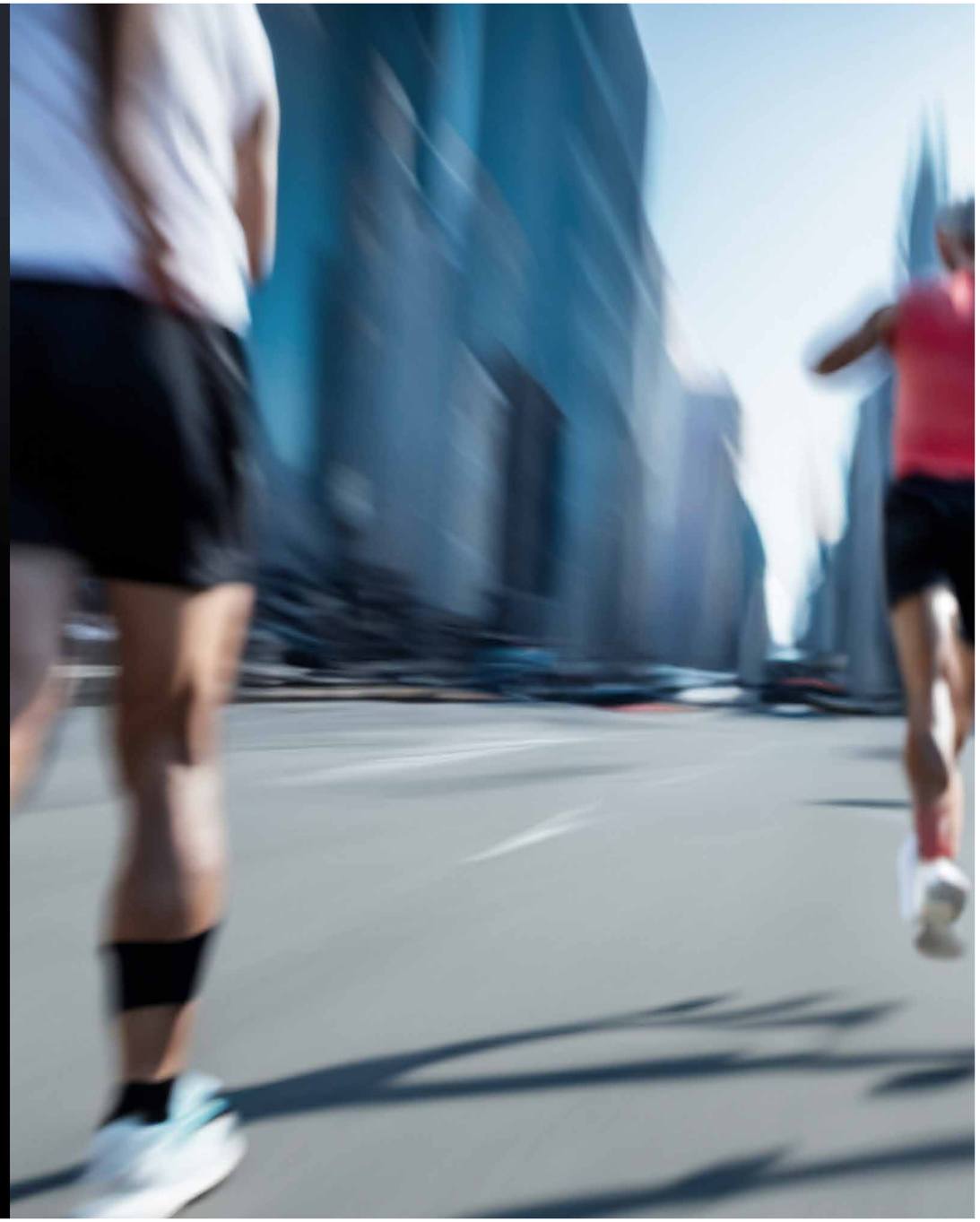
All employees in production also receive training from managers at least once a year. Forklift drivers also receive centralised training. Our first aiders, fire safety and evacuation assistants regularly refresh their knowledge and continuously expand it – frequently with practical exercises. In addition, the TRILUX Akademie offers in-depth training courses on various topics. All training sessions are held during regular working hours.

INITIATIVES AND SUPPORT MEASURES

Health promotion

We are constantly working to minimise employee stress and strengthen their personal resources. The basis for this is provided by working conditions that support the physical and mental well-being of employees. To maintain the performance of all employees, TRILUX offers, among other benefits, health promotion, compatibility of family and work, age-appropriate work organisation and regulations for appreciative and respectful cooperation with the aim of a positive working atmosphere. Our health promotion and preservation programme consists of:

- **Heat therapy**
- **Blood pressure measurement with card index**
- **Blood glucose measurement**
- **Skin screening**
- **Orthopaedic foot consultation**
- **Participation in city run (payment of entry fee and jersey)**
- **Next Generation health day for apprentices in their first training year**
- **Spectacles offer (private spectacles at TRILUX conditions)**
- **In-house flu and coronavirus vaccinations and a coronavirus testing station**



TRILUX not only supports employees in adopting healthy behaviour during working hours but also in other walks of life. This is why TRILUX also offers training sessions on ergonomic workplace design, stress management and healthy nutrition.

TRILUX offers employees in Arnsberg and all employees from leasing companies the vitaLUX health programme all year round, which includes preventive examinations such as skin and vein screening and flu vaccinations, as well as encouragement to do sports and courses on autogenic training and resilience. The programme also includes the topic of social provision with information events, a pension lawyer and pension counselling.

vitaLUX has also been organising employee participation in the Neheim City Run for several years.

Employees of Zalux S.A. in Zaragoza are able to take advantage of an agreement with the health insurance company DKV medical in addition to benefits provided by the Spanish healthcare system. This offers them additional private insurance benefits. Zalux has also made an agreement with ASPY (External Occupational Health and Safety Service) relating to cost reductions for medical services for employees and voluntary health promotion services.

Medical care

The company medical centre, Werkarztzentrum Westfalen-Mitte e.V., provides medical care for TRILUX employees. The permanently assigned company doctor regularly visits the company with his own examination room on site. Leased employees are looked after by their respective companies, which is ensured by appropriate labour protection clauses in the contracts.

Cologne employees can use the services at Arnsberg and take part in the company health management programme and Oktalite's health days. In addition, occupational health care is provided by BG prevent GmbH.

TRILUX voluntarily operates a first-aid centre in Arnsberg for all employees, leased employees and third-party employees. The centre offers primary care and other medical services.

A social worker is available to employees in cases of personal stress, providing advice and support in a dedicated room on the company premises or, if desired, outside the company.

TALENT DEVELOPMENT AND CAREER ADVANCEMENT

The targeted promotion and development of our employees is supported for example, by the following programmes:

New colleagues benefit from structured **onboarding formats** that facilitate their start in the company and lay down the foundations for successful collaboration.

The **Personnel Development Group** is a two-year talent programme with a special focus on the circular economy up to the end of 2024.

In 2024, a total of **72 apprentices** were employed at the Arnsberg site.

An **annual taster day** gives interested employees an insight into other areas of work and supports understanding across departments.

In our **technical training centre** equipped with the eRoc electronic robotics facility, we prepare employees for technological challenges in a practical way.

In our **junior company**, apprentices take on independent responsibility for genuine business processes, thus honing their entrepreneurial skills.

Further training and transfer of knowledge

S1-13

Specific figures reflect the positive development of our training programmes: the total number of participants in training units increased to 35,231 in 2024 (previous year: 32,321). The 35 % increase in apprentices in the international area is particularly pleasing.

We have continuously expanded our range of customer training courses and reached a total of 8,446 participants in 2024 – an increase of 16 % compared to the previous year. Our international Akademie locations performed particularly well with 3,822 participants, which is a plus of 29 % and now accounts for 45 % of total participants. These figures demonstrate the successful implementation of our strategic reorganisation of the Akademie and confirm the value of our investment in the development of our employees.

Work-Life-Balance

S1-15

TRILUX offers individual, employee-friendly models for deferred compensation, parental leave, care-giver leave and part-time work, as well as home office options. In 2021 we were recertified as a "family-friendly company in the Hochsauerland district".

564
Number of employees who participated in regular performance and career assessments
(Men)

138
Number of employees who participated in regular performance and career assessments
(Women)

Average number of training hours per employee

Average learning time: 37.09 hours
Median learning time: 15.67 hours

Average number of training hours per employee

Average learning time: 38.55 hours
Median learning time: 12.46 hours

Average learning time: 38.03 h
Median learning time: 15.01 h

911
Number of employees entitled to leave for family reasons

87
Number of eligible employees who took leave for family reasons
(Men)

16
Number of eligible employees who took leave for family reasons
(Women)

DIVERSITY AND INCLUSION

Equal opportunities and diversity

For TRILUX, fair and respectful cooperation is an irrefutable value. No one should be discriminated against due to gender, sexual identity, origin, religion, ideology, disability or age. The General Equal Opportunities Act forms the basis of our responsibility, and our commitment is also reflected in our signing of the Diversity Charter and the United Nations Global Compact.

As the largest regional employer, it is exceedingly important to us that we live up to our responsibility to provide a non-discriminatory culture. Preventing discrimination and creating equal opportunities is not enough for us – TRILUX sees diversity as a benefit for all stakeholders and actively promotes it. Inclusion is a matter of prime importance.

Measures for vulnerable groups

Together with Germany's largest charitable organisation, the Caritas Association, we specifically employ people with disabilities and provide appropriate workplace modifications and a barrier-free infrastructure. We employ people with physical or mental disabilities in areas such as the assembly of accessories. In 2024, a total of 73 employees with disabilities enriched our team with their expertise and perspective.

We have implemented the following measures to take individual needs into account:

- Provision of barrier-free workstations, lifts and sanitary facilities for **disabled employees**
- Provision of lockable breastfeeding rooms for **breastfeeding mothers** and offer parents wide-ranging parental leave options
- Setting up of separate prayer rooms for **employees with religious beliefs**

The initiatives outlined above emphasise the zero-tolerance policy towards discrimination, violence and harassment.

Promotion of diversity

We already implement measures for more diversity and equal opportunities. For example, we formulate all employment adverts in a gender-neutral way. In the case of equal qualifications or requirements, preference is given to women when filling vacancies in areas with a low ratio of women. Women currently make up the majority in our talent development programmes. We also strengthen specific skills – e.g., with special courses to promote women and with training in intercultural communication.

Organisational structure and effectiveness evaluation

Responsibility for social sustainability management lies with the Executive Board and management, and is supported by:

- A dedicated sustainability department with direct connection to the Executive Board
- The HR department as the central interface for all employee-related topics
- Specialised teams for health, safety and the environment (HSEN)
- Employee representation for 99 % of the workforce
- The restructured TRILUX Akademie (Akademie Germany and Group Academy with international scope)

We review the effectiveness of our measures through systematic KPI tracking, regular recertifications and multi-year analyses of trends. Our feedback systems include SAP SuccessFactors for continuous performance feedback and employee development, as well as the whistleblower system for compliance violations.

Through this holistic approach we ensure that the well-being of our employees is safeguarded in the long term, risks are minimised and positive effects maximised – all in the spirit of wide-ranging social responsibility that places people at the centre of our corporate activities.

GLOBAL SUSTAINABILITY NETWORKS

Our expert teams for sustainability

TRILUX has set up supplementary internal networks as hubs for knowledge transfer. This enables us to drive forward our sustainability goals at both local and global levels.

Sustainability experts

Our 13 sustainability experts serve as the first point of contact for all sustainability topics in their respective countries and regions. They support the local TRILUX units and provide on-site advice and support for all non-reportable sustainability issues.

The sustainability experts are mainly concerned with communicating and implementing our Group strategy, and they also keep an eye on relevant sustainability issues – ranging from developments of regulations to sustainable products and solutions.

The network receives training on various topics such as environmental product declarations, climate strategy, research projects, certifications such as Ecovadis and relevant topics such as Dark Sky.

The network is managed by our Group Sustainability Manager with a focus on sales, customer requirements, marketing and communication.

Green building experts

We have also established a team of 13 green building experts active in Germany, Benelux, France, the UK and the Middle East, and these specialists advise customers on sustainable building certifications such as BREEAM, DGNB, WELL and LEED. They contribute in-depth expertise on how our lighting solutions can optimally contribute to achieving these demanding certification standards, and thus support building owners and architects in implementing environmentally friendly construction projects.

Sustainability champions

The third initiative consists of 45 sustainability champions from eleven different international sites who are voluntarily committed to sustainability topics. This network fosters the exchange and transfer of knowledge and bolsters our company-wide commitment to sustainability.

The champions regularly take part in the TRILUX Talks series, where renowned partners give talks on sustainability topics. These events create a shared understanding of global sustainability challenges and their importance for our company.

Complementary initiatives for sustainable transformation

The three networks complement each other in their functions and objectives in order to bring knowledge about sustainability to all departments and geographical regions of the company. While the sustainability experts provide an official advisory framework and the green building experts contribute specific expertise for sustainable building certifications, the champions act as voluntary multipliers in their respective work areas. These complementary approaches ensure that we embed sustainability into all business areas and incorporate local expertise into global strategies.

OUR RESPONSIBILITY IN THE VALUE CHAIN:

How we protect the workforce and human rights

S2-1, S2-2, S2-3, S2-4

TRILUX maintains trusting relationships with suppliers as part of sustainable supply chain management (SSCM). This is fully integrated into our ISO 9001-certified quality management system and helps us to effectively manage and continuously improve the entire value chain.

Whistleblower system with clear standards

In 2022 we set up a comprehensive whistleblower system to identify and address potential violations at an early stage. This was then adapted in 2023 to the requirements of the Supply Chain Due Diligence Act (LkSG) and the Whistleblower Protection Act (HinSchG). Internal and external stakeholders can use various channels, digital, anonymous and multilingual, to report potential risks or breaches. The system is safeguarded by publicly accessible rules of procedure and a zero-tolerance policy against pressurising activity. Further details on our whistleblower system can be found in the "Governance" section.

Selection of suppliers and evaluation

When selecting our suppliers, we follow strict guidelines and a nuanced evaluation system that includes social and ecological sustainability criteria as well as quality aspects. All business partners are obliged to comply with our Code of Conduct, which is based on international standards and specifies clear requirements concerning human rights, working conditions and environmental protection.

We pay particular attention to the energy efficiency of the components purchased from suppliers. This helps us to reduce emissions directly during the utilisation phase – to thus achieve our long-term climate targets.

Monitoring and further development of our supply chain standards

We ensure that our suppliers comply with agreed standards through regular audits and external inspections. This continuous evaluation enables us to identify potential risks at an early stage and initiate targeted improvement measures.

Our extensive training programme as well as integrated communication via the company intranet ensure that all relevant information on our anti-corruption concepts and compliance requirements can be accessed and is understood by employees. This transparent exchange forms the basis for the continuous development of our compliance processes and thus for a responsible supply chain.

Targets for the workforce in the value chain

S2-5

By 2027

85 % of our most important suppliers should sign the TRILUX Supplier Code of Conduct

85 %

By 2027

We also plan to carry out a regular CSR risk analysis for **100 %** of our A suppliers.

100 %

To the end of 2030

We aim to record **100 %** of our Scope 3 emissions, define a binding commitment to reduction and set a specific target value for reducing emissions.

100 %

TRILUX gains EcoVadis platinum rating for sustainability performance

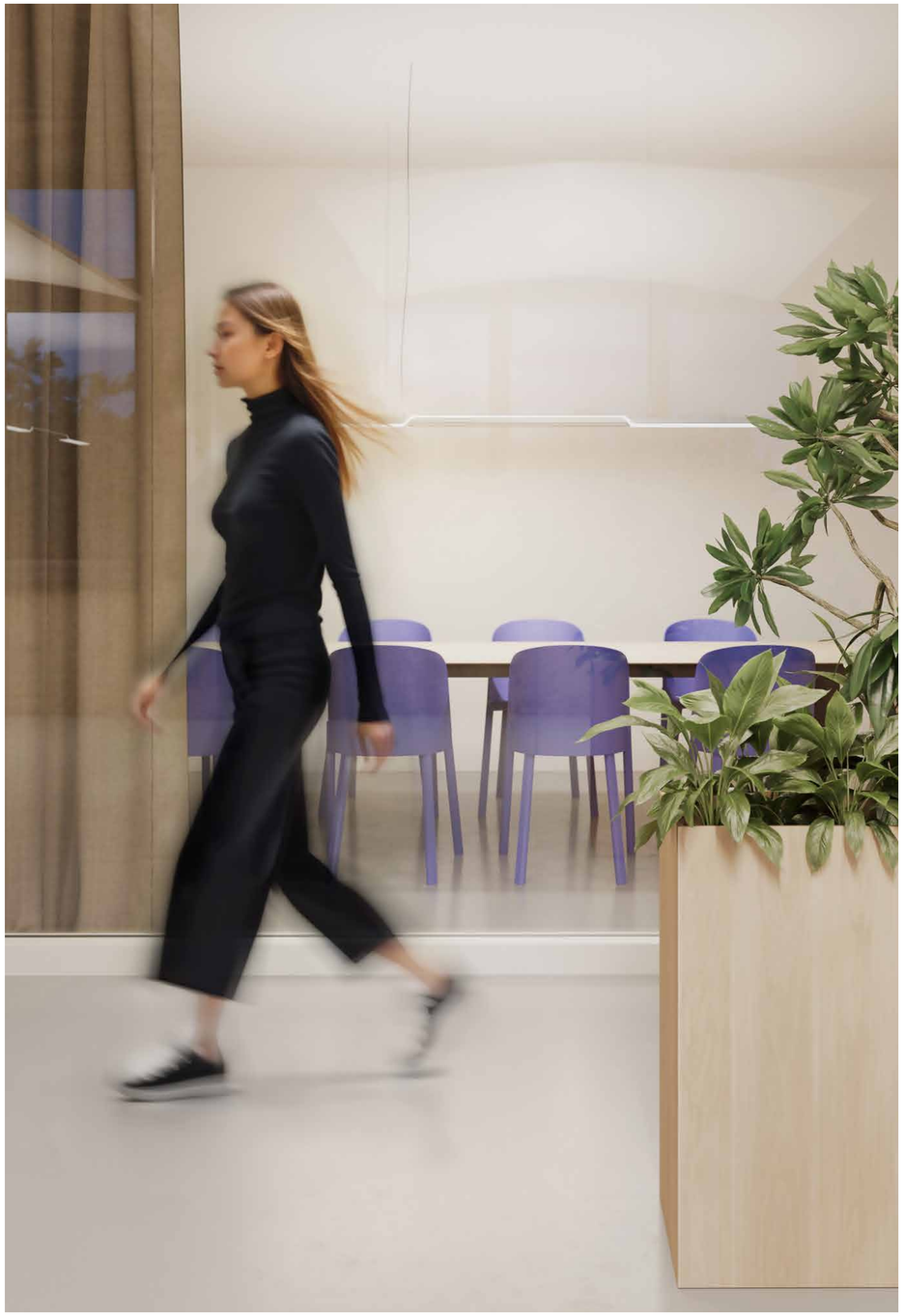
TRILUX achieved a platinum rating in the EcoVadis assessment in November 2024 – we are thus among the top 1 % of assessed companies worldwide. Our continuous improvement in the areas of sustainability was recognised with a score of 81 points from a maximum of 100.

EcoVadis, the leading global assessment platform for sustainability, analyses corporate performance in four core areas:

- **Environment:** emission reduction, renewable energies and sustainable product concepts
- **Labour rights and human rights:** fair working conditions and promotion of diversity
- **Ethics:** compliance with the highest business standards
- **Sustainable Procurement:** responsible selection and management of suppliers

The EcoVadis award is particularly relevant for our positioning in the value chain, and many business partners use EcoVadis ratings as a criterion for evaluating their suppliers. Our platinum status underlines our commitment to sustainability and at the same time strengthens the requirements placed on our own suppliers.

We view this success as an incentive to further drive our efforts in all areas of sustainability and, on this journey, to take our partners in the supply chain with us.



INCLUSION OF CONSUMER AND END USER PERSPECTIVES

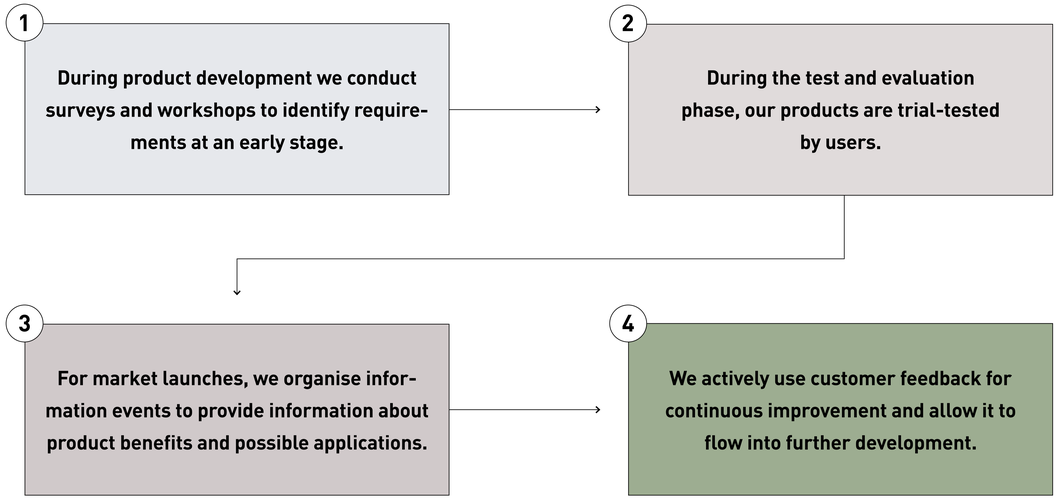
S4-1, S4-2

Concept and integration of user perspectives

TRILUX concepts for managing significant impacts relate to all consumers and end users, with a particular focus on their safety. We have our own market research department which regularly carries out post-contact surveys and touchpoint analyses. We also obtain feedback directly, for example through consultations, feedback rounds and stakeholder discussions. We use the knowledge gained to specifically further develop our corporate strategy.

How we actively involve consumers

TRILUX relies on direct exchange with end users, and also works with independent representatives such as consumer organisations. We specifically involve them according to the phase of the project:



Formats such as our Client Labs and TRILUX Customer Days offer a structured framework for receiving feedback – according to the respective project status.

Responsibility and assessment of effectiveness

The management bears the main responsibility for consumer involvement and works closely with product development, marketing and customer service. We assess the effectiveness through:

- Analyses of feedback for defined touchpoints
- Annual audits as part of ISO 9001 certification
- Internal evaluations

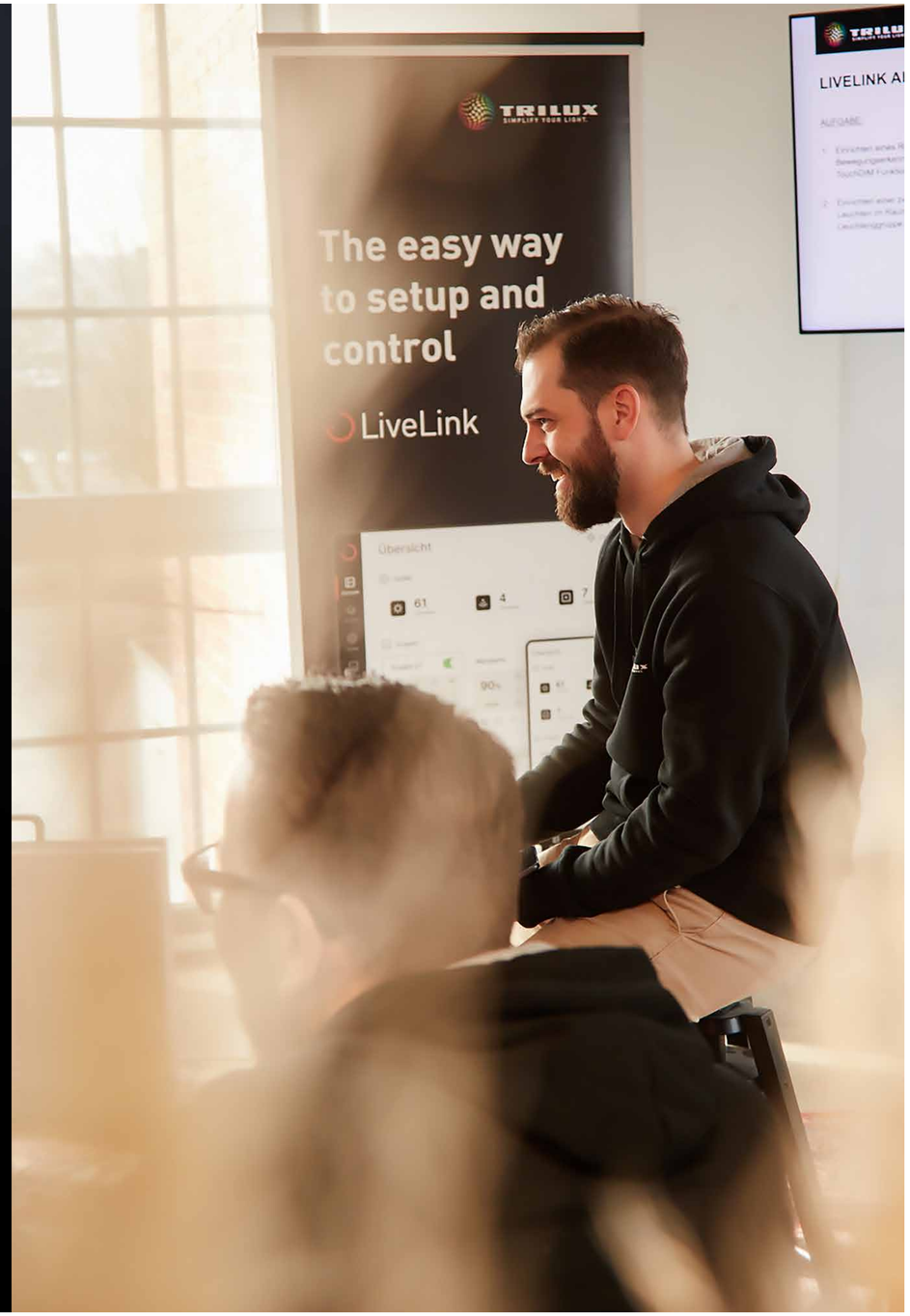
This collaboration has achieved important improvements in product sustainability, product safety and service.

Inclusion of particularly vulnerable user groups

For marginalised consumer groups, such as people with disabilities, we focus on:

- Cooperation with specialist organisations
- Inclusive design principles
- Specific focus groups and workshops
- Targeted surveys
- Sensitisation of our employees

These measures ensure that the perspectives of all user groups flow into our decisions.



REMEDIAL ACTIONS AND MANAGEMENT OF SIGNIFICANT IMPACTS ON CONSUMERS AND END USERS

S4-3, S4-4

Approach and communication channels

TRILUX sees customer complaints as an opportunity to improve. Our structured approach includes root cause analysis, corrective measures and effectiveness monitoring.

Available communication channels: complaint reports via our website, service hotline, whistleblower procedure and integrated complaint management in Salesforce.

Monitoring and protection

We systematically record problems via SAP messages and initiate appropriate measures, and our monitoring system continuously monitors processes and identifies potential for optimisation.

To establish trust we provide transparent information via all channels and, thanks to employee training, ensure competent support. Protection concepts include anonymous reporting procedures and privacy protection.

Utilising opportunities and avoiding negative practices

We focus on human rights and environmental measures, ensure equal access to our products and pay attention to accessibility. We assess the effectiveness of this through complaint analyses, customer feedback and audits.

To minimise the risk of negative impacts on the environment, we develop energy-efficient LED solutions, implement sustainable packaging concepts and promote the circular economy. Our LiveLink light management system provides more convenience with higher energy efficiency.

No serious problems in connection with human rights among consumers were identified in the reporting year.

GOALS AND PERFORMANCE MONITORING FOR CONSUMERS AND END USERS

S4-5

TRILUX has set specific, scheduled targets to reduce any negative effects for consumers: an annual reduction of the customer complaint rate, adherence to material compliance and the minimisation of light pollution. We aim to reduce our energy consumption by up to 50 % and source at least 80 % of our materials from recycled or renewable sources by 2030.

To minimise effects, we rely on laboratory tests, ENEC certifications and stringent material compliance management. Transparent communication and continuous improvement of customer service are a matter of course.

We actively involve consumers via consultations, surveys and workshops, and we measure progress with defined KPIs, sustainability reports and external audits. Specific improvements include a plastic-free packaging concept, increases in energy efficiency and a higher use of renewable energies.

Integrated quality management along the entire supply chain

Since 1993, TRILUX has maintained an ISO 9001 certified quality management system that covers the supply chain of our luminaires. The systematic monitoring, regular evaluation and continuous development of suppliers form key elements of our approach to quality.

The selection of our suppliers is subject to clearly defined, demanding criteria, and as part of this we not only take into account traditional parameters for quality but also evaluate sustainability aspects to an equal extent. This holistic attitude enables us to build stable and future-oriented partnerships that support both our high quality standards as well as our sustainability goals.

KNOWLEDGE TRANSFER AS A TRADITION: TRILUX LIGHTING PRACTICE

Communicating expertise sustainably

TRILUX has been imparting complex technical knowledge for decades, and in a practical and understandable way. The first TRILUX LIGHTING GUIDE was published in 1956, followed in 2007 by the definitive work LIGHTING PRACTICE aimed at lighting professionals, which until today we regularly update and adapt to new findings.

Due to physiological, occupational health and ergonomic developments as well as extended health and safety requirements, the knowledge was initially transferred to an online version and later published by the TRILUX Akademie in the form of an updated printed version. This bound reference work now acts as the basis for numerous specialist seminars, and in future will be supplemented by a sustainable, modern online concept.

Training courses for the industry

The annual lighting designer update tour provides specialist lighting designers and planners with free information on key industry topics such as lamp bans and retrofit solutions, DIN 12464 and developments in LED technology. The Germany-wide series of events came about as the result of cross-departmental cooperation, and offers the TRILUX Lighting Practice to participants as an exclusive reference work.

We are specifically expanding our programme for 2025: highlights include, for example, the TRILUX outdoor lighting forum.nrw 2025 and the new seminar for lighting designers, Space.Light.Visualise. In terms of digital formats, we are launching our monthly webinar series “Compact Lighting Knowledge” with 30-minute insights, and expanding our portal to include e-learning, specialist articles, learning videos and webcasts.

QUALITY OF LIGHT AND HUMAN CENTRIC LIGHTING

With Human Centric Lighting (HCL), TRILUX puts people at the centre of lighting. HCL solutions are oriented to the natural course of daylight and dynamically adapt their light colour and illuminance to the biological needs of users. This supports a natural day-night rhythm, increases the ability to concentrate and improves overall well-being.

HCL makes a decisive contribution to supporting health, performance and quality of life especially in indoor spaces such as offices, schools and care facilities. Professionally planned TRILUX lighting solutions provide individual customisation options and actively improve work environments and learning surroundings – for example, with warm light in morning hours and activating light at midday.

In the context of the ESRS S4 standards, HCL demonstrates how light specifically strengthens social aspects: better quality of sleep, increased concentration, emotional stabilisation and support for social interactions, providing a worthwhile contribution to modern, people-centred living and working environments.

CHAPTER 6
CORPORATE GOVERNANCE

The ‘glowing sea’ is created by tiny marine organisms (dinoflagellates) that emit a bluish light when disturbed.

LEADERSHIP PRINCIPLES AND COMPLIANCE STANDARDS

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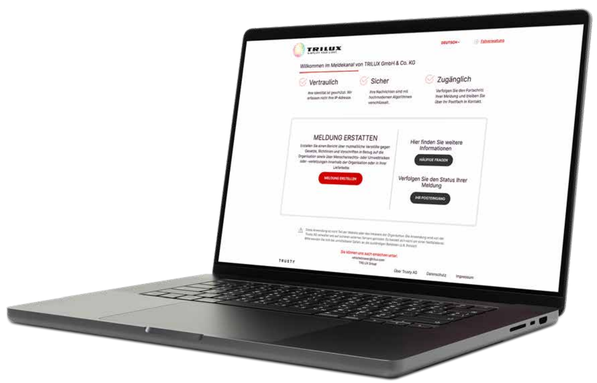
For corporate governance we pursue a holistic concept based on integrity, compliance and responsible behaviour. We have made the ZVEI-VDMA Code of Conduct binding for all subsidiaries and business units, and compliance is firmly anchored in our corporate culture and promoted by a structured organisation. This is based on three main elements: the coordination of communication channels, prevention via the sensitising of all employees, and active support for compliance-relevant topics.

We have anchored clear concepts against corruption and bribery in our Code of Conduct and set strict benchmarks that comply with international standards. To sensitise and raise awareness, we provide target group-specific e-learning modules: a special module for purchasing, sales and marketing and a general module for all other employees. Both modules contain knowledge checks and are reported to superiors upon successful completion. We have also developed an e-learning programme on compliance principles and our ZVEI-VDMA Code of Conduct.

Extensive whistleblower system

TRILUX practises a culture of openness and transparency. Our whistleblower system, launched in 2022 and adapted in 2023 to the Supply Chain Due Diligence Act and Whistleblower Protection Act, is available to all stakeholders including employees, customers, business partners, suppliers and other third parties in our value chain.



Low-threshold reporting channels

We provide various reporting channels::

1. Digital platform:
   https://trilux.trusty.report/
   for anonymous tips with bidirectional communication
2. Mobile access via
   QR code
3. Direct contact:
   whistleblower@trilux.com
   or by post

The system records risks to human rights, discrimination, labour and environmental protection violations, corruption and anti-competitive behaviour.

Structured methods of processing

1. **Confirmation of receipt**
   within seven days
2. **Confidential processing**
   by legal department with human rights officer
3. **Interdisciplinary investigation**
   by Compliance, Legal, HR and Purchasing

Feedback
on measures and actions within three months

Protection of whistleblowers

We guarantee absolute confidentiality and respect the decision for anonymity. Reprisals are strictly prohibited and will be sanctioned. A zero-tolerance policy protects against discrimination.

Quality assurance

The system has publicly accessible rules of procedure, a multilingual online portal, regular training units and annual effectiveness checks. As a preventive measure we perform external audits and prioritise partners with social certifications.

Remediation procedures

For identified victims of child labor, forced labor, or human trafficking, a structured remediation procedure is initiated that includes immediate removal from the harmful situation, psychosocial support, referral to governmental victim protection programmes, and appropriate cooperation with law enforcement authorities.

Our controls have so far revealed no evidence of human rights violations, child labor, or forced labor. Nevertheless, we continuously improve our systems.

OUTLOOK AND REGULATORY DEVELOPMENTS

TRILUX implements the requirements of the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS) in a structured and continuous way.

The EU omnibus proposal from spring 2025 could change reporting obligations for TRILUX and will most probably postpone them by two years. Despite this, TRILUX will report voluntarily and is consistently continuing the preparatory work already begun. In the event of legal changes the processes will be adapted accordingly.

TRILUX began to systematically implement the EU Taxonomy Regulation in 2024. After extensive employee training, we carried out a screening to identify relevant taxonomy-enabled activities – ranging from core business activities such as the energy-efficient equipping of buildings to ancillary activities such as the vehicle fleet.

All relevant activities were analysed for taxonomy capability and conformity and the collection of related key figures began simultaneously. A complete survey is planned for 2025 in order to identify sources of error at an early stage and initiate countermeasures. This forward-looking approach accords to our principle of integrally anchoring sustainability into our corporate strategy.

Policies

As part of our sustainability strategy, TRILUX has developed and implemented four extensive guidelines that emphasise our commitment to responsible action:

The **Business Ethics Guideline** defines our fundamental principles for ethical behaviour in day-to-day business. It includes standards on anti-corruption, conflicts of interest, money laundering prevention, anti-competitive behaviour and information security.

Our **Environmental Protection Guideline** describes our commitment to environmental sustainability in areas such as energy efficiency, greenhouse gas emissions, water management, materials and waste management, as well as sustainable product development.

The **Labour and Human Rights Guideline** specifies our standards for fair working conditions, health and safety, diversity and equal opportunities, talent development and the strict rejection of child labour, forced labour and human trafficking.

Our **Procurement Guideline** sets clear expectations for our suppliers in terms of social and environmental practices, and we conduct due diligence and monitor compliance with our standards including the handling of conflict minerals.

All four guidelines are fully integrated into our business processes and are regularly assessed to ensure they are effective and up to date.

TRILUX GmbH & Co. KG - Arnsberg Site	Unit	2022	2023	2024
Environment				
Energy GHG				
Total Scope 1 GHG Emissions	tCO2e	3,331	2,982	3,020
Total Scope 2 GHG Emissions	tCO2e	2,653	2,519	3,177
Total Scope 3 GHG Emissions	tCO2e	4,155	3,462	3,135
Total gross Scope 3 Upstream GHG emissions	tCO2e	4,155	3,462	3,135
Total gross Scope 3 Downstream GHG emissions	tCO2e	0	0	0
Total electricity consumption	kWh	8,401,883	7,960,291	7,721,049
Total energy consumption	MWh	23,751	21,791	23,143
% of total energy consumption from renewable sources	%	20	21	17
Total renewable energy consumption	GJ	17,303	16,209	14,076
Waste				
Total weight of hazardous waste	Metric tonne	24	24	47
Total weight of non-hazardous waste	Metric tonne	2,684	2,724	2,870
Total weight of waste recovered	Metric tonne	2,485	2,523	2,679
% of total waste from company operations diverted from landfills	%	99	99	99
Weight of WEEE collected	kg	196,745	205,730	209,500
Weight of EEE placed on the market	kg	8,513,727	7,851,271	8,010,763
% of WEEE collected out of total of EEE placed on the market	%	2.31	2.62	2.62
Water				
Total water consumption	Megaliter	10	11	11
Total weight of reused or recyceld water	Metric tonne	162.5	162.5	162.5
Product Use				
% of products with information on efficient use to extend product life	%	100	100	100
% of products with energy efficient LED technology	%	100	100	100
Product End of Life				
% of products with information on proper disposal of the product	%	100	100	100
% of products designed for easy disassembling, remanufacturing or recycling	%	100	100	100
Customer Health and Safety				
% of products for which detailed information on health and safety issues is provided	%	100	100	100
% of products for which a health and safety assessment was conducted during product development	%	100	100	100
Others				
% of the total workforce across all locations who received training (internally or externally) on environmental issues	%	100	100	100
% of all operational sites for which an environmental risk assessment has been conducted	%	100	100	100
% of operational facilities certified ISO 14001, EMAS or against other environmental management standard	%	100	100	100

TRILUX GmbH & Co. KG - Arnsberg Site	Unit	2022	2023	2024
Labour & Human Rights				
Working Conditions				
% of employees who receive either additional compensation or time-off compensation for overtime work	%	94.5	94.28	94.08
% of employees with access to company-provided occupational health and wellness programs (VitaLux)	%	100	100	100
% of all employees paid below the living wage, including permanent employees and external employees	%	0	0	0
% of direct employees included in a living wage benchmark analysis	%	0	2,5	100
% of direct employees receiving less than the living wage	%	0	0	0
% of the average pay gap of direct employees receiving less than the living wage compared to a living wage benchmark	%	0	0	0
Child Labour				
% of employees with verified age documentation	%	100	100	100
# of confirmed child labour incidents	#	0	0	0
% of all operational sites that have been subject to human rights reviews or human rights impact assessments	%	0	0	0
Health and Safety				
Total number of hours worked	#	1,516,815	1,486,364	1,489,849
Number of days lost due to work-related injuries, fatalities and illnesses	#	159	277	196
Number of accidents at work	#	9	13	9
% of all operational sites for which an employee health & safety risk assessment has been conducted	%	100	100	100
% of the total workforce across all locations represented in formal join management-worker health & safety committees	%	100	100	100
% of operational facilities that are certified ISO 45001 or against other labour or human rights management standard	%	100	100	100
Diversity and Anti-Discrimination				
% of workers from minority groups and/or vulnerable workers employed in relation to the whole organization	%	7.7	7.7	7.8
% of workers from minority groups and/or vulnerable workers in top executive positions (excluding boards of directors)	%	0	0	0
% of women employed in relation to the whole organisation	%	19.65	19.74	20.02
% of women in executive positions (excluding boards of directors)	%	4.3	6.31	6.31
% of women within the organisation's board	%	0	0	0
% unadjusted gender pay gap (average)	%	13.4	16.4	13.76
Number of identified discrimination or harassment incidents or corrective actions	#	0	0	0
Social Dialogue				
% of the total workforce across all locations who are covered by formal collective agreements concerning working conditions	%	100	100	100
% of the total workforce across all locations who are covered by formally-elected employee representatives (Betriebsrat)	%	99	99	98
Career Management				
% of the total workforce across all locations who received regular performance and career development reviews	%	81.6	84.6	80.33
% of the total workforce across all locations who received career- or skills-related training	%	97.4	93.8	90.1
# of hours of skills training provided per employee (average)	#	33.1	34.9	38
% of the total workforce across all locations who received training on diversity, equity, and inclusion	%	0	0	0

TRILUX GmbH & Co. KG - Arnsberg Site	Unit	2022	2023	2024
Business Ethics				
Anti Corruption				
% of employees that receive business ethics training	%	10	14	15
# of confirmed corruption incidents	#	0	0	0
# of reports related to whistleblower procedure	#	0	0	0
Responsible Information Management				
# of confirmed information security incidents	#	0	0	1
% of risky trading partners covered by a due diligence process on corruption or information security	#	n/a	n/a	n/a
% of all operational sites for which an internal audit/risk assessment concerning business ethics has been conducted	%	0	100	100
Percentage of all sites with an ethics certification, such as ISO 27001 or ISO 37001	#	0	0	0
Sustainable Procurement				
% of suppliers that have signed the Code of Conduct	%	0	49	60
% of targeted suppliers with contracts that include clauses on environmental, labor, and human rights requirements	%	0	30	68
% of targeted suppliers that have gone through a CSR assessment	%	n/a	n/a	n/a
% buyers who have received sustainable procurement training	%	0	50	90
% of audited suppliers engaged in corrective actions or capacity building	%	n/a	n/a	n/a
How many of your suppliers have filled out a CMRT	#	n/a	n/a	n/a
% of targeted suppliers that have gone through a CSR on-site audit	%	n/a	n/a	n/a

IMPRINT

Sustainability Report 2023/24 of TRILUX GmbH & Co. KG –
Arnsberg location

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