



**TRILUX**  
SIMPLIFY YOUR LIGHT.

GROWTH BY  
SUSTAINABILITY

AUTUMN 2021

## Sustainability as part of the DNA

In recent years, climate protection has been debated worldwide with urgency and passion. School strikes, large demonstrations, climate agreements, energy transition, SUV criticism, and flight shame all illustrate one thing: grand ambitions and measures such as the “EU Green Deal” and COP 26 are needed to change the entire world.

For TRILUX, an internationally active group of companies, there can only be one answer to the global challenge of climate change: sustainable management and continuous improvement of the company’s climate balance. For years, we have been aligning the actions of our organisation in all core areas towards environmental and resource protection and the avoidance of CO<sub>2</sub> emissions; Sustainability and efficiency are an integral part of our corporate DNA and have been long before it was called for.

Our sustainability report details the various management approaches we employ to protect resources and the climate. Beyond that, it also provides information on our corporate responsibility towards our employees, customers, and society. Sustainability at TRILUX is not limited to resource and climate protection. We base our actions on a holistic concept of sustainability that includes ecological, economic, and social aspects.

Please follow the links for in-depth detail.

# 100+

## YEARS

TRILUX was founded in 1912 - and since then has played a decisive role in shaping the lighting market through innovative solutions

# 50

## COUNTRIES

as an international company, TRILUX is present around the world

# 5000

## EMPLOYEES WORLDWIDE

TRILUX employs around 5,000 people

# 6

## PRODUCTION SITES

TRILUX produces in Germany and Europe in a total of 6 plants

# 5

## HOLDINGS

Seitec, ICT, Crosscan, Led Luks, watt24

# 30

## SUBSIDIARIES

The TRILUX Group has a total of 30 subsidiaries around the world

# €59m

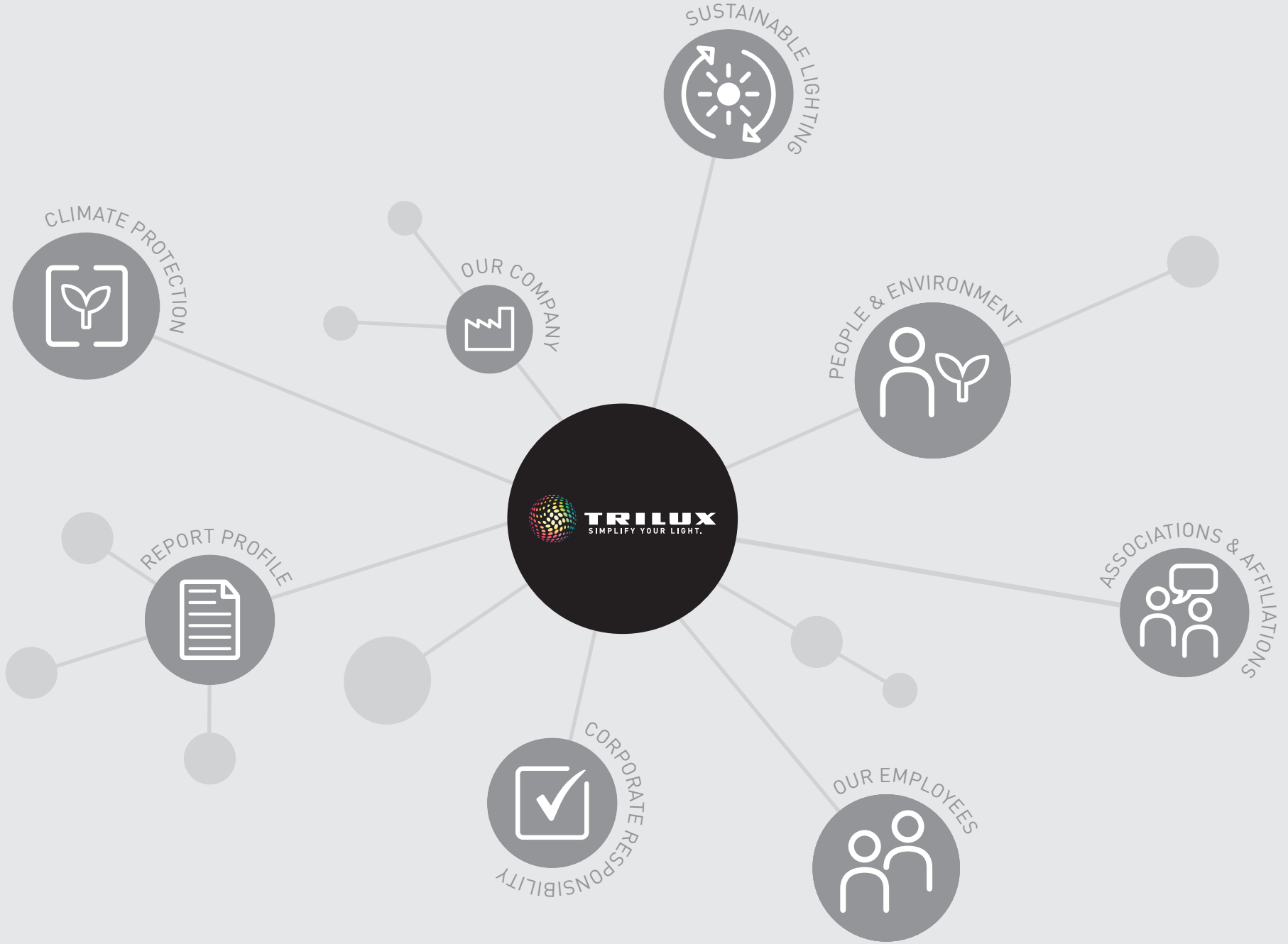
## INVESTMENT

(2016-2018)

# €656m

## SALES WORLDWIDE

TRILUX generated sales of €656m worldwide in 2019



# OUR COMPANY



Efficiency has always been an important driver for TRILUX.

It's right there in our name: inspired by the early fluorescent lamp (energy efficient for its time), it achieved a luminous efficacy three times higher than that of lamps previously used: TRI LUX.

## **A company history, distinguished by the pursuit of efficiency**

Founded in 1912 by Wilhelm Lenze, TRILUX's history spans more than 100 years. Originally a manufacturer of luminaire accessories and residential lighting, in 1949, Eberhard Lenze first proclaimed, we would only product luminaires with fluorescent lamps.

The 'TRILUX linear assembly line luminaire' soon delivered higher luminous efficacy and long service life, marking the first of many sustainability milestones.

We are devoted to innovation to improve energy efficiency, lighting quality, and our commitment to ecological, economic, and social sustainability is proof that TRILUX views sustainable action as a responsibility and a tradition.

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Artificial lighting accounts for a large portion of greenhouse gas emissions worldwide. By striving for efficiency and influencing our customers' energy consumption, we are already making a big difference in the fight against climate change.

**TRILUX targets climate neutrality by 2025**

The European Union declared that Europe would become climate-neutral by 2050. To achieve this ambitious goal, it presented the European Green Deal, a set of measures to achieve a profound ecological turnaround. We are engaged in the EU Green Deal and thoroughly analysed the measures against our activities to produce definitive steps for action. The main aim is for climate neutrality in all TRILUX locations worldwide by 2025. We will reduce direct and indirect emissions by at least 10% per year in the coming years.

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### With **Repro-Light** for Sustainable Lighting

We actively participated in the European research project **Repro-light**.

Repro-light (re-usable and re-configurable parts for sustainable LED-based lighting systems) aims to support the European lighting industry to a more sustainable and competitive future; looking at modular architecture and an intelligent production to make lighting technology fit for the circular economy. With **Repro-light** we achieved 61% reduction of ADPe burdens (Abiotic Depletion Potential elements) on the new generation of our benchmark E-Line luminaire, significantly reducing the embodied carbon.



## REPRO-LIGHT

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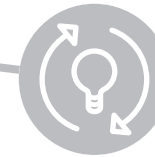


### Circular Economy

The circular economy in the lighting industry is not only possible; it offers enormous sustainability potential. We have already created initial prerequisites for exploiting these opportunities for climate and resource protection. For example, we have TCLP (TRILUX Circular Lighting Programme) and TCMP (TRILUX Circular Mining Programme) supported by our circular Pay Per Use model.

The consistent implementation of the circular economy principles will undoubtedly bring about many new business models for the lighting industry. One thing is for sure: TRILUX will approach these new possibilities with an open and well-informed mind.

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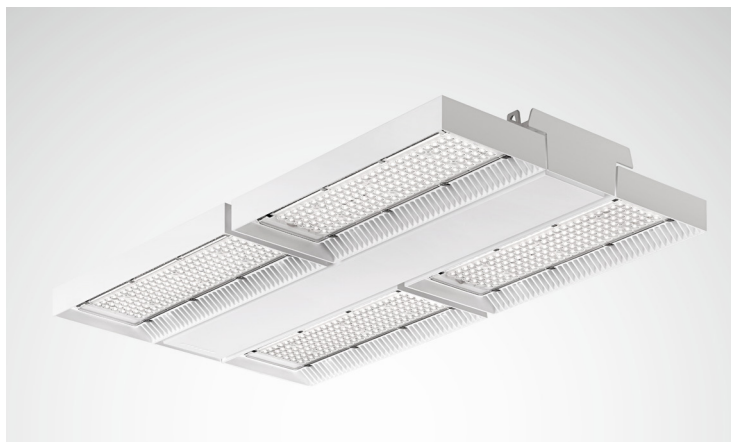


### SUMATRA

**Sustainable Materials** - from **Recycling** back to **Application**

TRILUX is spearheading the SUMATRA project. Partially funded by the German Government, the project, which is due for completion in 2023, looks at developing a sustainable lighting concept designed for disassembly DFD, remanufacture, reuse, and recycle.

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At TRILUX, everything revolves around light. At the end of the production process, the luminaire we create is already steeped in history and is more than just the sum of its parts.



#### Ingredients

The International Resource Panel of the United Nations Environment Programme continuously collects figures on the extraction and use of natural resources and the resulting environmental impacts. The latest panel reports contain alarming figures. One instrument for countering this dangerous trend is a more efficient use of resources.

At TRILUX, we focus on reducing the use of raw and other materials and avoiding hazardous, critical, and precious substances.

An example is 'flip-chip' LEDs. Gold wires are traditionally used to connect conventional

LEDs to the circuit board; flip-chip LEDs are connected by contact mounds that require considerably less gold. The difference, as large as a factor of 1000! Less gold in a luminaire represents a major step towards sustainability. TRILUX uses flip-chip LEDs in the "Performance" product category and is rapidly working to implement them in the rest of the portfolio.

Click below to learn more about embodied carbon reduction and to download luminaire CO<sub>2</sub> footprints files

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### Careful Sourcing and Engineering

An effective sustainability strategy cannot end at the boundaries of an organisation but must continue throughout its entire value and supply chain. Sustainable Supply Chain Management (SSCM) is, therefore, an indispensable component of a holistic approach to sustainable management. Our whole supply chain is integrated into the ISO 9001-certified quality management system, ensuring strict guidelines are applied when selecting suppliers. The assessment is based on quality criteria and sustainability criteria.

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### Sustainable production

All processes in production, administration, and transport offer the potential for more sustainable management. We are working systematically to optimise them and to minimise their impact on the environment.

We continuously record values on energy consumption, greenhouse gas emissions, water withdrawal, and waste generation as part of our environmental reporting. The data is used to identify improvements and objectives for even greater sustainability.

Click below for more details on our sustainable production techniques, ISO 14001 - Environmental Management System & ISO 50001 - Energy Management System certifications

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Improvements to date include:

- The digitalisation of all order-related data to reusable packaging along the entire value chain.
- Solvents must be used for degreasing and cleaning metal parts. These solvents are reprocessed in a closed circuit with fully automatic filter systems and returned to the cleaning process.
- The oil sludge resulting from degreasing steel sheets is retained in separators. Residues are disposed of separately from other types of waste.
- Painting is carried out with solvent-free powder coatings.
- Cooling systems with closed water circuits reduce water requirements considerably.
- In the manufacture of plastic luminaire covers, the plastic waste is recycled and returned to the production process.
- Hot water boilers with exhaust gas heat consumers and automatic, pressure-dependent, and speed-controlled circulation pumps lead to considerable energy savings.
- TRILUX operates a photovoltaic system at the Arnsberg location with 6,240 modules that can deliver over 500 kW (peak) and supply more than 100 homes with environmentally friendly electricity.



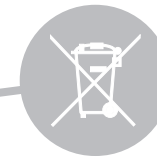
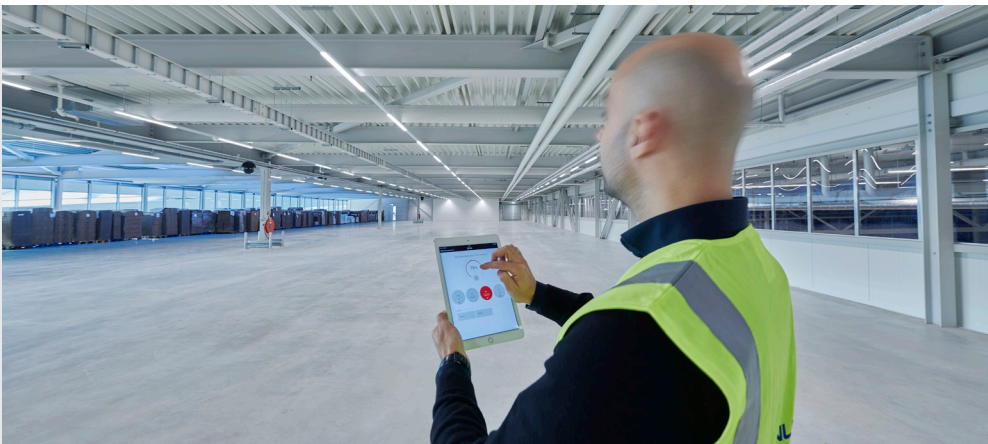


### Energy Efficiency and Light Management

TRILUX has converted most of its portfolio to LED technology. Thanks to ongoing R&D, we keep on top of the rapid pace of innovation in the LED industry. As a result, TRILUX luminaires consume only half as much energy or less than conventional lighting technology – with equivalent or better quality of light. In addition, these luminaires feature other sustainability genes, including their long service life of more than 50,000 operating hours and much longer maintenance cycles.

LED has also established the foundation for the digitalisation of light; LEDs can be switched and dimmed very conveniently. Our LiveLink scalable light management system can achieve up to 80% energy savings with sensors, electronic control, and communication modules, compared to a system with conventional light sources and simple on/off operation.

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### Recycling

Products that do not generate waste and do not themselves become waste are the ideal of the circular economy. Another approach to effective resource protection is: remanufacture, reuse and recycling.

TRILUX continuously analyses all stages along the value chain to identify and use as many options as possible for the recovery and recyclability of materials.

The TRILUX Group has reported decreasing waste volumes in production for years. The separate collection rate for recycling at the Arnsberg site is over 90%.

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### Product innovation

Thanks to continuous research and development and prompt implementation of the latest technologies, we have succeeded time and again in improving our products and successfully increased resource efficiency. Some recent examples of our innovative developments include:

The Opendo luminaire, equipped with a CO<sub>2</sub> sensor for measuring air quality, which supports The WELL building standards on the provision of Air Quality.

Our prototype Parelia luminaire, made from Corn Starch, is 100% biodegradable. PLA is a synthetic polymer-based on lactic acid and obtained in an environmentally friendly way from corn starch. Due to its material properties, the biocompatible thermoplastic is suitable for producing the luminaire body via 3-D printing—the result: the very first PLA Parelia luminaire.

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### Sustainable delivery and packaging

In 2019 in the UK, transport contributed over 31% to emissions. To combat this, we start at the source. Our distribution centre utilises daylight-dependent energy efficient highbay LED lighting. Plus, since 2010, we have had a photovoltaic roof system as large as a football field which covers 70% of our electricity requirements. Our state-of-the-art logistic distribution centres optimised packaging and delivery support our path to net-zero carbon.

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Our primary focus is always on our customers. Sustainable product solutions and services create new and trend-setting opportunities for building owners, end users, planners, and installers.



#### **Building Certification**

TRILUX is a reliable partner, helping customers meet the certification systems requirements for sustainable buildings in terms of lighting. Our extensive portfolio of LED luminaires and light management systems enables energy-efficient solutions and score points in various other evaluation criteria of the certification systems.

This is impressively confirmed by a study in which the independent engineering office Encon examined the potential of TRILUX products in evaluations according to the BREEAM certification system. Against BREEAM version NL 2014 New construction and renovation, up to 13 points can be gained using TRILUX products. In addition to the crucial energy category, TRILUX solutions also perform in the health category due to their quality of light or in the management category due to their simple maintenance.

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### Creating Smarter Cities

As well as reducing light pollution, LED technology can make an important contribution to support the growing trend in sustainable urban development. The combination of LED luminaires and digital light control offers an exciting basis for integrating additional smart city functions. This creates opportunities for making cities more ecological, comfortable, and socially inclusive. LED luminaires already serve as charging stations for e-mobility, collect environmental and traffic data via sensors, integrate cameras or communication modules (e.g., WiFi, mobile radio). They can also help solve traffic, air, and waste problems and support cities from Smart City to Green City.

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### Pay per Use

Light as a service is a new business model that delivers cost and comfort advantages. Supporting our TCLP (TRILUX Circular Lighting Programme) and TCMP (TRILUX Circular Mining Programme) it presents interesting options in terms of sustainability.

PAY PER USE lets TRILUX customers use lighting systems in a balance sheet-neutral manner; sparing credit lines, the monthly rental payments can be booked as operating expenses.

Furthermore, since LED lighting can be networked, monitoring consumption and operating data can be added to the contract. If enabled lighting can be optimised based on actual lighting requirements. Additionally, the collected data provides valuable input for predictive maintenance. This makes lighting a central component in sustainable building management.

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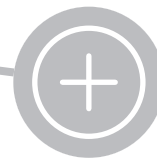
# OUR EMPLOYEES



Our success and our corporate culture wouldn't be possible without our employees. One of our most important tasks is to raise our employees' potential and promote their development.

TRILUX recognises the appreciative treatment of all employees as an essential criterion for sustainable action. Good working conditions, health and safety at work, and the observance of human rights are the basis. As a fair employer, TRILUX also focuses on performance-related and non-discriminatory remuneration and offers various voluntary benefits to promote employee satisfaction.

TRILUX employs 5,167 people worldwide. Everyone is guaranteed compliance with the site-specific minimum wage requirements, irrespective of gender.



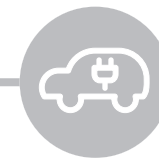
## Occupational Health and Safety Management

The management of occupational health and safety for employees is firmly anchored in all structures and processes at TRILUX and governed by the Occupational health and safety management system BS 18001.

Every accident is one accident too many, which is why it is a matter of course for TRILUX that all its companies around the world fully comply with all occupational health and safety regulations – by the respective national legislation and international standards.

Our health and safety management approach is based on the principles of prevention and continuous improvement. This success is confirmed by the fact that the number of accidents has been declining for over ten years.

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## Company car policy

TRILUX UK has rolled out a fleet of electric vehicles in its transition to net-zero carbon, supporting the UK government's target of a 78% reduction in CO<sub>2</sub> emissions. We view this as a positive step towards managing our impact on the environment as, by comparison, a typical electric car in Europe produces 29% less greenhouse gas emissions.

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### Health Management

Our health promotion, like our occupational health and safety management, focuses on continuous improvement. The aim is to minimise the burden on employees and to strengthen their resources. We achieve this by providing working conditions that support the physical and mental well-being of employees.

TRILUX is active in many fields of action to maintain the performance of all employees and promote their health. The spectrum includes:

- Health promotion.
- Supporting a good work-life balance
- Age-appropriate work design
- Measures for an appreciative and respectful, pleasant working environment.

Employees are supported not only in terms of health-promoting behaviour at work but also in all life areas.

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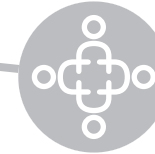


### Employee Development

TRILUX has developed a dedicated training strategy to align all employees' professional, methodological, and personal development with actual needs. This strategy identifies change skills, methods, and tools for project management and mastering digital technologies as key qualifications. It is all about empowering employees at all levels of the hierarchy to manage change and help shape it with enthusiasm.

The TRILUX Akademie is our central training institution. In 2019 alone, 8,092 training courses took place through the Akademie. The programme included topics such as product knowledge, EDP systems, management skills, and foreign languages.

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### Diversity at TRILUX

TRILUX is committed to promoting equal opportunities in employment. Employees and job applicants all receive equal treatment regardless of age, disability, gender reassignment, marital or civil partner status, pregnancy or maternity, race, colour, nationality, ethnic or national origin, religion or belief, sex or sexual orientation.

Workforce composition and promotions are regularly monitored to ensure equality of opportunity at all levels of the organisation. Where appropriate, steps will be taken to identify and remove unjustified barriers and to meet the special needs of disadvantaged or underrepresented groups.

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# CORPORATE RESPONSIBILITY



Great success also brings great responsibility. To meet its high standards, TRILUX implements a variety of measures to ensure that our business activities are sustainable.



## Compliance

Conduct compliance with laws, guidelines, recognised standards, and voluntary commitments in all business activities is the basis for the trust of all stakeholders in the TRILUX Group. It is also a prerequisite for avoiding legal consequences, penalties, and damage to the reputation.

For TRILUX, integrity and compliance are therefore integral components of all processes and activities. This applies to all locations inside but also outside the EU.

TRILUX UK has a code of conduct in which all employees agree to behave honestly, be trustworthy and set a good example, making sure that our behaviour complies with the policies and rules of Trilux Lighting Ltd.

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## Risk management

To identify, minimise or, in the best case, eliminate potential risks, TRILUX has established a systematic risk management system based on ISO 9001 quality management system. Those responsible for the individual divisions carry out risk assessments and develop suitable concepts to minimise or eliminate possible dangers. Across divisions, risks are assessed by management in regular reviews. The results are consolidated and factored into upcoming strategic decisions.

TRILUX examines and evaluates typical financial risks, e.g., with the help of scenario analyses for different development courses. To protect against IT risks, a cyber policy was agreed to in 2017. The quality of typical business processes such as purchase-to-pay or order-to-cash is regularly monitored as part of the IT audit.

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# REPORT PROFILE



GRI

TRILUX aligns itself with the precautionary approach of the United Nations. Objectives and measures, as available, are based on scientifically recognised principles. TRILUX's commitment is based on the principle of prevention and continuously evaluating risks and opportunities.

**Our full sustainability report is available online and is based on the structure of the GRI standard. It is divided into four parts:**

- Report – Contains editorially prepared articles derived from the identification of the key topics. The articles contain information on requirements from the GRI catalogue of topic-specific disclosures. Individual GRI disclosures are also linked. To ensure that the essential information can be recorded quickly, objectives (where available) and management approaches are presented separately at the end of the article. These articles are updated, adjusted, and extended annually.
- Reporting profile – this section contains all relevant information on the type of reporting, including the disclosures required in the “Core” version of the report (“Foundation” and “General Disclosures”).
- GRI table – Contains a complete overview of all topic-specific GRI disclosures in the form of comments, figures, or links to the corresponding article.
- News – Contains current information on topics closely related to the articles in the sustainability report and during the year.

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# ASSOCIATIONS & AFFILIATIONS

To help us on our journey to carbon neutrality, we work with several industry bodies and associations.



## UKGBC

UKGBC is part of the World Green Building Council (WorldGBC) network, a global network of over 70 national Green Building Councils transforming the places we live, work, play, heal and learn.

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## UN Global Compact

UN Global Compact are a voluntary initiative based on CEO commitments to implement universal sustainability principles and to take steps to support UN goals.

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## WEEE

TRILUX products are subject to the European WEEE Directive, which regulates the placing on the market, return, and disposal of electrical and electronic equipment.

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## EcoVadis

EcoVadis has grown to become the world's largest and most trusted provider of business sustainability ratings, enabling all businesses to reduce risk, drive performance, and improve environmental and social outcomes.

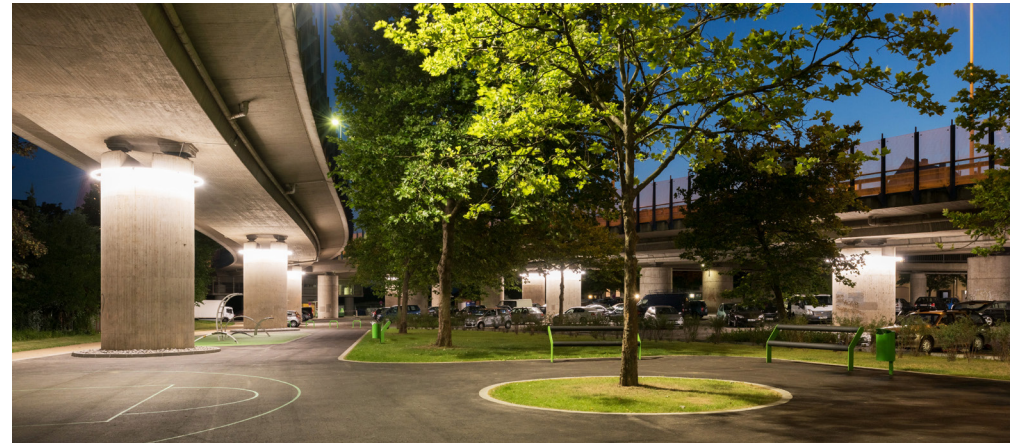
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## Climate Partner

Climate Partner are working with TRILUX to formulate climate action solutions: from carbon footprints and climate action strategies to climate-neutral products with the support of international carbon offset projects.

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All technical data including dimensional and weight specifications have been checked carefully. Errors excepted. Possible colour deviations are due to printing processes.

We reserve the right to modify in the interest of progress. Luminaires are partly shown with accessories that must be ordered separately. Images of installations may show custom manufactured luminaires.

Printed on PEFC-certified paper in an environmentally friendly way.

