

JUNE 2023

Sustainability

The world is heating up

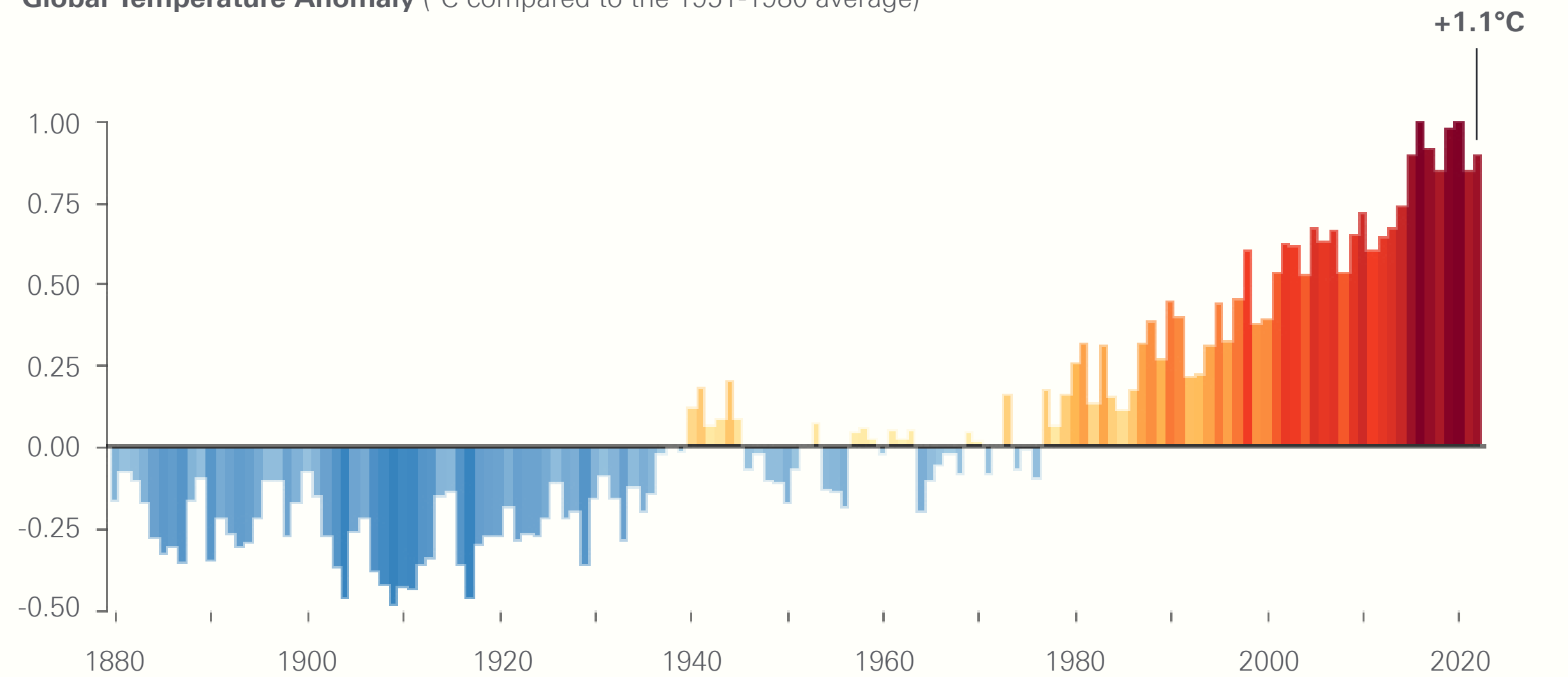
Air temperatures on Earth have been rising since the Industrial Revolution. **The average global temperature on Earth has increased by at least 1.1°C** since 1880, and finds that over the next 20 years, global temperature is expected to reach or exceed 1.5°C of warming.

Human activities, particularly **emissions of heat-trapping greenhouse gases**, are primarily responsible for warming our planet.

The 2015 **Paris Agreement** established the goal of keeping planetary warming below 2°C while pursuing efforts to limit warming to 1.5°C above pre-industrial levels.

Last 9 Years Warmest on Record

Global Temperature Anomaly (°C compared to the 1951-1980 average)



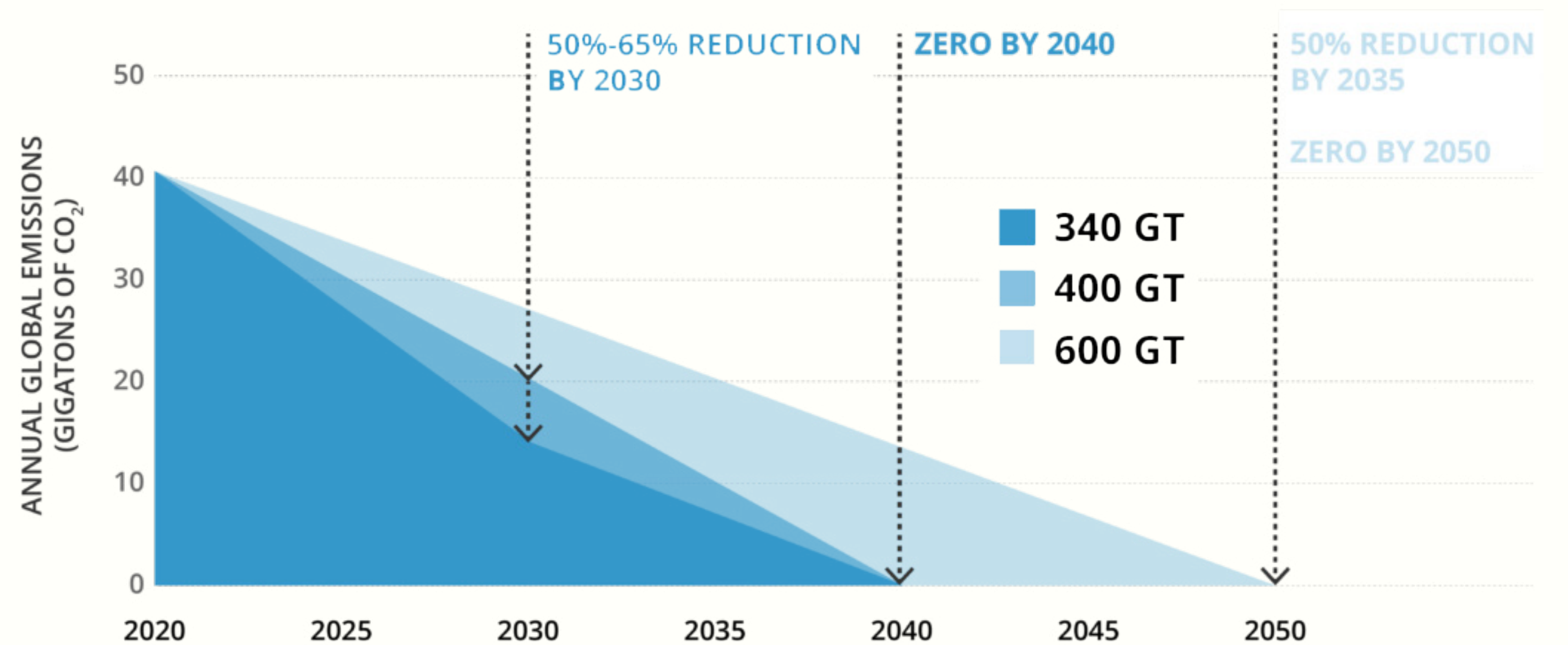
Source: Nasa Earth Observatory, World of Change: Global Temperatures 2022; <https://earthobservatory.nasa.gov/world-of-change/global-temperatures>

Reaching 1.5° targets

The **remaining global CO₂ budget** to limit global warming to 1.5°C was estimated to be **340 - 400 Gt CO₂** in the UN IPCC report of 2020.

A **50-65% reduction** of CO₂ emissions **by 2030** and reaching zero **emissions by 2040** must happen to meet this budget. Waiting until 2050 to achieve zero emissions means giving up the 1.5°C goal altogether.

Global Carbon Budget 340-400 GT CO₂ = 67% chance or better of meeting 1.5°C Targets



Source: Architecture 2030, The current 1.5°C budget, July 2021, Data source: UN IPCC AR6 | <https://architecture2030.org/the-current-1-5c-budget/>

Global warming scenarios

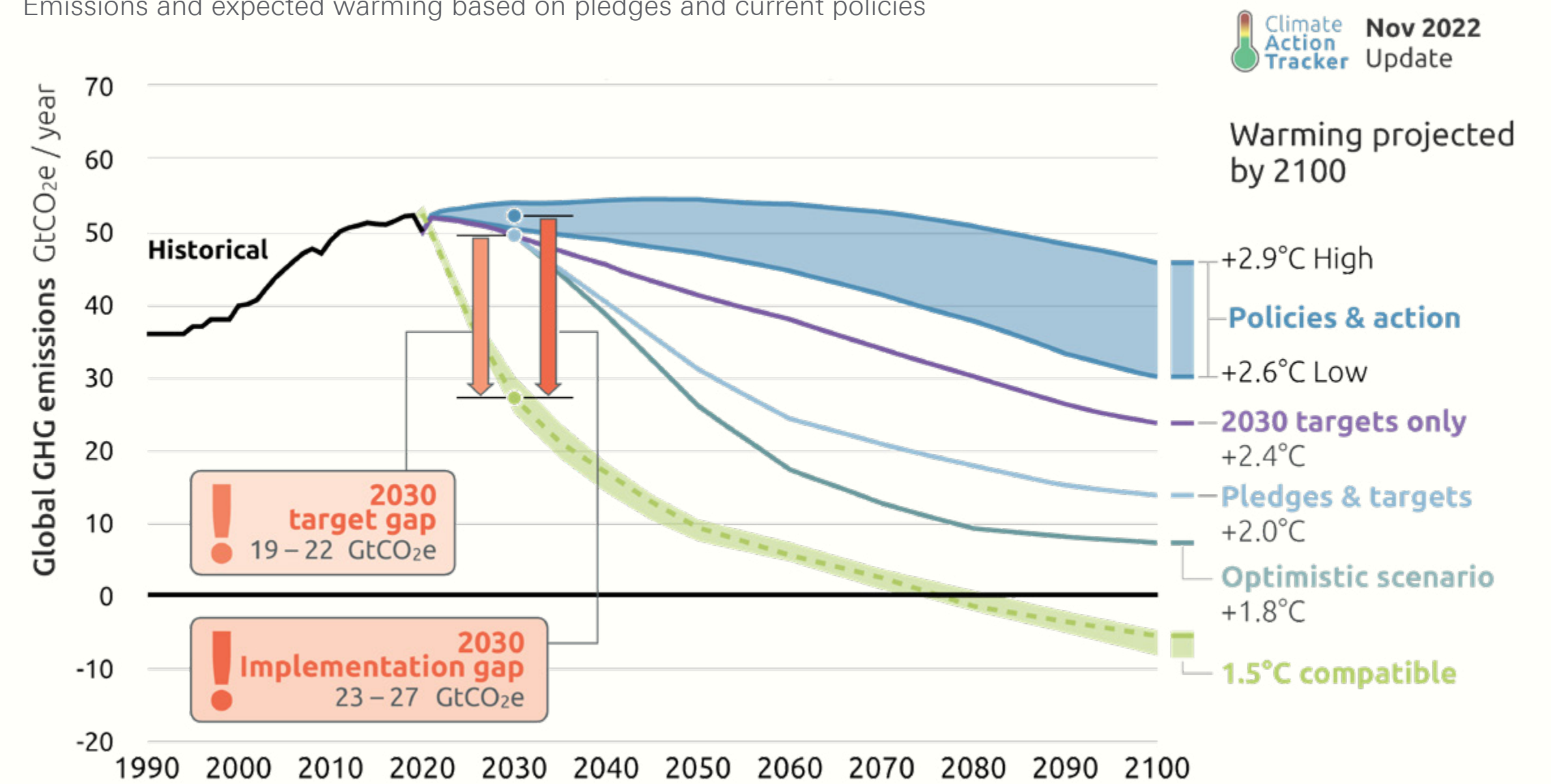
Unless there are **immediate, rapid and large-scale reductions** in greenhouse gas emissions, limiting warming to close to 1.5°C or even 2°C will be beyond reach.

Reaching 1,5° is key to preventing climate catastrophe. Exceeding the carbon budget would result in **global temperatures increasing to dangerous levels:**

- At 2°: more heat waves and floods > food and water security at risk
- At 4°: most ecosystems will collapse
- At 5°: the largest part of our planet is uninhabitable

2100 Warming Projections

Emissions and expected warming based on pledges and current policies



Source: Climate Action Tracker, November 2022 Update, <https://climateactiontracker.org/global/temperatures/>

Governments must strengthen their Paris targets

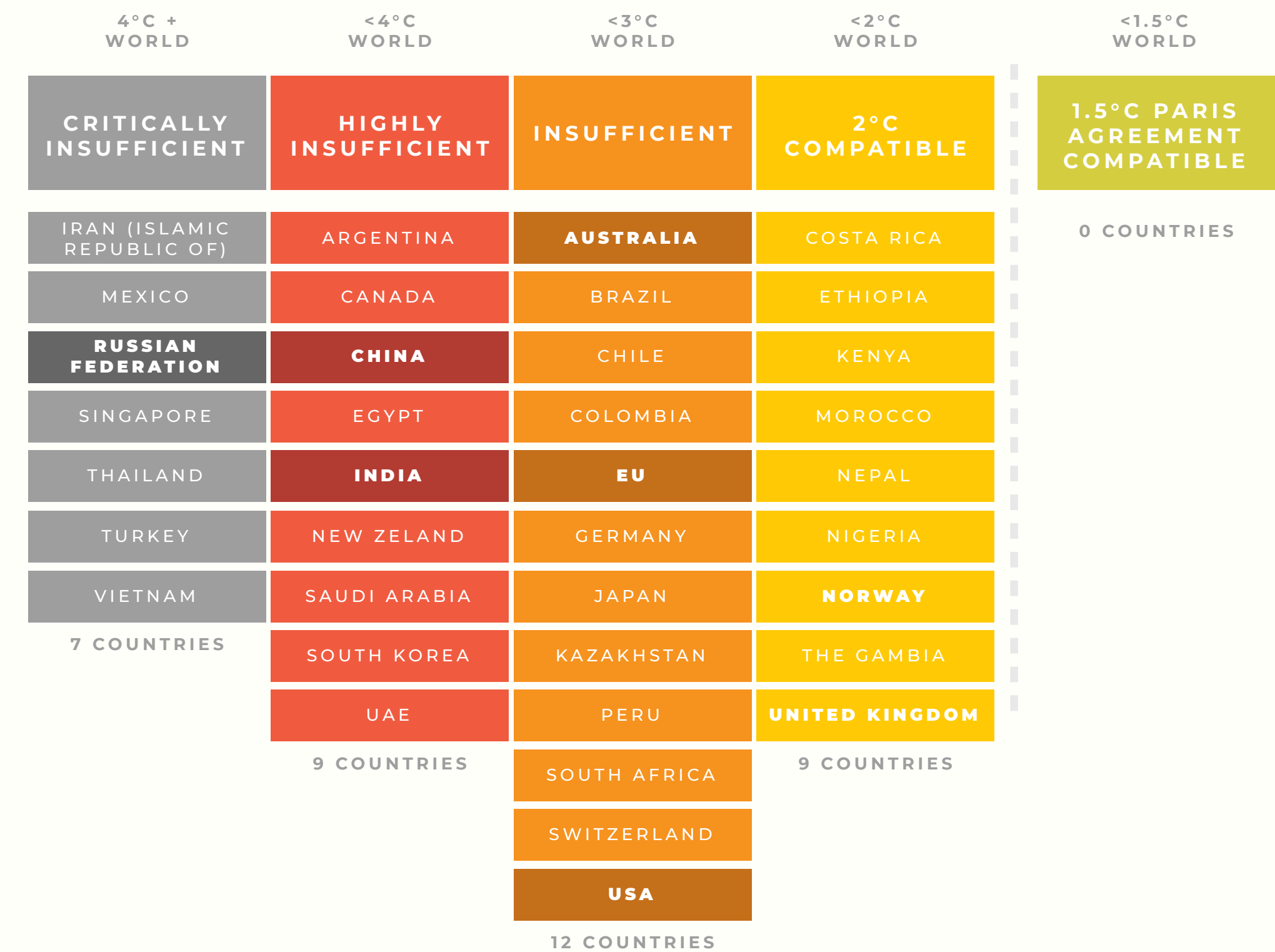
Current policies presently in place around the world are projected to result in about **2.7°C**. The pace and scale of climate action are insufficient to tackle climate change.

There remains to be a substantial **gap between what governments have promised to do and the total level of actions they have undertaken** to date. Furthermore, the current policy and pledge trajectories lie well above emissions consistent with the Paris Agreement’s goal.

Current **global financial flows** for adaptation and implementation are insufficient, especially in developing countries.

Net zero evaluations for different countries by Climate Action Tracker

The CAT evaluates progress by quantifying the aggregate effects of **current policies and the pledges** and targets put forward by countries



Source: Climate Action Tracker (May 2023 Update) <https://climateactiontracker.org/countries/>





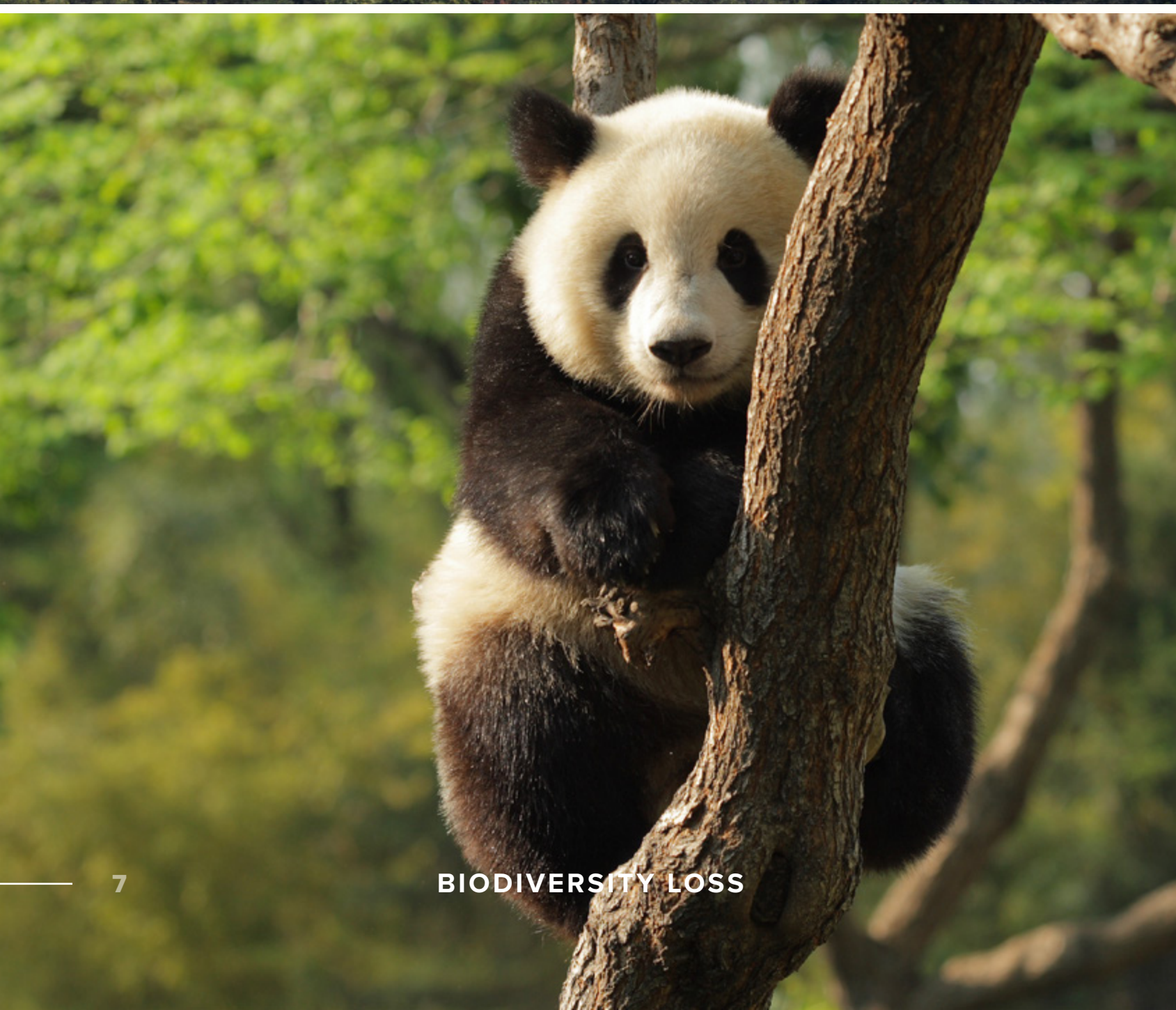
HOTTER TEMPERATURES



INCREASED DROUGHT



RISING OCEAN LEVELS



BIODIVERSITY LOSS



NOT ENOUGH FOOD



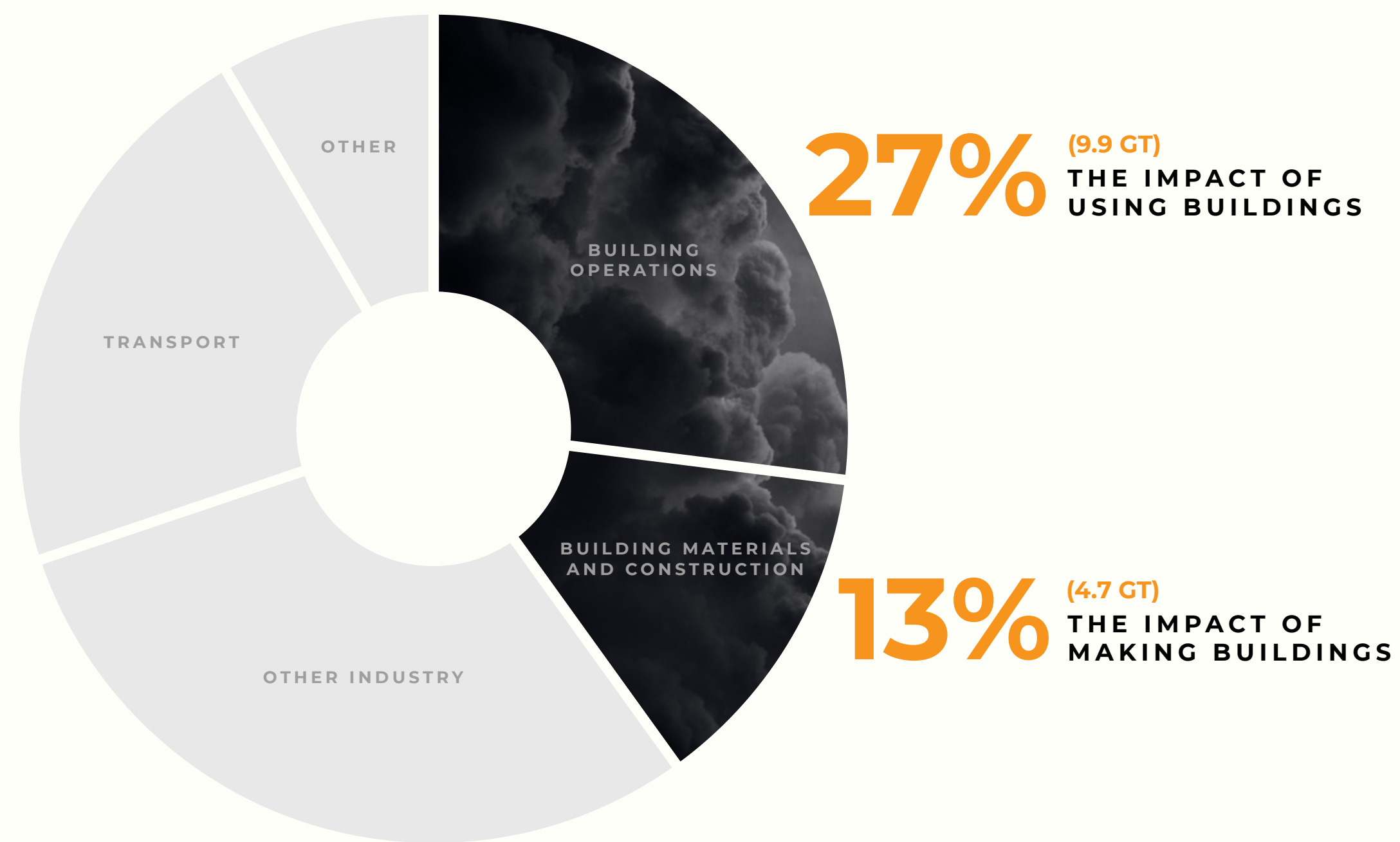
MORE HEALTH RISKS

The built environment is responsible for 40% of global CO2 emissions.

The building sector is a high energy-consuming and carbon-emitting sector.

The focus for reduction is mainly on **new buildings**, which have to be designed with zero carbon (operations) and finding alternatives to **concrete and steel**, representing **50%** of the embodied carbon emissions of materials (industrial sector emissions).

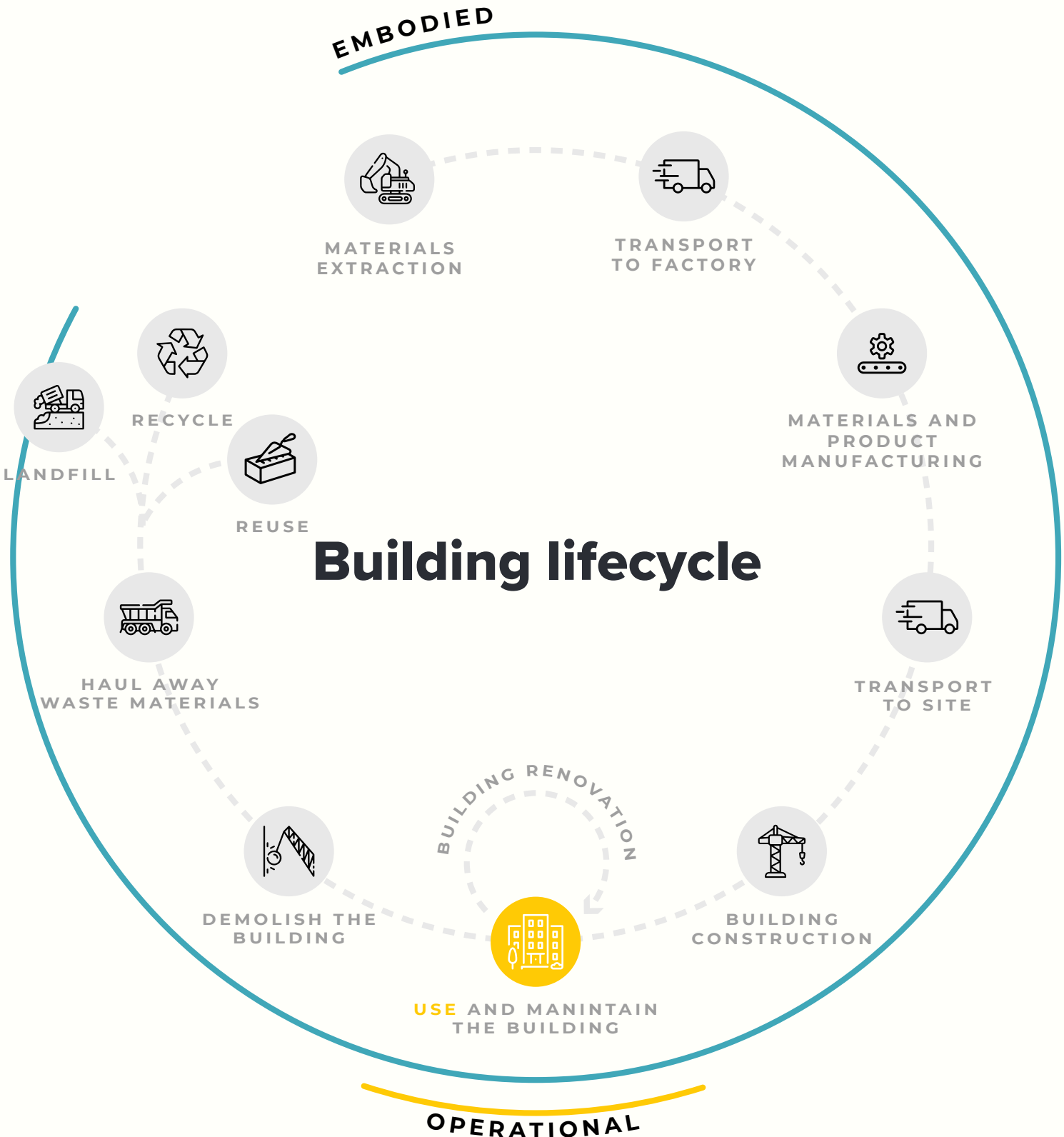
On the side of the **existing buildings**, the challenge is to make them zero carbon (operations) as well, starting with large buildings, which represent 5% of all buildings and are responsible for 50% of the building sector's emissions.



Source: Architecture 2030 (Data source: IEA 2022)

Becoming carbon neutral

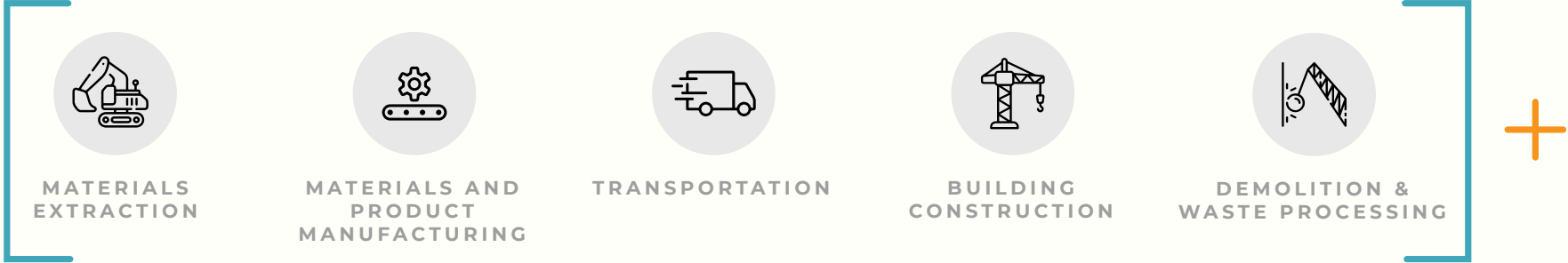
Most carbon reduction efforts have focused on **operational efficiency**, but **building materials** account for half of a building's total lifetime carbon footprint, which can not be ignored. We need to **eliminate or offset the impact of both operating and embodied energy** to become carbon neutral.



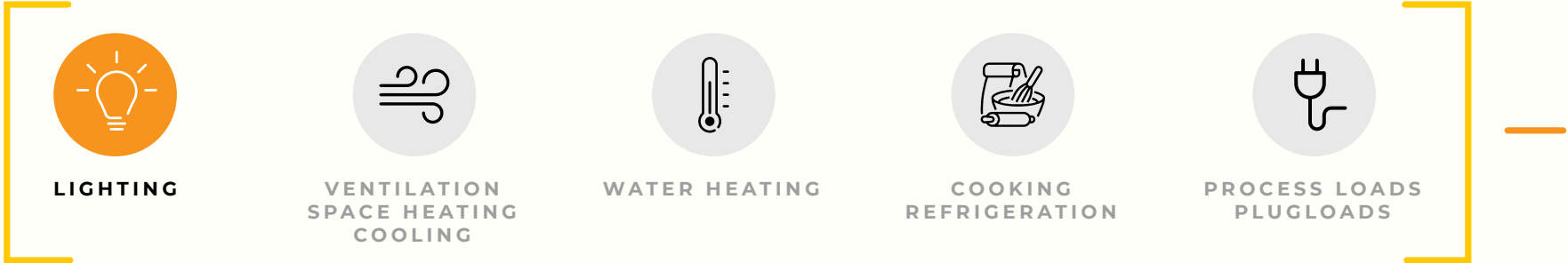
NEW CONSTRUCTIONS*
(TOTAL CARBON EMISSIONS)

49%

EMBODIED CARBON**
(MAKING BUILDINGS & END OF LIFE)



OPERATING CARBON
(USING BUILDINGS)



CARBON OFFSETS

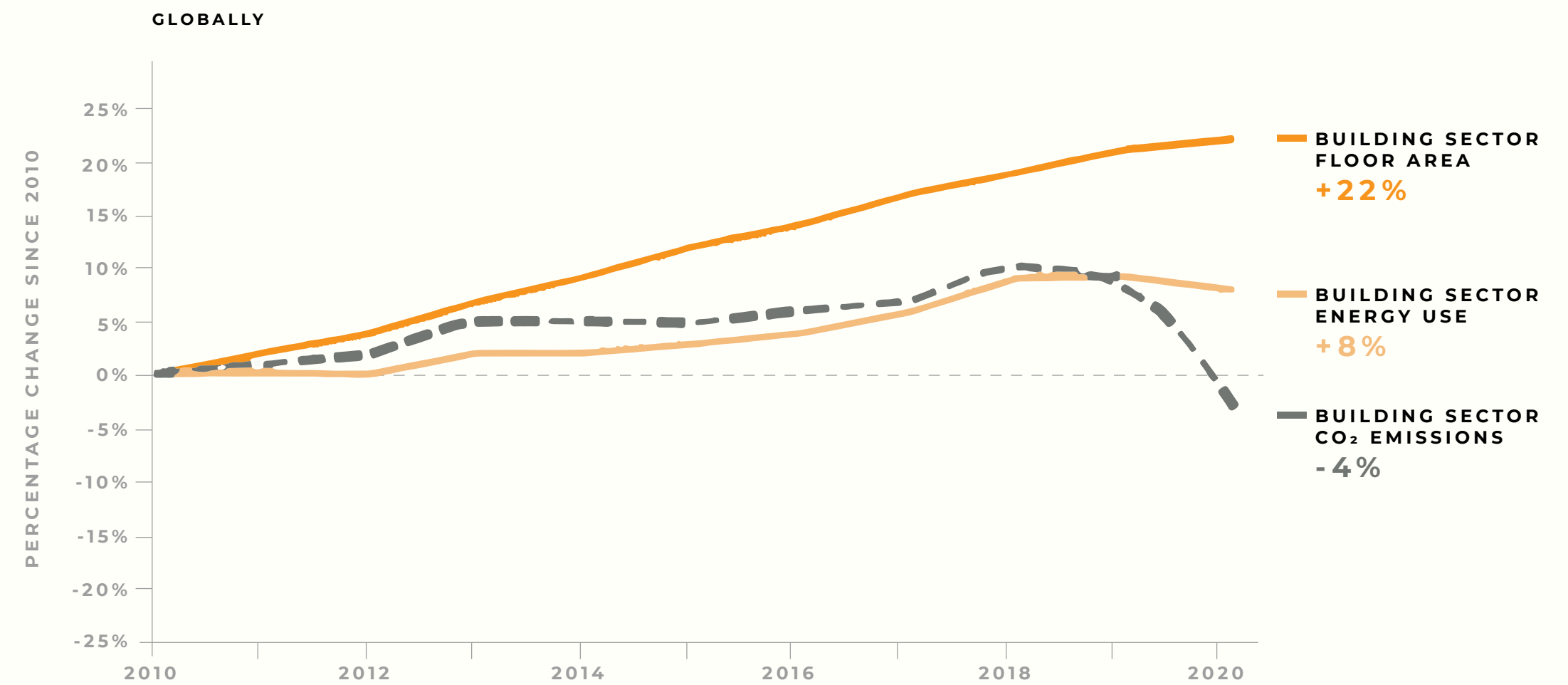
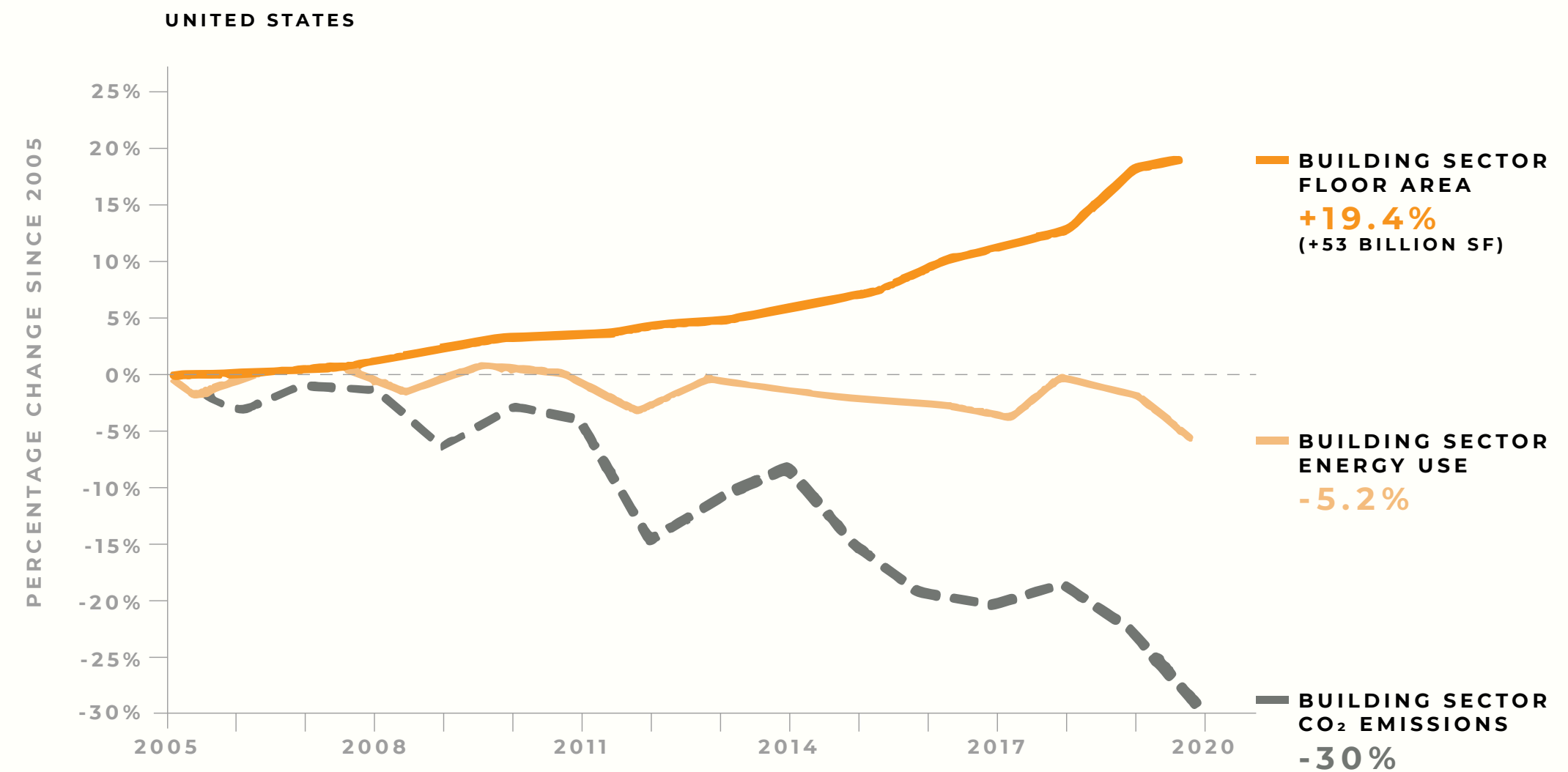


* Source: Total Carbon Emissions of Global New Construction from 2020-2050, Architecture 2030. Data source: UN Environment Global Status Report 2017; EIA International Energy Outlook 2017 **Source: THE GENSLER CITIES CLIMATE CHALLENGE (GC3) https://www.gensler.com/the-gensler-cities-climate-challenge?utm_source=dialogue-now-email_2022_dec01&utm_medium=email&utm_campaign=dialogue-now&utm_content=master-list

Decreasing operation emissions

The change is happening. Throughout the years, the floor area increased, but energy consumption decreased and didn't keep up with the floor area. New buildings and renovations were **more efficient, using cleaner energy by switching to renewables.**

Building operation emissions dropped by **30% from 2005 levels in the US and 4% globally.**



Source: Architecture 2030, GABC 2021 Global status report for Buildings and Construction

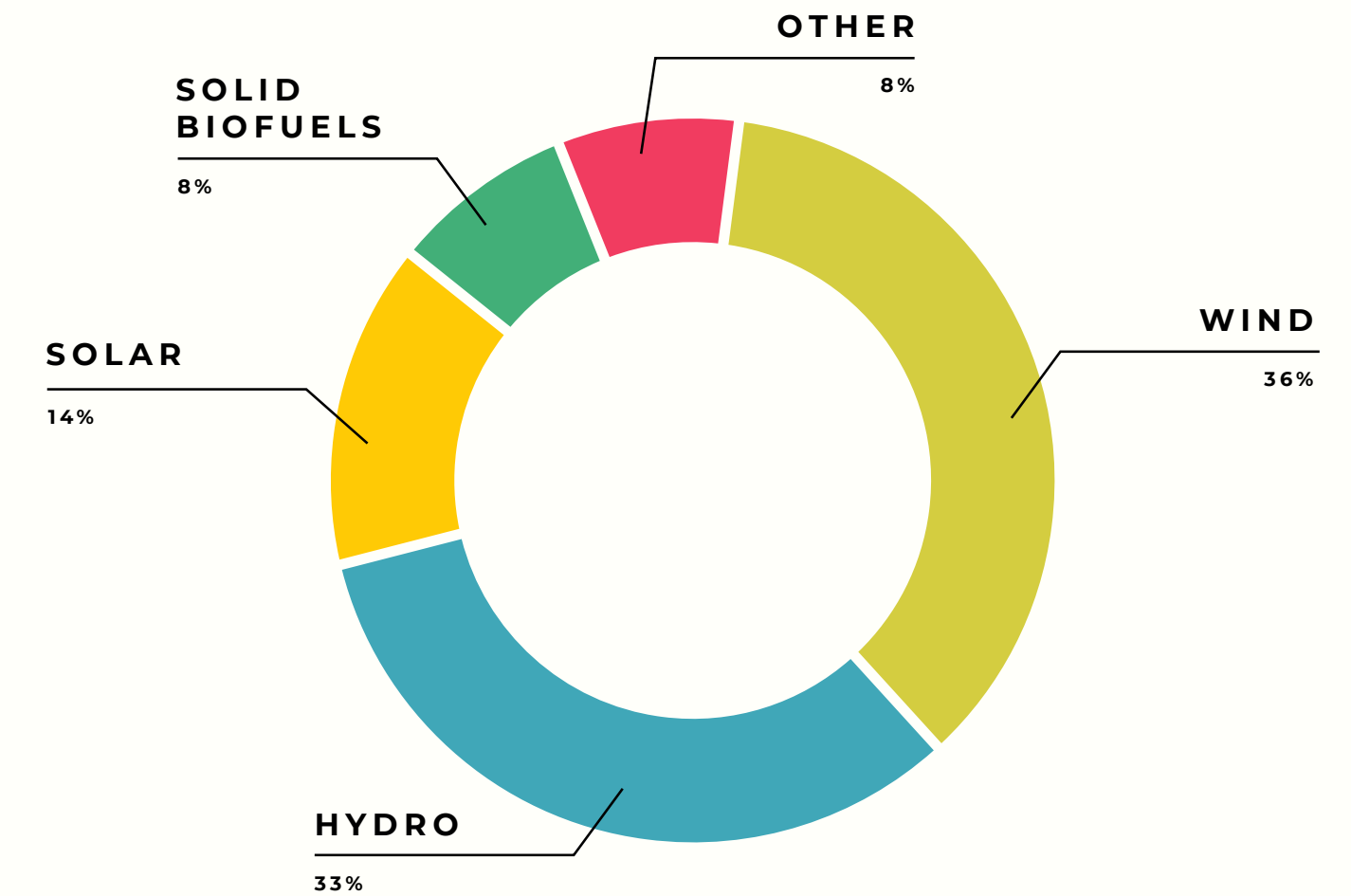
Electricity from renewable sources

Renewable power demand is increasing and is responsible for the **drop in emissions in the global building sector** in the past years.

Solar is the cheapest electricity in history and the fastest-growing source, accounting for 14% of all renewables in 2020.

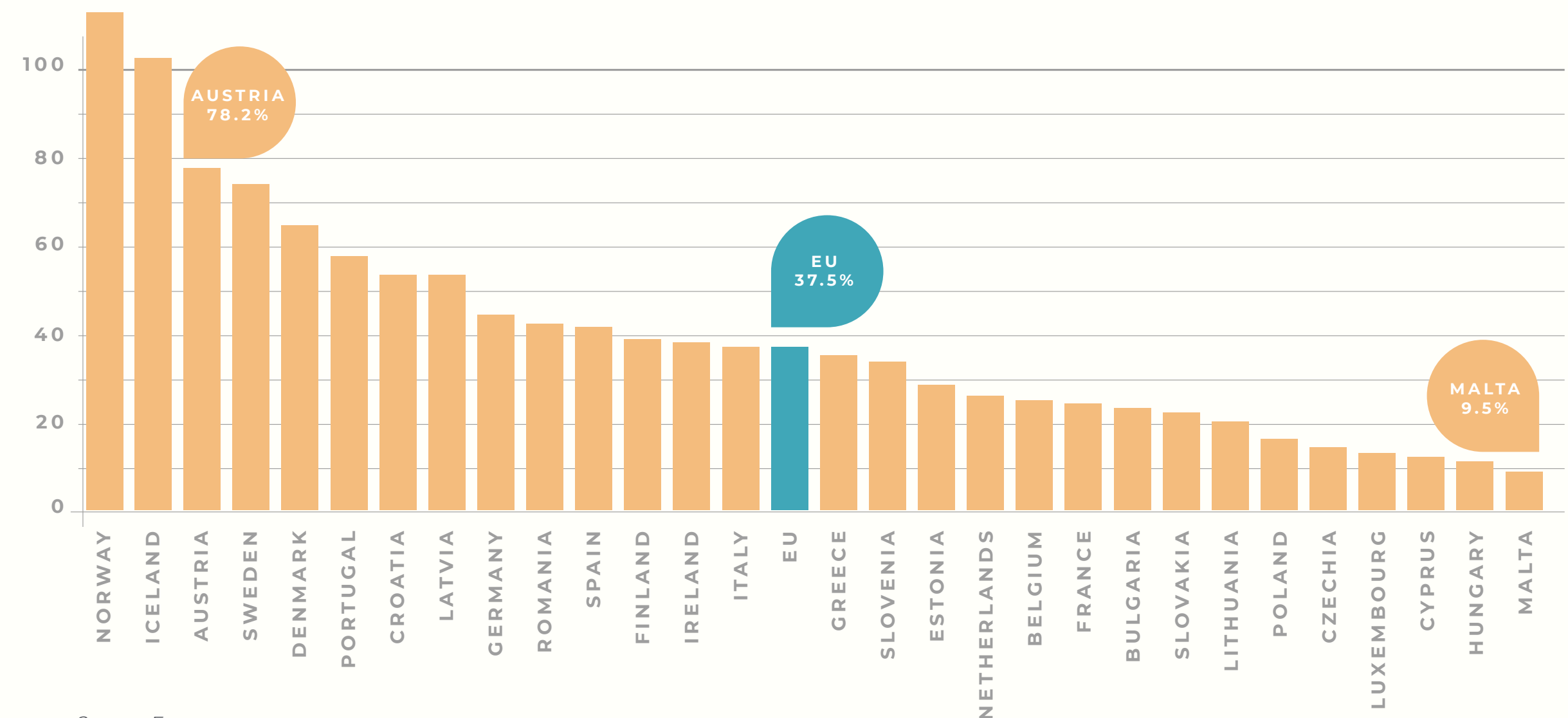
Renewable sources generating electricity in the EU

% of total, 2020



Electricity from renewable sources

% of total gross electricity consumption, 2020



Source: Eurostat

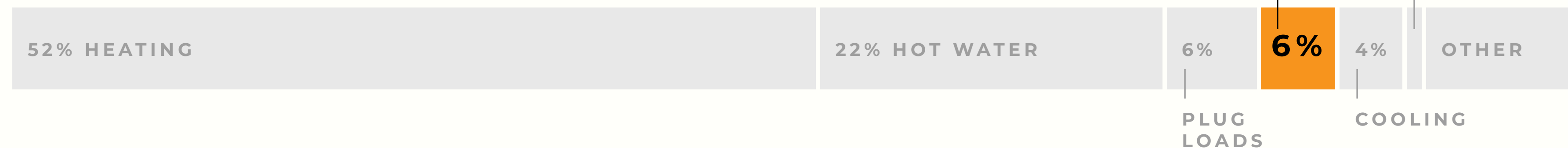
Embodied Carbon in lighting

Due to **occupancy, activities, and equipment types**, greenhouse gas emissions from building systems vary significantly between multifamily and commercial buildings.

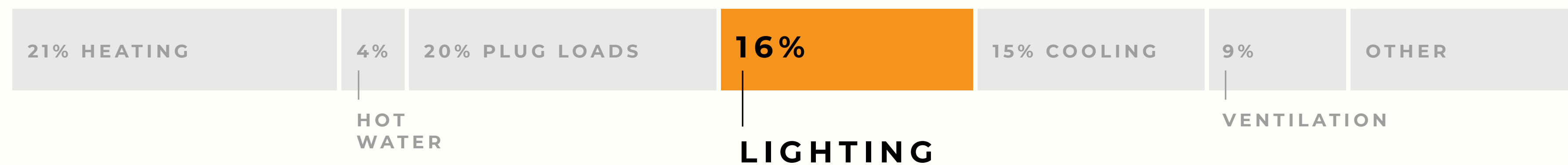
Lighting has a role to play. It has significant **energy-saving potential** when designing daylight into the

space, using energy-efficient products, integrating LMS by placing light only where it is needed with intelligent lighting design. There are also ways of reducing embodied carbon emissions by improving different product lifecycle stages.

MULTIFAMILY BUILDINGS



COMMERCIAL BUILDINGS



Source: Contribution of Buildings in NYC, <https://be-exchange.org/anatomy-intro/>

This is how we do it

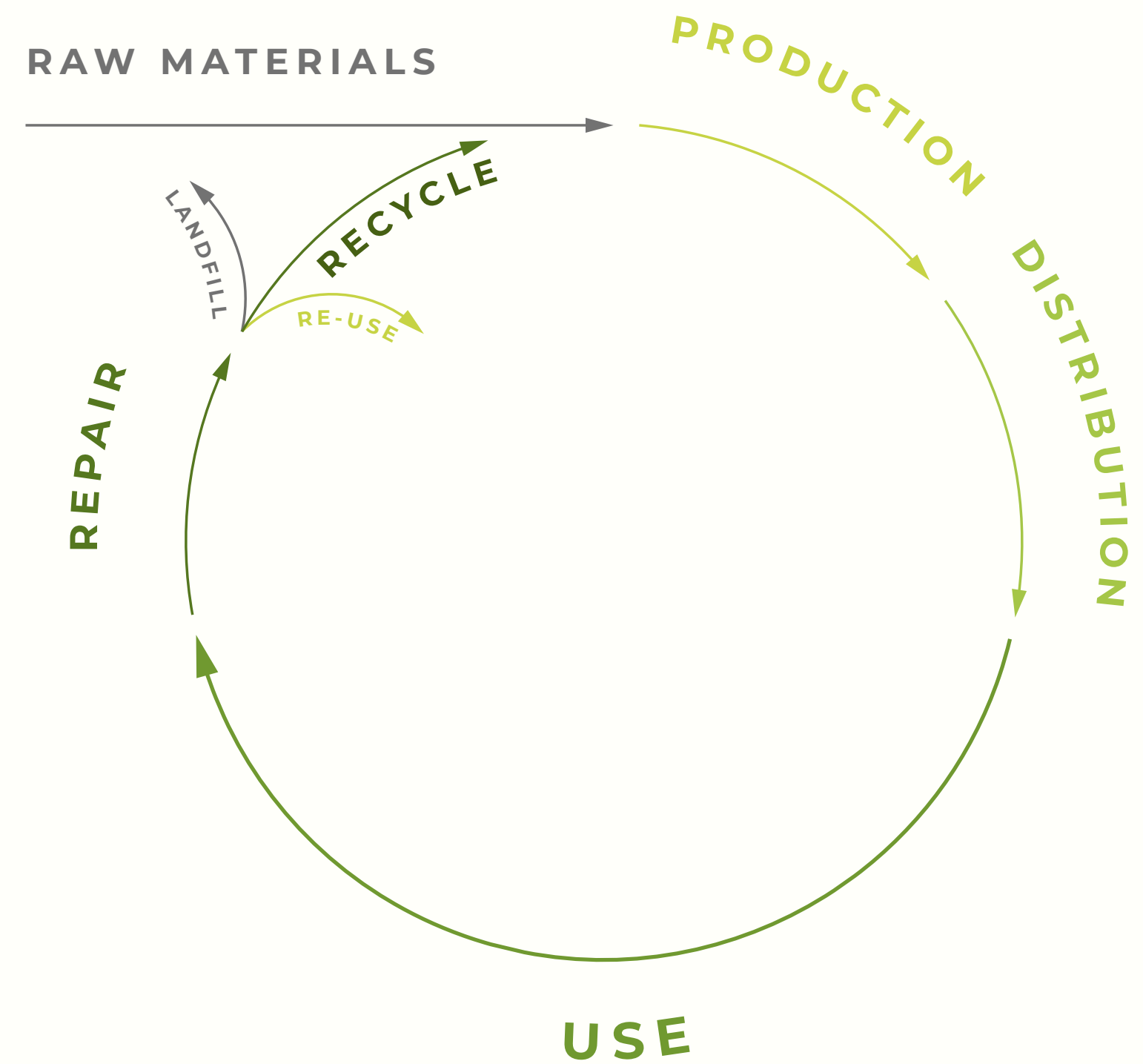
**Light is at the heart of everything
we do, nothing is hidden, everything
is transparent and visible.**



Intra product lifecycle

Carbon emission reduction has become the consensus globally.

The design of our products is circular. It considers the impact of the product in every stage of its lifecycle, from the **design phase** and the choice of **materials** and suppliers to its production, **use** and maintenance, right to the end of life—creating lighting that is good for people and the planet.



Main impact areas:



Materiality Matrix 2022

Key themes

Circular, long lasting products

Healthy living and improved well-being with light

Sustainable and ethical company

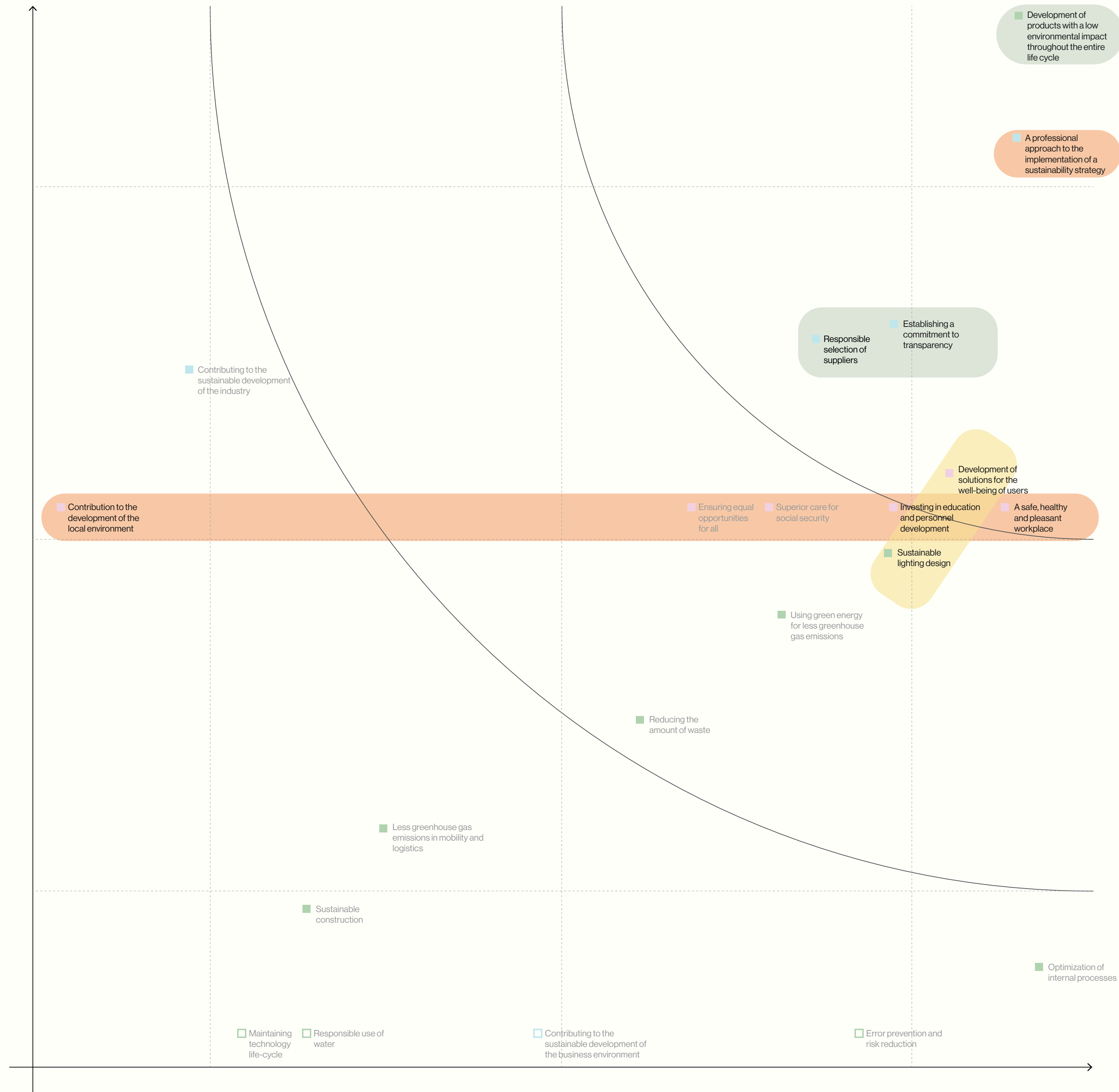
Area of responsibility

Economic responsibility

Social responsibility

Environmental responsibility

Relevance to External Stakeholders - What is expected from us?



Relevance to Intra lighting - What is important to us?

01

PRODUCTS

Circular and human-friendly products

- Products supporting people's well-being
- Responsible use of materials
- Material and data transparency
- Energy-efficient products
- Repairability, prolonging products life
- Design for disassembly
- High recyclability

02

SOLUTIONS

Healthy living and improved well-being with light

- Human-centric lighting solutions
- Supporting health, positive feelings and motivation
- All-in-one acoustics solutions
- Smart use of artificial and natural light
- Connection with different LMS systems

03

COMPANY

Sustainable and ethical company

- Becoming a net zero company
- High ethical standards
- Environmental-friendly production
- Responsible supplier choice
- A caring employer
- Care for local community



SUSTAINABLE DEVELOPMENT GOALS



At the heart of the 2030 Agenda for Sustainable Development are the 17 Sustainable Development Goals (SDGs), adopted by all **United Nations** Member States.

Products

In the end, it all comes down to the product.



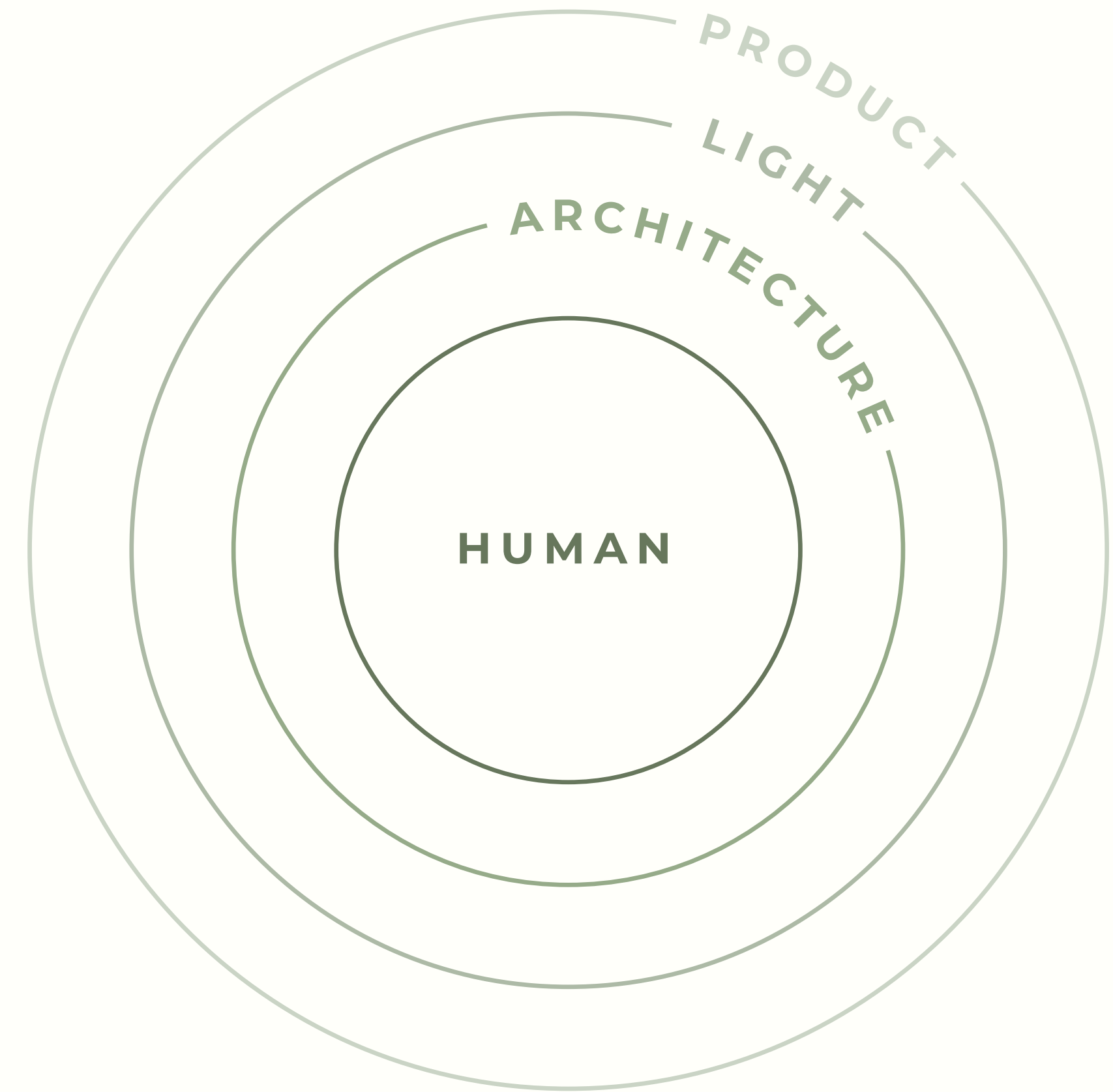
Product design

Up to 80% of products' environmental impacts are determined at the design phase.

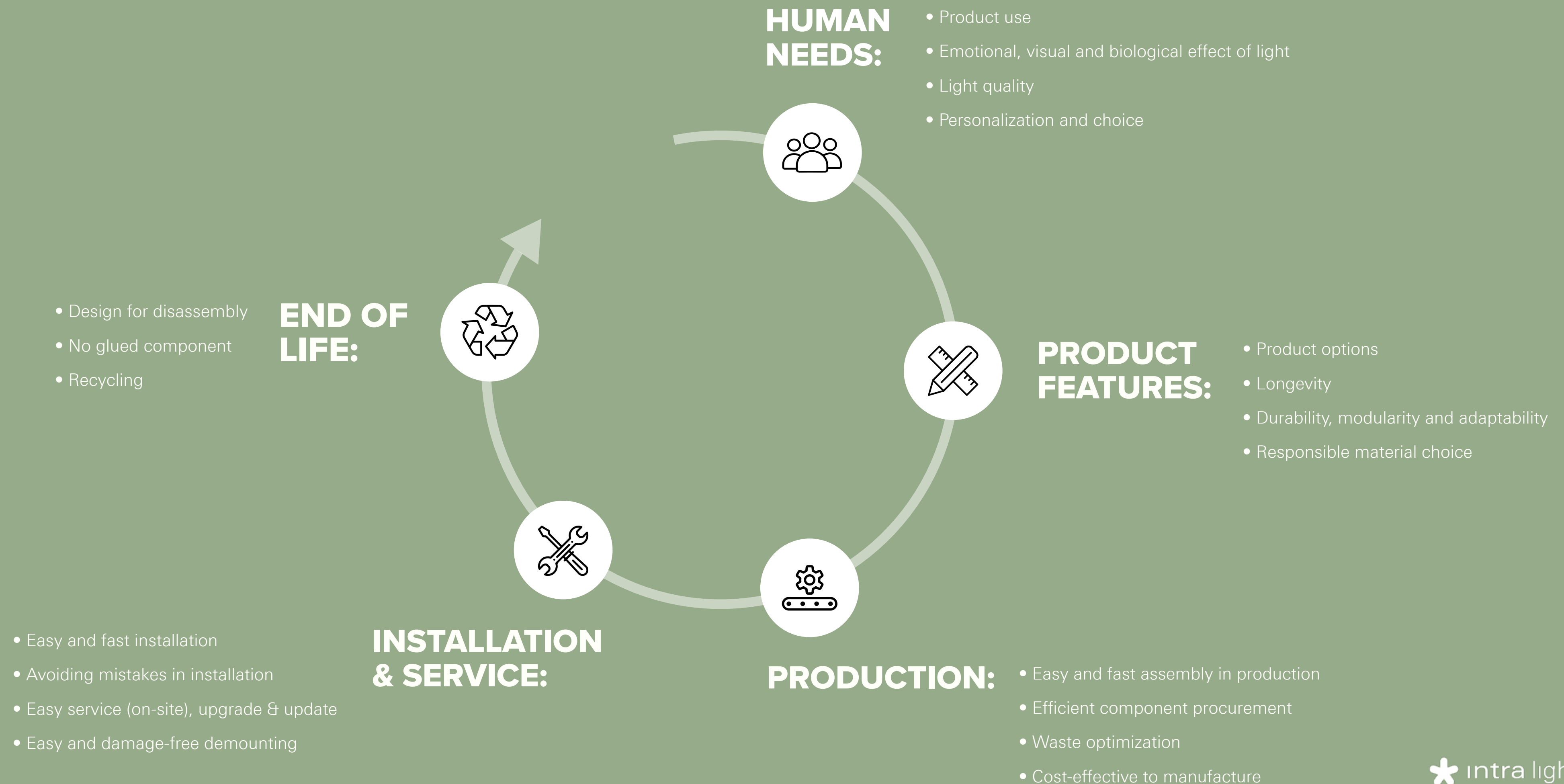
Source: Design Council, 2002

Human is always at the forefront

We are committed to designing products with **people in mind** while using **the Earth's resources** best.



Product design considerations



Longevity

Long-lasting products enable prolonged use, which helps to **slow resource consumption**. As a part of our commitment to sustainable development, we **incorporate longevity into our products**. It encompasses durability, timeless design and attention to details.

Many of our product families, like Gyon, Kalis, and Pipes, have been on the market for over 15 years. With technological updates we keep them relevant longterm.

PIPES - ON THE MARKET SINCE 2014



KALIS - ON THE MARKET SINCE 2007



GYON - ON THE MARKET SINCE 2004

Timeless Design

By **avoiding stylistic trends**, the products remain relevant and in use for years to come.

We develop our portfolio to be **easily used across different project typologies**, from office, hospitality, retail, education or residential.



BIBA



FUTON

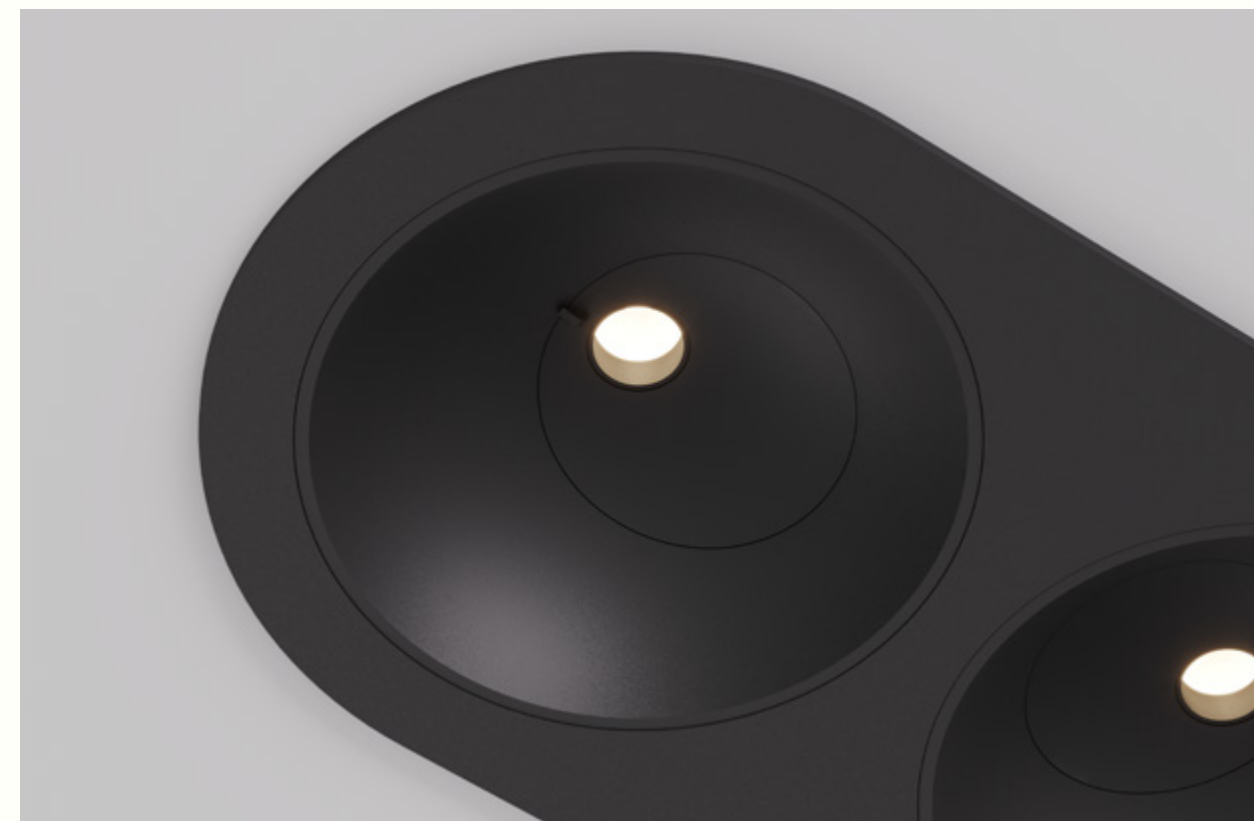
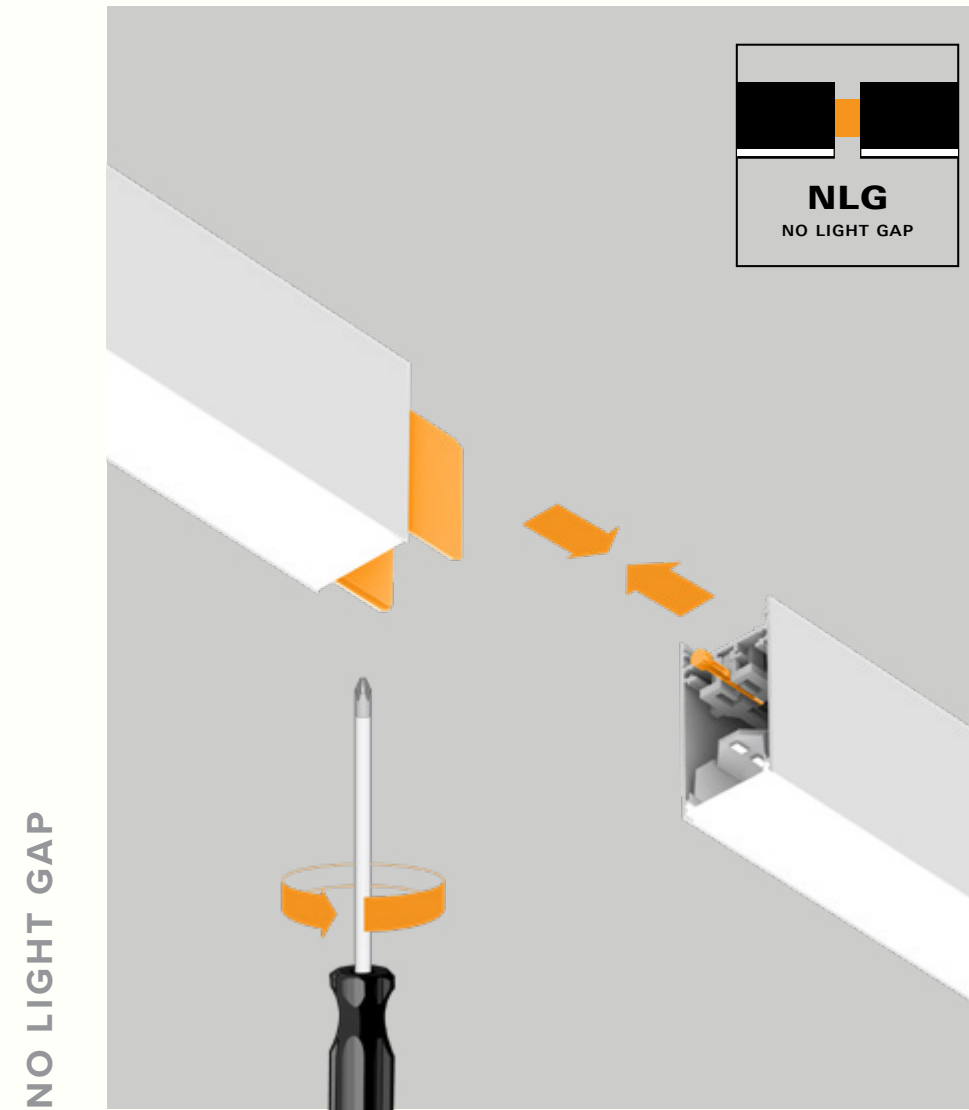


BLACK HOLE

High quality and attention to details

Be it functionality or an aesthetic aspect, **every detail is carefully thought out.**

Due to many years of practice, many details that facilitate the project work and installation are taken into consideration.



LIY - MINIMALISTIC DESIGN AND GLARE-FREE

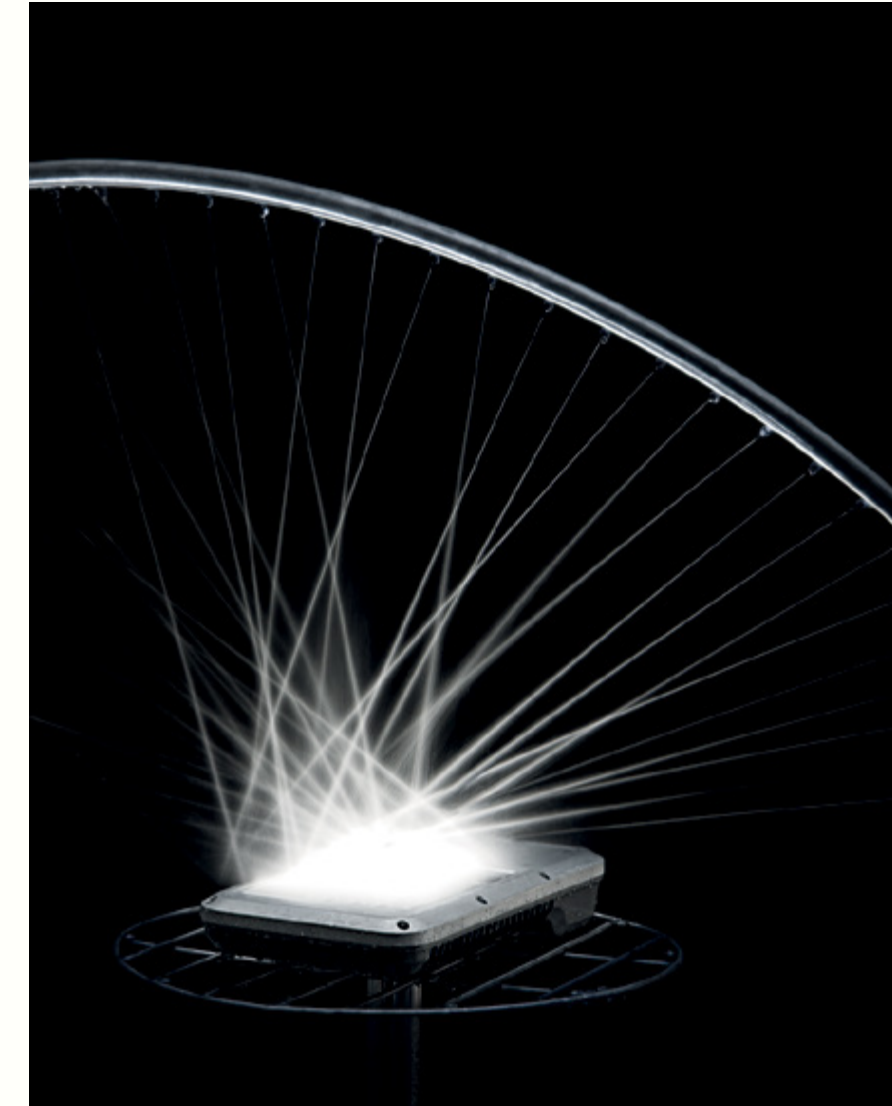


DAWN - MADE FROM A SINGLE PIECE

Durability

The products are designed for **real-world conditions** and are subjected to **rigorous testing**. One example is testing our products at 35°C, which is **above the industry and certification standards** (25°C).

We choose our suppliers and components with **strict quality standards**, which gives us the confidence to offer a **7-year Warranty** to our customers.



INDUSTRY STANDARD:

5-YEAR WARRANTY

INTRA LIGHTING:

7-YEAR WARRANTY



100%
tested products



Light source and driver lifetime

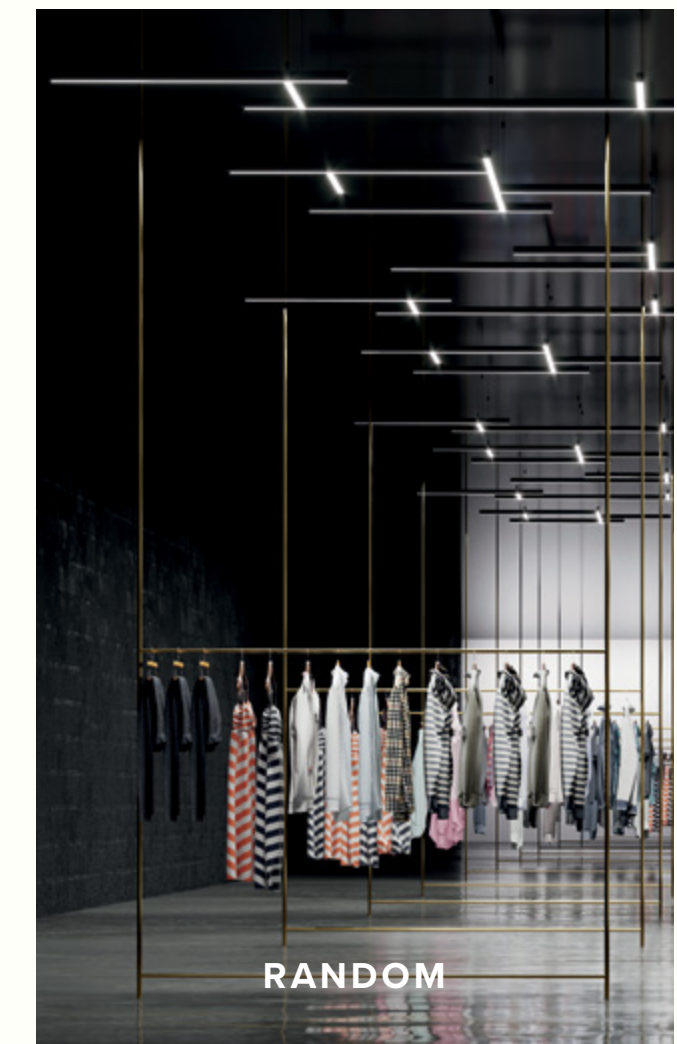
Annual operating hours/year

	OFFICE 2.500 h (9,6 h/day, 5 days/week)	RESIDENTIAL 3.500 h (9,7 h/day, 7 days/week)	HOTEL / HOSPITAL 5.000 h (14 h/day, 7 days/week)
50k hrs	20 years	14 years	10 years
100k hrs	40 years	28 years	20 years

Modularity

Modularity has always been one of the key features of our product design. We offer a **wide choice of options but still meet individual users' needs with personalisation** or adaptability to different ceiling types.

With modular design, multiple components (like PCB) can be interchangeable across different versions or product families to **minimise material and component variations**. And through time, the product can be adjusted to new settings and needs easily.



Materials

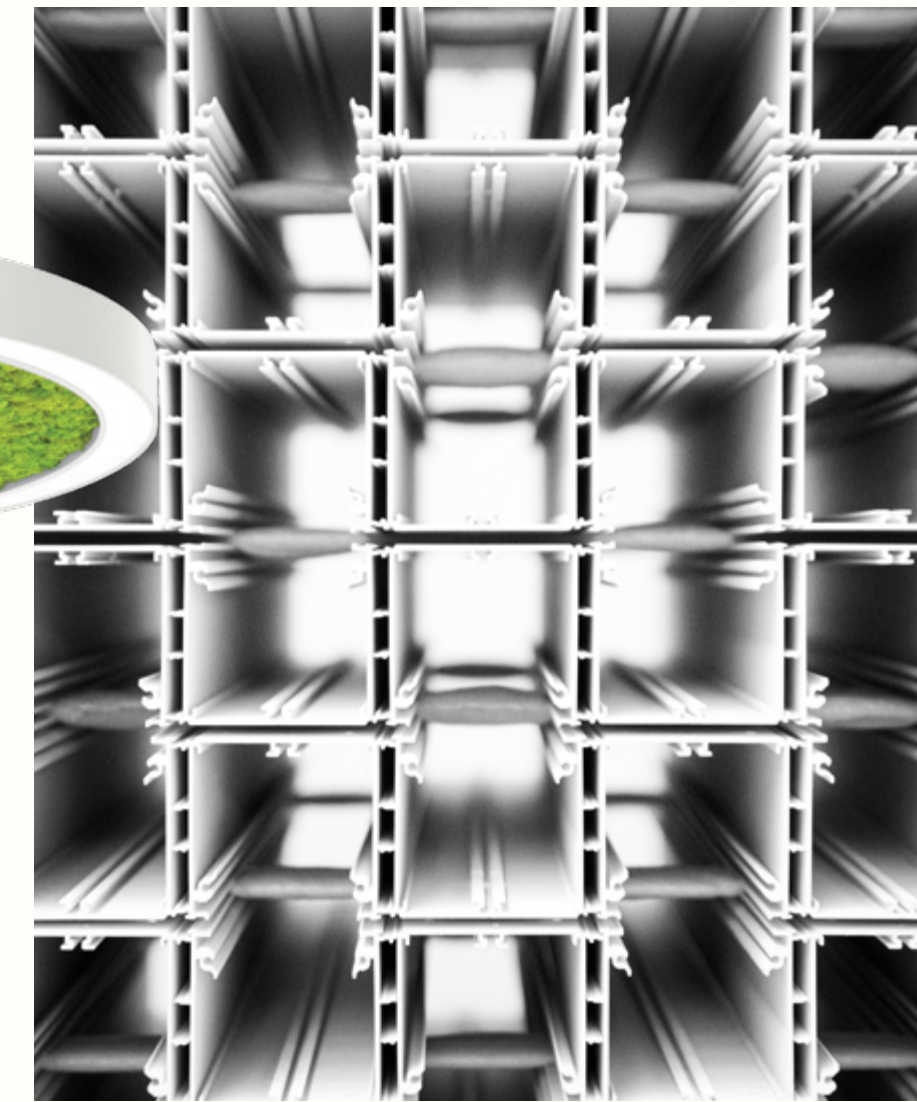
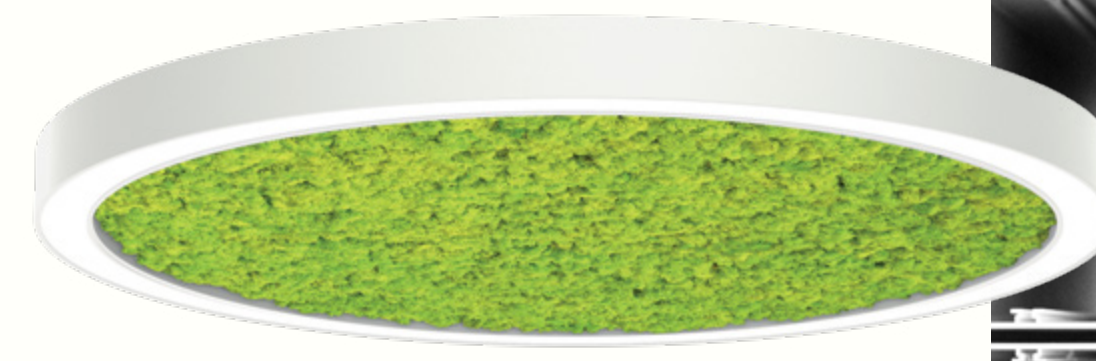
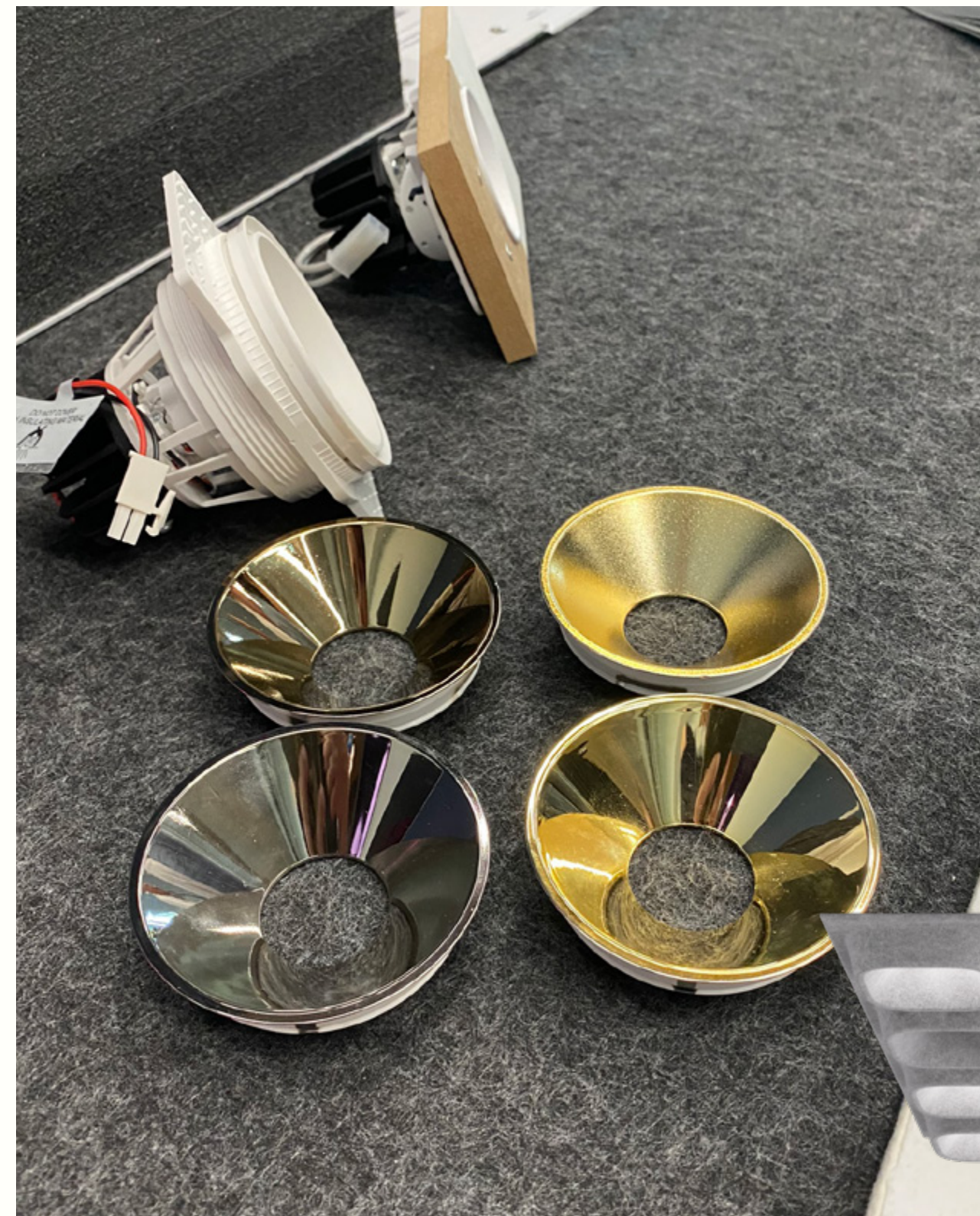
There is no good product
without good materials.

Material choice and sourcing

As a result of our procurement policies and compliance with official certification programmes, Intra ensures that the materials purchased **meet its self-imposed conditions concerning human rights and environmental standards.**

Main materials we use:

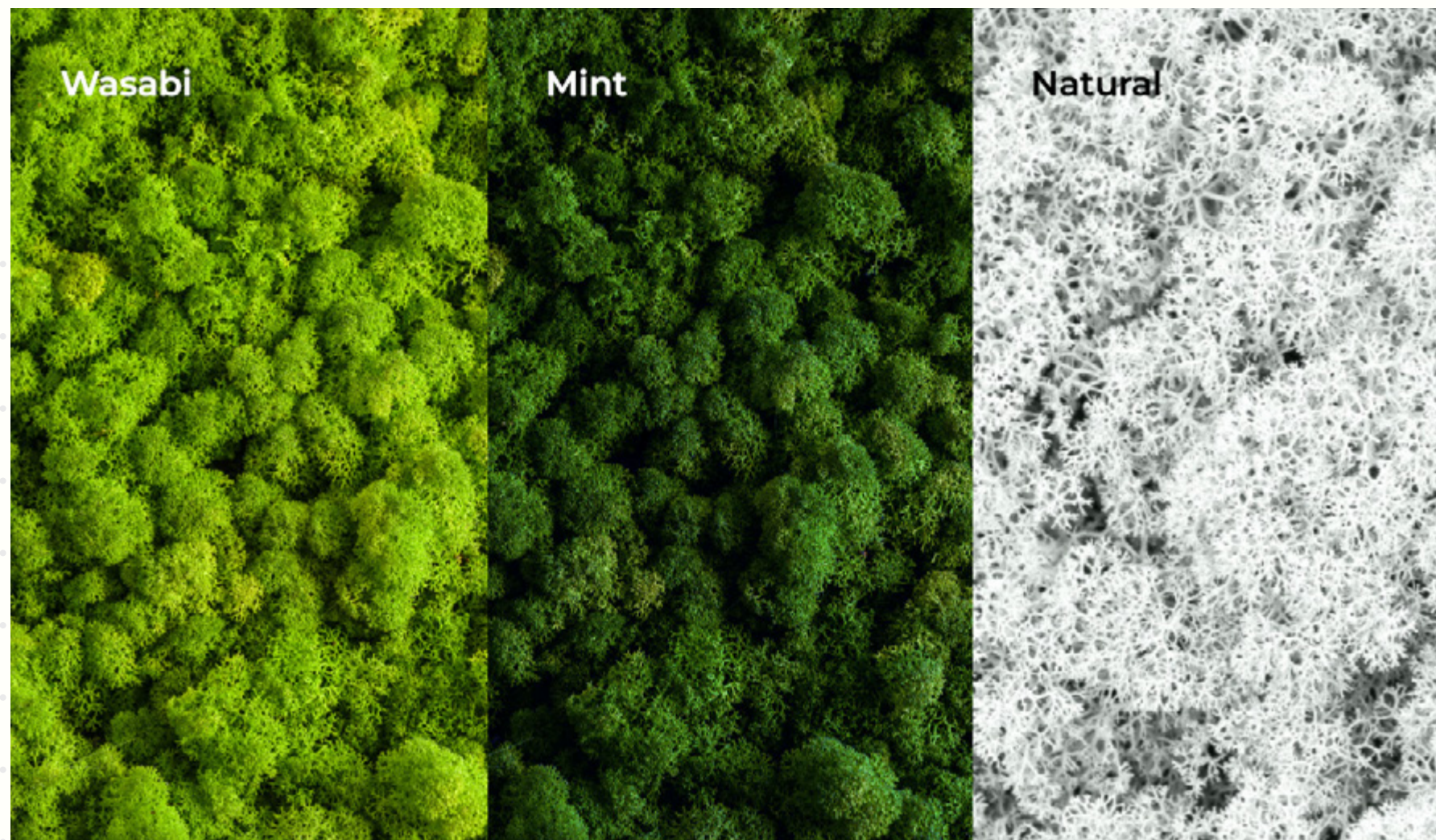
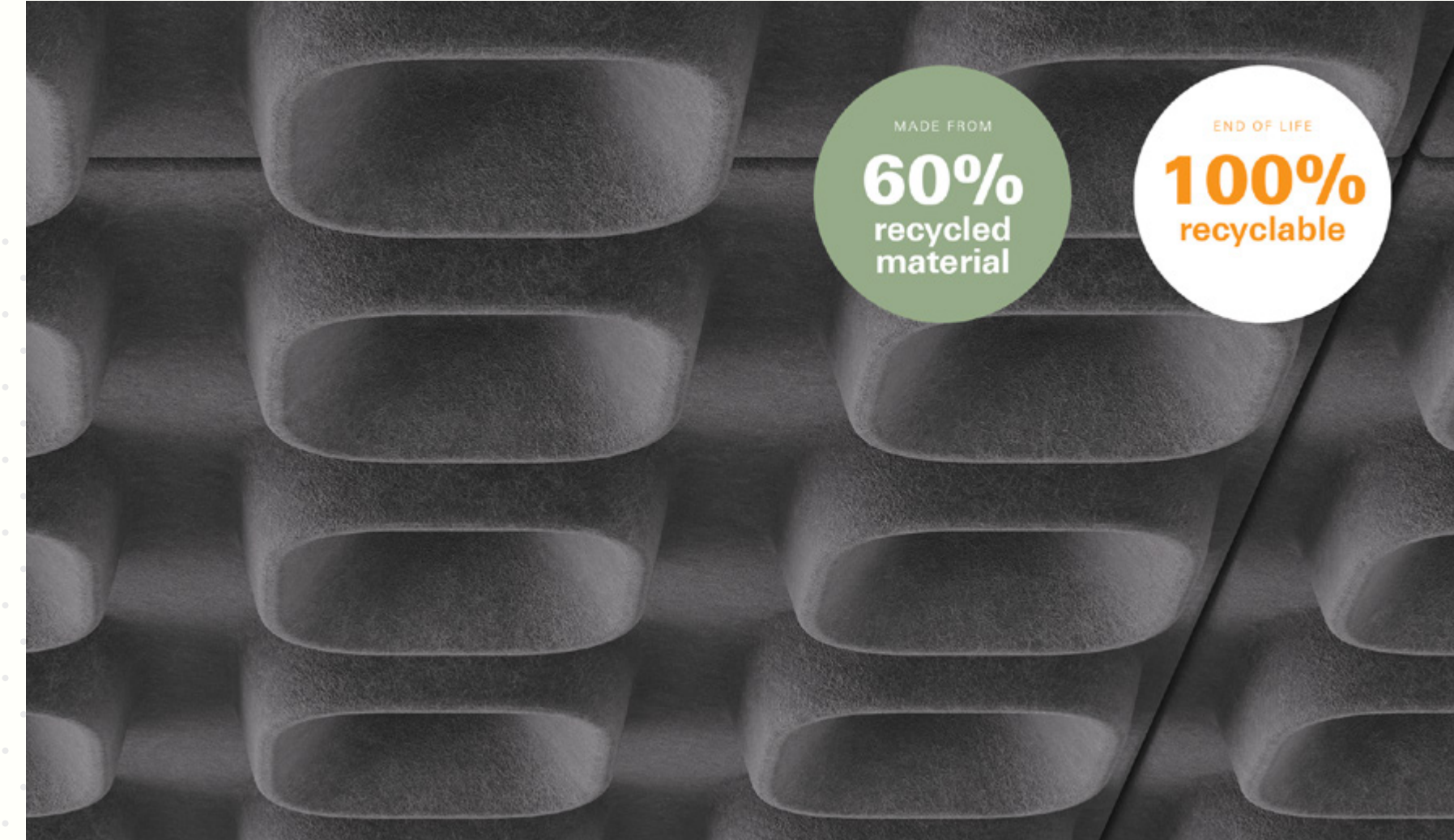
- Aluminium
- Plastic
- Sheet metal
- Electronic components



Increase recycled content

We explore **new ways to use waste as a resource and decrease the use of virgin materials**, which saves energy, and promotes a more sustainable approach to consumption, helping to protect the environment for future generations.

Vyko acoustic pannel is made from 60% recycled material and is 100% recyclable at the end of its life.



100% natural moss

MOSSwall® acoustic panels in Acousto is produced from a natural lichen by using a 100% ecological application.



Material optimization

We look into ways to optimize the use of materials in product design, light planning, production and also in the installation phase.

- Use less material when possible
- Optimization of profile lengths
- Reduce the number of different materials inside a product
- Good lighting design and no over-illumination

Reduction of components

Fewer screws, electric wires or switches, joining more products on a single driver and **reducing the component** use can save time on installation, carbon emission and money. A product that **solves two problems at once**, like noise reduction and light, can be a more sustainable solution.





Reuse of post-industrial waste from our own production sites

Post-industrial waste parts are returned in the process and mixed with virgin ones for new products. Approximately **20% recycled content is used in each white product.**

The transition from aluminium to the thermoplastic heat sink

Thermoplastic is a good solution for less powerful products with moderate heat dissipation needs, such as Liy and Vyko.

Benefits of thermoplastic compared to aluminium:

- The manufacturing process is less carbon and energy-intensive
- Less waste is created during the production process of injection moulding compared to the aluminium casting process
- No painting process is required
- Reduce transport by making the finished piece in-house, where the assembly happens as well. Less weight on transportation
- The lifetime of toolings is longer (80.000 - 100.000 pieces for aluminium compared to 1.000.000 pieces for thermoplastic heat sink)



Industry Average EPD

We've joined **Green Light Alliance in the LCA incubator**, where we are in the process of preparing an industry average EPD, for typical products:

- **Linear** (Trix, Gyon)
- **Downlight** (Pipes R)
- **Cylinder** (Pipes S)
- **Troffer** (106)

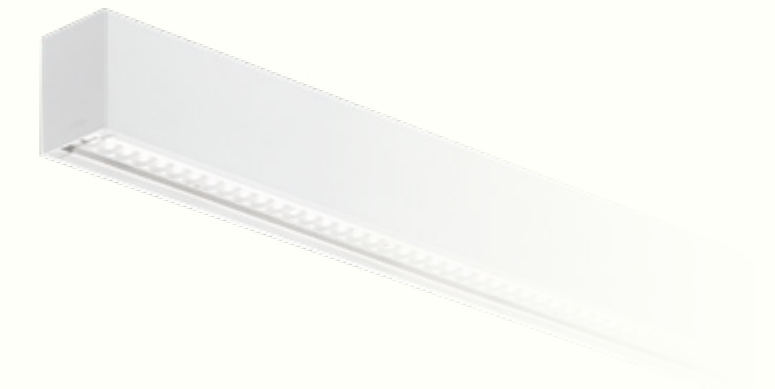
The LCA incubator:

- consist of Manufacturers and Designers
- **September 2022 - May 2023**

An Environmental Product Declaration (EPD) is a standardized document informing about a product's environmental and human health impact.



Gyon



Trix



Pipes R



Pipes S



106

Product specific EPD

At the moment, there is **no standardization in the lighting industry** that allows real data comparison among different producers.

The Industry Average EPD and the North American Life Cycle Inventory Template (PNNL) are coming out in spring 2023 and will bring more **standardized data shape and process optimization**.

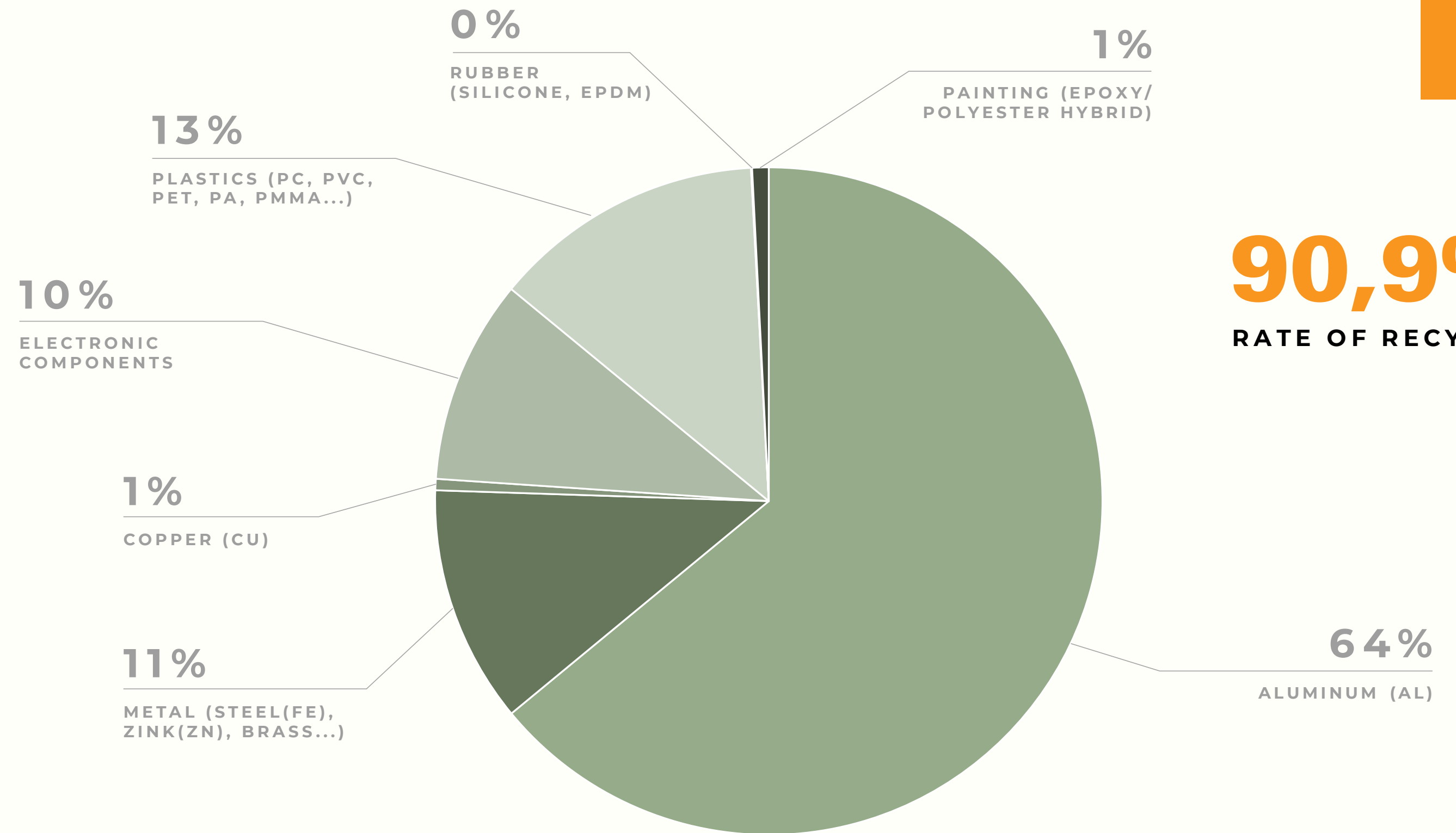
We strive that the **barriers to achieving LCAs**, the time and effort to gather data, and the costs will drop drastically over time, making adoption easier. We have over 2 million product codes, so data automatization and process optimization are necessary.



Material transparency

Customers will be able to make their purchasing decisions based on detailed information.

Bill of materials will be available for each product code automatically out of the ERP system.



90,9%
RATE OF RECYCLABILITY

Gyon

Prolonging use

“We want to keep our products
in use for as long as possible.”

Servicing and prolonging life

We support our products and clients long-term.

All the products are produced in-house, so all product documentation is available.

Since the driver and light source will be the first to fail, **servicing the product is possible on-site** with all products made from 2020 on.



Burning hours monitoring

In renovations, office rentals, retail or hospitality projects, many products are thrown away way too early because users don't know how much life a product still has.

With systems like **DALI-2 (with D4i* drivers)**, monitoring burning hours and determining the driver and light source lifetime is possible, together with predicting the service time and possible malfunctions to optimize the costs and prolongue lifetime.

Delivering strategies that will allow spaces to adapt and prolong their life will also prolong luminaires' life as well.

*Digital Illumination Interface Alliance.

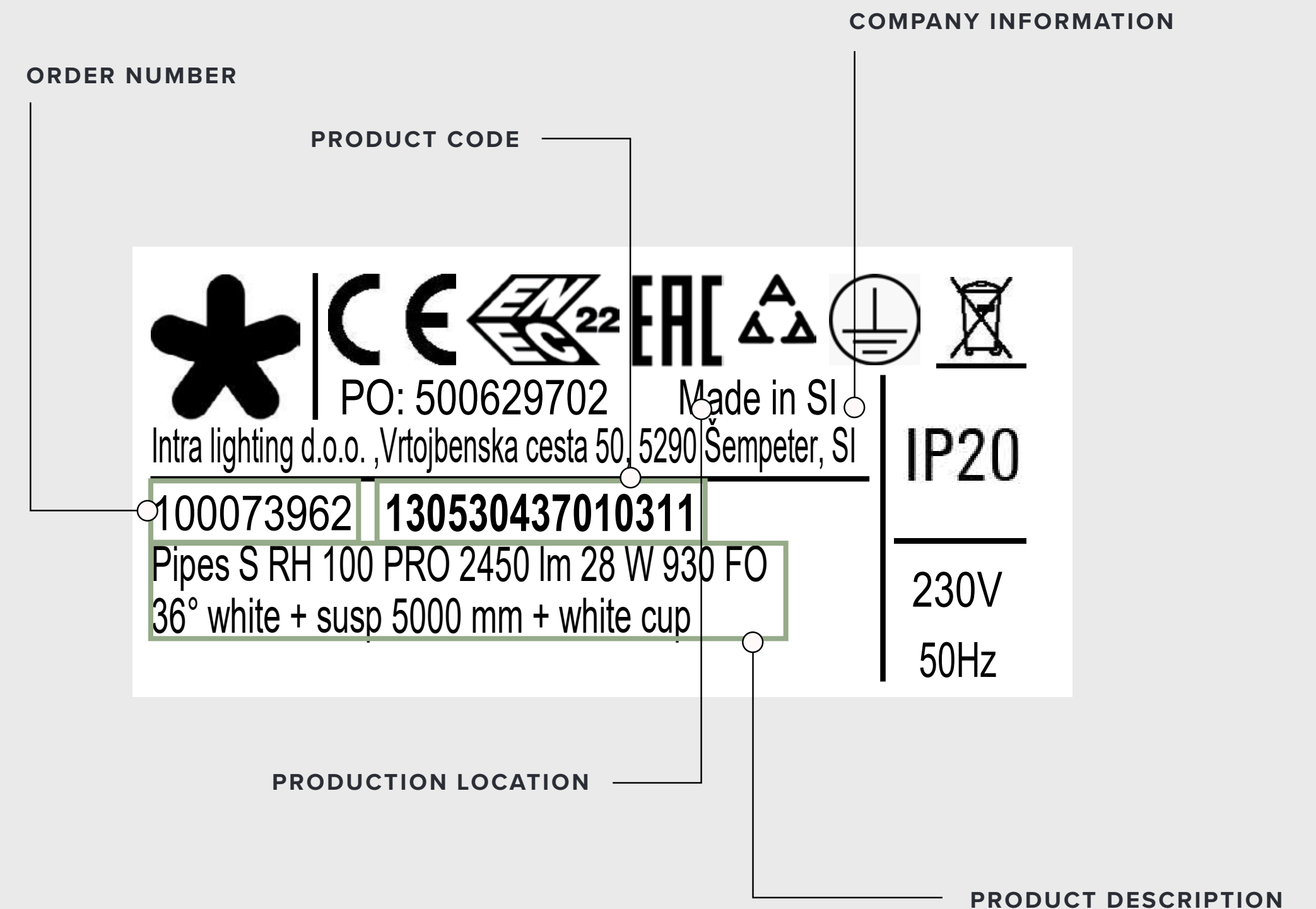


Product traceability

We have a record of every product made.

Each luminaire has a label with a product code and order number. We can access product information from technical data and documentation, drawings, installed components, quality control information, etc.

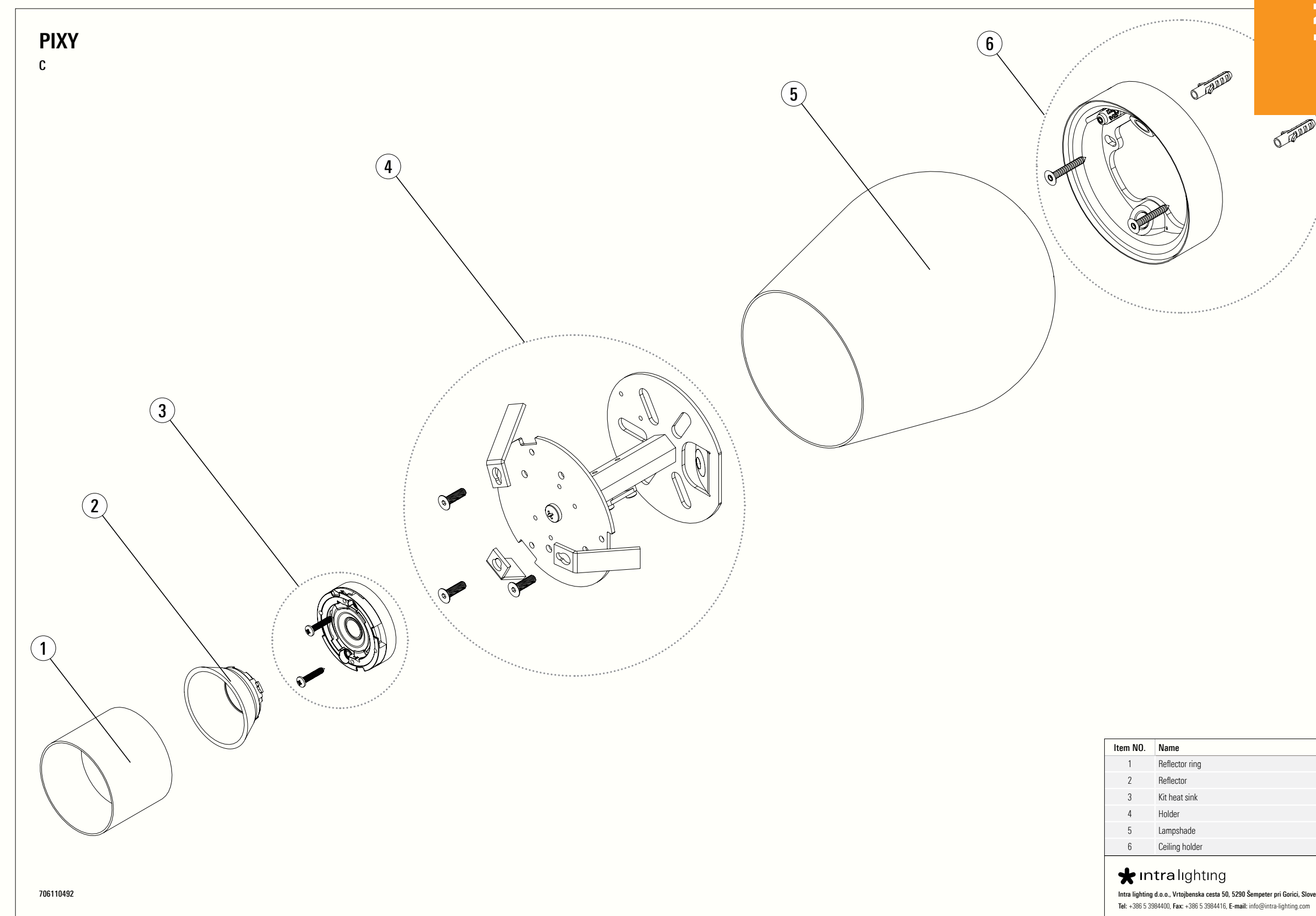
Product lable with key product information:



Spare parts availability

Spare parts are available to order through the technical or quality department. We can help you recognize the malfunctions and support you in finding the solution.

We facilitate handling spare parts by unifying the product parts across different versions and families.



End of life

(No) end of life.
The life goes on.

Design for disassembly

We are thinking about how the product comes apart as well.

- No glued components
- Easy to disassemble and separate product parts
- Facilitating recycling and disposal



CLICK-IN SYSTEM



USE OF MAGNETS



SCREW SYSTEM

Energy

Use less, save more.

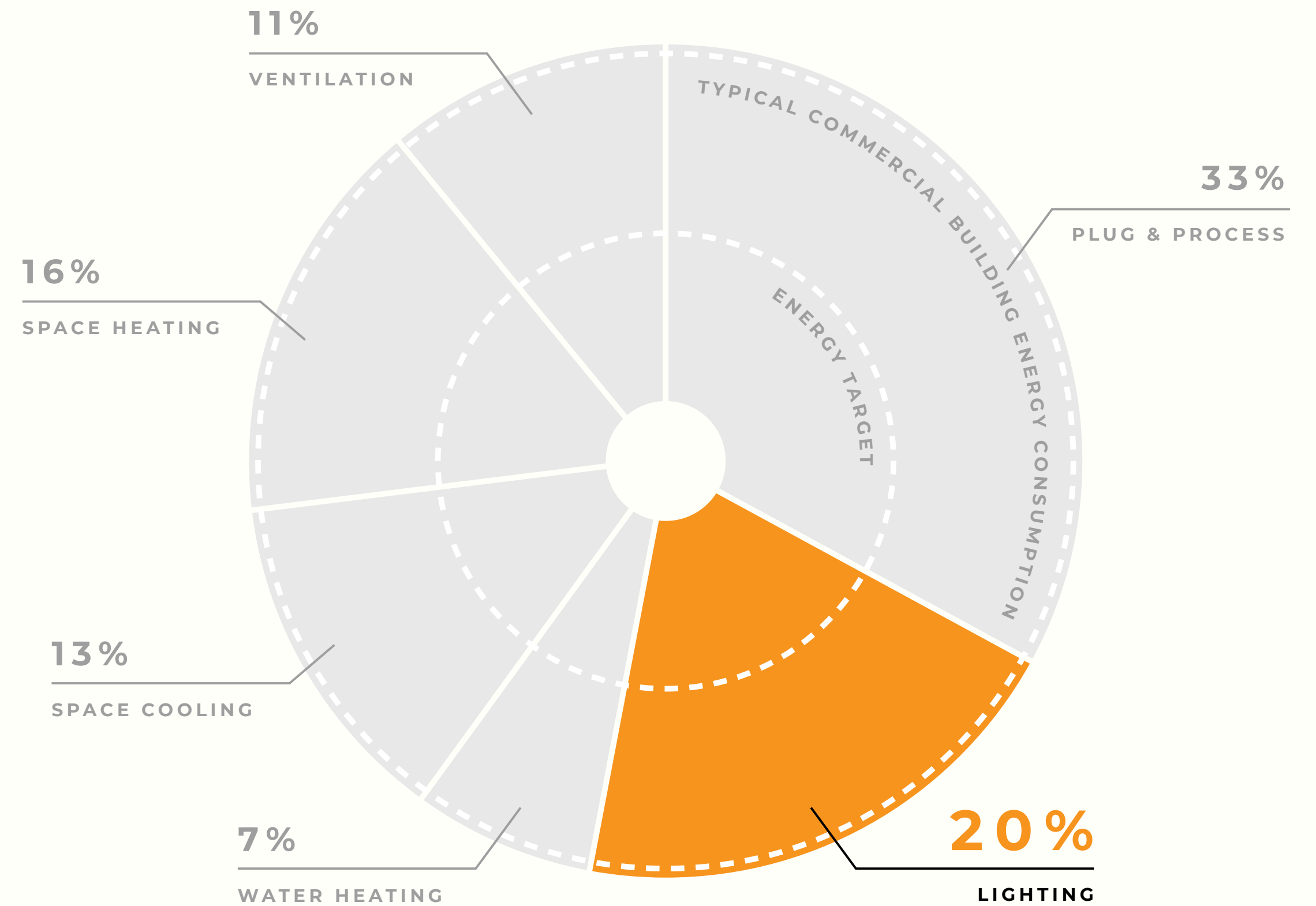


ENERGY

Lighting in a typical commercial building

Lighting represents approximately 20% of a typical Commercial Building Energy consumption.

Significant energy savings can be made by **designing daylight into the space, using energy-efficient products, professional lighting design, and integration of occupancy and daylight sensors**, reaching greater occupant comfort, wellness, productivity and improved aesthetics.



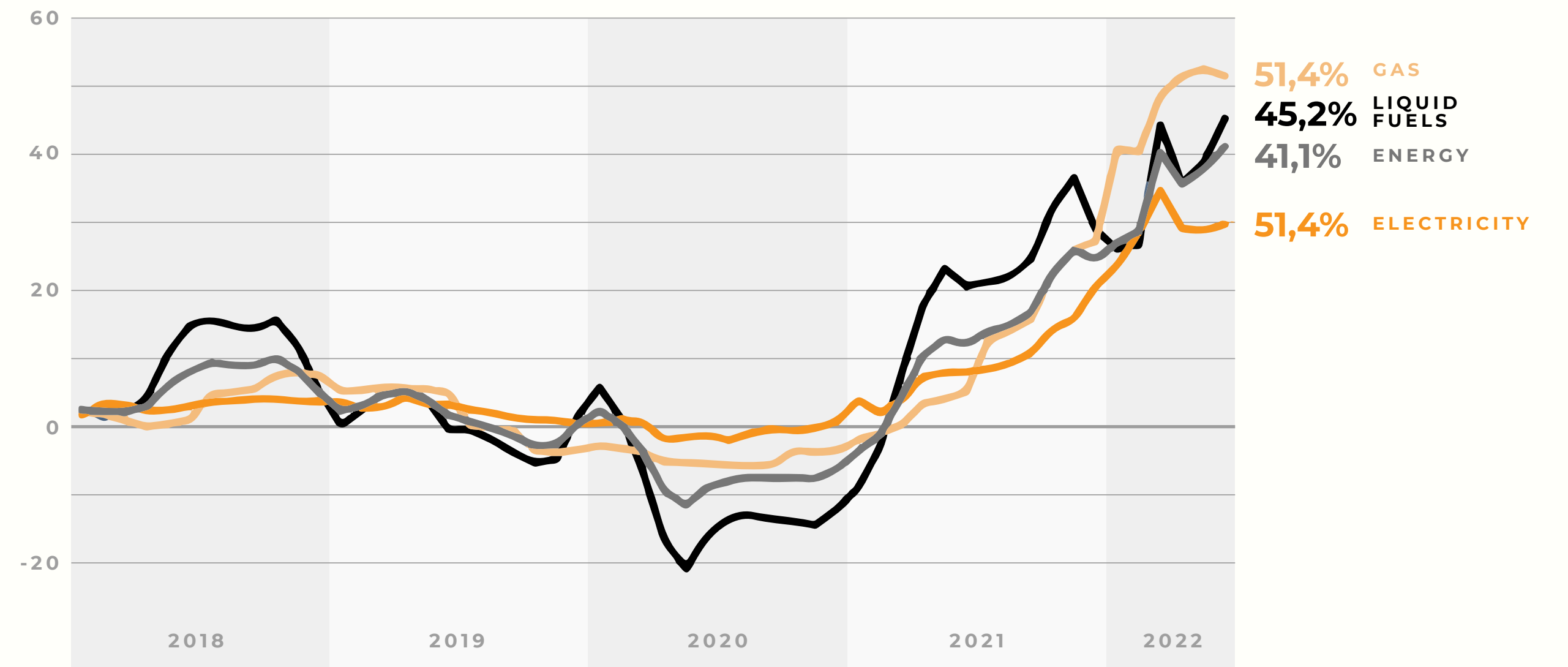
Source: Energy consumption in a typical commercial building, Arup, Zero Net Energy and Carbon; Data source: Realizing High-Performance Buildings, NREL, March 2015

Rising energy costs

The immediate need for a drastic reduction in energy consumption is commonplace worldwide. Focusing on sustainability, energy security and improving energy efficiency will demand new solutions to reduce energy costs and waste.

Energy Prices Keep Climbing in the EU

Monthly rate of inflation in terms of electricity, gas, liquid fuels and energy as a whole in the EU (in %)



Source: Eurostat

100%* green energy for production

We started early with the use of renewable energy sources. We installed the first solar power plant in 2012 in Miren. In 2020, we installed a new solar power plant on the roof of the new factory and will add new solar panels in the future.

** Under the EU Taxonomy framework from 2022 all the energy we use is green. The powder coating system is run by gas.*

Renewables (solar):

2022

29%* | -214 t CO₂

2023

72%* | -526 t CO₂

2024

100% | -784 t CO₂

*The remaining energy is nuclear, a low-carbon alternative to fossil fuels.

Energy efficient products

- Up to 165 lm/W

Other important parameters:

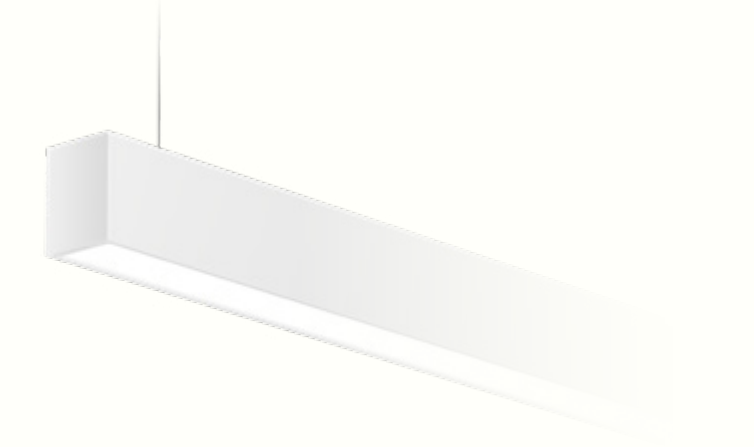
- Lighting quality
- UGR<19 (Glare control)
- No flickering
- Less luminaires for more luminance



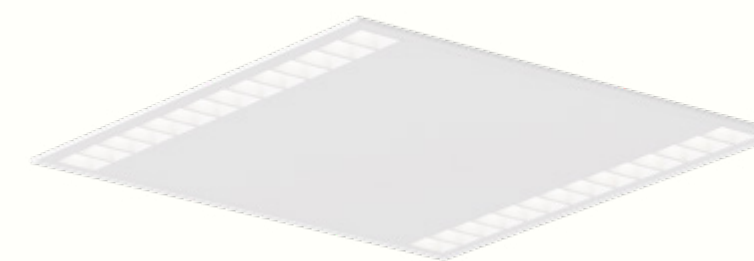
Rylo Pro F



Trix



Gyon LDP



Demi



Pipes R



Nitor RV Flat

Rylo Pro

Office first



LUMINAIRE LUMINOUS FLUX

1130 lm - 12111 lm

LED COLOUR

927, 930, 935, 940

GLARE CONTROL

UGR<16

DRIVER

Casambi, DALI, FO, IQ,
sensor



Trix

Uncompromising, no tricks

165
lm/W



INSTALLATION

Recessed, Ceiling / Suspended

OPTIC TYPE

30°, 60°, 60° (UGR<19),
110°, Double asymmetric,
Asymmetric

LED COLOUR

830, 840, 930, 940

LUMINAIRE LUMINOUS FLUX

1900 - 7800 lm/m

Gyon

More is more



INSTALLATION

Recessed, Ceiling /
Suspended (S, SDI)

GLARE CONTROL

UGR<19 (LDP,
HMP optic)

OPTICS

SOP, DPR, LDP,
HMP, AS

MODULE TYPE

Single, Linear,
Corner

LUMINAIRE LUMINOUS FLUX

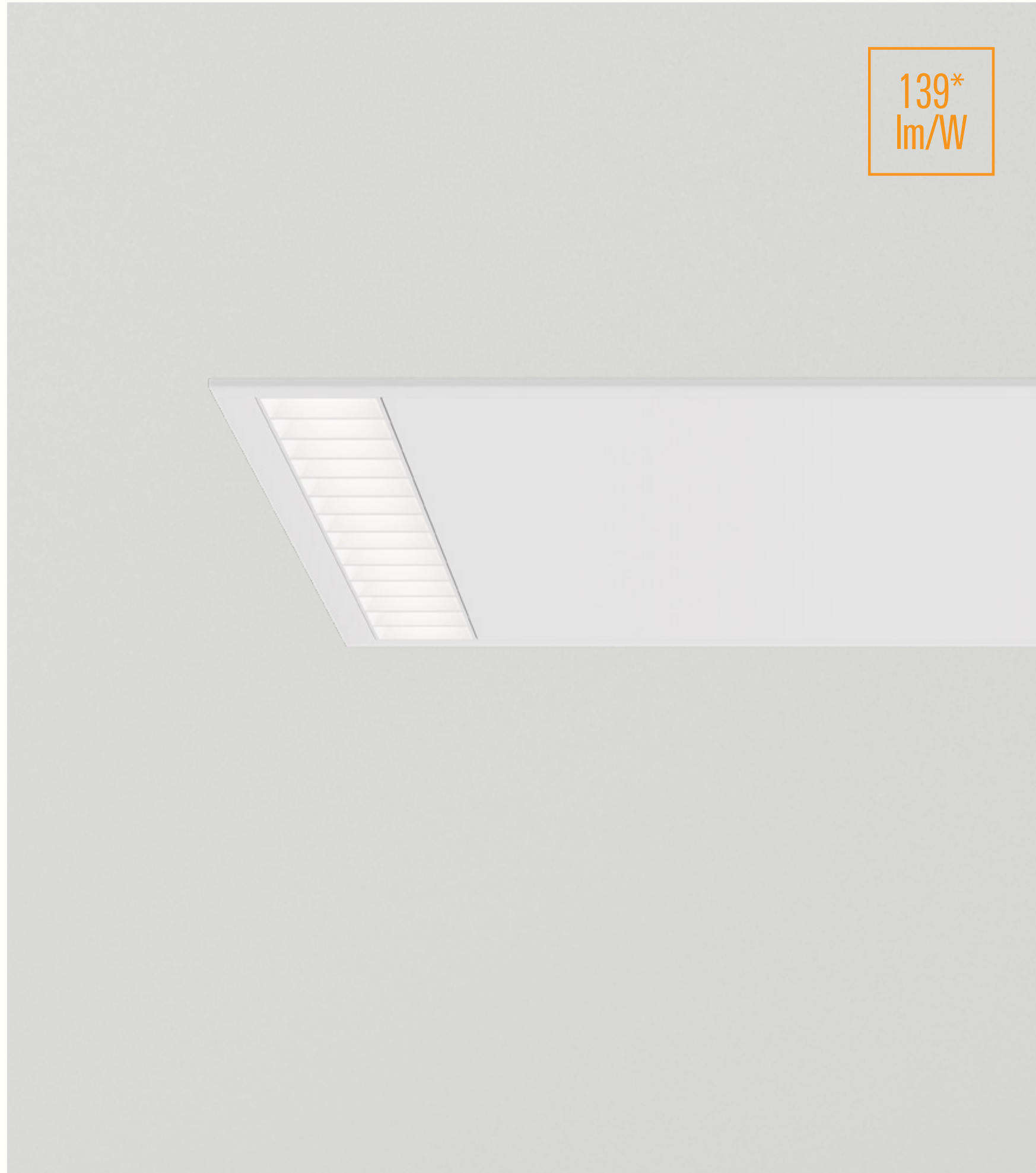
800 - 5200 lm/m

Demi

Office reviver

139*
lm/W

*Version: LGO W60 2200 lm 940



INSTALLATION	GLARE CONTROL	OPTICS	LED COLOUR	LUMINAIRE LUMINOUS FLUX
Recessed, Ceiling, Suspended	UGR<16, UGR<19	DPR, HMP, SOP	830, 840, 930, 940,TW	1900 - 8500 lm

Pipes R

Totally responsive



DIAMETER	BEAM ANGLE	LUMINAIRE LUMINOUS FLUX	LED COLOUR
60 - 140 mm	15° - 62°	up to 6500 lm	CRI>80, CRI>90, Vivid, Clear White, Plant White, Tunable White



Nitor

Simply efficient



DIAMETER

Ø 154, 240 mm

OPTICS

10°, 15°, 30°, 56°, AS,
DPR, SOP, Wide

LUMINAIRE LUMINOUS FLUX

970 - 6600 lm

IP PROTECTION

IP20, IP44,
IP54



Planning light in an energy efficient way

The biggest savings can be made with professional lighting design: by designing **light where it is needed, when it is needed and as much as is needed.**

Lighting can impact mood, circadian rhythms, and physical health, affecting the productivity and creativity of employees.

Poor lighting leads to fatigue, headaches and illness. Major causes of absence are headaches (57%), back, neck and shoulder complaints (66%) and eye problems (42%).



Standards:

< 11 W / m²

EN 12464/1:2021/TSG-1-004:2022

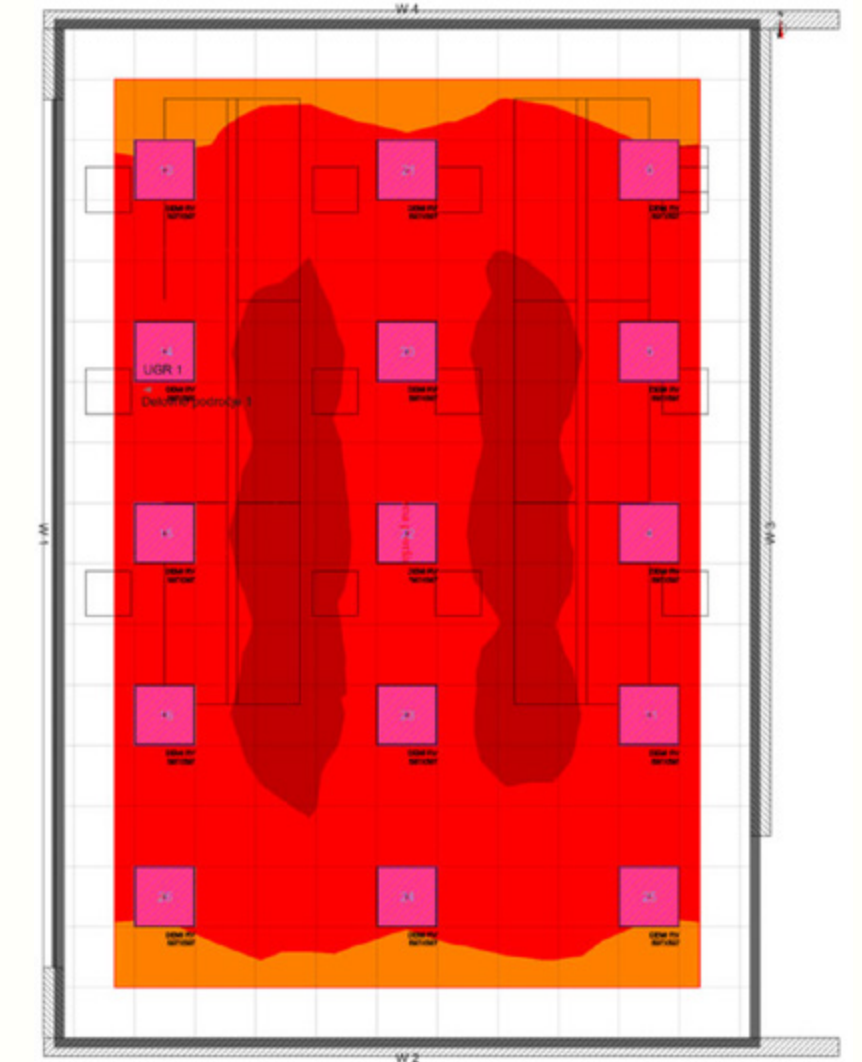
Best results:

< 4 W / m²

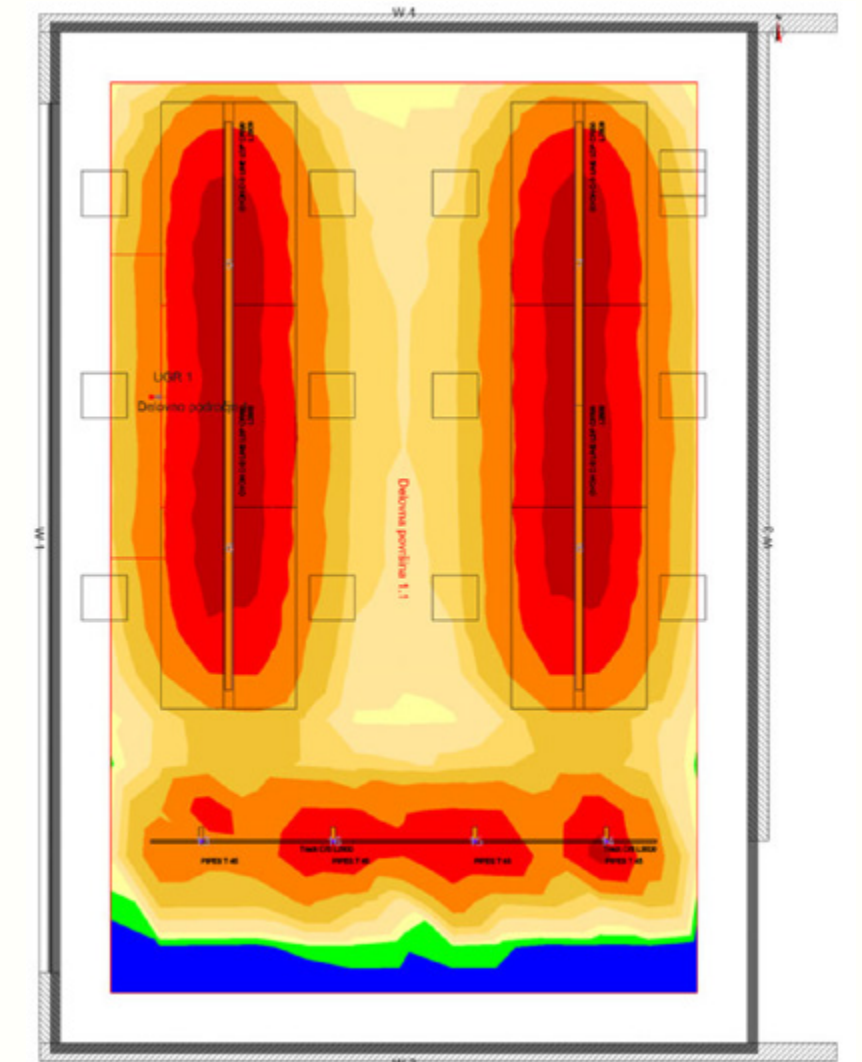
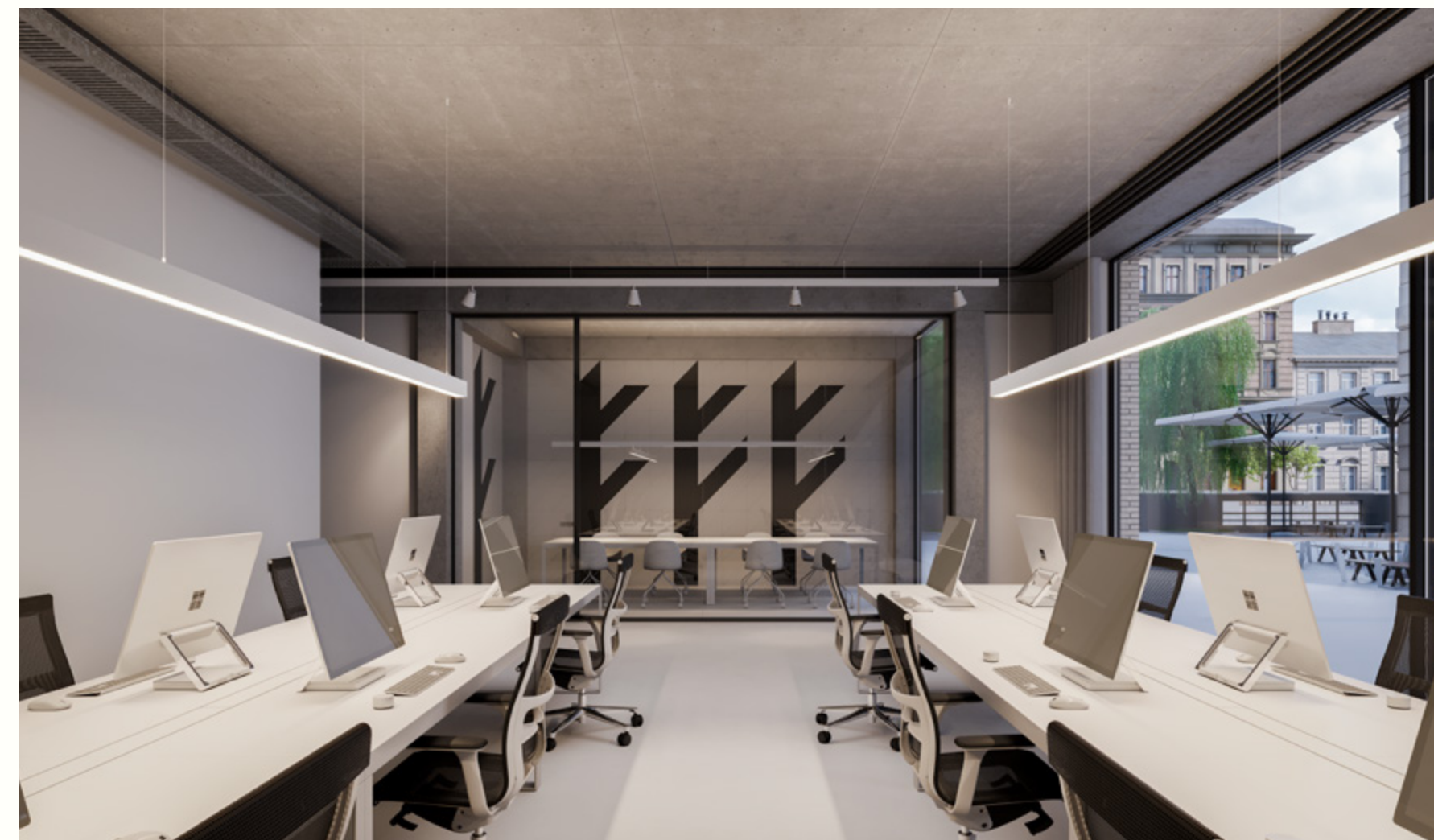
From even illumination to light where is needed

Days of flat illumination are over. When entering the space, we see different lighting levels tailored to occupants' needs and furniture positions. It allows people to look good on camera and feel good when working.

Solutions may vary from the minimalistic product above the table to a more creative composition. Energy savings are happening all around the tables.



644 lx | Em/Emin*0,93 | UGR<17.9 | 7,1 W/m²



684 lx | Em/Emin=0,72 | UGR<=17.8 | 3,2 W/m²

Relamping in existing buildings

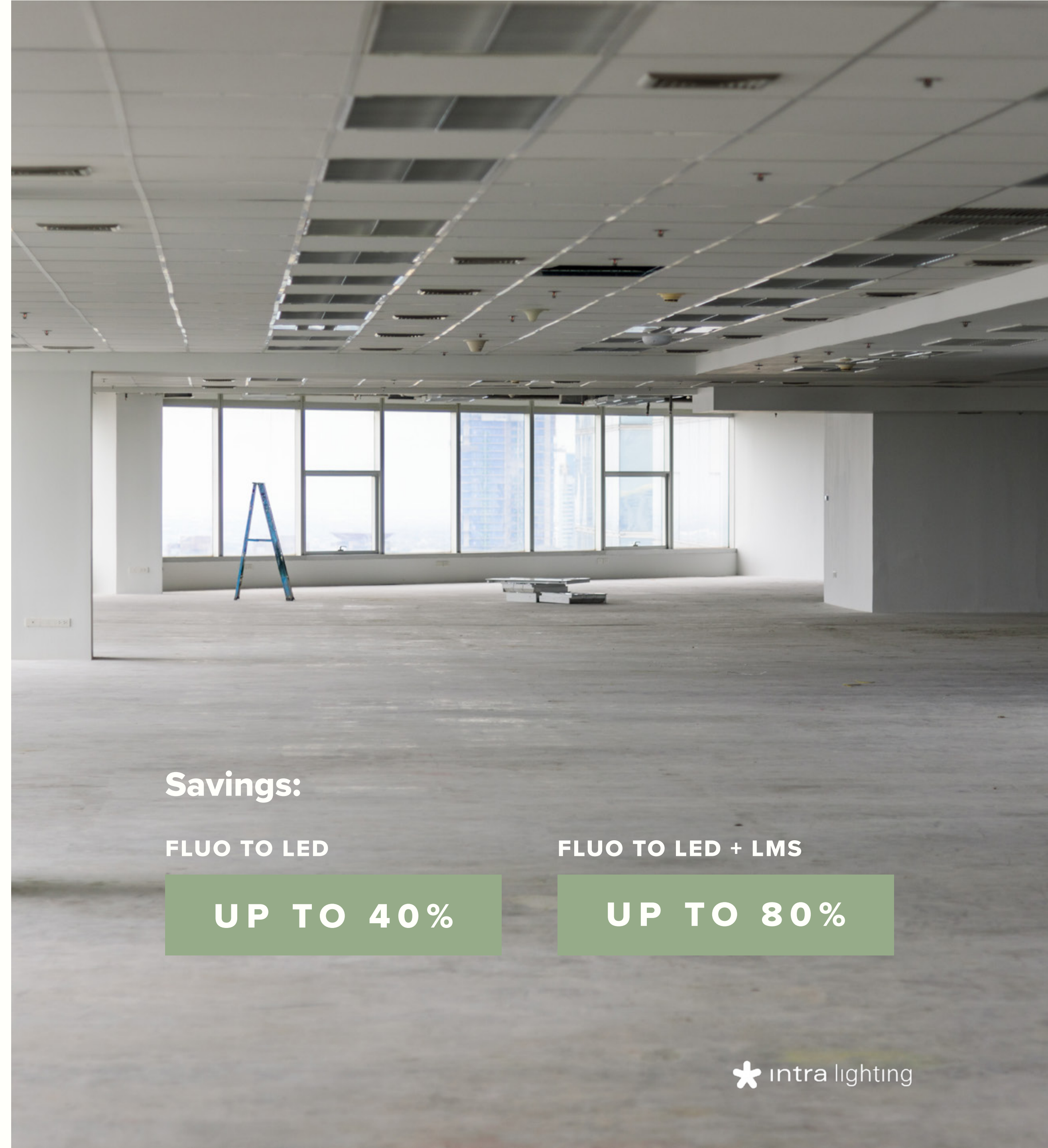
Rising energy costs make relamping an interesting way to **reduce energy costs**. By adding LMS, and integrating Casambi and sensors, further savings can be achieved and light quality improved.

1:1 replacement

- Electrical changes are not needed (leave existing installation cables, and switch cabinets)
- Maintain existing luminaire positions (reduce installation costs, maintain normal work cycle)
- Prolonging lifetime and improving the spectre
- Especially in renovation projects, Bluetooth applications don't need electrical changes.

New lighting project

- Electrical installation needs to be redone
- Further savings can be made



Savings:

FLUO TO LED

UP TO 40%

FLUO TO LED + LMS

UP TO 80%

Replacing Fluo with LED

Compact fluorescent will be banned in 2023, while fluorescent is getting like Kodak films - more expensive and difficult to get.

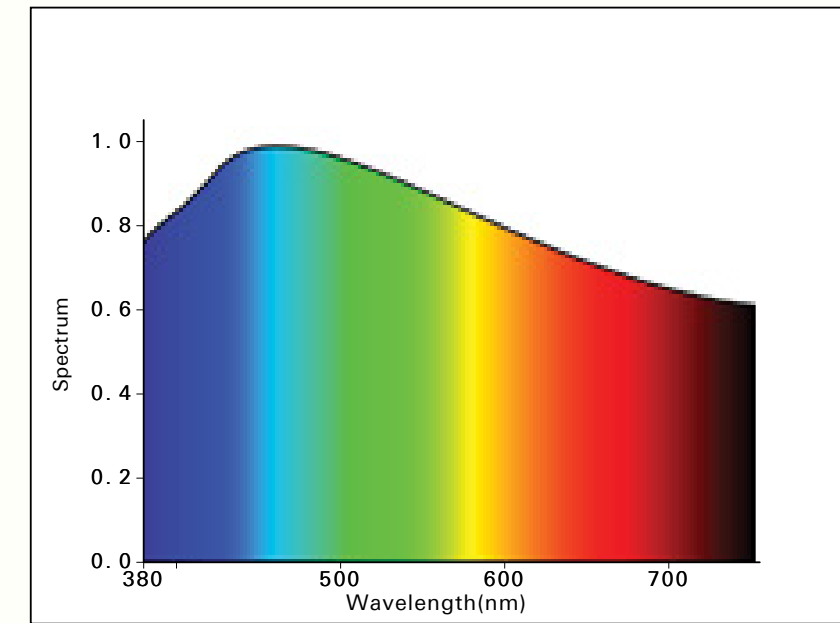
With the transition to LED there are several advantages:

- Significant improvement of the light spectre
- The source lifetime is almost 3x longer
- The energy consumption of the product is decreased
- With energy cost increase, the payback time can be 3x shorter*

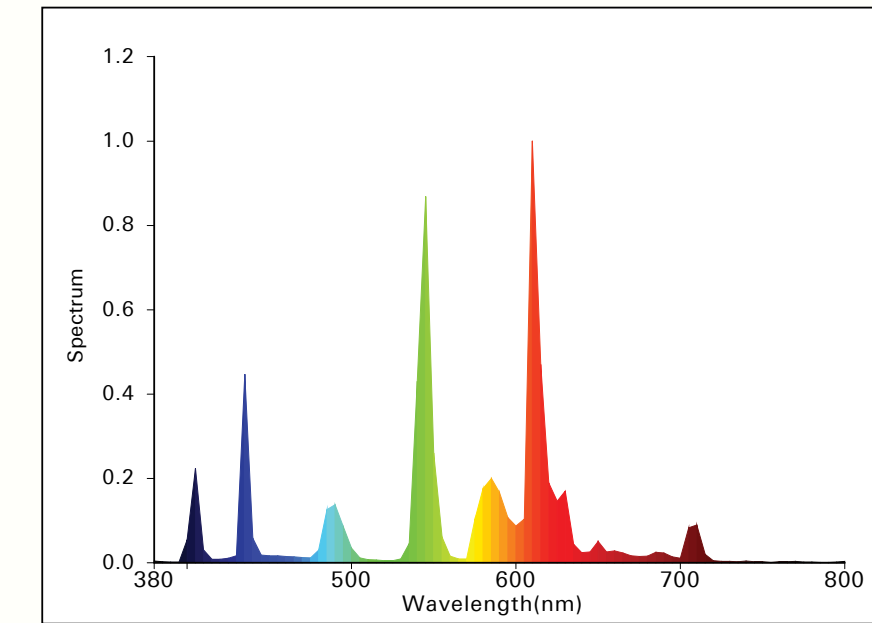
*Depending on product operational time, energy and labor cost.

Spectre differences:

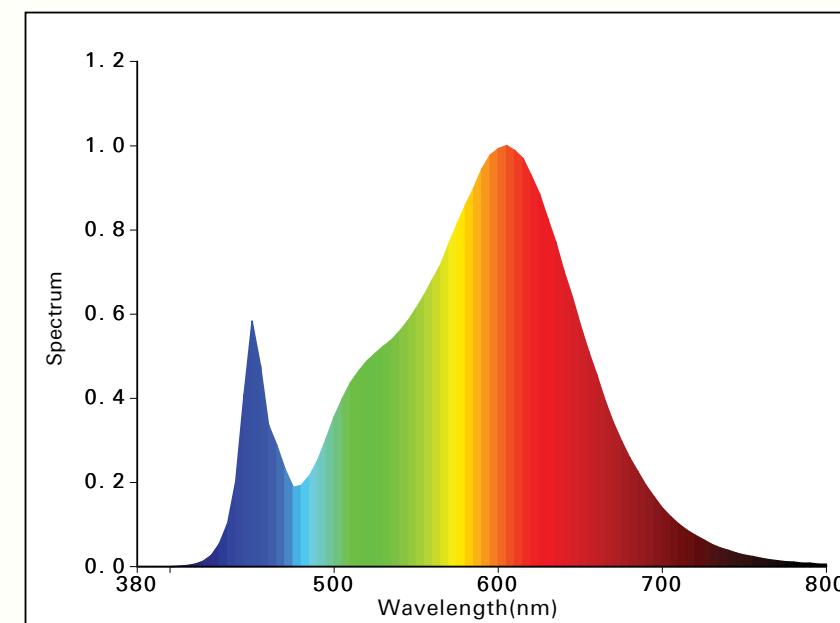
DAYLIGHT



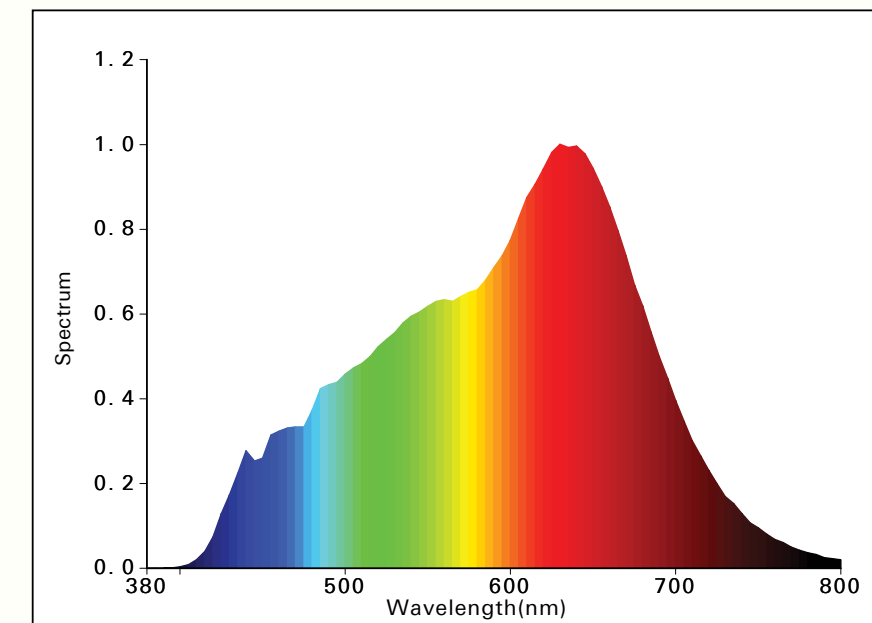
FLUORESCENT (T5) 3000K CRI80



LED (SMD) 3000K CRI80



LED (SMD) 3000K SUNLIKE



Source lifetime | Lumen mantainance (h):

FLUORESCENT

18.000h L70



LED

50.000h L90

Product replacement: Unicredit Bank, Croatia

TOTAL OFFICE AREA: **1.056 m²** | ESTIMATED DAILY USE: **6h**

ENERGY COST: Increase from **0,10€/kWh** (2020) to **0,48€/kWh** (2022)

Before:

**FLUORESCENT
ON/OFF**

INSTALLED POWER (kW)

88,74 kW

SOURCE LIFETIME | Lumen maintenance (h):

8.000h L70

YEARLY ENERGY CONSUMPTION (€)

81.782 €

After:

LED ON/OFF

30,61 kW

50.000h L80

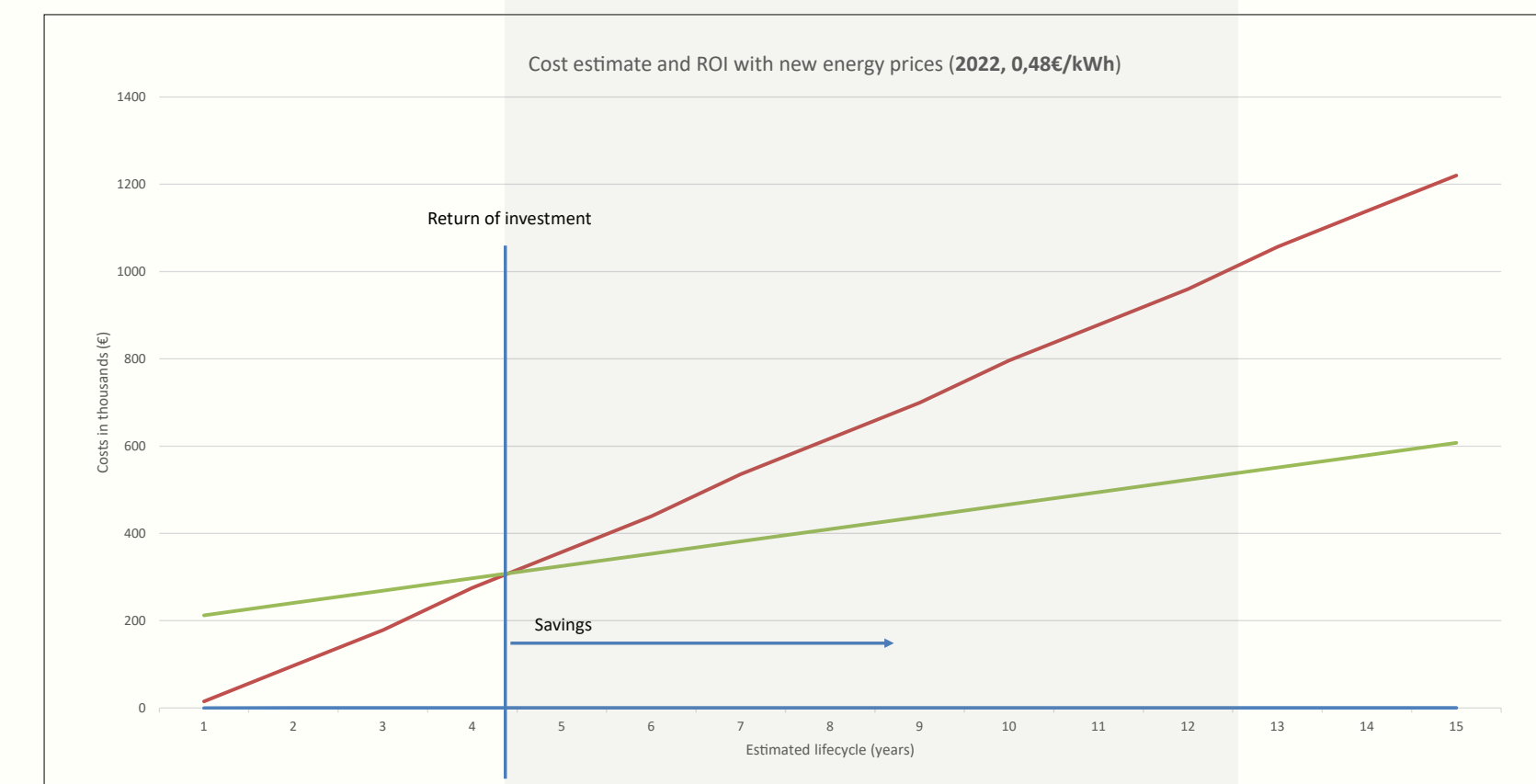
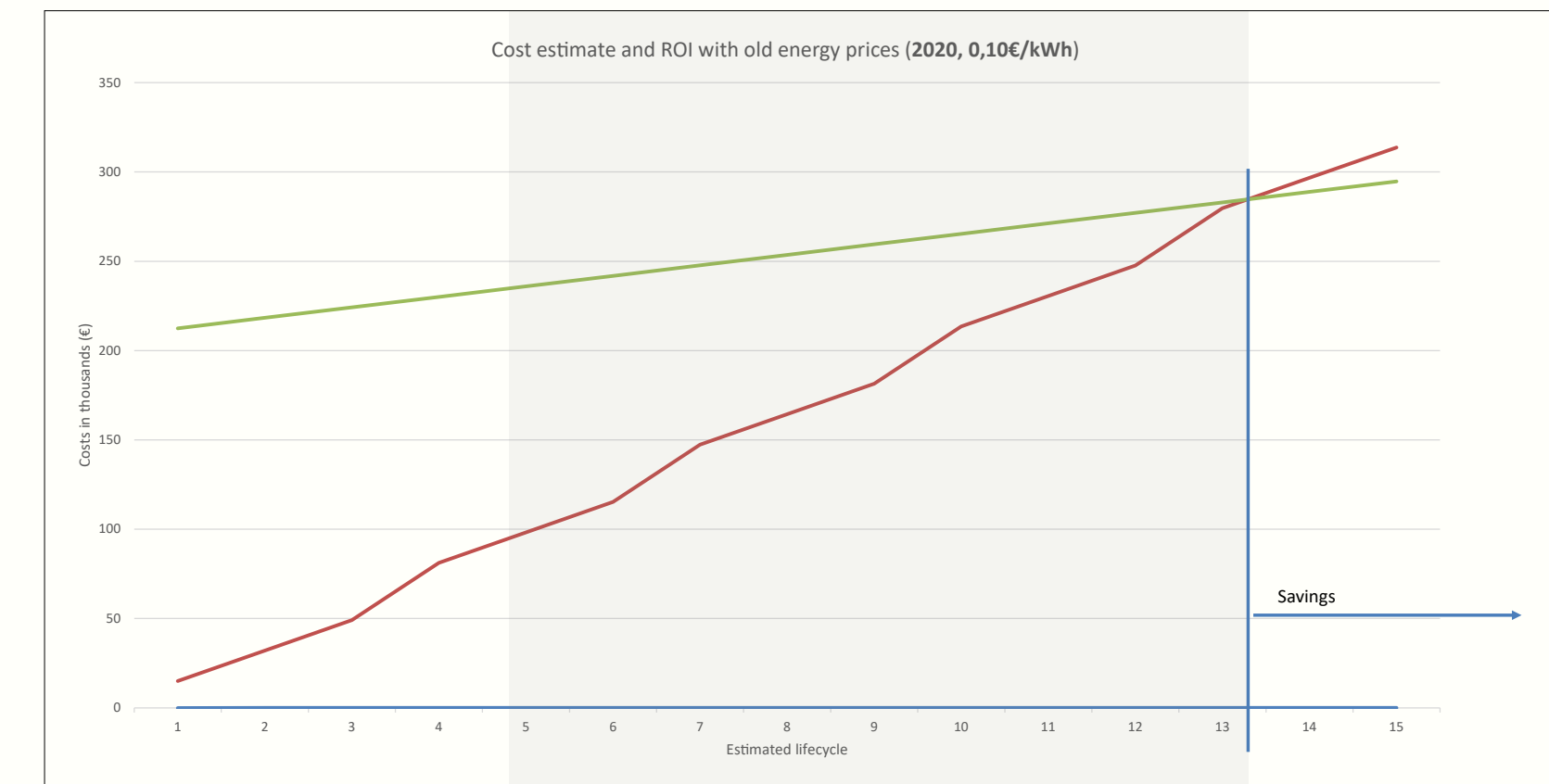
28.206 €

-65%
ENERGY SAVED

6x
LONGER LIFETIME

1-2 cars
EARNED/YEAR

Payback from 13 to 4.5 years



Turn off the lights

4 h/day off = 21€/month less

The cheapest energy is the one you don't use.

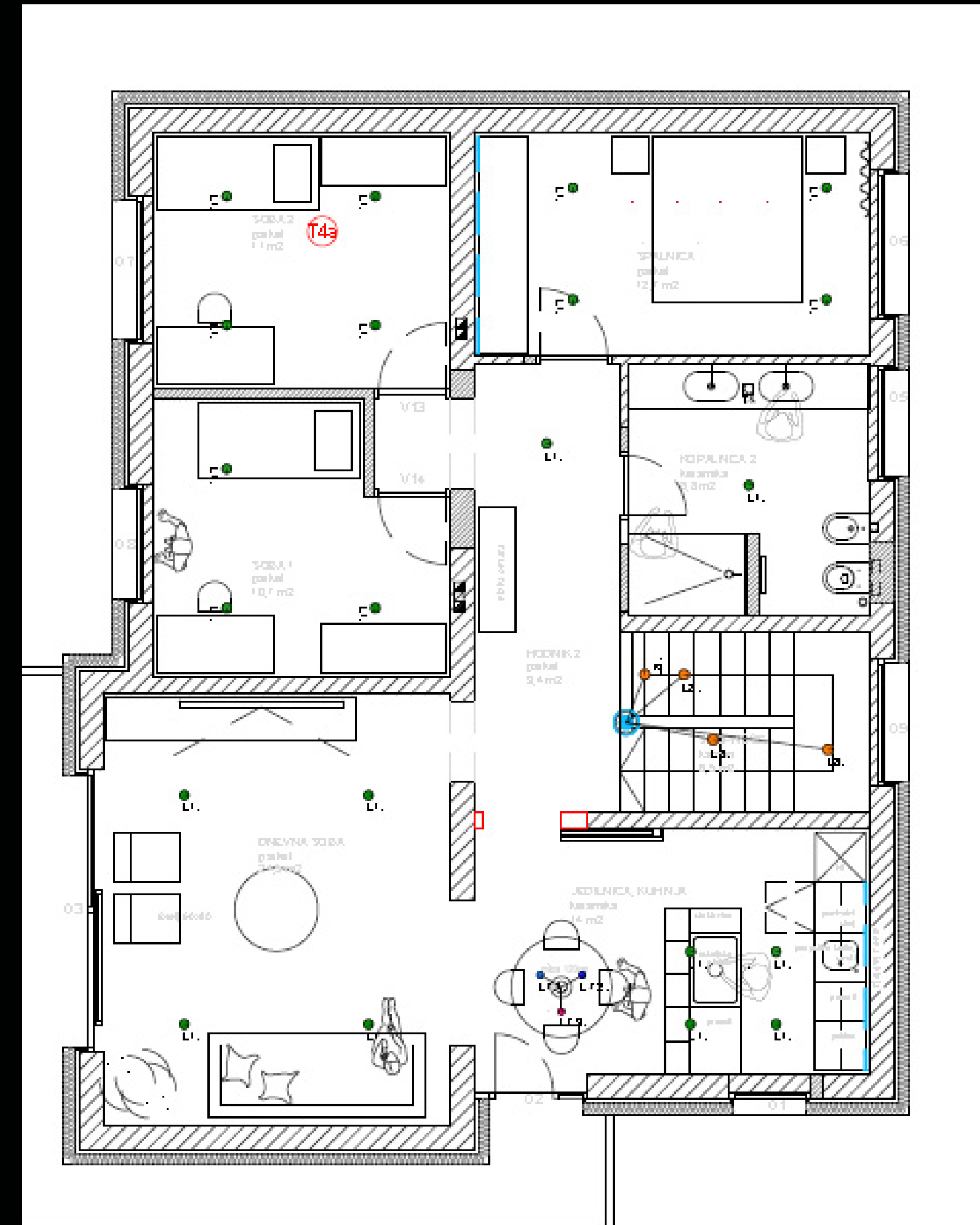
A lot of energy waste is made by leaving the lights on when we don't need them. By saving 4 hours daily, you will pay 21€ less for your electricity bill. These are the monthly savings of a 88 m² apartment. Imagine what this means on a bigger project.

TOTAL HOME AREA: **88m²**

ENERGYCONSUMPTION: **4W/m² | 352 W**

ENERGY COST: From **0,1€/kWh** (2020) to **0,5€/kWh** (2022)

MONTHLLY SAVINGS: From **4,2 €** (2020) to **21 €** (2022)



Use of sensors and Light Management System

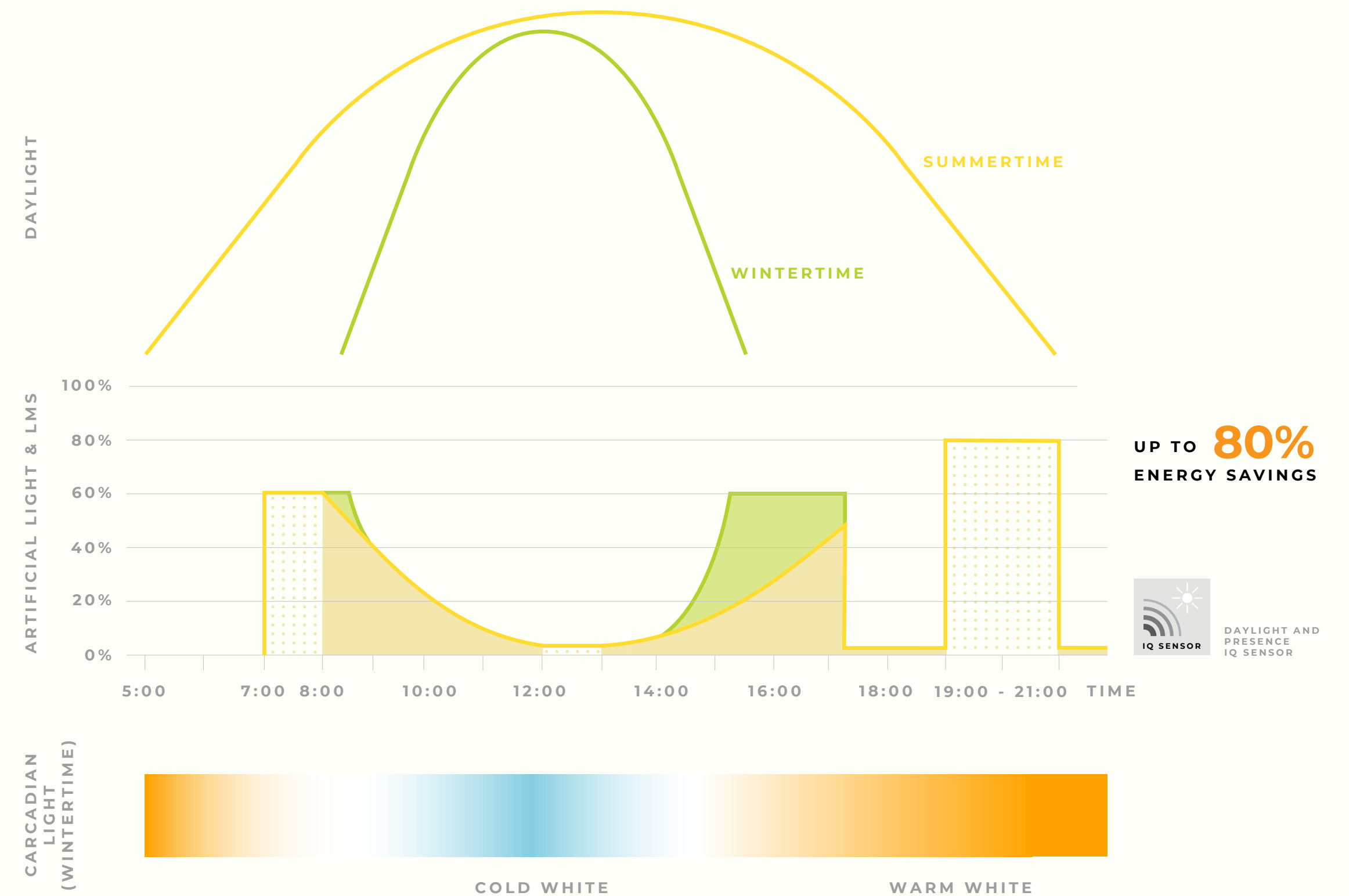
Adjusting lighting according to the time of day, season and individual needs increase user satisfaction. Another way to save energy is to set up motion and daylight sensors and install dimming luminaires. Turning down the lights when your work doesn't require maximum brightness is good for people, the planet and profit.

Our luminaires are compatible with most Light Management Systems.

We can support you and provide solutions with the following:

- DALI/DALI II DT8
- Bluetooth (Casambi)
- PoE

Energy saving potential with LMS



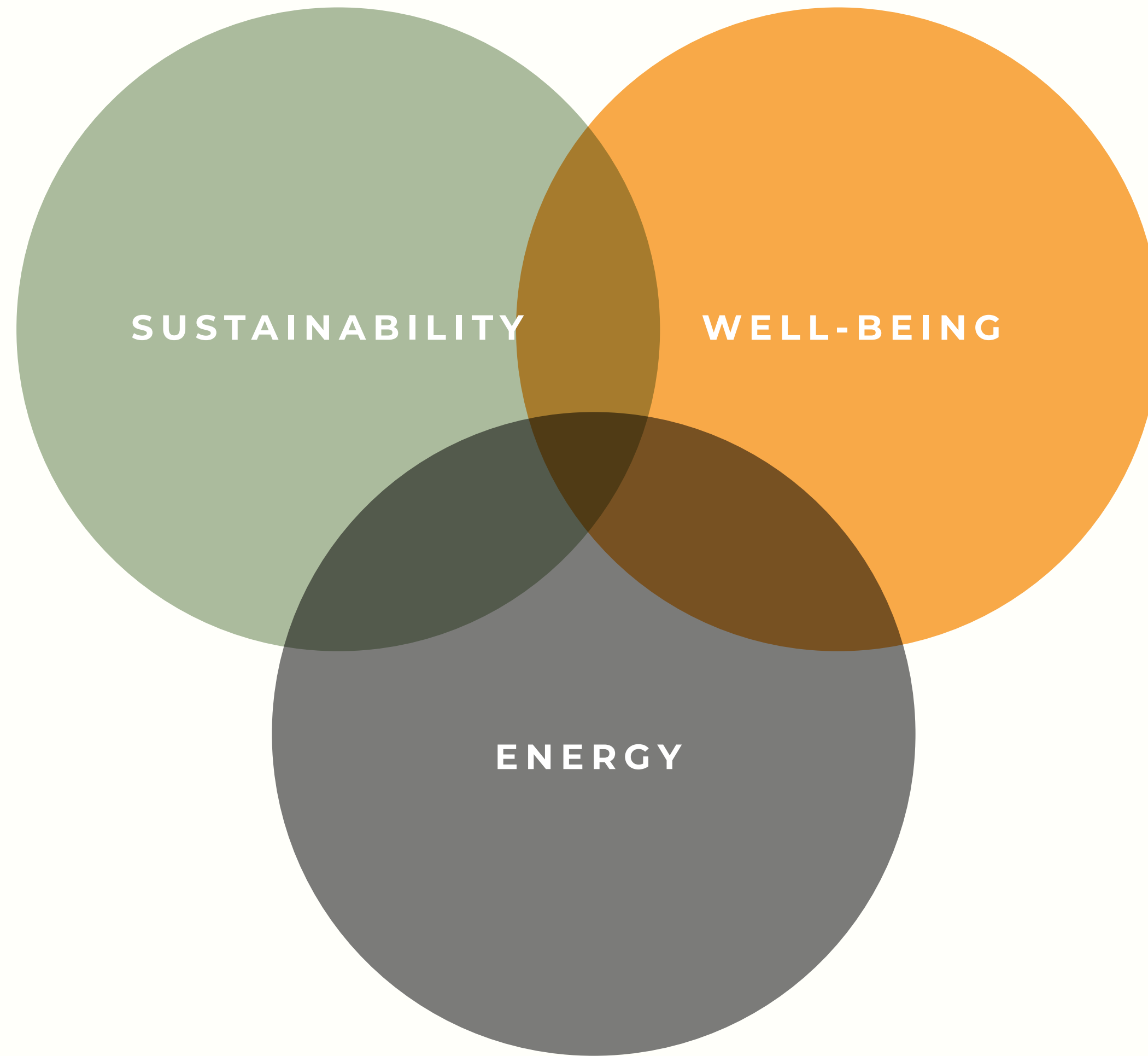
Intra lighting HQ case study

Designing daylight into the space

People spend more than 90% of their time indoors, so providing the optimal amount of natural light is vital. **Natural light creates a better indoor experience,** and controlled daylight unlocks significant **health and wellness benefits for office workers.**

Exposure to natural light helps regulate hormones and keeps your circadian rhythm in check, helping employees sleep better at night and work productively.





Finding the right balance

Finding the right balance is important in light and in life. Energy is one of many factors to consider. Long-term quality and circular design can win over a short-term price and bring well-being to your employees.

We can be your partner for lighting.

Light & Well-being

Light has a big impact on human.



Effects of light on humans



Visual light effect

Good light is essential for recognition of visual tasks. It **promotes visual performance and enhances visual comfort**, which is important for unimpaired vision. Too much light, glare and not enough light can be harmful.

Emotional light effect

Light intensifies our emotions. Daylight and artificial lighting cast architecture and the workplace environment in the right light, make for **atmosphere and a sense of wellbeing**.

Biological effect

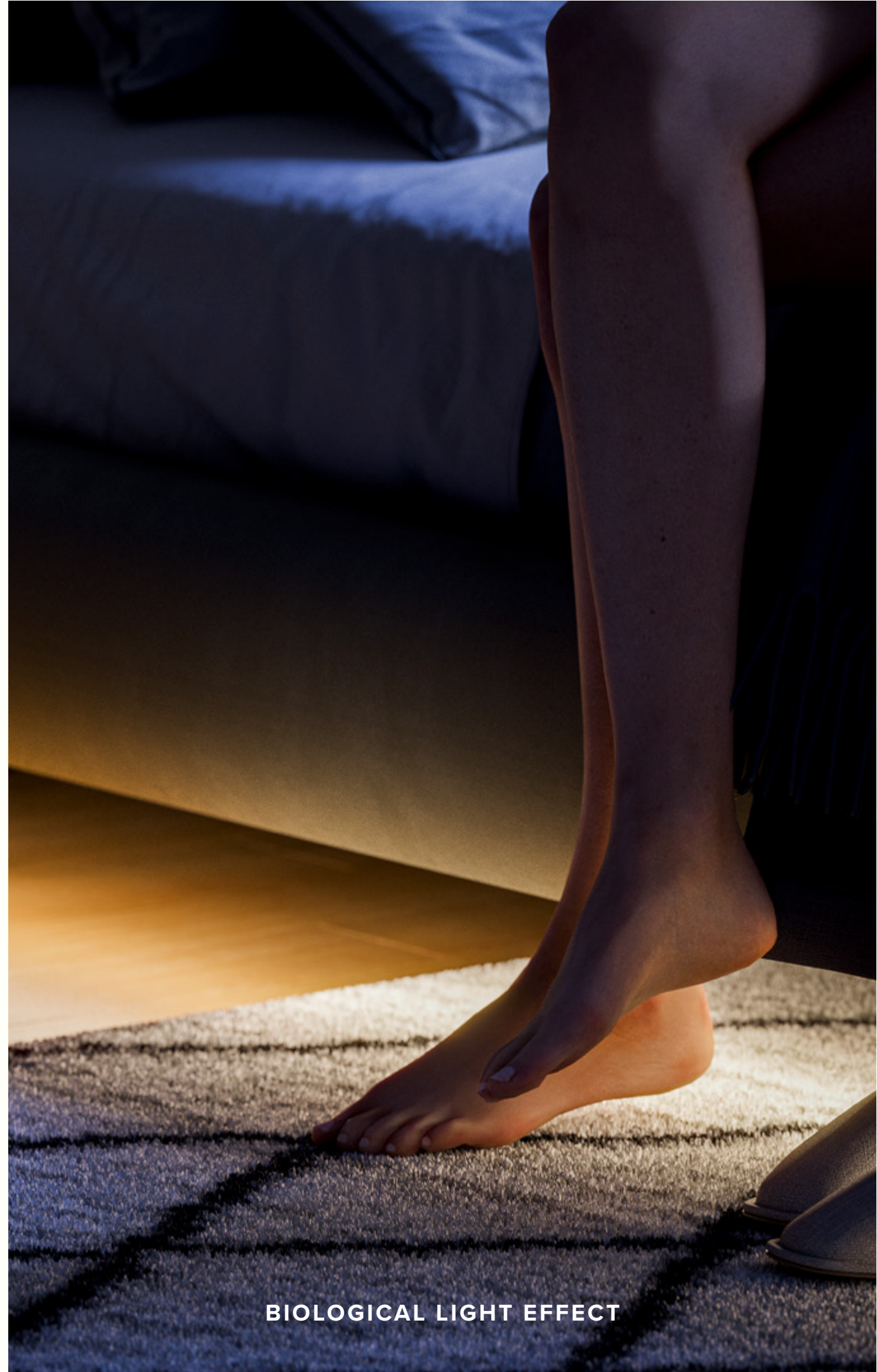
Light importantly affects human **circadian rhythms, sleep and mood**. It regulates waking and sleeping phases and has a major influence on **health and performance**. During a day it should be stimulating, whereas in the evening it should be calming.



VISUAL LIGHT EFFECT



EMOTONAL LIGHT EFFECT



BIOLOGICAL LIGHT EFFECT

We spend **90%** **indoors**

The man of the 21st century lives a life that diverges considerably from natural rhythms. We have become an indoor generation, where offices, schools and especially homes, where we spend most of our time, need to become healthier.

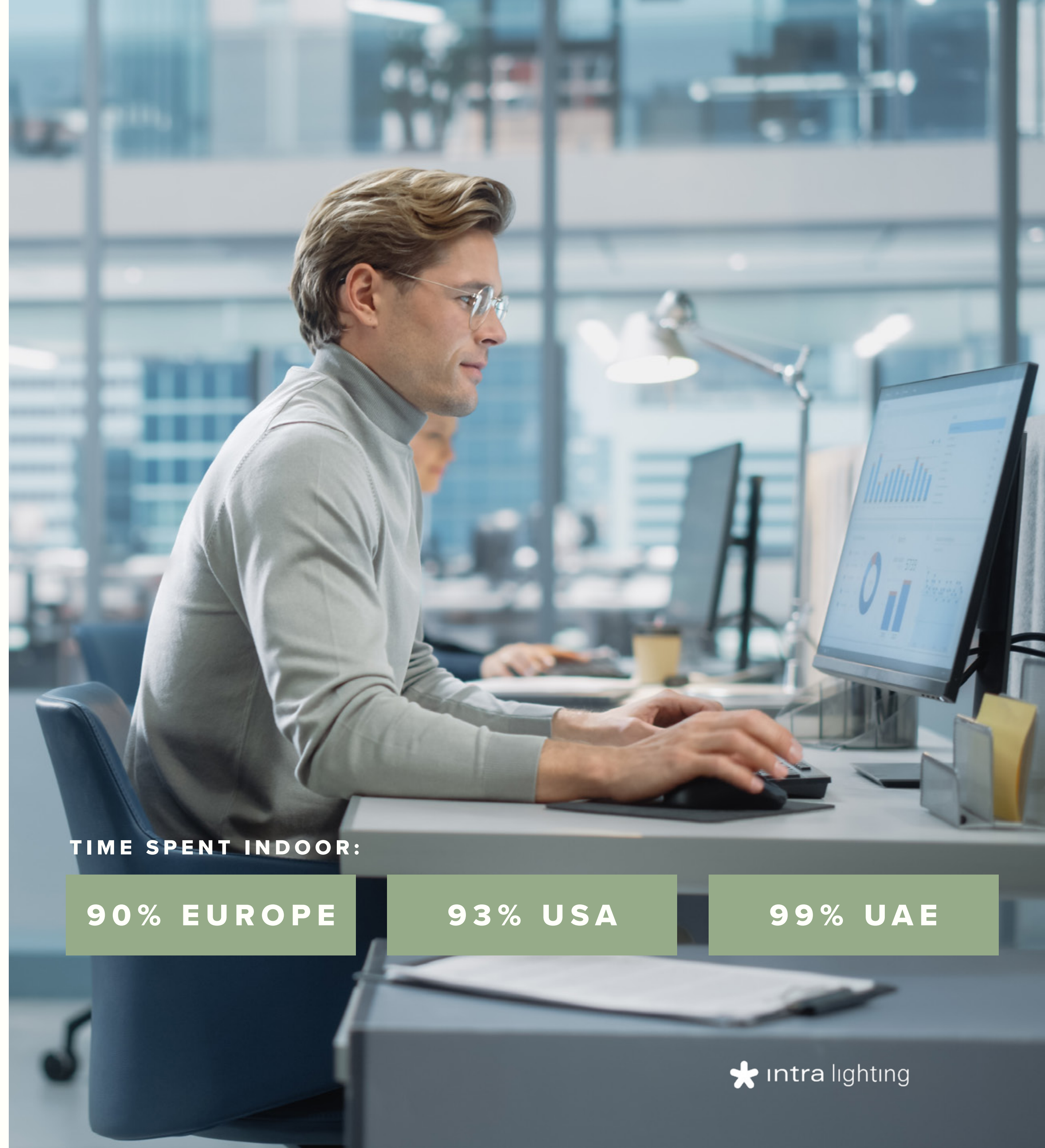
Besides air quality, **lack of daylight** is becoming a problem, and there is no substitute for sunlight. **Sunlight is rich in the spectrum to which the non-visual system is most sensitive.** If we do not receive enough sunlight during the day, the quality of our sleep is poor, and we wake up tired and lacking energy and motivation, so daily sun exposure is vital.

TIME SPENT INDOOR:

90% EUROPE

93% USA

99% UAE



Hormones cycle

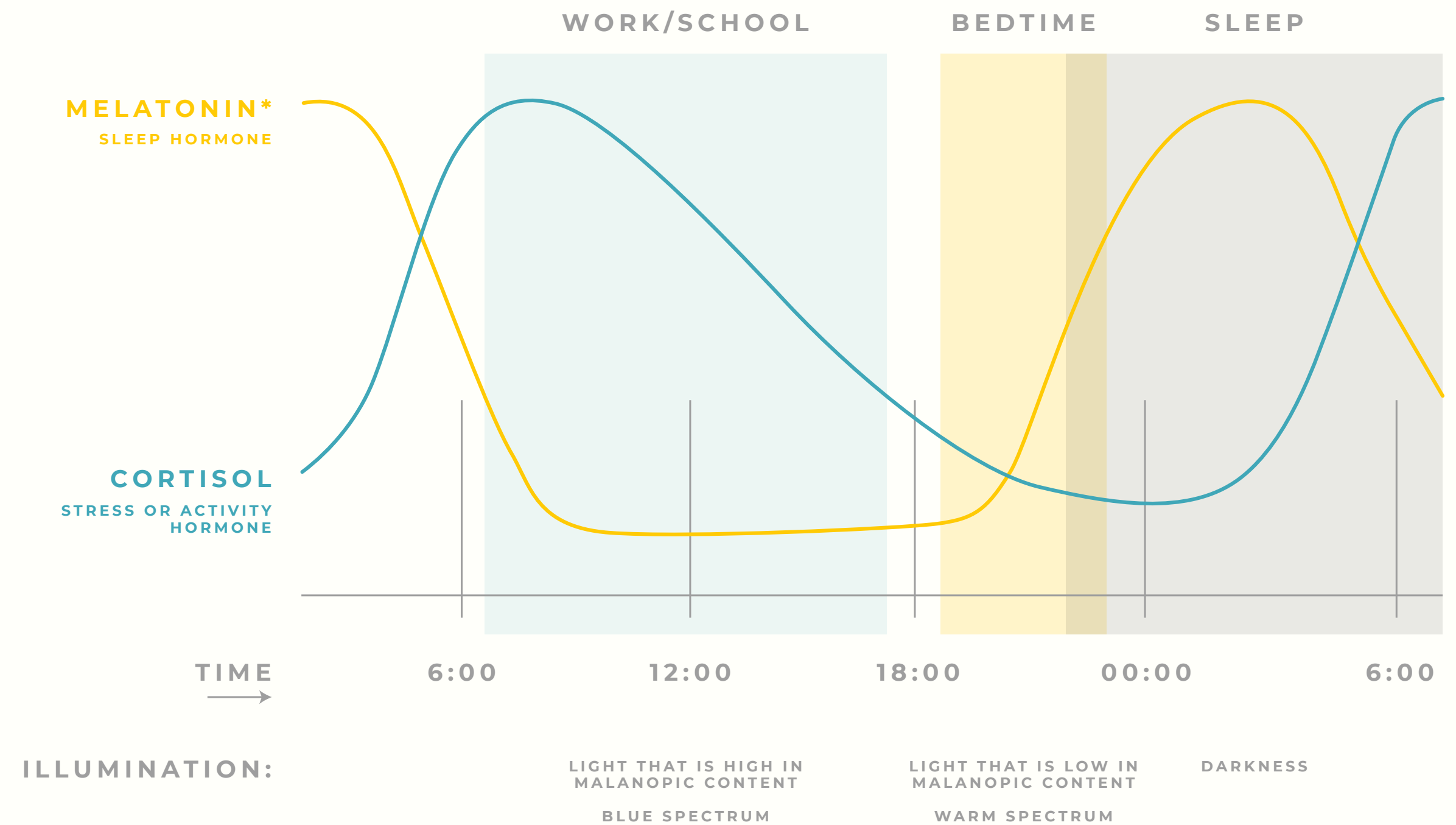
Melatonin and cortisol are in an opposite relationship; when melatonin is high, cortisol should be low and vice versa.

MELATONIN

It is the hormone that **signals night rest to the human body** and makes us feel tired. The primary role of this hormone is to maintain the biological clock and to adjust the body's rhythm. It's produced from serotonin in the **pineal gland** and secreted during the night. It can be inhibited by exposure to light during the night.

CORTISOL

Cortisol **wakes us and should be at its peak in the morning** when it increases human activity and alertness. It's often referred to as the stress hormone as it is released due to stress. It has a stimulating effect on various bodily functions. It's produced by the **adrenal glands**, which are on the top of each kidney.



BIOLOGICAL IMPACT OF LIGHT

Light synchronizes all our clocks through melanopsin

A blue light-sensing protein, melanopsin is hard-wired to the master clock in our brain and contributes most to the biological effects of light.

	+	-
DAY	Alertness and productivity DAYLIGHT 1000 - 100.000 LUX	Foggy brain ARTIFICIAL LIGHT 100 - 500 LUX
NIGHT	Good night sleep MOONLIGHT 1 LUX	Insomnia ARTIFICIAL LIGHT 100 - 500 LUX

DAY

Alertness and productivity

DAYLIGHT: 1.000 - 100.000 LUX

The daylight is rich with blue light, which fully activates the melanopsin and synchronizes the brain clock with the day. It reduces sleepiness and depression and increases alertness.



Foggy brain

ARTIFICIAL LIGHT: 100 - 500 LUX

We spend most of our time indoors, and frequently **artificial light is not rich in blue light**, which sends a confusing signal to the brain, that it is not day yet, so all the chemicals that would boost our moods are not activated, and we feel **tired and foggy**.

NIGHT



Good night sleep

MOONLIGHT: 1 LUX

Melanopsin is less sensitive to **dim orange light or candlelight**, so if we are awake at night, the melanopsin is not activated, **melatonin is produced**, and we get a good night's sleep.

Insomnia

ARTIFICIAL LIGHT: 100 - 500 LUX

Bright screens and bright light at night activate melanopsin, which sends a confusing signal to the brain that it's not night yet, **producing less melatonin**, and we sleep poorly.



Effect of light

Photopic component

The visual effect of light

- The ability to see
- Indoor lux levels are generally tuned to the visual function of light (500 lux), which will not trigger the melanopic effect



Melanopic component

The non-visual, biological effect of light

- Recalibrate your body clock (morning) and hormones.
- Triggered by exposure to daylight
- It's based on vertical illumination at eye level

Melanopic effect is influenced by:

- Stimuli duration (4 hours)
- Higher light intensity (and energy consumption) or
- Colour spectrum (Shift of colour temperature to cold light or cyan enhanced spectrum)

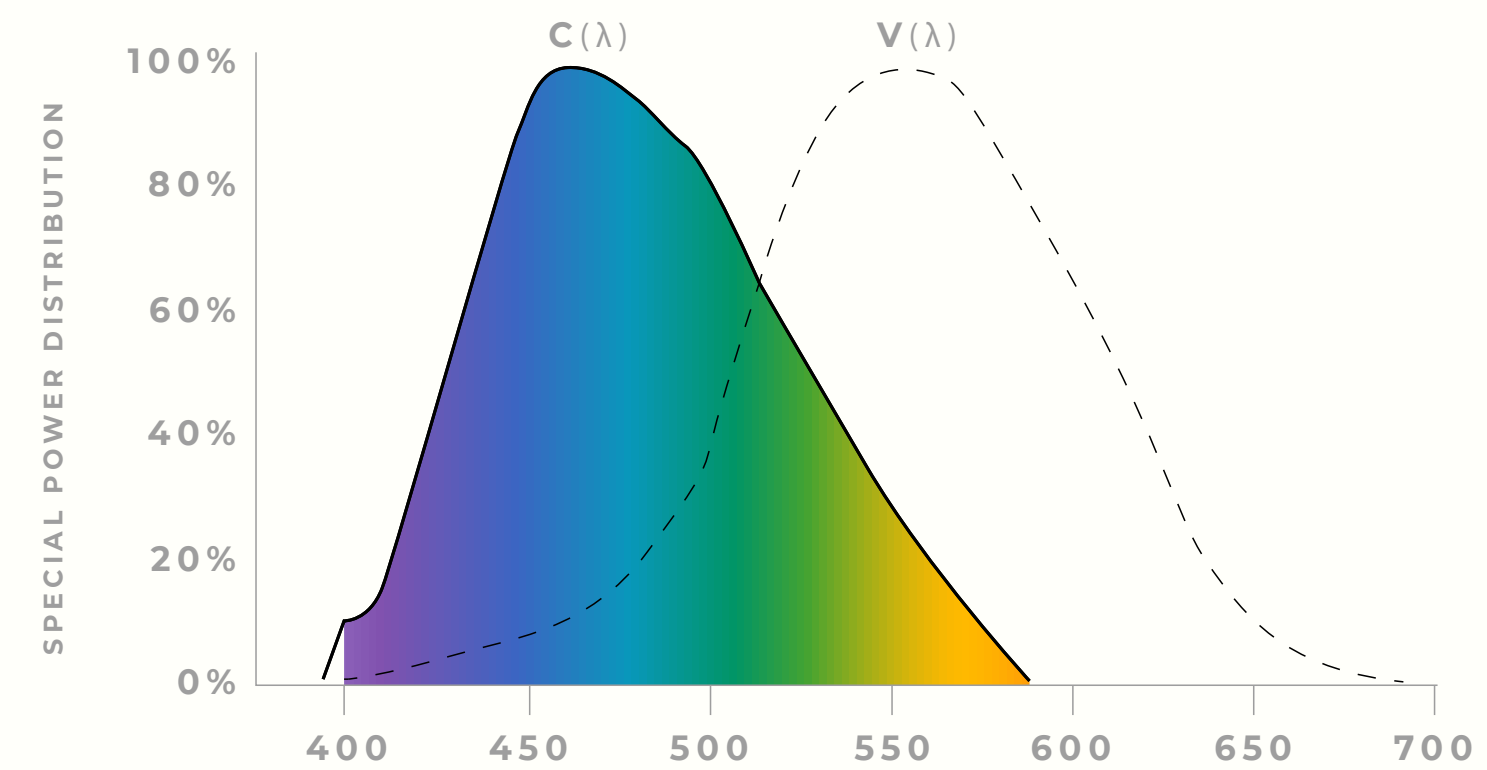
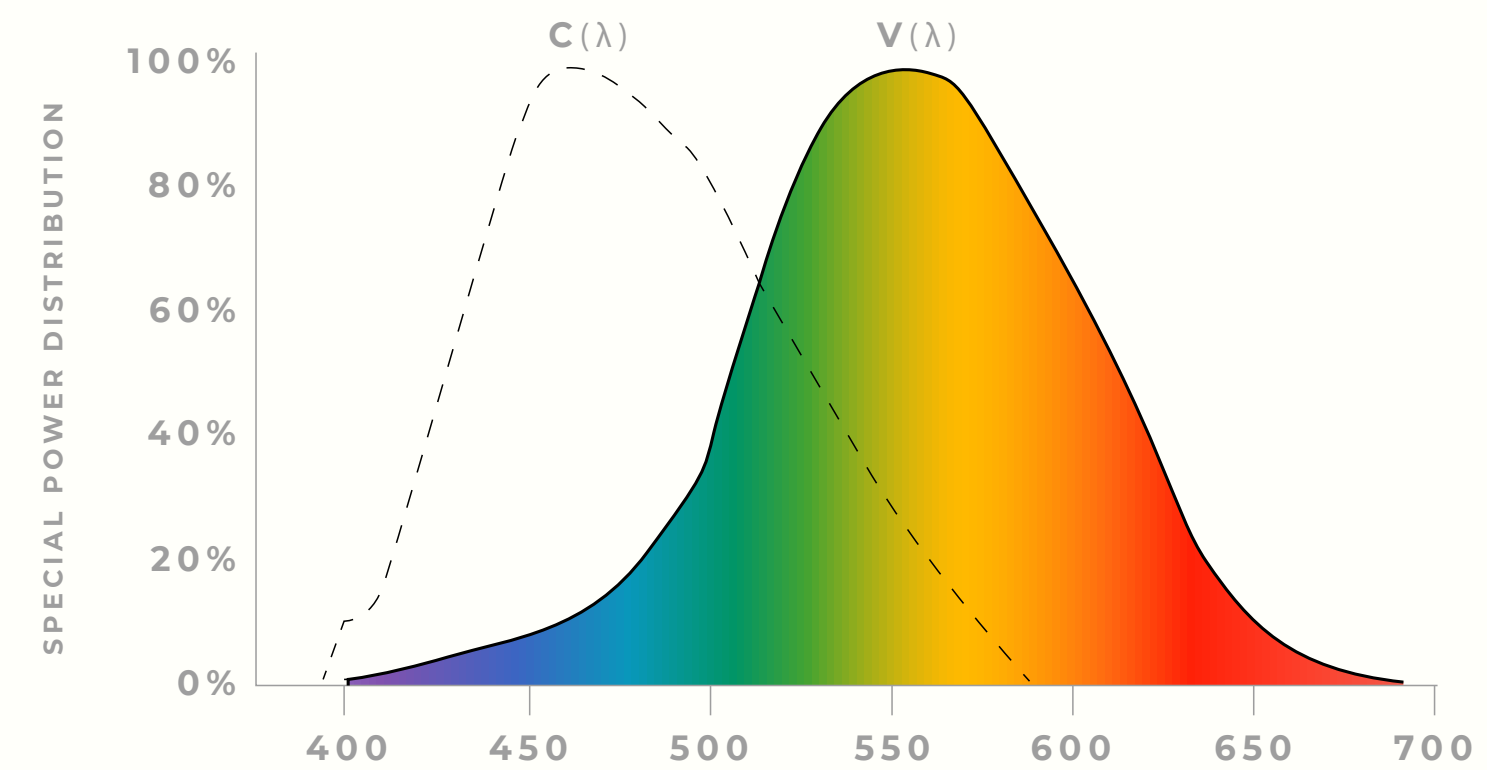


Figure 1.3.3 Circadian (C(λ)) and visual (V(λ)) systems' response to light (Pechacek et al., 2008).

S-Mimic patent

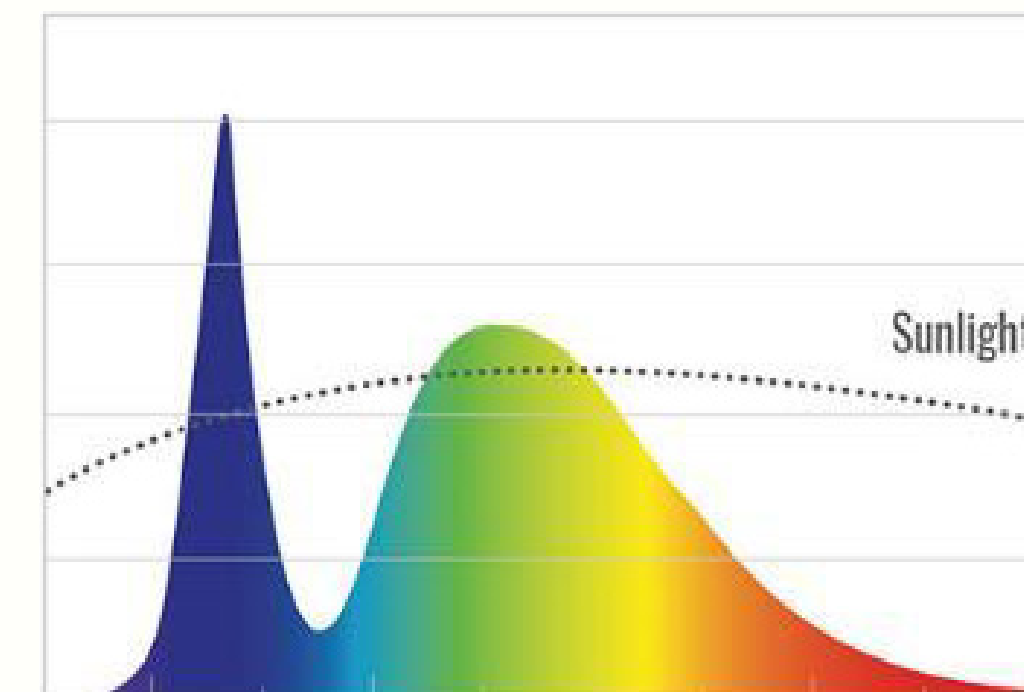
It mimics sunlight.

S Mimic is an Intra lighting patent of a new and innovative approach to light. It uses the latest scientific research on human circadian rhythms, the lens transmittance change with aging and the impacts of light on the human well-being.

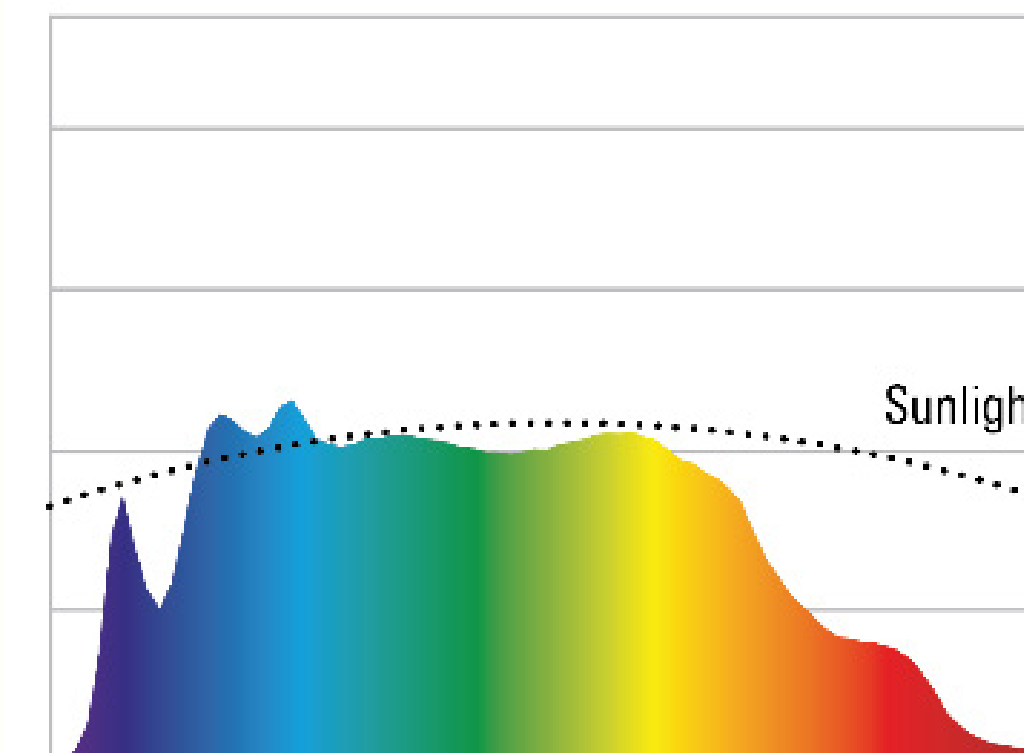
Visually you can't see the difference, but the light is richer in the blue part of the spectre, and thus compared to other light sources closer to sunlight spectre, with better biological effect. With S-Mimic we can support our changing needs related to aging.

S-Mimic was patented, and it's now in the process of standardization of the light module and integration in the portfolio (Profiles, Troffer).

**STANDARD
LED**



**S-MIMIC
INTRA LIGHTING**



Acoustic lighting and noise reduction

Acoustic lighting looks and sounds good.
By combining light and sound absorbers, we can contribute to better acoustics in the office, hospitality and education.

From influencing our well-being and improving mood, concentration and productivity to increased speech privacy, acoustic lighting can be an all-in-one solution.

BLACK HOLE



VYKO



ACOUSTO

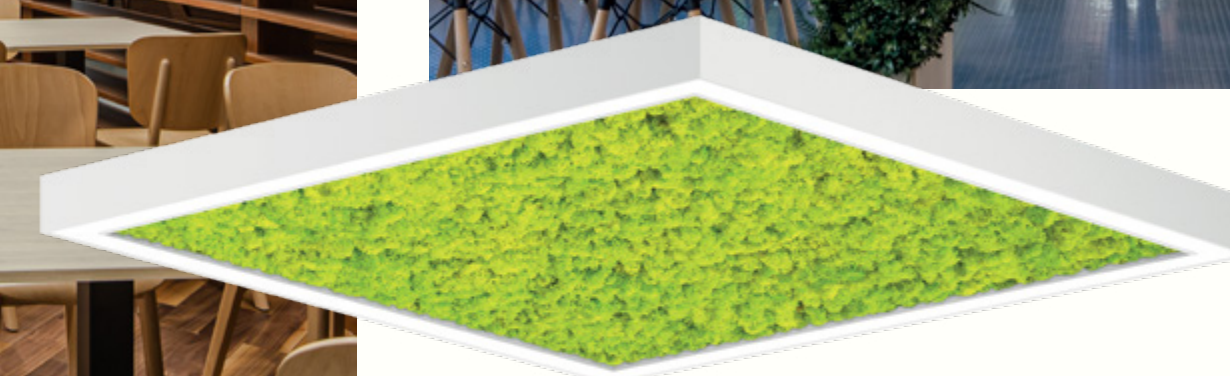
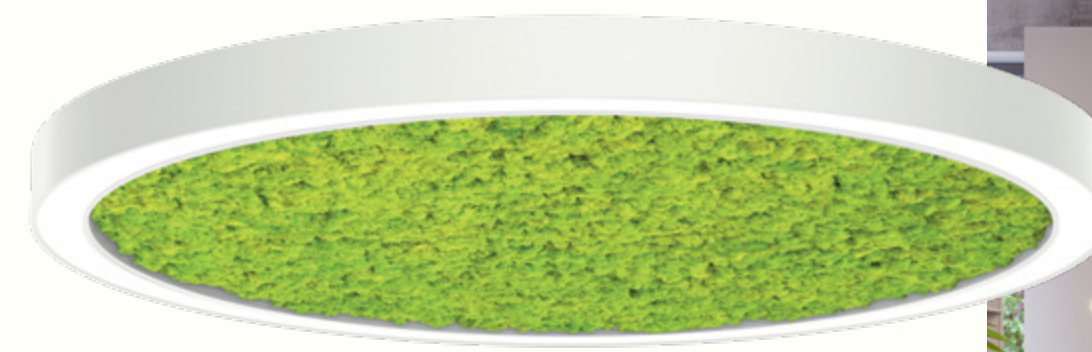


FUTON

Biophilic design

Because humans today spend 90% of their time indoors, it is necessary to bring the outdoors in and create indoor environments that reference nature in both obvious and subtle ways.

MOSSwall® is produced from a natural lichen using a 100% ecological application, providing excellent sound absorption.



Raising awareness & promoting the role of light

- **Lighting guidebooks for raising awareness** of the impact of light on people's health, emotions and well-being
- Sharing knowledge about good illumination and the important role of lighting design



COMING SOON

Sustainable company

All visibile.
All transparent.



Leadership commitment

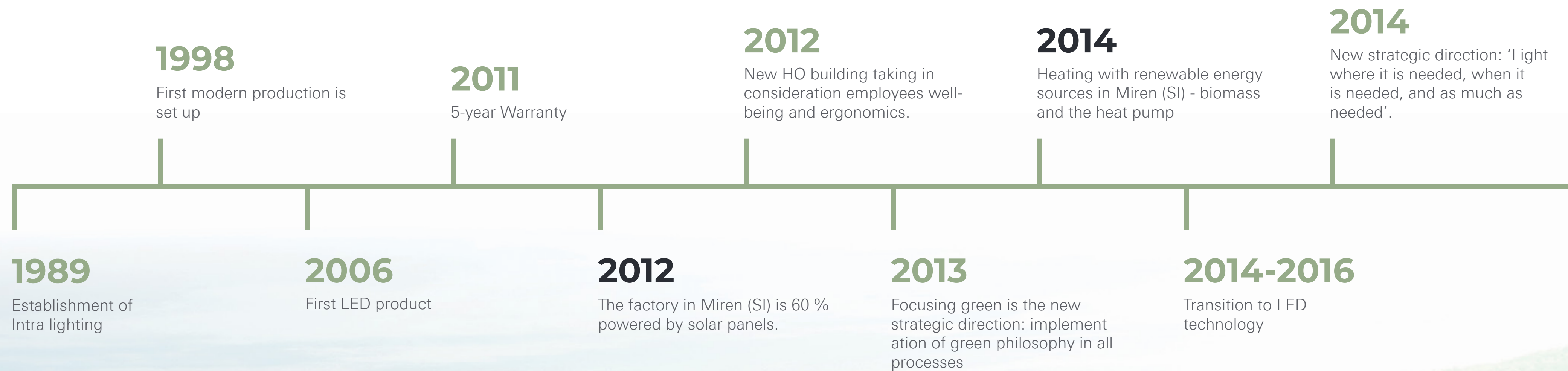
»We have always been responsible towards the environment and people. A concern for what kind of world we will leave to our children has always been present in everything we do. We were not guided by regulations; we were guided by conscience and consciousness. Today we support all efforts towards sustainable development even more.«

Marjeta and Marino Furlan, owners and founders of the company



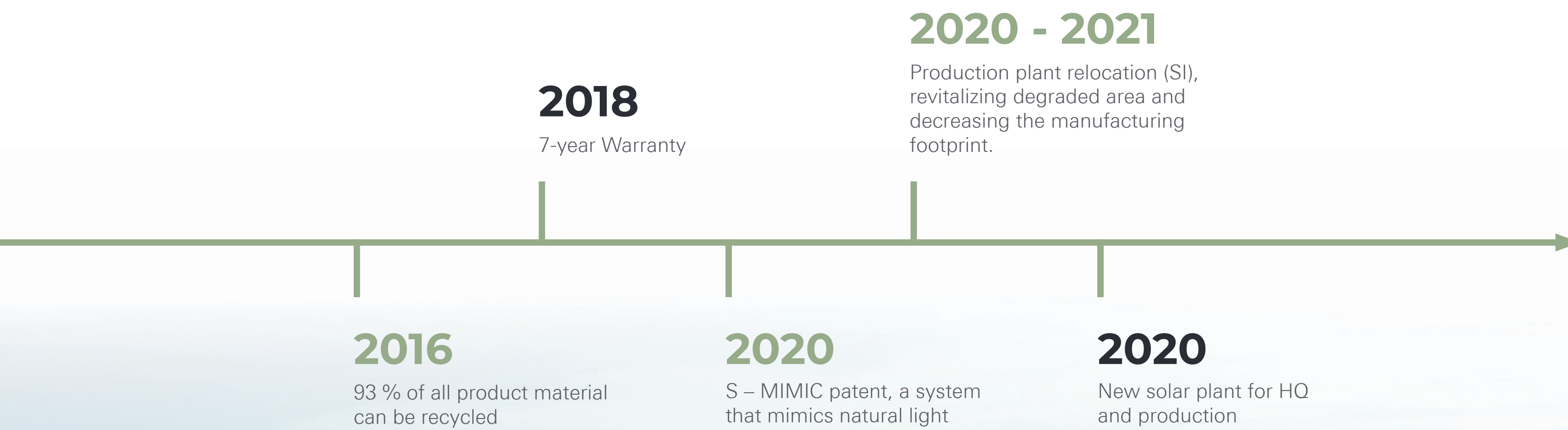
We have always been ahead of time.

"Sustainability is an integral part of the company."



We have always been ahead of time.

"Sustainability is an integral part of the company."





**Light where it is needed,
when it is needed, and as
much as needed.**

SINCE 2014

Company awards and recognitions

Awards and recognitions play an important role. They celebrate good work, the long-term vision and the success of the teams and individuals who contributed to the company's success.

AWARDS

2010

ENTREPRENEURS
OF THE YEAR,
DELO

2014

DME AWARD

2018

SILVER GAZELA,
DNEVNIK

2019

DELO'S BUSINESS
STAR

2021

EY FAMILY
BUSINESS AWARD
OF EXCELLENCE
IN SLOVENIA

2022

AAA PLATINUM
CREDITWORTHINESS

Owned and run by Furlan family since 1989

- Invest in a long-term competitiveness
- 34 years of tradition and devotion
- Strong commitment to the success of the company
- Flat organizational structure and strong connection with the employees



If employees love the brand, customers will love it too

All of us, every day, each in its area, contribute to growing together. We value diversity and encourage inclusion. Our employees differ across nationalities, ages, and gender.



320
people



46%
women employees



A caring employer

We offer our employees an interesting, stimulating and safe working environment while supporting their physical and psychological wellbeing.

We encourage teamwork and reward innovation, determination and belonging.

11 years

is the average length of employment

42 years

is the average age of employees

7,5 %

voluntary turnover rate

31 h

average training hours per employee

98 %

of employees with a permanent contract

0,0004 %

injury rate

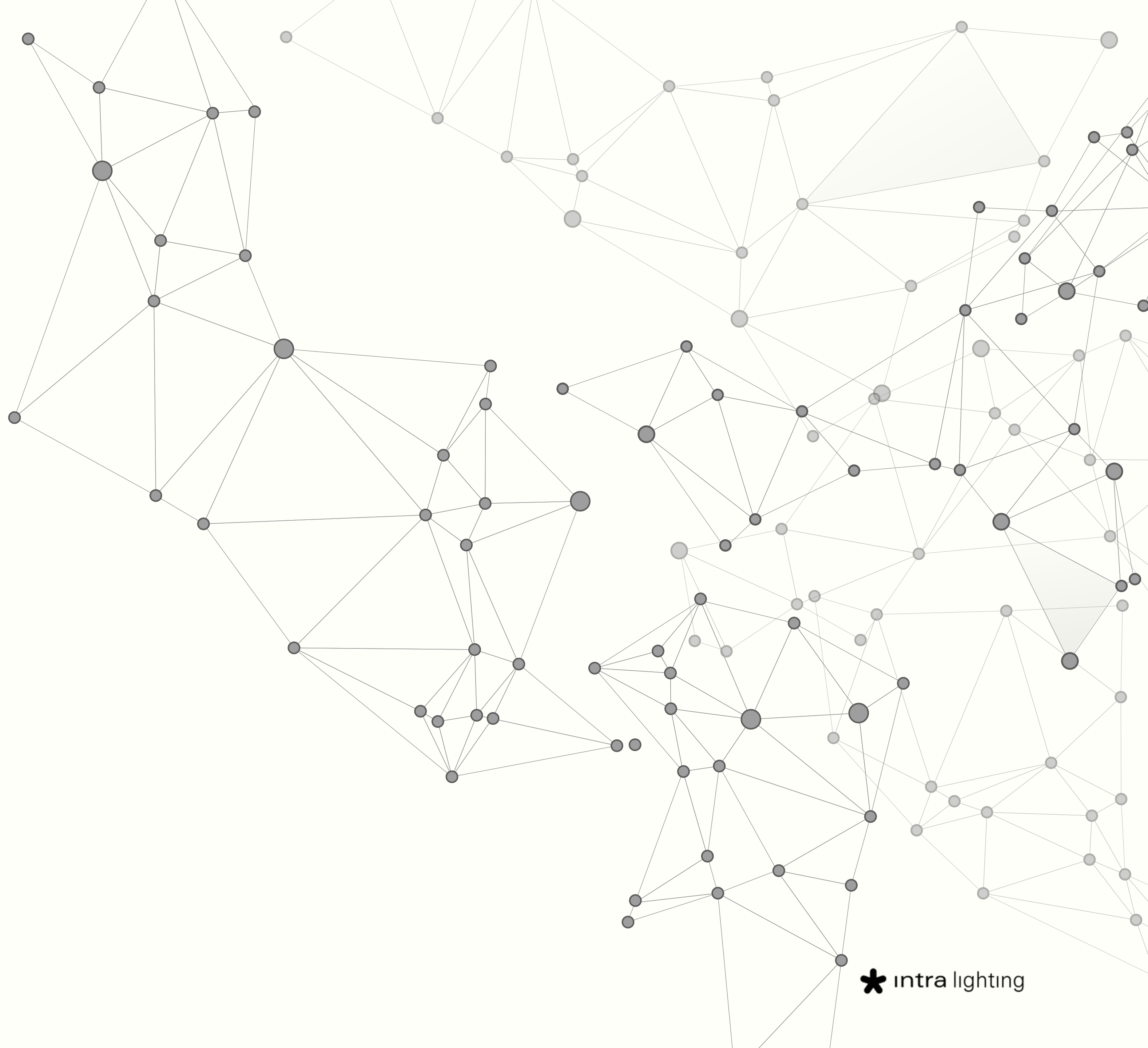
Data for 2022, Intra Group

From an interdisciplinary team to all employees

Intra has chosen an inclusive process with an interdisciplinary team to define and implement its sustainability strategy

We are connecting the views of different employees, departments, external stakeholders and sustainability experts.

By raising awareness, improving knowledge on this complex topic, and by empowering positive actions, we want to make it the **responsibility of everyone in the company**. Because every step counts.



RISKS

Economic

- Rising energy costs
- Scarcity of resources and virgin materials
- Global instability
- Supply chain issues
- Inflation
- Market risk with customers preferring more local supply chains

Social

- Population growth
- Population ageing
- Urbanization
- Need for healthier buildings (increased quality of life)
- Labour shortage
- Competition for talent
- Generational challenges
- Social inequity

Environmental

- Climate change and intensifying climate catastrophes: Extreme heat, severe storms, sea rise, pollution, drought and fires
- Covid and new viruses
- Use of materials that have a higher environmental impact, like aluminum
- Risk of unaproprate disposal of product at the end of life (ex. electronics)

Our actions

Every action counts.



100% green* energy

We started early with the use of renewable energy sources. We installed the first solar power plant in 2012 in Miren. In 2020, we installed a new solar power plant on the roof of the new factory and will add new solar panels in the future.

** Under the EU Taxonomy framework from 2022 all the energy we use is green. The powder coating system is run by gas.*

Renewables (solar):

2022

29%* | -214 t CO₂

2023

72%* | -526 t CO₂

2024

100% | -784 t CO₂

*The remaining energy is nuclear, a low-carbon alternative to fossil fuels.



Heating with heat pumps and recuperation

Already in 2013, in our old factory in Miren, we started with biomass heating. In 2020 we installed a **heat-pump**.

For heating the machine part of production, **recovered thermal energy** from the powder coating system is used.

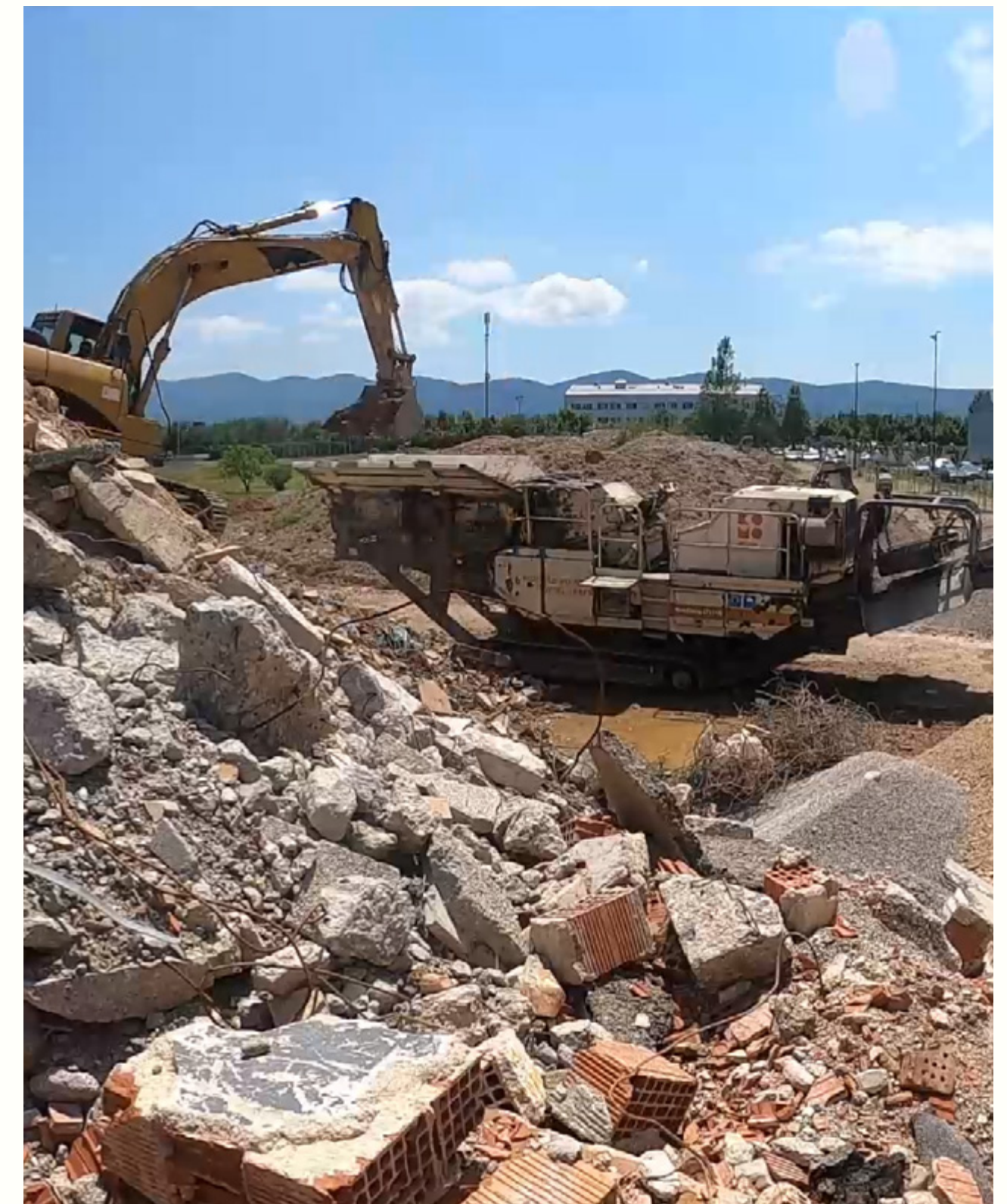


RECOVERING 50% OF THERMAL ENERGY FOR HEATING

Revitalization of a degraded area

Intra lighting has always applied circular principles to the built environment by **turning old assets into new resources**.

By using circular economy principles and re-using the reclaimed materials in construction, we reduced the embodied carbon impact and minimised demolition waste and new resource depletion.



We live and work in contact with nature

Nature is closely integrated into our surroundings. Green areas of trees, plantings and flowers provide a **pleasant surrounding for our employees and habitats for plants, birds and insects.**

In Slovenia, we have planted more than 1.200 flowers and plants in the last two years and 60 leaf and local fruit trees. Nothing is better than eating fresh cherries or peaches directly from the trees.



60
fruit and leaf trees



1.200
flowers and plants



Rainwater harvesting

We collect rainwater in reservoirs, which we use to water our greens and plants during dry periods. This reduces water consumption and conserves drinking water. Water is one of the most precious commodities, and it should not be wasted.

Storage tanks capacity: **100.000 l**

IN COMPARISON, HUDSON YARDS IN NEW YORK HAVE 227.125 LITERS STORAGE TANKS CAPACITY, (56% MORE).

100.000 L

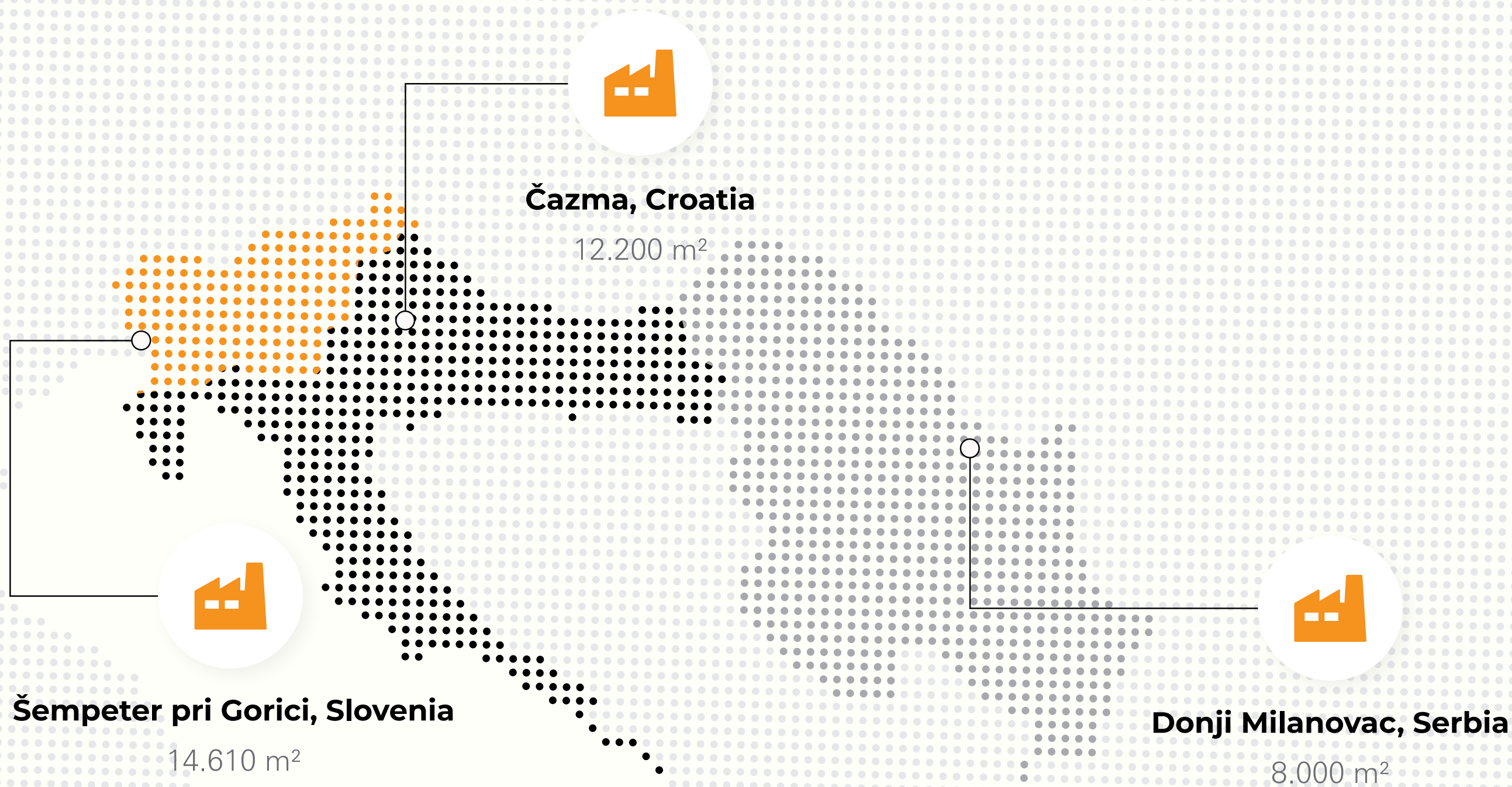
Rainwater harvesting for watering green areas



Production and processes

Modern. Friendly.
Clean.





Made in Europe

3 own production facilities in Europe:

- Slovenia
- Croatia
- Serbia

One more is coming soon in the USA to shorten the distances to the market.

“At a time, most brands were moving production overseas to cut costs. They told me you are crazy not to do so. Today it turned out to be our advantage.”

Marino Furlan

In-house manufacturing

- State-of-the-art production equipment
- Control from start to finish
- Greater flexibility and process optimization
- Higher product quality
- Quick respond to the market

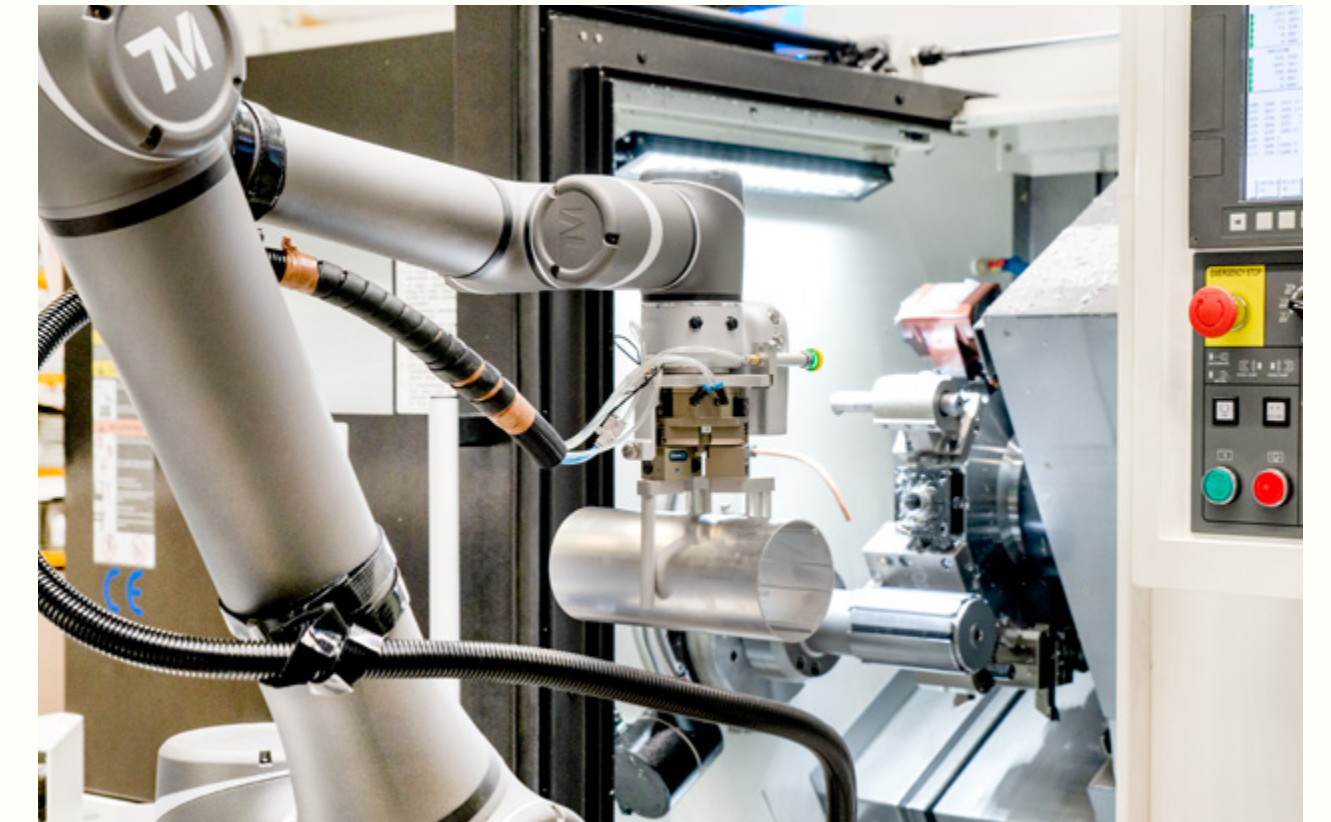
2020

SHORTLISTED FOR THE
FACTORY OF THE YEAR
AWARD BY DELO NEWSPAPER

AUTOMATED VERTICAL STORAGE SYSTEM



TURN-MILL CENTRE WITH COLLABORATIVE ROBOT



AUTOMATED GUIDED VEHICLE FOR FLEXIBLE INTERNAL LOGISTICS



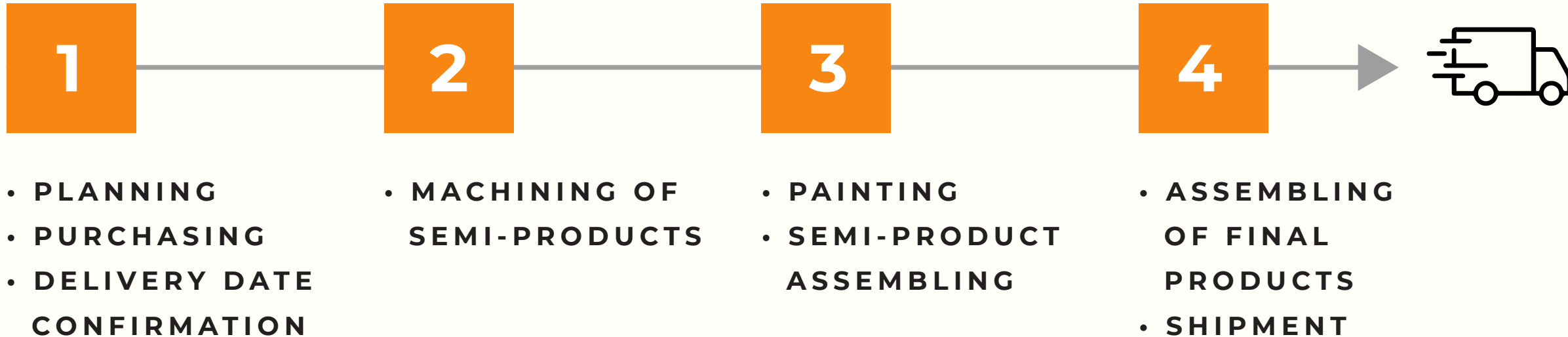
MODERN SOLVENT-FREE POWDER COATING SYSTEM

Made to order

Overproducing is not part of our philosophy. Just-in-time production is a way to allow customers greater product personalization and choice while not creating waste from unsold products that are made for stock.

There is a limited selection of products in stock, composed of our runners.

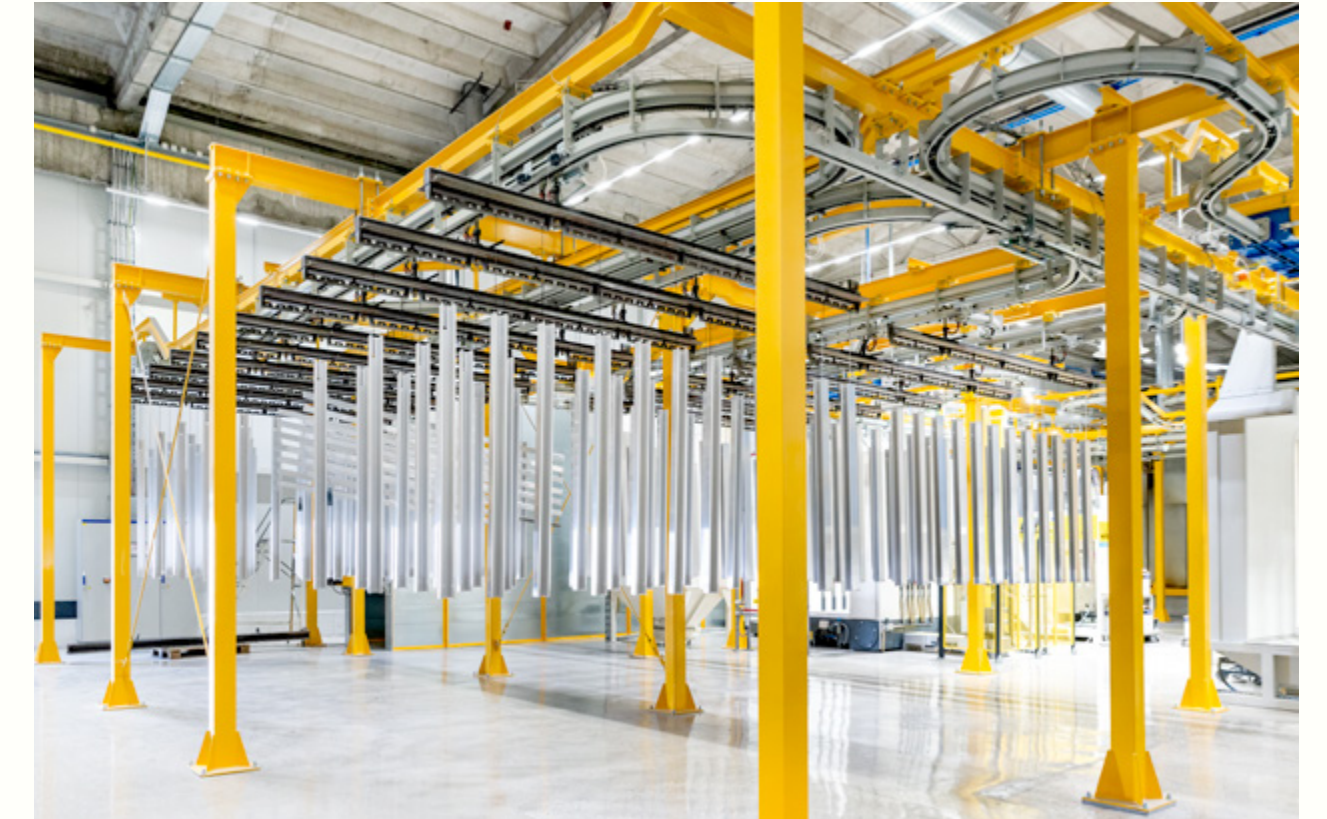
4-5 weeks



Powder coating, a nature-friendly alternative

- 90% lower water consumption and less waste water*
- Low energy consumption and lower CO2 emissions
- Reuse of over-sprayed powders
- Durable and long-lasting paint
- No solvents and heavy metals are present
- Recovered thermal energy for heating
- Employee-friendly and healthy working environment: no heat, no toxic fumes

**Compared to our old painting system and wet painting*



Quality control in production process

- Control of incoming materials
- Powder painting process control (thickness and paint adhesion)
- Quality inspection protocols in the production process
- Visual inspection of the finished products
- Safety and functioning testing of finished products. We have a testing result for each product available. In the event of a claim, we can check the tested parameters.



100 %
tested products



ISO
certified productions

COLLABORATION WITH THE ACADEMY OF ARTS STUDENTS: A VIDEO ABOUT THE CONSTRUCTION AND OPERATION OF THE NEW FACTORY THROUGH THEIR EYES.

New factory in Slovenia

It's a big attraction.

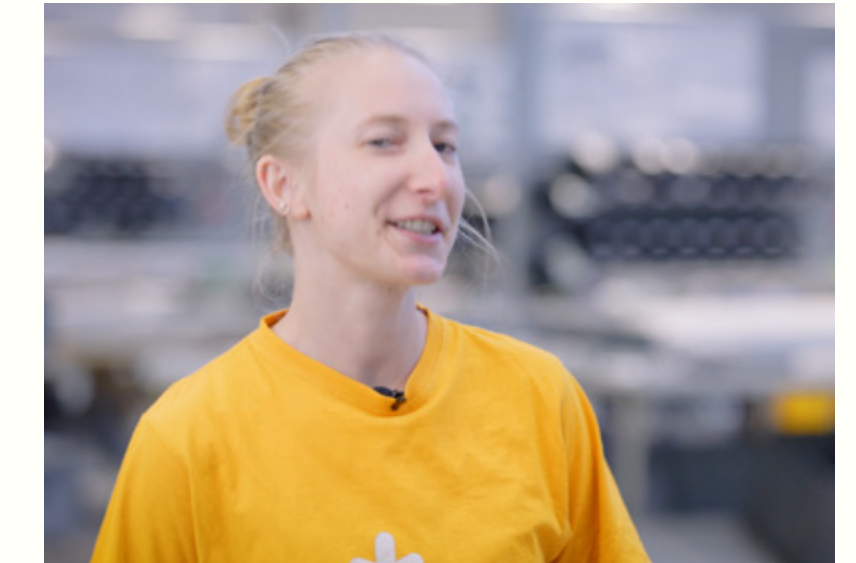
It has been operating since the end of 2020, while the official opening was in October 2022 when we opened the door to the public. Also, the highest state authorities recognized its value and attended the event.



GRAND OPENING OF THE FACTORY IN OCTOBER 2022

Factory is people, too.

First hand experience: Interview with our employees



Croatian production plant renovation

The factory will follow the guidelines of sustainable development both in terms of construction and technology.

We will establish an optimal layout of technological processes, which will significantly reduce internal logistics routes between individual processes and thus help to increase efficiency and capacity.

New solar plant
400.000 kWh



IN PROGRESS
Q3 2023

NEW PRODUCTION PLANT

Made in USA

- Shorten the distances and time to market
- Local component sourcing (reducing transport)
- Ship transport instead of air freight transport
- Less packaging material (multipack)



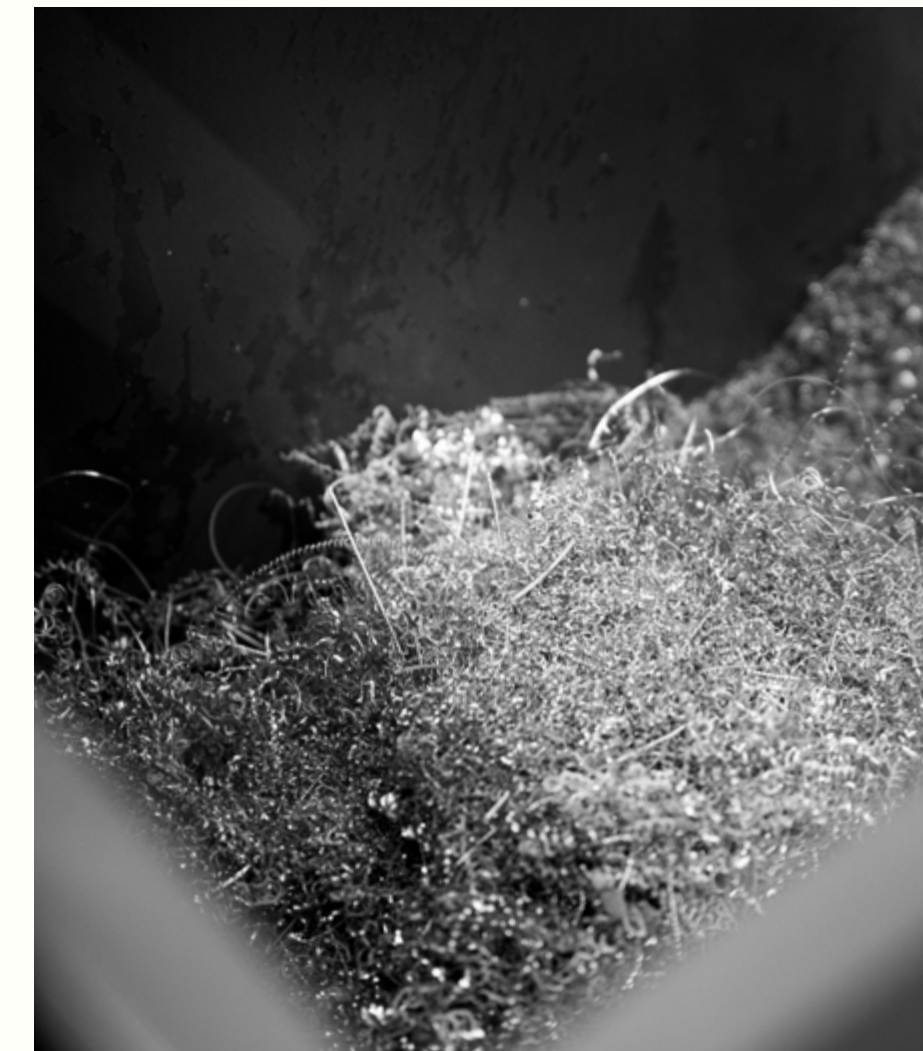
IN PROGRESS
Q4 2023

Waste management

We constantly monitor the waste levels of our productions and try to reuse and reduce the waste where possible.

The recycling process is at a high level. We have agreements with a waste collection and recycling company, where waste is processed for reuse.

Intra lighting works accordingly to waste management elaborate.





Minimizing waste

We try to optimize the profile lengths to minimize waste. The remaining profile parts can be reused for upcoming orders, while we use the small parts for demo-boxes.

Reuse of post-industrial waste from our own production sites

Post-industrial waste parts are returned in the process and mixed with virgin ones for new products. Approximately 20% recycled content is used in each white product.



Plastic-free packaging

We will transition to plastic-free packaging with an investment in an in-house robot for product packaging at the Slovenian factory.

We aim to reduce waste, save time in sorting out waste on the project site and replace the tape with a different kind of package moulding.



IN PROGRESS
Q4 2023

Reduce single use packaging

We try to reduce as much as possible the single-use packaging.

Reusable Euro-boxes

We try to reduce the single-use packaging in our production with reusable Euro boxes for internal logistic across production plants and sub-suppliers.

Internal logistic optimization

With custom made trolleys for different product types, we can reduce the use of packaging in internal logistics.





From waste to packaging optimization

The post-industrial waste from plastic is transformed into PCB holders and other tools that facilitate the production process and transportation of semi-product parts.

Transition to plastic pallets

Plastic pallets enable long-term use and generate less dust in handling, making the production plant cleaner.



Reduce paper use with smart working stations

Transition to mainly digital documentation in production, which will:

- Reduce the paper use
- Give online access for workers to all production documentation (wiring diagrams, list of materials, assembly instructions, testing devices, Proinfo,...)
- Better product and process traceability



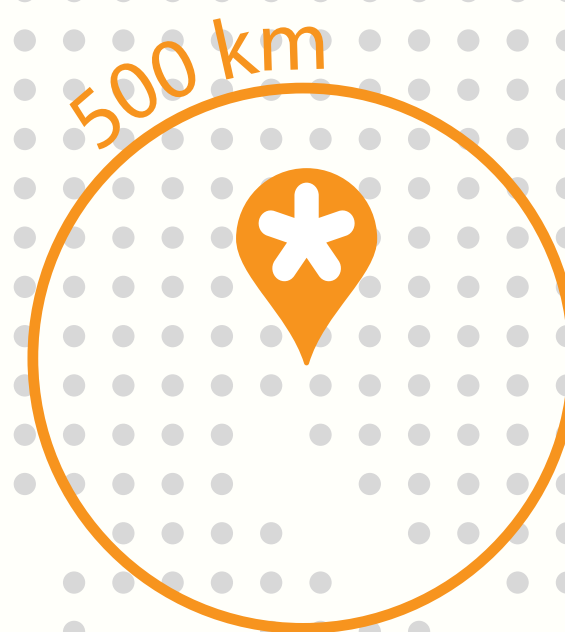
Suppliers choice and collaboration

Sharing same values.

Sourcing within Europe

We are constantly shortening distances to our suppliers. The biggest part of Intra lighting suppliers is from Europe.

Collaboration with suppliers is an important aspect of achieving sustainability in a business. We are overseeing our supply chain, with a particular focus on quality, labour rights and environmental impacts.



97%

suppliers in Europe

85%

within 500 km radius

50%

from Slovenia

Sourcing electronic components from well known brands

DRIVERS



Finland

OSRAM

Germany

PHILIPS

The Netherlands

signify

The Netherlands



Italy

TRIDONIC

Austria

LED CHIPS

CITIZEN

Japan

SAMSUNG

South Korea



South Korea

Working according our ethical standards

We operate internal policies to ensure that we are conducting business in an ethical and transparent manner.

These include:

1. Declaration of policies of human rights protection and protection against exploitation of minors at work
2. Declaration about safe conditions, health and safety at workplace
3. Ethical trading document
4. Remuneration document
5. Supply chain document



Suppliers yearly assessment

- Annual supplier evaluation
 - Audits for largest suppliers
 - Quality checks at suppliers facility
-



Local community

We support culture, sports,
health and social initiatives
in our local community.



Rebuilding Kras after a huge fire in 2022

2022

We contributed 2023 seedling for Kras.

2023

We will donate 1500 hours of our work in a renovation action.

We will support the project **long-term**.



2023

seedlings planted =
up to 141.610 kg of CO2/year

when they fully grow and realise their carbon capture potential. A tree absorbs approximately 70kg of CO2 per year.



Supporting local artists

We support cultural creators in various ways - materially, by creating joint projects, by giving them space in our premises, etc.

The young innovative MN Dance Company researches the uniqueness of moving and places dance in a new light of expression. Led by artistic directors Michal Rynia and Nastja Bremec Rynia, the dance company plays a vital role in popularising dance among all generations and all over the globe.

VIDEO SPOT RECORDED IN OUR LAB



ICARUS PERFORMANCE, 2022, PHOTOGRAPHY:
ALJOŠA KRAVANJA



GRAND OPENING CEREMONY

Supporting fine art

We love art. Our business premises are like an art gallery. The walls are full of artworks by many artists from the local environment and beyond. By purchasing works of art, we support their creation.



Supporting sport

We appreciate athletes and their efforts, so we support many local sports clubs, and as one of the general sponsors, we cooperate with the Gen-i volleyball club.



Supporting health

Health is the greatest wealth. With donations for purchasing equipment and devices, we have repeatedly contributed to solving life's hardships in our nearby hospitals.



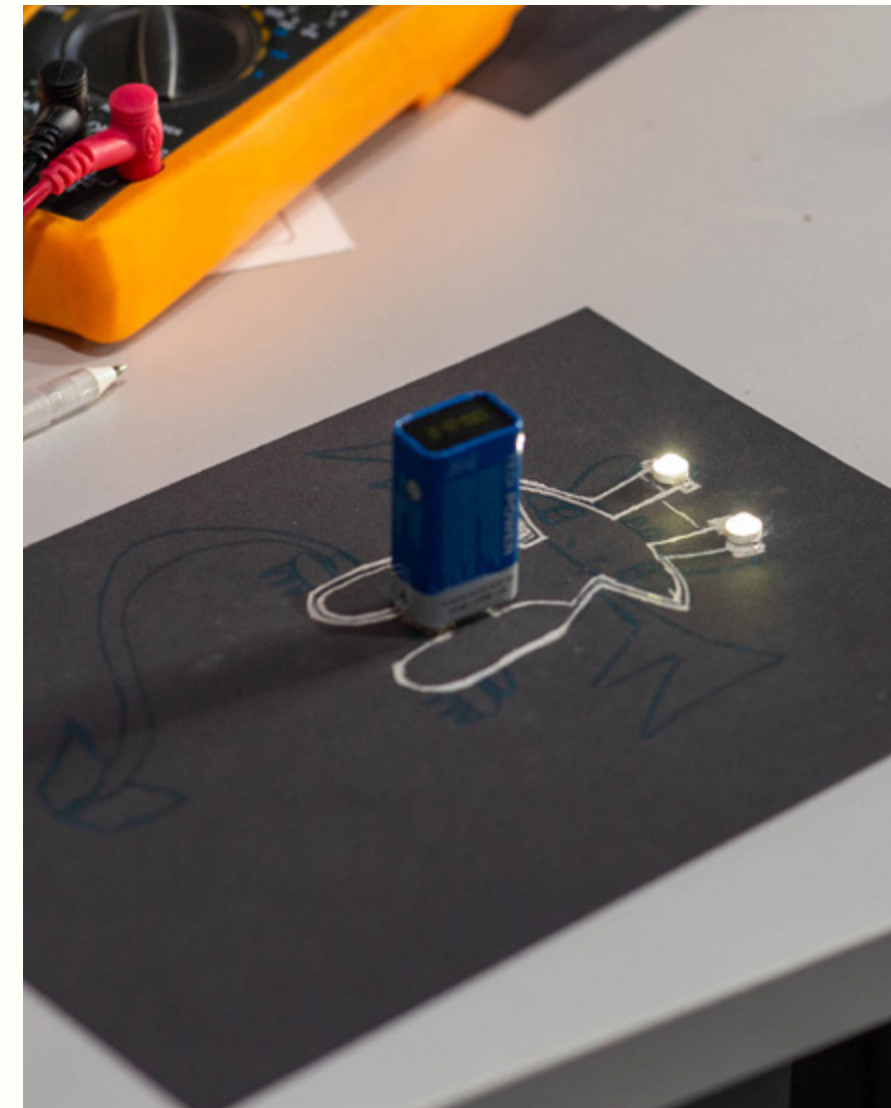
DONATION OF 8 PERFUSORS WORTH MORE THAN 10,000 EUROS TO DR. GENERAL HOSPITAL FRANC DERGANČ FOR HELP IN SOLVING THE CHALLENGES RELATED TO COVID-19. 2020



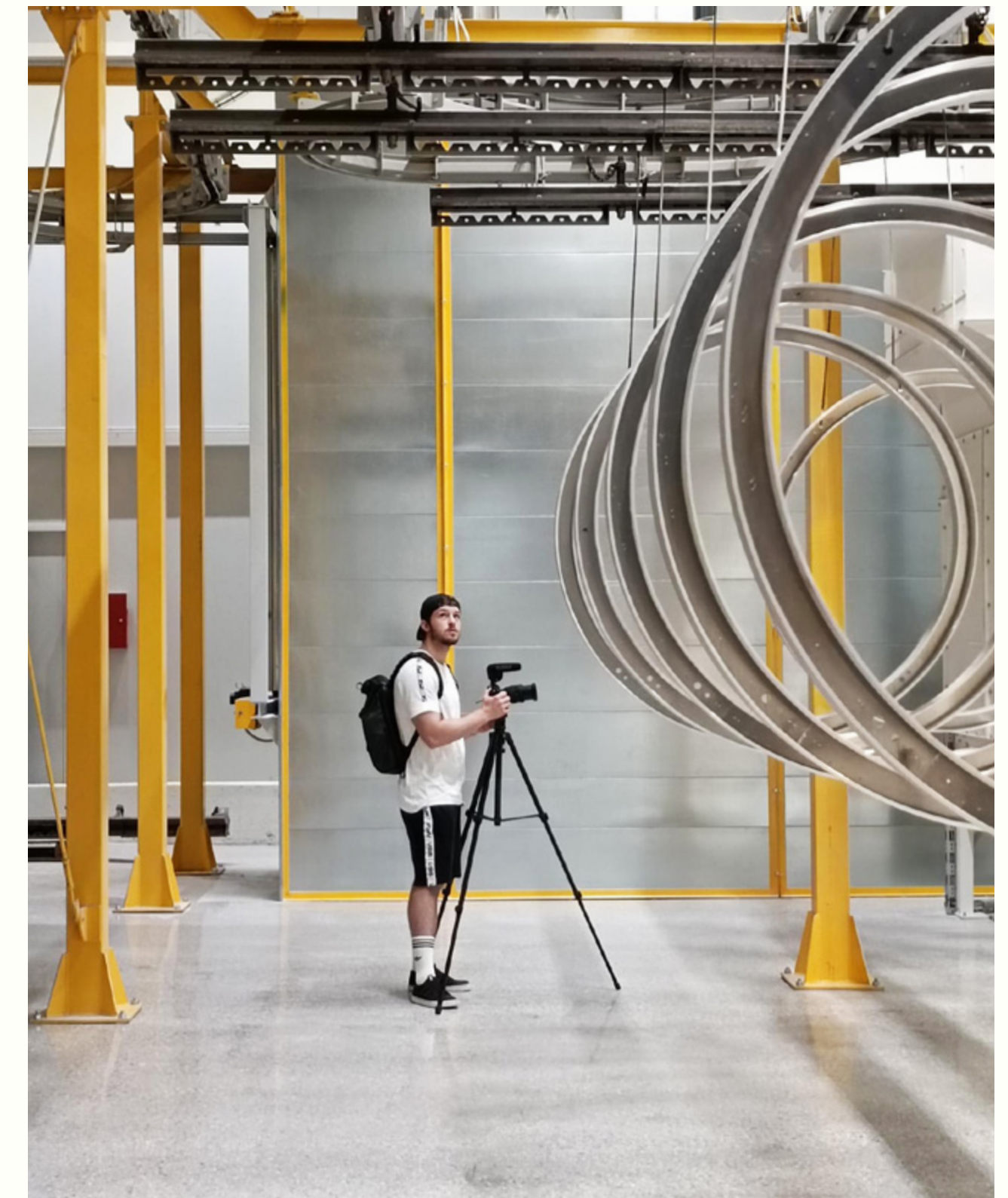
DONATION TO THE FOUNDATION VRABČEK UPANJAINSTENDED FOR THE DEPARTMENT FOR DISABLED YOUTH AND REHABILITATION. STARA GORA, DECEMBER 2021

Supporting education

We support activities that inspire children and young people to learn science and technology. In various projects, we collaborate with the Faculty of Architecture, the Faculty of Mechanical Engineering, the Faculty of Entrepreneurship, the Academy of Arts... We also regularly host students and provide them with practical training.



THE WORKSHOP 'ARTISTIC CIRCUIT', SEARCHING ANALOGIES BETWEEN TECHNOLOGICAL DEVELOPMENT AND ARTISTIC CONTENT



COLLABORATION WITH THE ACADEMY OF ARTS STUDENTS: A VIDEO ABOUT THE CONSTRUCTION AND OPERATION OF THE NEW FACTORY THROUGH THEIR EYES.

Our door is always open

We regularly share good practices, our knowledge and experience with partners, students and other interested public. By offering guided tours of our factory and laboratory, we provide a valuable opportunity for individuals to learn about our processes, products, and services. Educating the public about light and lighting design is also essential, as it helps to raise awareness about the importance of efficient and effective lighting solutions.



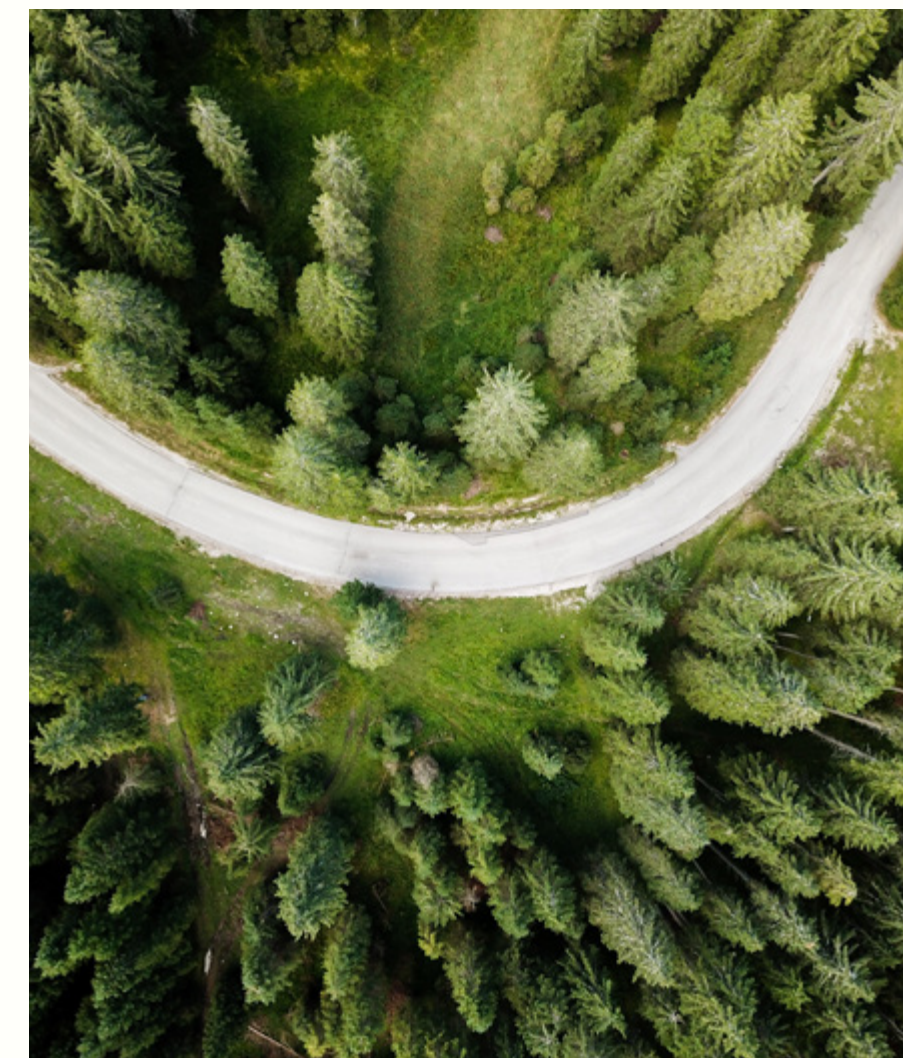
Slovenia is a green country

Slovenia is one of the world's greenest countries, **60% covered with forests**. Its capital, Ljubljana, was the **European green capital in 2016**. In the west of the country, halfway between the Julian Alps and the Adriatic sea, our company is based in a small town Šempeter pri Gorici.


The surroundings of our headquarter and factory is green. If you look out of the window, grass and trees all around.



LJUBLJANA, GREEN CAPITAL OF EUROPE IN 2016.



60% COVERED WITH FOREST

A pair of hands, one from a lighter-skinned person and one from a darker-skinned person, are gently cupping a small, round, moss-covered ball. The background is a soft, out-of-focus green, suggesting an outdoor setting. The overall mood is one of care and environmental stewardship.

The change is possible

A journey of a thousand miles begins with the first step.

Join us, we can all contribute. If we want to move forward, we will have to transform many things and start doing the right things. Be prepared to change. Take care of nature. Reimagine the future.

We care.

For the people
and the planet.

**Download
the presentation**



 intra lighting
all visible

Get in touch

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