



# Lighting Replacement

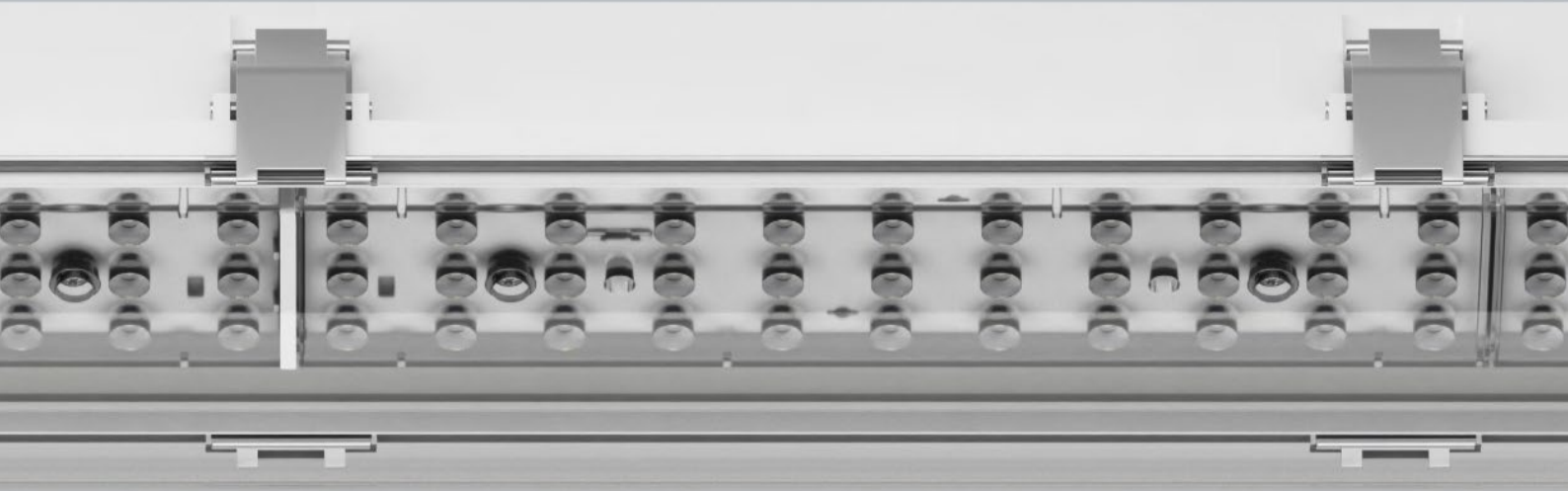
LUXIONA

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LUXIONA



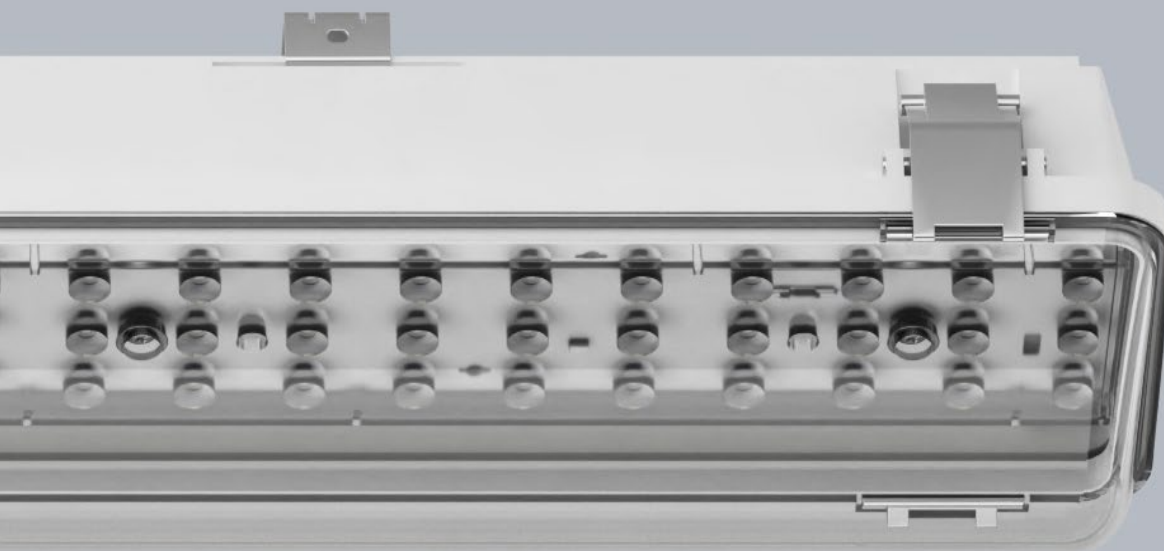
Neptun Industry LED Optics **N**

# Our values

## Personalised solutions and European design

Created in Barcelona, Spain, and developed in Poland, our products combine European design with high quality and efficiency. At the very Centre of our work is our passion for lighting and functional design. The highest performance aligned with aesthetics and simplicity of installment and maintenance makes it a perfect solution for any space.

Thanks to a variety of customisable options it is possible to adjust our products to the needs of a specific project, including the most demanding medical facilities as well as pharmaceutical, electronic, chemical and food industry, that require the highest degree of cleanliness.



# Design

## Designed in Barcelona

From the moment we started our company in Barcelona in 1929, the value of design has been part of Luxiona's soul. Since the invention of the first electrified rail system inspired by the trolleybuses on the streets of Barcelona, the source of inspiration for our products is based on this city that exudes design, art and avant-garde. We have an international presence with offices in Spain, France, Italy, Germany and

Poland, but it is here in Barcelona where the research and product development team is located to keep the initial spirit alive in each of our luminaires, always with the highest level of sustainable technologies. The results are lighting solutions that offer a comfortable visual experience, positively influencing people's well-being and at the same time respecting the environment.



**DESIGN PLUS**



Luxiona Main Factory, Jacentow. Poland

## Competitive manufacturing

By combining design in Barcelona with production in Europe, Luxiona provides customers with competitive, flexible and timely solutions. A certified production plant for clean and medical luminaires and logistics centre located in Poland allows us to be independent and offer fast turnaround times, as well as better communication and advice. Our infrastructure and technical equipment are constantly updated to offer continuous improvement of production. With our on-site

certified clean room we are one of the few manufacturers in Europe in full control of the production process, while maintaining the necessary standards to certify our luminaires for installations requiring a high degree of cleanliness atmosphere, including ISO 14644-1 certification for clean rooms. As a result, our product range covers different sectors: architectural, office, industrial, sports, retail, clean rooms, medical and hospital facilities, as well as for the pharmaceutical, chemical, food and electronics industries.



Luxiona Main Factory, Jacentow. Poland

## ISO 13485 certified factory in Jacentow

Luxiona's production plant is fully equipped with technologies enabling us to disinfect and prepare the luminaires according to ISO standards. Our production process requires not only the highest standards but also a broad machinery park and separate rooms dedicated to manufacturing clean and medical products.

The experience gathered through years combined with the development of modern solutions results in a wide variety of products. We are also able to provide short realisation terms, thanks to independence from external factors and the complexity of our technologies that ensure the flexibility of our production process.

Certificate  
ISO 14001:2015



Certificate  
ISO 9001:2015



Certificate  
HACCP



Certificate  
ISO 13485:2016





# Sustainable solutions

Sustainability is at the very core of responsible businesses. By working together we strive to develop projects that have a positive impact on the environment and promote sustainable lighting so important for modern facilities in the clean room industries, where efficiency and energy-saving is one of the most crucial factors. We are able to achieve this by using intelligent switching control systems and by providing users with efficient, and sustainable solutions.

One of them are LED sources used in Luxiona luminaires, characterised by a long lifespan of 100,000 h and the LxBy parameter at the L80B10 level. This means that after 100,000 hours of use, the LED sources will retain 80% of their initial luminous flux, and only 10% of the LEDs will have less than 80% of their initial luminous flux. This means that we can enjoy their quality longer.

# Innovative technology

Innovations and functionality have always been and will remain an important factor in the development of new lighting solutions, services, and the application of new technologies. The know-how accumulated after almost half a century of experience and the combination of design and engineering allows us to stay one step ahead.

Together with our R+D+i department, in constant search for new lighting solutions, we are able to use the latest generation of materials and production processes. Looking to the future combined with our experience allow us to shape the lighting of the future and expand our innovative product portfolio.



## Certification programmes for green buildings



# Lighting Consulting

**Our team of 50+ experts is always available in each country of our presence and will accompany you in developing your lighting projects. We provide personalised advice, specific for clean room lighting, based on experience and know-how gathered throughout the years. Thanks to complete follow-up of the project's needs until its implementation we offer you a global and integral vision at every stage.**



## **Customer and project requirements**

Stage 1: Plan with proposed distribution of luminaires.  
Detailed plans with sections, cuts, ceiling typology and furniture.  
Functions, branding, ambience, experience, sensations, levels and creation of environments.  
BIM methodology.



## **Lighting consulting, conceptualisation and project development Analysis and review of plans and needs**

Stage 2: Initial sketch of the lighting study.  
Plans with proposed location of luminaires.  
Lighting study and calculation (3D modelling).  
Carrying out lighting calculations to adjust and validate the proposal and the lighting levels, sensations, consumption control and efficiency.  
Development of special projects and products.



## **Presentation and delivery of the project**

Stage 3: Lighting levels represented in false colours.  
Luminaire location plan (PDF and CAD).  
Technical data sheets of the applied products.  
Control and Smart Lighting services: Creation of groups and scenes, location of sensors, sketches and electrical diagrams, configuration, etc.



## **Technical support and customer service**

Stage 4: Lighting simulation result of the final project.  
Follow-up of work and supervision of the installation and configurations.  
Incident management.  
Maintenance and repairs.  
Programming and commissioning of regulation and control systems.

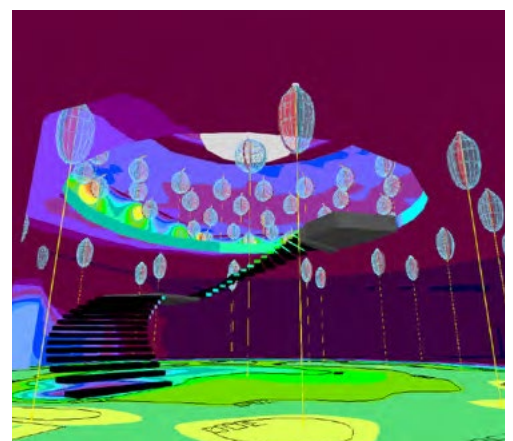
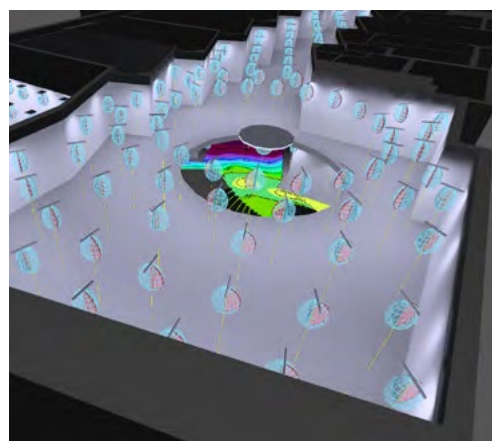
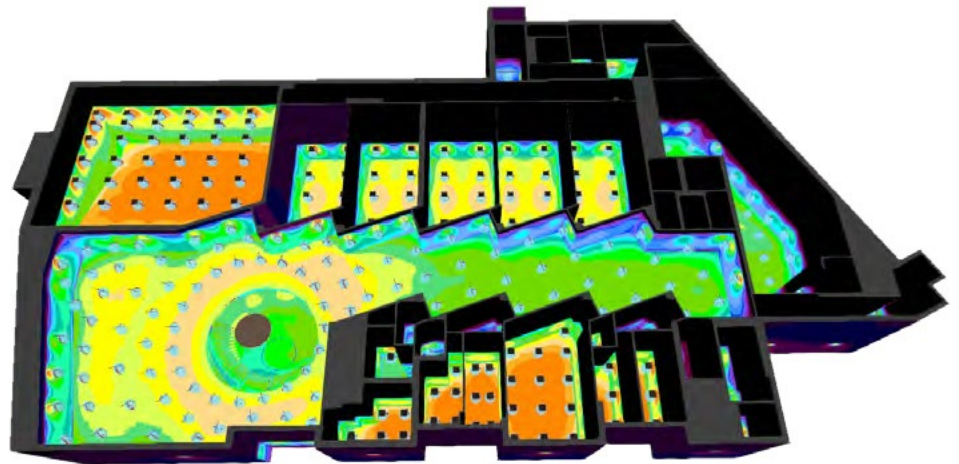
## Projects and calculations

**Our qualified lighting designers, with always up-to-date knowledge, are available to assist in the project and help with their qualifications, experience and knowledge. A personal approach to every project is at the centre of our work and leads to a partnership that results in top-quality projects.**

LUXIONA experts work in compliance with the highest industry standards and use the recognised, most up-to-date software, including DIALux. LUXIONA products are also available in DIALux Evo. This collaboration allows to design, calculate, and visualize light using LUXIONA luminaires. It is possible to easily obtain detailed product information, technical and photometric data and 3D models to create project documentation that is widely acknowledged as the global standard in the lighting design industry.

LUXIONA, being a member of DIALux is also included both in the online and offline catalogue. Our luminaires can be easily searched and filtered in the DIALux software. This aspect enhances work efficiency and shorten the time spent searching and importing data, allowing designers to focus on the creative aspect of lighting design.

## DIALux evo



Europanel

# Modernise and save with lighting replacement

**Every space, regardless of its purpose, requires thoughtful and effective solutions. As we carry out our daily tasks, we need the highest quality lighting to help us stay focused, precise and productive, even in the most demanding industrial facilities. With intelligent LED lighting systems, we combine effectiveness and visual comfort with the highest levels of energy efficiency and environmental responsibility.**



## By upgrading your lighting, you gain:



### Lower energy and operating costs

Rising labour and energy costs call for thoughtful investment decisions. The combination of high-efficiency LED luminaires and lighting controls results in noticeably lower electricity bills. Energy-efficient solutions are supported by a well thought-out installation system that significantly reduces the costs of preparing industrial facilities for operation and maintenance costs.



### Greater comfort and safety

Nothing is more important than comfort and safety in the workplace. By implementing the Human Centric Lighting approach to our lighting solutions and combining them with intelligent control systems, we support the body's natural biorhythm. By doing so, we help space users to be more productive and focused, or calm and relaxed, exactly when they need it. By eliminating glare and precisely adjusting the lighting parameters of our luminaires to suit specific tasks and needs, we create friendly conditions and needs, we create a friendly environment and promote safety and well-being in the workplace. In doing so, we increase the productivity of teams, respond to even the most demanding needs with our fully personalised solutions, and improve workplace safety.



### High standard of facility and return on investment

Replacing lighting is an investment that pays off exceptionally well. The money spent on modernisation pays off surprisingly quickly, and modern lighting systems raise the standard and prestige of the property itself. The high quality of lighting and energy efficiency of a property is also one of the most important elements that investors pay attention to when assessing the value of a property. LED lighting, ensures trouble-free, durable and low-cost use of the facility for many years. This is an important asset of the investment, which increases its value on the property market.

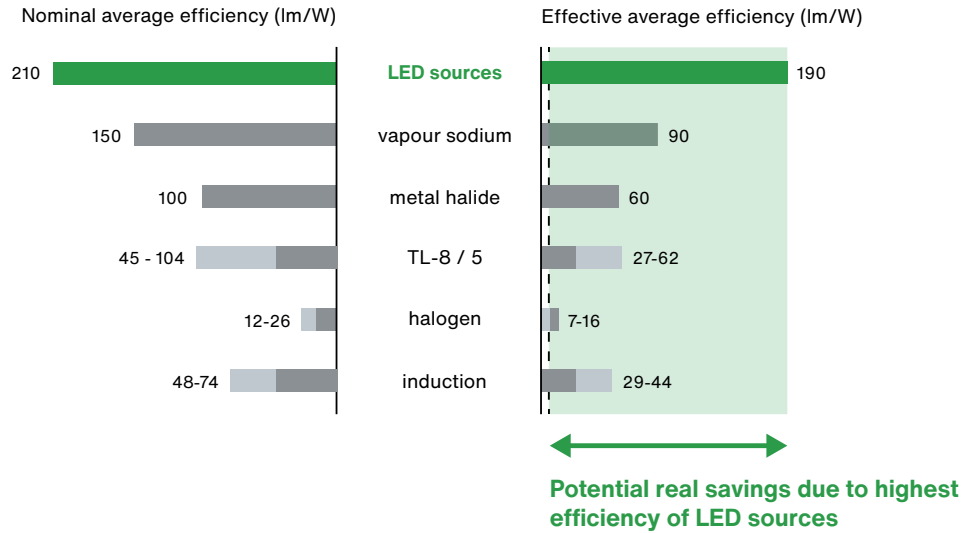


### Reduced environmental impact

Lower energy consumption, thanks to more efficient LED sources, is an extremely environmentally friendly solution. It reduces the carbon footprint created by the use of illuminated spaces. Reliability, the absence of hazardous materials in the manufacture of LED sources and the long service life of LUXIONA luminaires also contribute to the production of less waste. Our almost 100 years of experience as a manufacturer of lighting solutions also allows us to continuously improve our production process and implement technologies that reduce our environmental impact. Sustainability is one of our core values, which is why we strive for the highest standards of environmental performance.

### Cutting costs with led sources

LED technologies evolution offers nowadays lighting solutions bringing higher benefits, highest efficiencies whilst affordable investments. Energetic efficiency puts on the hands of lighting designers, engineers, architects and owners a very powerful tool to cut operational costs thanks to ancient luminaires by modern and efficient led ones.



Related to lighting efficiency, not only nominal but real, it takes into consideration a crucial factor like the directionality of light. In effect, ancient old-fashioned lighting engines are by their nature omnidirectional, as incandescent bulbs or fluorescent, which in turn forces to use reflectors in the luminaire body design. The use of reflectors, no matter their coefficient, implies some reflection losses.

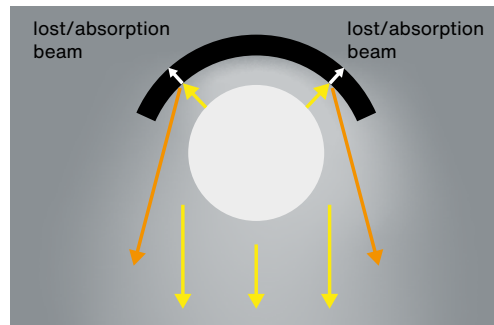
Oppositely, led lighting sources are directionally, so the most of the generated lighting is efficiently used, among the use of some little reflectors to minimize some minor lighting patterns not addressed to the right direction.

Old-fashioned sources

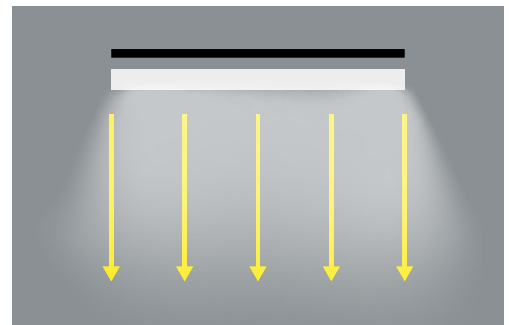
$LOR_{\text{radial emission}} \approx 60 \div 75\%$  nominal flux

LED sources

$LOR_{\text{direct emission}} \approx 100\%$  nominal flux



- direct beam
- reflected beam
- lost/absorption beam



- direct beam

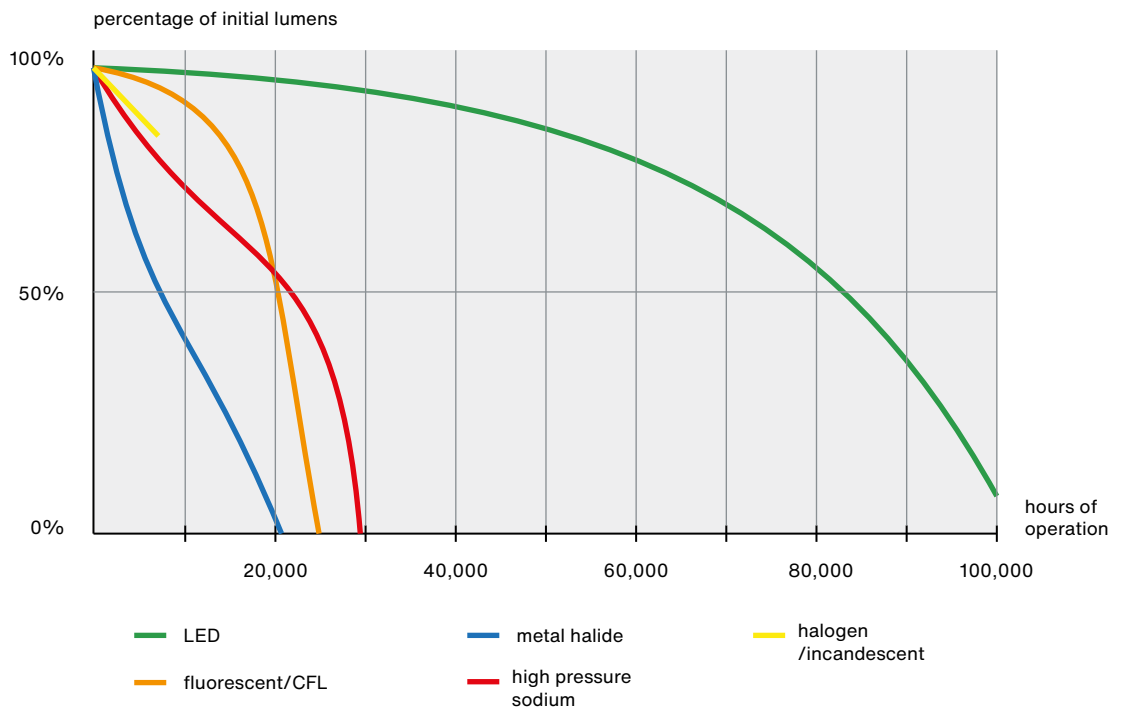
## Longer lifetime for led sources

Due to his semiconductor nature, provides longer lifetimes when compared with fluorescent, incandescent or halogen based lamps.

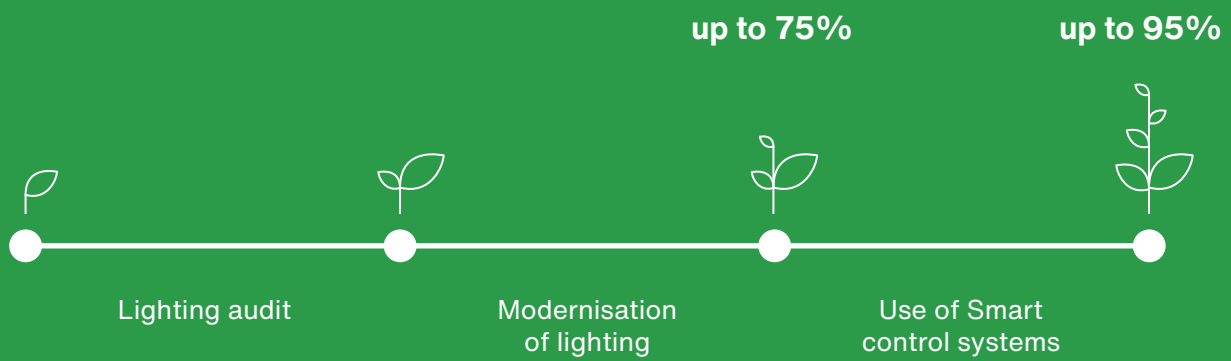
## Additional eco-achievements

As a consequence to the achieved savings for lighting retrofitting, carbon footprint and climate change fight are also in the frame of lighting design, making available on top of a more enviromental conscience, a powerful set of certifications as Bream or Leed. Last, but not least, the use of led lighting makes possible the cosumption reduction of hazardous and toxic components used in classical lighting.

## Lumen maintenance curves LED vs traditional light sources



# 95%



## Up to 95% energy savings by carrying out a lighting audit, replacing and optimisation of the facility's lighting

**Carrying out a comprehensive lighting audit and upgrading the lighting system according to the audit's recommendations can save up to 95% of electricity costs.**

Upgrading lighting reduces energy costs by an average of 50-70%. In extreme cases, energy consumption can drop by as much as 90-95%. To achieve this level of savings, our specialists can help you choose the right solutions, perfectly suited to the specific building to achieve the best results. Thanks to a comprehensive lighting audit, we are able to assess whether a lighting upgrade will only require the replacement of old luminaires with traditional light sources to efficient and energy-saving products with LED sources or will it require a new lighting project. Often times more cost-effective and

recommended is a new retrofit project with the new positioning of the luminaires in the building, with reducing or increasing the number of points of light, the introduction of intelligent control systems, and presence and movement detectors. Such a solution takes into account all relevant information on usage patterns and frequency of use of space and helps to make full use of them to generate additional savings. Regardless of the chosen scope of modernisation, our specialists always select a tailor-made solution, perfectly suited to your specific space.

# ROI

ROI (return on investment) for switching luminaires and adding dimming capabilities.

4x18 W T8  
PPAR 840 → LED 3800  
Micro-PRM 840

**Common Parameters:**

Driver	on/off
Colour temperature	4000 K
Colour Rendering Index	CRI>80



**Improvement after modernisation:**

lifetime

**6 times longer duration**

energy consumption (W)

**70% reduction**

luminaire efficiency

**3 times better**

2x36 W  
T8 PC 840 → LED V2 6000  
PC-Frozen 840

**Common Parameters:**

Driver	on/off
Colour temperature	4000 K
Colour Rendering Index	CRI>80



**Improvement after modernisation:**

lifetime

**4 times longer duration**

energy consumption (W)

**54% reduction**

luminaire efficiency

**2,5 times better**

250 W HS-E  
E40 4000 K → LED Compact  
25000  
Optics-90 840

**Common Parameters:**

Driver	on/off
Colour temperature	4000 K
Colour Rendering Index	CRI>80



**Improvement after modernisation:**

lifetime

**3 times longer duration**

energy consumption (W)

**46% reduction**

luminaire efficiency

**2 times better**

250 W HS-E  
E40 4000 K → LED 23000  
Optics-Wide 840

**Common Parameters:**

Driver	on/off
Colour temperature	4000 K
Colour Rendering Index	CRI>80



**Improvement after modernisation:**

lifetime

**3 times longer duration**

energy consumption (W)

**50% reduction**

luminaire efficiency

**2 times better**

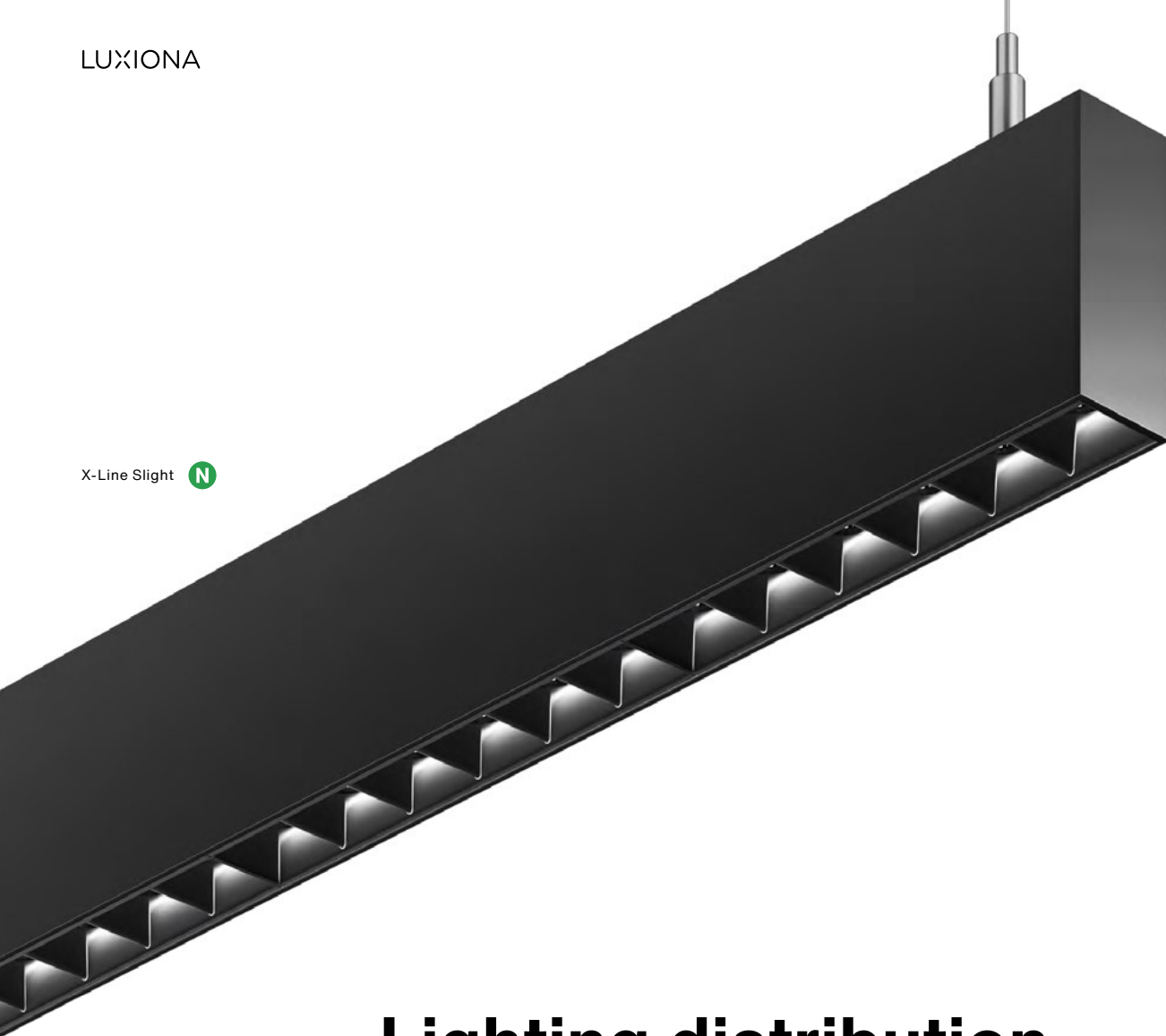


First Workspaces, Madrid, Málaga. Spain



MAN, Starachowice. Poland 17

X-Line Slight **N**



# Lighting distribution

With the help of Luxiona upgrading lighting can be done in two ways:

1. Replacing lighting fixture by fixture in the same locations.
2. Proposal of a new luminaire arrangement.



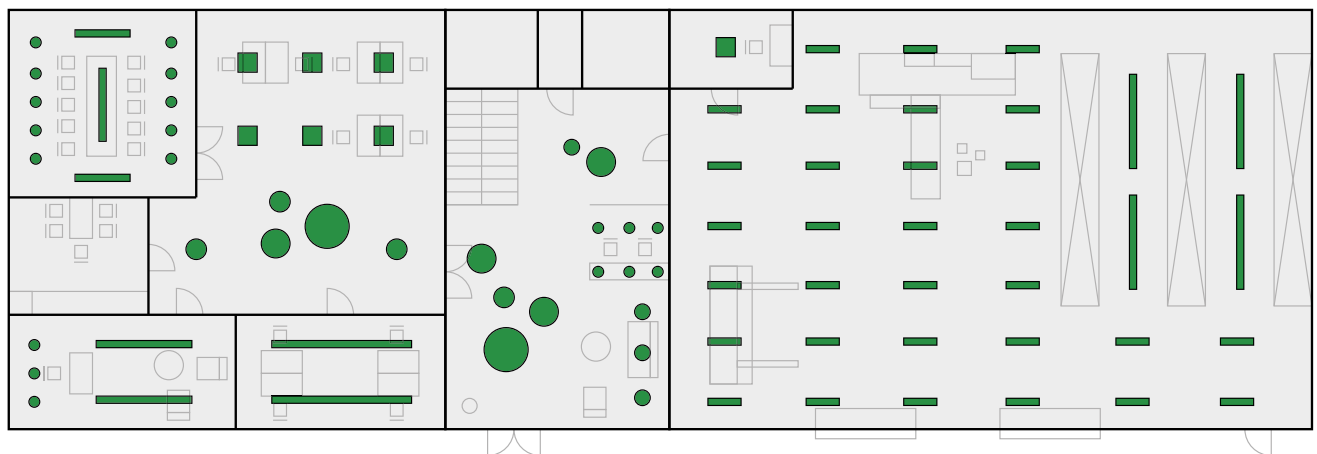
## Lighting before modernisation



### 1. Replacing lighting fixture by fixture in the same locations



### 2. Proposal of a new luminaire arrangement



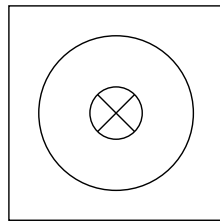


Atena Line New LED

# Case study. Analysis of implementation

Current lighting scheme

Ancient luminaire  
High Bay 400 W



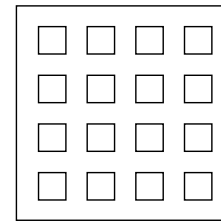
100 units  
( $P_{inst} = 45,5 \text{ kW}$ )

same level of total  
Lm & E reached by



Future new lighting

Atena Line V3 LED  
22000



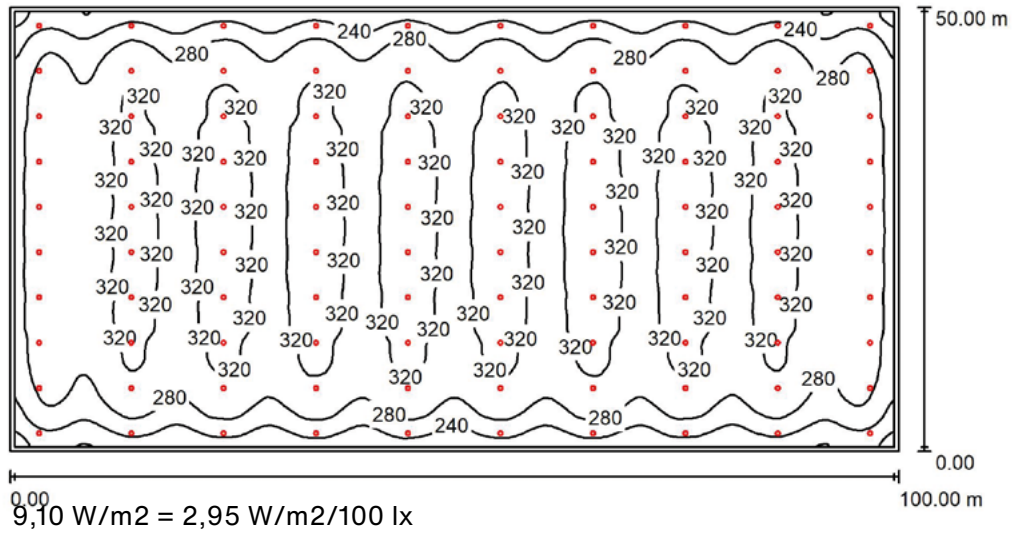
100 units  
( $P_{inst} = 12,2 \text{ kW}$ )



The first and most important step for modernisation savings calculation is to ensure that new efficient luminaires substitute old type ones, and achieve equal levels of luminance, by using specific lighting calculation software.

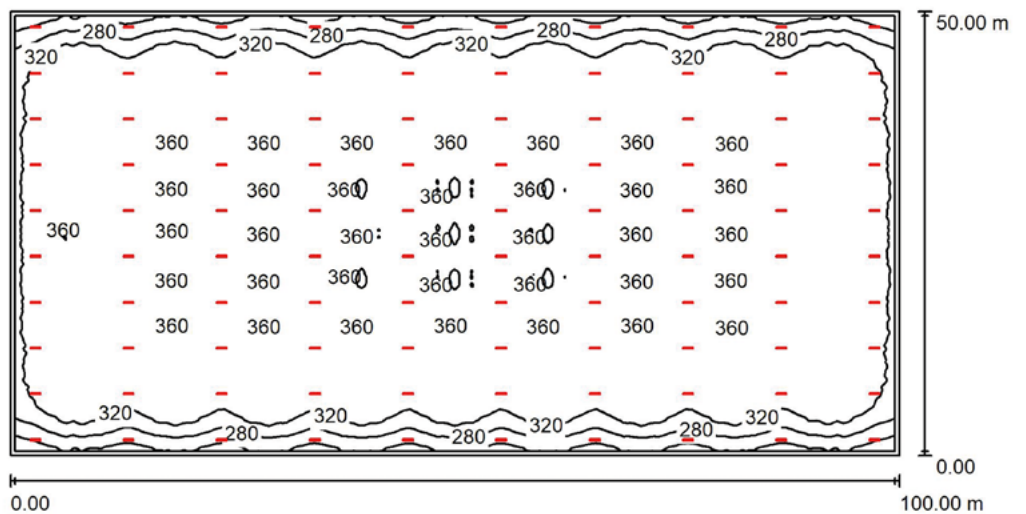
Lighting software simulations show that one-by-one substitution of old type luminaires by modern efficient LED source luminaires carry out the same levels of luminance, thus a first 61%  $P_{inst}$  reduction.

Older type luminaires



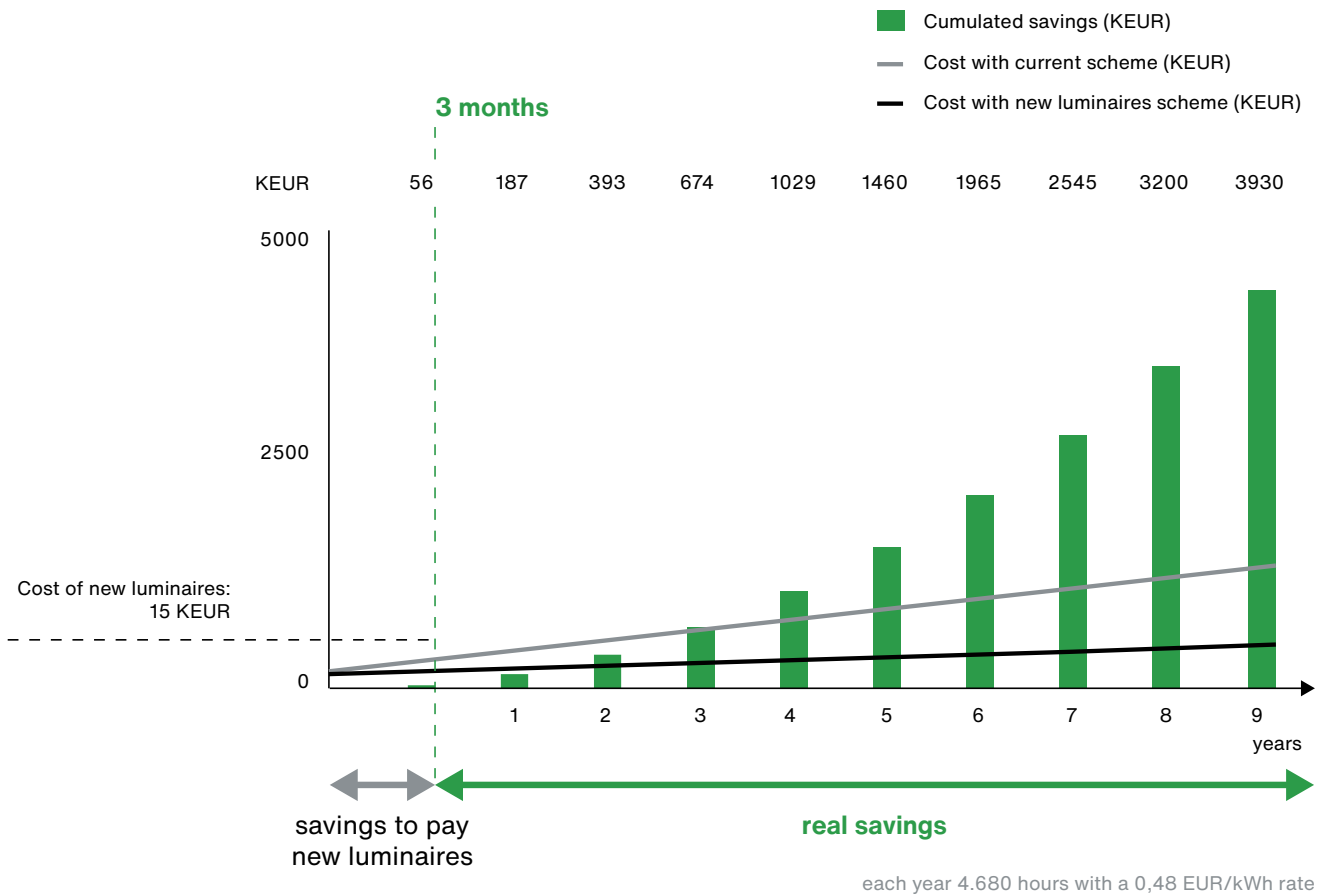
	Em [lx]	Emin [lx]	Emax [lx]	Emin / Em
Working plane	300	180	343	0,6

Efficient luminaires Atena Line LED



	Em [lx]	Emin [lx]	Emax [lx]	Emin / Em
Working plane	336	206	367	0,613

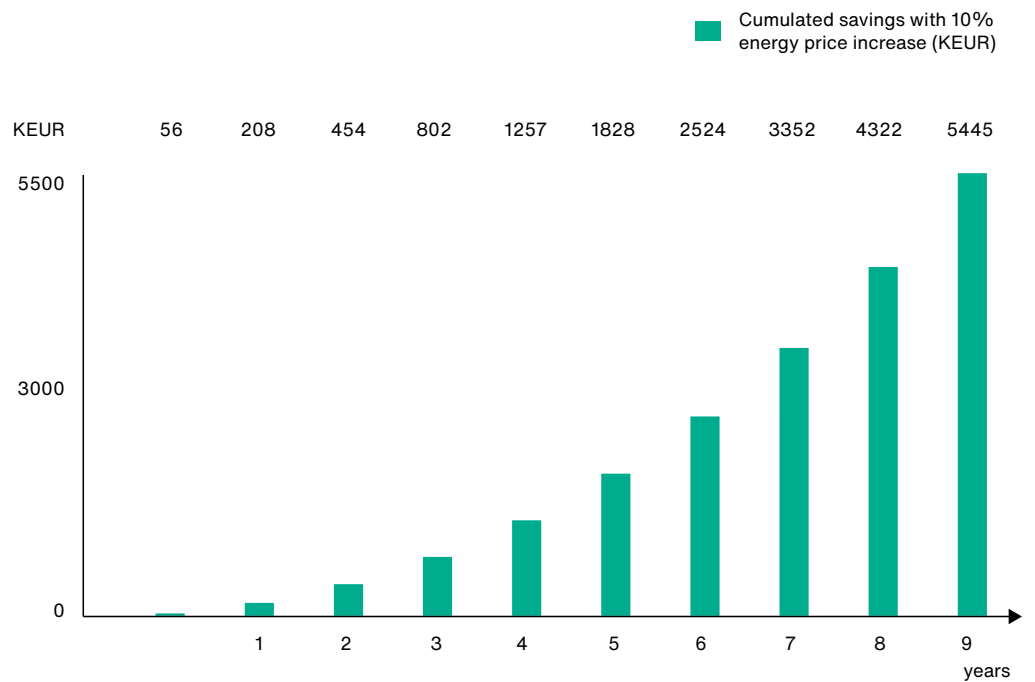
Costs & savings (KEUR)



Year	Cost with current scheme (KEUR)	Cost with new luminaires scheme (KEUR)	Cumulated savings (KEUR)
0	102	46	56
1	205	74	187
2	307	101	393
3	409	128	674
4	512	156	1029
5	614	183	1460
6	716	211	1965
7	818	238	2545
8	921	266	3200
9	1023	293	3930

Amounts in euro converted from Polish zloty according to the rate on 19.05.2023: PLN = EUR 0.2204

Savings & Savings with 10% energy cost increase (KEUR)



each year 4.680 hours with a 0,48 EUR/kWh rate

Year	Cost with current scheme & 10% energy price increase (KEUR)	Cost with new luminaires scheme & 10% energy price increase (KEUR)	Cumulated savings with 10% energy price increase (KEUR)
0	102	46	56
1	233	81	208
2	362	116	454
3	500	153	802
4	648	192	1257
5	806	235	1828
6	976	280	2524
7	1157	329	3352
8	1351	381	4322
9	1559	437	5445

Amounts in euro converted from Polish zloty according to the rate on 19.05.2023: PLN = EUR 0.2204

# Combining 3 technologies

The combination of three lighting control technologies: maintaining illuminance, dimming light where daylight is sufficient and detection of the user's presence can increase energy savings by up to 95% in some cases. When the space is occupied, the luminaire power will be reduced and adjusted to the ambient light

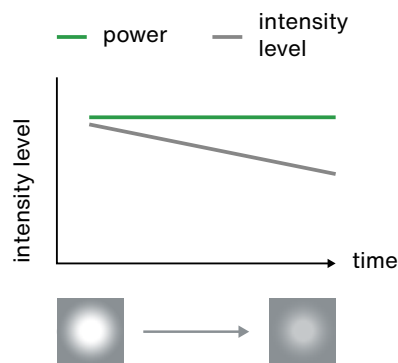
level. Even during short winter days, the amount of light daylight can be sufficient to dim luminaires, thereby generating savings. By combining all three solutions, we are able to adapt the lighting conditions to the current needs and lighting conditions of a specific room in real time and thus significantly reduce energy costs.

## Energy savings through optimised light levels

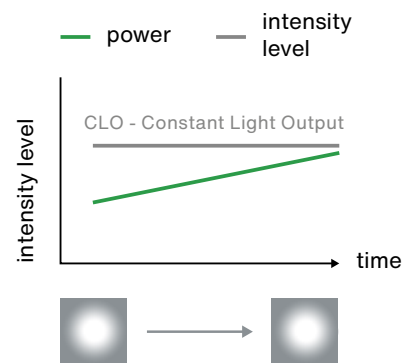
The luminous intensity is reduced over time, through a reduction in the flux of the LED light source over time and the accumulation of dust. In order to compensate for these losses and maintain an adequate level of illuminance throughout the lifetime of the luminaire, they are compensated by higher illuminance. This results in excessive energy consumption over

the product's full life cycle. Intelligent lighting control allows the light to be dimmed to the desired level and energy consumption to be reduced. The initial lighting level is maintained throughout the cycle by gradually increasing the power and maintaining the correct light output.

Light intensity level over time without smart control



Light intensity level over time with smart control

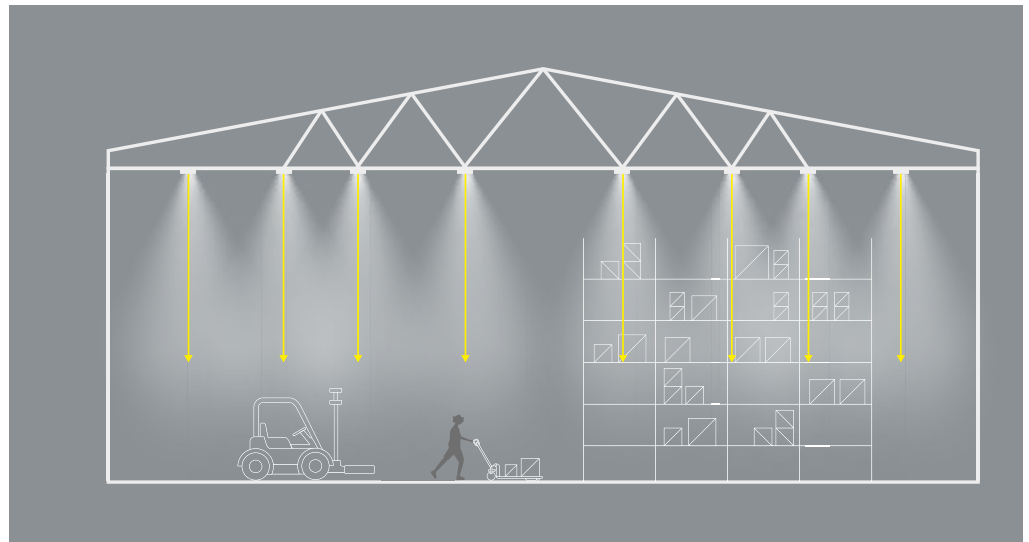


## Presence detectors

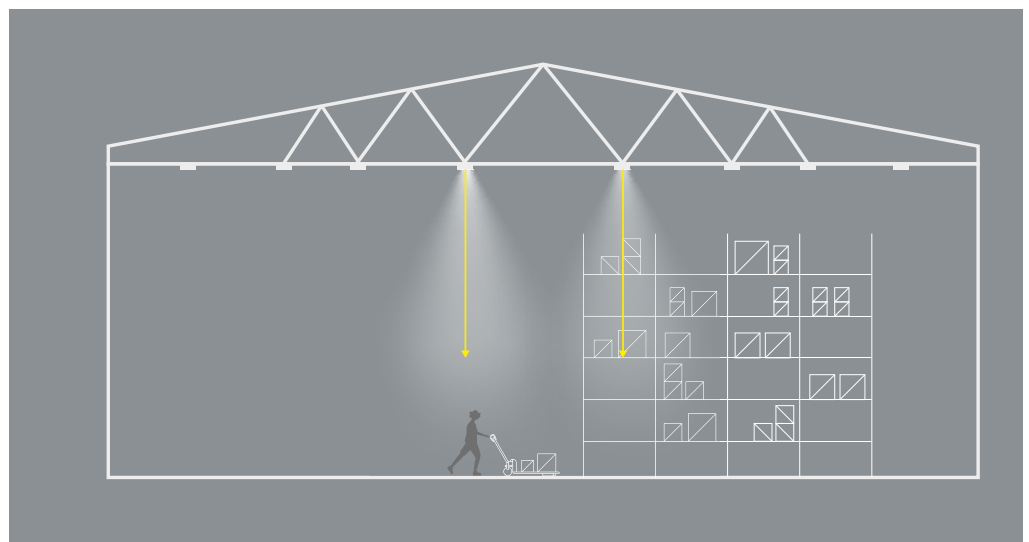
One of the technologies used for presence detection are Passive Infrared Sensors (PIR). These sensors detect the presence of a user and switch on luminaires that were previously switched off. If the sensor does not detect any renewed user activity for a pre-programmed time interval, the luminaires will switch off, allowing energy consumption to be reduced. It is also possible to programme a luminaire or the user's "absence", thus ensuring continuous energy savings throughout the year.

In this case, the luminaire is not switched on automatically by the motion sensor, but manually by the user. From this point on, the sensor monitors movement to switch off the luminaires automatically after a predetermined period of inactivity. Optimising room utilisation through presence monitoring is particularly beneficial, as not all rooms are constantly used by employees at all times. Turning off the lights in unused rooms will generate savings.

Solution without presence detectors



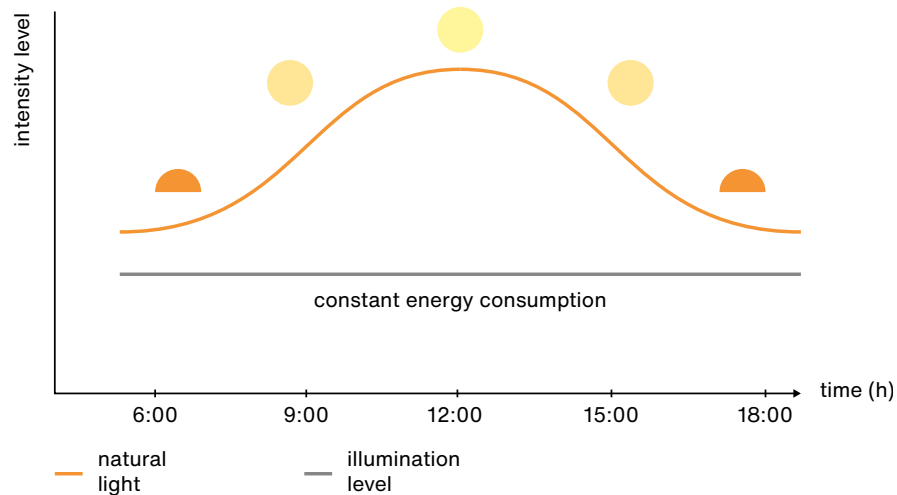
Solution with the sensors



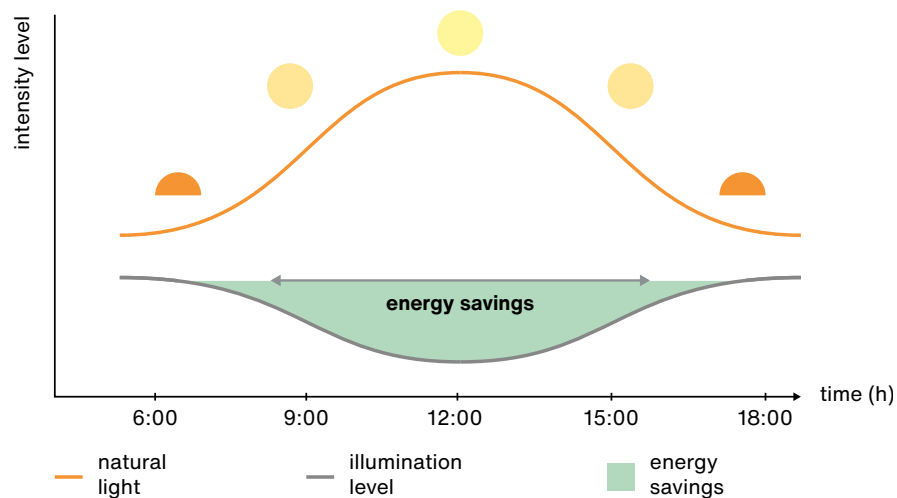
## Combining LED lighting & natural light

Thanks to lighting control systems with natural light measurement, we can react in real-time to the lighting conditions in the room. When natural light enters a room, the sensor detects the appropriate level of natural light, takes it into account and gradually dims the light emitted from the luminaires, saving energy while still maintaining the required lighting level. As the level of natural light increases, the luminaire's light is dimmed proportionally until it is switched off completely, thus reducing energy consumption. The result is an additional augmentation of the savings already achieved through optimised illuminance.

Light intensity level over time without smart control



Light intensity level over time with smart control



### Combining natural light with smart lighting

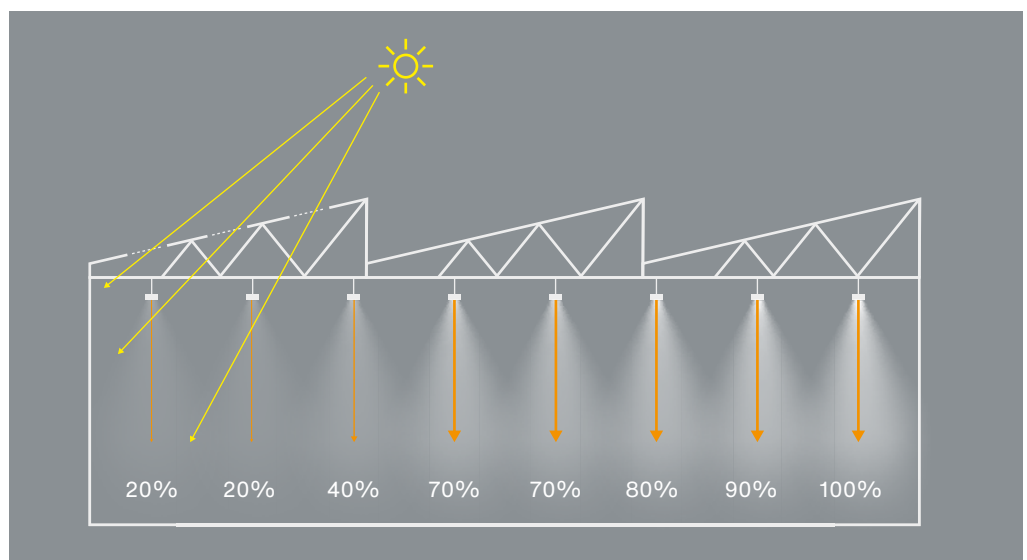
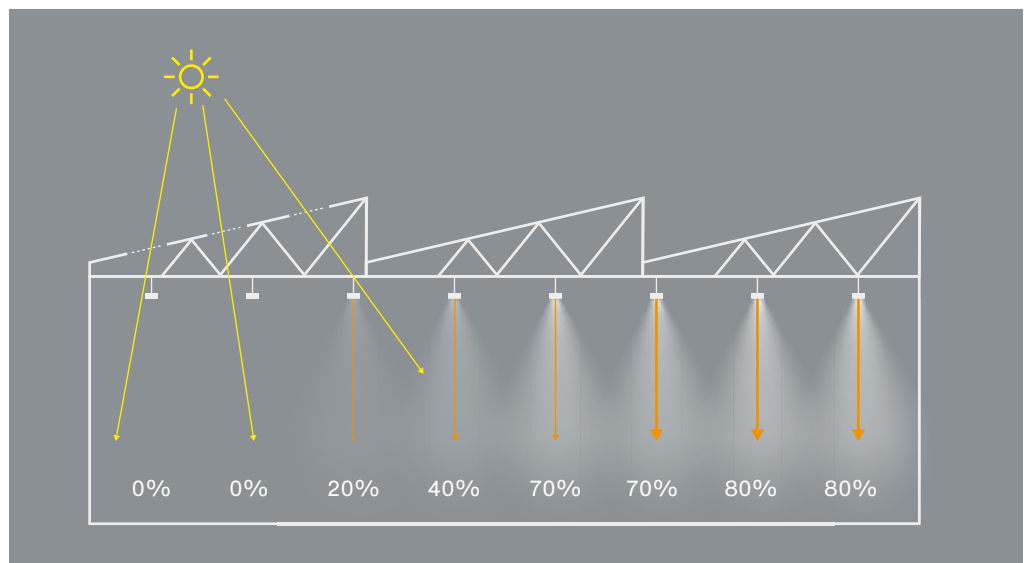
To meet the needs of individual users or the specific requirements of a particular space, the luminaire's factory settings can be changed using intelligent lighting control systems that measure and adjust the lighting parameters according to the ambient conditions. The result is uniform lighting and maximum energy savings, particularly where

it is possible to natural daylight can be used. When there is sufficient natural light, the luminaires in the selected space will switch off, providing further savings and extending the life of the luminaires.

### Combining daylight with a stand-alone sensor

The stand-alone SmartScan sensor measures and adjusts the light intensity of the in a group of luminaires according to depending on the ambient in the immediate surroundings. In the event of an excess

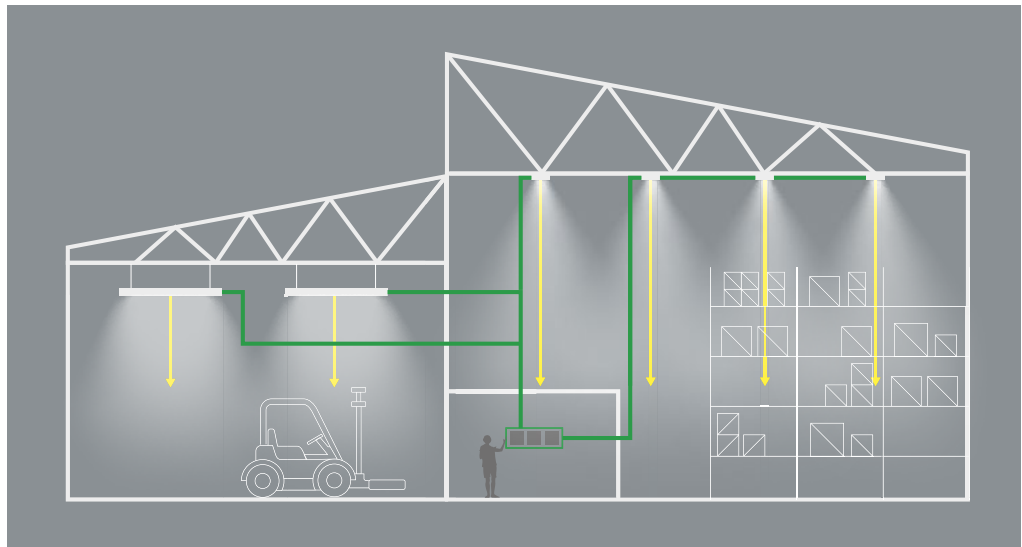
of natural light in a specific space, the sensor will switch off a group of luminaires, allowing further energy savings to be generated and extending the life of the luminaires.



## Energy and traffic monitoring

Combining a facility's lighting infrastructure into a single, smart network is not only the most efficient and cost-effective way to manage lighting, but also the most convenient and practical. Management is possible via intuitive software or an app that simultaneously monitors system status, collects data on energy consumption, movement of employees and facilitates the early detection of failures. The monitoring provides real-time data on the power consumption of the entire system, as well as selected luminaires and luminaire groups, and on their operating

temperatures and modes. This provides a comprehensive picture of the most relevant data, such as the amount of natural lighting that reaches selected workstations, the daily, weekly and monthly distribution of employee activity, as well as room traffic and the intensity of use of selected spaces. In this way, the user can flexibly modify the parameters and correct the quality of lighting on the basis of the collected data. Ongoing signaling of technical problems in the installation also reduces the high costs of technical inspections and unexpected failures.

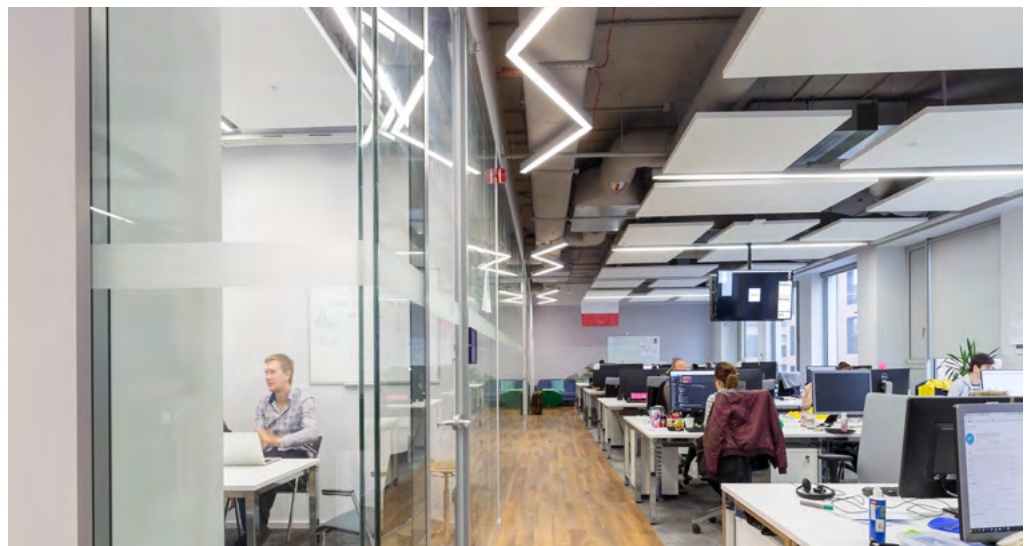
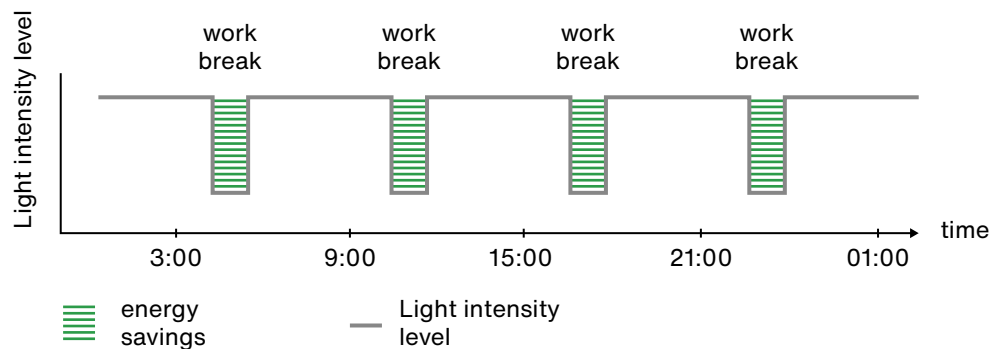


Saint-Gobain Glassolutions, Jaroszewiec. Poland

## Timer and calendar functions

Industrial plants and warehouses operate on a multi-shift basis. Depending on the production process, this often includes work that takes place periodically at specific times of the day and night and requires specific lighting conditions. In addition, during the course of the work, the individual rooms are used to varying degrees and with different frequencies. The intelligent lighting management system makes it possible to use timer and calendar functions and thus set and modify lighting levels according to user-defined schedules. The user-programmed schedule includes fixed days and time slots during which selected luminaires or groups of luminaires operate according to specific parameters. In this way, certain lighting

arrangements can be repeated cyclically (every morning, every day, every week at a selected time of day). Examples include deliveries and unloadings of goods scheduled at a fixed time, or service work at a selected station that takes place cyclically at a selected day and time. Fixed schedules can also include time slots when only automated activities that do not require the presence of an operator take place in the production halls and thus the lighting can be dimmed, or in case of staff break takes place. In addition to fixed schedules, ad hoc solutions can also be created to suit immediate needs, such as in the event of a production line breakdown or exceptional process modification.



Uber Office, Cracow, Poland

# Control systems for maximum savings

Intelligent lighting opens up new possibilities. It improves comfort and introduces flexibility to reduce energy consumption and make significant savings. By adjusting the tone, colour and intensity of light according to the time of day, it is easier to stay focused and alert, especially during complex operations or when working in the microelectronics industry, which requires a high level of precision and concentration. At other times, intelligent lighting allows you to dim or switch off the lighting in parts of the building where you are less frequently present. Luminaires can also be fitted with with an emergency module to ensure that the luminaire can operate in an emergency.

## Hard-wired lighting control systems



**CLO ready**

### DALI

DALI is a protocol that enables efficient communication. It works between individual luminaires or groups of luminaires and a control system. It integrates and communicates with other system components such as motion detectors and light sensors, allowing for quick and easy reconfiguration. By use of intelligent LED lighting control, it's possible to save costs associated with lighting, by reducing light intensity in certain working areas which are not currently used or have sufficient daylight.



### 0-10 V lighting control

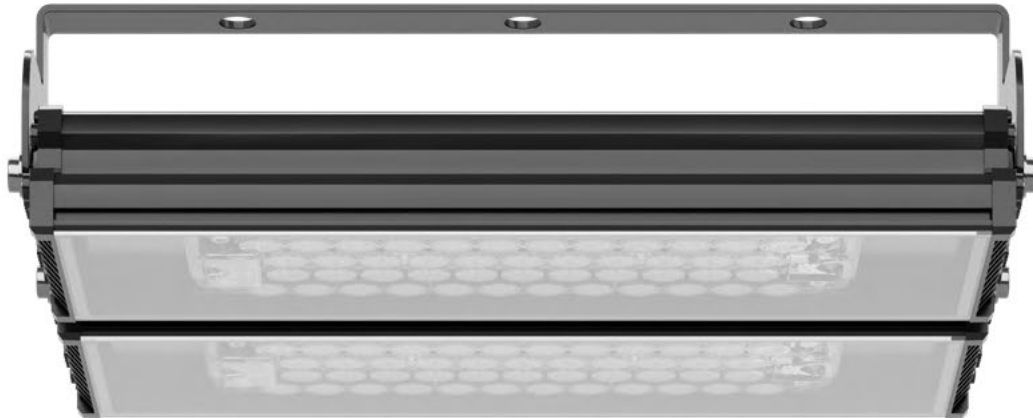
0-10 volts is one of the first and simplest electronic, hard-wired lighting control systems used as a fluorescent lamp dimming system. This technology uses a DC voltage varying from zero to ten volts as the control signal.



Intermag, Olkusz. Poland



NASK, Warsaw. Poland 31



Atena Line V3 HT70

# Spaces where Luxiona's luminaires generate savings

## Production halls

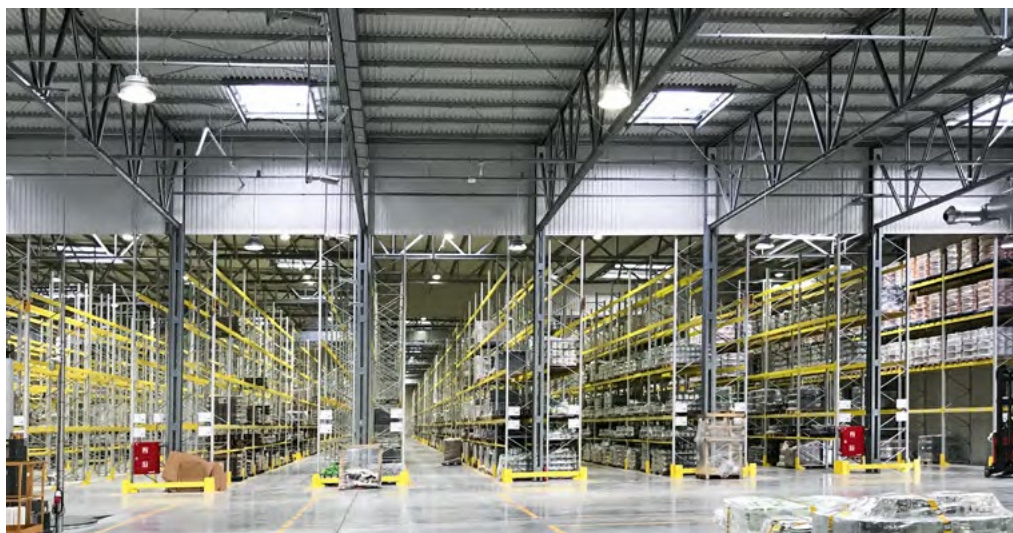
The lighting of production halls, with many stationary workplaces, affects not only safety but also the efficiency of the production process. Incorrectly selected lighting (dazzling, reflecting off flat surfaces, with inappropriate colour, distribution or intensity) translates into working comfort, employee productivity and can indirectly affect the company's financial performance. Production halls differ from warehouses in having a greater need for high light levels, as workstations and production lines need to be very well and accurately lit. Rooms with windows, use - at least partially - daylight, but often need to be illuminated. The light intensity should therefore be adjusted to the conditions inside so that the result is the most optimal and comfortable. The second type of space is dark rooms, where work always involves turning on the light. In both cases, in order to optimise the lighting, depending on the time of day, the weather and the process, the number of lamps switched on and their wattage should be adjusted in order to achieve not only perfect conditions but also great energy savings.



KPS Food, Radom. Poland

## Warehouses, logistics centres

A properly illuminated warehouse is a warehouse that is only lit when it is being used and only in those parts where employees are present. If, for example, a warehouse is used every 15 minutes for 5 minutes, employees are likely to work with the lights constantly on. An intelligent lighting management system in this case will make it possible to significantly reduce the time when the luminaires are on and to adapt the speed of the lighting to the human eye.



Logistic Centre PSB, Wabrzezno. Poland

## Shopping malls, large-area stores

Shopping malls and large-area stores are places where proper lighting takes on many different tasks. The most important ones are connected to providing unified and comfortable general lighting and eye-pleasing and well-designed accent lighting. The first one helps to guide visitors through spaces and direct them to what they are looking for. The light identifies different areas of a shop, with a special focus on the aisles and passageways that provide spatial orientation and visual information about the shop and its layout. Second type of lighting establish visual hierarchies with lighting contrasts. They highlight points in the shop or convey a message to the visitor that the product is special, by showing visitors the reality of colours, shapes, and textures, thus emphasising its best features of products. The amount of lighting required to carry out those tasks properly gives enormous space for creating energy savings thanks to smart and efficient lighting systems.



Gemini Park Shopping Centre, Tychy. Poland

## Offices

Providing adequate lighting in the workplace with Human Centric Lighting helps to ensure the required light levels, reproduce the natural diurnal rhythm and meet all the needs of employees, including safety, comfort and quality of vision.



Print Group, Szczecin. Poland

## Underground and multi-storey car parks

Excellent visibility and zero glare in areas where pedestrian safety is key - with the right lighting, we help make these spaces comfortable and safe to use, while reducing energy consumption.



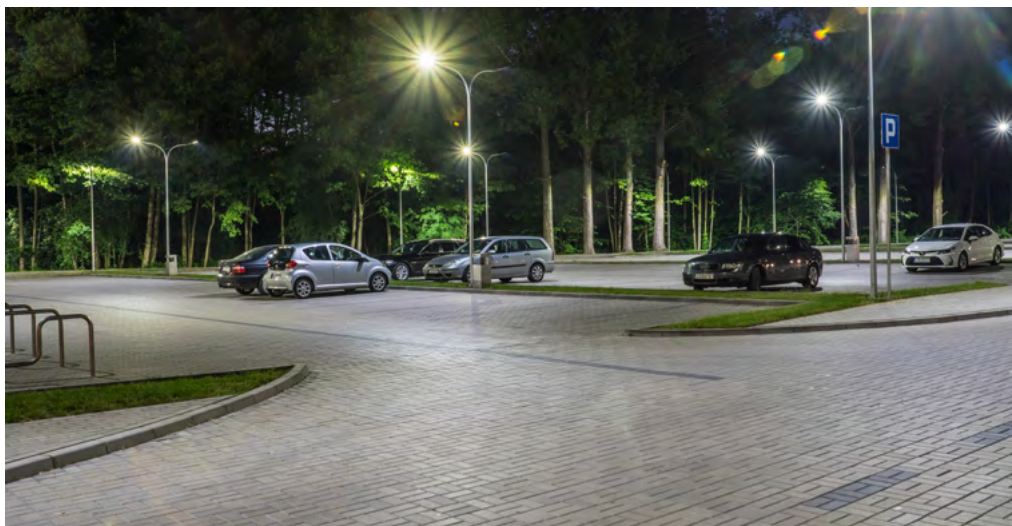
'Osiedle na Woli' residential area, Warsaw. Poland



Streetpark

### Outdoor car parks, access roads,

Lighting of demanding outdoor areas, where we must ensure the safety not only of vehicle drivers, but also of pedestrians and goods, minimising the risk of accidents or theft.



Recreation Complex "Cold Water", Lukow. Poland

### Industrial areas, loading areas

Loading areas and industrial sites are spaces where workers not only manoeuvre lorries, but also use equipment to unload and further transport goods, either in the early hours of the morning or after dark. Therefore, these spaces require lighting for particular safety and comfort.



Pepsico, Michrow. Poland

# Stages of a lighting replacement



## Stage 1: Site survey

Detailed familiarisation with the site, the space plan and the prevailing lighting conditions. Examination of the factors that will influence the proposed solution.



## Stage 2: Technical measurements

Counting the number of different types of luminaires used in a specific space and their wattage, efficiency and state of wear. Verification of the required lighting intensities and conditions under which the luminaires operate.



## Stage 3: Retrofit project

Lighting modernization project taking into consideration all the applicable standards at the selected facility, as well as all the elements requiring replacement or improvement.



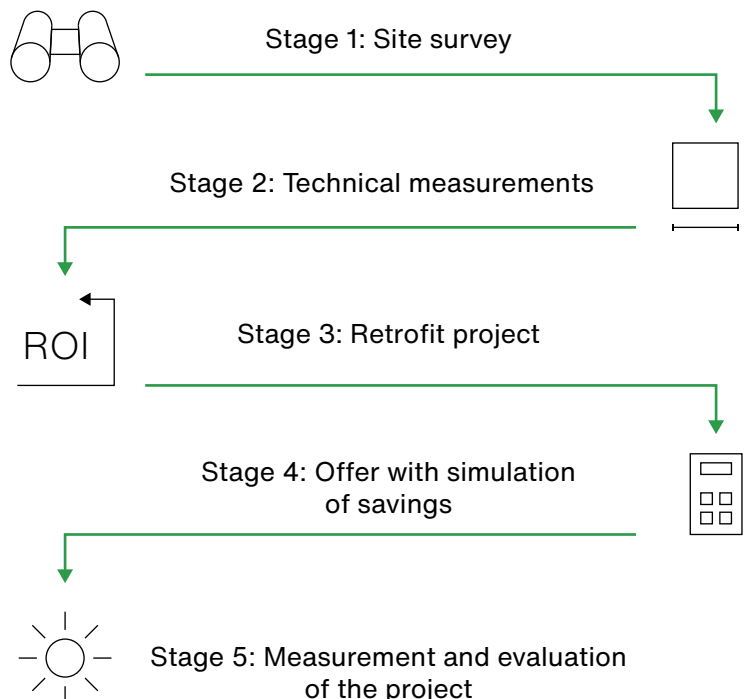
## Stage 4: Offer with simulation of savings

Calculation of ROI, estimation of savings (under the assumptions of lighting use in the selected space per day). Preparation of a full offer.



## Stage 5: Measurement and evaluation of the project

Carry out illuminance measurements, confirming that the objectives of the retrofit project have been achieved.



# Financing

## Target customer

The product is aimed at companies and institutions with energy-intensive lighting infrastructures. It is particularly effective where traditional lighting operates for more than 12 hours a day and enables significant energy savings to be achieved. Funding is based on using future savings from the realisation of lighting retrofits to repay liabilities.

Target customers include, but are not limited to: retail chains, warehouses, logistics companies, large shops, companies with a large amount of lighting on site both indoors and outdoors, industrial companies, petrol stations, public buildings, cities and municipalities - lighting on roads, streets, squares, parks, pavements, cycle paths, etc.

The financing cannot be based on investment in foreign fixed assets (real estate) which means that the unencumbered property must always be owned by the Beneficiary.

## Product assumptions



### Financing period

Normally 12-72 months  
(in special cases up to 120 months)



### Own contribution

Depends on the customer's financial situation.  
Up to 0% possible



### Currency

PLN  
EUR (in case of client's revenues in EUR)



### Interest rate

Based on fixed rate or variable vikor  
Form of finance  
Operating lease  
Finance lease  
Loan (for transactions with subsidies)  
Purchase of receivables



Unieuro Muratella, Rome. Italy





Unieuro Muratella, Rome. Italy



Unieuro Muratella, Rome. Italy 39

# LUXIONA worldwide



## Commercial offices:

Spain, Poland, France, Italy,  
Germany

## Logistics centre:

Spain

## Production:

Poland / Spain (emergency)

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