

Lighting solutions for **industry**

Minimal energy and maintenance costs while ensuring safety and comfort







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Who is Schröder

For more than 111 years, Schröder has dedicated itself to exploring everything there is about the potential of light, constantly pushing the boundaries of technological innovations. An independent, family-owned company, we are still guided by Jules Schröder's - our founder - entrepreneurial spirit and principles.

Expertise, passion, innovation, and sustainability drive our 2,600 employees to use the power of light for the safety and well-being of all, from public spaces to higher-risk environments, such as warehouses, factories and transport yards where the consequences of a dark or dimly lit workplace can lead to injuries.



1999: Adtranz assembly and maintenance workshop - Amadora, Portugal

Always pushing technological boundaries

We continually invest in R&D to stay at the forefront of technological development with the objective of providing the right light: the perfect control of light by optimising the optics and mechanical design of the luminaires. By integrating LEDs, our goal is always to offer intelligent and responsible solutions offering better light and flexibility in order to reduce energy consumption as well as the overall cost of management.

Why LED lighting?

For Schröder LED lighting solutions can significantly reduce energy costs and carbon emissions by up to 80%. What is more, LEDs have a long life span so the lighting solution lasts decades; meaning that the whole life cost of lighting is dramatically reduced.

The quality of light is better too. LEDs provide visual accuracy in working environments where it is paramount, both in the ability to see clearly and move in complete safety and comfort.

Our commitment to technical quality, has led us to develop the most cost-effective and energy-efficient range of luminaires available on the market today for lighting industrial workplaces, even in the most remote and challenging environments.



They can be easily integrated into building management systems for flexible scheduling to optimise lighting networks and generate even more savings.

Close to you

Present in more than 35 countries worldwide, we work closely with our customers to solve their most complex challenges. We are their one-stop partner; from lighting studies to design to after-sales, including light and control systems.

We deliver lighting solutions that not only meet their needs, but also exceeds their expectations - turning exciting ideas into reality.

Experts in Lightability™

This ability to make a real difference in the spaces we light, to stretch the boundaries of what is possible, to delight our customers is what makes us unique.

It is what makes us Experts in Lightability™.



2018: Carrefour distribution centre - Cestas, France



⌘ Schröder has been lighting harsh industrial environments for more than 40 years with the goal of optimising costs without compromising on safety. Our commitment has led us to develop the most efficient high bay luminaire on the market today, the INDU BAY GEN3. And we will keep on innovating. ⌘

Cédric Collard
Schröder Industry Market Manager

Complete solutions for industrial environments





1. INDU LINE GEN2



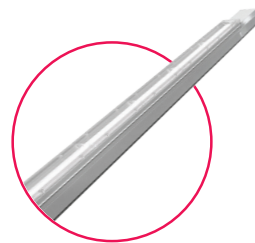
2. INDU BAY GEN3



3. INDU FLOOD



4. INDU WALL PACK



5. INDU CONTILINE



6. Citrine



7. Ampera



8. Shuffle



9. Sculp range



10. OMNIstar



11. Voltana 0



12. OYO

The right lighting makes the difference

As the average annual energy bill continues to rise, owners, operators, and managers of industrial facilities need to cut costs and improve employee productivity.

Schröder's smart LED lighting solutions enable you to transform your lighting from a necessary expense to a strategic asset by

- reducing energy and operating costs considerably
- complying with health and safety standards
- creating a comfortable working environment for better productivity and quality of work
- providing a quick return of investment.



Plastifoz production hall - Figueira da Foz, Portugal

Delivering savings of up to 80%

While many different tasks may be taking place under one roof (picking, packaging, shipping,) Schröder has the ideal lighting solution to drive significant cost-reduction through energy and maintenance savings.

Our luminaires offer a low wattage per square metre per 100 lux to provide the right light output, no more no less, with a reduced number of fixtures. Built with corrosion-resistant materials, they are dust, humidity and water tight to deliver this high performance over time.

Combined with our control system, they offer scheduling and dimming with customised reporting to enable you to track and monitor energy consumption throughout the entire facility.

Sensors make sure that you are only lighting those spaces in active use for maximum efficiency and sustainable operations.





Siemens Electronic Drive Workshop - Tianjin, China

The right light in the right place

In busy working environments, all employees from delivery drivers to warehouse members need quality lighting to work safely and accurately operate machinery. The quicker and easier it is to see a hazard, the more easily it is avoided.

The lighting must not cause glare or flicker that could initiate headaches and eventually sick building syndrome or cause employees to misjudge situations and provoke accidents.

Equally, traditional discharge lamps can have a colour rendering index of less than 50 which makes it difficult for workers to discern colours and writing. Schröder's LED luminaires boast a CRI of 80 or more, providing a much more natural colour, similar to natural daylight, for a better perception.

Schröder's lighting solutions respect good practices and comply with international regulations including EN 12464-1 to provide the required lighting levels to ensure the health and safety of all employees.

Optimised work environment

Research has shown that light plays a major role in employee well-being, satisfaction and retention in any workplace. Poor lighting, especially yellow or orange light from traditional discharge lamps can cause eyestrain, blurred vision and headaches. This can result in a significant cost to the business in the form of time of injuries, absenteeism and reduced productivity.

Bright, glare-free LED lighting can make employees more alert and improve concentration levels, which leads to happier, safer employees and fewer errors.



Quick return on investment

Schröder customers enjoy an average payback period of less than 3 years with fixtures that last more than 10 years*.

The significant reduction in energy and maintenance costs results in savings that enhance profitability.

The addition of our control system with sensors, which can seamlessly integrate with existing building management systems, further enhance the total cost of ownership for our lighting solutions.

*Terms & conditions apply.

“ The LED lighting solution advocated by Schröder for the new industrial hall was an important tool to help us achieve our energy efficiency and productivity goals. ”

Jorge Silva
Managing Partner - Plastifoz Técnicos e Engenharia Lda

Plastifoz production hall - Figueira da Foz



INDU BAY GEN3



IP 66

IK 10

IK 08

1-10V

DALI

Ball
throw
certified



Typical lumen package

INDU BAY GEN3 1	16,000lm
INDU BAY GEN3 2	20,000lm
INDU BAY GEN3 3	26,000lm
INDU BAY GEN3 4	30,000lm

Setting the benchmark in high-bay lighting

With the 3rd generation INDU BAY, Schröder offers the leading luminaire for lighting industrial facilities with a minimised total cost of ownership.

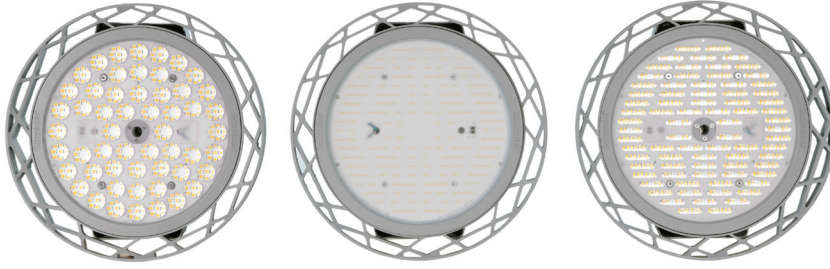
More efficient, light, versatile and smart, it delivers the best solution on the market today for high-bay applications. It outperforms all other fixtures thanks to its superior ability to save energy and deliver performance over time.

Available with four different lumen packages, various light distributions and mounting options, INDU BAY GEN3 adapts the lighting to meet the specific needs of your environment.

It not only lowers your investment. It maximises it by providing a comfortable environment for your staff while limiting consumption to what is absolutely necessary.

Thanks to its reliable performance, low dust accumulation and no need for relamping, INDU BAY GEN3 minimises maintenance costs.





Perfect solution to replace discharge lamps
from 40 to 400W thanks to its 2 sizes, range of 4 typical lumen packages and 3 different light distributions



Low acquisition and operating costs
thanks to high efficacy (up to 151lm/W) and virtually no need for maintenance



Easy integration in building management systems
(DALI or 1-10V protocol) and light-on-demand feature thanks to optional motion sensor



Excellent working conditions
thanks to low glare (UGR <22) and high colour rendering index (CRI 80+)



Performance over time
with high impact resistance and sealing

Lighting a large warehouse

Specifications

Area: 60x40m

Height: 13m

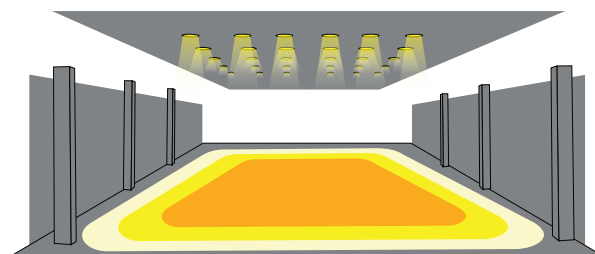
Reflection coefficient:

Floor: 20 | Ceiling: 70 Walls: 50

Maintenance factor: 0.8

Solution with INDU BAY GEN3

Results with 35 INDU BAY GEN3 3



Less than 1W/m²/100lx

While fully meeting the strict specifications, INDU BAY GEN3 limits the power consumption to 6,475W for a total surface of 2,400m².

It means 0.81W/m²/100lx. This high efficiency provides 53% energy savings compared to the most efficient luminaires equipped with 400W discharge lamps.

	Required levels	Results with INDU BAY GEN3
Illumination (Eav)	300lx	332lx
Glare (UGR)	<28	19
Uniformity (U _o)	Min 0.4	0.5

Measurements done at 0.85m (workplane) with 0.5m boundary zone.

INDU LINE GEN2



CE



IP 66

IK 08

1-10V

DALI



Typical lumen package

INDULINE GEN2 1	2,700lm
INDULINE GEN2 2	5,500lm
INDULINE GEN2 3	7,200lm

Efficiency made affordable

The second generation of INDU LINE offers a robust and efficient LED alternative for fixtures fitted with traditional fluorescent tubes.

It provides the perfect solution for lighting industrial halls, warehouses and many more environments with harsh conditions thanks to its long life span, energy efficiency and ability to adapt the light levels according to the actual needs.



Adapts to specific needs

with 3 lengths for semi-continuous lighting (to replace T5/T8 fluorescent tubes) and daisy-chain installation



Low acquisition and operating costs
thanks to high efficacy (up to 138lm/W) and virtually no need for maintenance



Easy integration in building management systems
(DALI or 1-10V protocol)



Excellent working conditions
thanks to low glare (UGR <22) and high colour rendering index (CRI)



Versatile mounting
with fixed/pendant fixations

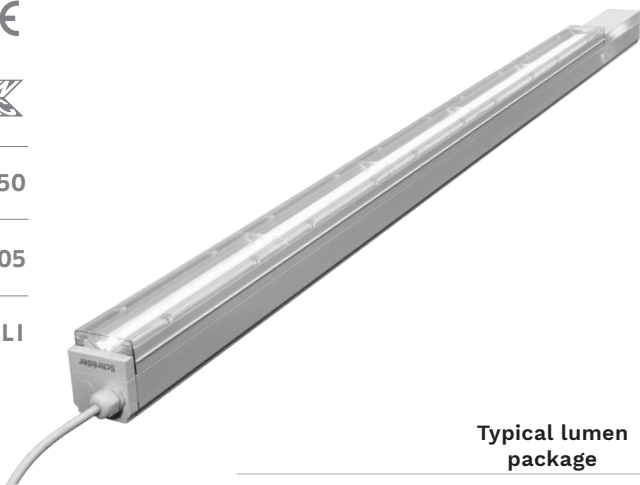
INDU CONTILINE



IP 50

IK 05

DALI



Typical lumen package

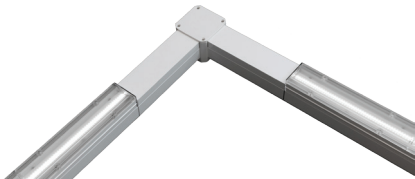
INDU CONTILINE 2 7,800 - 12,800lm

Modular, easy and efficient

Designed to create versatile linear lighting schemes, INDU CONTILINE meets the challenges of providing highly beneficial solutions tailored to various industrial areas and settings.



Easy installation and integration in building management systems (DALI protocol)



Comfort and operating cost savings thanks to low glare, high colour rendering (CRI 80), high efficacy (up to 161lm/W) and virtually no need for maintenance



Always provide the most suitable solution through daisy chain continuous configurations with I, T, L or X connectors

Lighting a warehouse

Specifications

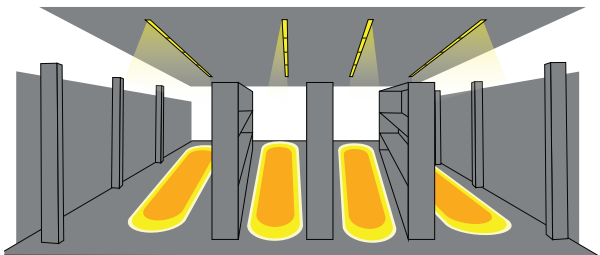
Area: 30x24m
Height: 9m

Reflection coefficient:
Floor: 20 | Ceiling: 70
Walls: 50

Maintenance factor: 0.8

Solution with INDU CONTILINE

Results with 33 INDU CONTILINE 2



	Required levels	Results with INDU CONTILINE
Illumination (Eav)	200lx	217lx
Glare (UGR)	<28	22
Uniformity (U _o)	Min 0.4	0.58

Measurements done at floor height.

Reaching 1W/m²/100lx

While fully meeting the strict specifications, INDU CONTILINE limits the power consumption to 1,650W for a total surface of 720m².

It means 1.05W/m²/100lx. This high efficiency provides 40% energy savings compared to the most efficient luminaires equipped with 80W discharge lamps.

INDU FLOOD



CE



IP 66

IK 08

1-10V

DALI



Efficiency and versatility for area lighting

This complete range provides various lumen packages and light distributions to provide an efficient multi-purpose lighting solution for beam or wall mounting in industrial environments.

Typical lumen package

INDU FLOOD 1	5,000lm
INDU FLOOD 2	10,000lm
INDU FLOOD 3	20,000lm
INDU FLOOD 4	30,000lm



Always provides the best solution
thank to 3 sizes and multiple light distributions to
replace discharge lamps from 50 to 400W



Low acquisition and operating costs
thanks to high efficacy (up to 161lm/W)
and virtually no need for maintenance



Easy integration in building management systems
(DALI or 1-10V protocol)



Resists harsh conditions
with strong impact resistance, high ingress
protection and superior thermal management

INDU WALL PACK



CE



IP 65

IK 09

1-10V



Typical lumen package

INDU WALL PACK 1	1,500lm
INDU WALL PACK 2	3,500lm

Comfort and efficiency for exterior building lighting

Available in two sizes, the INDU WALL PACK outperforms all conventional downlight fixtures by providing a bright and long lasting light for outdoor wall mounted applications.



Delivers the most suitable solution
thanks to two sizes



Comfort and operating cost savings
thanks to high colour rendering (CRI 80), high efficacy (up to 110lm/W) and virtually no need for maintenance



Easy installation and integration
in building management systems (1-10V)

CONTROL SYSTEM

Maximising comfort and energy savings

With a modern and easy-to-integrate control system, facility managers can extend energy savings by up to 80%, manage expenses more efficiently, improve maintenance and asset management as well as increase safety and visual comfort for the staff.

Motion detection

Motion detectors are ideal for switching on luminaires automatically when people enter a room and dimming or turning them off when a room or space is not being used.

With this light-on-demand feature, the lighting is adapted to the real needs of the space at all times.



Why use DALI?

DALI is a standardised (IEC 62386) protocol for digital communication between lighting devices enabling them to be addressed individually. Our solutions are Dali 2.0 ready.

- Flexible
- Easy to control
- Manages and monitors
- Licence free software
- Energy efficient
- Autonomous and autohealing
- Sustainable

Advantages:

Energy savings: only the energy that is absolutely necessary is consumed

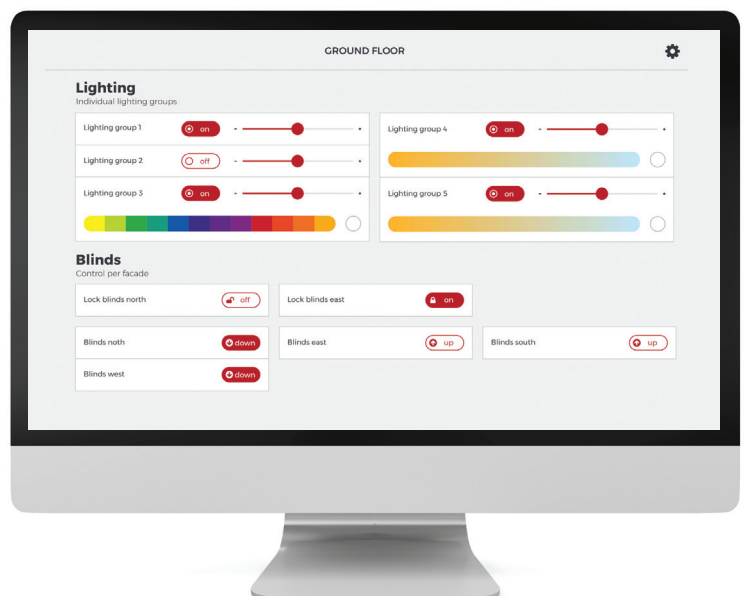
Safety: ensures the right light in all areas when people are present

Comfort: guarantees a sense of well-being

Flexibility: lighting levels are adapted to the specific requirements

Easy to use: fully automatic lighting control

Peace of mind: luminaires turned off automatically when not needed



Constant light with “LED controlled by nature”

Natural light is one of the most important elements in working environments, helping to create pleasant spaces and to save energy.

Our control system adapts the lighting levels of the luminaires (via the DALI protocol) to compensate for the lack of natural light and achieve the predefined levels of lux needed for each zone.

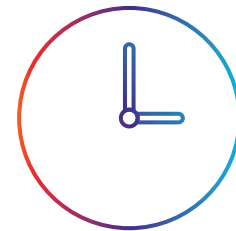
The lighting levels are gradually adapted so that people barely notice the changes, mimicking natural changes in daylight.



Time clock control

The time clock schedules when luminaires are switched on and off and sets lighting levels for different times of the day.

This control system has unlimited “on” and “off” settings. It means that various scenarios can be planned for the different areas in a facility, taking into account the organisational use of the spaces.



Integration to BMS

All lighting control systems can generate significant energy savings as standalone solutions.

As they use the same communication protocol as other services, they can also be part of an overall integrated energy management plan that can incorporate lighting control with heating, ventilation and air conditioning, security and building management systems (BMS).

The integration of lighting into a BMS allows flexible scheduling. Customised reporting enables facility managers to track and continuously monitor energy costs and savings throughout the entire facility.

The lighting can also interface with other utilities to adapt to the different activities and events taking place.

As companies embrace Industry 4.0, the lighting can even interact to activate or improve efficiency in other utilities.

For example, if a camera at the entrance detects the licence plate of a vehicle, a luminaire could switch on to guide the driver to the correct loading bay.

Advantages:

Energy savings: in addition to the savings gained by optimising natural daylight, this system can be combined with presence motion sensors to generate further savings

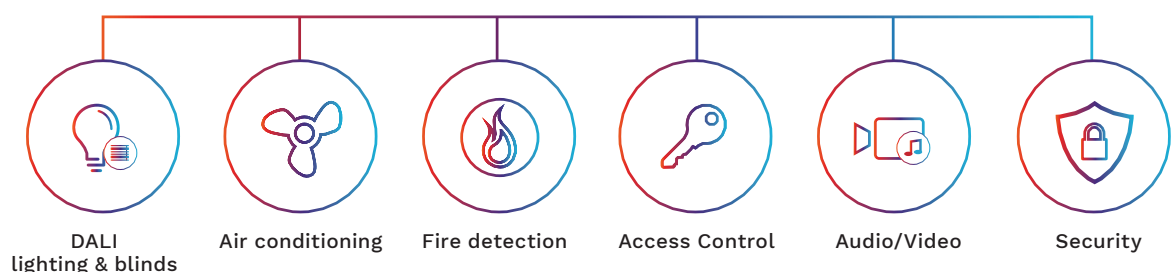
Well-being and convenience: the required level of light is maintained automatically

Easy-to-use: fully automatic lighting control to maintain required light levels

Intelligent control: various settings can be specified for different zones to maintain similar light levels throughout a room or space



BMS VISUALISATION



OMNIstar

OMNIstar has been designed to provide an unrivalled combination of performance and flexibility for lighting areas where high lumen packages are needed with the added advantages of an LED solution : low energy consumption, improved visibility with white light, limited maintenance and longer life.

OMNIstar can be installed in various configurations (suspended, wall-mounted or post-top) with one to three optical units. The OMNIstar can operate with a wide range of outdoor/indoor control solutions and a building management system with the DALI protocol to further maximise energy savings by adapting the lighting levels according to the real needs of the place to be lit.



IP 66

IK 08

0-10V
or
DALI



Ampera

The Ampera range sets the benchmark in LED lighting for car parks and access roads by providing a performing and flexible solution with the shortest payback time.

With its long life span and limited maintenance requirements, it maximises the return on investment.

Available in 3 sizes - with various light outputs and lighting distributions - the Ampera range can meet all your car park, road and outdoor lighting needs.



IP 66

IK 09



Voltana

Voltana delivers sustainable lighting solutions that can dramatically reduce energy consumption and improve lighting levels with the lowest investment.

Voltana is available in 6 different sizes to offer maximum flexibility and aesthetic coherence for your entire project.

It provides multiple lumen packages thanks to the various sizes and driving currents with numerous light distributions adapted from very narrow to extra wide for roads and large areas.



IP 66

IK 08



Oyo

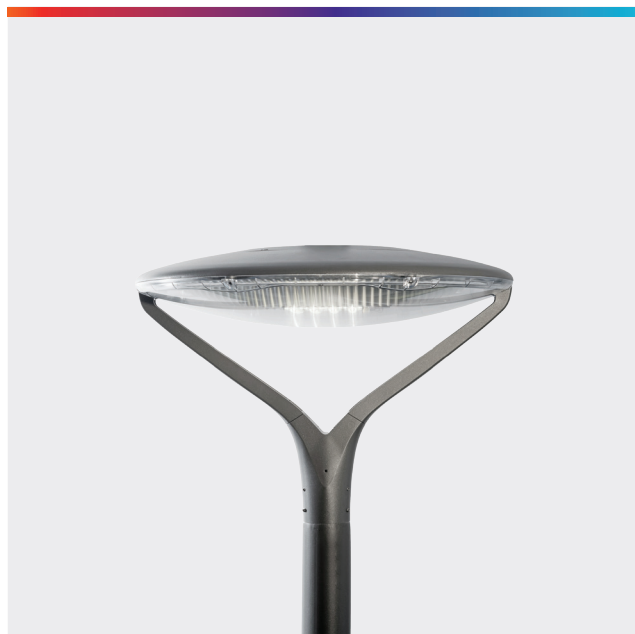
The refined design of the Oyo luminaire perfectly integrates outdoor environments, bringing a touch of elegance.

Oyo offers a wide range of light distributions to provide a harmonious compromise between safety, comfort and energy efficiency.



IP 66

IK 10



Citrine

Citrine takes up the challenge of creating both efficient visual guidance and a pleasant atmosphere for pedestrians.

This high-quality and cost-effective bollard is available in 3 sizes (Micro, Mini and Midi) and with a bracket for wall-mounting (for Mini only).

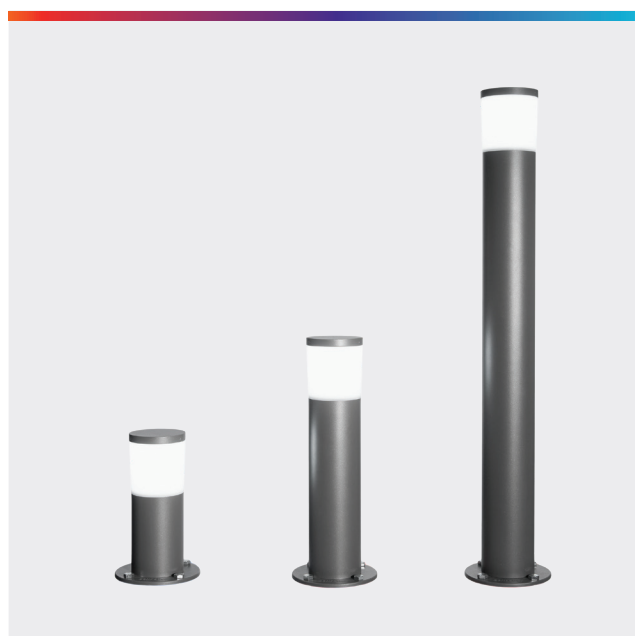
It offers two photometrical options: a symmetrical distribution and an asymmetrical distribution.

Both are proposed with a diffuse protector for maximised comfort or with a clear protector for high performance.



IP 66

IK 10



SCULP collection

With its clean and simple design, the SCULP Collection discreetly blends into the environment and provides the most accurate range of powerful, versatile and efficient LED floodlights to create astonishing effects for all façade lighting projects.

Corporate colours can be projected to create a strong brand identity or simply improve the visitor experience.



IP 66

GLASS
IK 06

PC
IK 08

DALI

DMX
512
RDM





Shuffle

The all-in-one solution to create a secure and smart industrial complex

Shuffle is a unique modular column gathering multiple services in the same smart pole.

It can integrate control systems, surveillance cameras, intercom, electrical vehicle chargers, loudspeakers, sensors, signage lights and Wi-Fi hotspots.

5 star modularity

One main pole, one to five modules with eventually a spacer between two of them.

A multitude of combinations to serve people in industrial environments.

With easy fixations, rotatable modules and plug-in connections, Shuffle is a very handy and flexible tool.

Choose your combination, attach the modules, plug the connectors and Shuffle is ready to enhance your environment.



EV charger

Supporting your sustainability objectives

As companies seek infrastructure that makes a positive contribution in terms of energy, mobility and the environment, the Shuffle can integrate a charging station for electric cars and bikes.

The charger can be combined with a light ring that changes colour to indicate availability.

It can also include an user authentication to restrict access to authorised people only.



Camera

Designed to heighten security and services

The Shuffle can integrate compact CCTV cameras to help reduce crime, increase the feeling of safety and provide smart services.

It can provide alerts when unusual activity is detected (e.g. unwanted intrusion in a complex) as well as read and verify license plates to automate access to the facilities.



Loudspeaker

Inform, alert or create an atmosphere

The Shuffle may be fitted with an integrated sound system that can be used to communicate announcements, diffuse warnings, broadcast music for specific events or simply to create convivial open spaces.



WiFi

For connected business

Shuffle may integrate a professional WiFi router to provide high-speed connectivity throughout the entire complex.

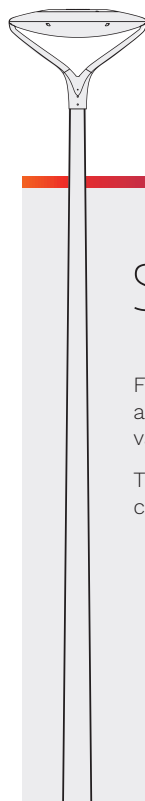
The bandwidth can be divided to assign a part to plant operators or security managers and a restricted bandwidth to visitors.



Columns & brackets

The perfect **addition**

Schröder offers a large range of columns, brackets and bollards to suit any challenges for your application, be it robustness, design or integration into the environment to be lit.



Straight columns

For decorative luminaires designed for low-height applications, Schröder provides straight columns in various heights, finishings and materials.

They blend into the environment and complement the design of the luminaires.



Post-top luminaires

Schröder offers a large range of luminaires designed for post-top mounting.



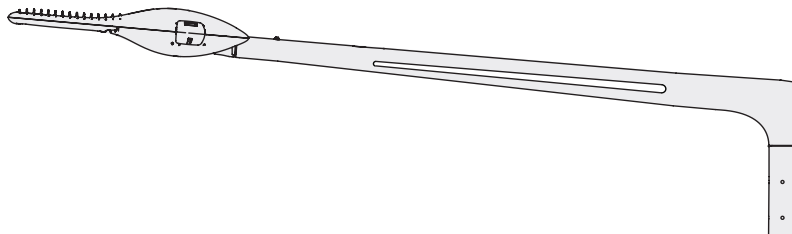
Integrated columns

Whether they are dedicated to lighting or multi-functional, they perfectly blend into the environment.



Bollards

For marking or guidance. They pave the way for pedestrians and enhance the surroundings.



Brackets

For medium to high height applications, the columns can be combined with simple or double brackets. Schröder has a range of aesthetic brackets that can integrate fine details such as coloured LEDs for accent lighting, to create a distinctive identity. Our brackets are designed to resist the harshest conditions in terms of vibrations and wind force.



For two luminaires

Double brackets or poles with front and rear low-height brackets.



For one luminaire

Column or wall mounting systems.



For crown mounting

Standard or custom designs for high-mast mounting with multiple luminaires.

Turnkey solution provider

Schröder has developed a comprehensive approach to provide full scope solutions for industrial facilities, from design to after sales services, to create a state-of-the-art lighting system with unrivalled energy efficiency.

We can deliver adaptive lighting, intelligent control systems, security equipment, signage, loudspeakers, Wi-Fi and many other smart features to adapt the solution to your specific needs.

Our team of experts audit your environment and carry out application studies to design the best solution. Our simulation tools provide precise information about the efficiency, compliance, installation, energy savings and total cost of ownership.

With your consent, we define a plan, incorporating the Building Information Modelling (BIM) files if needed and manage the entire project, including the installation, commissioning, testing and validation. We can also provide an after-sales services, with maintenance and optimisation.

Our goal is to facilitate a smooth installation with minimal disruption to business and to give you peace of mind throughout the project.

Our dedicated solutions transform warehouses, distribution centres and manufacturing plants into safe, comfortable, sustainable and smart environments that provide excellent working conditions for staff and operational benefits for managers.

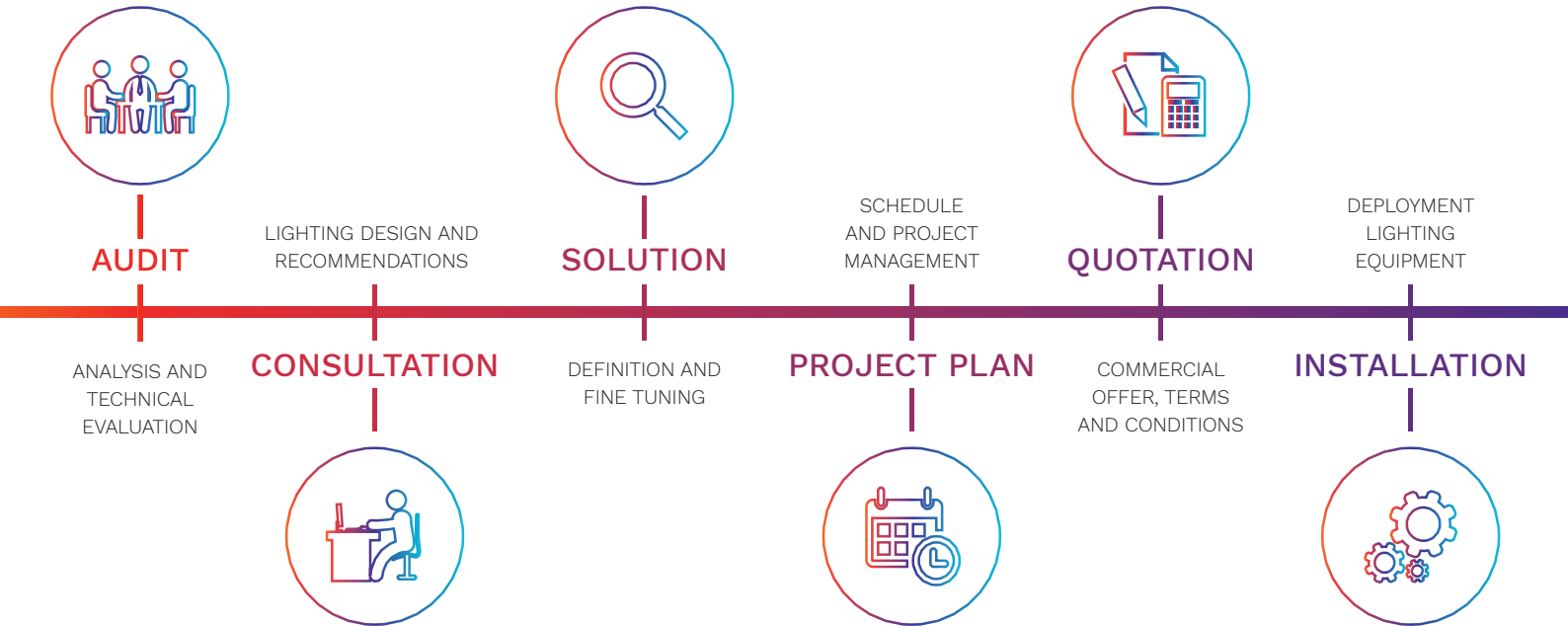
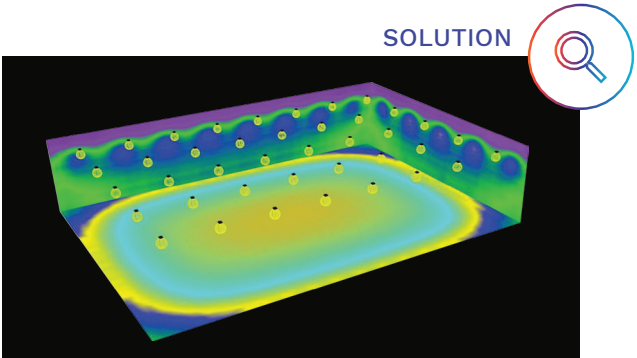
AUDIT



CONSULTATION



SOLUTION





COMMISSIONING

TECHNICAL
DEPLOYMENT OF THE
SOLUTION

ON-SITE TESTS
AND HANDOVER

TRIAL AND VALIDATION

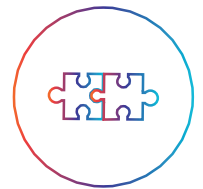


OPTIMISATION

FINE TUNING
OF THE
INSTALLATION

PRESERVING
OPTIMAL
PERFORMANCE
OVER TIME

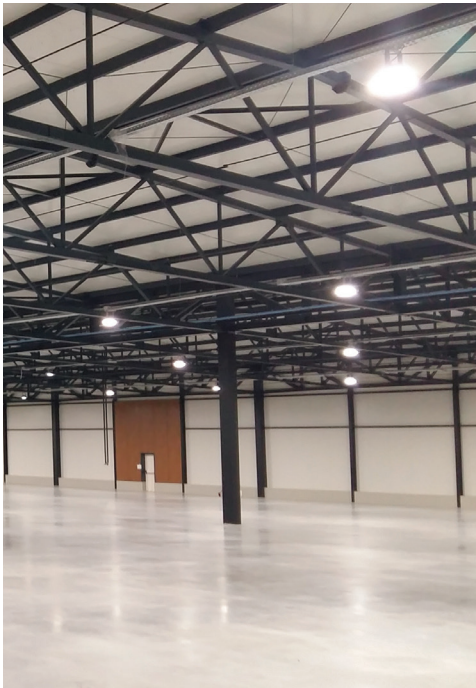
MAINTENANCE



EXTENSION

ADDING NEW
FEATURES TO THE
INSTALLATION

A few of our projects



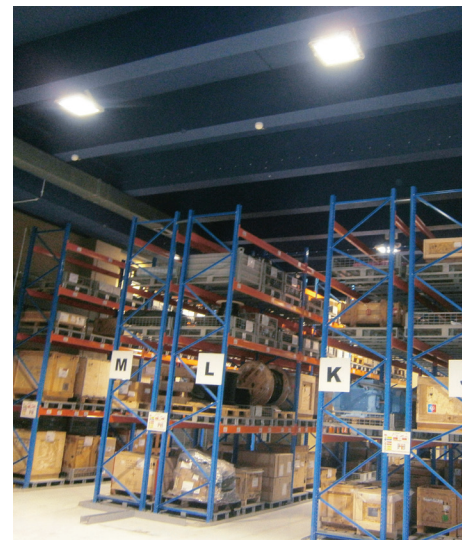
Kelvin Flex - Titel, Serbia



CTA warehouse - Milan, Italy



Companhia Logística de Combustíveis (CLC) - Lisbon, Portugal



EDF - Paleul, France



Carrefour - Cestas, France



Schröder Socelec - Guadalajara, Spain

4 key factors for a good lighting study

A good lighting design minimises energy consumption while ensuring safety and visual comfort for employees. This is where our experts come into play by analysing the following key factors:

- ✓ **Building configuration:** this is the very first step. Visiting the facility and making an inventory of all the existing fixtures in the different work areas.
- ✓ **Business activity:** the horizontal and vertical illuminance will strongly depend on the type of activity. Pallet racks will require specific vertical illuminance while product quality inspection will require a defined level of lux at a specific workplane height.
- ✓ **Maintenance factor:** Maintenance factor is what makes sure your lights keep doing their job for long after they have been installed. It has to be carefully calculated and is a combination of several elements. For example, if a lamp fails, are you going to replace it immediately or wait for the next round of maintenance?
- ✓ **Surface reflection:** studies show the possibility of generating electrical energy savings of up to 45% by increasing surface reflection properties. It is essential to have this information to deliver the right light.



Sistema Poland,- Łódź, Poland





Schröder

Experts in lightability™



industry.schreder.com

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