

# Smart Lighting Services

**LEDS C4**

**LUSTROGRAD**  
ОПТОВЫЕ ПРОДАЖИ СВЕТИЛЬНИКОВ

As human beings, light is undeniably essential: it brings comfort, security, well-being, changes the inhospitable to inhabitable, brings functionality to spaces and reveals the best of every landscape and architectural feature.

**LEDS C4 has been committed to lighting for 40 years**, helping to improve people's lives through lighting products.

## LEDS C4

The present and future of lighting goes beyond the product. In the era of digital technology and the Internet of Things (IoT), the ecosystem is expanding towards software and services that customise the experience. There is nothing more universal than light; it is everywhere and is connected to an energy source in order to provide us with information and allow us to control it according to our needs.

From the beginning, our role has been based on exploring the infinite possibilities that light has to offer, based on an in-depth knowledge of the industry and an innate curiosity in the search for cutting-edge technology. This is the challenge and day to day of a company that is endorsed by **13,000 clients** in more than **140 countries** and features a portfolio with more than **3,000 technical and decorative lighting projects**, that are both indoors and outdoors.

## LEDS C4 Group

### LEDS C4

A wide range of technical and decorative lighting solutions for indoor and outdoor spaces.

### Grok

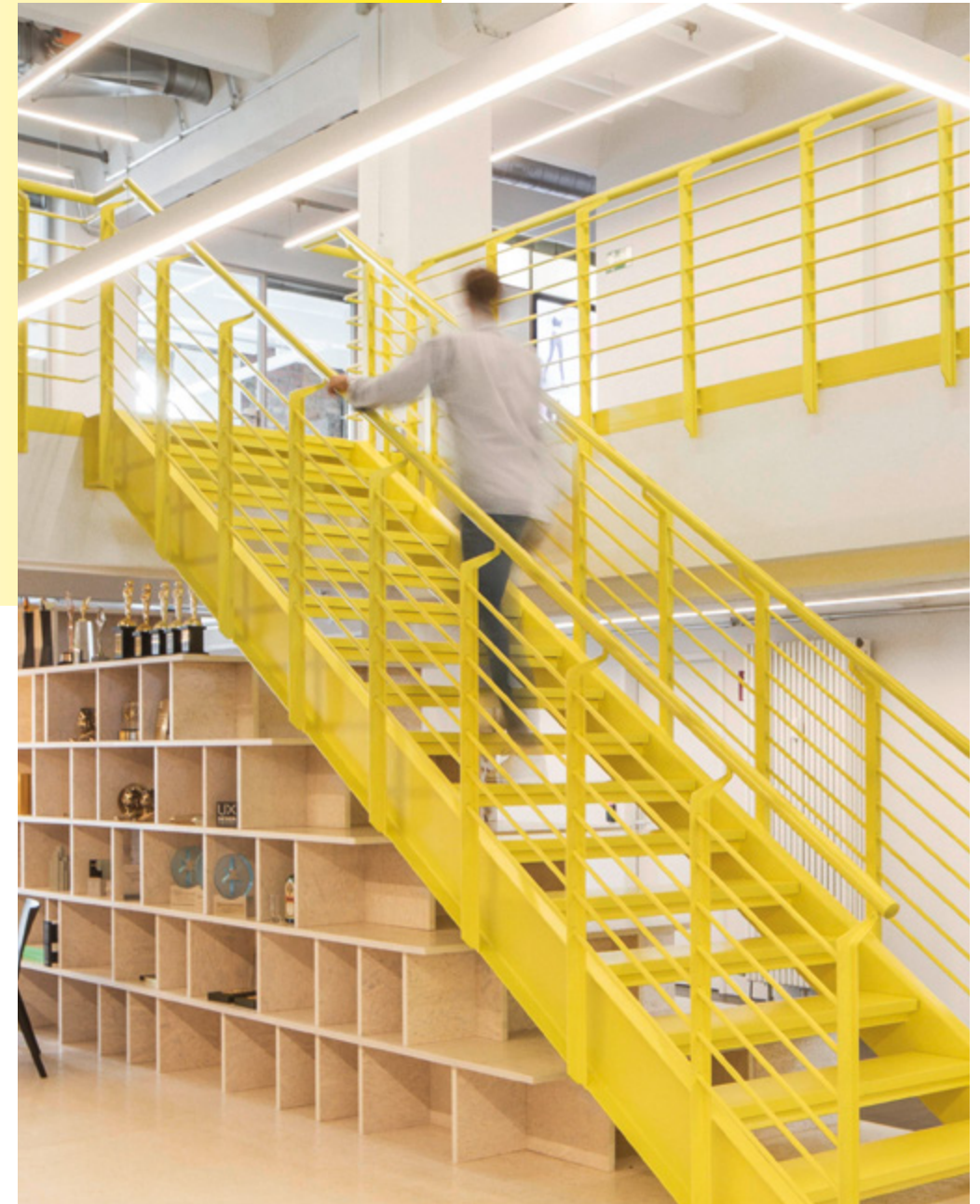
Contemporary lighting to design unique settings.

### Carandini

Lighting solutions for public roads, and industrial and sports facilities.

### Forlight

Indoor and outdoor lighting solutions for residential and non-intensive use.



### Clients who trust in us:

Hilton Hotels & Resorts, Iberostar Hotels & Resorts, Melià Hotels International, NH Hotels, Marriott International, Accor Hotels, Carlson Rezidor Group, InterContinental Hotels Group, Banco Santander, Carolina Lemke, Vans, Camper, Lee, Wrangler, Under Armour, Mercedes-Benz, McDonald's, Hard Rock Cafe, Jamaica, Enrique Tomás, Pans & Company, Pizza Hut and KFC.

## Services

We support every one of our clients through all stages of their lighting project with quality, personalised services. Our background, experience, and specialisation with lighting allows us to widen our service portfolio, and offer a comprehensive and overall view, regarding control and connectivity.



### Energy savings study

#### Lighting

- Lighting consulting
- Conceptualisation
- Lighting calculation
- Project and special product development

### Project management

- Monitoring work
- Installation supervision and support
- Installation
- Focusing
- Post-installation adjustments

### Training

### Digitals

- Alarm management
- Heat Mapping
- Coming soon:
  - Preventive maintenance
  - IoT Space: Extended information on the occupation and usage of the spaces, as well as the flows of traffic and movement
  - IoT Where: Beacons and tracking of people and/or Bluetooth devices

### Control

- Advice on the definition of groups and scenes, and sensor location in plans
- Electrical drawings and diagrams
- In-factory pre-configuration and pre-commissioning

### After-sales support

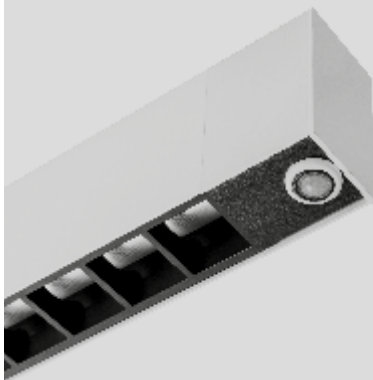
- Direct line to technical support
- Incident management
- Maintenance

### Connectivity

- Advice
- Remote installation management
- Energy monitoring
- Temperature monitoring

### Financing

### Integration with other systems



# Lighting Control and Connectivity



**Lighting** is a key element in people’s activity and well-being. That is why we design and develop luminaires based on how they interact with their surroundings.

Through a **control system**, it is possible to adapt the lighting of one or more luminaires within the same space. So, for example, we can adjust the light to our circadian cycle, choosing a colour temperature that stimulates us in the morning and soothes us at night. Or, create clusters of luminaires to achieve greater energy savings, specific ambience scenes or profiles regulated by operating conditions. By using sensors, we can receive information about what is happening in our surroundings and act accordingly.

Through **connectivity technology**, we transcend the physical barrier of spaces, and are able to control any installation from any point. Furthermore, it enables us to collect data and detailed information, and with it, make strategic decisions.

**Digital services come from the opportunity to offer new tools beyond the comfort and energy savings that light has always been associated with.**

## Control

- Customised light control
- Schedule programming
- Constant light monitoring
- Circadian Rhythm

## Connectivity

- Remote management
- Data collection, processing and viewing

## Digital services

- Preventative maintenance
- Space management
- Location Management





# Understanding people



## Performance and well-being. Creating light for people.

Light is a key aspect of people's lives, and proper use of it provides (is conducive to) good health.

Through quality lighting that is focused on people, Human Centric Lighting helps to improve well-being, restoring natural biorhythms that directly affect satisfaction, productivity and happiness.



## Comfortable and adjustable light. Custom ambiance lighting.

Customised lighting according to the requirements for each occasion. It lets us create a comfortable and customised environment that meets demands that are spatial, such as the space's location; or functional, such as the tasks to be done; or biological, such as the user's age or mood.



# Understanding buildings



## Energy saving.

Smart, controlled lighting prevents resource wastage.

Reducing energy consumption can be done using smart lighting, which can be controlled through schedule programming and presence sensors, as well as improved usage of natural light which prevents wasting available resources.



## Space management and optimisation.

Making decisions focused on efficiency.

Using occupancy sensors and consumption indicators, we obtain information that allows us to make strategic decisions to manage spaces as efficiently as possible. In turn, we can identify the areas that are used most, as well as the flow of people's movement, to adapt, plan and improve resources efficiency.





# Think business



## Connect and improve the user experience.

A communication tool that goes beyond lighting.

Good lighting improves how users perceive their environment. Light, which is everywhere, can become a tool for communication and interaction, by working as a guide in indoor areas, sending messages and even creating a visual language of its own.



## Preventative maintenance.

Detect incidents and performance deficiencies to predict future expenses.

By actively monitoring the information provided by the light fittings, we are able to detect incidents and inspect the equipment and installations in order to ensure smooth operation and future maintenance.



## Increase turnover.

Smart resource management allows us to reduce costs, optimise operations and, as a result, increase revenues.



# Smart Light Solutions

for

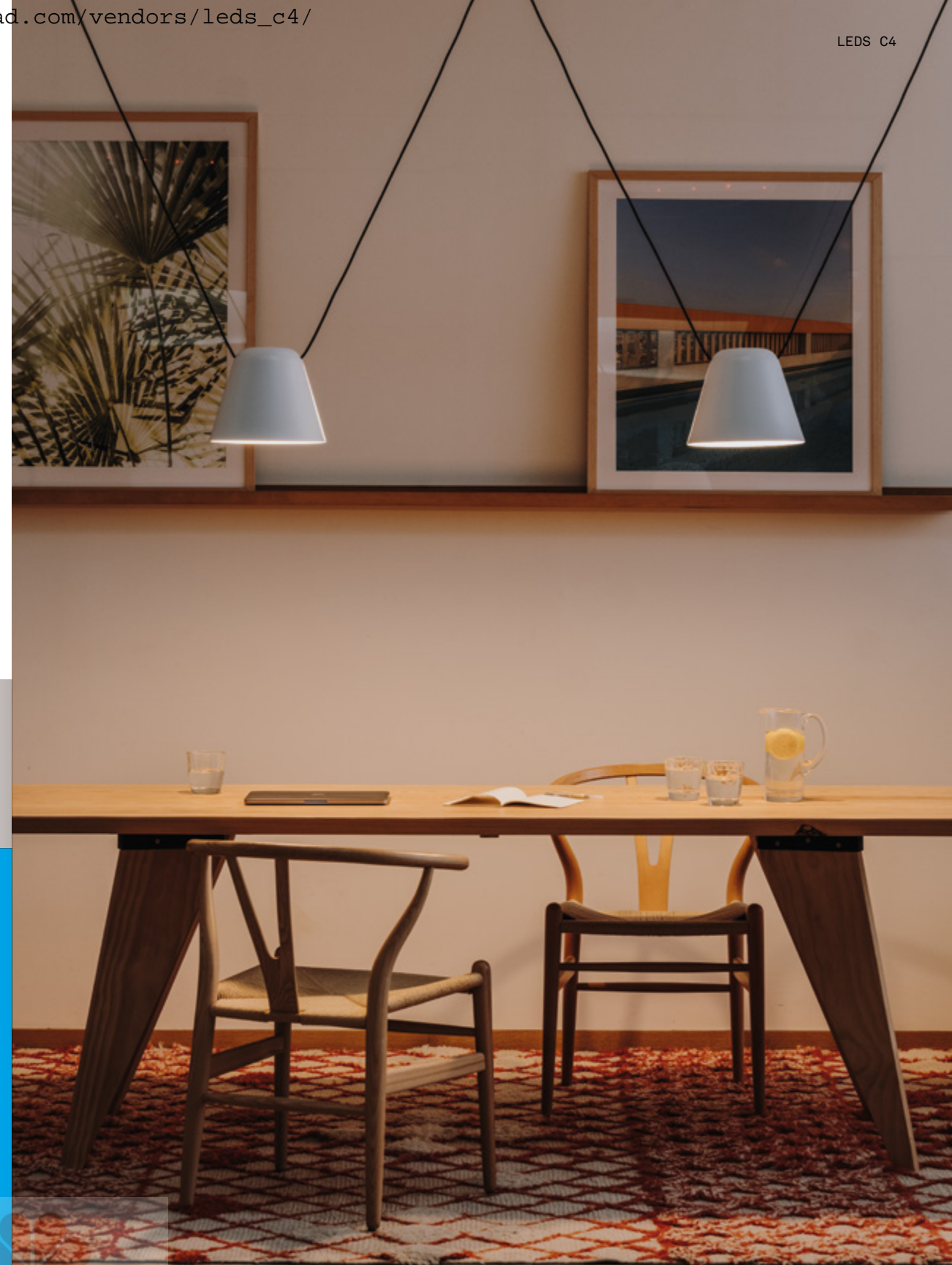
Home

## People's well-being, comfort and security

The emergence of wireless technology and voice control in residential spaces opens a range of possibilities for incorporating domestic lighting into our connected world.

In an ecosystem dominated by easy and instantaneous interactions of various devices, lighting plays a very important role in the field we know as "Smart Homes". It allows us to focus on people's well-being, adjusting the light to the requirements of the room and the occasion, and to create and transform different environments. It can even respond to certain external events, creating its own visual language.

The result is a more efficient and satisfying management of residential spaces which allows us to make great energy savings.



Smart Light

# Residential

With the occupancy detector, when you enter the house a warm, luminous welcome is activated.

Creating scenes makes it possible to adapt the light to each moment: warm lighting at night helps you fall asleep, and a neutral or cool ambience invigorates.





Through a smartphone or voice wizard, it is possible to personalise a room from any point.


At dusk, the outdoor lights are activated automatically to illuminate outdoor areas and act as a deterrent.

 **Brightness: 80%**  
**Lifetime: 95%**

 **Brightness: 0%**  
**Lifetime: 20%**

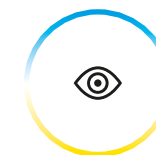
 **Lighting scene:**  
Morning  
→ Afternoon  
Relax  
TV

 **Occupancy**  
100%

 **Scheduling**



# Benefits



Comfortable and adjustable lighting



Energy saving



Optimum experience



Easy and quick installation



Easy to use



Integration with other systems

# Services

→ Lighting control

→ Multiple Scenes

→ Occupancy Regulation

→ Warm to Dim Regulation

→ Dynamic White Regulation

→ RGB or RGBW Regulation

→ Voice control

Coming soon

→ SmartLightForHome App

Coming soon





# for

# Hotels

## Personalise guests' experiences, energy saving and preventative maintenance

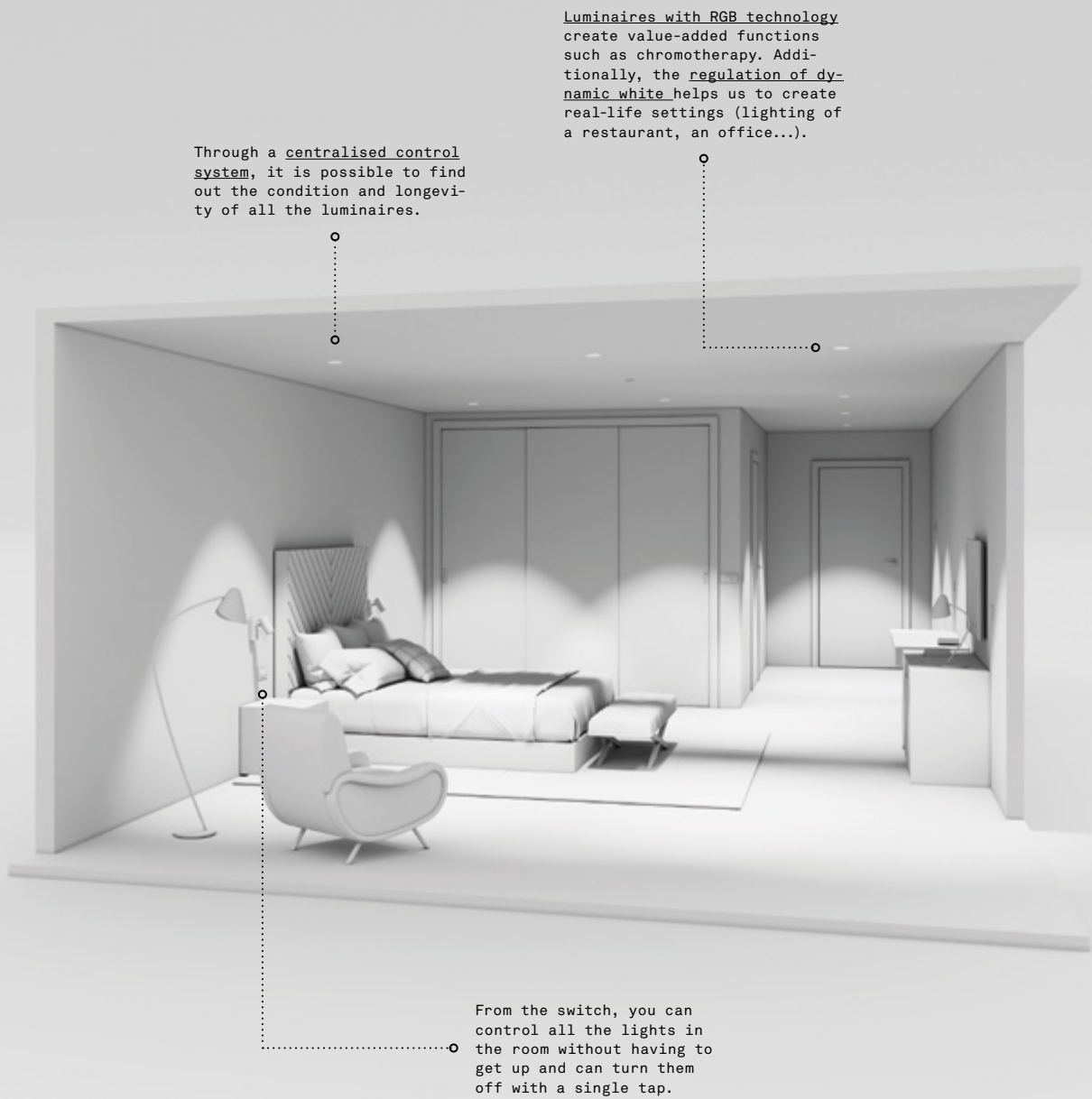
Digitalisation has come to hotels to enhance their users' experiences. Dynamic rooms and spaces that adapt to the requirements of each guest to better serve their needs and make their stay more personalised.

Thanks to connected lighting and remote installation management, we receive consumption indicators and space statuses very quickly. This means we can carry out preventative maintenance and achieve great energy savings, while improving the hotel's strategic operations through strategic and efficient resource management.

# Smart Light



# Hotels



Through a centralised control system, it is possible to find out the condition and longevity of all the luminaires.

Luminaires with RGB technology create value-added functions such as chromotherapy. Additionally, the regulation of dynamic white helps us to create real-life settings (lighting of a restaurant, an office...).

From the switch, you can control all the lights in the room without having to get up and can turn them off with a single tap.

**Brightness:** 10%  
**Lifetime:** 95%

**Brightness:** 0%  
**Lifetime:** 15%

**Brightness:** 0%  
**Lifetime:** 20%

**Brightness:** 0%  
**Lifetime:** 35%

**Lighting scene:**  
→ **Welcome**  
Wake up  
Reading  
Relax

**Occupancy**  
100%

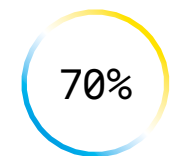
## Benefits



Comfortable and adjustable lighting



Energy saving



Savings



Improved experience



Preventative maintenance



Space management and optimisation



Quick easy installation



Integration with other systems



Data collection

## Services

Lite

Connected

→ Lighting control	•	•
→ Multiple Scenes	•	•
→ Occupancy Regulation	•	•
→ Warm to Dim Regulation	•	•
→ Dynamic White Regulation	•	•
→ Human Centric Lighting Regulation	•	•
→ RGB or RGBW Regulation	•	•
→ Alarm Faults		•
→ Connectivity		•
→ Remote Management		•
→ Energy Monitoring		•
→ Voice control		Coming soon
→ Preventative Maintenance		Coming soon
→ Beaconsing Notifications		Coming soon
→ SmartLightForHotels SDK		Coming soon

# for

# Offices

## Employees' comfort and well-being, energy saving and maintenance

New working methods and the ever changing requirements of spaces are the new paradigm in office design.

Good connected lighting does not only positively affects the employee's well-being and performance, but also significantly influences how spaces are managed. The opportunity to collect useful data that show energy consumption, the occupancy of different areas of the company and how they are used, allows us to detect opportunities and make more strategic and efficient decisions.

# Smart Light



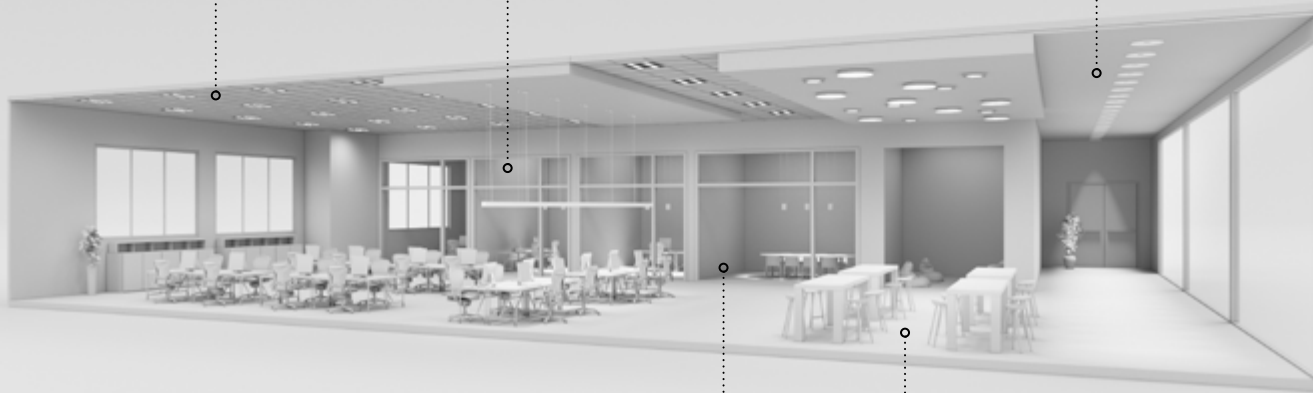


# Offices

The simulation of natural light, called **Human Centric Lighting**, using luminaires with dynamic white technology, helps people to maintain a constant activity during the day, and to rest better at night.

The regulation of artificial light based on the entry of natural light enables significant energy savings, as well as uniform lighting to avoid irritating contrasts.

**Preventive maintenance** guarantees proper operation of the installation and minimises the impact of possible malfunctions.



**3500K**  
Brightness: 80%  
Lifetime: 20%

**3500K**  
Brightness: 80%  
Lifetime: 35%

**3500K**  
Brightness: 80%  
Lifetime: 35%

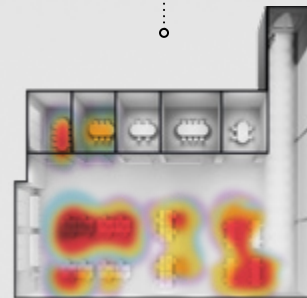
**3500K**  
Brightness: 0%  
Lifetime: 20%

**Lighting scene:**  
→ Morning  
Meeting  
Boosting  
HCL

**Occupancy**  
71%



**Energy monitoring** makes it possible to find out the current consumption at any time and the savings resulting from hourly programs, task-based regulation or continuous light control.



**Space monitoring and data processing** allow decisions to be made and optimum use of the entire available area.

# Benefits



Comfortable and adjustable lighting



Performance and well-being



Energy saving



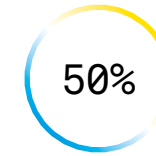
Improved experience



Data collection



Preventative maintenance



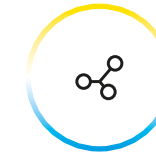
50%  
Usage ratio



Space management and optimisation



Easy and quick installation



Integration with other systems

# Services

	Lite	Connected	Connected Pro
→ Lighting control	•	•	•
→ Multiple Scenes	•	•	•
→ Occupancy Regulation	•	•	•
→ Dynamic White Regulation	•	•	•
→ Human Centric Lighting Regulation	•	•	•
→ RGB or RGBW Regulation	•	•	•
→ Constant Light Control	•	•	•
→ Connectivity		•	•
→ Remote Management		•	•
→ Energy Monitoring		•	•
→ Alarm Faults		•	•
→ Space Management		•	•
→ Heat Mapping		•	•
→ Preventative Maintenance			Coming soon
→ SmartLightForOffices APP			Coming soon
→ Usage Management			Coming soon



for

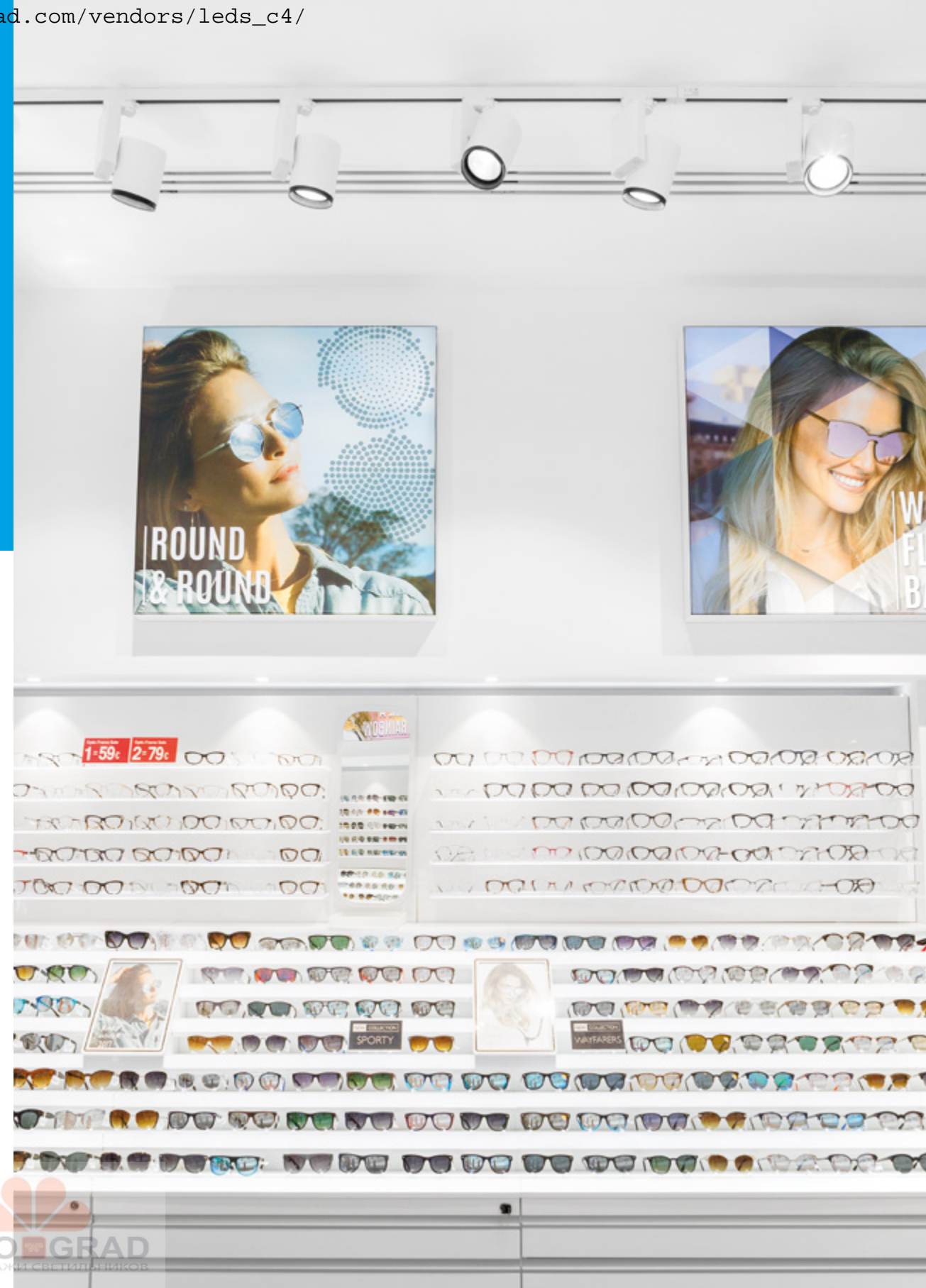
Retail

## Transforming the customer experience and key information for the retailer

The evolution of retail channels along with the consolidation of digital sales and changing customer patterns have re-modelled the sales models of physical shops. Commerce is moving towards omni-channeling and retailers are questioning how to generate value at the point of sale to continue attracting their customers and successfully converge the physical and digital worlds.

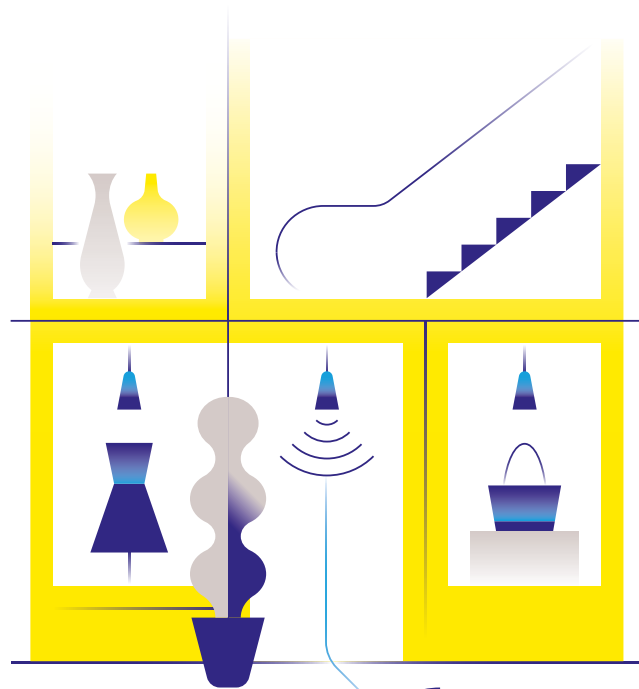
Having a connected lighting system is an ideal business opportunity, as it provides information about its customers and in doing so, it can personalise their shopping experience. Providing a customised experience is the crux that will allow retailers to make themselves attractive and relevant.

Smart Light



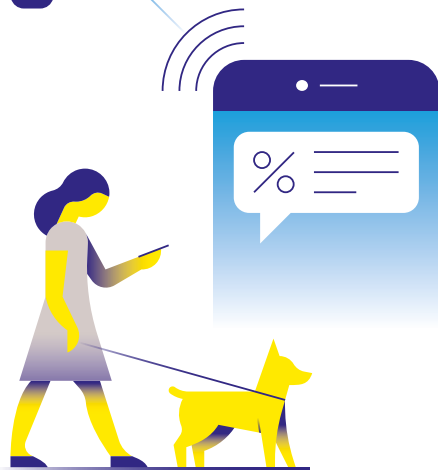
## Customer Journey Experience

LEDS C4 connects the real and digital world by combining Beacon technology with lighting infrastructure. Beacon technology provides the basis for implementing a wide range of services such as indoor navigation, customer loyalty programmes and personalised and exclusive experiences, directly influencing the customer experience map.



1

The Beacon sends a signal using Bluetooth to the user's smartphone in order to get their attention.



2

The customer receives a personalised message based on their purchase history and/or brand promotions, thanks to their profile in the App.



3

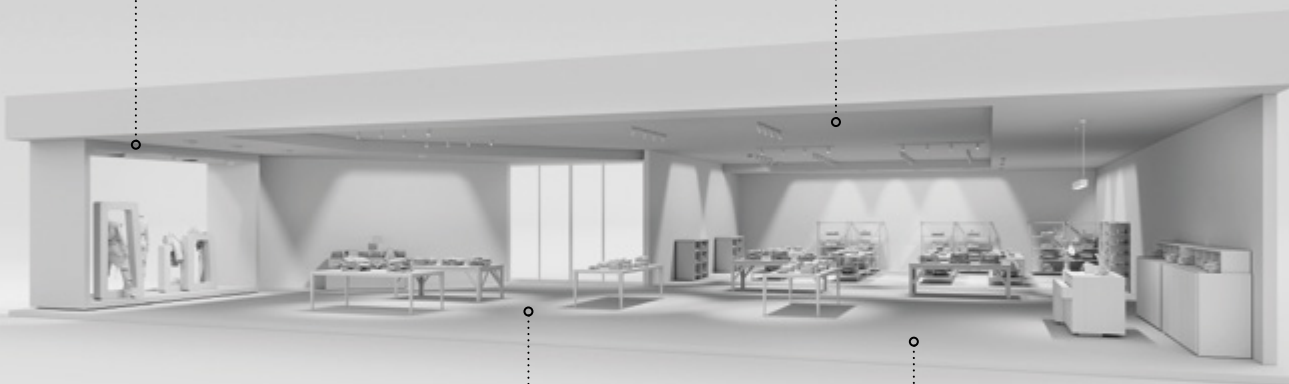
The customer enjoys a personalised shopping experience and the retailer gains valuable information about its customers.



# Retail

An exposed product can change in appearance depending on the illumination and tonality received. By varying this tonality, a precise reproduction of the product's colour and material is achieved.

A luminaire with Beacon technology can send a message to the buyer to offer a product that is attractive and tailored to each consumer's purchasing habits.



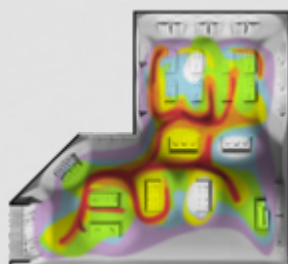
**Brightness:** 100%  
**Lifetime:** 45%

**Brightness:** 100%  
**Lifetime:** 35%

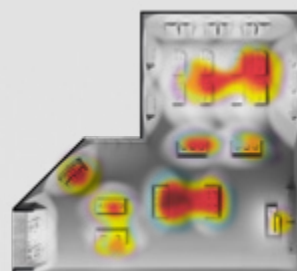
**Brightness:** 100%  
**Lifetime:** 20%

**Lighting scene:**  
Morning  
Afternoon  
→ **Sale**  
Escenographic  
HCL

**Occupancy**  
56%



Through the Pro solution, you can find out what route consumers take and, in this way, reinforce these areas with the retailer's chosen product placement.



Using the heat map, it is possible to know where consumers spend more time. With this information, the retailer can adapt the type of product displayed in each zone.

# Benefits



Improved experience



Data collection



Space management and optimisation



Information and guide



Increase in turnover



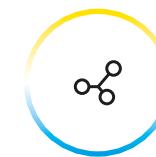
Energy saving



Preventative maintenance



Easy and quick installation



Integration with other systems

# Services

	Lite	Connected	Connected Pro
→ Lighting control	•	•	•
→ Multiple Scenes	•	•	•
→ Dynamic White Regulation	•	•	•
→ RGB or RGBW Regulation	•	•	•
→ Connectivity		•	•
→ Remote Management		•	•
→ Energy Monitoring		•	•
→ Preventative Maintenance		•	•
→ Alarm Faults		•	•
→ Heat Maps		•	•
→ Beacons Notifications			Coming soon
→ LightForShop SDK			Coming soon
→ SmartLightForRetail APP			Coming soon
→ Asset Tracking			Coming soon
→ People Tracking			Coming soon

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