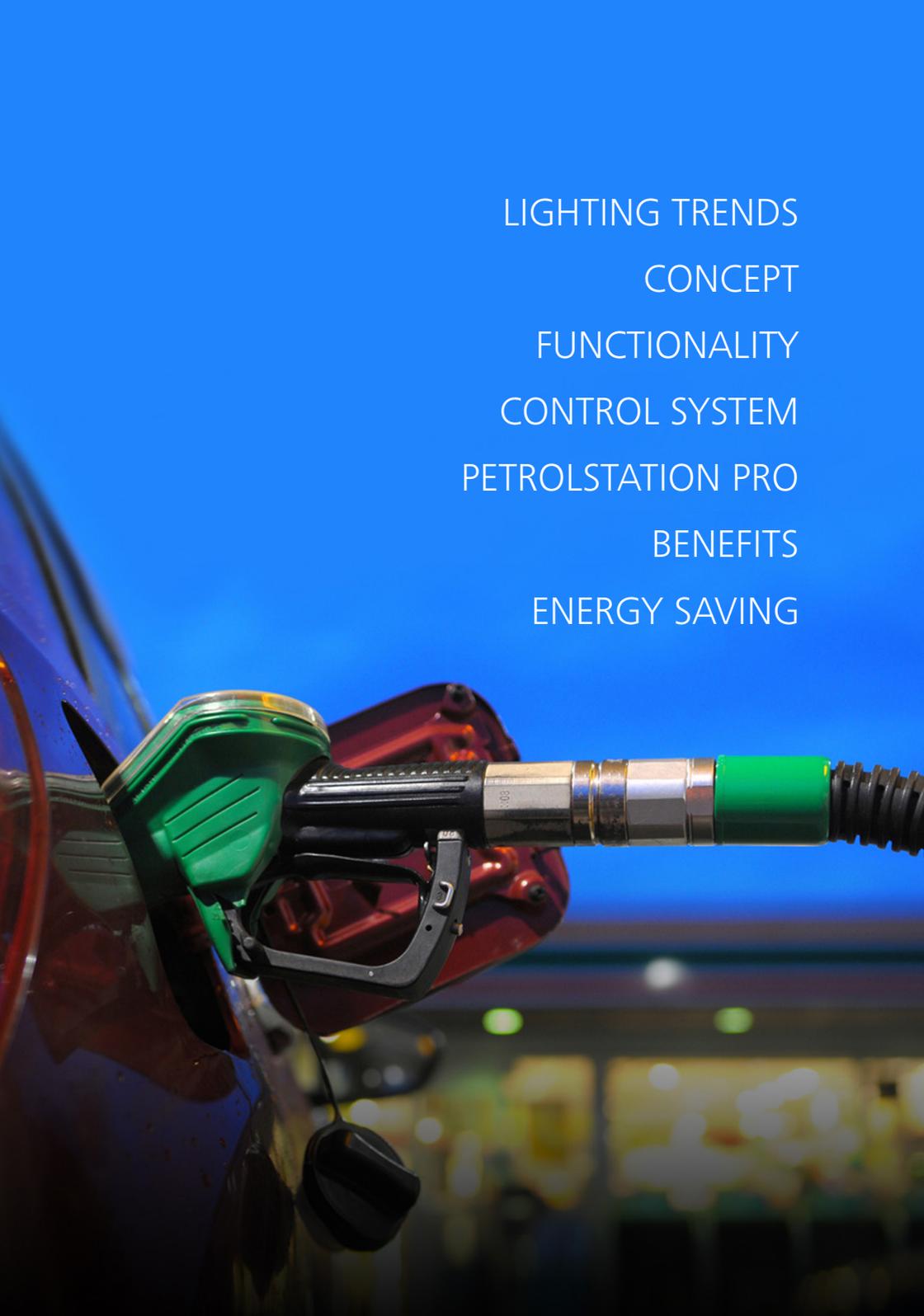




INDUSTRY LIGHTING SOLUTION
SMART PETROL STATION

SLE[®]
smart lighting engineering



LIGHTING TRENDS
CONCEPT
FUNCTIONALITY
CONTROL SYSTEM
PETROLSTATION PRO
BENEFITS
ENERGY SAVING

SMART PETROL STATION

INDUSTRY LIGHTING SOLUTION

Petrol stations offer a complex mix of services, therefore, they require carefully planned, multi-faceted and effective lighting. Not only helps it drivers to locate, identify, and navigate to the petrol station and to see what services are on offer, but it also turns the area into a safe and functional space for fueling and maintaining vehicles, stimulating and effective shopping spot, and refreshing zone during breaks.

Make your business safer and more sustainable with

SLE solution Smart Petrol Stations.

LIGHTING TRENDS

100%
EXPERTISE

RETAIL PSYCHOLOGY

Light and the use of lighting effects (such as colours, intensity, colour temperature) fundamentally affect our perception of a space, thus using light and its psychological influence wisely is key in order to increase sales.

ENERGY SAVING

Achieve considerable energy savings with installed presence detectors and daylight harvesting. A luminous flux level of 10% is used constantly for safety reasons for spaces without any detected movement, which next to less consumption also prolongs the lifespan of the light sources.

SAFETY AND VISIBILITY

Bright light feels natural and aids concentration and wakefulness of people in the area, which improves safety. Quality lighting allows for a quick recognition of objects, too. Moreover, good colour rendition of SLE luminaires enhances visibility, lighting uniformity and brightness distribution.

HIGHLIGHTERS AND ATTENTION-CATCHERS

Luminaires with pi-LED technology can change the colour of light to desired effect, be it spreading brand awareness with lighting corporate colours or creating specific mood. Luminaires with tuneable white technology utilise the complete white light spectrum. Soft and warm light at around 2,700 K creates calming and relaxing atmosphere while cold white at around 6,500K is stimulating and increases alertness and performance. Using these technologies in accent lighting can drag attention to objects and make them stand out.

HUMAN CENTRIC LIGHTING

Light has influence on daily production of hormones cortisol and melatonin which influence human biological clock, i.e. wake and sleep cycles. Human Centric Lighting can positively influence mood, behavior and energy level by adjusting of light colour temperature to the time of the day and/or activity which is performed in the specific area.

“ Have your cake and eat it – make your customers happy and save on costs at the same time

CONCEPT



CARWASH
AREA

MAINTENANCE AREA /
GAS FUELING

TOTEM DISPLAY

UNDER-CANOPY
AREA

PARKING

SHOPPING
AREA

OFFICE

CAFETERIA /
RESTAURANT

ARCHITAINMENT

SHOPPING AREA

Effective lighting of goods can highlight what is available and draw attention to special offers. Even studies have shown that customers are likely to touch and pick up items in a brightly lit area. Nevertheless, it is important that brightness does not affect natural colour rendering, does not cause glare or undesired shadows. The average maintained illuminance level should be 300 lx and it is also desired that the heads of the lighting fixtures have adjustable angles.

OFFICE

The future belongs to offices which place emphasis on human well-being. Create a stimulating work atmosphere with both human centric and emotional lighting which increase concentration and performance of your employees and make them also feel more alert and happy.

CAFETERIA / RESTAURANT

Cafés serves as a space for quick refreshment and serve lunch breaks, too, so it is necessary that customers feel comfortable and relaxed. We achieve the perfect ambience by luminaires with both direct and indirect lighting, which helps to avoid visually distracting phenomena such as glare, stark contrasts and dark corners. Also Tuneable White technology offers great opportunities for making space more friendly and home-like.



“ Increase performance and safety, improve efficiency



CARWASH AREA

Luminaires in car washes have to be made from solid materials resistant against water.

PARKING

In parking areas, we are able to simulate the quality of daylight anytime. Whether customers stop for a coffee-break or to take a siesta, our aim is to make these areas safe in all circumstances.

UNDER-CANOPY AREA

Lighting in the fueling area is mainly functional. The average illuminance should reach 150 lx with lighting uniformity ratio of 4:1, which allows customers to fill the tank or wash the windscreen and employees to monitor the area and identify the faces at a distance of at least 9 m. This area offers a great saving potential as it does not have to be 100 % illuminated all the time.

100%
CUSTOMISABLE

MAINTENANCE AREA / GAS FUELING

Pumping tyres and checking oil levels is not a rocket science, but with bad lighting it can be a nightmare which tires your eyes and might cause troubles later when on the road.

TOTEM DISPLAY

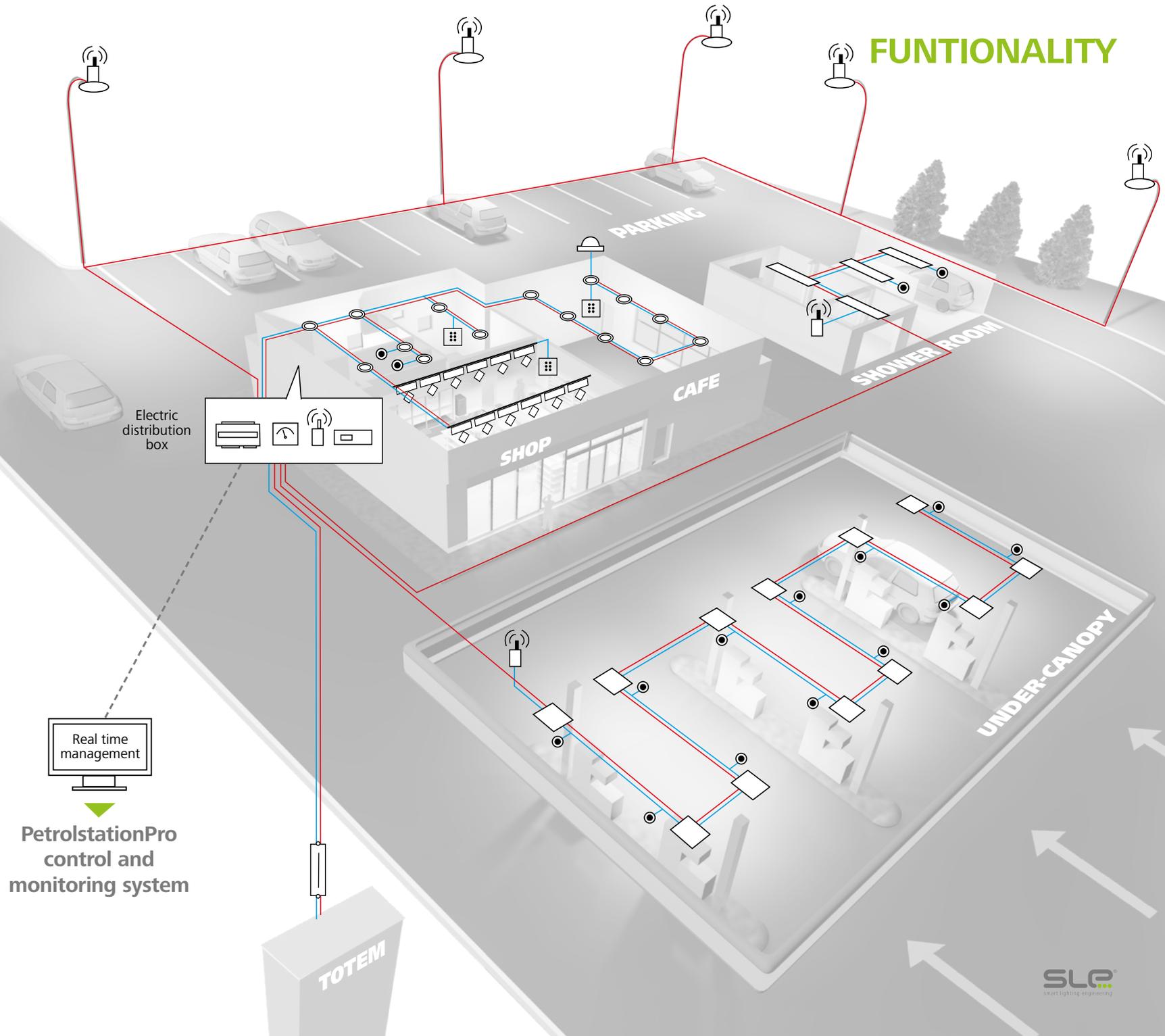
As your petrol station has to be visible from a great distance, many times 24/7, lighting serves a promotional function. It has to be eye-catching, however, it cannot cause glare.

ARCHITAINMENT

RGB colour mixing and Tuneable White technology allows us to create wonderful scenes which can attract, delight, and even stimulate the customers. Offer them an unusual experience and create a memory which will be remembered and nurtured until their next visit.

FUNTIONALITY

-  Retail LED luminaire
-  Retail LED luminaire
-  Industrial LED luminaire
-  Petrolstation LED luminaire
-  Street LED luminaire
-  Daylight sensor
-  Movement sensor
-  Manual control
-  Control unit
-  Power measurement
-  Web controller
-  Relay
-  RF transmitter
-  RF receiver
-  230V
-  DALI Line
-  Ethernet / Internet



PetrolstationPro
control and
monitoring system



“ Make use of the latest top-notch technologies

CONTROL SYSTEM

100%
EFFECTIVE

MOVEMENT SENSORS

Certain outside areas of a petrol station are without permanent use. Control based on movement sensing can eliminate the waste of lighting in these areas with predesignated zones, time scheduling, and setting up delay for dimming.

DAYLIGHT SENSORS

The effectiveness of lighting management based on light intensity sensing is determined by the availability of daylight and illumination rate of the given space. During the day, the illumination rate in outside areas is sufficient. At night or when natural light is not sufficient, daylight will be automatically complemented with appropriate amount of artificial lighting.

INPUT SIGNALS

Input type transducers or sensors produce voltage or signal output response which is proportional to the change in the measured quantity (the stimulus). The type and amount of the output signal depends upon the type of sensor being used (temperature, pressure, sound, speed, etc.).

RELAY UNITS

For controlling of peripheral devices such as non-dimmable luminaires, blinds, air conditioning, manual car washes, totems, and other non-lighting devices, use relay units. They switch the devices on and off quickly and simply without the need to make a single move.

RF OR POWERLINE COMMUNICATION

To apply control with RF system, a small antenna is implemented in each luminaire through which data is transmitted in a mesh network topology. Data can be transmitted from different luminaires simultaneously. No additional cabling for control is needed. If you go for Power Line communication, control is facilitated along the existing power supply infrastructure. This allows all communication to be done without the need for additional control lines or cabling, which minimises reconstruction costs. The solution is ideal especially for older installations with a limited number of phases. Special transmitters are located in the distribution boxes, while receivers are within the luminaires.

ARCHITAINMENT

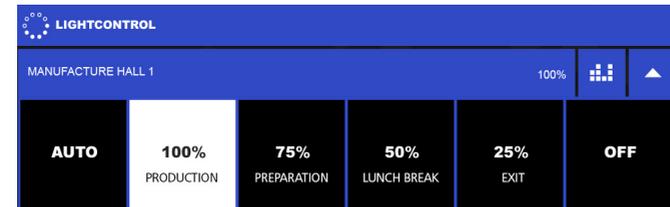
Sit comfortably in your office or stand right in front of the illuminated space and experiment with lighting effects in real time via a smart phone or on iPad. You can adjust light intensity, change the colours, select which luminaire is on in each scene, or set different CCTs to have warm or cold white light as you wish or need.

PETROL STATION PRO

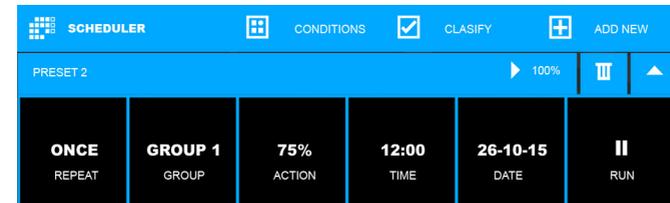
The Light Management System (LMS) is controlled through the Graphical User Interface (GUI) that is customised according to the specific solution. This advanced platform is designed to monitor and manage the system. Its key modules make it possible to change the settings of the lighting system, automatically collect, store and process data, schedule switching, generate reports about the system status and savings, and send notifications about failures and system errors. The software is a reliable and effective tool that helps to reduce operational costs by automatization, improve system performance, and give the users absolute autonomy.

BASIC SOFTWARE MODULES

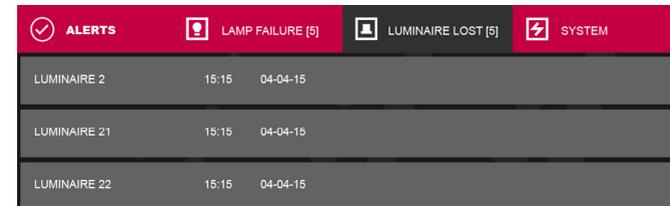
1. Light control



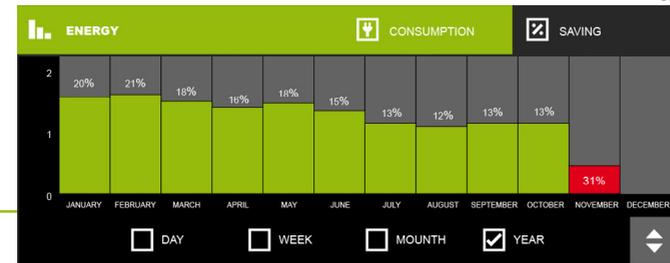
2. Scheduler



3. Alerts



4. Energy



100%
EFFECTIVE



“ Check on the effectivity of the system and your savings whenever and wherever

BENEFITS

100%
GUARANTEED

EFFORTLESS AND COST-EFFICIENT OPERATION AND MAINTENANCE

Lighting with a centralised controlling and monitoring system informs you about the current status of the whole system, which means you have information about upcoming failures before they actually happen and cause operational troubles. This way, you avoid spending extra costs to deal with unexpected events and you are always a step ahead of anything that might happen.

HUMAN WELL-BEING AND POSITIVE CUSTOMER FEEDBACK

It is all intertwined. Once you improve working atmosphere for you employees and make them happy at work, they will deliver better performance and make your customers contented. Once the customers start to come back and become loyal visitors, positive feedback and spreading goodwill about your business will bring in more new clients. Why not to use the potential of lighting if it's within arm's length and costs you next to nothing?

SAFETY

Quality lighting being the priority, we always aim to make it work with financially attractive conditions. No more you have to choose between saving on electricity bills and sufficient illumination of your petrol station premises, this solution combines the two.

SALES INCREASE

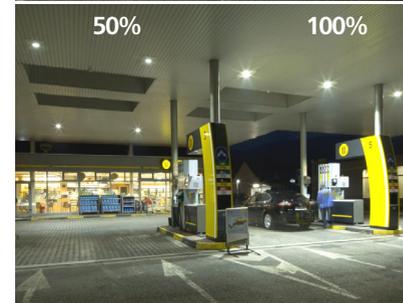
Exceptionality sells. Your customers will remember attractive shop, cosy restaurant zone and well-lit outside areas which give them feelings of comfort and safety, two feelings that many people on the road lack. Offering your clients something new and fresh has never been easier than with customised lighting system by SLE.



“ High quality light in combination with clever control increase safety and affect overall positive feelings of people within the space



“ Choose the right lighting control to maximise the saving potential



Modern lighting control techniques have opened up a huge potential for energy saving in petrol stations because the under-canopy area does not need to be fully illuminated when not in use. A comfortable safety illumination level of 50 % is suitable for use at all times and only needs to be increased to 100 % in the filling space necessary when a vehicle approaches, decreasing again to 50 % after a suitable period of time has passed.

ENERGY SAVING

PETROL STATION MODEL SITUATION

USE CONTROL SYSTEM:

MOVEMENT DETECTION

USE LUMINAIRE:

Product name: **DOROS PS**

Power consumption: **98 W**

Lumen output: **11,600 lm**

Lifetime: **60,000 hours**

Efficacy: **118 lm/W**

Color rendering index: **80 CRI**

Warranty: **5 years**



DEFINING SPACE:

Ground area: 200 m² (20 m x 10 m)

Operations: 4,380 hours per year

Price for electricity: 0.15 €/kWh

Ambient temperature: 30 °C

OLD ILLUMINATION
Metalhalide 400 W

STANDARD ILLUMINATION
Dimmable LED luminaire 98W



Lighting management system:
motion detector

INVESTMENT: 16,29 €/m²

ENERGY SAVING: 6.616 €/m²

PAYBACK TIME: 2.46 year

CO₂ SAVING: 3.51 t/year

TOTAL SAVING:

30%



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