siteco

Lighting control
SITECO Connect
Wireless 11, 21, 31

Energy savings, nature conservation and safety in perfect harmony thanks to intelligent lighting control.

Intelligently expand, control and monitor city lighting:

with SITECO Connect Wireless

Why lighting control?
Because everyone benefits!

Save energy. Reduce CO_2 consumption.
Transparently monitor your installation.
Increase safety for the general public.
Do something good for nature and wildlife.

Time-based and situational lighting control
with SITECO Connect Wireless provides
towns and cities as well as companies with
impressive usage options that ultimately
result in one thing: **a lighting solution that
benefits everyone.**

Average of
–60 %
additional savings

Immediate
savings
from day 1

**How can a control system benefit you financially? We'd be happy to
find out for you. We will assess your installation on site and determine
how much you can save.** Register now for an energy-savings check:
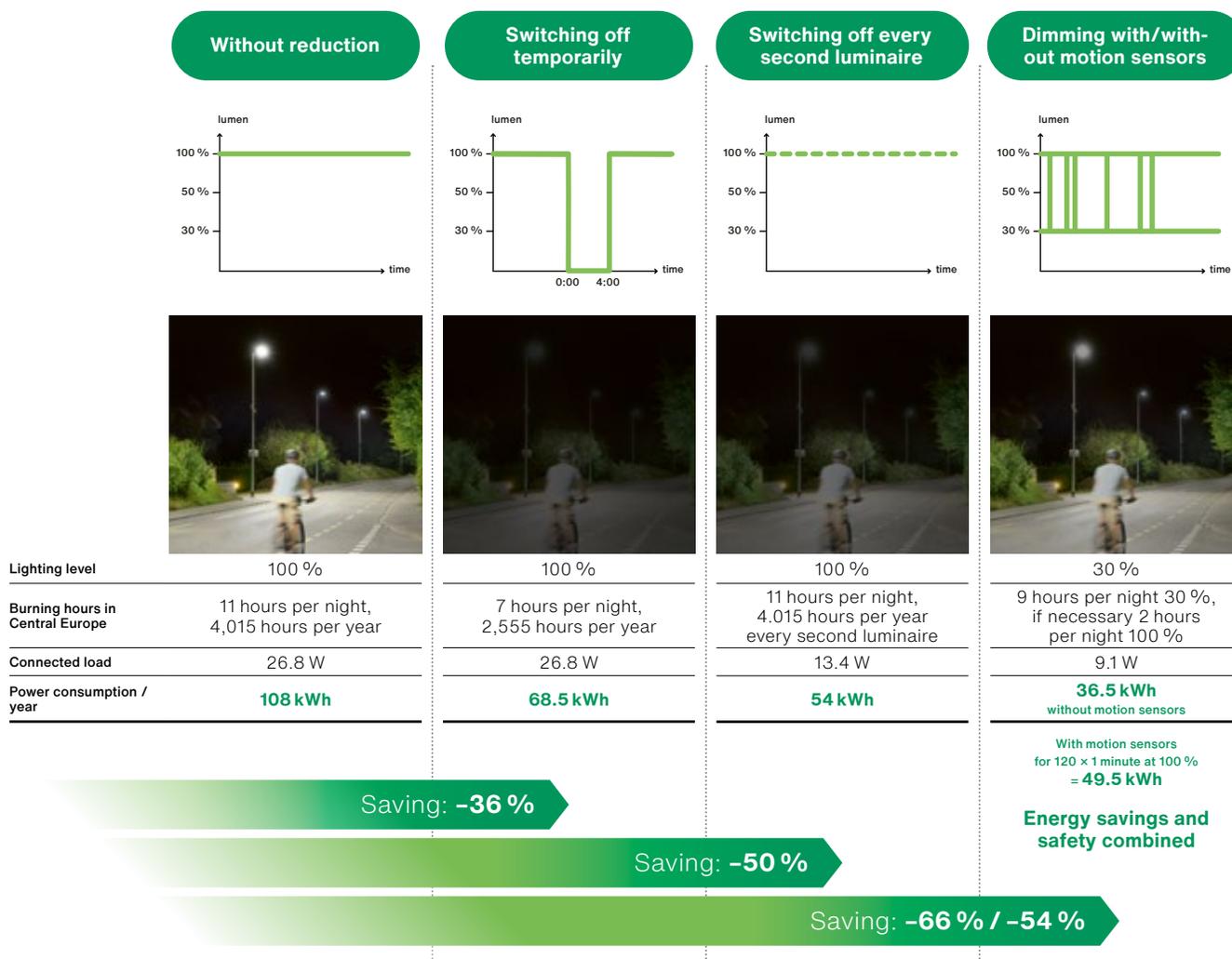siteco.com/solutions/light-audit

More information

What is the benefit of lighting control?
Significant savings!

Dimming pays off. Also compared to switching off temporarily or in certain areas.

Dimming combines traffic and personal safety with high energy savings. By up to 66 % in the example given below. Dimming ensures the uniformity of your lighting. Also, obstacles and small or unlit road users are easier to detect and better protected.

A comparison based on the example of Streetlight 11 micro LED

with 3,700 lumen, 3,000 Kelvin and Smart-Interface (5XC1A52T08DE).

	Without reduction	Switching off temporarily	Switching off every second luminaire	Dimming with/without motion sensors
Lighting level	100 %	100 %	100 %	30 %
Burning hours in Central Europe	11 hours per night, 4,015 hours per year	7 hours per night, 2,555 hours per year	11 hours per night, 4.015 hours per year every second luminaire	9 hours per night 30 %, if necessary 2 hours per night 100 %
Connected load	26.8 W	26.8 W	13.4 W	9.1 W
Power consumption / year	**108 kWh**	**68.5 kWh**	**54 kWh**	**36.5 kWh** without motion sensors

With motion sensors for 120 × 1 minute at 100 % **= 49.5 kWh**

Energy savings and safety combined

Saving: **–36 %**

Saving: **–50 %**

Saving: **–66 % / –54 %**

9 reasons for lighting control with SITECO Connect Wireless.

1 **2** **3** **4**

1

Save energy

Systematic dimming and temporarily switching off luminaires where possible pays off in three ways: you save **valuable energy**, have total control of costs and increase the service life **of the luminaire**.

2

Protect nature and wild life

Dimming in the dark of night **reduces light pollution**. Nocturnal animals, particularly in parks and nature reserves, are less disturbed in their natural behavior.

3

Adapt the lighting

In locations with changing usage, e.g. town squares and marketplaces, the lighting can be **automatically dimmed up and down**, for example during events.

4

Protect the climate

Where there is little activity at night, e.g. on rural roads, lighting intensity can be selectively reduced. This has a direct impact on the **CO_2 balance**.

Intelligently expand, control and monitor city lighting:

with SITECO Connect Wireless

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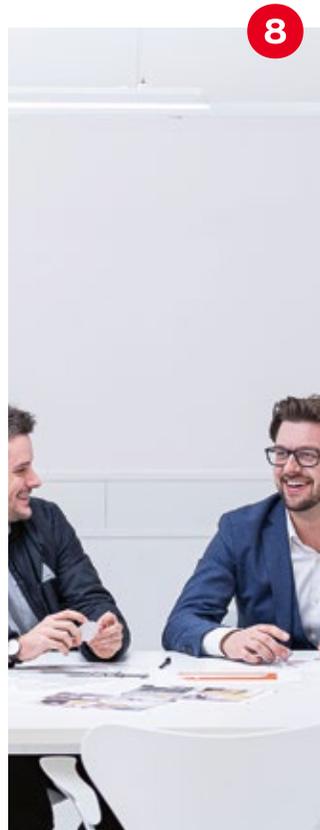
5

Increase safety

Adjusted lighting levels increase safety in critical neighborhoods and streets. **Good visibility** is also required for rescue operations. Brighter means safer.

6

Reduce vandalism

Vandals can only remain undetected in the dark. **Motion sensors protect** municipal institutions, sports facilities and schoolyards.

7

Optimize operation

Central documentation, switching, monitoring and diagnosis of the system **saves costs** and enables the **targeted planning of maintenance** if required.

8

Apply for funding

Modern lighting control makes it easy to implement **environmental guidelines**. This is the necessary pre-condition when applying for **subsidies**.

9

Automate illumination

Sights and landmark architecture determine the character of a town or city. These attractions can be **automatically illuminated**, creating a unique atmosphere.

When does the future begin?
Decide for yourself.

With us, you lay the foundation for a future-proof infrastructure. That's because SITECO outdoor luminaires offer standard connectivity for all control requirements thanks to Smart-Interface. They allow plug & play integration of sensors or help you to manage your power consumption and reduce costs with radio-based control solutions and demand-driven lighting concepts. SITECO Connect Wireless offers the right combination of options for every requirement.

When and to what extent you use these options for greater efficiency, connectivity and sustainability is entirely up to you. Either directly from installation, or upgrade flexibly when you feel the time is right.

Your light is ready.

From simple control of individual luminaires to fully networked systems.

- **Maximum compatibility** between Zhaga / D4i-certified luminaires from SITECO and the control system and sensors
- **Maximum freedom of choice** thanks to standardized interfaces (Zhaga Book 18 and D4i or NEMA)
- **Maximum future reliability** thanks to expansion options in case of later need
- **Maximum flexibility** in application – from simple to fully networked
- **Maximum convenience** thanks to plug & play installation of radio control systems and sensors

1 Smart Plug

2 Smart-Interface

3 Motion and environmental sensors

Intelligently expand, control and monitor city lighting:

with SITECO Connect Wireless

How do you begin?
Start off simply, upgrade flexibly.

100 % flexibility through upgrades and downgrades

SITECO Connect Wireless 31:
Single luminaire

Single luminaires are switched or dimmed with a local motion sensor.

e.g. motion sensor

Example: The motion sensor activates just one luminaire.

SITECO Connect Wireless 21:
Several luminaires connected locally

Several luminaires are connected via radio.

The luminaires in the network communicate and synchronize with one another.

The luminaires are synchronously or continuously switched or dimmed.

e.g. radio module

e.g. motion sensor

Configure and diagnose on-site with a USB transmitter on a laptop

Example: The motion sensor also switches on neighboring luminaires via radio link.

SITECO Connect Wireless 11:
Several luminaires connected with remote access

The luminaires are connected via radio.

Settings can be defined from the office via remote access over the network and status messages sent automatically.

Existing inventory and workflow systems, such as LuxData by sixData, can be used as a master.

e.g. motion sensor with integrated radio module

Configure and diagnose using web remote access

Example: The network of luminaires functions synchronously and is monitored remotely.

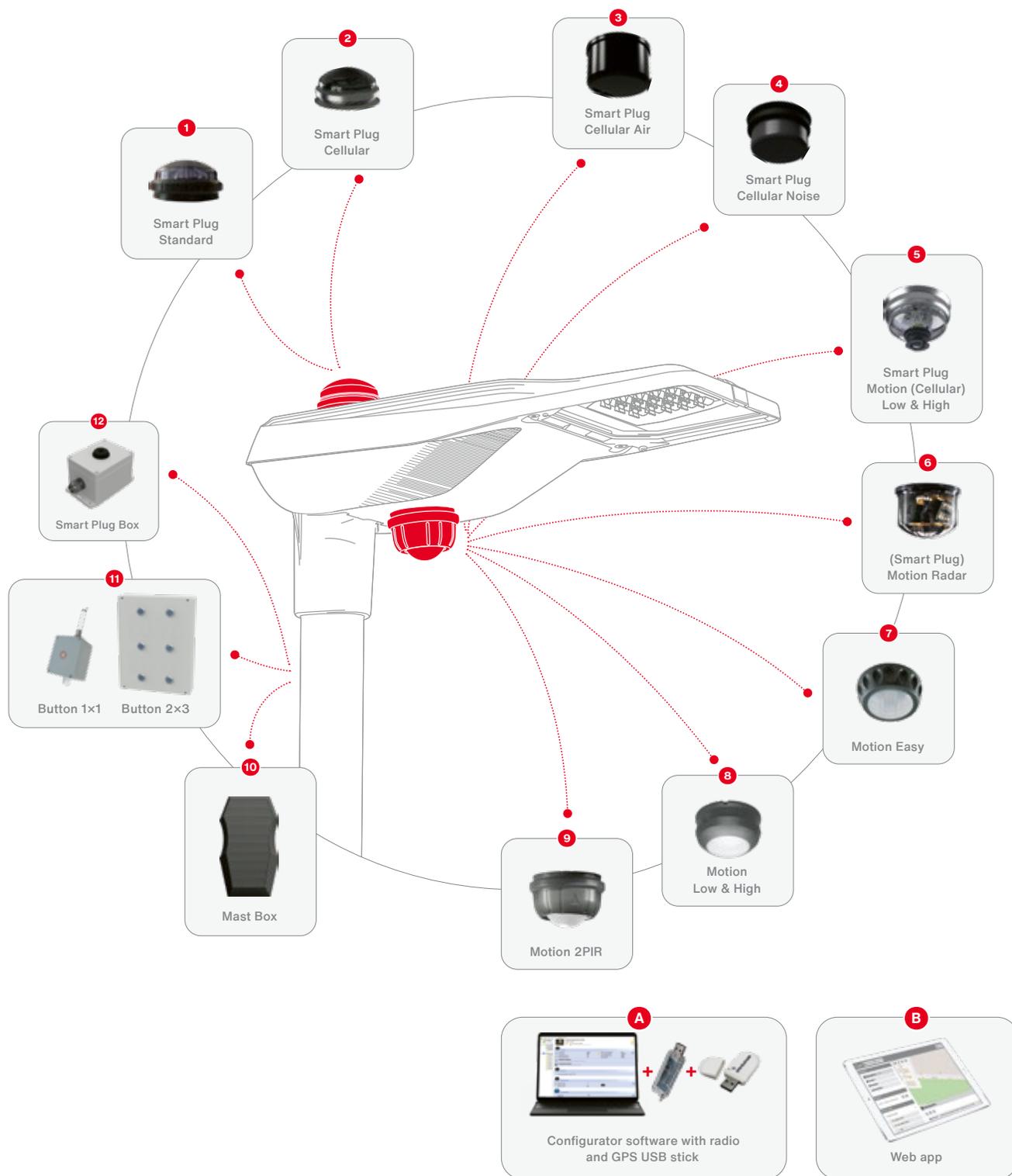# Light in motion makes a difference.

As if by magic, the light switches on and accompanies vehicles, cyclists and pedestrians. Whether running or pre-running light, motion sensors are the key. These dim or switch the lighting, exchange information via radio and regulate brightness in the traffic zone. This not only increases safety on the road, but also reduces costs and protects the environment.
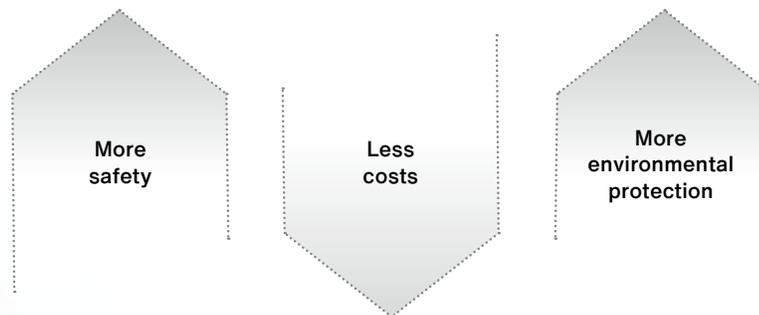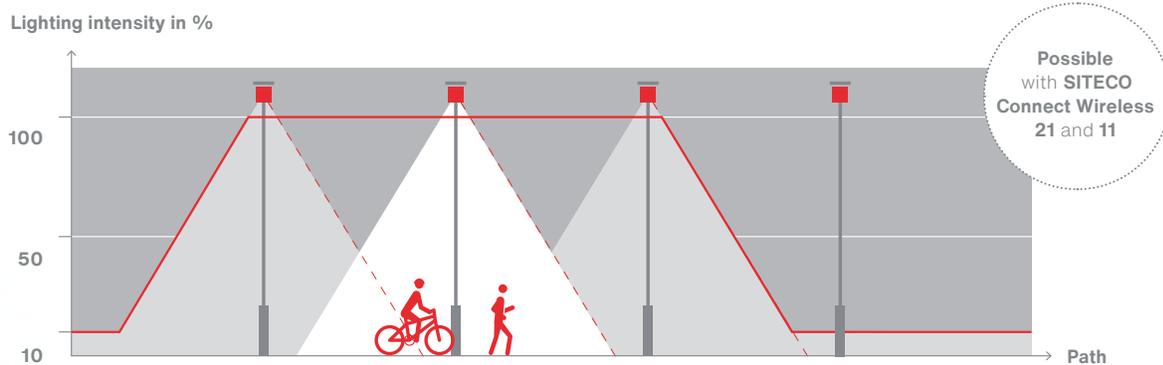
Supports safety, environmental protection and cost efficiency.

Situational lighting: **triple benefit.**

SITECO Connect components
for Smart-Interface.

1 Smart Plug Standard

2 Smart Plug Cellular

3 Smart Plug Cellular Air

4 Smart Plug Cellular Noise

5 Smart Plug Motion (Cellular) Low & High

6 (Smart Plug) Motion Radar

7 Motion Easy

8 Motion Low & High

9 Motion 2PIR

10 Mast Box

11 Button 1×1   Button 2×3

12 Smart Plug Box

A Configurator software with radio and GPS USB stick

B Web app

Overview of components for Smart-Interface:

Smart Plugs

Control and radio networking of luminaires with Zhaga / D4i-compatible luminaire controllers. With remote access or as a purely local radio network. Lighting control depending on time of day, day of the week and daylight. Local storage of the switching and dimming calendar for reliable operation.

❶ Smart Plug Standard: Local operation and networking, optionally with remote access by adding one Smart Plug Cellular per 100 Smart Plugs Standard and the usage fee 5EA0EC06 or 5EA0EC12 per Smart Plug Standard	**5EA3AM000001**
❷ Smart Plug Cellular: Remote access for 5 years including radio clock and position detection	**5EA3CM000001**
❸ Smart Plug Cellular Air: Luminaire controller with environmental sensor for monitoring particulate matter, nitrogen oxide, volatile organic compounds, humidity, temperature, position, mast tilt. Built-in radio clock. Remote access for 5 years	**5EA44EE01**
❹ Smart Plug Cellular Noise: Luminaire controller with noise sensor for monitoring the noise level. Built-in radio clock. Remote access for 5 years included	**5EA44EN01**

Motion sensors

Lighting control depending on movement, daylight, day of the week and time of day. Autonomous or networked operation (swarm function). Multiple setting options for dimming level, follow-up time, up / down speed.

Radio motion sensor Low & High
Oval detection range, freely alignable, e.g. for paths and driveways.
Radio controller (Smart Plug Standard or Cellular) integrated.

❺ Smart Plug Motion Low: Mounting height below 6 m, detection range at 5 m height up to 8.80 m, at 6 m height up to 10 m	**5EA40EL01**
❺ Smart Plug Motion High: Mounting height above 6 m, detection range at 6 m height up to 10 m, at 10 m height up to 17 m	**5EA40EH01**
❺ Smart Plug Cellular Motion Low: Mounting height below 6 m, detection range at 5 m height up to 8.80 m and at 6 m height up to 10 m	**5EA40ELC01**
❺ Smart Plug Cellular Motion High: Mounting height above 6 m, detection range at 6 m height up to 10 m and at 10 m height up to 17 m	**5EA40EHC01**
Motion Stick alignment lever	**5EAU0H000001**

Motion sensor Radar
Very wide detection range to the right and left of the luminaire, e.g. for roads.
With and without radio controller (Smart Plug Standard).

❻ Smart Plug Motion Radar: Detection range for trucks from 70 m, people from 25 m	**5EA40RC01**
❻ Motion Radar: Detection range for trucks from 70 m, people from 25 m (can only be used together with Smart Plug Standard or Cellular)	**5EA40RS01**
Accessories: Motion Radar RF Stick for customizing advanced settings	**5EA40RF01**

Motion sensor Easy
Preset PIR motion sensor, ON / OFF at 30 lux, idle state 20 %, when movement detected 100 % for a minimum of 2 min. can be networked as an option, large detection range to the right and left of the luminaire, can be limited with enclosed cap, e.g. for paths.

❼ Motion Easy: Mounting height from 5 to 8 m, detection range at 5 m height up to 30 × 6 m	**5EA40TE01**

Motion sensor Low & High
PIR motion sensor with circular detection range, can be limited with enclosed cap, e.g. for surfaces.

❽ Motion Low: Mounting height below 4.60 m; detection range at 2.40 m height up to 6 m	**5EA40LL01**
❽ Motion High: Mounting height above 4.60 m; detection range at 4.60 m height up to 12 m, at 8 m height up to 24 m and at 12 m height up to 30 m	**5EA40LH01**

2PIR motion sensor
PIR motion sensor with long detection range to the right and left of the luminaire, e.g. for residential streets.

❾ Motion 2PIR: Detection range at 4 m height up to 17 m and at 8 m height up to 35 m (can only be used together with Smart Plug Standard or Cellular)	**5EA40M000201**

Mast boxes

Mast box for the control and networking of DALI luminaires without Smart-Interface. With remote access (for use with Smart Plug Cellular as an accessory) or as a purely local radio network. Lighting control depending on time of day, day of the week and motion (Motion version). Local storage of the switching and dimming calendar for reliable operation.

❿ Mast Box Standard	**5EA3BS01**
❿ Mast Box GPS	**5EA3BG01**
❿ Mast Box Motion Low: Mounting height below 6 m. One PIR sensor downwards with detection range at 5 m height up to 8 m, at 6 m height up to 10 m	**5EA3BEL01**
❿ Mast Box Motion High: Mounting height above 6 m. One PIR sensor downwards with detection range at 6 m height up to 10 m and at 10 m height up to 17 m	**5EA3BEH01**
❿ Mast Box Motion GPS Low: With GPS / radio clock, mounting height below 6 m. One PIR sensor downwards with detection range at a height of 5 m up to 8 m, at a height of 6 m up to 10 m	**5EA3BGL01**
❿ Mast Box Motion GPS High: With GPS / radio clock, mounting height over 6 metres. One PIR sensor downwards with detection range at a height of 6 m up to 10 m and at a height of 10 m up to 17 m	**5EA3BGH01**
❿ Mast Box Motion 2×PIR Low: Mounting height below 6 m, detection area at 5 m height: 14 × 8 m	**5EA3BEL02**
❿ Mast Box Motion 2×PIR High: Mounting height above 6 m, detection area at a height of 8 m: 22 × 14 m	**5EA3BEH02**
❿ Mast Box Motion 2×PIR GPS Low: With GPS / radio clock, mounting height below 6 m, detection area at a height of 5 m: 14 × 8 m	**5EA3BGL02**
❿ Mast Box Motion 2×PIR GPS High: With GPS / radio clock, mounting height above 6 m, detection area at a height of 8 m: 22 × 14 m	**5EA3BGH02**
❿ Mast Box Motion Radar: Mast Box Motion Radar: Detection range for trucks from 70 m, people from 25 m	**5EA40RB01**
❿ Mast Box Motion Traffic: For traffic counting, with GPS / radio clock	**5EA3BER01**

Radio pushbutton

Radio pushbutton for individual lighting scenes, e.g. manual switching for rescue operations.

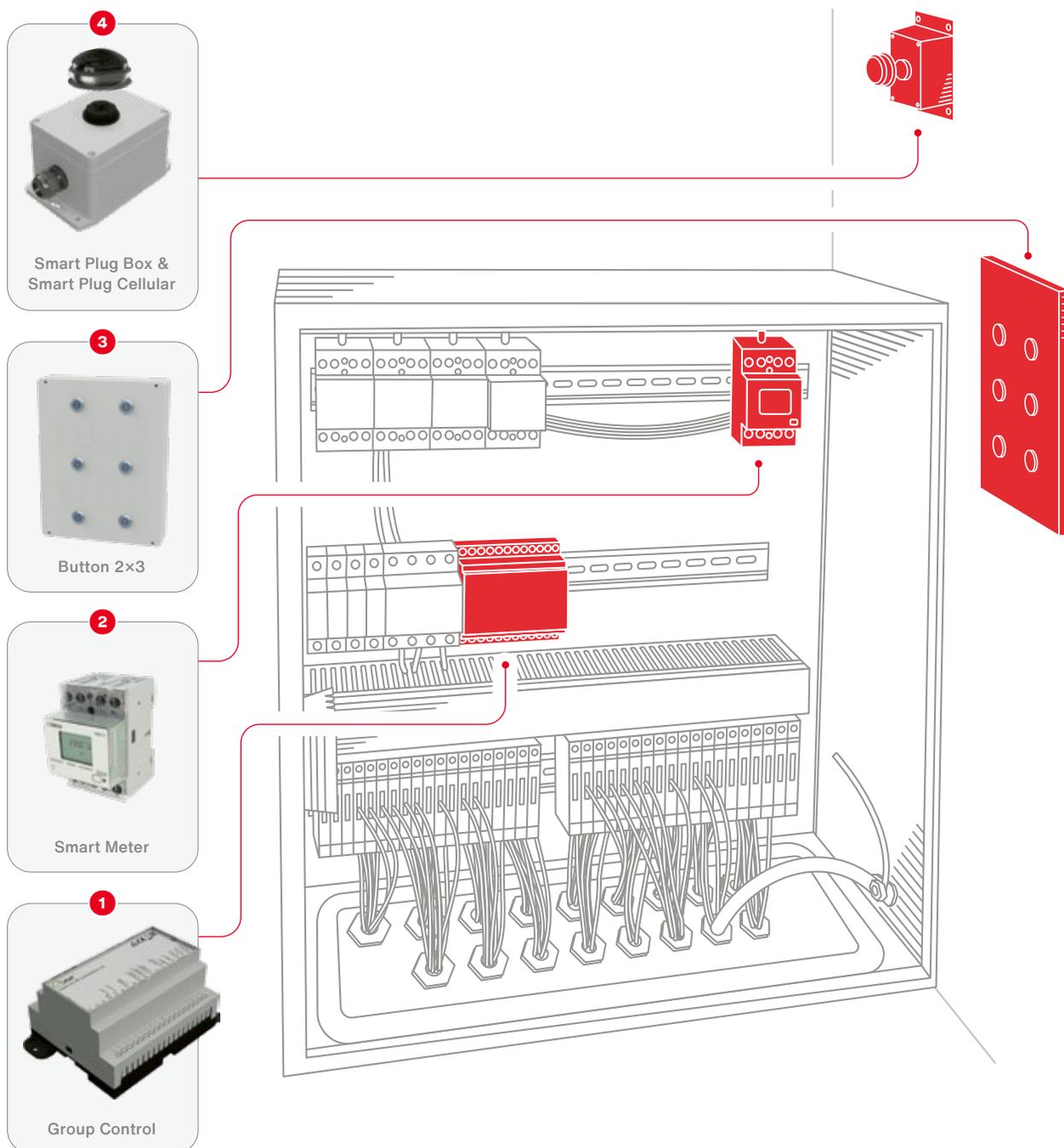|	
⓫ Button 1×1	**5EA30A000D01**
⓫ Button 2×3	**5EA3EB03**

Mounting away from the luminaire

Zhaga interface for placing additional motion sensors at inputs and outputs, for setting repeater or light sensor locations.

⓬ Smart Plug Box	**5EA3BH01**

SITECO Connect
Group control for the control cabinet.

4

Smart Plug Box & Smart Plug Cellular

3

Button 2×3

2

Smart Meter

1

Group Control

For centrally switching and dimming lighting or for modernizing ripple control systems: SITECO Connect is the innovative and powerful lighting control solution for installation in control cabinets.

Radio group control / radio ripple control for control cabinets

3 relay outputs for connection, for example, to contactor or control wire · Local access via radio USB stick and additionally remote access via mobile radio · 5 years mobile radio usage included · Automatic switching depending on time of day, day of the week and Astro clock · Radio-controlled integration of motion sensors, daylight sensors, additional Group Control devices and Smart Plugs · RS485 interface for connecting a Smart Meter · Radio clock, Astro clock and GPS· Very simple installation

❶	Group Control with **integrated antenna**	**5EA1ECL01**
❶	Group Control with **external antenna**	**5EA1ECL02**
	Accessories:	
	3-in-1 puck antenna for mobile radio, mesh and GPS with **0.5 m cable**	**5EA1EAT01**
	3-in-1 puck antenna for mobile radio, mesh and GPS with **5 m cable**	**5EA1EAT02**
❷	Smart Meter / electricity meter	**5EA1EM02**
❸	Button 2×3	**5EA3EB03**
❹	Smart Plug Box & Smart Plug Cellular as radio-controlled twilight switches	**5EA3BH01 & 5EA3CM000001**

Commissioning and configuration of Smart-Interface and Group Control.

Setting and operation

Local commissioning and administration

Radio USB stick with software
For setting and checking lighting control devices on site.

Ⓐ	Configurator software with USB stick	**5EAU0A000001**
Ⓐ	GPS-USB-Stick	**5EAU0G000001**

Centralised commissioning and management via remote access

Remote setup, management and monitoring of Group Control and Smart Plugs Cellular (alternatively of up to 100 neighbouring Smart Plugs Standard or Motion via a Smart Plug Cellular) are carried out via a web application. The usage fees for the web application and data transmission are partly included in the end device price for Cellular and Group Control devices for 5 years and can be purchased for standard devices and longer periods in the form of credit points in 12-month units. Data is transferred every 15 minutes as standard. In the Light model only when switching on and then from 00:00 every 8 hours (the measurement data is also not displayed more granularly).

Ⓑ	Standard: Advance payment of usage fee per end device for 12 months each in the form of 12 credit points (credits)	**5EA0EC12**
Ⓑ	Light: Advance payment of usage fee per end device for 12 months in the form of 6 credit points (credits)	**5EA0EC06**

Services

SITECO is happy to assist you with the planning and commissioning of your individual SITECO Connect system. The following services support you during set-up and operation.

Training: Software and system training for up to 3 participants, 1.5 hours, via video conference or on-site.

Training	**5EA0DES01**

System configuration: Basic configuration per system or construction stage, remotely or on-site.

System set-up	**5EA0DEA01**

End device configuration: Configuration per end device, remotely or on-site.

Device configuration	**5EA0DEE01**

On-site service: On-site support from the SITECO service team.

Per kilometer driven	**5EA0DER01**
incl. travel time, costs, expenses and hotel if applicable	

Ready for the next step?
Lighting control as part of digital operational management.

Control, monitor and manage SITECO Connect via luxData.
The future means not only intelligent luminaires and control systems, but smart operational management as well. Forget about stacks of paper and manual processes. How about managing everything centrally instead? Manage, maintain and service. Using a single interface.

Yet digital operational management with luxData by sixData can do even more: it allows a number of telemanagement systems or lighting controls to be operated. In addition, luxData.Control also shows the status and measured values of the luminaire controller, which are sent by the different control systems. This means you only need to operate one software solution and save time on training and using interfaces. This is extremely practical if you are managing several control systems in parallel.

luxData by sixData can ...

- ... manage all objects in towns and cities.
- ... monitor lighting and send fault reports.
- ... be filled easily like Excel.
- ... record all data from the date of installation to power consumption.
- ... measure power consumption.
- ... provide custom dashboards for maximum transparency.
- ... create decision-making reports at the touch of a button.

luxData.easy at a glance

Lighting control **in practice.**

The roundabout that thinks for **itself.**

Nature conservation and safety ideally combined.
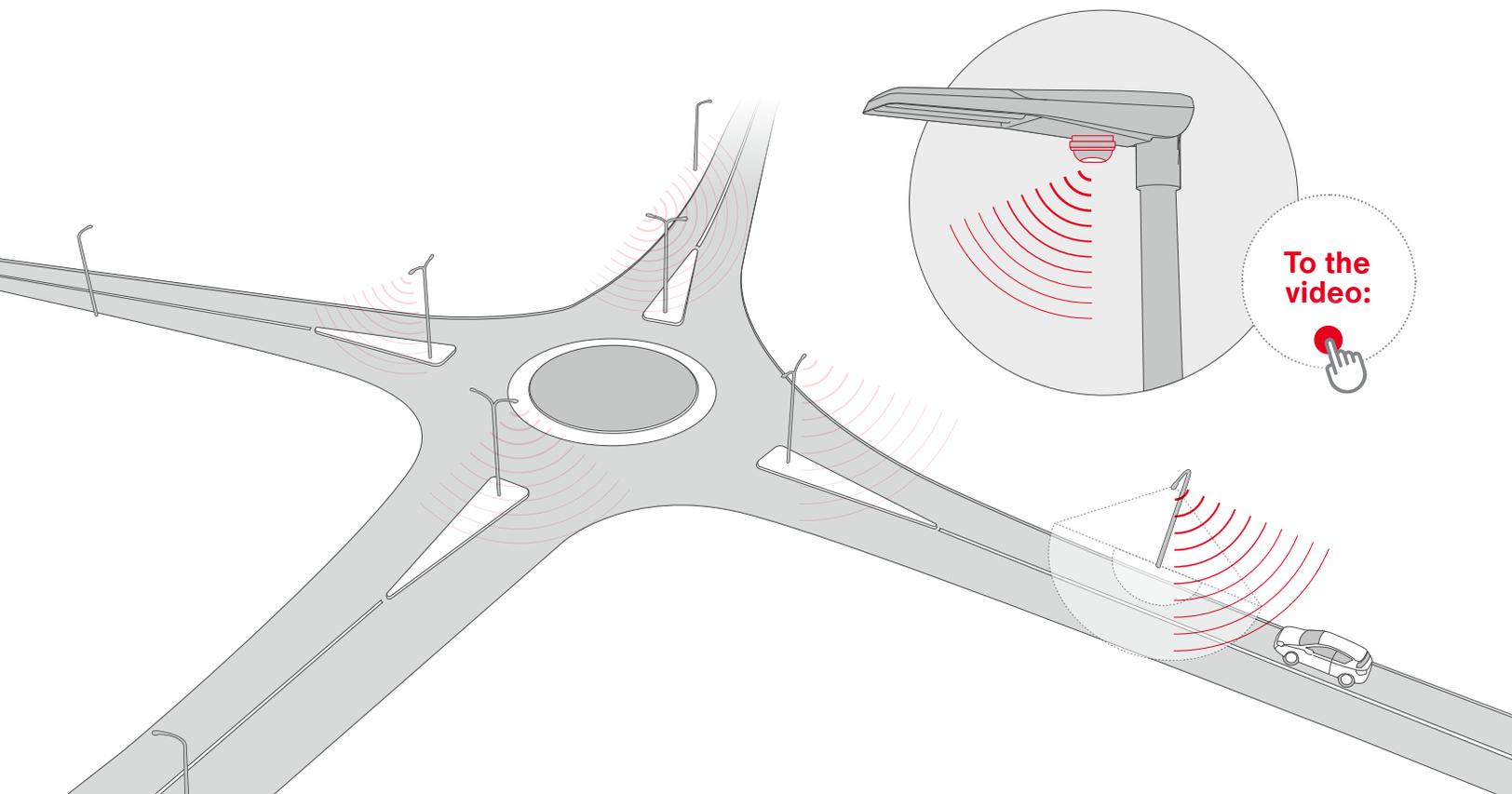
| The project → | Roundabout in the community of Aschbach, Austria |
| Our solution → | Streetlight SL 21 with SITECO Connect 21 including radio-networked motion sensors |

Details:

- Reduction of light pollution in nature
- High safety for road users with reduced energy consumption
- In an idle state, without traffic: 15 % lighting level
- Detection of vehicles at a distance of 70 to 100 m: increase to 100 % lighting level
- Small animal filter blocks out detection of birds, squirrels, etc.

To the video:

Safety for road users. And for wildlife too.

**Protection of wildlife and road safety cleverly combined.**

The project →   "Donauradweg" cycle path in Ulm, Germany

Our solution →   Streetlight SL 21 with SITECO Connect 11 including radio-networked motion sensors

Details:

- Maximum dimming in idle state without cyclists / runners
- Increase in lighting level when motion is detected
- Running light that precisely follows the position of the cyclist / runner
- Focus on the need for safety, especially of female runners in the evening hours
- Reduction of light pollution and minimal disturbance of nocturnal flora and fauna
- Switching/dimming scenarios can be adjusted individually at any time
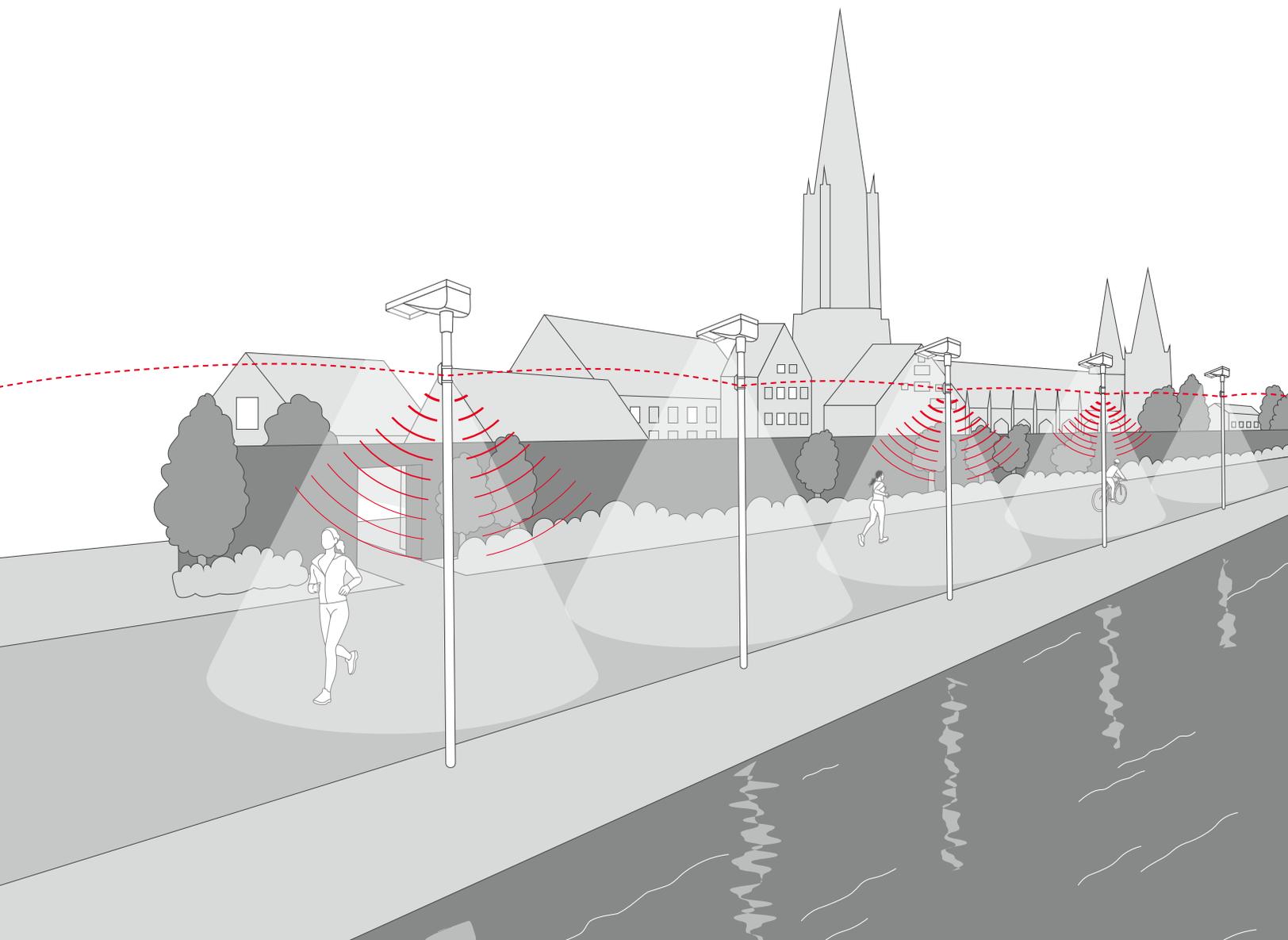
Control station car parks and P&R car parks through **motion activation**.

**Energy savings at top speed.**

(The project →)   Community of Merklingen, Germany

(**Our solution →**)   Streetlight SL 11 luminaires with SITECO Connect 11 including radio-networked motion sensors

Details:

- Fixed and remotely adjustable night-time power reduction
- Increase in lighting level when motion is detected
- Radio-networked luminaires for switching and dimming in groups
- Remote maintenance and central access to all luminaires in new residential areas
- Fine-tuning on demand: continual monitoring and optimization of lighting as regards energy savings, traffic safety, light pollution and environmental protection
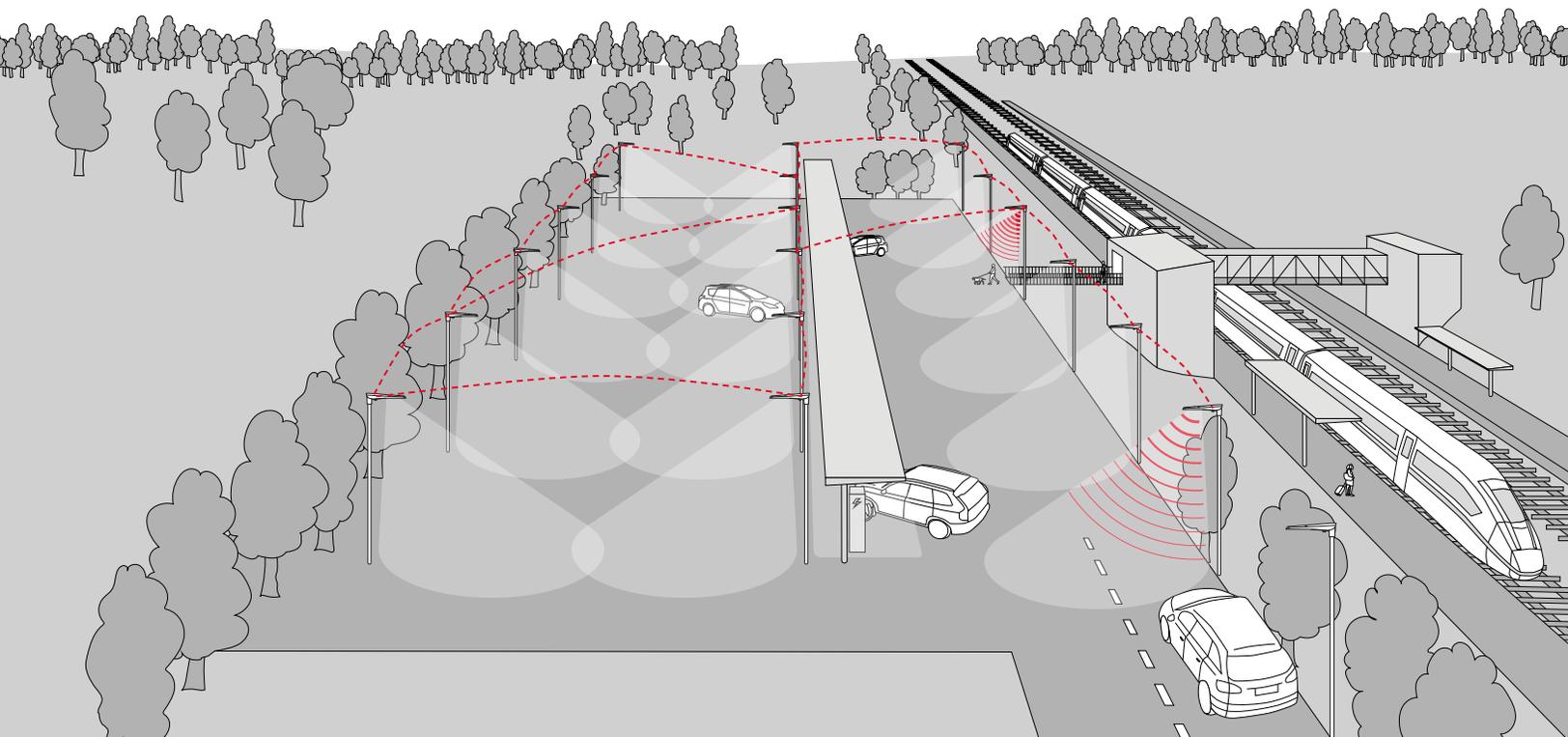
Restful nights and safety
for tired truck drivers.

Rest and safety zones harmoniously combined.

The project →	Industrial estate in Berlin-Schönefeld, Germany
Our solution →	Streetlight SL 21 with Smart-Interface and SITECO Connect 11 including radar and PIR motion sensor

Details:

- Demand-driven light with radio-networked motion sensors for commercial areas
  with waiting and rest zones for truck drivers
- High sense of security without dark corners
- At the same time, optimal conditions for truck drivers to rest and sleep with dimmed light
- Individual adaptation of switching and dimming values by the customer
- Monitoring via email and notifications
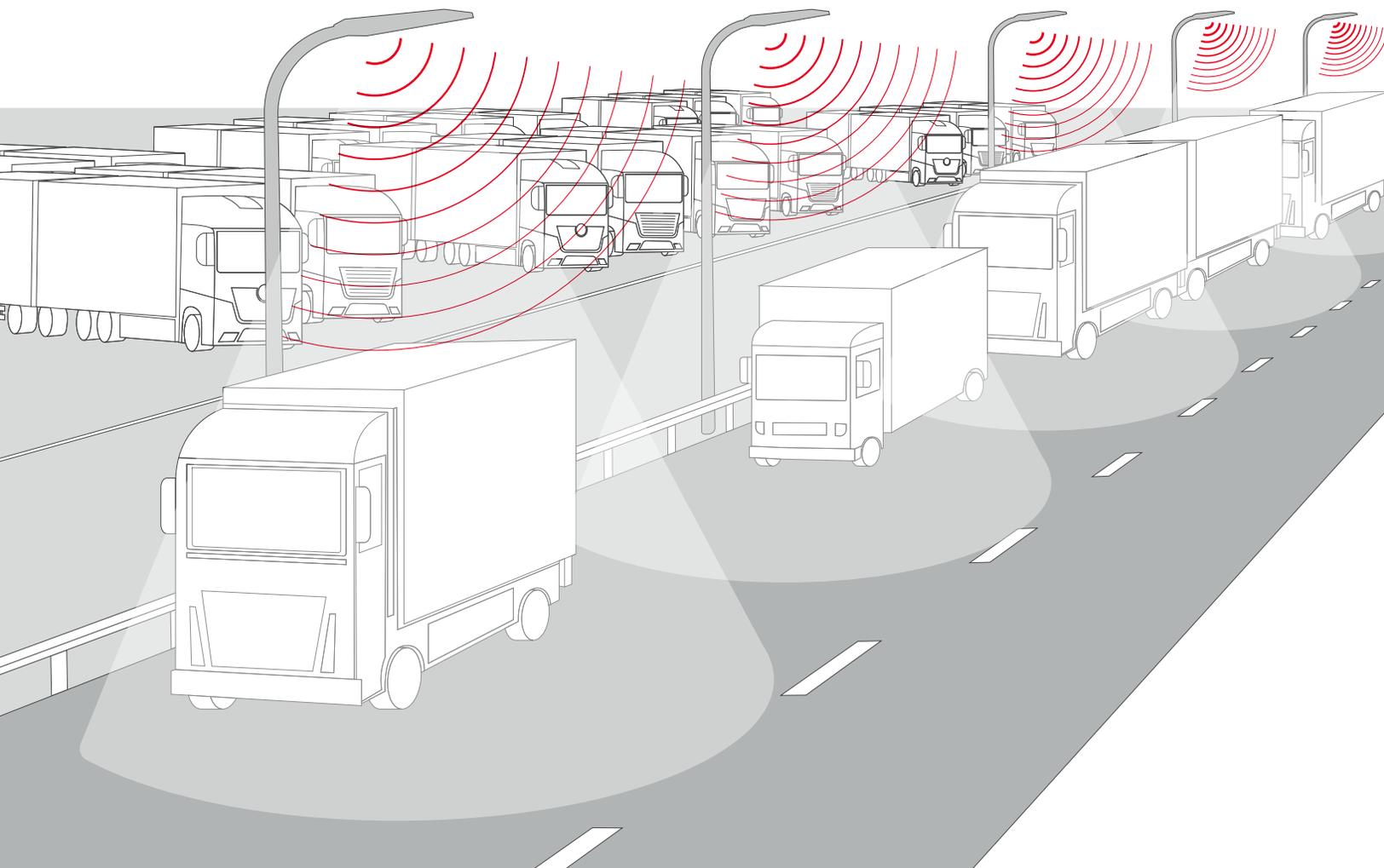
Motion-activated control of street blocks. Ensuring personal and traffic safety.

Keeping all energy-saving options open.

(The project →)	Community of Steinheim am Albuch, Germany
(Our solution →)	Streetlight SL 11 with SITECO Connect 21 including radio-networked motion sensors

Details:

- Demand-driven lighting for the entire district with all road types
- Individually programmed night-time power reduction with 20 to 30 % background lighting
- Increase in lighting level when motion is detected
- High-speed radio network ensures the luminaires ahead are illuminated
- Compliance with state environmental laws with environmentally friendly 3,000 K light color
- Additional savings potential thanks to increased dimming and partial switching off
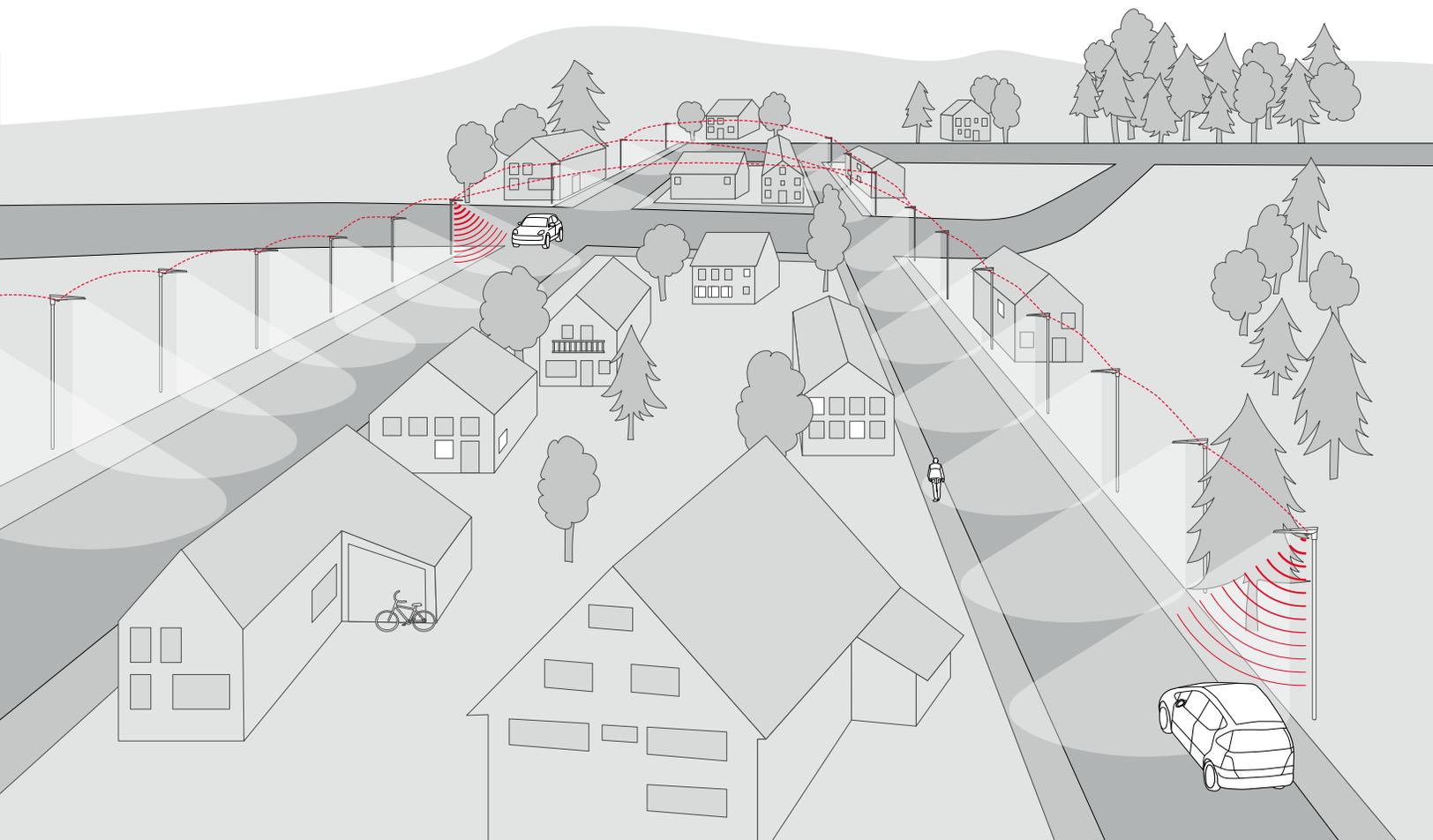
How do you implement lighting control? With us, it's effortless and uncomplicated!

We support you from the initial idea all the way to commissioning your light management system and take care of funding subsidies and financing options. And once your system is up and running, we make sure everything is operating smoothly and your power consumption is as low as possible.

⊕ Light audit

Giving you all the facts you need for making a decision and investing.

⊕ CO_2 savings   ⊕ Savings on operating costs   ⊕ Investment and payback

⊕ Planning

So that your new lighting is ideally designed for you.   ⊕ Light and building management   ⊕ Customization

⊕ Financing and funding

So that you benefit to the maximum.   ⊕ Funding consultation   ⊕ Financing

⊕ Technical service

So that everything runs smoothly on site.   ⊕ Installation and commissioning   ⊕ Training   ⊕ Maintenance and servicing

⊕ Control station

So your operations are always secure.   ⊕ Remote monitoring   ⊕ Fault identification and elimination
⊕ Energy-savings monitoring   ⊕ Operational management

Select from these five service modules and combine them to precisely meet your needs.

Always tailored to the level of service you require.

Contact.

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