SEAK LIGHTING CONTROLS

SEAK

19% of global energy consumption is for public lighting

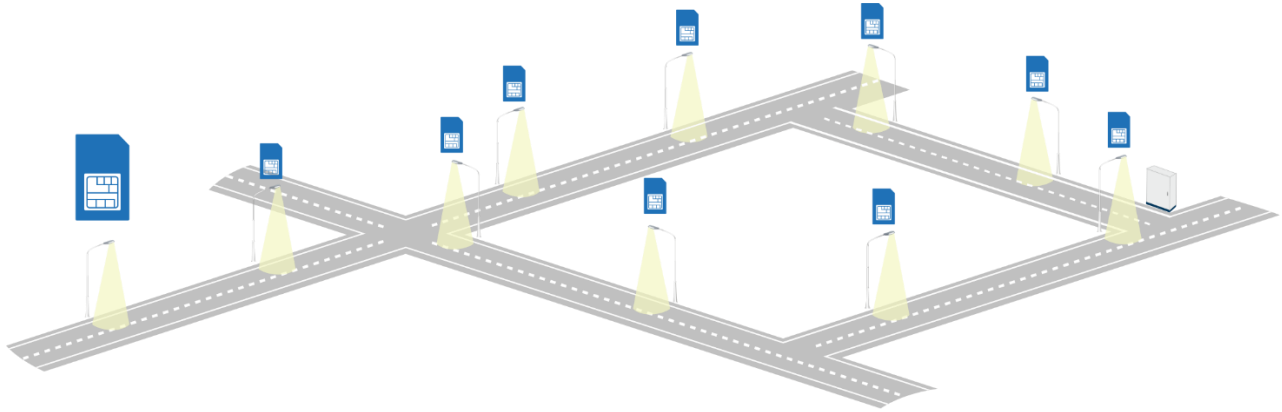
With smart lighting control we save typically 40% of that energy.

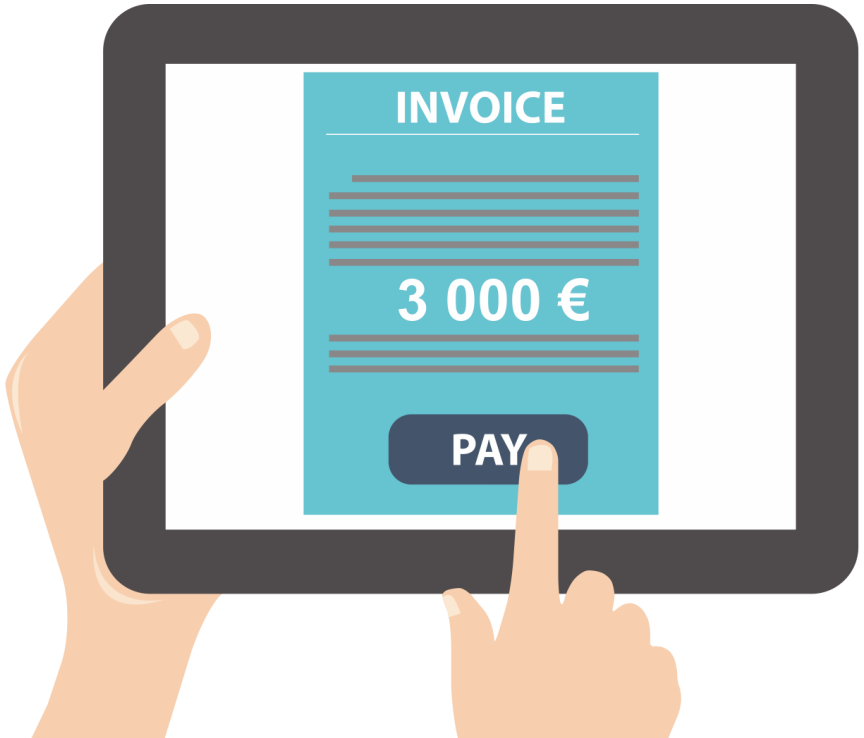
Good lighting cuts night-time crime by 39%*
* According to 2017 study The Impact of Street Lighting on Crime in New York City Public Housing, linking to http://urbanlabs.uchicago.edu/attachments/store/50eab357f0ee925539c8e72d1f0d6380d7ac0670bec31b63473c1dd7c5e2/Lights+report_10.20.17.pdf

Smart Lighting Control is nothing new

There are more solutions for lighting control

1 Based on GSM modul (SIM card) in each luminaire

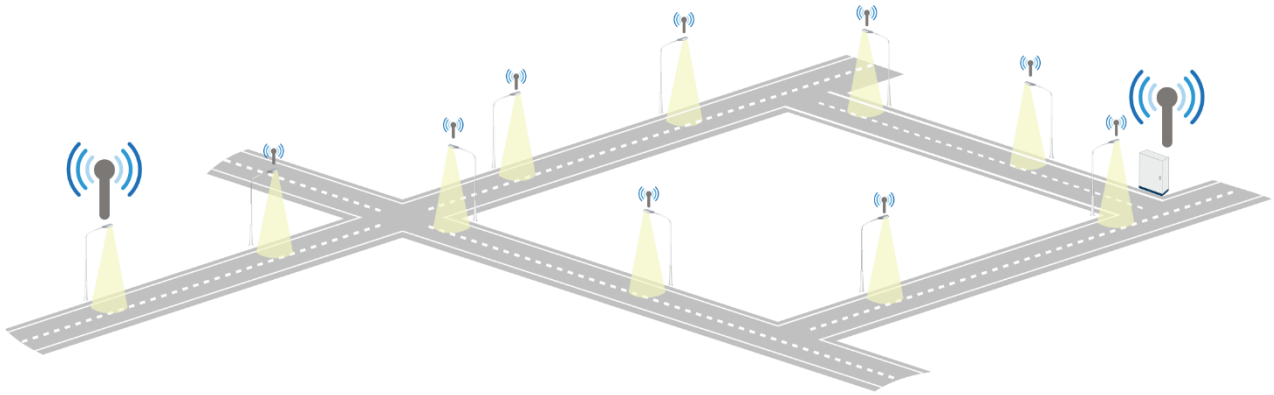


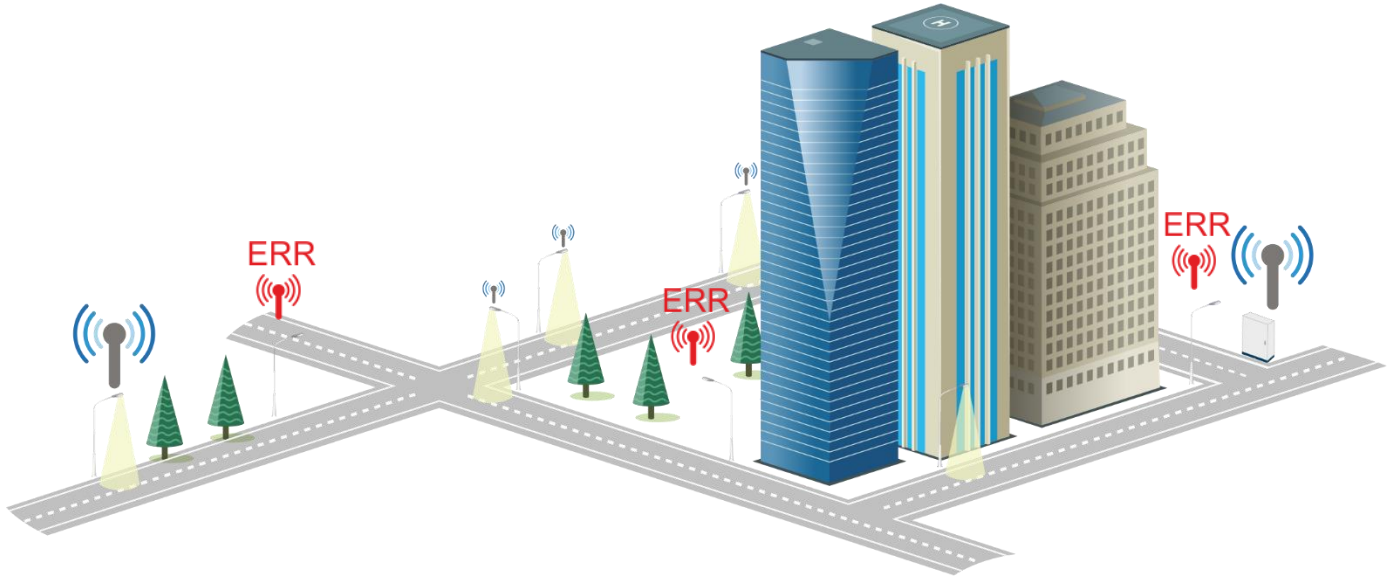


Expensive equipment +

Monthly costs

2 Radio mesh networks





Not stable

New building or tree...

3 SEAK powerline lighting control

We use existing 230V wires

to transmit control signals.

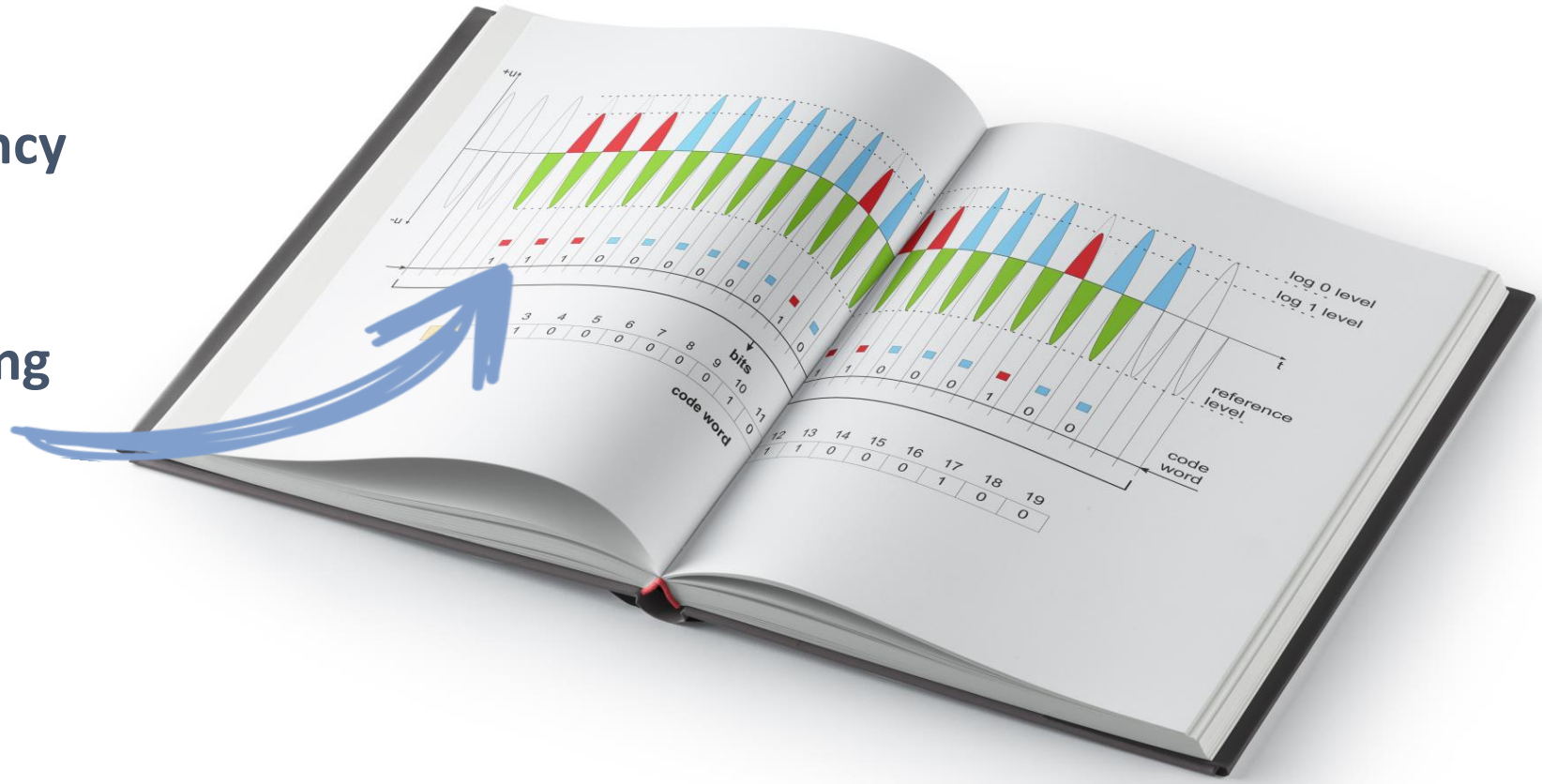
No new cables

No antennas needed

SEAK Powerline Technology

Base principle

Unique, original, low frequency powerline communication designed especially for lighting control.



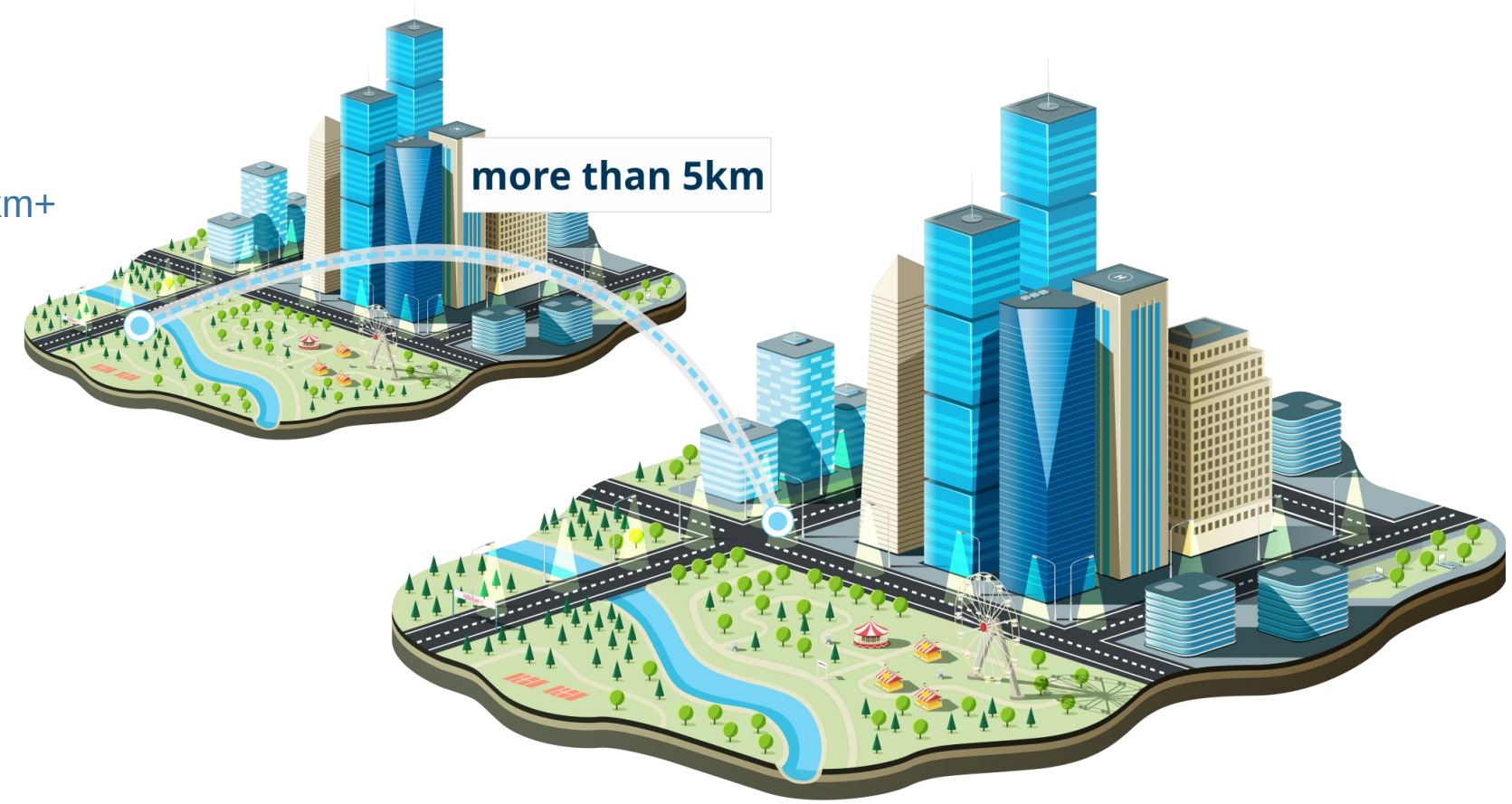
SEAK Powerline Technology

No repeaters

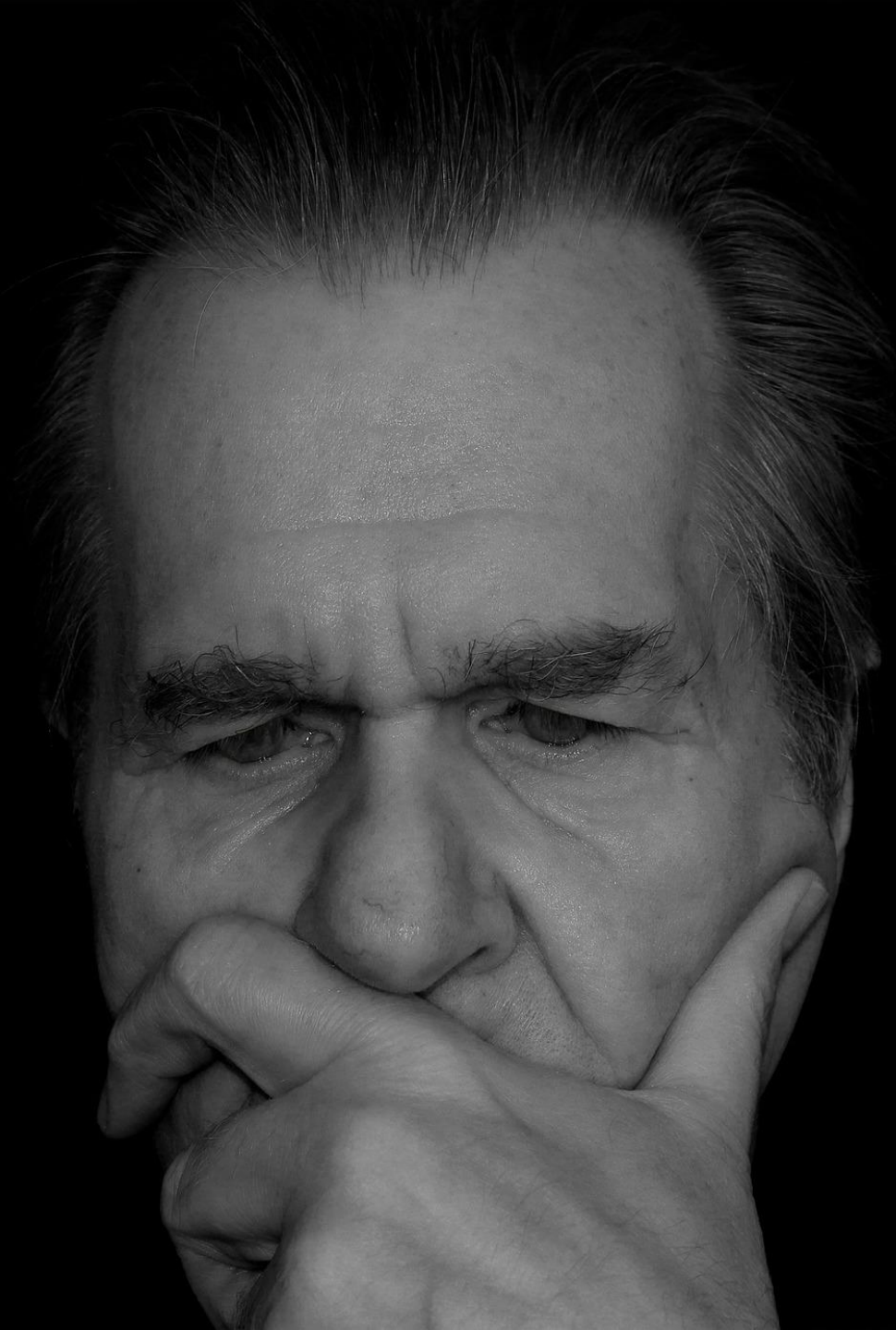
Maximum distance over powerline is 5 km+

Stability

Immune to noise on the powerline



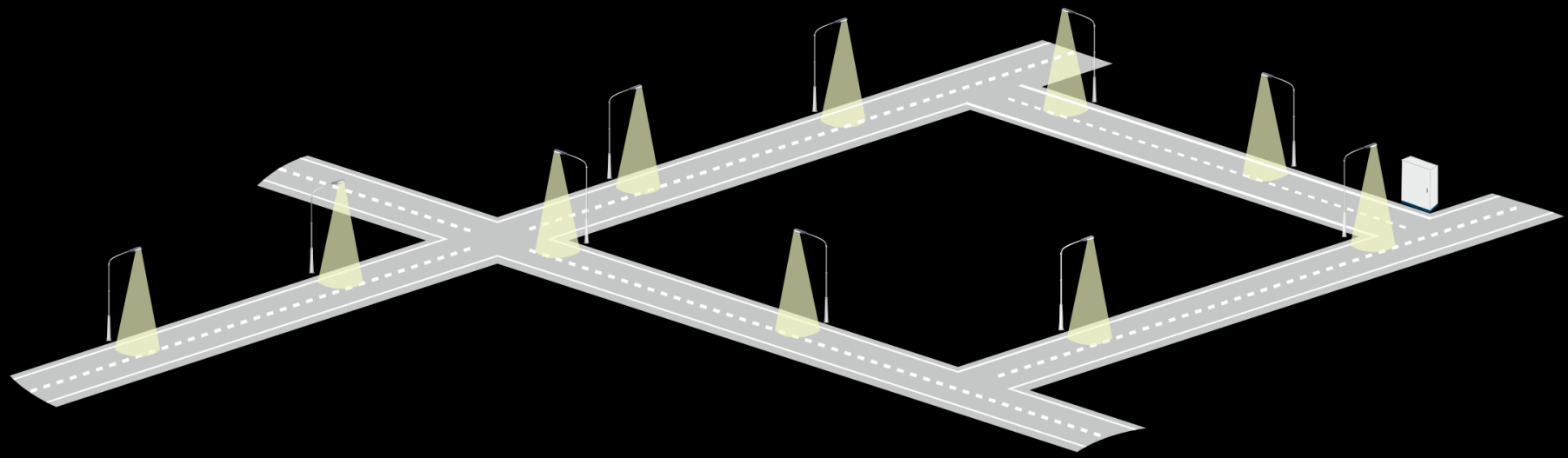
So – what is Smart lighting anyway?



SEAK Powerline Technology

What is Smart Lighting?

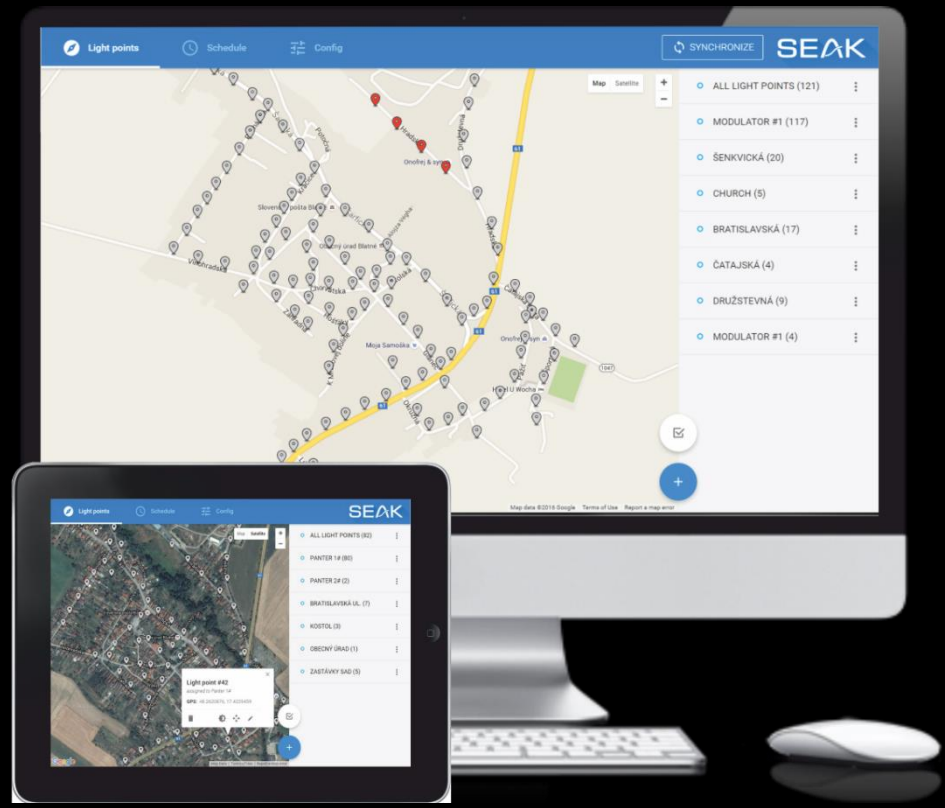
Remote control of each individual luminaire intensity 0% – 100%



SEAK Powerline Technology

What is Smart Lighting?

Remote diagnostics of each luminaire



Smart City Lighting

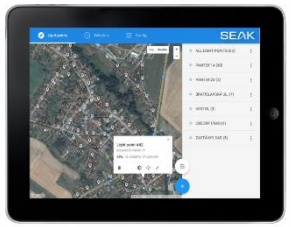
What is Smart Lighting?

Optimized automatic mode (twilight and motion sensors)

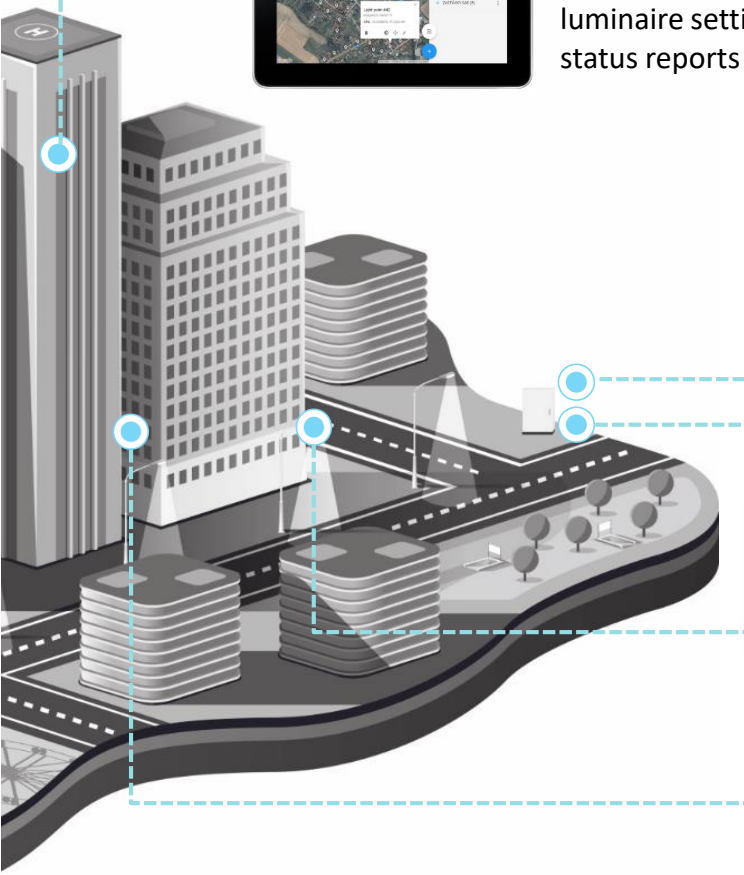
Energy monitoring and reporting

Additional sensors and applications

Outdoor Lighting Control



Software
StreetLite
User-friendly app to control all luminaire settings and receive status reports



LED DRIVER
SCC 30W - 250W
Connected to dimming module and wired to the LED. DALI or 0-10V.

RS485

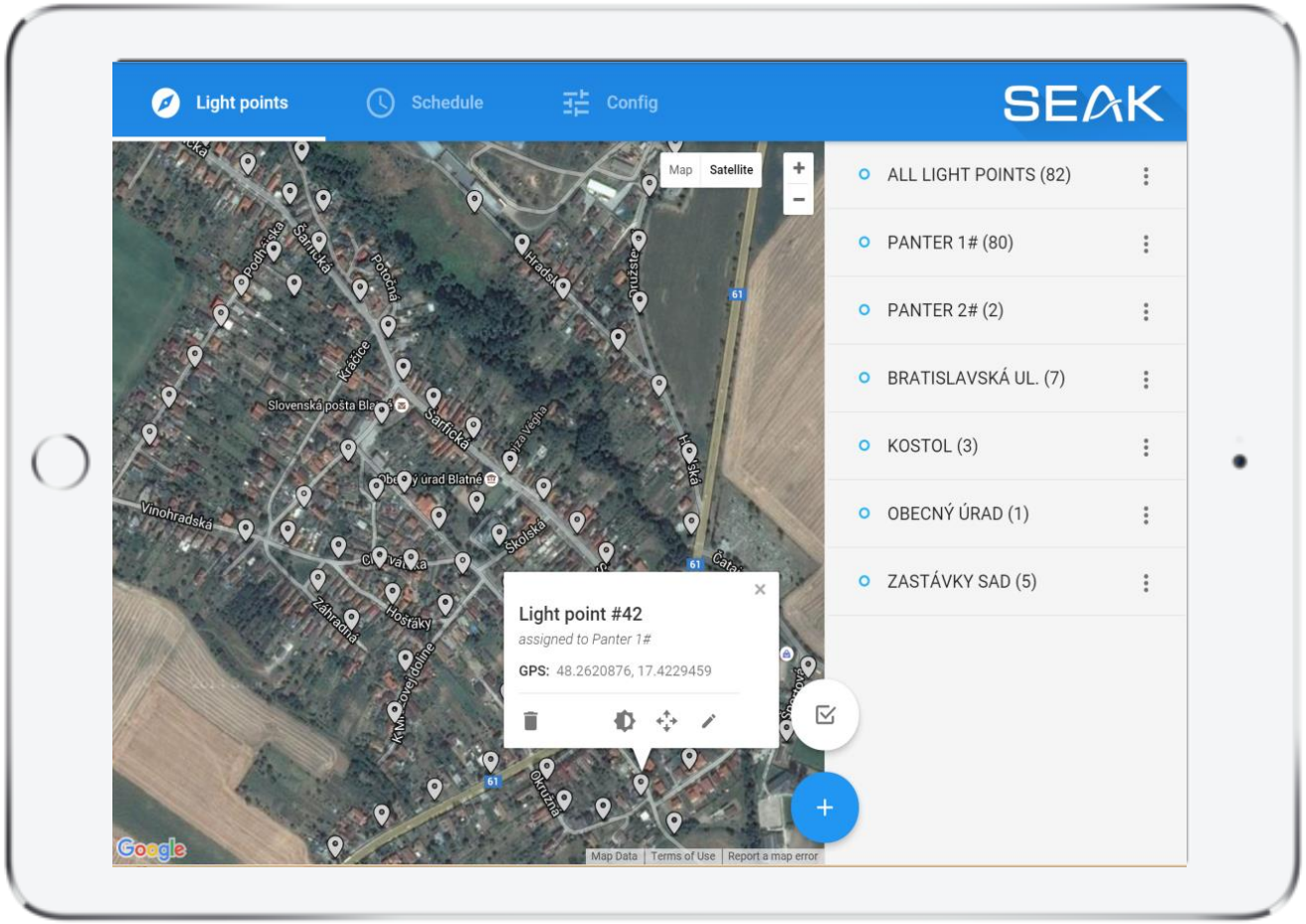
230V

Controller
LUMiMASTER SLC-NOM
Provides remote connectivity, management and automatic diagnostic functions in the system. Installed together with the LUMiBOX. Controlled via internet or SIM card.

Modulator
LUMiBOX SLM
Installed in a “cabinet”. Forwards control commands to up to 255 luminaires through the powerline, and receives status reports back from LUMiNODEs.

Dimming module (or demodulator)
LUMiNODE or LUMiBAR
Installed inside or on top of the luminaire, and wired to the LED driver. Reads commands from the powerline and (LUMiNODE only) controls the luminaire.

Outdoor Lighting Control



Control & Manage

Use cloud app to do the rest

- Define groups of lamps (main street, park, residential, …)
- Define dimming schedules for each group
- You can change it anytime, remotely
- See in reports how much you’re saving

Indoor lighting application advantages

Great for industrial and commercial halls

Achieve best ROI with lighting upgrade

Guaranteed lux levels at minimum cost

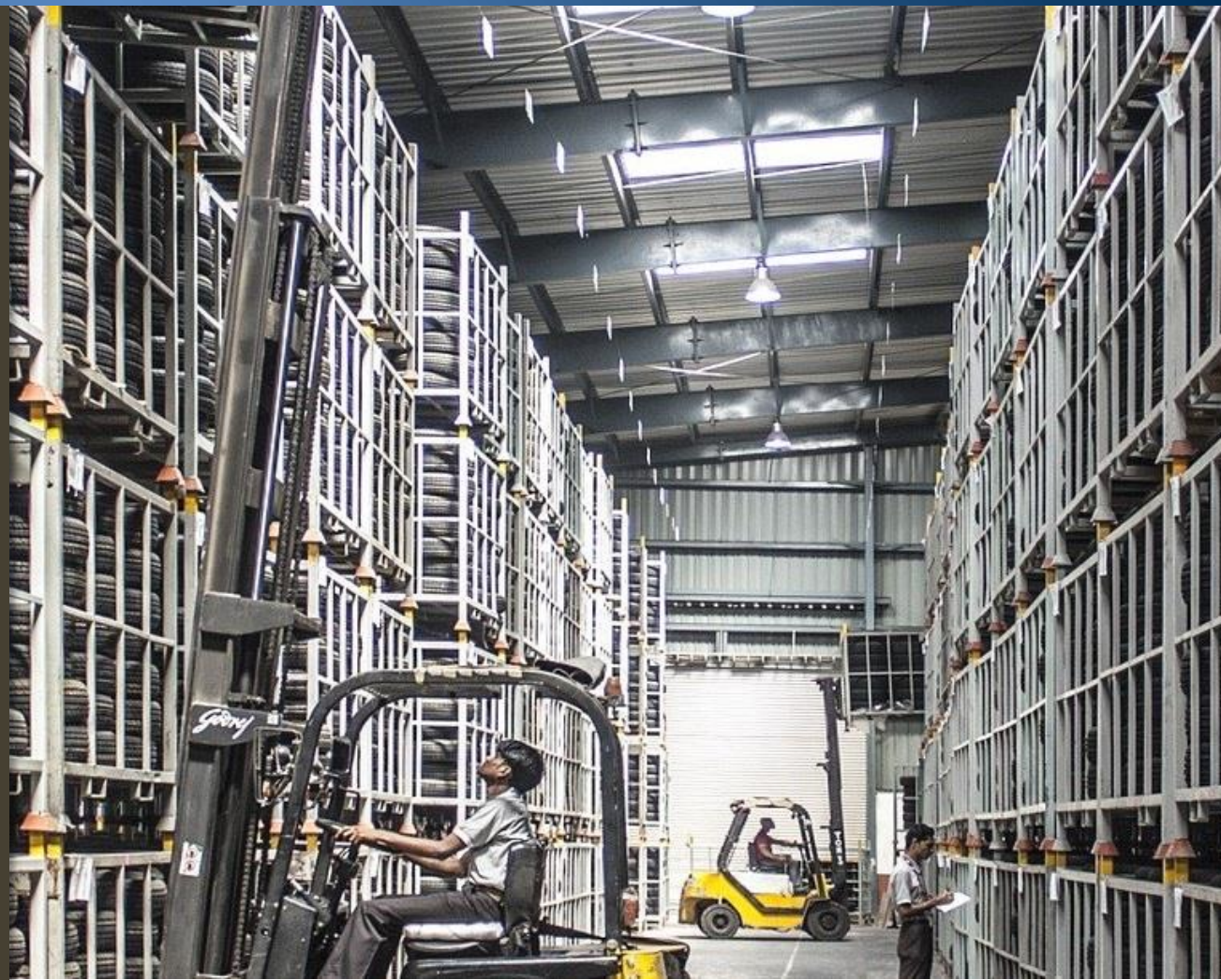
Lights seamlessly adjust to maintain desired illumination

Integrating motion sensors, too

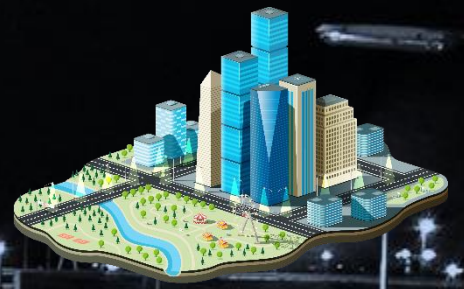
Simple and effective

Retrofitting of old fixtures with smart LEDs

Dynamic lighting groups regardless of cabling



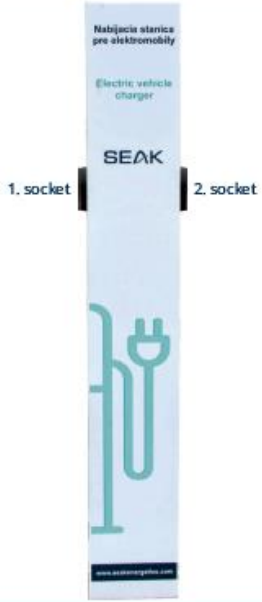
LUMiCHARGER



An affordable public lighting AC electric vehicle charger – 22 kW

SEAK system is now extended to support EV chargers mounted on lamp poles, that would communicate with our lighting control system to negotiate the power available for EV charging.

LUMiCHARGER WM
Ordering code: LMCHWM
Wallbox, metal



LUMiCHARGER S2S
Ordering code: LMCH2S
Selfstanding pole with 2 sockets

LUMiCHARGER LP
Ordering code: LMCHLP
Module to be integrated into lamppost

Smart lighting & EV charging using existing power lines

Example of the use

Day: Luminaires at 0 %

Line capacity: 16 kW

Charging: 8 kW | Charging: 8 kW

Smart lighting & EV charging using existing power lines

Example of the use

Night: Luminaires at 80 %

Line capacity: 16 kW

Light: 5 kW

Charging: 11 kW

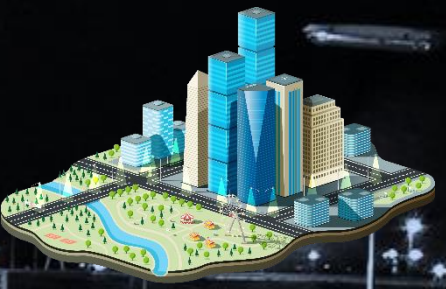
International smart award

ZLATÁ MEDAILE urbis 2018

At Urbis Smart City 2018, the LUMiCHARGER won the Urbis Gold Medal Award for the most innovative Product, when the **commision appreciated** "**the simple deployment of charging stations into existing public lighting network** without the need to install additional communication or power cabling with automated electrical load balancing with the lighting system."

Four new LUMiCHARGER - electric vehicle chargers (4x Mennekes Type 2) installed on Metodova Street in Presov

Lumicharger vs Standard Chargers



At the price of one DC charger it is possible to build a network of more than 50 AC chargers in the lighting poles in residential area

Four new LUMiCHARGER - electric vehicle chargers
(4x Mennekes Type 2) installed on Zelezna Studienka in Bratislava

Installed Base

Over 600.000 luminaires controlled by SEAK technology

Spain

- Barcelona
- Cordoba
- Sevilla
- Valencia
- Malaga

Austria

- Massendorf

UK

- London – M25 motorway
- Aberdeen

Czechia + Slovakia

- Indoor lighting controls Tesco
- Indoor lighting controls Volkswagen
- 70+ cities in CZ and SK

Ukraine

- Kiev (pilot)
- Mena
- Kharkov (pilot)
- UHLK
- Radiy

Prešov

- SEAK HQ

Serbia

- Plandiste

Russia

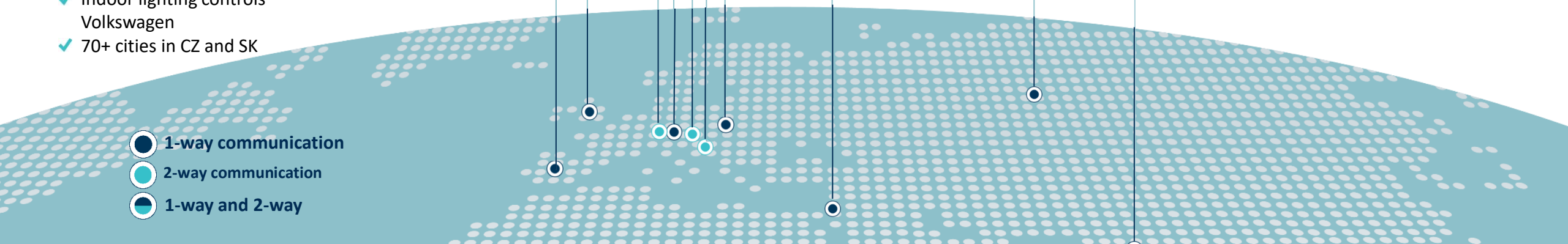
- Uralskyj
- Astrachaň

Israel

- Tel Aviv
- Rosh Haayin
- Hadera
- Atlit

India

- Thane (pilot)



1-way communication

2-way communication

1-way and 2-way

Street lighting control

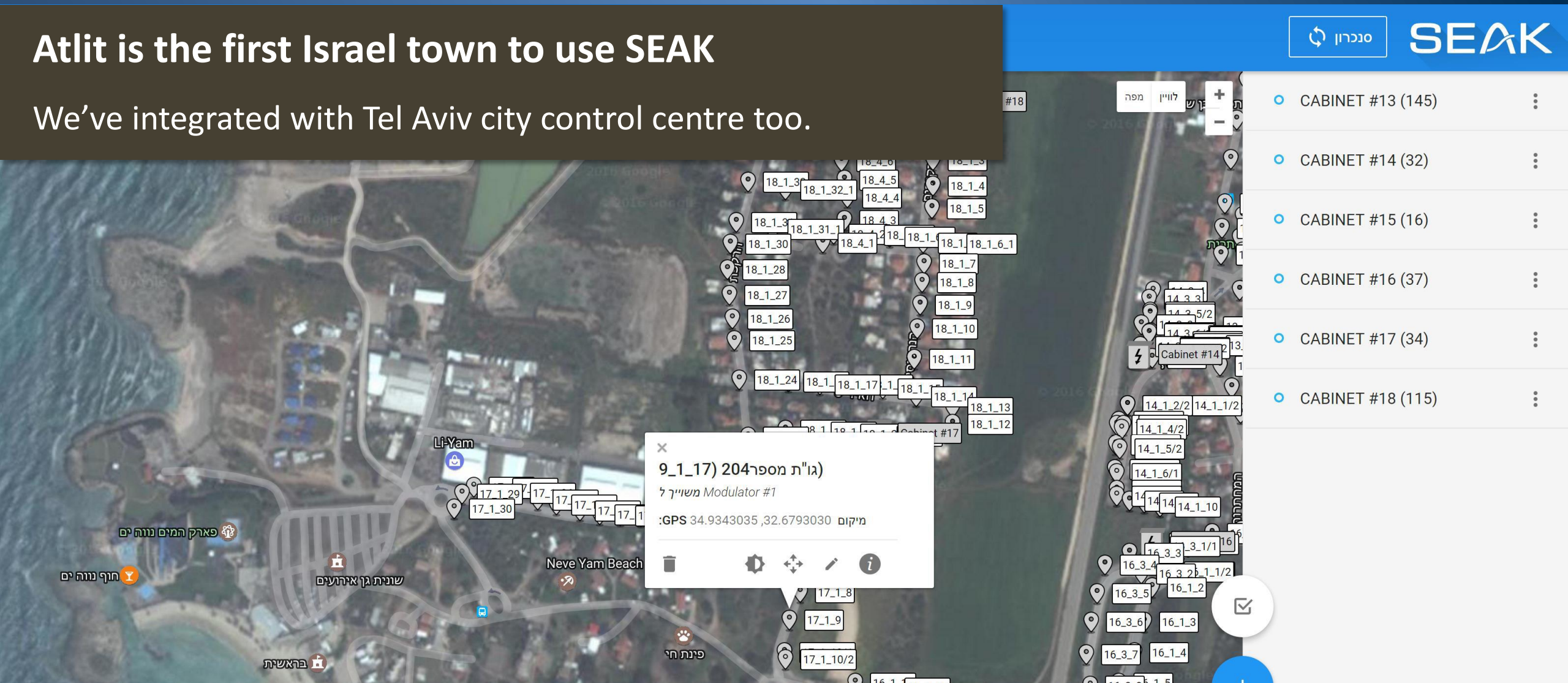
Over 70 cities in Czech Republic and Slovakia

Save 30-40% of energy with SEAK Street light control

Street lighting control

Atlit is the first Israel town to use SEAK

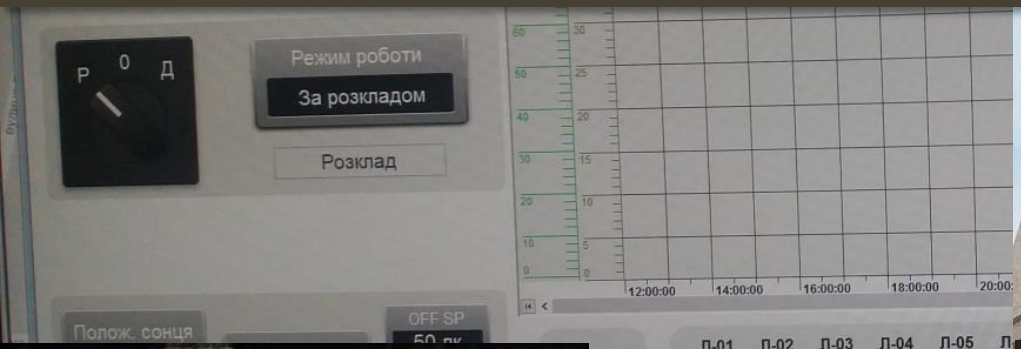
We've integrated with Tel Aviv city control centre too.

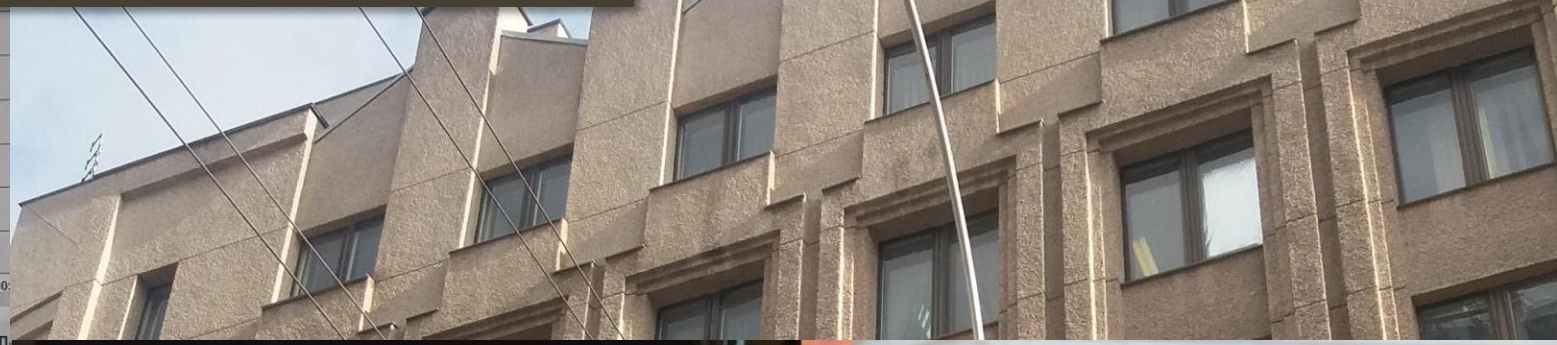


Street lighting control

Smart lighting for Kiev and Mena in UA

Control lighting and saving energy in existing HID lamps, staged change to LED luminaires





Industrial lighting control

Volkswagen

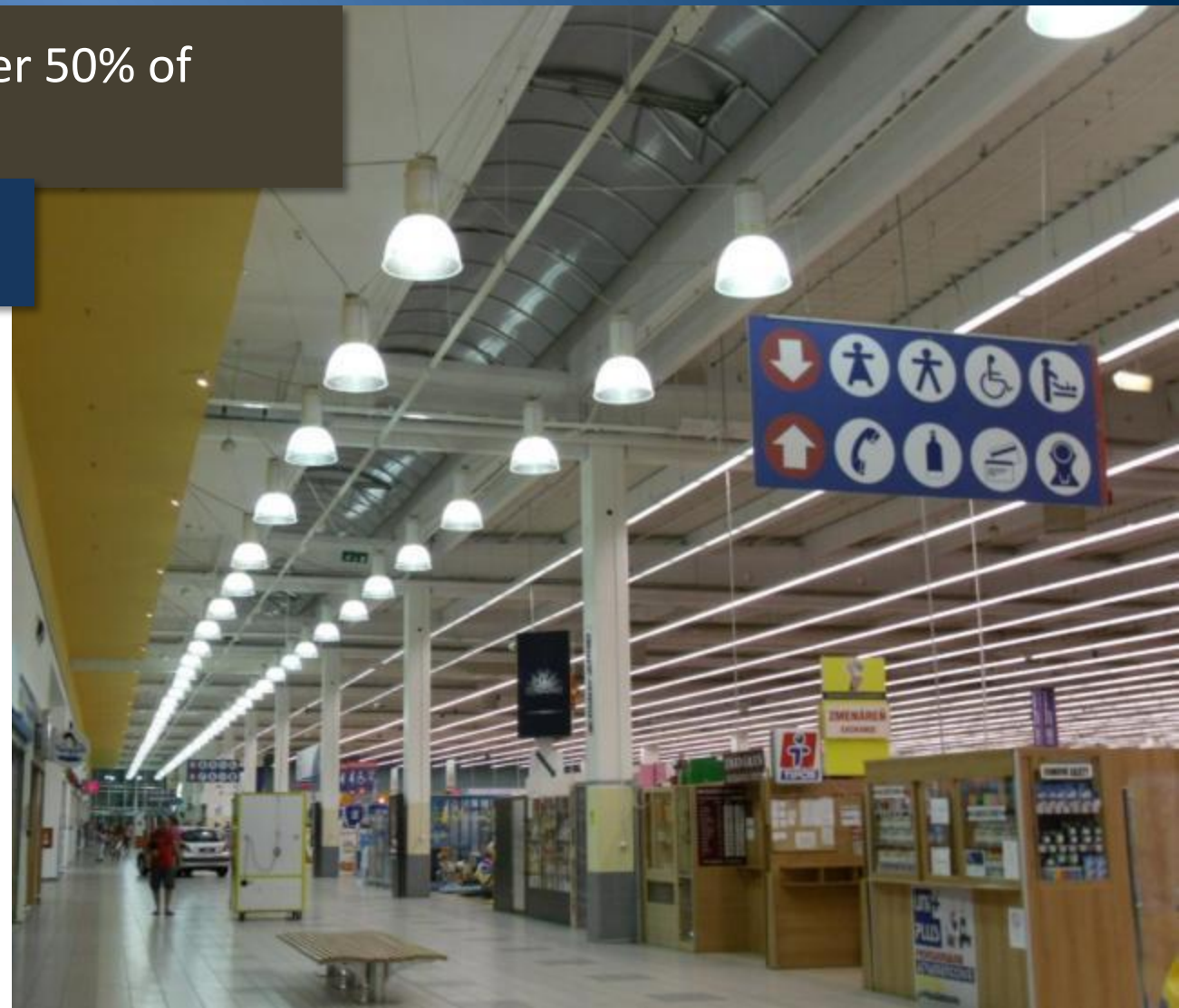
Updated lighting system reduced VW energy consumption by 1 020 MWh each year.

Outdoor and Indoor Lighting

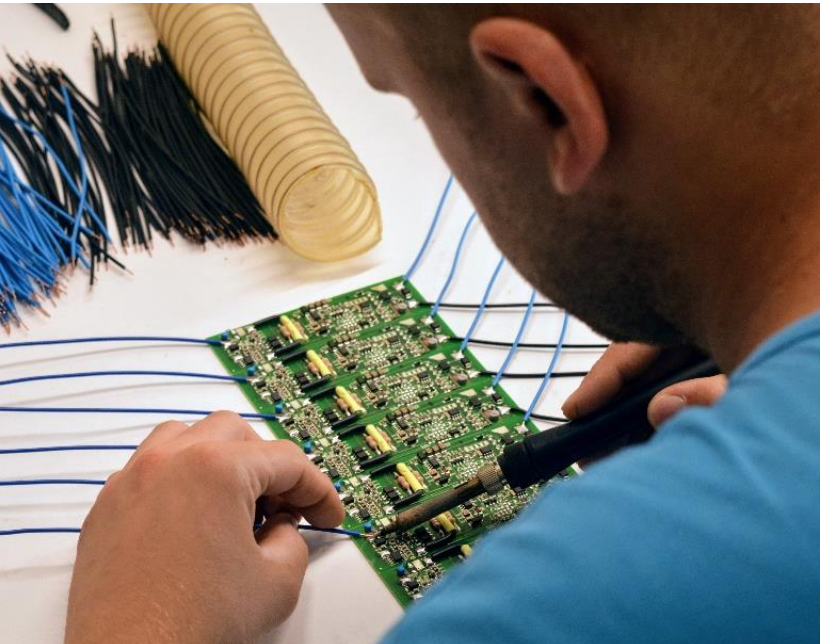
Commercial lighting control

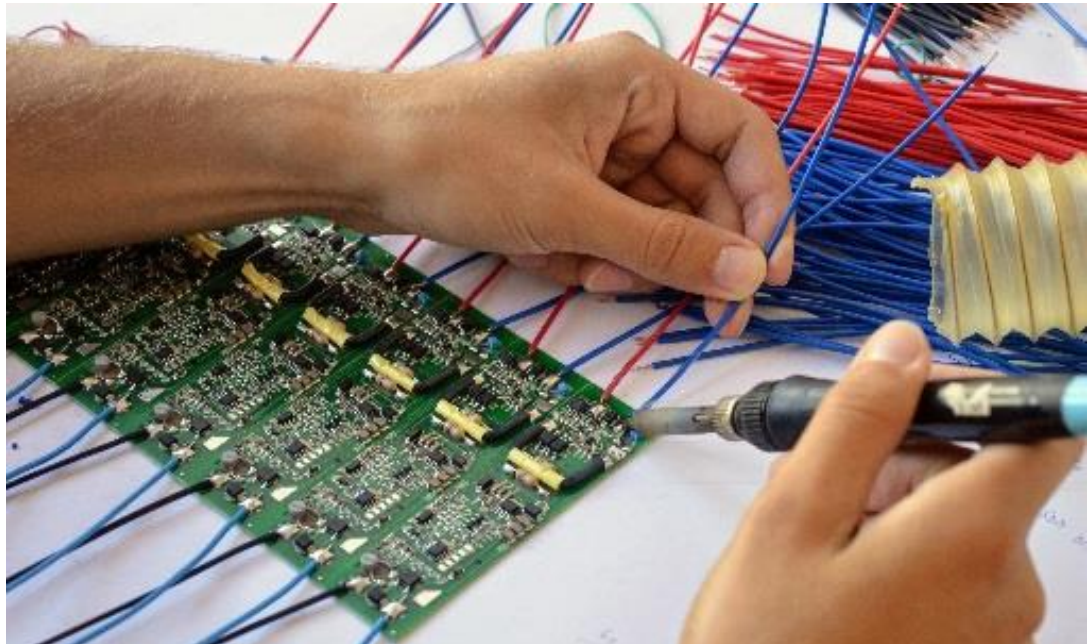
Majority of Tesco stores in CZ and SK are saving over 50% of energy costs and maintenance.

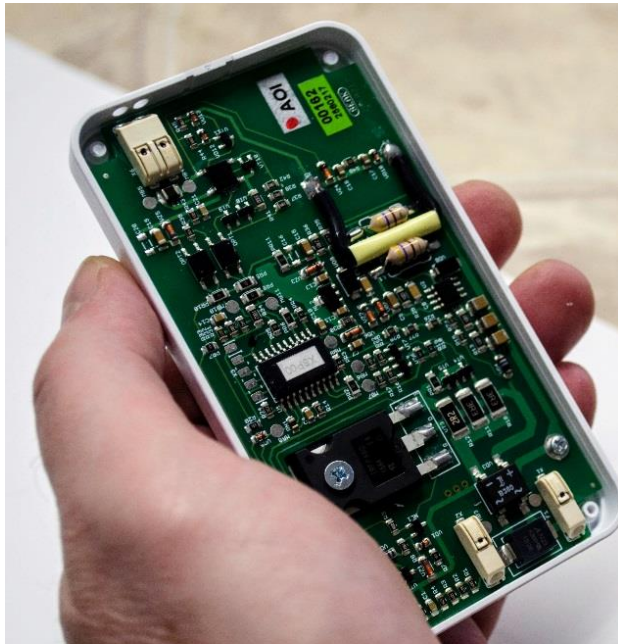
Sales Area, Shopping Mall, Parking



Facility







How much do you pay for lighting?

Thank you.

SEAK

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CEO