

An aerial view of a city skyline at dusk. The sky is a mix of orange, yellow, and blue. In the foreground, several skyscrapers are prominent, some with lights on. The city below is densely packed with buildings, and the lights of the city are visible. The overall scene is a vibrant urban landscape.

MICROSENS

**COMPANY
PRESENTATION
2020**

CONTENTS

- THE COMPANY
- PoE++ or IEEE 802.3bt
- Dali
- Standard Switched Luminaires
- Different types of SLC
- Building/Room Automation
- Functionalities



THE COMPANY

HIGHLIGHTS

- Founded in 1993
- euromicron group 2006 - 2019
- Zech Group Digital since 2020
- Research & Development (Hamm, Frankfurt, Wroclaw)
- Internal production line (Hamm)
- International Business, subsidiäres in France (Paris) & Poland (Wroclaw)
- Technology partner of renowned manufacturers such as Dräger Medical, Mobotix etc.
- Project and customer orientation with high success rate



**25+ YEARS
EXPERIENCE**

**100+
EMPLOYEES**

**WORLDWIDE
PRODUCT USE**

MICROSENS


BUSINESS SECTORS

NETWORK COMPONENTS

- Enterprise Networks
- Industrial Solutions
- Optical Transport

SMART BUILDING SOLUTIONS

- Network Embedded Automation
- PoE Lighting
- Room Automation
- Professional Lighting System



**NEXT GENERATION
OF NETWORKING
AND AUTOMATION**

MICROSENS

NETWORK COMPONENTS

ENTERPRISE NETWORKS



INDUSTRIAL SOLUTIONS



OPTICAL TRANSPORT



- FTTO – Fiber To The Office-concept
- BFOPs – Basic Fiber Optic Products
- Network Management Platform

- Components for use in harsh environments
- Reliability
- Resilience
- Ring redundancy

- Large-scale site networking
- Coupling of data centers
- Wide Area Networks
- Security/real-time encryption

MICROSENS

■ made
■ in
■ Germany

PROFI LINE RACK



- 16x Gigabit Copper, PoE+ sourcing
- 1x Gigabit Copper, PoE+ powered
- 8x SFP Dual Media (Dual Ring)

PROFI LINE MODULAR



- 8/12/16x Gigabit Copper, PoE+ sourcing
- 1x Gigabit Copper, PoE+ powered
- 4/6/8x SFP Dual Media (Dual Ring)

INDUSTRIAL SWITCHES

PROFI LINE+



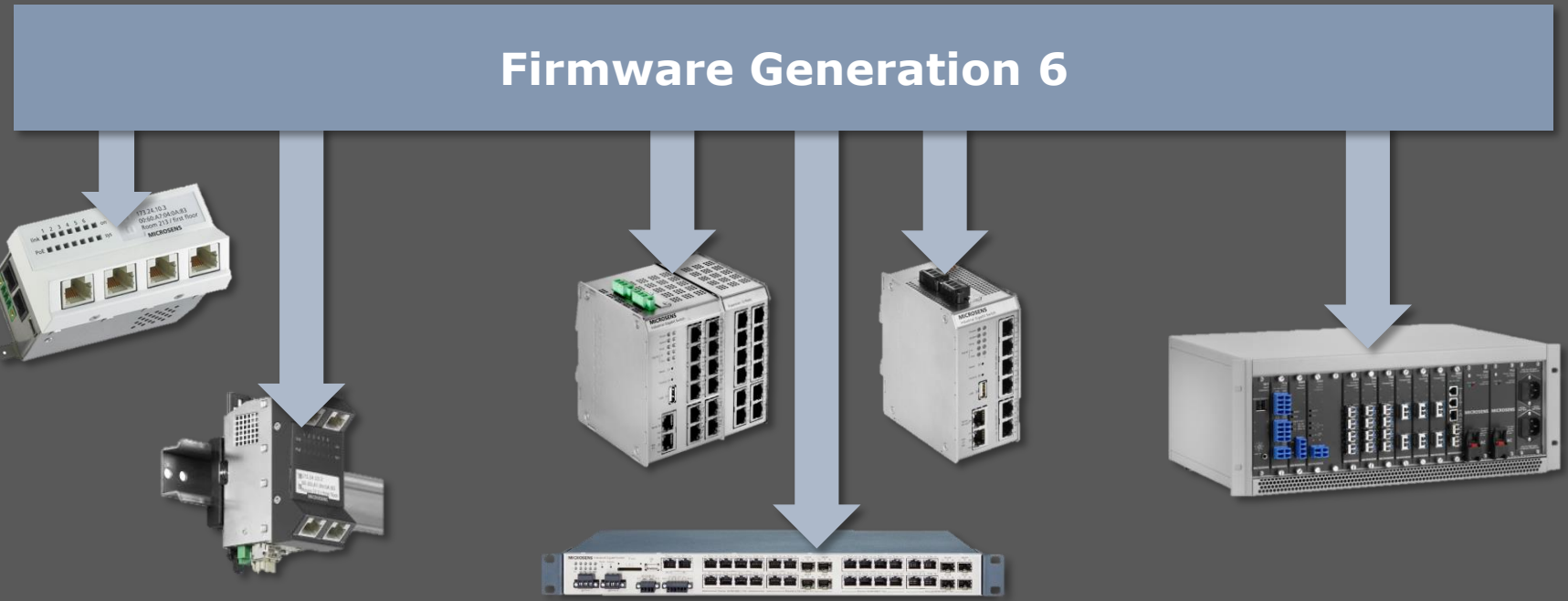
MICRO SWITCH RUGGEDIZED



- 4/5x Gigabit Copper, PoE+ sourcing
- 1(2)x SFP (Ring)

MICROSENS

UNIFIED FIRMWARE



ENTERPRISE NETWORKS

- Micro Switch
- Micro Switch Ruggedized

INDUSTRIAL SOLUTIONS

- Profi Line Modular
- Profi Line+
- Profi Line Rack

OPTICAL TRANSPORT

- MSP 1000 Chassis
- NM3 Management Module

MICROSENS

Software



Firmware
G6
SLC
CLC
SIO



Smart Director
App



Micro RTS



Smart Building
Manager



Smart I/O
Controller

PoE or IEEE 802.3bt

Standard according to IEEE

- Interoperability between devices and vendors
- Class 1-8 from 3W up to 90W PSE
- 1W up to 71 PD
- 42,5–57 V Distributed
- 1000baseT Ethernet
- CAT5 for installation AWG24

SLC2 Poe+ Class 4

30W PSE 27W PD

SLC3 Poe++ Class 7

60W PD / 51W PSE

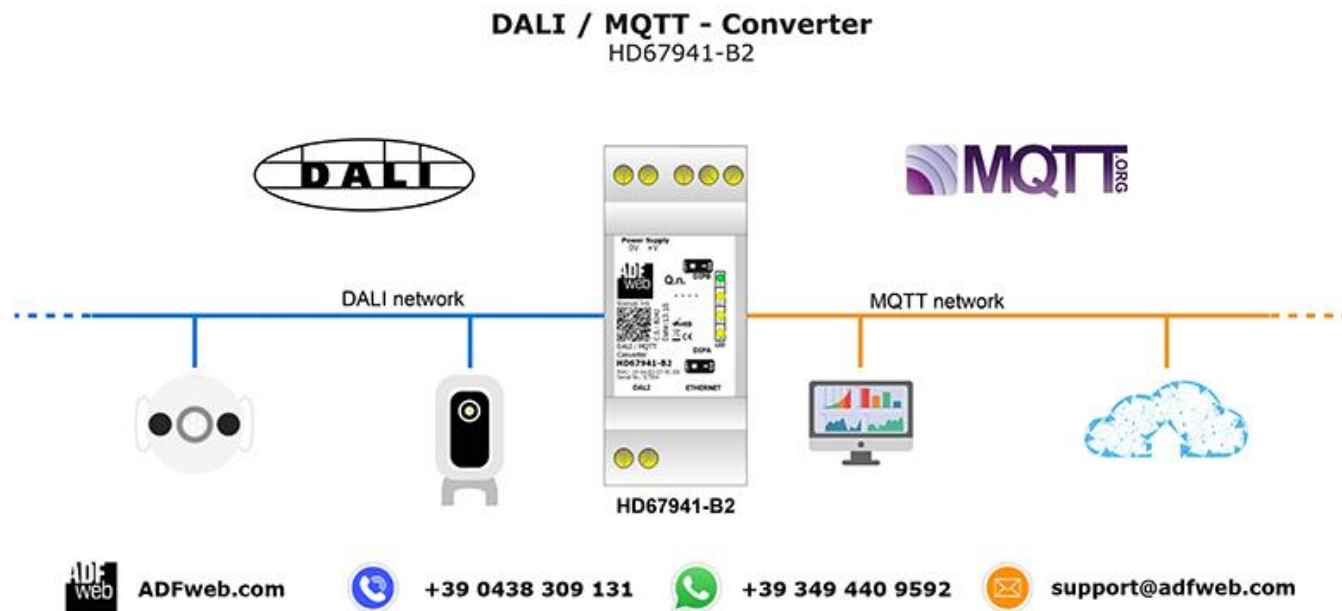
SLC4 Poe++ Class 7

60W PD / 51W PSE

DALI2 IEC 62386-1xx IEC 62386-2xx

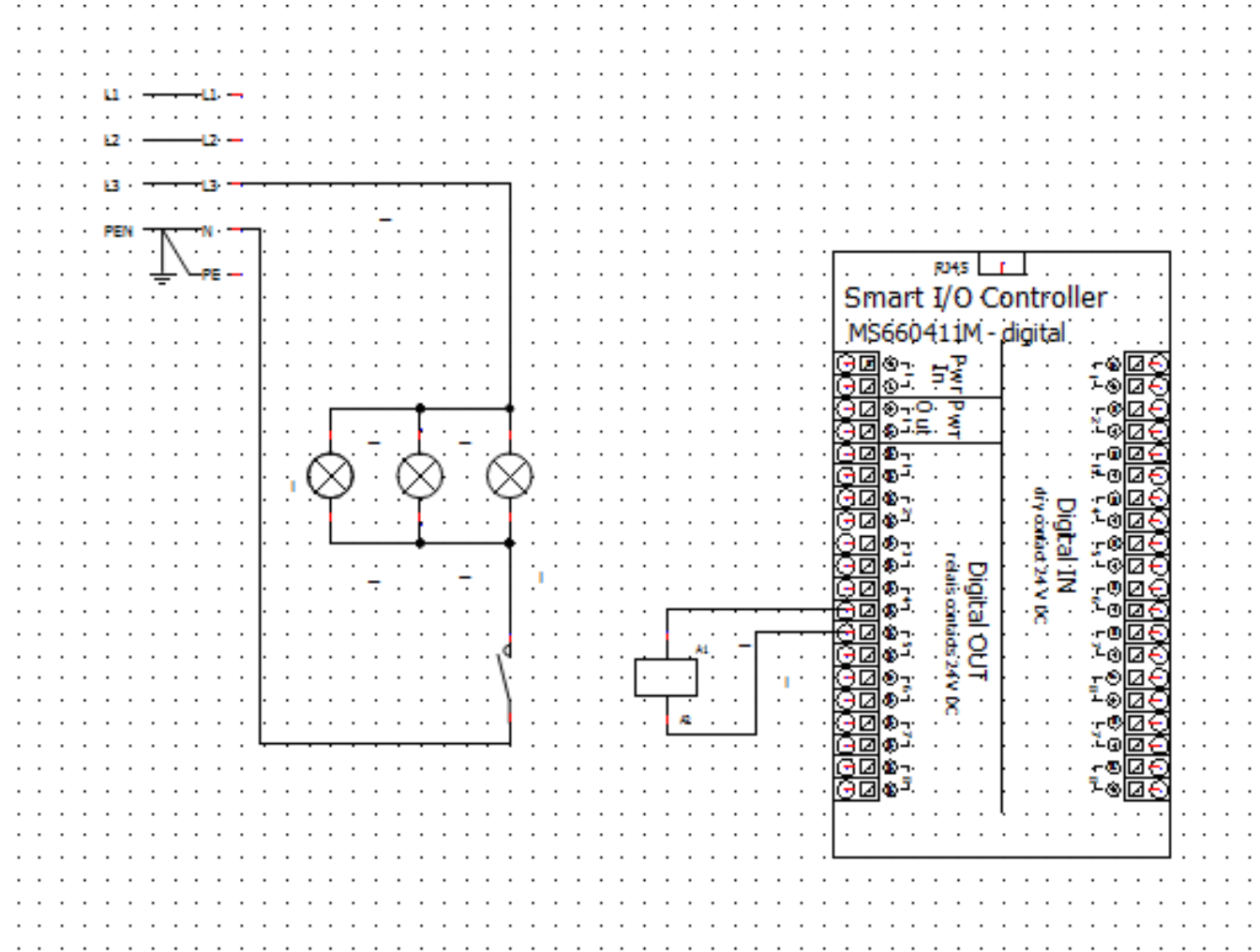
Standard according to IEEE

- Interoperability between luminaires and sensors of dif. vendors
- Per Channel up to 64 Ballast
- Per Channel up to 64 Sensors
- Max 250 mA
- 16 Groups
- With 1,5 mm²-wires max 300 m.



Standard Luminaires

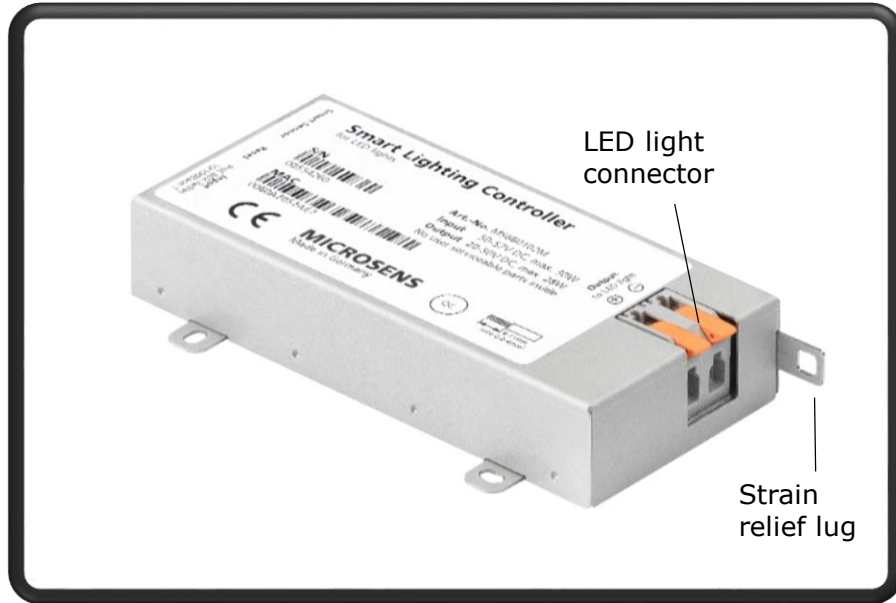
- Mains is switches by relais
- The relais are controlled by local SIOC
- 8 Switching outputs
- 24V DC Distribution included
- 20W max Power
- 35mm rail mountable



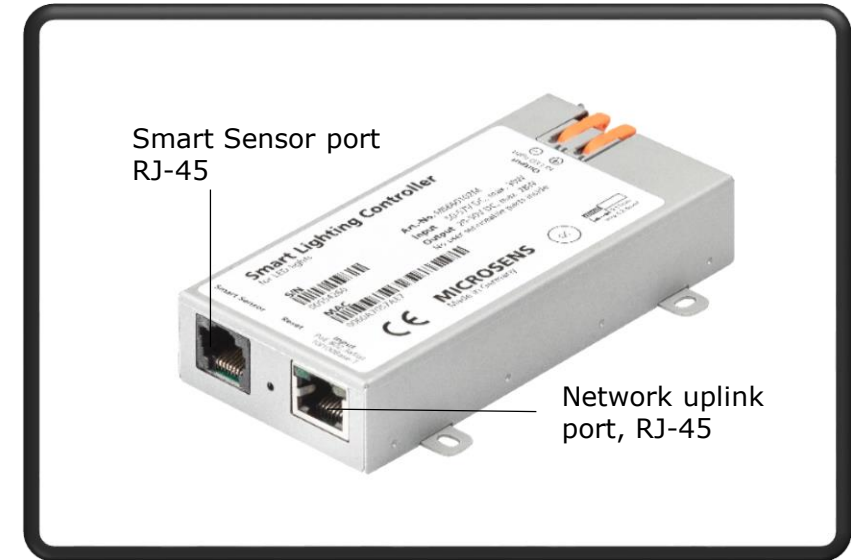
Hardware

Smart Lighting Controller

MS660102M



- 1 SLC per standard LED lamp
- 2 SLCs for tunable white LED
- 3 SLCs for RGB LEDs

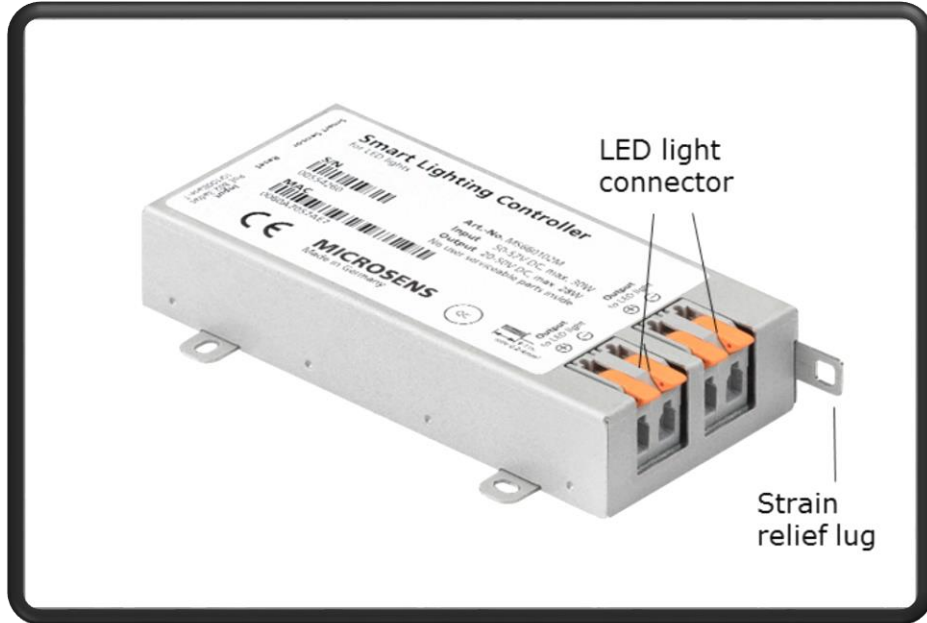


- Power output: max. 28 Watts, 20...50 VDC, max. 1 A
- Voltage sets automatically depending on connected LED, current is set during calibration
- Cable from PSE may not extend 30 m for full power output

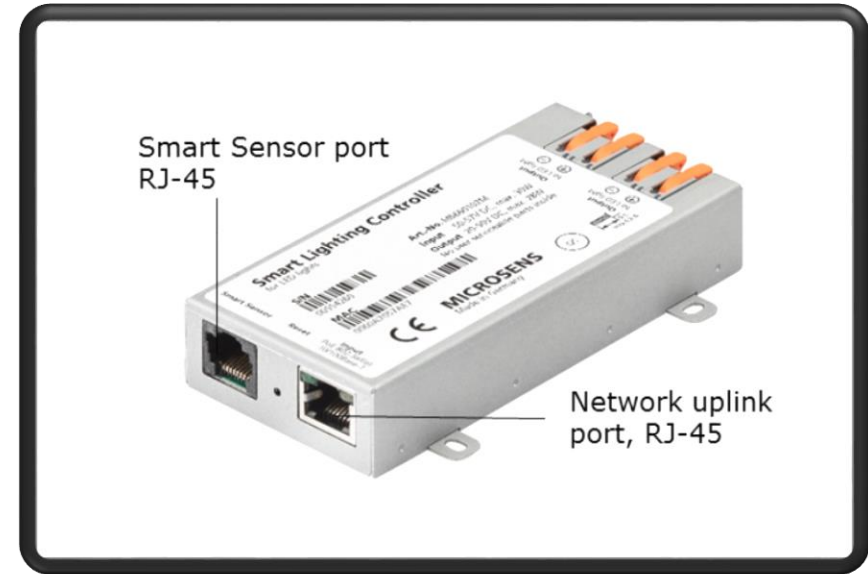
Hardware

Smart Lighting Controller

MS660103M



- 1 SLC per standard LED lamp
- 1 SLCs for tunable white LED

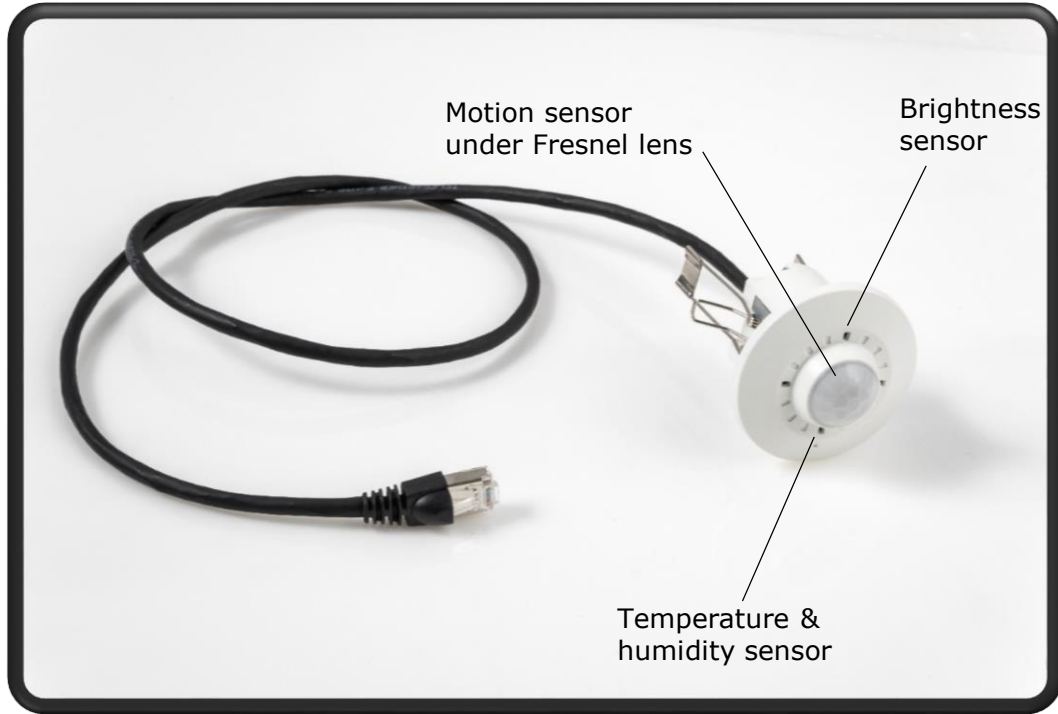


- Power output: max. 50 Watts, 20...54 VDC, max. 1 A
- Voltage sets automatically depending on connected LED, current is set during calibration
- Cable from PSE may not extend 30 m for full power output
- Dual Output for Dualtone

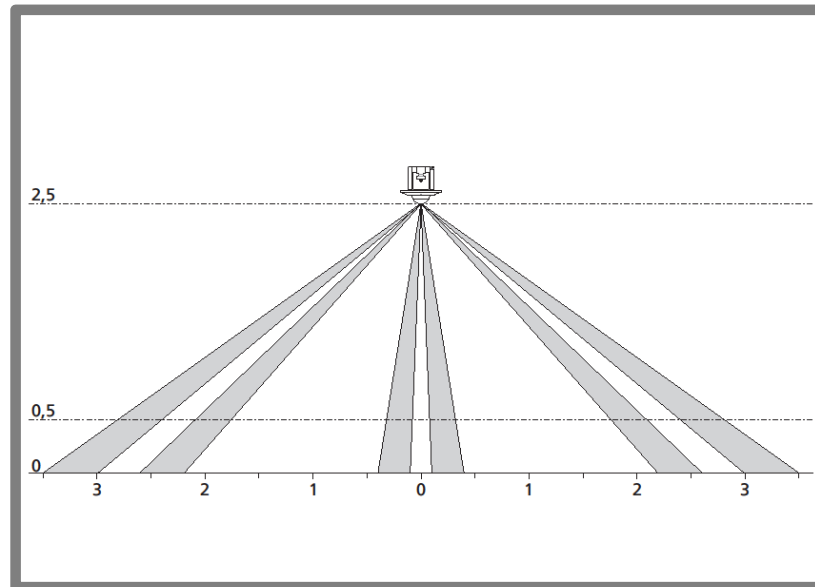
Hardware

Smart Sensor

MS660202



- Measureands
- Ambient light level
- Presence (Movement)
- Temperature
- Humidity



Hardware

Central Smart
Light Controller

MS660302



- All in one
 - Automation Layer
 - Network Layer
 - Fieldlayer
- Structured Cabling
- 24 Luminaires (50W)
- 24 Senors
- Rackmount

SMART LIGHTING

LIGHT PROVIDED BY THE NETWORK

- Lighting is integral part of the IT network
- Intelligent control and monitoring
- Simple integration of sensors for environmental parameters
- Use of sensor data for advanced services



**ENERGY
EFFICIENT**

**REDUCED
MAINTENANCE**

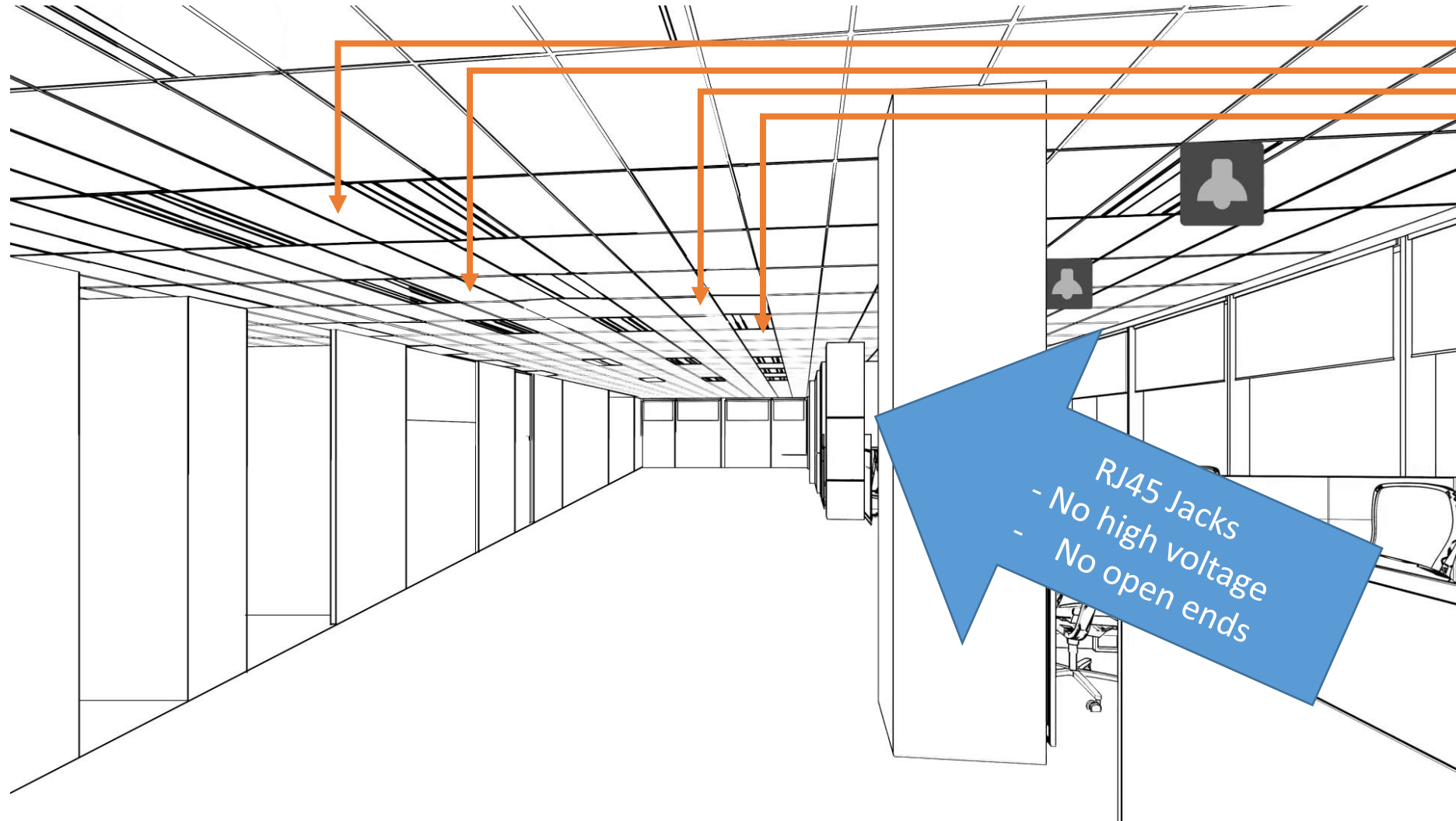
**PERFORMANCE
ENHANCEMENT**

**HUMAN CENTRIC
LIGHTING**

MICROSENS

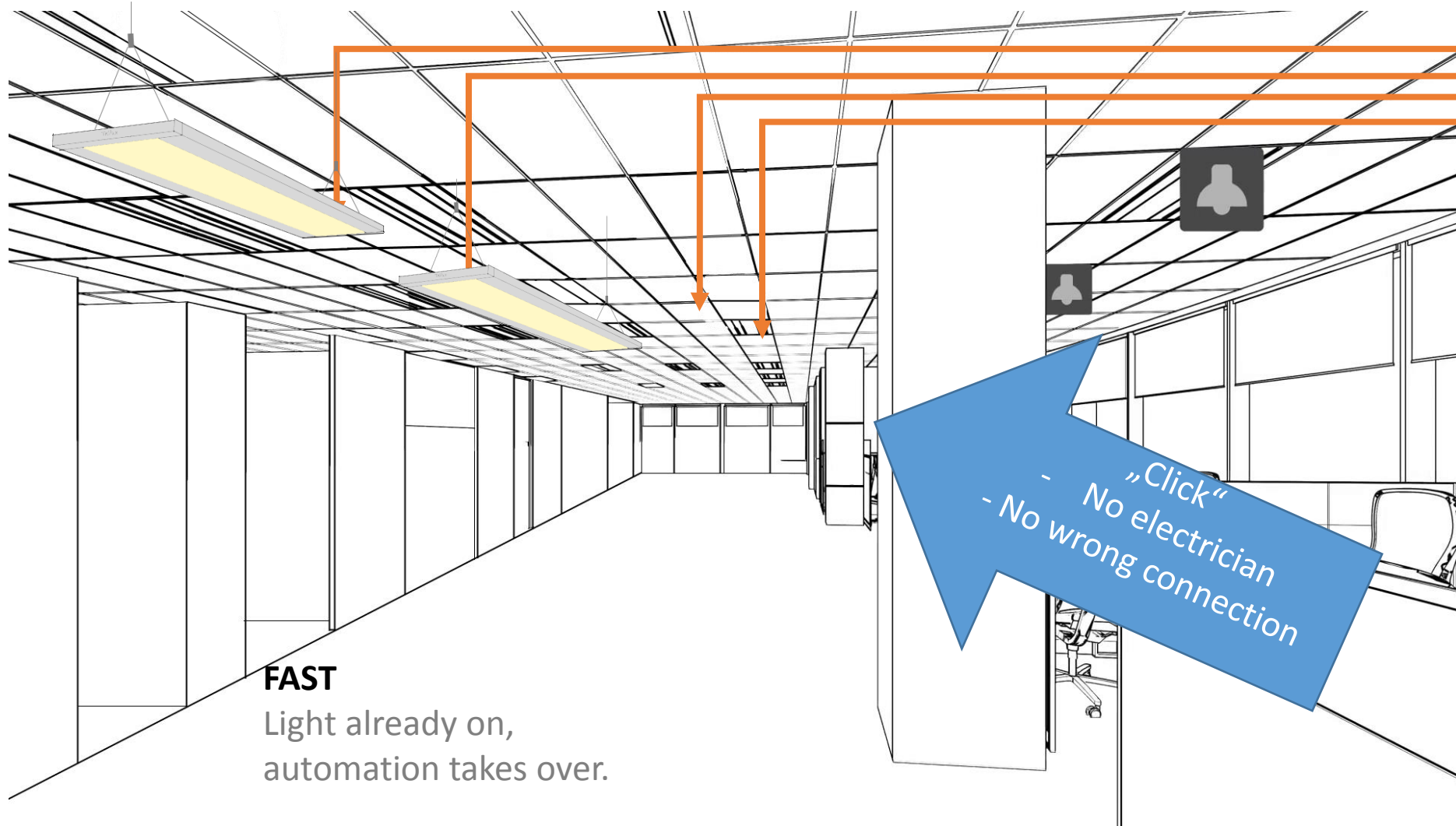
Project steps

Cable Installation



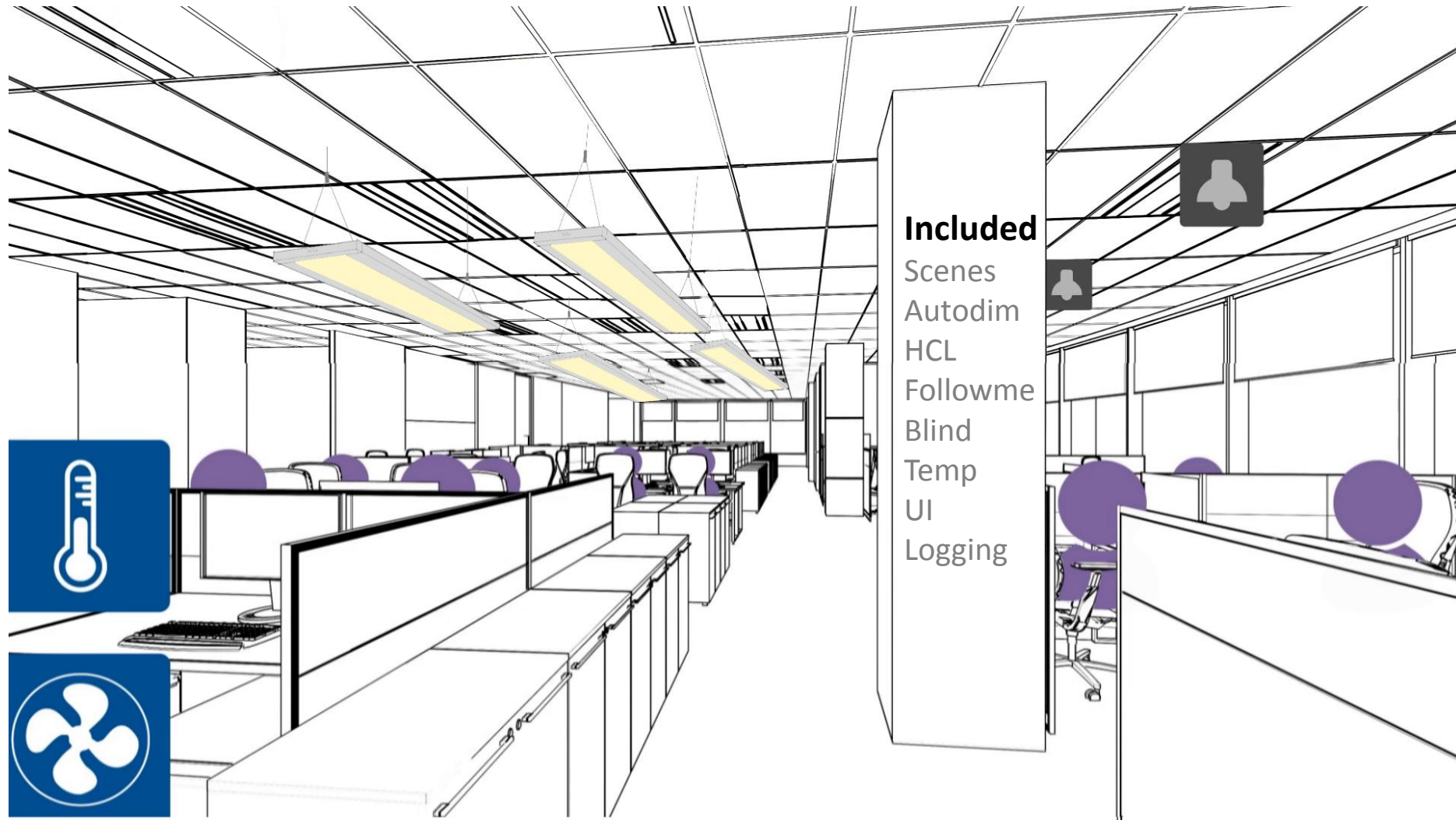
Project steps

Commissioning



Project steps

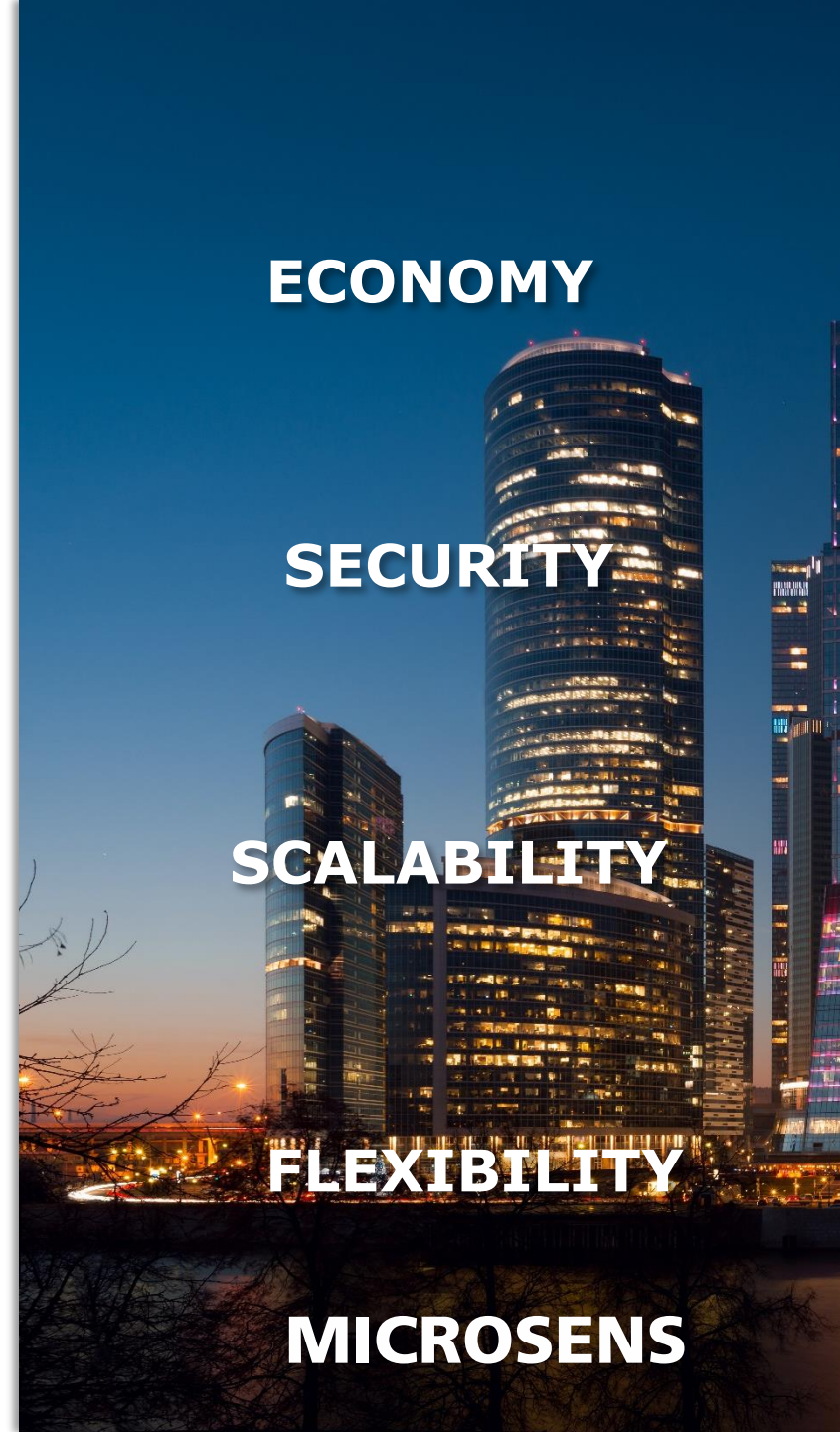
Operation



SMART BUILDING SOLUTIONS

Network Embedded Automation

- Economical by use of existing IT infrastructure
- High security by integration of established security protocols
- Low costs, short project durations due to room-in-room concept
- Conforms to EN 50173-6 standard



ECONOMY

SECURITY

SCALABILITY

FLEXIBILITY

MICROSENS

Hardware

Smart I/O
Controller

MS660401M



Analogue Input Ports

- 4x 0..10 V / 0..20 mA
- 2x PT100 / PT1000-compatible sensor ports

Digital Input Ports

- 4x opto coupler, max. 24 V

Analogue Output Ports

- 2x 0..10 V, combined maximum current: 1A

Digital Output Ports

- 2x PWM (max 100Hz), open collector 24 V
- Combined maximum current: 1A

Input / Output Connectors

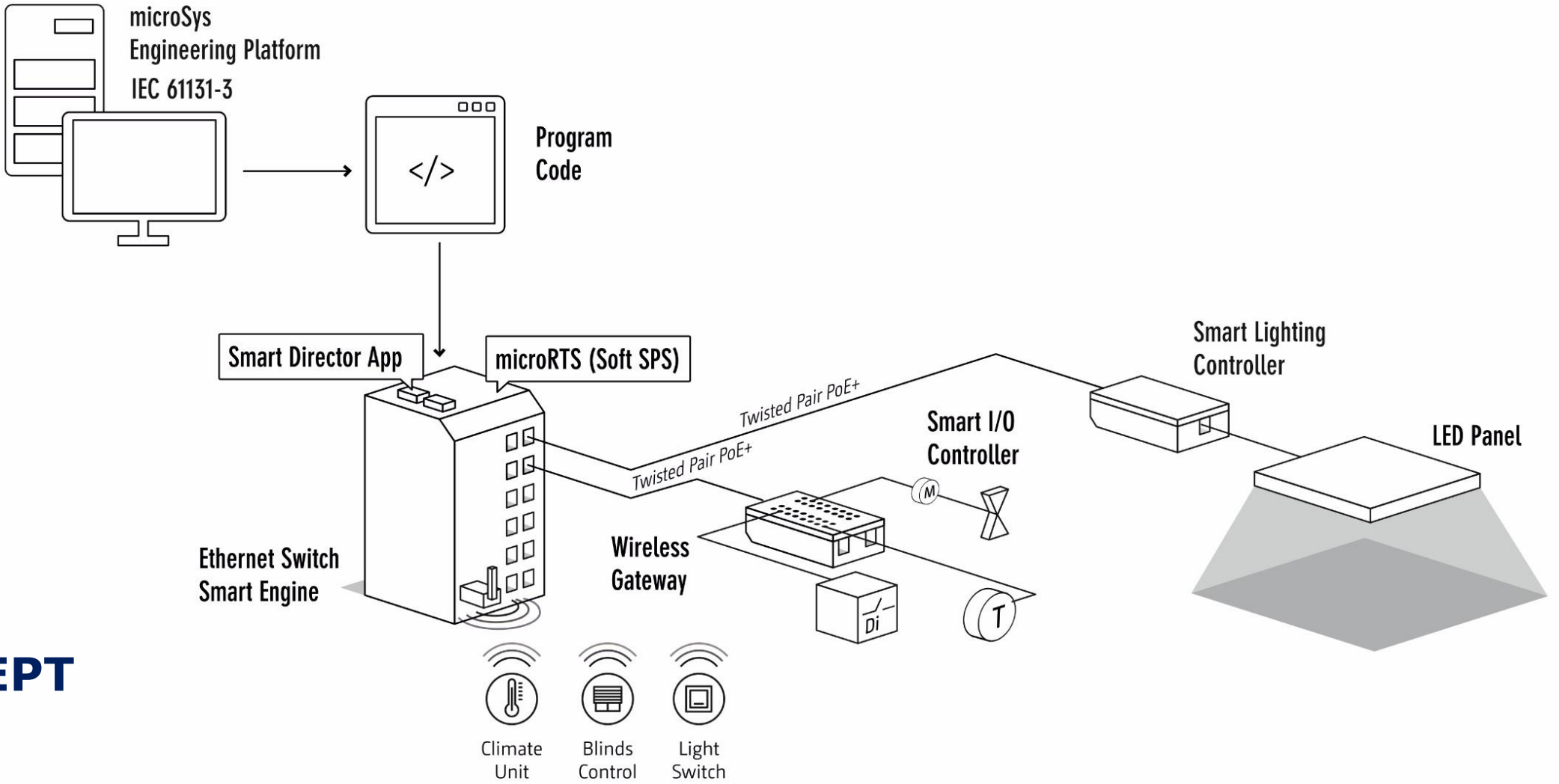
- 2x 20 pin push clamp, wire diameter 0,1..1,5 mm²

Power Input

- 54 VDC via PoE+
- 24 VDC external

Power Output

- 24 VDC, combined max. load: 20 W

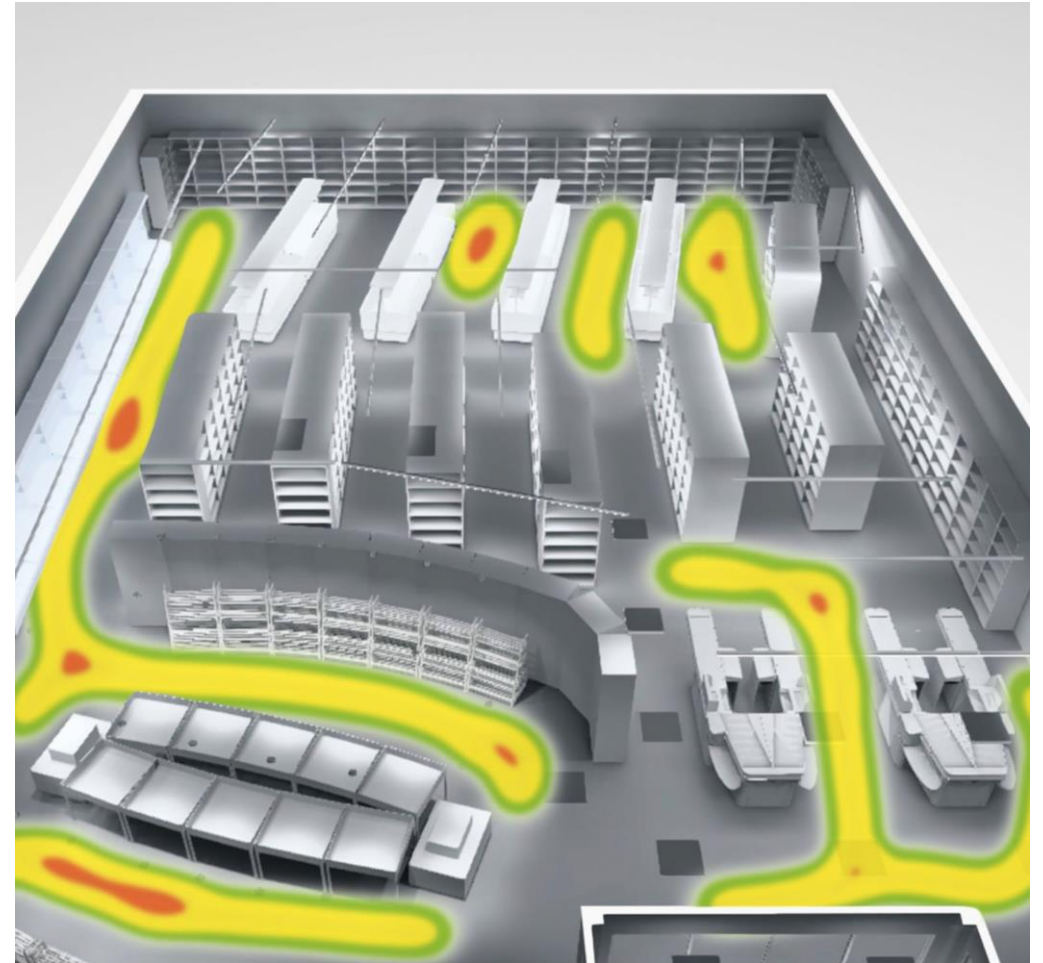


SBS CONCEPT

SMART BUILDING

Visualization

- The collected data can be combined and recalculated
- Unimageable scenarios can be covered
- Like Where is the most people traffic in the area.



MICROSENS



Dubai Airports
Connecting the World



الشركة السعودية للكهرباء
Saudi Electricity Company



OUR CUSTOMERS



amprion



Une ville, un esprit.



北京地铁
BEIJING SUBWAY

MICROSENS



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THANK YOU!