Smart Pole®
MagicBar®

Intelligent Smart City Presentation

Mino Ji & Harper F. Zarker

Gateway International 360 LLC
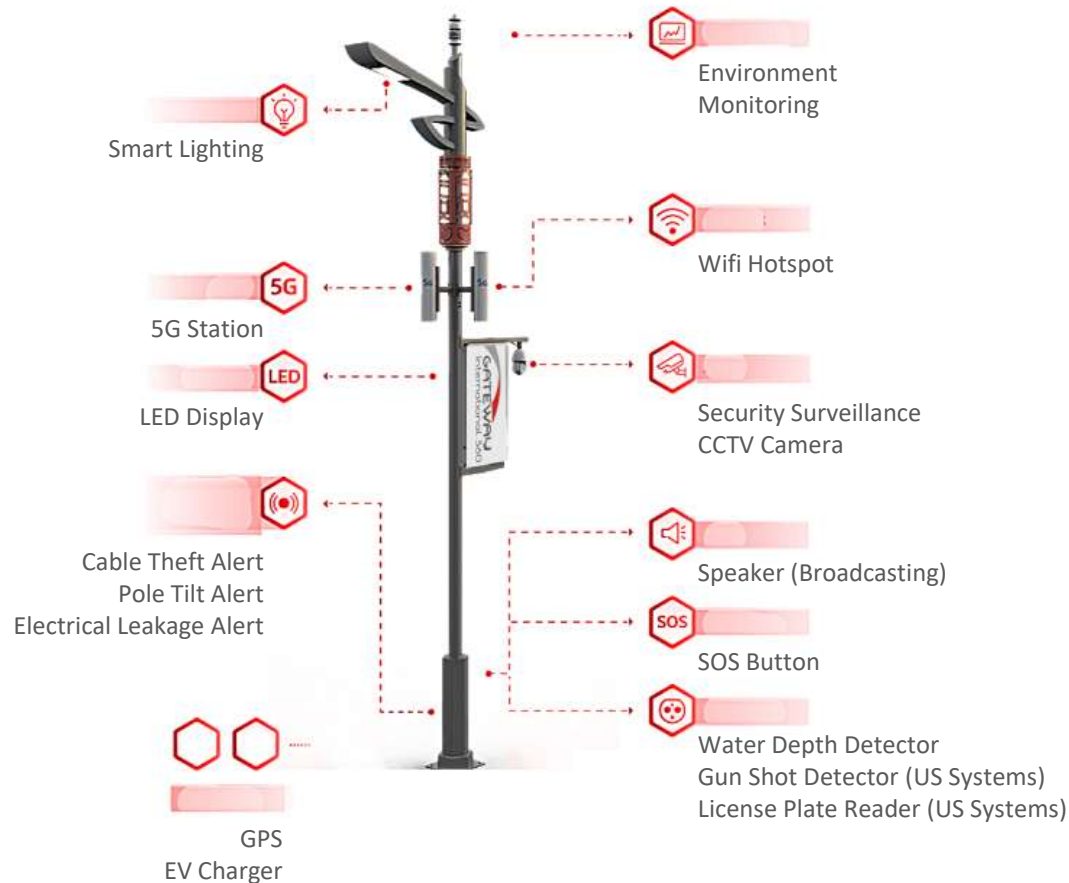
01-01-2021

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International 360

Product Overview

Smart Pole® Solution

Environment Monitoring

Smart Lighting

Wifi Hotspot

5G Station

LED Display

Security Surveillance
CCTV Camera

Cable Theft Alert
Pole Tilt Alert
Electrical Leakage Alert

Speaker (Broadcasting)

SOS Button

Water Depth Detector
Gun Shot Detector (US Systems)
License Plate Reader (US Systems)

GPS
EV Charger

Smart Pole® Solution

Environment Monitoring

Smart Lighting

Wifi Hotspot

5G Station

LED Display

Security Surveillance CCTV Camera

Cable Theft Alert
Pole Tilt Alert
Electrical Leakage Alert

Speaker (Broadcasting)

SOS Button

Water Depth Detector
Gun Shot Detector (US Systems)
License Plate Reader (US Systems)

GPS
EV Charger

8+X Smart Pole

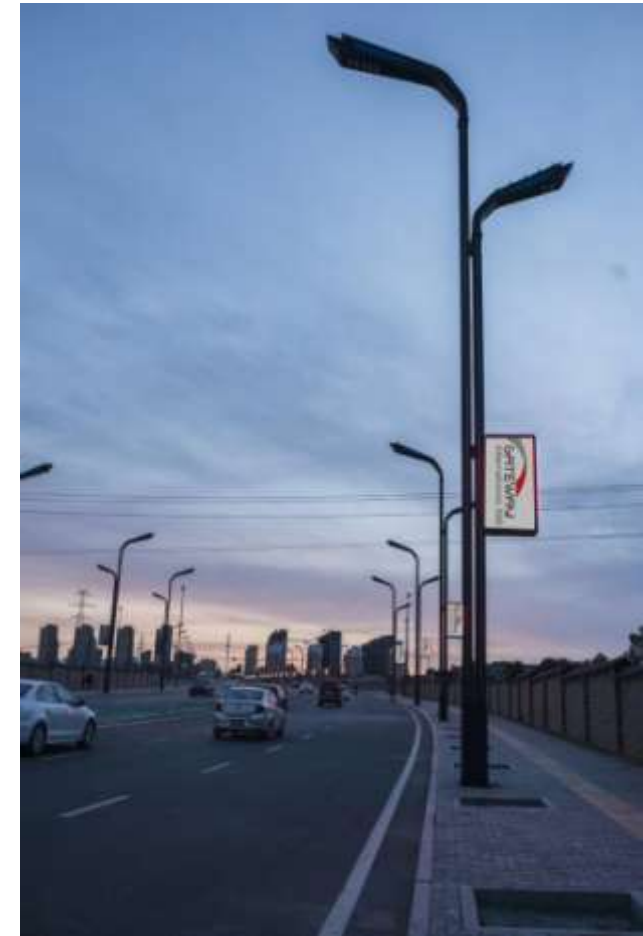|	
Smart lighting	Fine management of roadway/street fixturess,Remote Monitoring, Dimming, GPS, Metering and DOT maintenance and work order system
CCTV Camera	Cameras integrated in smart pole include image optimization features such as night vision, superior contrasts, high brightness and backlight compensation, 360° PTZ IP cameras.
Wifi &5G	Itegrate various connectivity modules, offers a robust and fast internet connection for outdoor public areas. Designed to provide internet in outdoor spaces, the WIFI modules are suited for both cities and privately-owned facilities. Also, offers telecom operators the possibility to acquire sites to deploy 4G/5G in cities.
Loudspeaker	Smart Pole® integrated loudspeaker provides high-quality audio.
Environment Meteorological Sensors	Itegrated meteorological sensors functions, such as temperature and humidity, PM2.5, PM10, UV and other parameters. These sensors resist changes in temperature and humidity and provide basic weather data.
Advertisement Display	This integrated solution for advertisement display is available with high brightness, high refresh, waterproof protection IP65, P3 to P5 pixels pitch outdoor LED. Can be download program remote, setting program list remote.
EV Charger	This integrated solution for e-mobility is available with an USA and European socket (type 2). It includes a safety lock during charging. As an option, it can be combined with access authentication via a RFID or QR code, communication and metering.
Emergency Alarm, Alerts and Multi-functions	Can be fitted with a stainless-steel vandal resistant SIP and IP intercom. With its active background noise cancellation and its automatic volume adjustment, it ensures a good sound quality to communicate with control room operators or emergency alert of Cable Thrift, Ple Tilt, Electricity Leakage, Water Dept Detection, Gun Shot and License Plate Reader

Application

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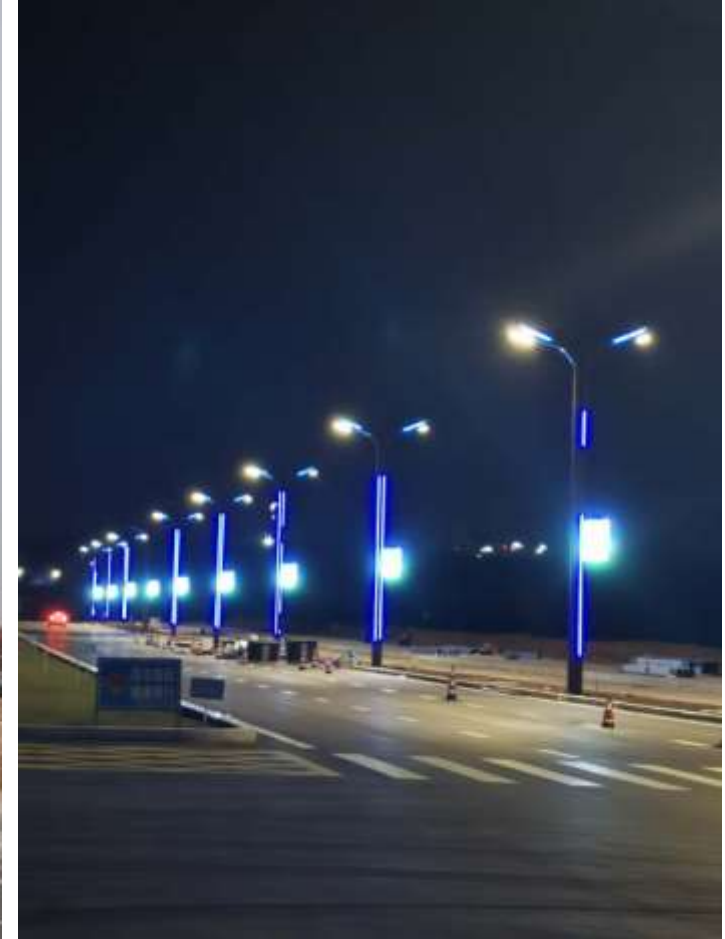
Application

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MagicBar® Application

Function Module

Smart Lighting

Projector

Cast Light

Circular Decorative light

Meteorological Sensors

WiFi

Loudspeaker

CCTV Camera

EV Charger

Emergency Alarm

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MagicBar® Application

CCTV Camera

Smart Lighting

5G

Loud Speaker

Emergency Alarm

CO_2 Meteorological Sensors

WiFi

Projector

EV Charger

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Steel or Aluminum Pole

Height of 4m to 5m

Flood light on the Top	Camera	Main Light Source	WiFi	Auxiliary Light
Belt Decretive Light	LED Projector	Broadcast Speaker	Bluetooth Radio and USB Charger	Bench

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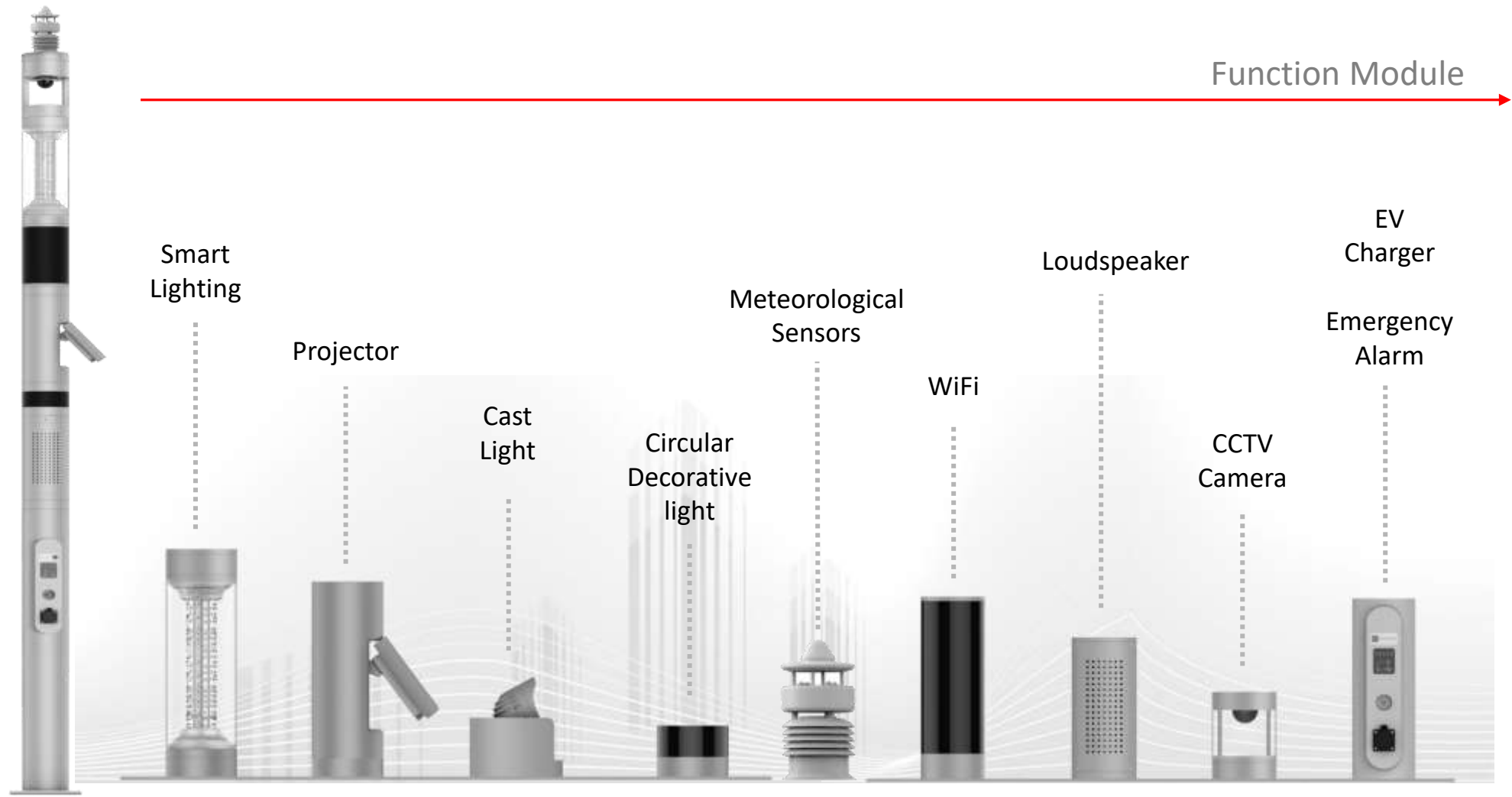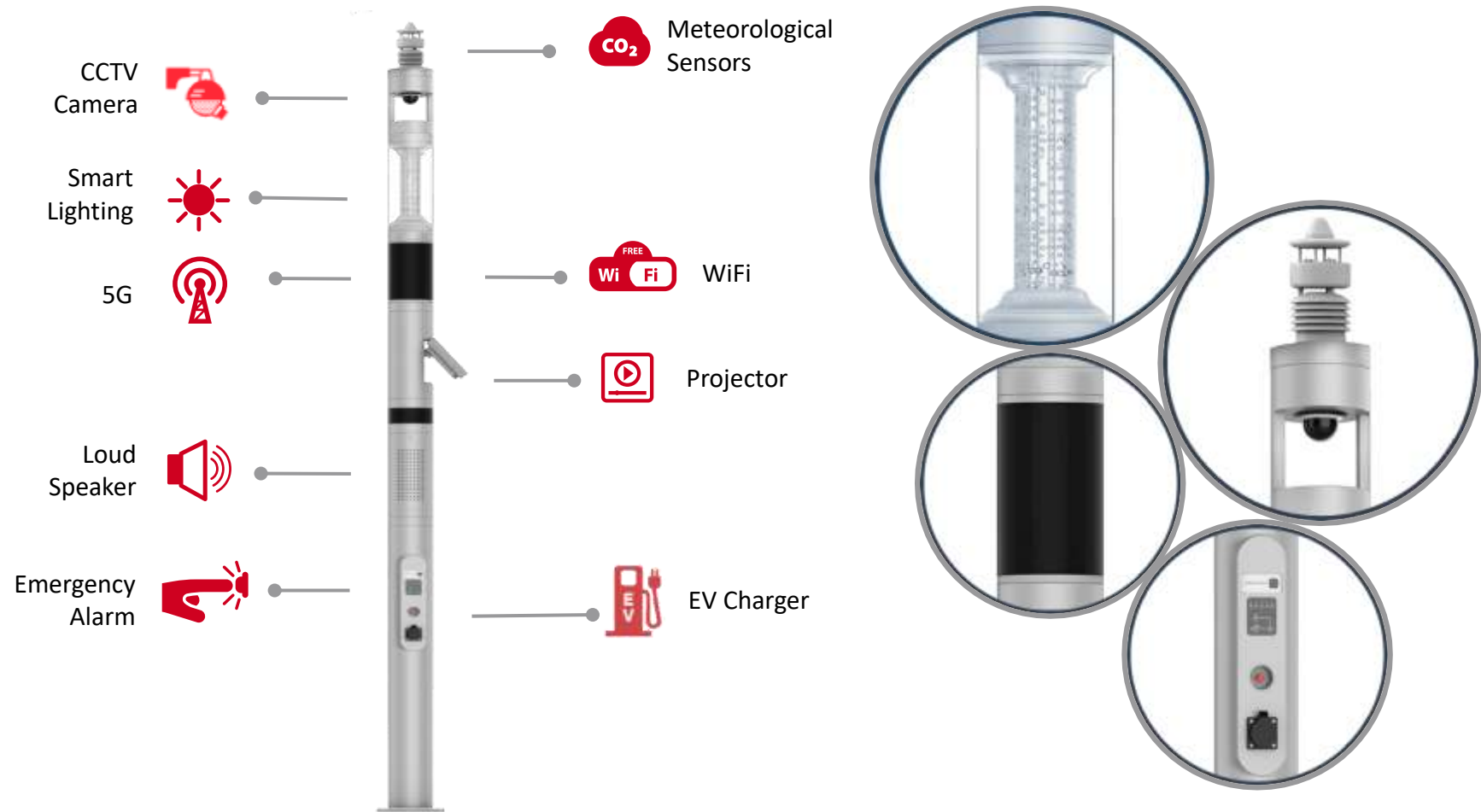
Pictures of Light Model Collection
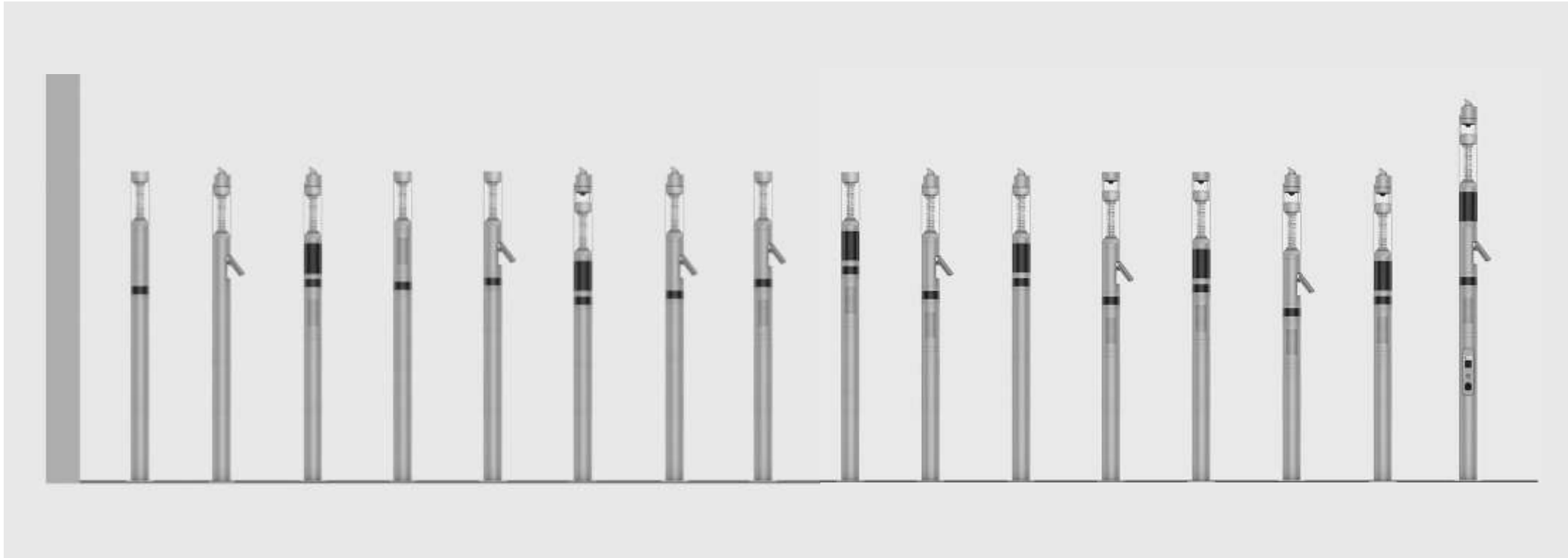
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MagicBar® Application

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MagicBar®

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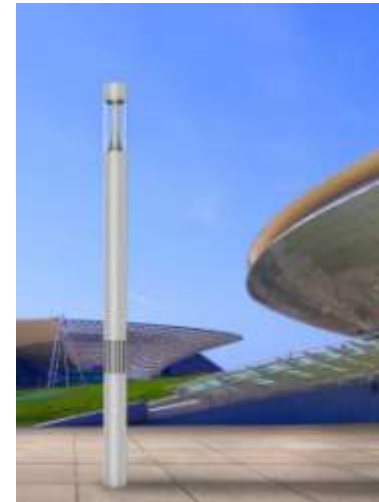
MagicBar®

MagicBar®

Subsystem:

Smart Lighting

System function:

Using advanced communication technology (PLC, ZIBGEE, PLC+RF433), combined with latitude, longitude and illumination values to develop different on/off/dimming strategies to achieve on-demand illumination, and real-time report of lamp failure and leakage information in real time to achieve remote concentration of street lamps Control and monitoring. Improving public lighting management can save about 70% of power resources and save 50% in maintenance costs.

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Subsystem:

Projecting Module

System function:

The video playback projection function of the built-in LAN, WIFI, 4G intelligent management core module. You can control the advertisements at will, and the advertising graphic information can be changed at any time. The projection display information may include, for example, commercial advertisements, public service announcements, public information announcements, emergency warnings, regional map displays, ambient air pollution conditions, and the like. Achieve a tangible and intangible information stereoscopic publishing system throughout the city.

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Subsystem:

Cast Light

System function:

By leveraging this infrastructure, Create a beautiful, beautiful lighting environment. Thus an artistic environment is created.

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MagicBar®

Subsystem:

Circular Decorative Light

System function:

By leveraging this infrastructure, create a beautiful, beautiful lighting environment. Thus an artistic environment is created.

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MagicBar®

Subsystem:

WiFi

System function:

As it can integrate various connectivity modules, MagicBar® offers a robust and fast internet connection for outdoor public areas. The bandwidth can be divided to assign a part to city operators with the other part available for the general public so people can stay connected. Designed to provide internet in outdoor spaces, the WIFI modules are suited for both cities and privately-owned facilities. MagicBar also offers telecom operators the possibility to acquire sites to deploy 4G/5G in cities.

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MagicBar®

Subsystem:

Loudspeaker

System function:

Stereo audio playback is provided with a light pole resource as a carrier. The system can directly play audio from the platform, or cooperate with other broadcast terminals, intercom terminals, and broadcast terminals to realize functions such as audio playback and real-time notification.

MagicBar®

Subsystem:

CCTV Camera

System function:

The cameras integrated in MagicBar® include image optimization features such as night vision, superior contrasts, high brightness and backlight compensation, 360° PTZ IP cameras. These cameras resist variations in temperature and humidity and can offer advanced event detection and video analytics.

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MagicBar®

Emergency Alarm

Subsystem:

EV Charger

System function:

This integrated solution for e-mobility is available with an European socket (type 2). It includes a safety lock during charging. As an option, it can be combined with access authentication via a RFID or QR code, communication and metering.

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MagicBar®

EV Charger

Subsystem:

Emergency Alarm

System function:

The MagicBar® can be fitted with a stainless-steel vandal resistant SIP and IP intercom. With its active background noise cancellation and its automatic volume adjustment, it ensures a good sound quality to communicate with control room operators or emergency services. As an option, a micro-camera can be integrated to provide video images.

MagicBar®

Subsystem:

Gunshot Detection

System function:

Gunshot detectors are large acoustic sensors. Mounted by the dozen on utility poles and the sides of buildings, they form expansive geographic networks that cover whole neighborhoods. Gunshot detectors sense several unique characteristics of gunshots. They are set up to recognize the sound of a bullet blast, the "crack" of a projectile moving at supersonic speeds, and a visible muzzle flash.

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Subsystem:

License Plate Detection

System function:

MagicBar® utilizes two cameras and state-of-the-art artificial intelligence
to accurately identify license plate characters and vehicle attributes.
Unlike older "OCR" technologies, AI-based machine learning enables the
capture of critical vehicle information from a video stream, at high rates of speed, and
extreme angles of view, with unmatched levels of accuracy.

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MagicBar®

Subsystem:

Water Level Alert

System function:

MagicBar® is equipped with water sensors which detect and prevent excess moisture and flooding caused by broken pipes and faulty appliances. A leak detection system is made of sensors, shut-off valves and a centralized hub. The sensors are placed in areas where leaks are common, such as near faucets and beneath water heaters. Knowing that there is a leak is one thing, but being able to stop it from damaging is where the real power lies. Modern water detectors that combine moisture sensors and flow-based leak detection automatically shut off valves.

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Urban Street Light IoT Management Public Service Platform

IOTMESH Network + Business Network

IOTMESH

PLC+RF433

PLC / ZigBee / LoRa / RS-485

Sub-GHZ......

Business Communication

NB-IoT/eMTC

3G / 4G / GPRS

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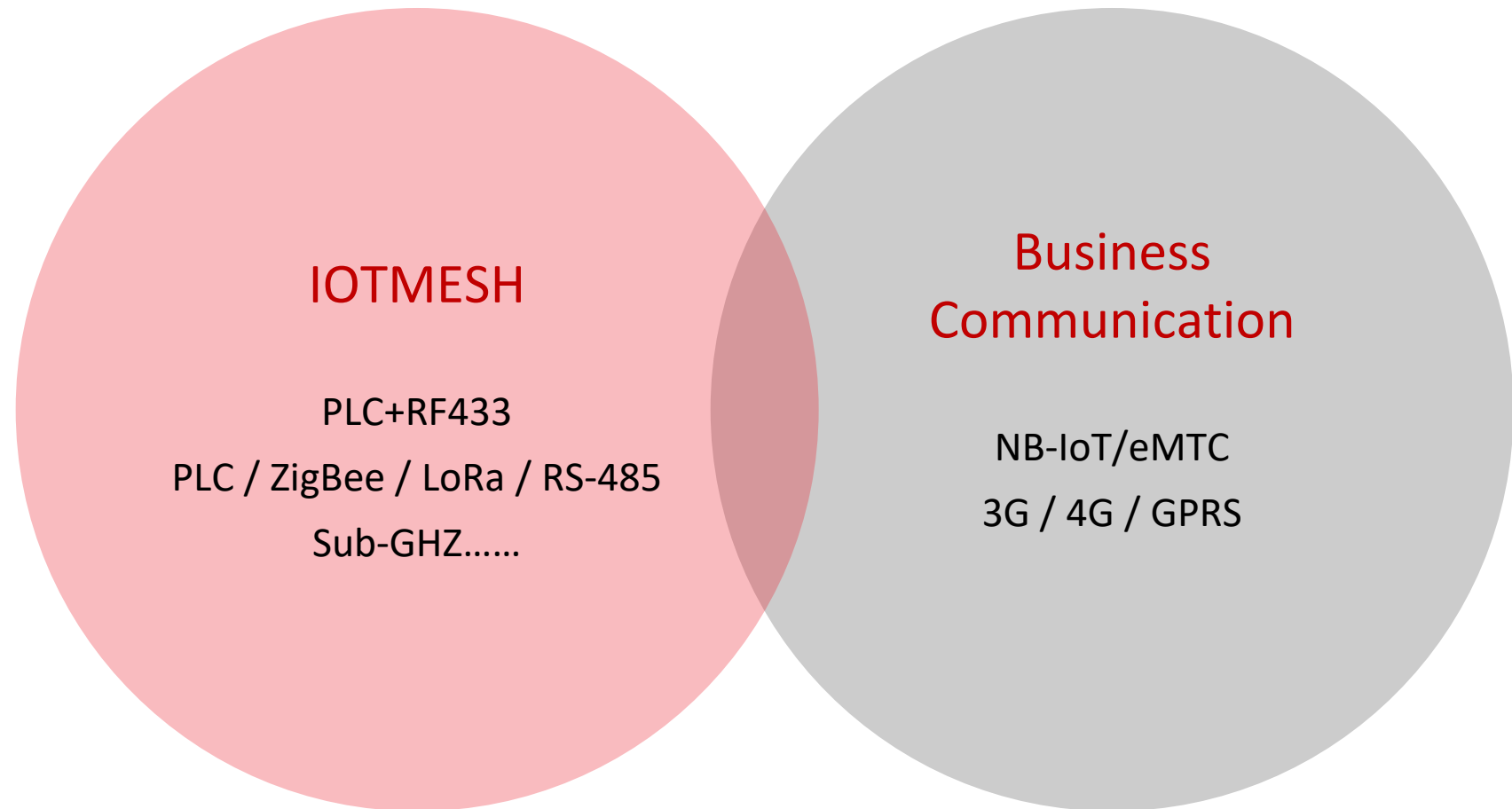
Mature & Stable Equipment

Smart Lighting

Concentrator

Lamp Controller

Expansion Module
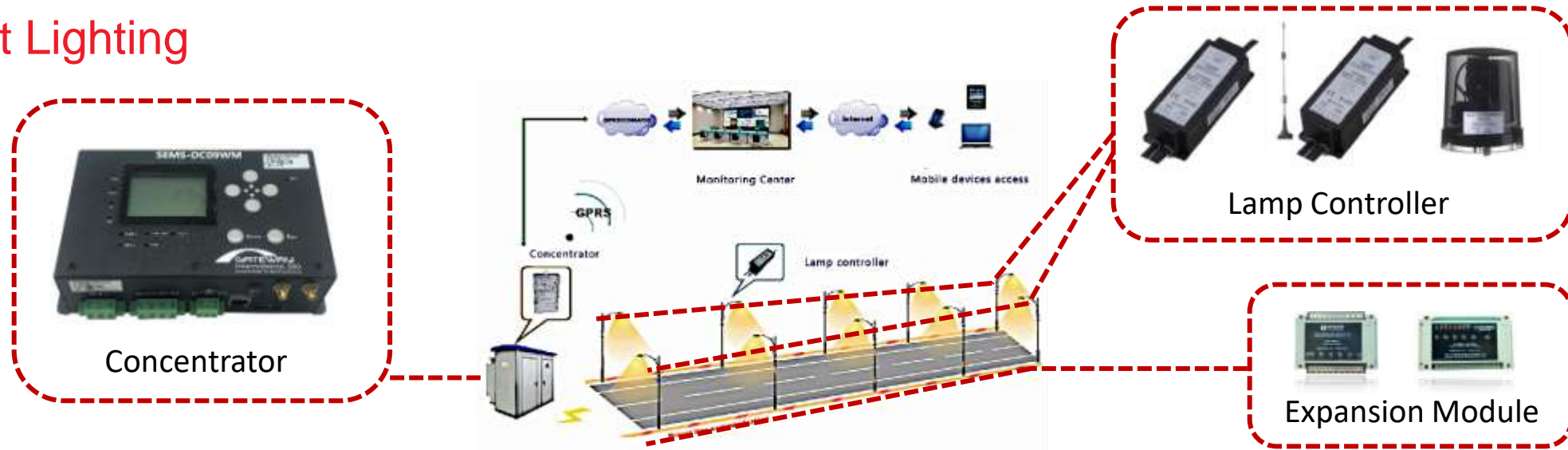
01	Energy saving rate is over 70%
04	Fault Monitoring
07	... ...

| 02 | Remote Control and Scheduling |
| 05 | Leakage Alarm |

The road lighting monitoring system fully guarantees lighting power supply and road lighting from power distribution cabinets, power supply lines and street lights.

| 03 | Data Reporting, Analysis |
| 06 | ERP |

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IOT Gateway for Smart Pole®

SEMS_DC09WM

01	Highly Integrated
02	Extended Surge
03	Multiple Connection
04	Robust and Reliable

Escort for SMART Pole®
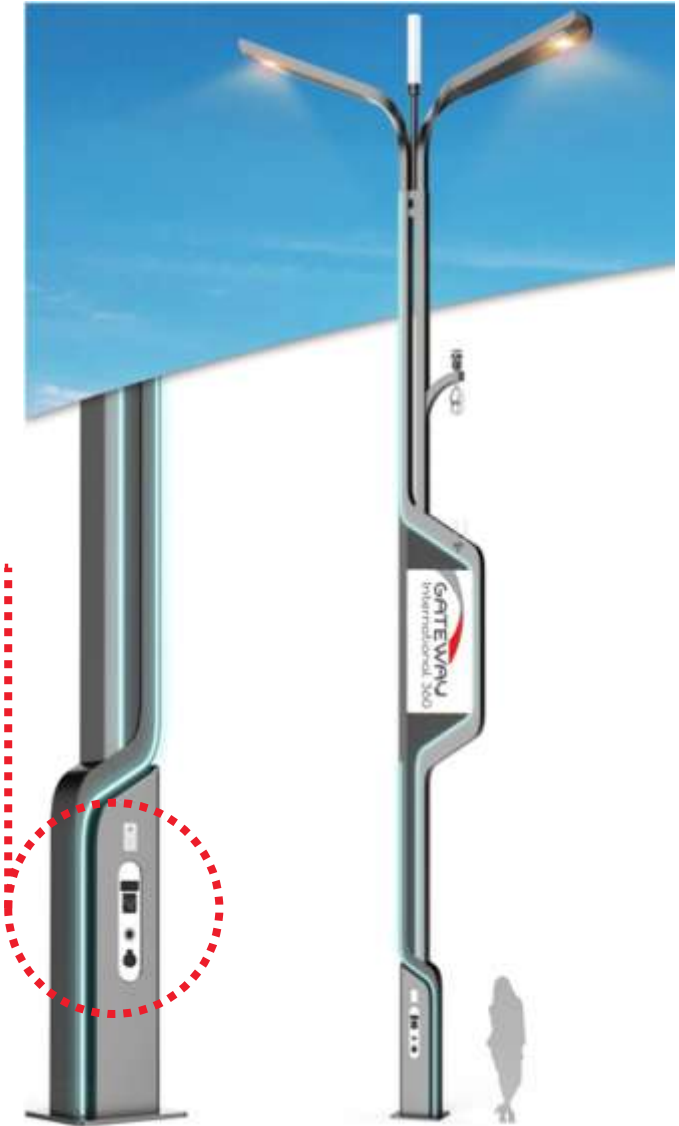
Enhanced Security For Dynamic Security

01 Systematic Security

02 Record Traceability

03 Remote State Awareness

04 Security

Enhance Security For Management
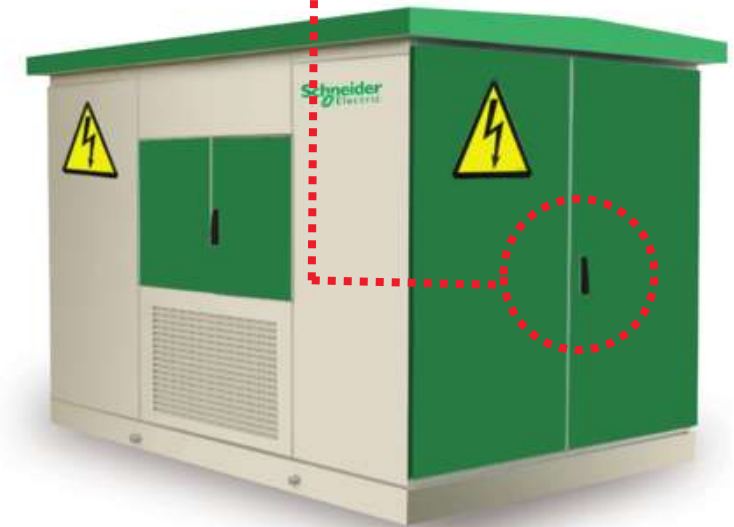
The dynamic security lock completely solves the problems that the power distribution cabinet is illegally opened and illegally stolen. This product enhances the safety management of system equipment and is one of the important links in the street light management system.

Isolator & Cut Outs

SEMS-IDB01EN

01	Applied Outdoor Light
02	Easy Maintenance
03	Extended Surge Protection
04	Customizable

Escort for electricity safety

Detachable terminal block in extension through facilitates termination of heavy-duty cables.
Electroplated brass terminal blocks accept conductors up to 25mm2.
Stud and water-proof wire connections,Red terminal connector for safety.
Serrated bored in terminals to ensure good contact with all conductor types.
Integration NEMA socket for smart control easy to install options (see related products).
Designed and tested in accordance with BS 7654 and IEC/EN 60947-Part 1. Accepts fuses to IEC 269-1 and BS 88 Part 1, AC16 tag type.
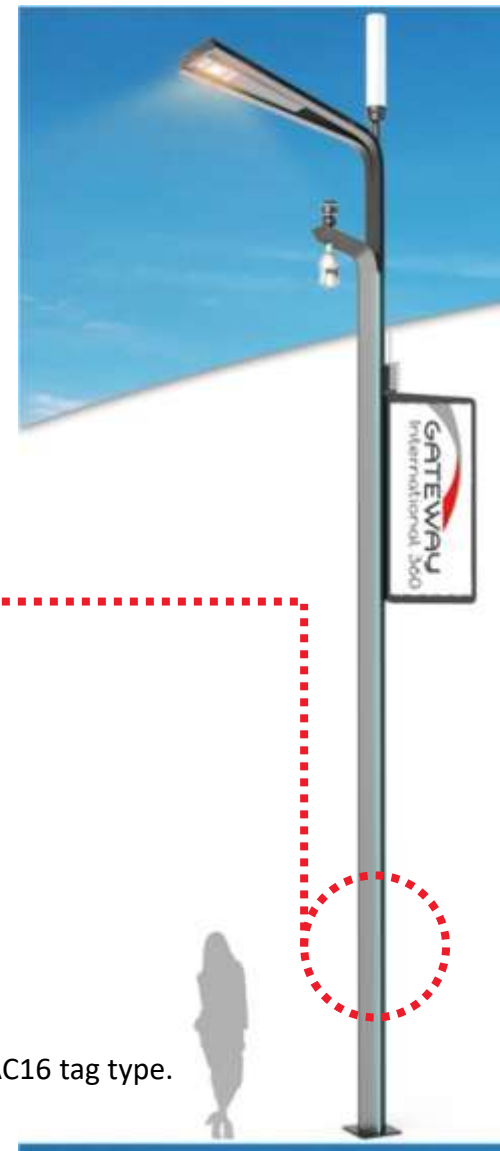
Smart Lighting

Turn ON/OFF & Dimming

Control

ON OFF DIM

Fixtures Failure

Fault
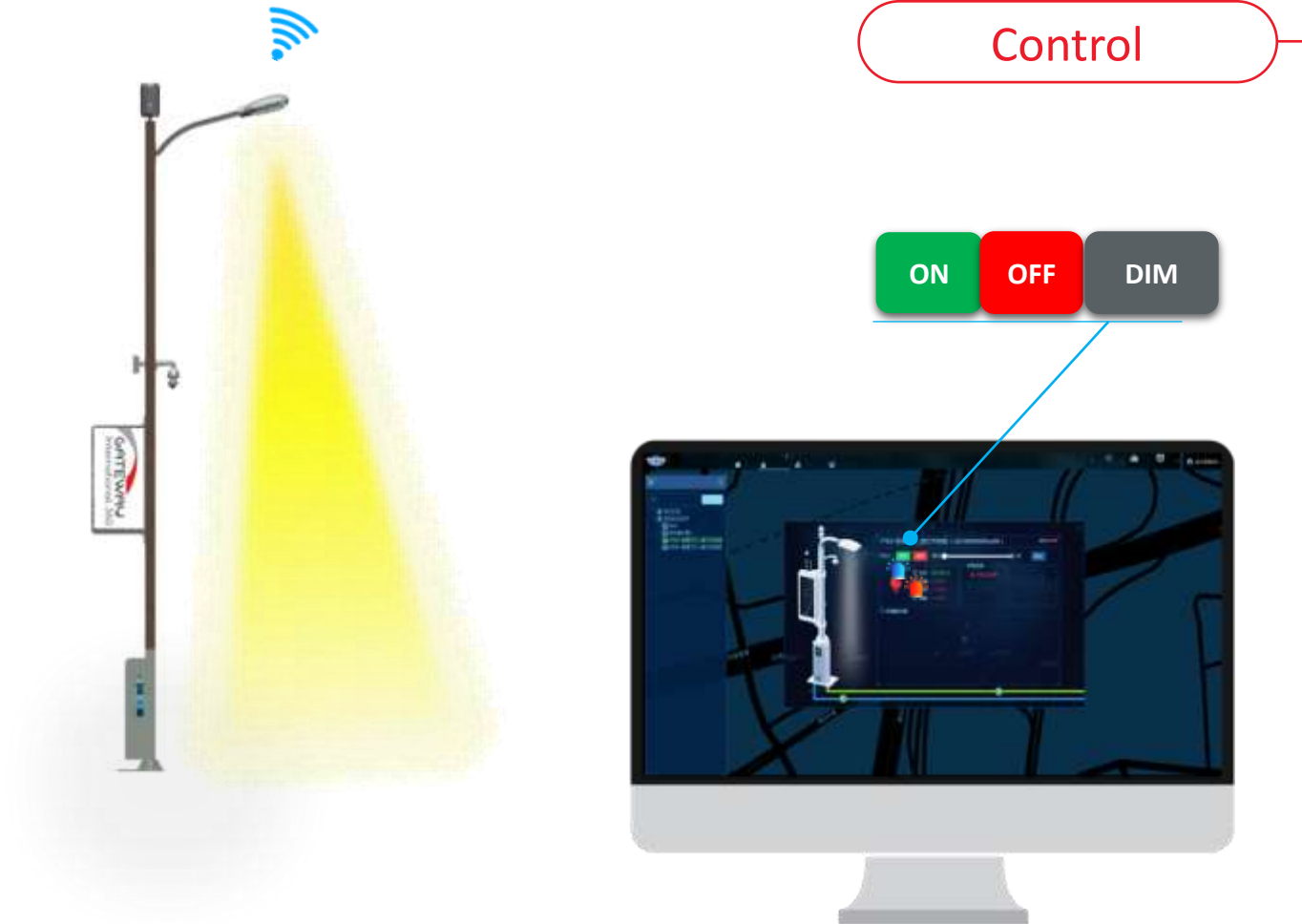
Fixtures Failure

Fixtures Failure
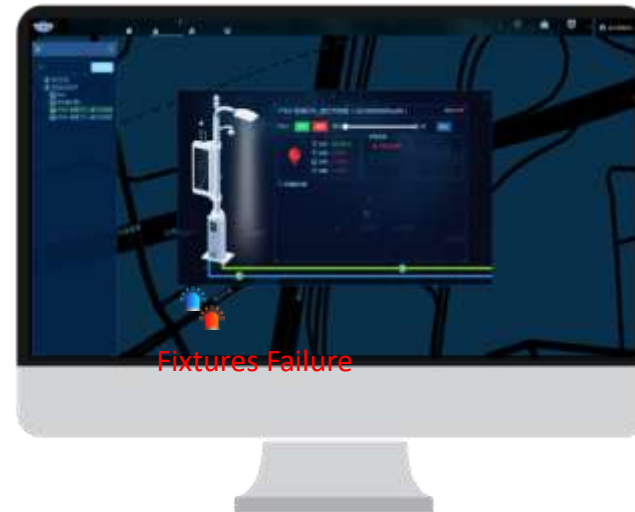
Pole Position Gather

GPS position & Group

Fixtures Opening Alarm

opening alarm

Status： open

Monitor

Opening

Fixtures Self-Running

Communication failed,
Lapm is offline

Self-Running

Offline!

Task:
Turn off 5 am
Turn on 7 pm

Pole Tilt Alarm

Sensor

Angle：18°

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Pole Leakage Arm

Leakage

3E307

Monitor

Voltage： 36 V

Temperature Arm

Temperature: 90°

Sensor
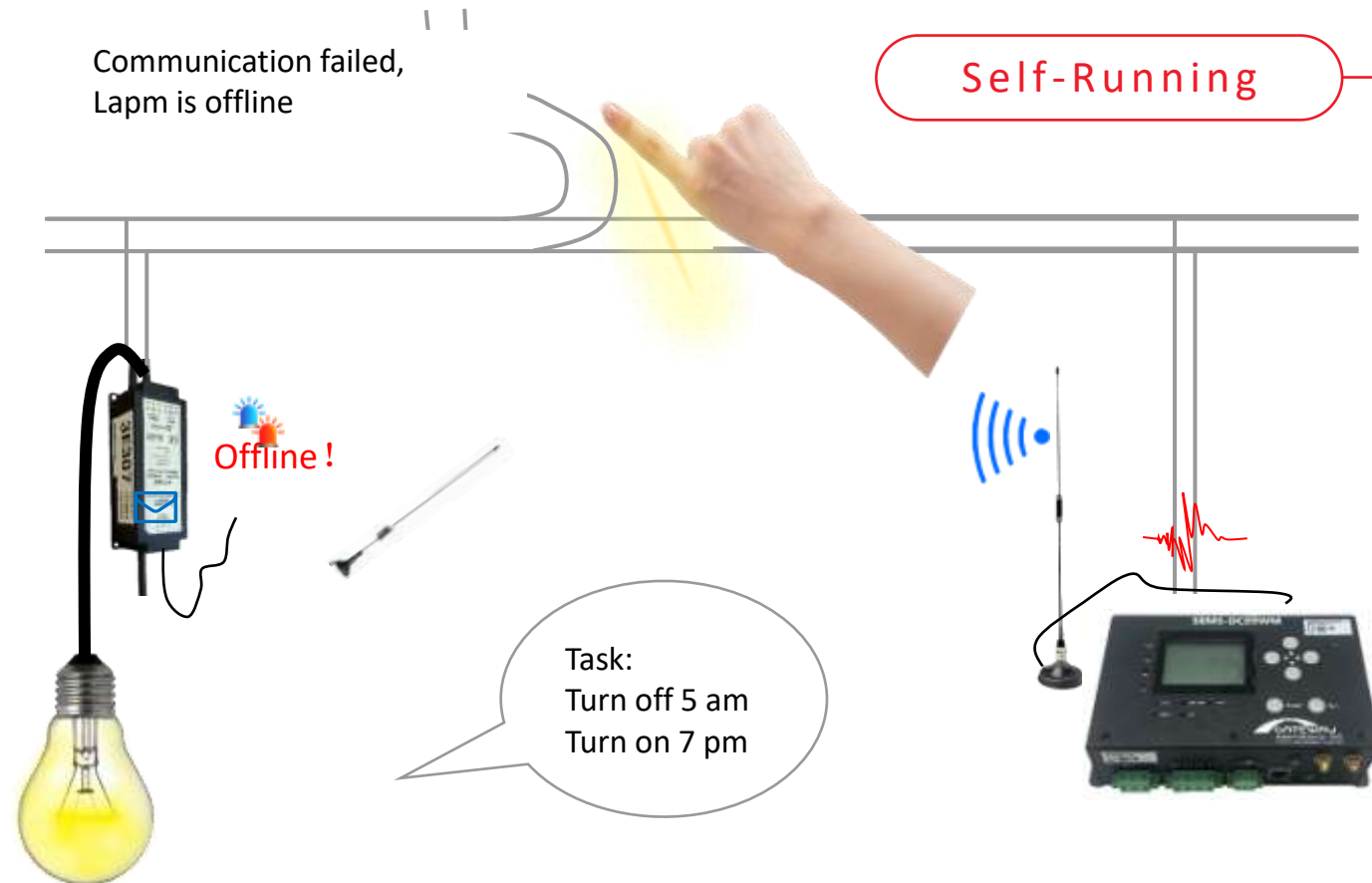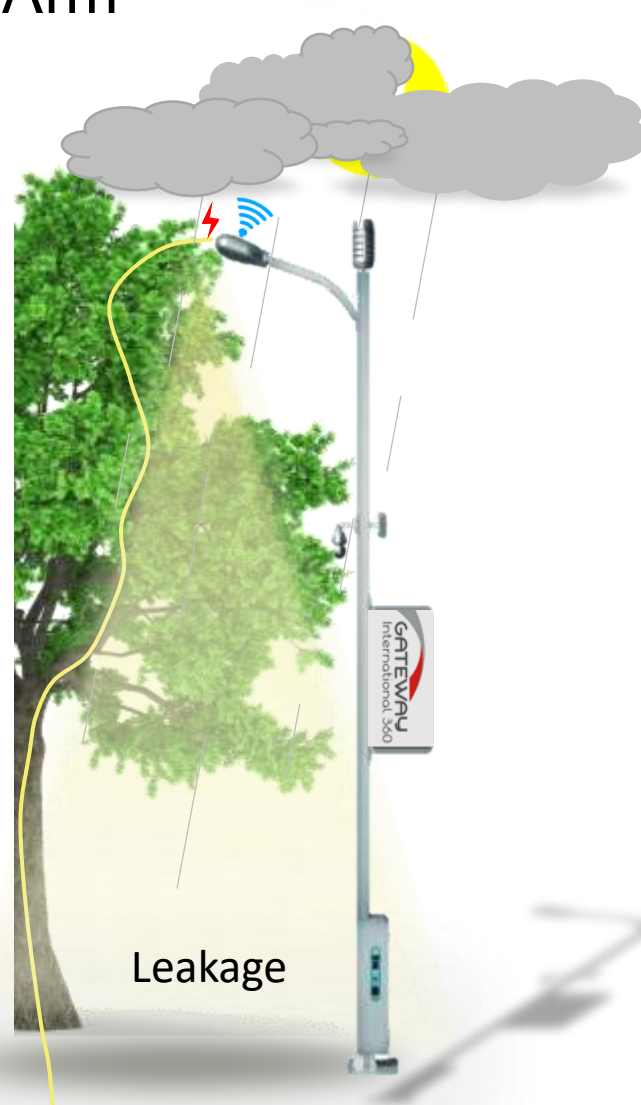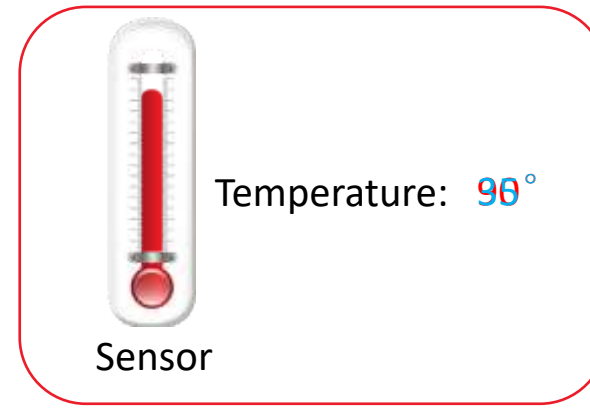
Surge Protection
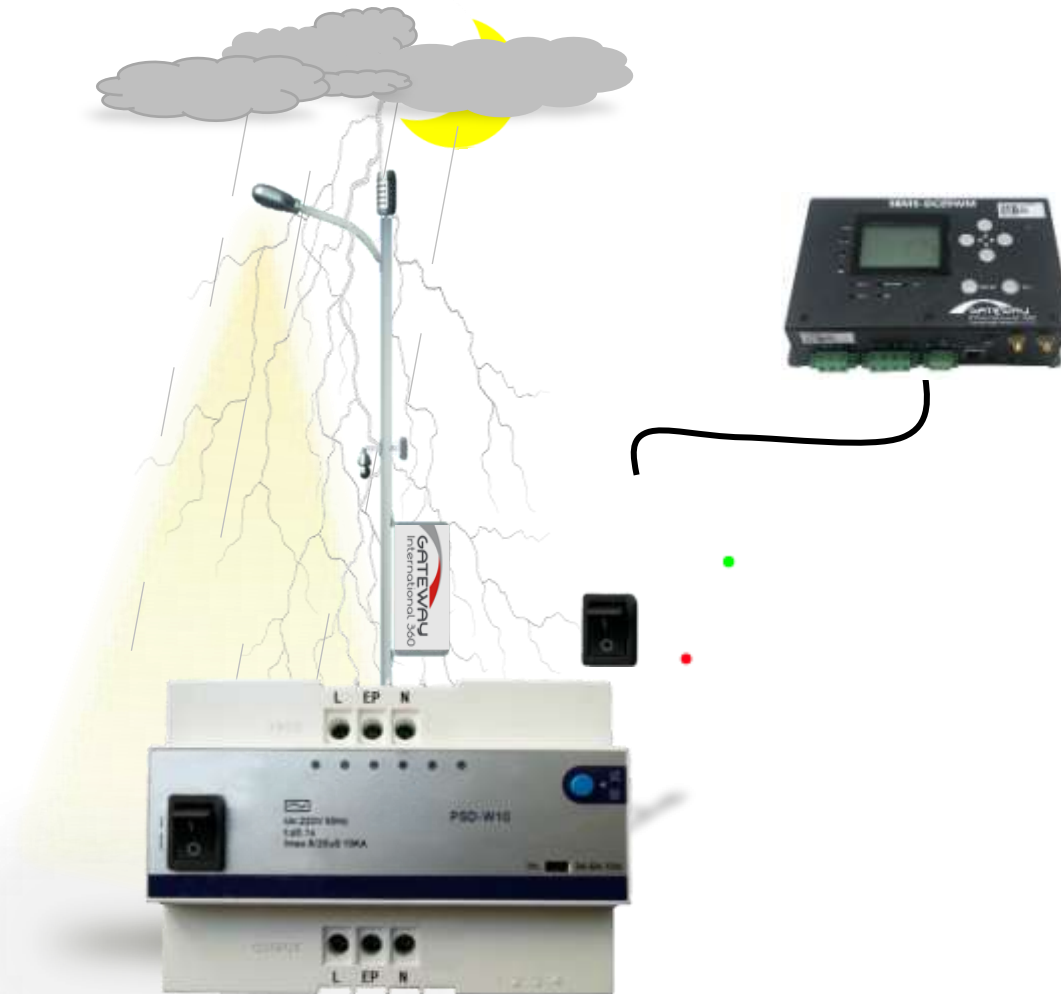
Iterm	Status	times
Surg	Normal	2
Leakage	Normal	1
Over Curr	Normal	0
Over Volt	Normal	4
Low Volt	Normal	0
Running T	Normal	
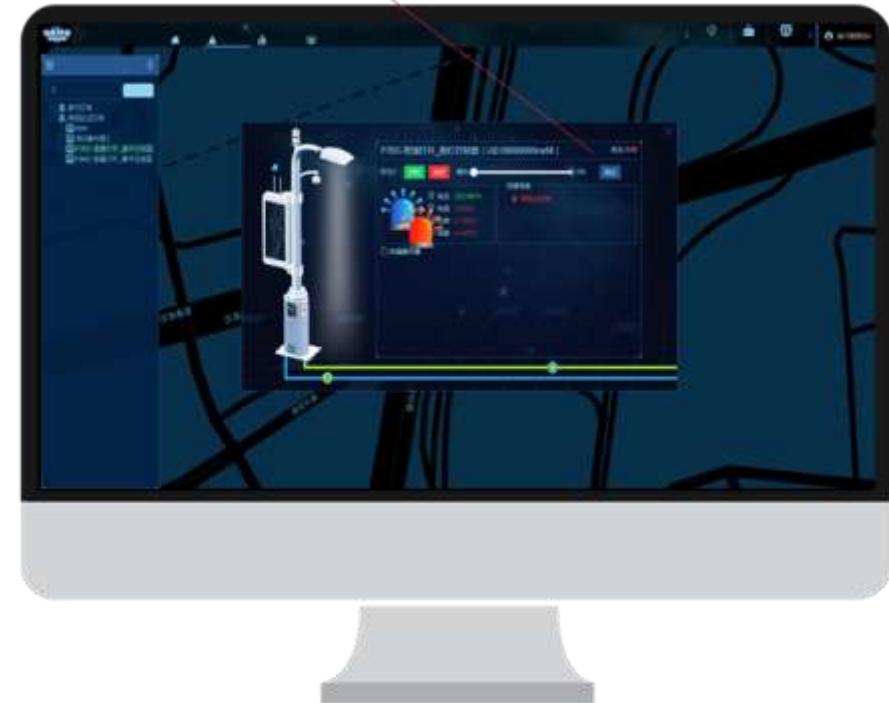
IOT Gateway

Before

OLD

Inside Pole：

•Too many wires

•Wired complicated

•Too much Space to Occupation

Now

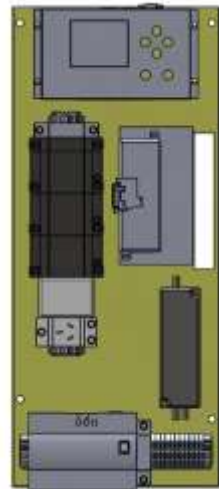Gateway Advantage

•Simple wired

•Small space

•Easy connection

SEMS-DC09WM

PE N L   DO2 DO2 DO1 DO1   DI1 COM2 DI2   GPS   4G   RP
                                    DI   Ethernet
                                              SIM

IOT Gateway

What's IOT Gateway?

SEMS_DC09WM

=

Controller,
Power supply

+

Emergency
Alarm

+

Loudspeaker

+

Switch

Highly integrated.Solve the problem of exposed and messy equipment wire.

IOT Gateway

SEMS_DC09WM

- EM. Alarm
- LoudSpeaker
- POE
- Air Quality
- CCTV Camera
- Circuit Breaker
- M. Device Charger
- DI Sensor
- Industrial Switch&Hub

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IOT Gateway For Smart pole

Air Quality

CCTV Camera

EM. Alarm

LoudSpeaker

DI

DI

DI

DI

IP Audio

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Other Smart Pole® Model

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Golf

Smart Lighting

CCTV Camera

Emergency Alarm

Loud speaker

Meteorological Sensors

5G

FREE Wi Fi WiFi

Advertisement Display

EV Charger

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Dual-Mode PLC & RF Street Lighting Solution

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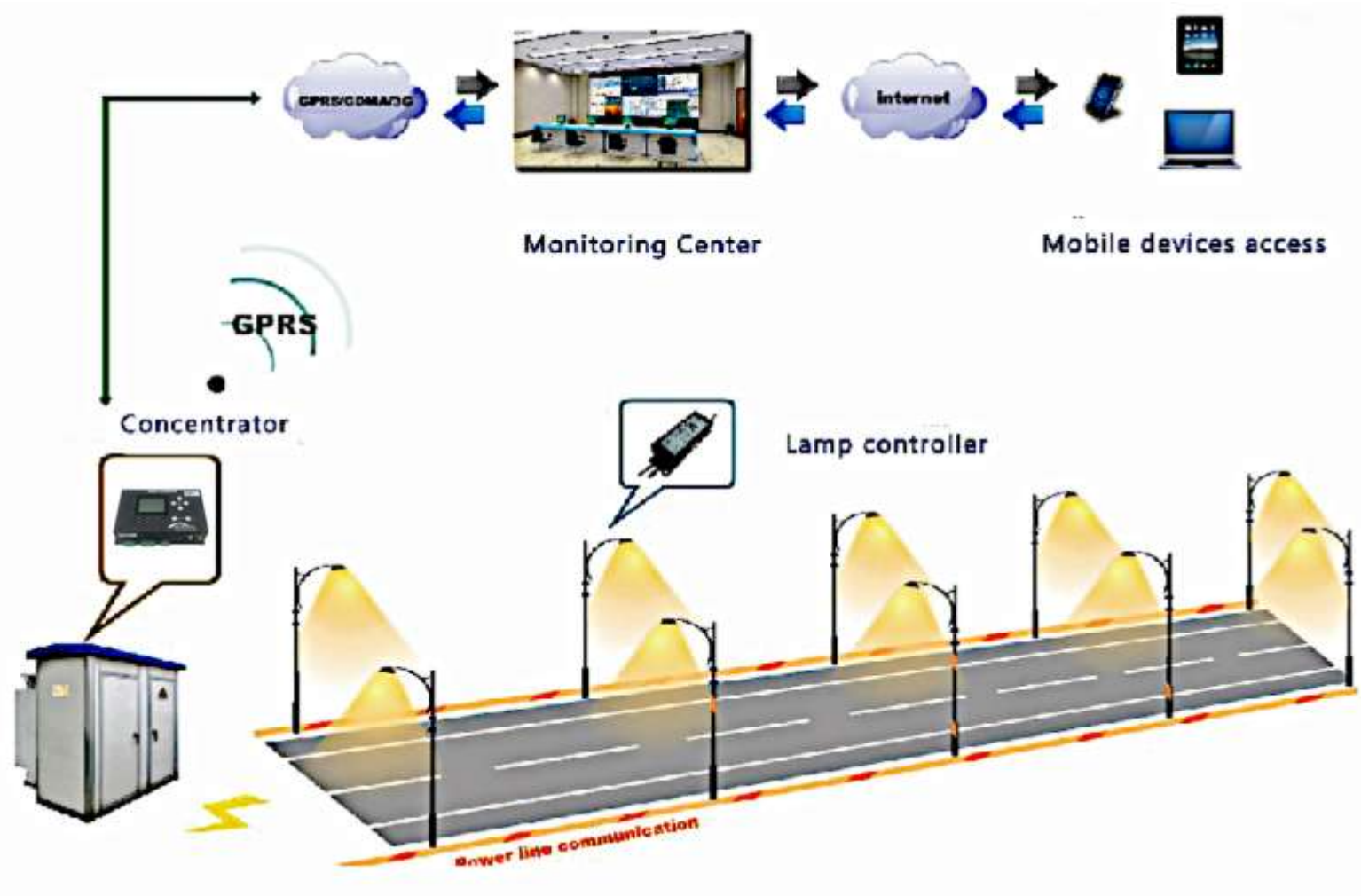
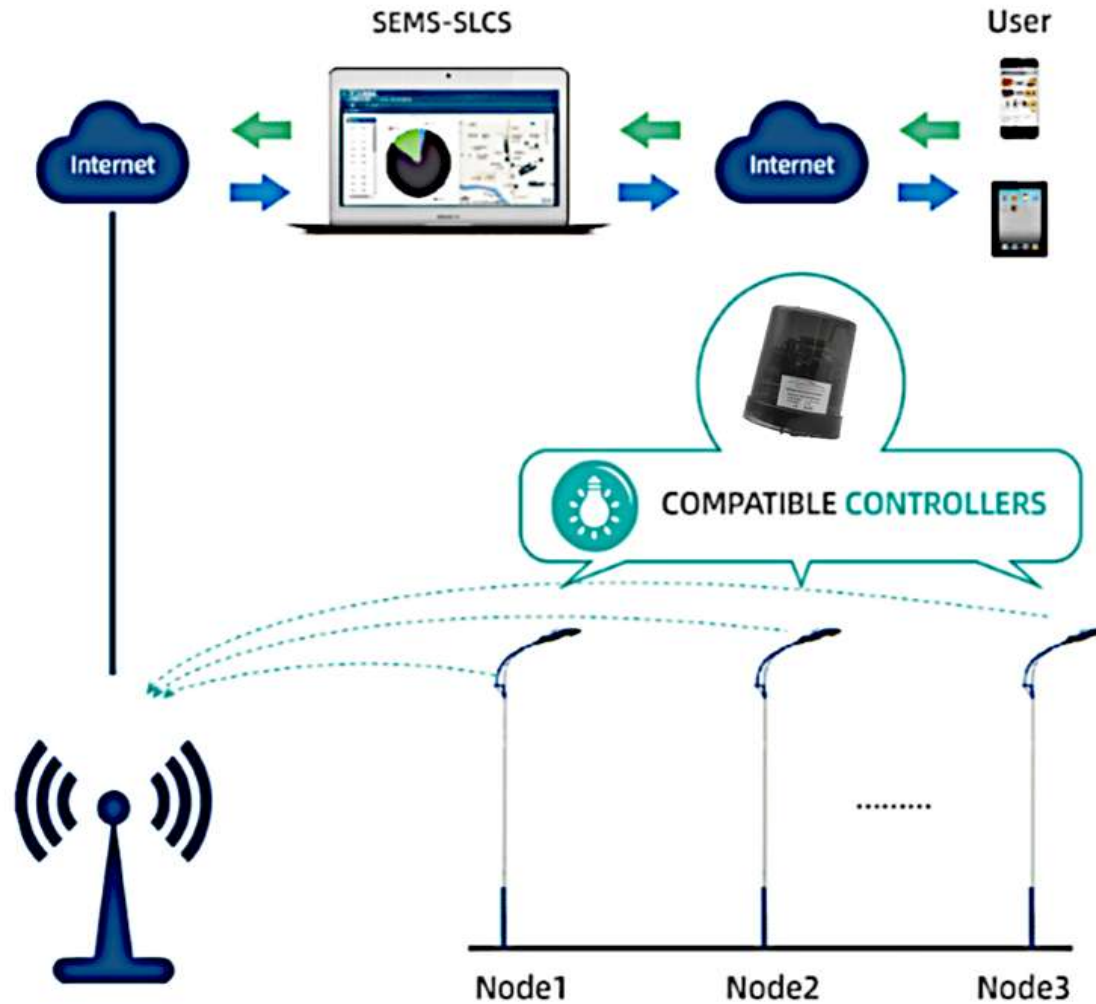# Wireless Street Lighting Solution (Zigbee\Sub-G(868\915)
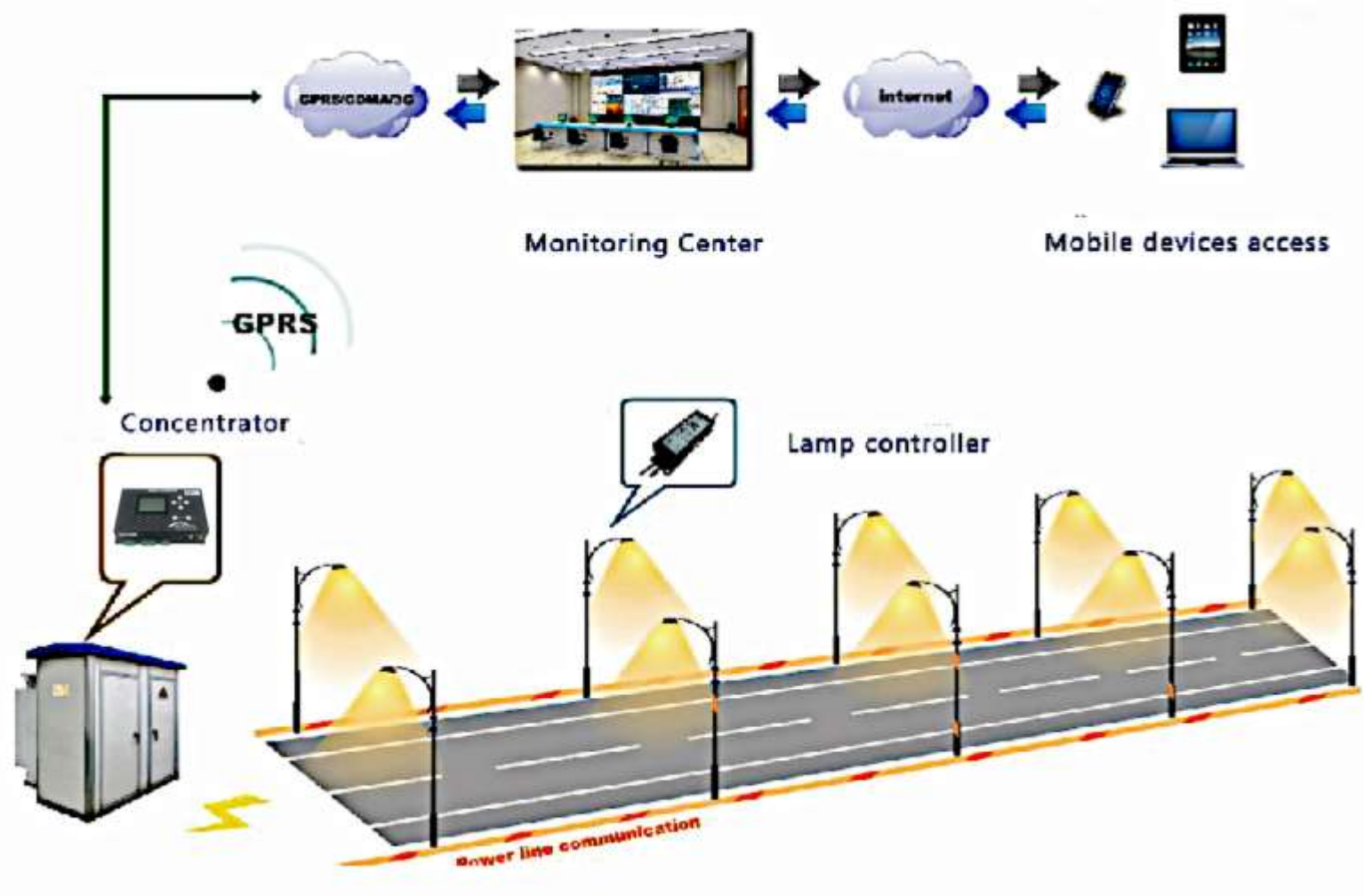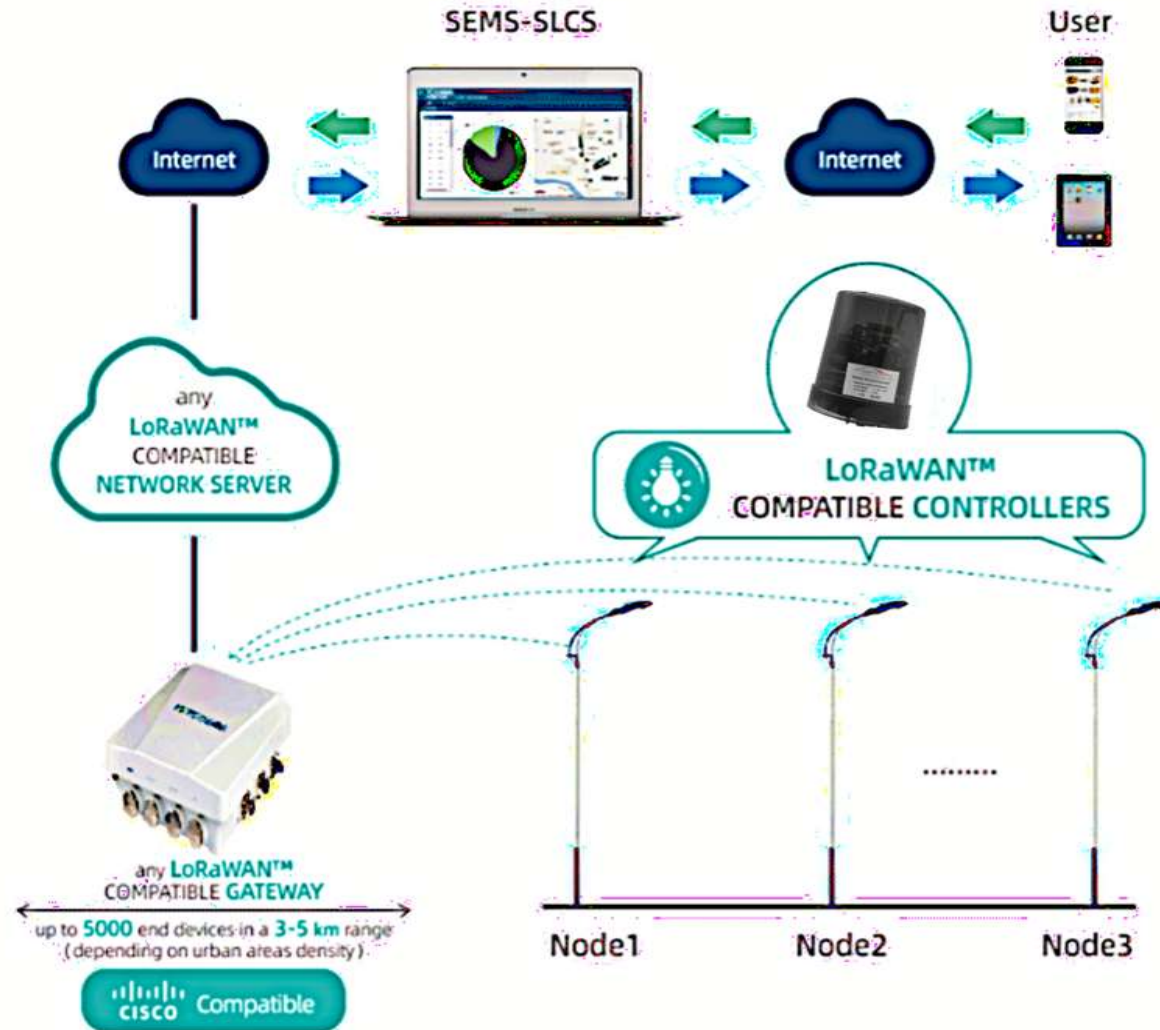
Solar Street Lighting Solution
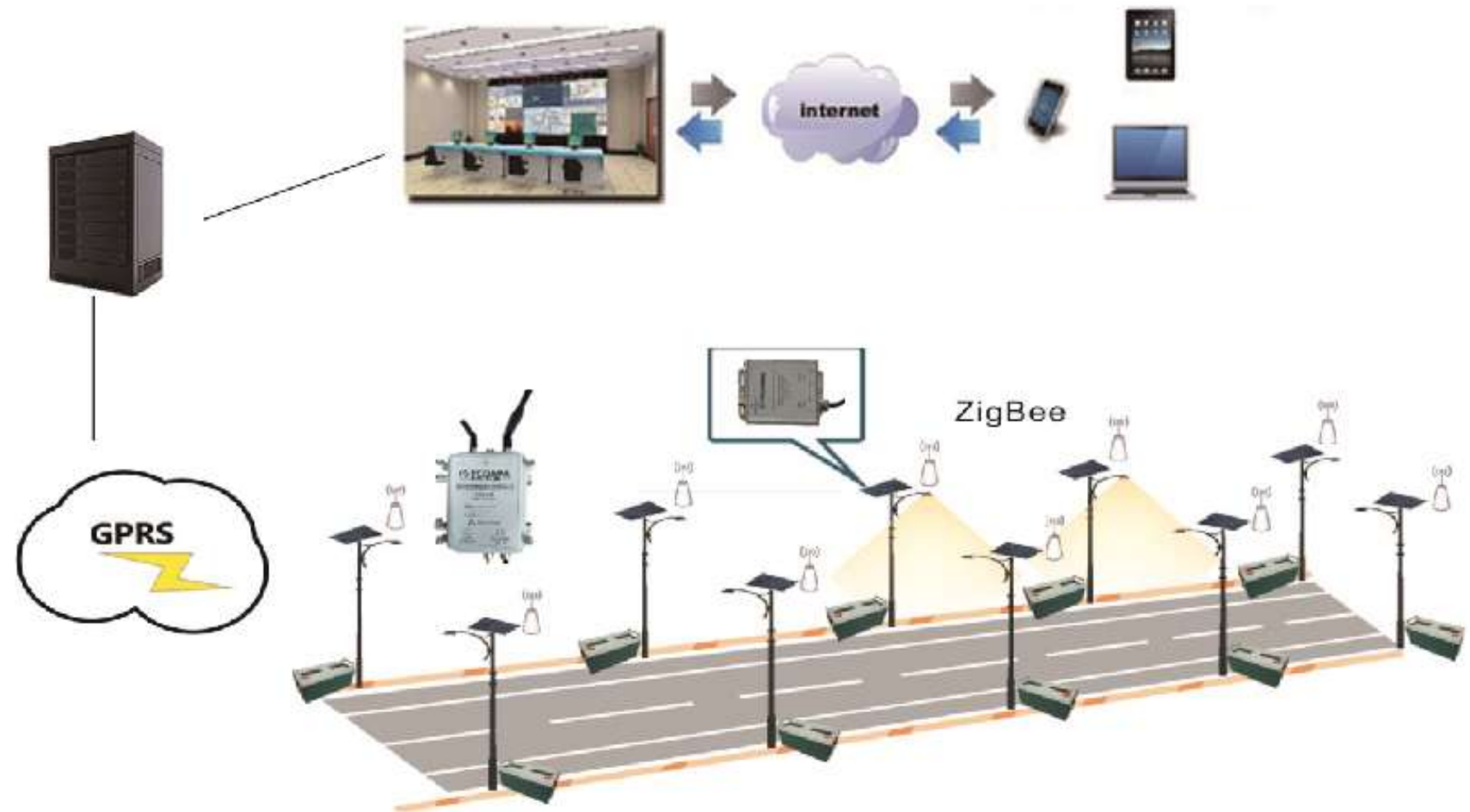
NB-IOT/eMTC/4G Solution

LoRaWAN Solution

Thank You

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