



# LEADING COMPANY FOR **SMART STREET LIGHT**

CREATIVE ENERGY TECHNOLOGY  
Patented Heat Pipe and Fin Tech Solution

# GREEN WORLD

**:made with Life Enhancing LED and Creative Energy Technology**

*APACK, We Create Lights for Every Walk of Life*

Founded in 1999, APACK has grown as a global company specializing in LED lighting with its application of an unrivaled thermal solution based on patented heat pipe technology. APACK provides optimized solutions to various application such as golf courses and port facilities, and industrials.



**Electronics & Telecom Research Institute**  
Spin-off Company

**CEO**                      **Song Kyusop**  
**Foundation**          **July 16. 1999**  
**Capital**                **2.1 Mil US\$**  
**Sales Revenue**      **9.0 Mil US\$**  
**Employees**          **30**

#### Affiliates

**Germany**              Theodor-Heuss-Alle 11, D-60486  
Frankfurt/Main, Germany

**Korea**                333 CheomdanGwagi-ro, Buk-gu,  
Gwangju, 61008, Korea

**Vietnam**              #303 Toserco Bldg., Van Phuc, 2 Nui  
Truc, Ba Dinh, Hanoi, Vietnam

**Russia**                #506 5st. 26 Bakinskikh Komissarov,  
Moscow, Russia 119571

#### | 1999

APACK, INC. Founded

#### | 2007

LED Lighting Installed  
@ National Assembly  
Hall, Korea

#### | 2014/2015

Harbor & port  
@ DB Schenker,  
Stuttgart, Germany

#### | 2001/2002

MP started for LGE/PC cooler  
MP started for SEC/Printer  
Heating roller

#### | 2008

5M USD export  
Monument Prize

#### | 2016

Harbor & port  
@ Alaska, US

#### | 2003

**ISO9001:2000**  
**ISO14001:1996**

#### | 2011

G70L, High Efficient  
Energy Green Company  
selected

#### | 2018

Warehouses  
@ Biebesheim, Germany

#### | 2006

Intel capital investment  
(USD 3M)

#### | 2012

**TS16949 Certificate**

#### | 2019

Soccer field  
@ Euskirchen, Germany

## LED LIGHTING (Sports / Horticulture)

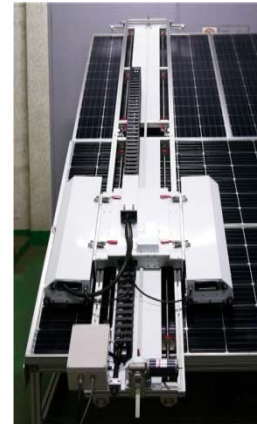


### "High Efficient Lighting"

- Industrial lighting
- Sports lighting
- LED Headlight
- Horticulture lighting



## SOLAR ENERGY



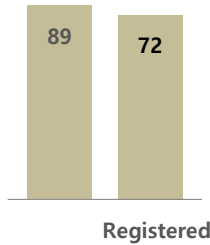
### "Leading Green Energy Solution Provider"

- Photovoltaic panel cleaner
- Solar A/C & heating system
- Solar hot water heater
- Solar desalination





### Patent



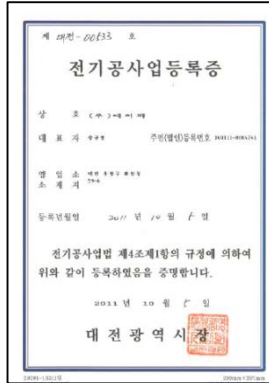
### Design



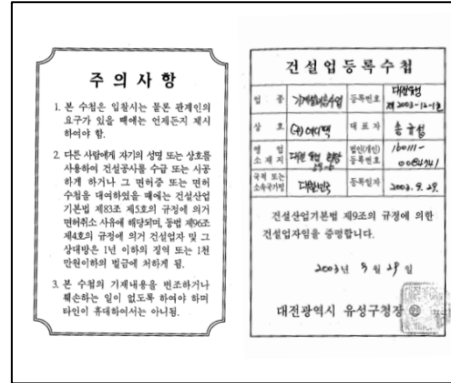
### Utility Model



### Trade Mark



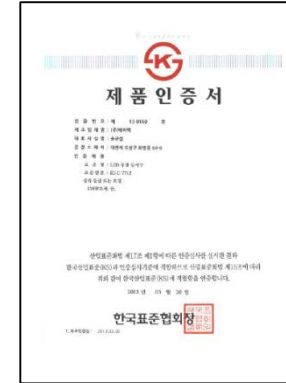
Electrical Service



Mechanical Equipment Construction



Direct Production



Korean Standard



Certified under ISO 9001 / ISO 14001

Global Leader in GREEN Technology

PRODUCTION



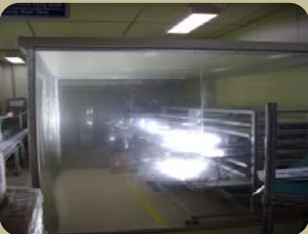
Cell Line



Pallet Conveyor



Clean Room



High Temp. Aging

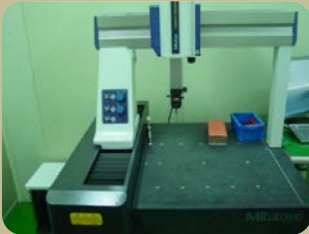
Line

Room

EQUIPMENT



Integrating Sphere



3dimensional  
measurement



Spectrometer



Optical performance measurement

RELIABILITY



Sprinkling Test Chamber



Dustproof Chamber



High Temp. and Humidity  
Chamber



Waterproof Test

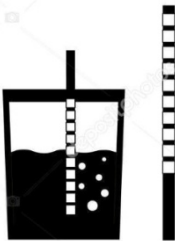


## TEST BED



YUSEONG Bio Science Technology School

## MEASUREMENT



Photosynthetic Measurement





# SMART Control for LED Street Light

# The Range of IoT Business

## IoT solution in urban infrastructure, building, utilities, and transportation



## Building

- SMART Skin & EMS
- Zero-Energy Building
- Energy Cloud



## Utility

- Electrical Energy and Water Supply **Smart Remote Detect**



## Infra

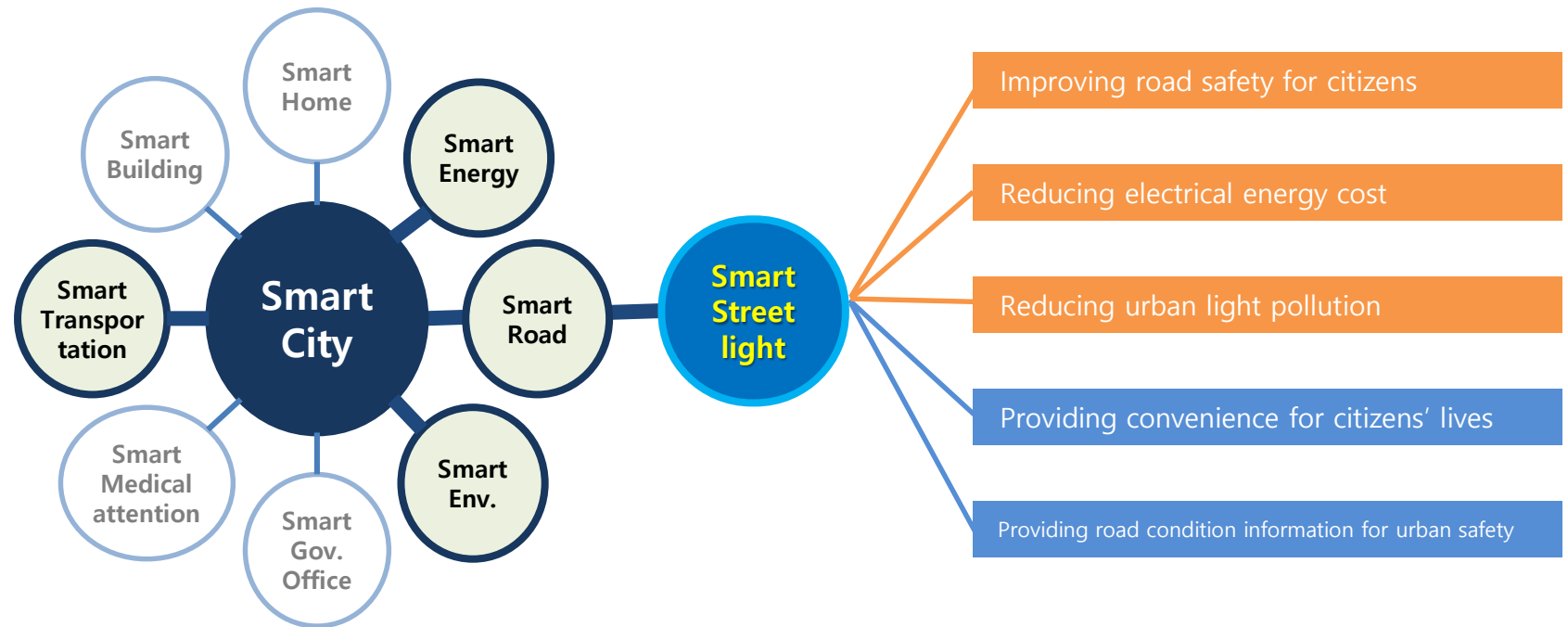
- **SMART Streetlight**
- **SMART Pole**
- SMART Bridge Health Assessment and Safety Management System



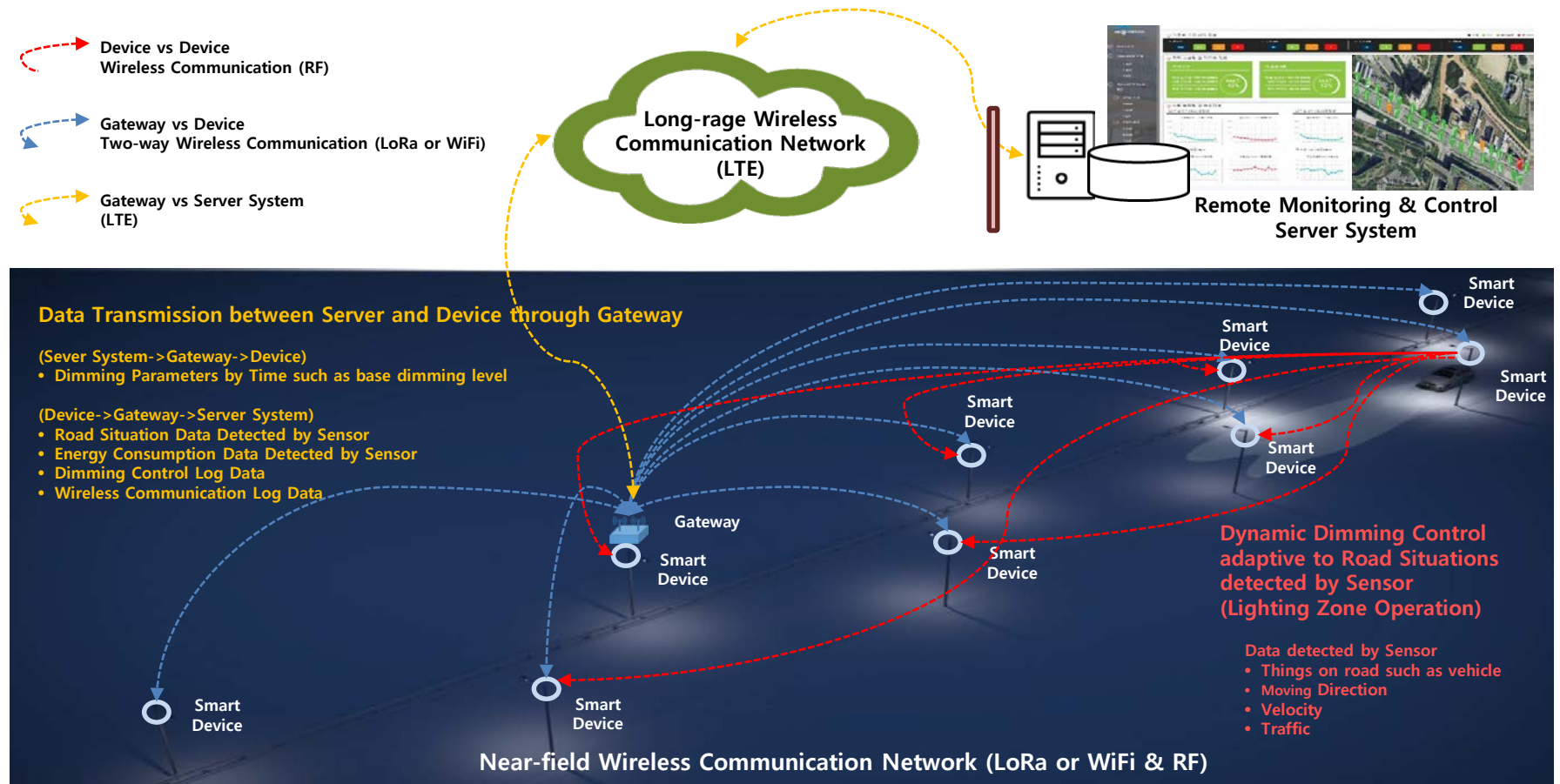
## Transport

- ### - Vehicle Detection System Based on SMART Sensor

## Core infrastructure for Smart City

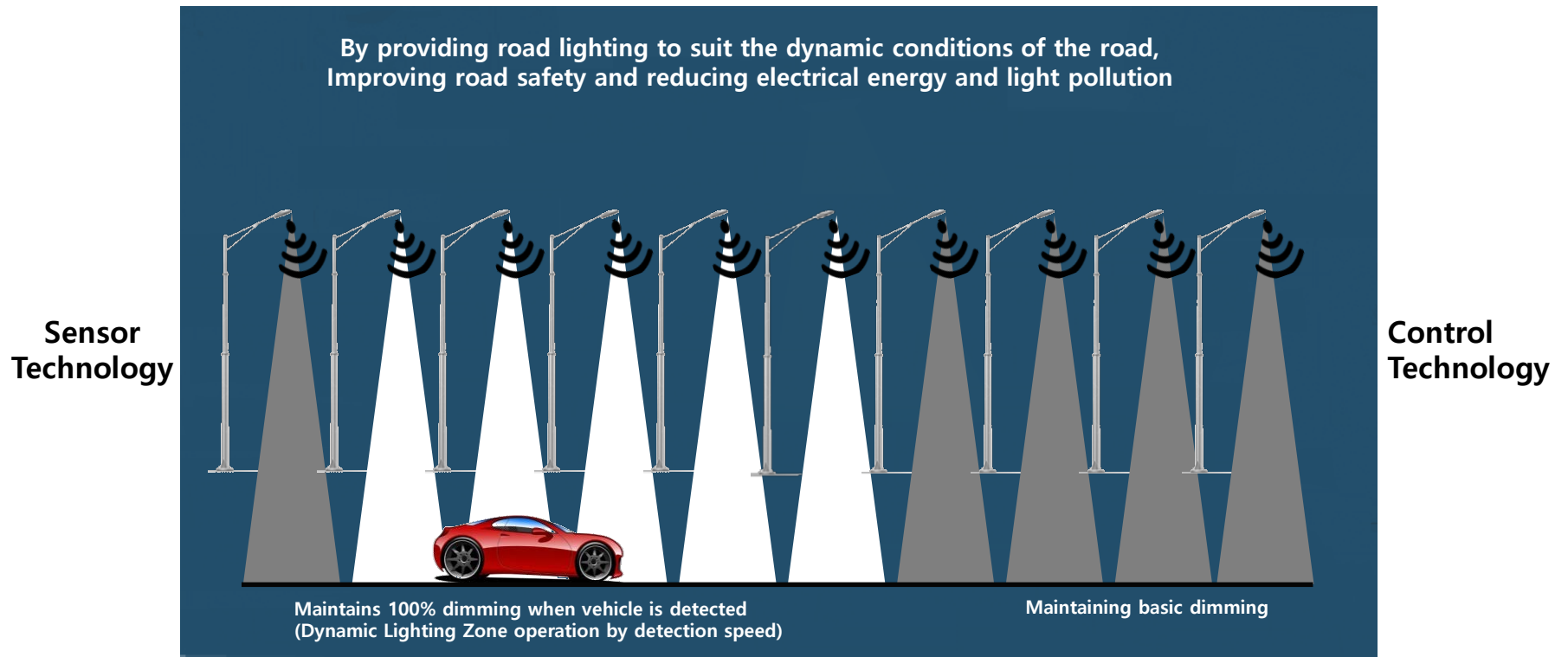


# Smart Street Light as the core infrastructure for Smart City



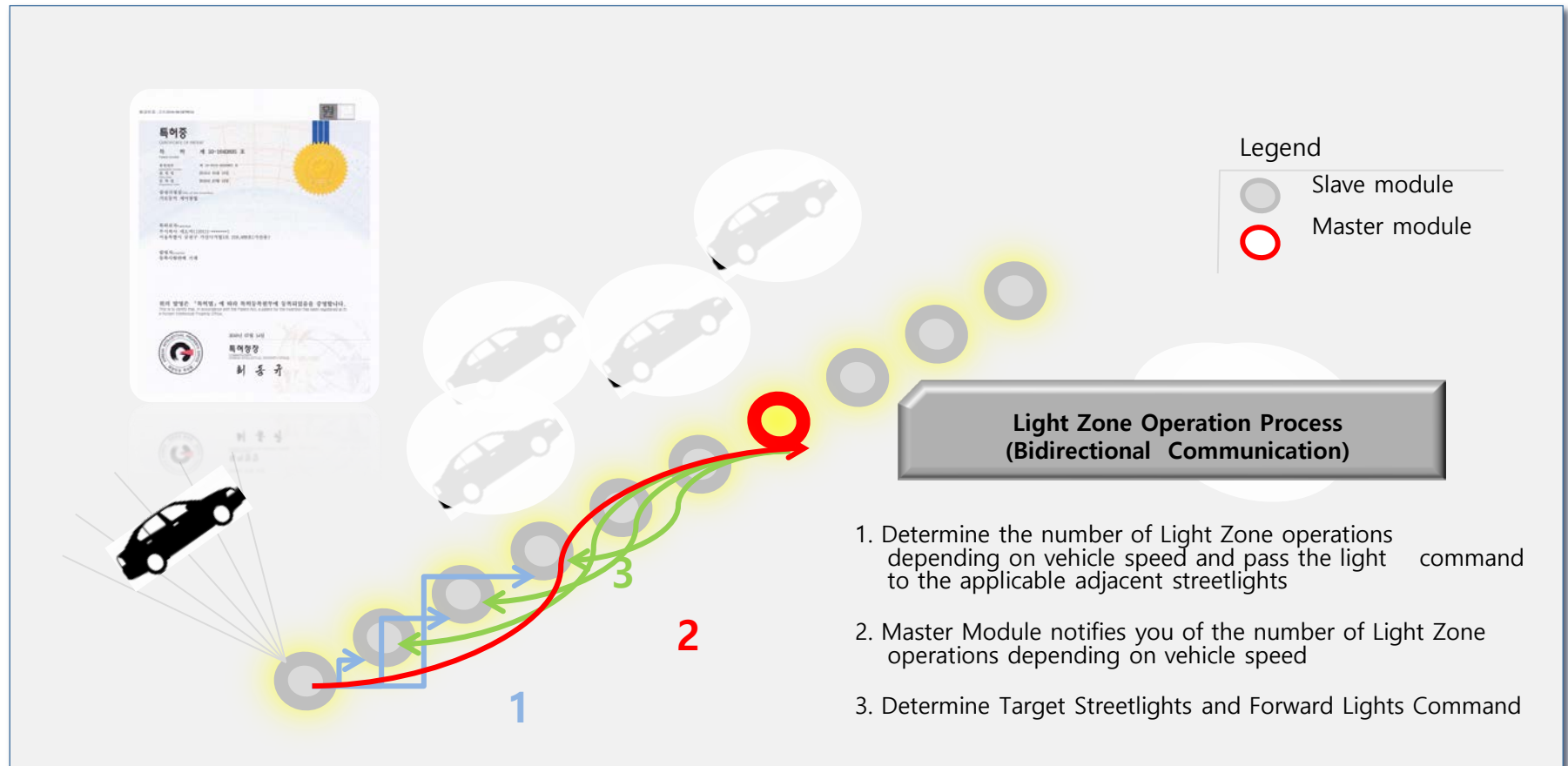
# Major **IoT** Technology of **Smart Streetlight**

## Remote Control Technology



## Wire/Wireless Communication Technology

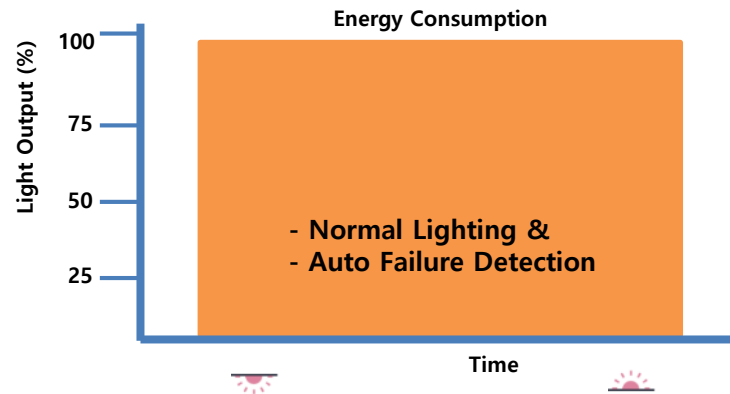
## Key Function\_ Light zone operation technology



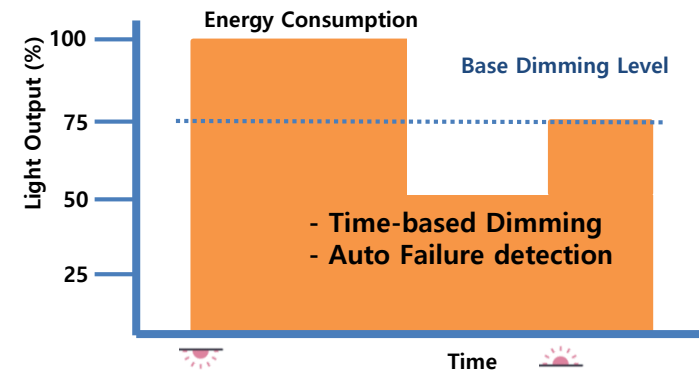


# Key Function\_ Energy saving by control technology

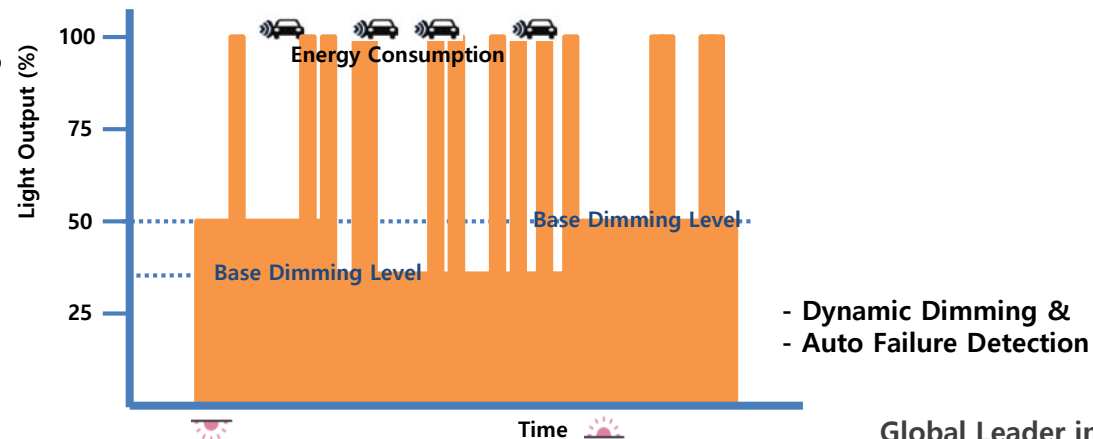
## No. 1



## No. 2



## No. 3



# Key Function\_ Road condition detection by radar sensor

**Max. 6개 차선**

**Max. 200km/h**

**전방. 50m**

**양방향**

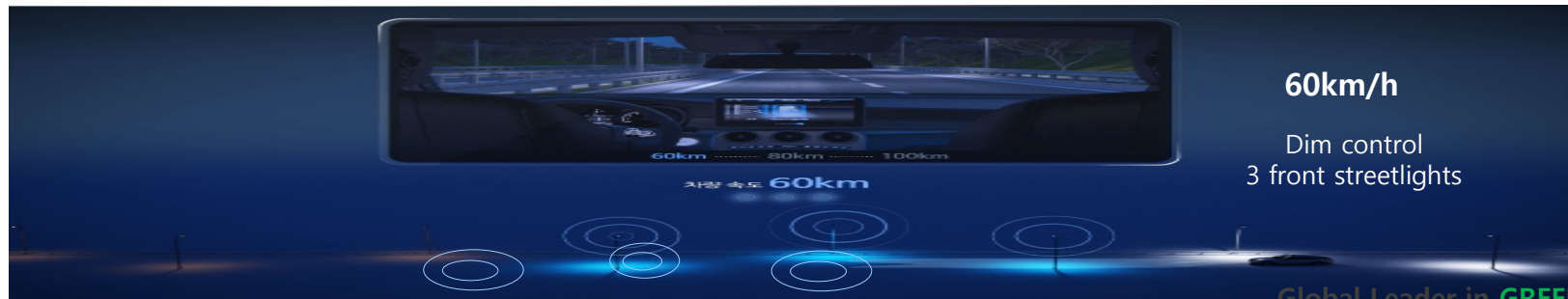
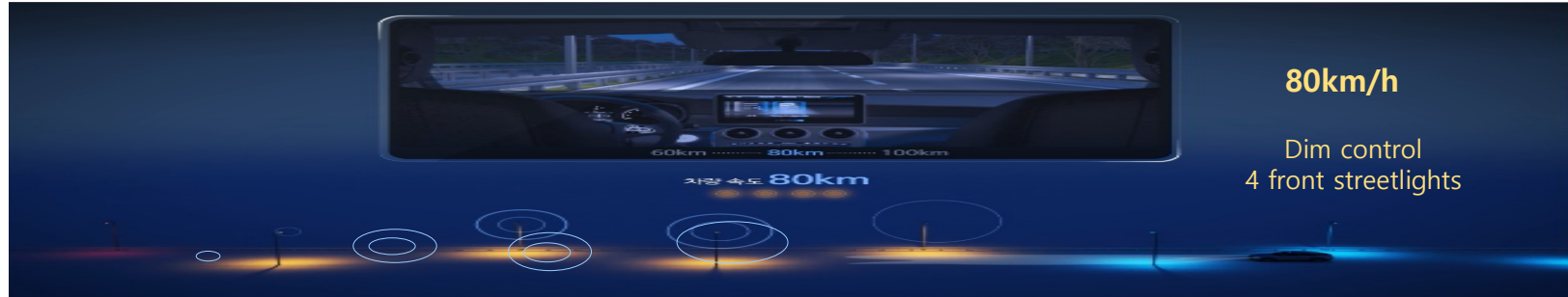
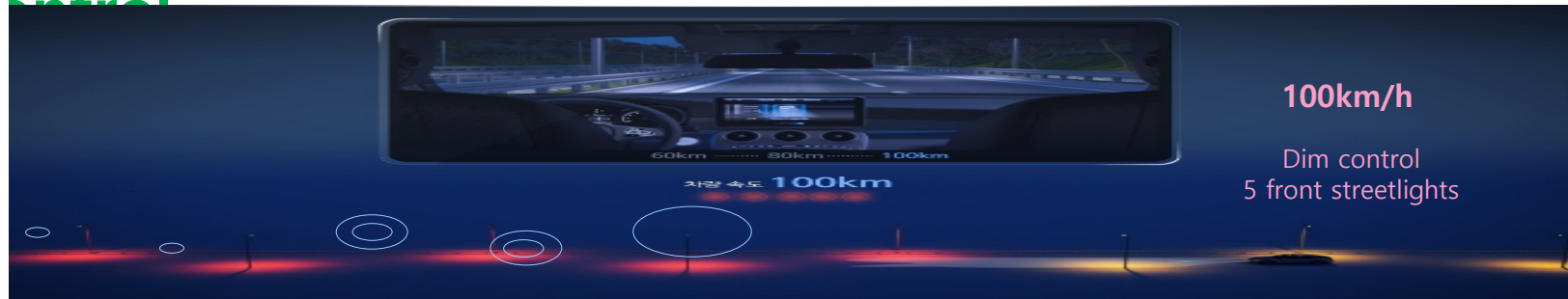
Section	Technical Specifications
Frequency	24.05 – 24.25 GHz
(Antenna) Beam radiation width	H. 60degree V. 35degree
Detection speed	Max. 200km/h
Detection	50m for vehicles (6lane road)
Installation	on pole
Size	100mm x 100mm x 30mm
Supply power	DC
Power consumption	2W
Operating Temp.	-40 ~ +85degree
IP rating	IP68

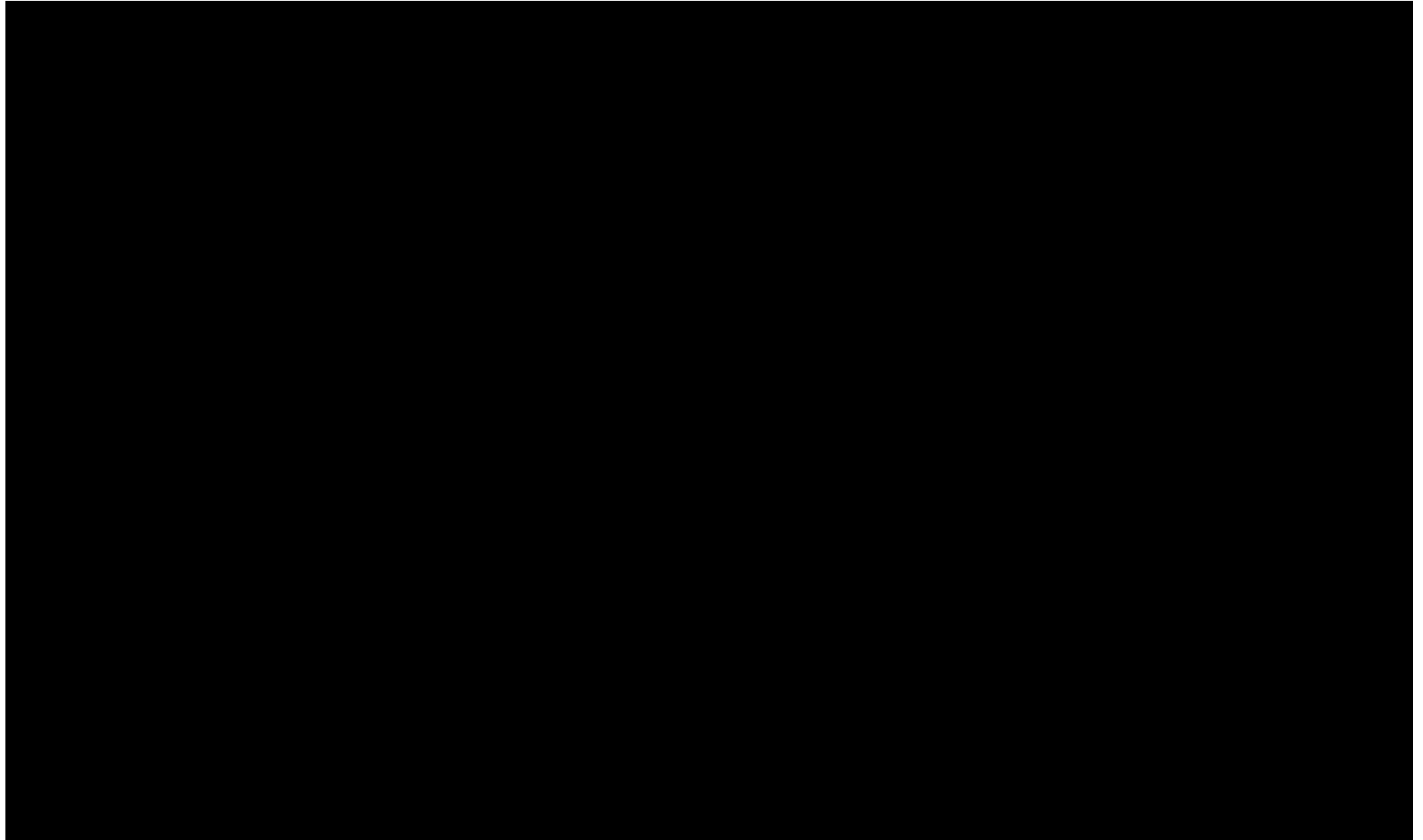
**Doppler Radar Sensor**  
(Object and speed detection)

**FMCW Radar Sensor**  
(Object, speed, traffic detection)

1 Lights and apparatus integral type  
2 Light Pillar attached type

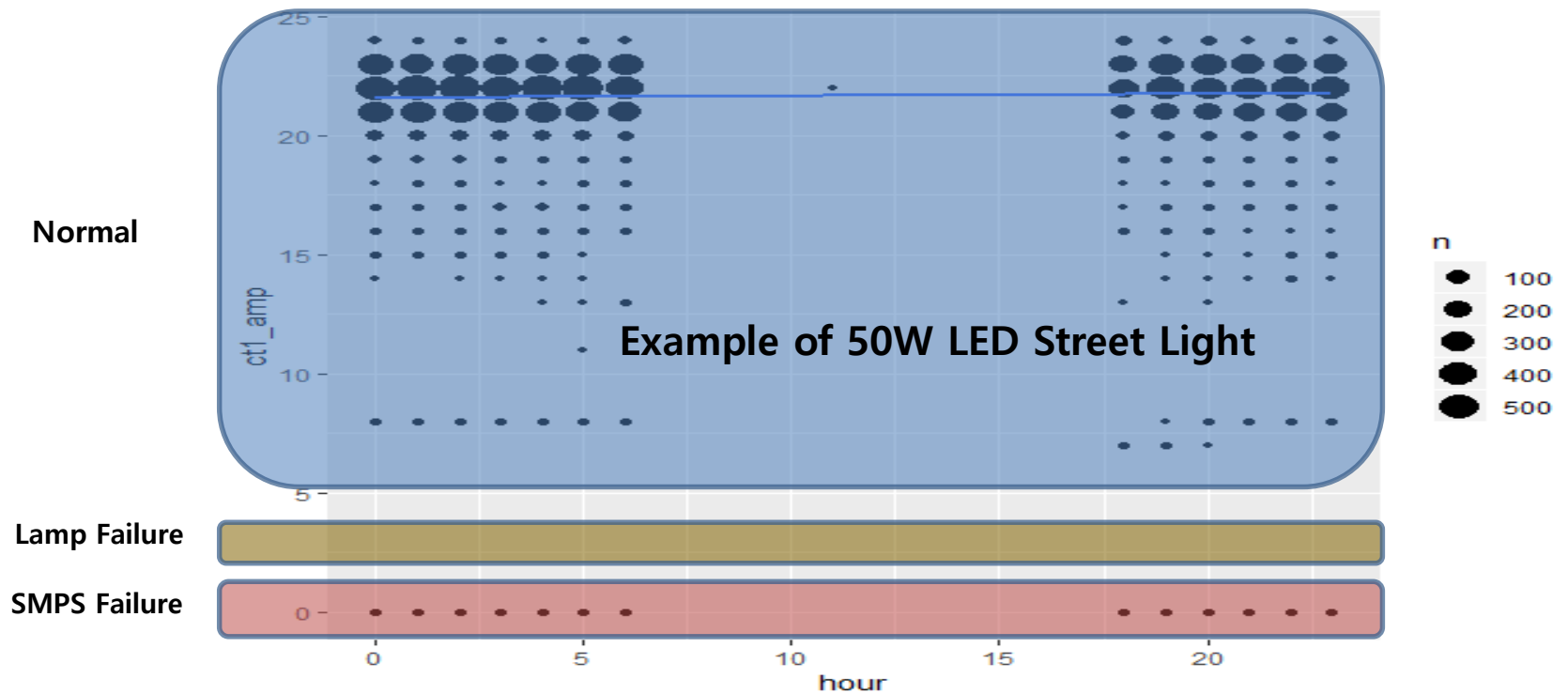
## Key Function\_ Dynamic lighting zone setup /dimming





# Key Function\_ Power consumption detection and monitoring

Electricity consumption data



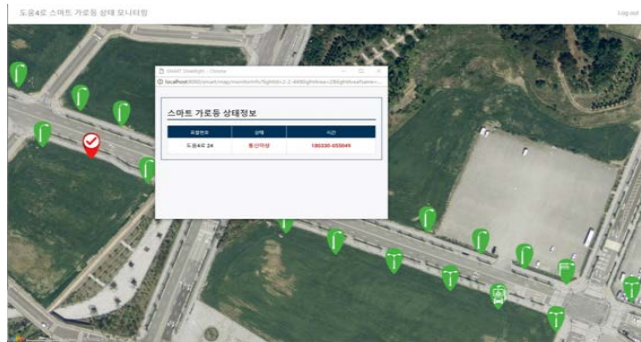
# Control Server System\_ Operating dashboards



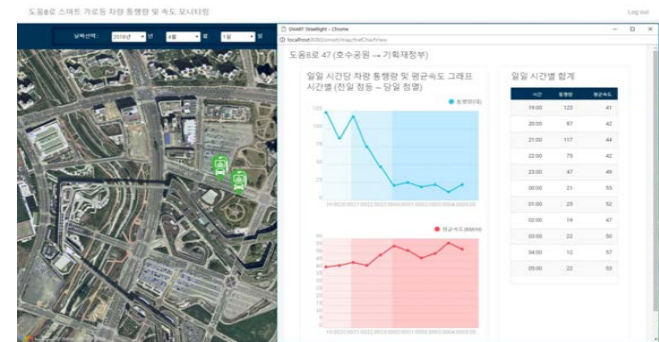


# Control Server System\_ Operating dashboards

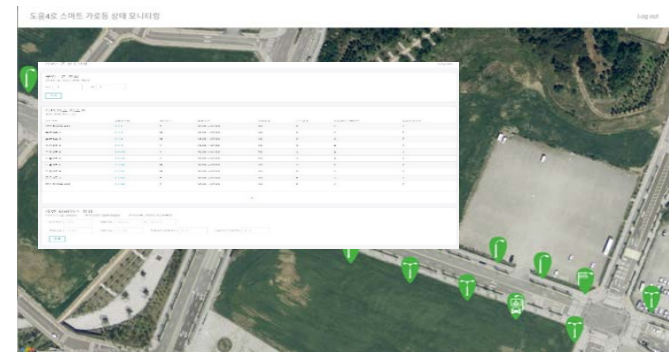
Location based Failure Monitoring



Traffic Information Monitoring













Energy Consumption Monitoring & Report



Dimming Parameter Setup & Monitoring

# System Group

Smart Streetlights are currently operated with High-range, Mid-range, Low- range

Product	Product Description(Feature)	Related Model Images			
High End	High End Lights Pillar attached type (Connecting the devices with the LED light)		G/W Device		Streetlights Device
	High End Lights and apparatus integral type (ANSI C136.41 integrated devices with LED lights)		ANSI C136.41 integrated Device		Integral Device
Mid. Range	Middle Range Lights Pillar attached type (Connecting the devices with the LED light)		G/W Device		Streetlights Device
	Middle Range Lights and apparatus integral type (ANSI C136.41 integrated devices with LED lights)		ANSI C136.41 integrated Device		Integral Device
Low End	Low End Lights and apparatus integral type (ANSI C136.41 integrated devices with LED lights)		ANSI C136.41 integrated Device		Integral Device

Note

1 3  
2 4 5

→ Be of the same appearance but of different functions

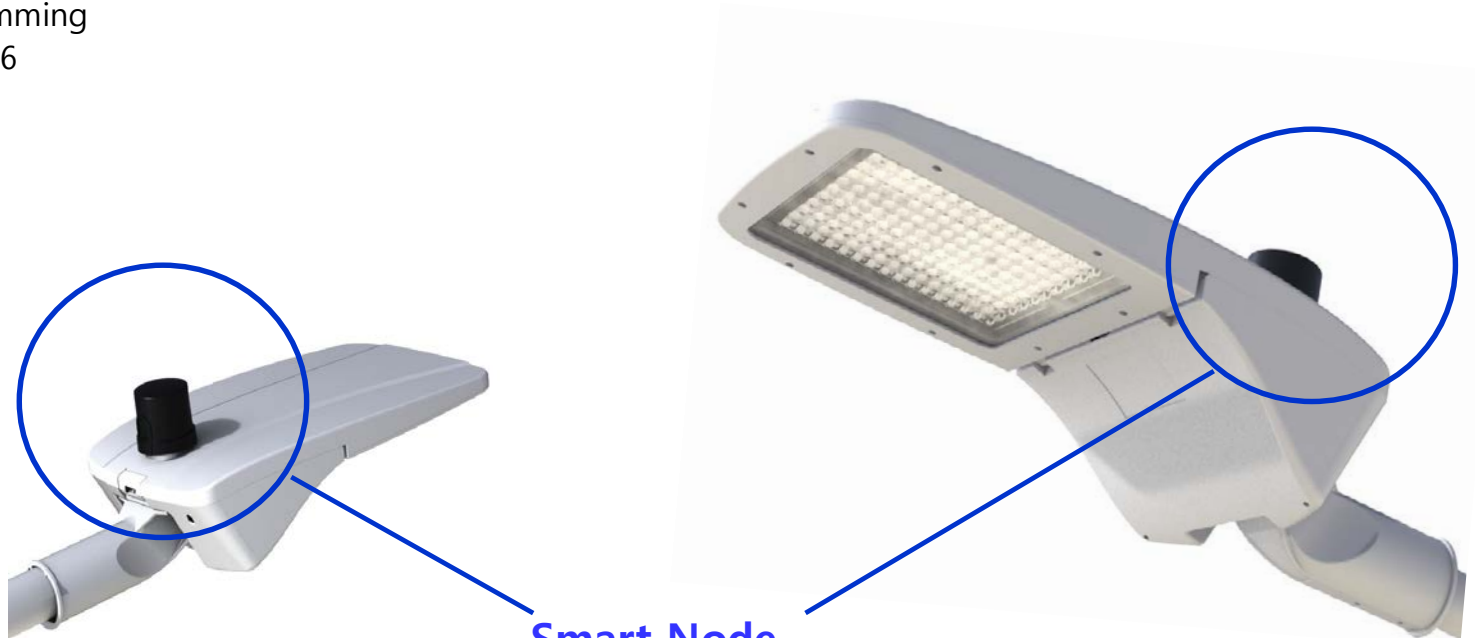
→ Be of the same appearance but of different functions

Global Leader in **GREEN Technology**

**LED STREET**    **SD Series**

Variable Wattage    50,80,100W

**Main Features**    Die-casted Aluminum  
Type -II, Type-III  
Corrosion resistance  
Built-in 10KV surge protector  
1-10V Dimming  
IK09 / IP66

**Smart Node**

LED STREET

Specification

Model (Part No.)		-	S50D	S80D	S100D
Classification		Unit	SPECIFICATIONS		
General	Power Consumption	W	50	80	100
	Dimension	mm	599(L) X 329(W) X 145(H)		
	Weight	kg	8.2 (With installation Bracket)		
	Working Temp.	°C	-30 ~ +50		
	Storage Temp.	°C	-40 ~ +70		
Optical	Humidity	%RH	5~95		
	Beam Angle	°	Type-II		
	Beam Angle	°	Type-III		
	Beam Angle	°	Type-IV		
	Beam Angle	°	Type-V		
Electrical	Voltage Range	Vac	100-277		
	Frequency Range	Hz	50 - 60		
	Power Factor	PF	>0.9		
Usage		-	Street		

효율  
150lm/W

배광.  
Type-II  
Type-III

방수  
IP66



**LIFE ENHANCING** Meaning: It's modern meaning is: to make greater, increase in value, to improve, to raise up and to augment. Adding value to your **life**. So something is '**Life Enhancing**' if it increases, augments or adds value to your **life**.

**“APACK, We Create Lights for Every Walk of Life”**





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