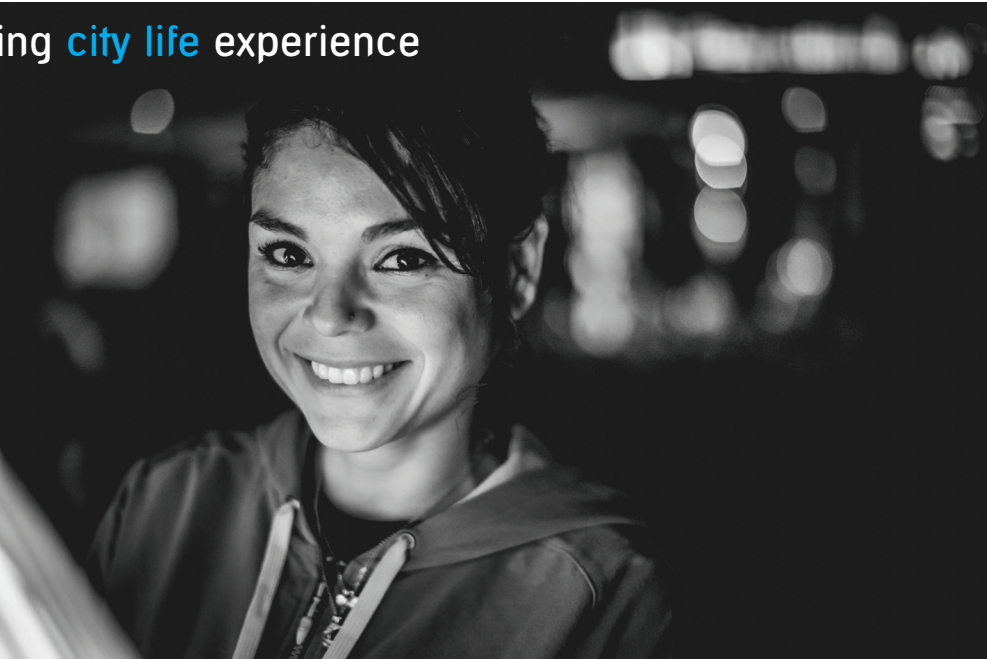
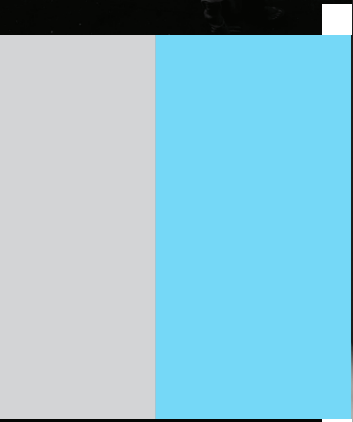


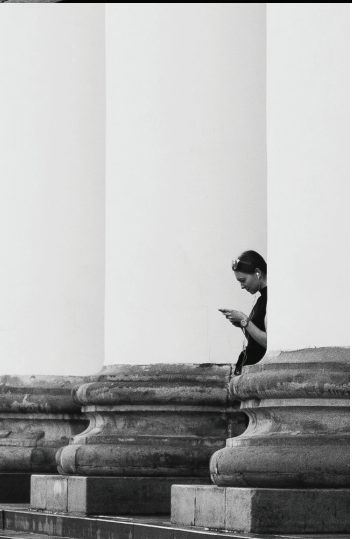


Intelligent Light Control System

enhancing **city life** experience



TRANSFORMING
HUMAN LIVES
THROUGH
SMART LIGHTING





Intelligent Light Control System

Note: All specifications are subject to change without prior notice for product improvement. Images and illustrations used are for illustrative purposes only and the colour printed in the brochure may differ from actual product.

LIGHTING. FOR PEOPLE.



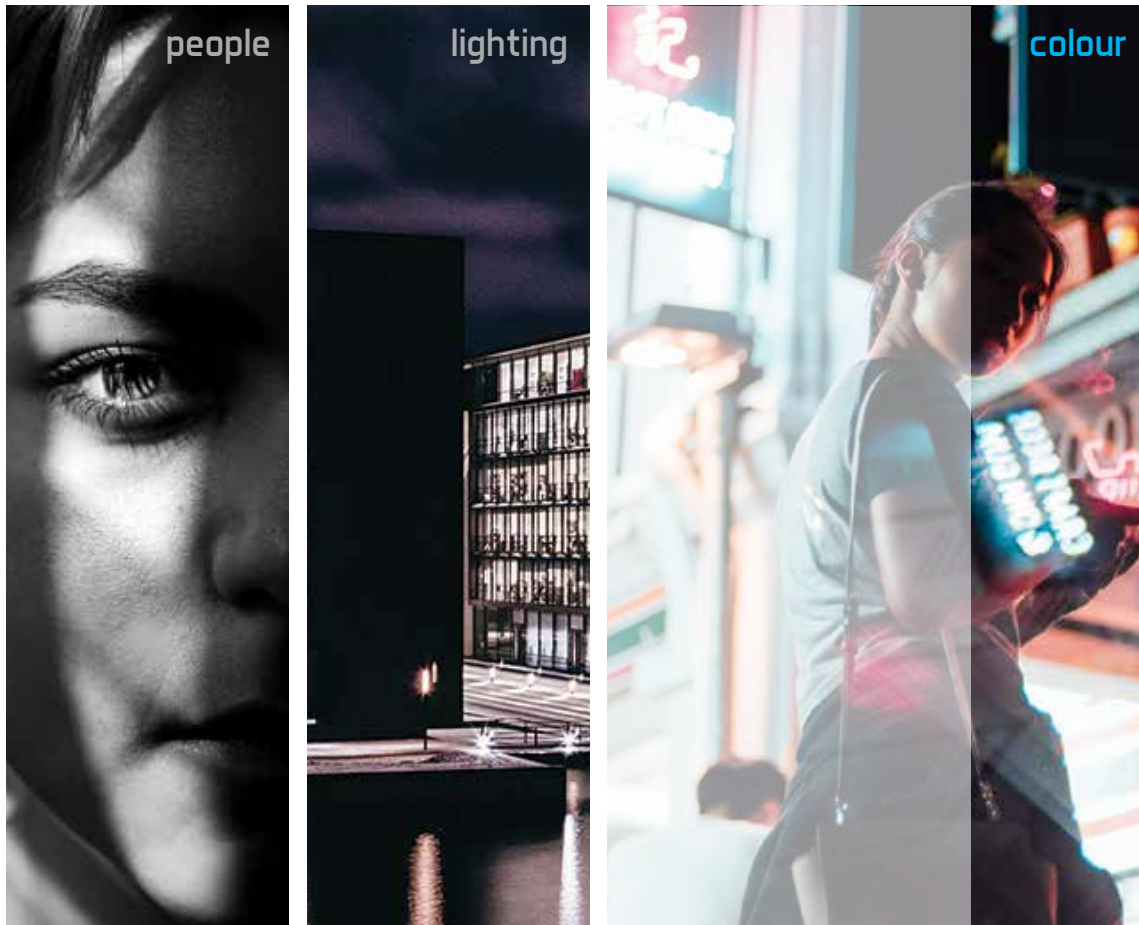
Human Centric Lighting

Human centric lighting (HCL) focus on people and its benefits. It enhances and balances visual, regulates mood, improves movement and individual performance in an environment. Light exposure stimulates non-visual effects on human psychology and physiology. It has profound effect on how our body experiences and adapting to natural environments.

HCL satisfies human comfort needs to stay healthy and be happy. The proper amount of light motivates the individual needs to perform and finish tasks. These are human biological necessities in nature and perceive stable.



LIGHT & COLOUR INFLUENCE ON EMOTION, HUMAN BEHAVIOUR



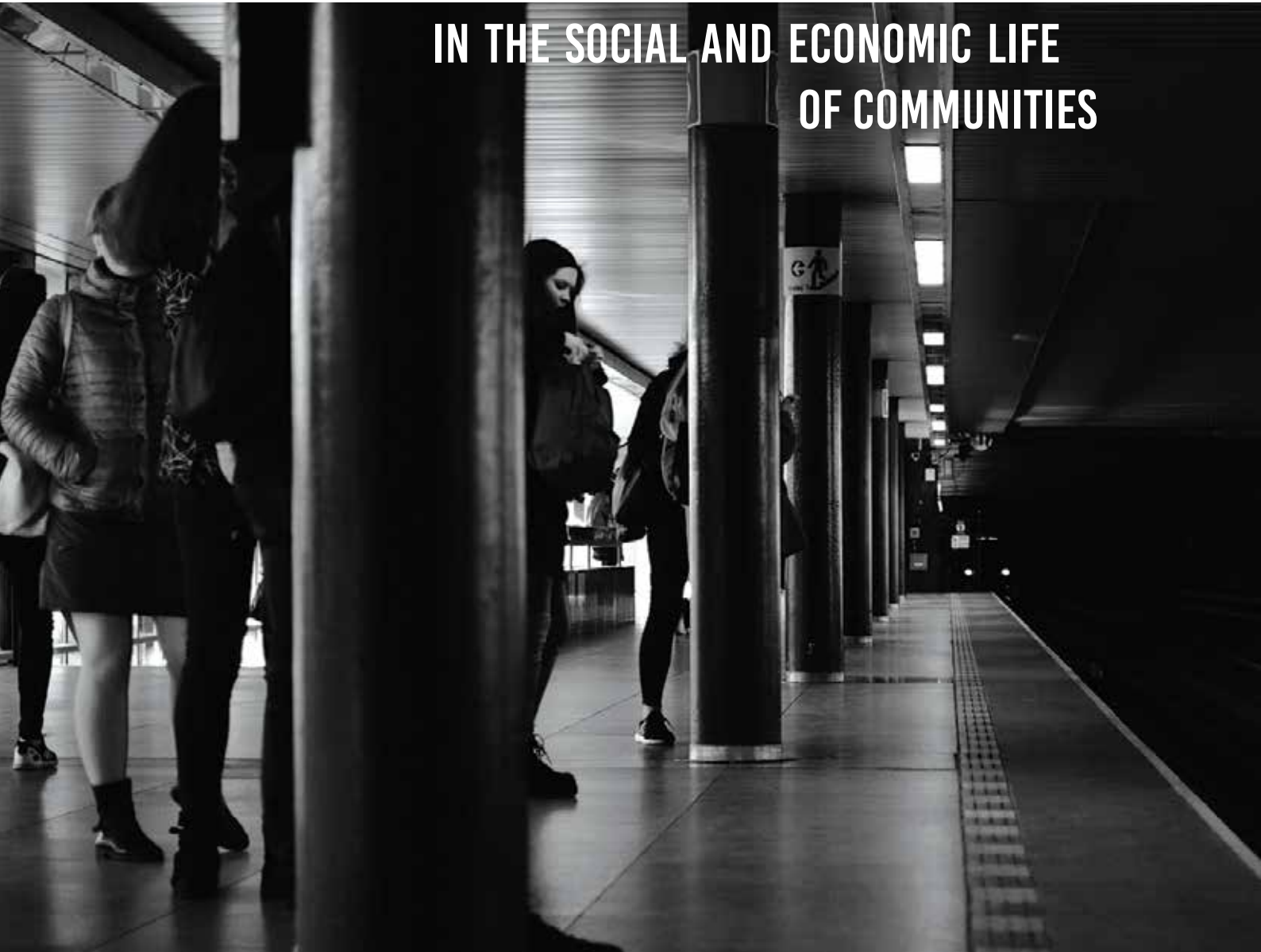
- Lighting affects humans' willingness and behaviour to use urban spaces after dark. It influences how frequent they use the same pathways and deciding on route choices. Good lighting has a positive effect on mental and physiological health. People are more focused on their surroundings during walking, increase concentration and awareness when crossing. Individual mood and energy are lifted. Furthermore, it gives better coordination and improves well-being to those with physical disadvantages, senior citizens and children in the public area.

In the city, the pleasing visual and ambience outcome created by the lighting environment attracts a greater interest from both shoppers and retailers in which open up new revenue opportunities. Moreover, it invites and encourages people to walk at night, socialize and participate in group activities. This will greatly promote a healthier lifestyle by bringing further nurtures to the growth of public life.



PUBLIC SPACES PLAY A VITAL ROLE

IN THE SOCIAL AND ECONOMIC LIFE OF COMMUNITIES



- The world needs more lights, city smartness, urban planning and community crime prevention approaches. Public spaces are being defined as a spatial space consumption and activities by pedestrians. Implementing intelligent light control system (iLCS) will illuminate the paths, increase pedestrians' confidence and safety to use the public spaces after dark such as train stations, underground walkways and junction crossing. The iLCS incorporates the combination of both lighting and security management benefitting across all sectors of the economy.

Further enhancement to the system, the iLCS can be interfaced with security features such as CCTVs, speaker announcements, alarms, etc. to alert citizens on dangerous situations and weather conditions. With these, it helps rescue teams to act quicker in emergency events and locate missing objects or persons.



**“WE
WANT
SECURE.
COMFORT.
VISION.”**





Lighting provides you a sense of
safety, security and alertness

LIGHTING TECHNOLOGY HAS EVOLVE



Street Smart Lighting Solution

“Public needs better light management solutions to tackle challenges faced by local municipalities such as road safety for pedestrians, monitoring traffic flow, reduce accident rates and eradicate danger.”



Energy Efficient

“Municipalities and utility providers are able to deliver enormous economic benefits by implementing energy efficiency street lights. Cost of electricity usage can be effectively reduced with enhanced functionalities of luminaire.”

SMART CITY VISION OUR NEXT FUTURE

- A smart city relies on smart technology and require transformation the way municipalities manage its assets and resources. Smart street lights with energy efficiency can deliver enormous savings on total energy costs. Effective city planning and management are taken into consideration in many factors with the aim of creating sustainable city living while natural resources can be potentially minimized. By incorporating smart light, it can extend the lifespan of the city lighting and reduce light pollution by controlling the intensity of light based on when and where it is needed.

TRIMAX LED SMART LIGHT

realize your smart
city vision



REASONS FOR CHANGE

ENLIVEN THE
CITY WITH

iLCS[®]

Intelligent Light Control System



**ADDING TOUCH
TO HUMAN
EXPERIENCE**

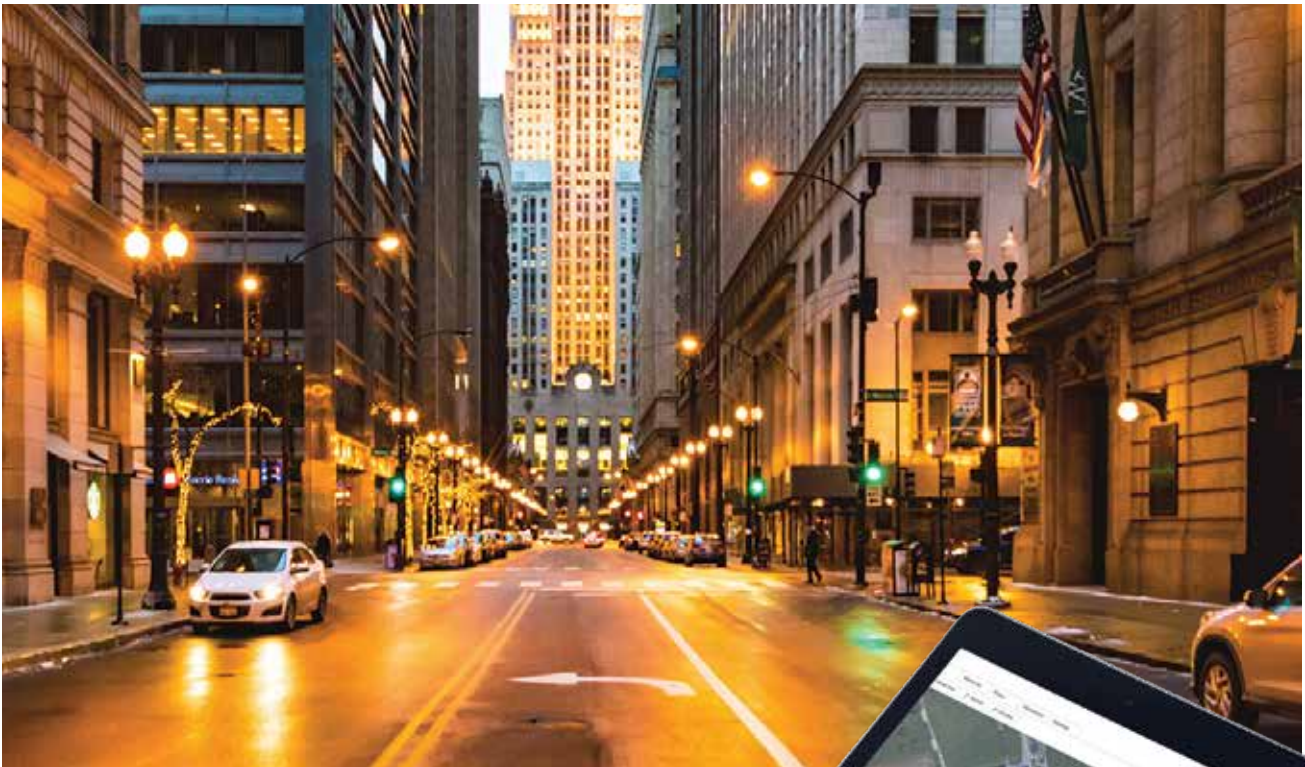
**VIBRANT
COLOURFUL
CITY**



**CITY SECURITY
FURTHER
ENHANCED**

WHY CHOOSE **iLCS**[®]

1. SMARTFLEXIBLE



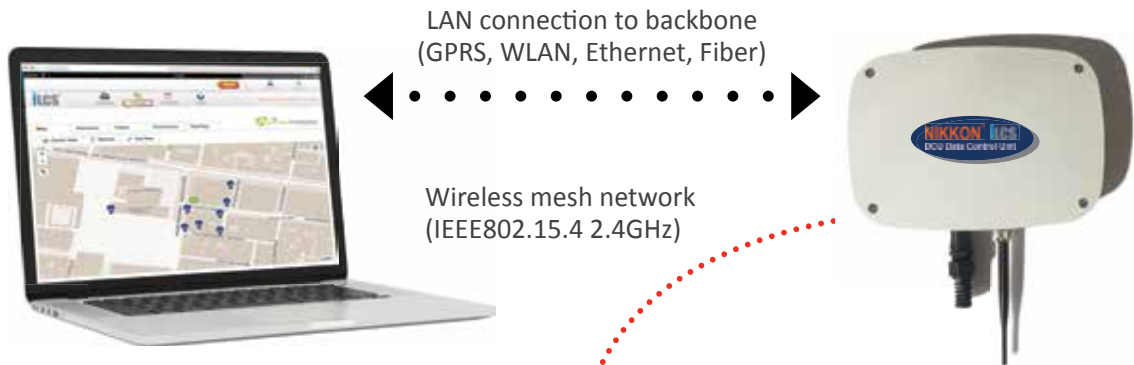
It gives flexibility for municipalities to manage data, obtain useful informations and control luminaires remotely. This means the operators can optimize their maintenance schedule to monitor street lights individually or in groups by streets or blocks from a computer or smartphone. Additionally, city planners are able to configure and schedule lights at a specific timeframe by dimming, on or off. iLCS makes it easy to control and automate your lights from anywhere and anytime.

On another level, this smart system is open to integrate with value added functions, enriching and preserving urban livability, thus strengthening the city's infrastructures and metropolitan. Smart street lights are capable to solve city's real challenges.



iLCS
built-in remote control
management system

2. ROBUSTNESS RELIABLE

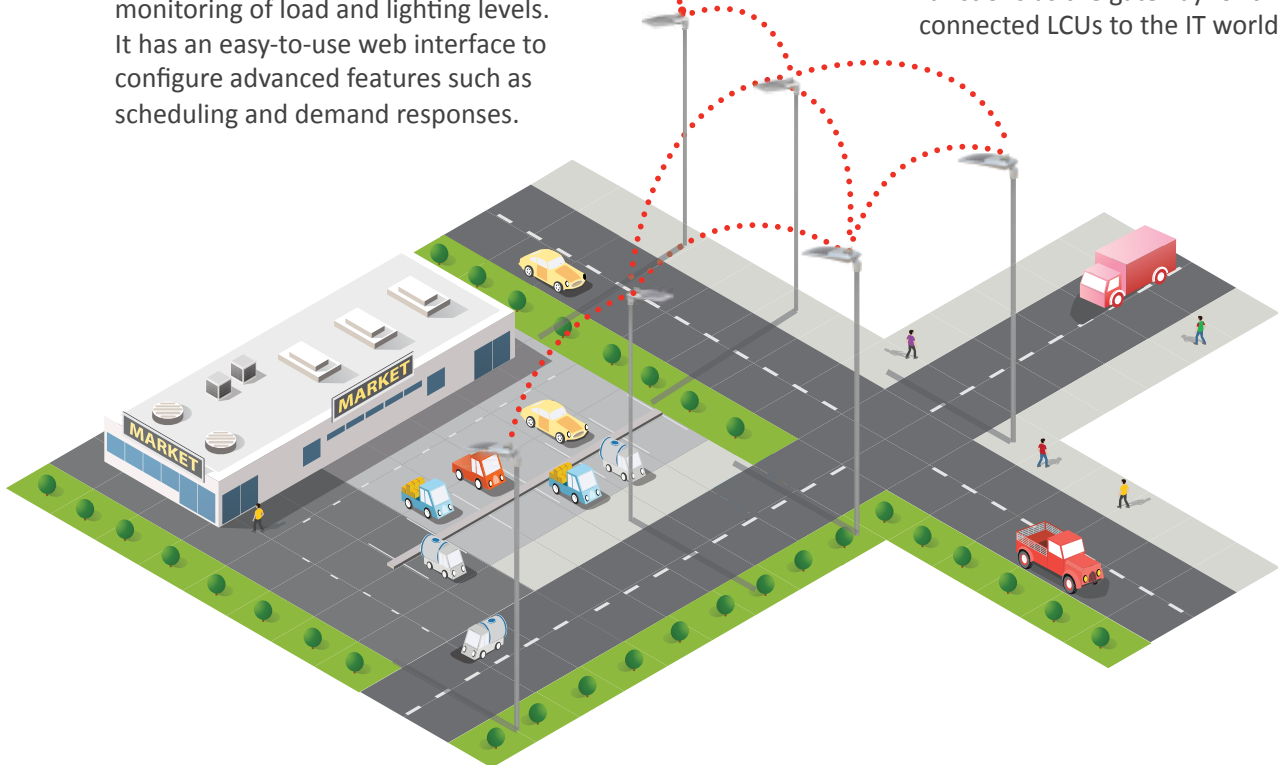


■ Cloud Vision

Cloud based platform for real time control of luminaires, real time monitoring of load and lighting levels. It has an easy-to-use web interface to configure advanced features such as scheduling and demand responses.

■ Data Control Unit (DCU)

The DCU monitors, controls and manages all connected LCUs. It also functions as the gateway for the connected LCUs to the IT world.



■ Light Control Unit (LCU)

Each node of the network is embedded with a GPS receiver and an astronomic clock. This enables the node, when it is completely isolated (standalone) or the network is under maintenance, it will follow the profile that has been previously programmed. Besides, the enclosure is made semi-transparent to allow an embedded photocell to sense daylight intensity to autonomously turn on the luminaire due to unpredictable weather conditions during daytime.



3. VERSATILE FUNCTIONALITY

Energy Savings

- Light dimming
- Control on/off
- Autonomous programming slots
- Defining different weekly profiles
- Light off during maintenance

Troubleshooting and Fault Reporting

- Luminaire burned out
- No input current
- Flickering luminaire
- Overvoltage or under voltage power

Smart Lighting Programs

- Time slots defined on the profile of each /group of luminaire
- Sunset and sunrise time calculated automatically
- Input from external sensors

Operating Cost Optimization

- Optimization of maintenance activities
- Improvement of logistics operations
- Forecasting through end-of-life alerts
- Warehouse optimization and better management of vehicles
- Improvement in troubleshooting

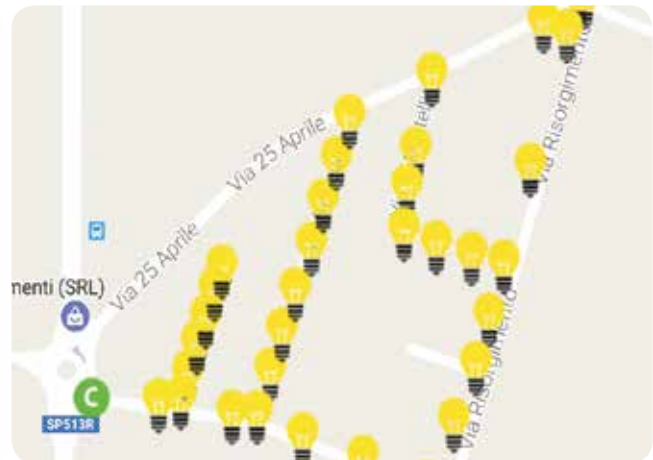
Measurements

- Supply voltage
- Active power
- Active energy
- Current consumption
- External analog sensors (temperature, humidity, etc.)

4. UNIQUE ADVANTAGES



LUMINAIRE PARAMETER CONFIGURATION



GPS MAPPING INTERFACE

Wireless Mesh Network

- Auto mesh networking between LCUs
- Low latency communication with response <1 second
- Message priority (QOS)
- Same platform for street lighting-industrial-indoor

Plug and Play GPS Mapping

- Automatic geolocation of each light point
- Real time clock directly synchronized with GPS satellites
- Sunset and sunrise time is automatically calculated
- Autonomous weekly profile considering GPS coordinates and astronomical clock

Installation Features

- Manual portable device to turn on/off/dim during installation
- Factory default with autonomous weekly profile
- External input sensors (3 ADC 0-30V dynamic range)
- Controlled auxiliary output (for advertisement displays)

Real Time Control, Metering and Alerts

- Real time control of each luminaire
- Dimming for exact consumption
- Real time measurements of consumption
- Real time alerts on failure and abnormality
- Detailed working time counters

5. HETEROGENEOUS NETWORK

The iLCS network is a distributed architecture composed by hardware and software with the aim to create network coverage for managing solutions run by different devices and components. This supports an ideal smart city by integrating numerous partners' applications and services worldwide. The fully deployed system creates an Internet of Things (IoT) neural infrastructure for the entire city to tackle existing challenges.

Smart Lighting

Intelligent and adaptive outdoors and indoors lighting.

Security

Closed-circuit television (CCTV) connected to provide time and space information.

Personal Alarms

Bracelets with a help or panic button to send an alarm signal to an emergency monitoring service.

Smart Parking

Monitoring the availability of parking spaces in the city.

Fire Detection

Monitoring combustion of gases and preemptive fire conditions of defined alert zones.

Air Pollution

Control of CO2 emissions of industrial areas, vehicles and toxic gases generated by farms.

Traffic Congestion

Monitoring of vehicles and pedestrian levels to optimize driving and walking routes.

Smart Roads

Intelligent highways with warning messages and detours according to climate conditions and unexpected events like accidents and traffic jams.

Noise Urban Maps

Sound monitoring in commercial areas and centric zones in real time.



7. MULTIFUNCTIONAL HUBS



With the connect solution, we could achieve in combining unlimited technologies in the modular approach. An unlimited range of possible applications can be incorporated such as public WiFi, telecommunication network coverage, audio announcement, fire and rescue siren alarms, environmental data, occupancy detection, etc. This will build a profound smart and safer city with an ideal infrastructure of Internet of Things (IoT).

Assets, resources, data and environmental footprint can be managed both effectively and efficiently to reduce cost and waste. No wiring is needed to install and less manpower to run. Henceforth, the connect solution creates an unparalleled value for sustainability. This efficient platform delivers an infinite range of services intended for citizens and municipalities.



SYSTEM BENEFITS...

SOCIAL, ENVIRONMENTAL & ECONOMIC



**CITY'S TOURIST
ATTRACTIONS**

**COMMUNAL
OUTDOOR
ACTIVITIES**



**TRAFFIC FLOW
MANAGEMENT**



**ENERGY
EFFICIENCY**

**TELECOMMUNICATION
HUB**



**OCCUPANCY
SCRUTINY**

ILCS[®] SECURITY SOLUTION

**ACHIEVE LIVABLE
CITY
ENVIRONMENT**



SURVEILLANCE DEMAND



**PROTECT PEOPLE
& PRIVACY**



**SAFEGUARD ASSETS
& PROPERTIES**

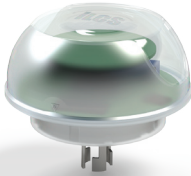
WE CAN BUILD AN IMPRESSIVE WORLD
FOR OUR PEOPLE.





WE WANT TO TRANSFORM.

LCU PRODUCT RANGE



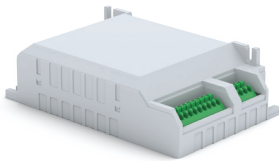
LCU WiSN-RMGA

This device series is tailored for street light fittings to allow integration of the luminaire into the iLCS network. It is designed as a simple plug and play installation into the standard NEMA socket. In addition with GPS, astronomic clock and photocell embedded; it is able to locate and operate based on time zone and weather conditions.



LCU WiSC-RMGA

This device series is tailored for street light fittings to allow integration of the luminaire into the iLCS network. It is designed to fit on the top of the fitting. In addition with GPS, astronomic clock and photocell embedded; it is able to locate and operate based on time zone and weather conditions.



LCU WiC-RMA

This device series is tailored for industrial highbay and lowbay fittings to allow integration of the luminaire into the iLCS network. It is designed to compactly fit into bay light fittings. In addition, it is also flexible to be installed with other indoor fittings to provide the basic needs of the iLCS.

SPECIFICATIONS

WiSN-RMGA & WiSC-RMGA

- Operating voltage: 100 ~ 305 Vac @ 50/60Hz
- Idle consumption: < 1W
- Overvoltage, overload and thermal protection
- Short-circuit and open-circuit protection
- Autonomous operation redundancy
- Antenna integrated
- Metering embedded
- GPS embedded
- Photocell embedded
- Dimming interface: 0-10V
- Ingress protection: IP66
- Analog input availability: 0-30V
- EN 55015, EN 60598-1, EN 61000-3-2, EN 61000-3-3, EN 61547, EN 61347-1, EN 61347-2-11, EN 61347-2-13

WiC-RMA

- Operating voltage: 100 ~ 305 Vac @ 50/60Hz
- Idle consumption: < 1W
- Overvoltage, overload and thermal protection
- Short-circuit and open-circuit protection
- Autonomous operation redundancy
- Antenna integrated
- Metering embedded
- Dimming interface: 0-10V
- Ingress protection: IP20
- Analog input availability: 0-30V
- EN 55015, EN 60598-1, EN 61000-3-2, EN 61000-3-3, EN 61547, EN 61347-1, EN 61347-2-11, EN 61347-2-13

YOUR **ULTIMATE** CHOICE FOR **SMART** CITY.

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