

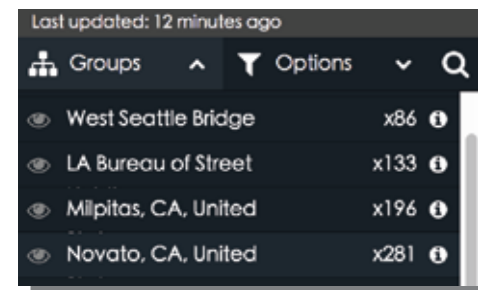
Inside our CMS

E

Visualized Management

(On Google or Baidu Map)

▶ User can check the status of each light from Google or Baidu Map. Any abnormal situation can be easily identified from the map i.e. red street light sign stands for defective working status. The visualized management can facilitate users to detect irregular failure from a big range of lighting territory.

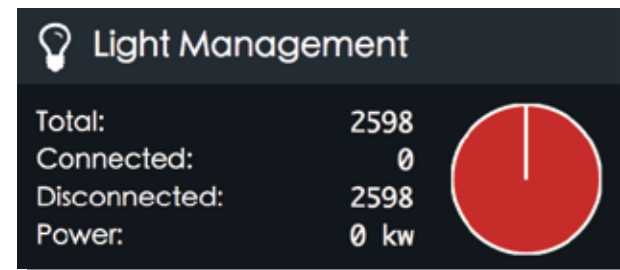


Group Management & Flexible Schedule

▶ The quantity of each street light project is usually numerous. Group management provides users a more convenient way to overall inspect the status of street lights. The scheduling provides more flexibility in assemble on/off and dimming based on level of lightness due to seasonable changes. Users can also design based on the ambient numbers of people. For example, if the location where street light installed has fewer people during mid-night, the dimming level can be reduced to level adapt to the ambience and save unnecessary energy consumption.

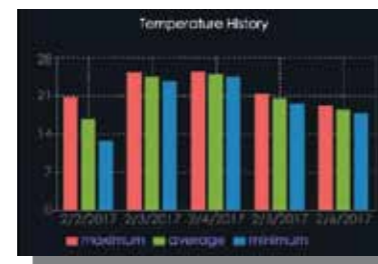
Power Consumption Calculating

▶ Via our Data collecting and analysis system, you can easily to obtain the individual or total power consumption of your devices



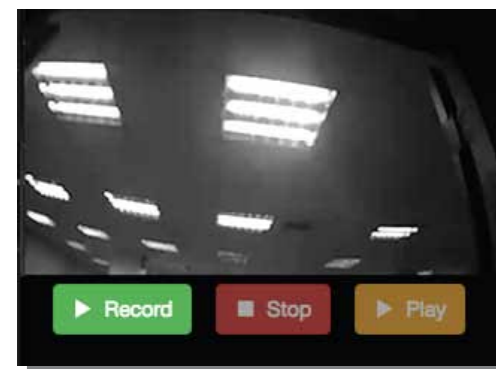
Smart Data Logger

▶ Easy to log and save your data to database, currently we support MySQL, MongoDB and Redis



IP Surveillance

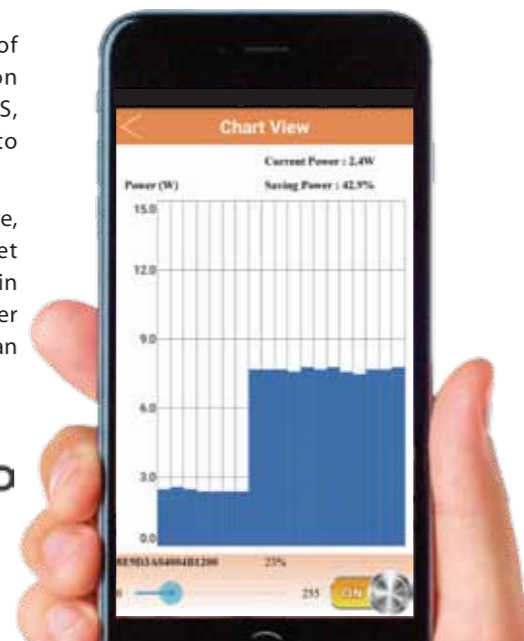
▶ We support various functions in our IP surveillance software, incl. smart search of video, tamper resistance of camera, specific object tracking, and adding watermark on video.



Powerful APP

▶ Construction APP is capable of collecting essential information from street lights such as GPS, Zigbee ID and upload data to our public or private cloud.

Light control APP can manipulate, monitor and manage the street lights remotely. Statistical chart in light control APP can display power consumption and cloud server can make further analysis.



Success Examples

F

Panama City

In Panama, the electricity source is from DC(direct current) 24V solar panel which is on the top of lamp; the structure is different than other countries. It will lead to more modifications of its CMS different than others. ORing demonstrates its unusual flexible R&D strength to suit diversified demands in each country.



Jiangsu Province, China



China has vast realm and so as well potential in developing IoT Smart Lighting Control System as its massive energy demand and eager for power saving scheme. ORing has installed 13,000 nodes in Jiansu Province, southern part of China. The achievement of power saving in this project is up to 80% depending on different dimming levels. For such a large area implementation, it easily saves the cost of maintenance and monitoring the status of street light via ORing intellectual street light management system. As China has its own visualized Baidu Map, IOTWAV implement the CMS into Baidu Map rather than Google map. The remote control on/off and dimming transform the city into a best practice of smart city in China.

Tao-yuan, Taiwan



ORing got the project of 6000 nodes in Taoyuan, Taiwan. Installing smart lighting control unit makes it easier to manage and monitor the status of street lights remotely and save maintenance time and man effort. The precise power consumption monitoring makes operator more aware of the power saving benefits, energy efficiency and reduction of carbon footprint.

What we can achieve

Power Efficiency

- Energy Saving**
Save energy up to 80% via LED and dimming
- Environmental Friendly**
Diminish carbon dioxide emission
- Integration**
Well integrated with other renewable energy supply such as solar power

Business Efficiency

- Maintenance**
Massively save the cost and time via remote monitor
- Security**
Keep the fundamental function of street light and power saving simultaneously
- Stability**
Minimize the down time via auto-alert to staff in charge

ORing
Get Connected Anytime, Anywhere



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The Next Generation of Your City.

Upgrade Your City from our IIoT Solution

- Smart Street Lighting Control System
- IP Surveillance
- Traffic Status & Congestion Alert
- Urban Communication Networks
- Sensors of Air Quality (PM2.5)
- Smart Parking Service
- Advertising Panel or City Info

ORing
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The “Must Have” in the Future Cities

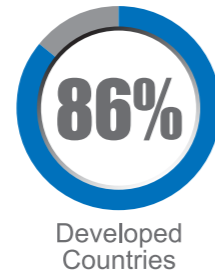
A



▶▶ From the forecast of Strategy Analytics 2015, urban living will contain 86% of the developed countries and 64% of developing countries by 2020.

The circumstance of global population shifting to urban centers is stimulating the emergency and adoption of “Smart Cities” which is to maximize the efficiency of crucial resources such as utilities, water supply and transportation services and so on. These cities in the future will combine and leverage Internet of Things (IoT) and Information and Communications (ICT).

From the forecast of Strategy Analytics 2015, urban living will contain 86% of the developed countries and 64% of developing countries. It makes resource allocation become more critical for global development especially in ICT and relative integrated IoT system. According to report of “The Future of Smart Cities- Opportunities, solution and Players” predicts that ICT revenues from urban living will reach \$977 Billion by 2022. End to end system such as cloud computing and data collection mechanism becomes essential to sustainably urban living in terms of how to make proper use of energy and further increase service quality of public infrastructure.



What ORing can Do for You?

B

Creating your IoT Application Agilely

▶▶ ORing has strong R&D team in developing wireless communication technology. With the emergency of IoT, ORing incorporate its original technology strength and integrate the its product category of gateway, module, smart antenna and cloud service platform and App.

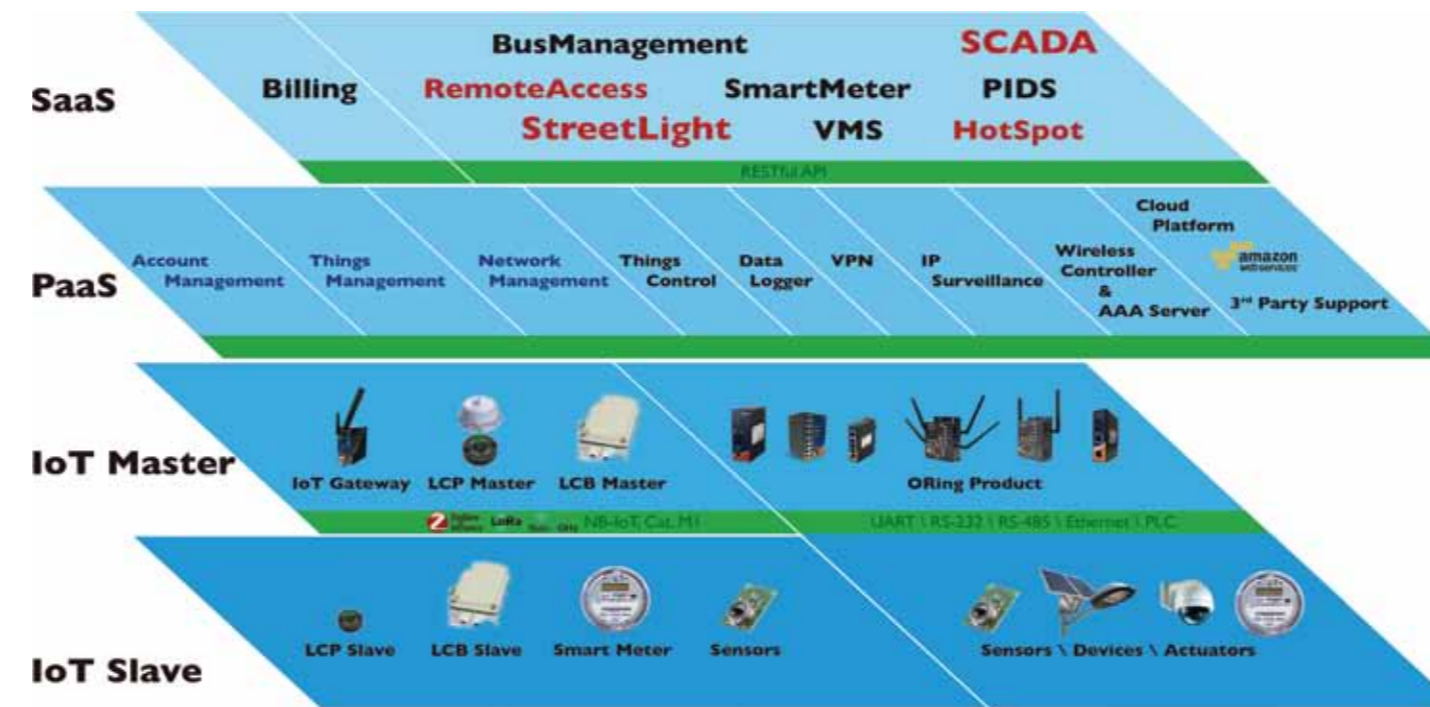
We integrate those elements to construct our IIoT Solution. The solution perfectly reflects concept of Smart City and realize the first step into a green sustainable prospective.

The potential IoT applications is growing such as WiFi Hotspot, PM2.5 air quality detection, Urban Marketing and Real Time Surveillance system. More business opportunity can be found in tremendous IoT solution and we really look forward to invite our more ambitious customers to join our global IoT group.

ORing Product Categories

C

Accessing Which You Want from Our Complete IIoT Solution



▶▶ Oring diversified hardware components as above can help you upgrade existing infrastructure into smart solution.

We have wireless connection of IoT Master and Slave, which can connect via Zigbee, LoRa, Sub-1G, NB-IoT and Cat. M1 depending on different application environment. For wire connection, we support UART, RS-232/485, PoE and PLC. All of the IoT Master can upload data to cloud via MQTT.

All services are integrated in PaaS layer. Things Control is for controlling device such as street light, robotic arm and other IoT embedded devices. Things Management is to maintain connected devices, configure and obtain status of devices. VPN router can provide service of Remote Access including relative services. SCADA can record, store and analyze historical data and provide mechanism of alert for abnormal situation from connected properties. Network Management can display current topology of connected devices. When installing IP cameras, IP surveillance service can be compatible with various branding cameras with our ONVIF standard.

It is easy to customize your own IoT solution such as street lights, bus, smart metering with our modern REST API.

Assembling Our IIoT Components into Your Solutions

RF Modules

- Support WiFi, ZigBee, NB-IoT, LoRa, BLE, Sub-1G...
- Compact size
- Can integrate with different devices
- Support -30~70 degree
- Module Size : 28mm x 20mm x 2.2mm (non-shielding)
- Programmable output gain, up to +21dBm
- DIP type, 20pin



Edge Server : OSC-815

- Private and Public cloud
- Support MQTT and REST api available
- Cluster computing and data backup
- AWS-IoT Enabled
- Support fog computing.



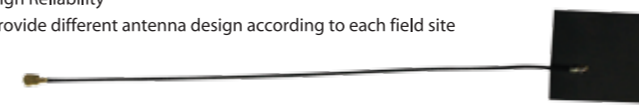
IoT Gateway : IMG-6322GT

- 2/3.5/4G LTE model included
- High Speed Air Connectivity: WLAN interface support up to 150Mbps link speed
- Support Open VPN, PPTP VPN
- Redundant multiple host devices: 5 host devices: Virtual COM, TCP Server, TCP Client mode, UDP mode(4 IP Ranges)
- 1KV isolation for PoE P.D. (IOTM-4312+-4G)



Antenna Model : IOTA-05-IM-WG-01 (PCB Antenna for Smart Street Light unit)

- Small Size
- Customized design based on customers' needs
- High Reliability
- Provide different antenna design according to each field site



Example, Smart Street Lighting System

Easy to Upgrade

- Compatible with all ANSI C136.41 NEMA-7pin type LED Luminaires.
- All LCCs are Zigbee routers, and they will relay messages to and from the unit, according to a MESH network topology.
- LCC application firmware can be upgraded over the air(OTA).
- Embedded Ambient Light Sensor auto-self ON/OFF working mode while disconnect with Zigbee gateway.
- Remote on/off & dynamic dimming/trimming.
- Smart grid ready demand/ response energy management.
- Easy to install-Plug-twist-play standard NEMA three prong twist lock per ANSI C136.10
- Instant alerts and notifications via e-mail or text message.
- Secure web based GUI management
- Active Google/Baidu Earth visualization
- 5 year full performance warranty



Model : LCP-M110-3G(Master) : LCP-S10(Slave)

- ANSI C136.10 / 136.24 and new ANSI C136.41
- FCC Compliance Statement (Part 15.19 RSS-GEN)
- Std. NEMA three prong twist lock per ANSI C136.10
- FCC Title 47, Subpart B, Section 15, class A

Connect Your City, Just in a Finger



Simplified and Straightforward

The StreetLight Management System provides a simplified process to manage smart city solution. The user's interface is neat, organized and easy to monitor scale of devices connected region.