Environmental Technology in Developing Green Ecosystem

Go Green With Smart Mobility
綠色生活 智慧出行

Building Green Workplace with IoT
以物聯網構建綠色工作間
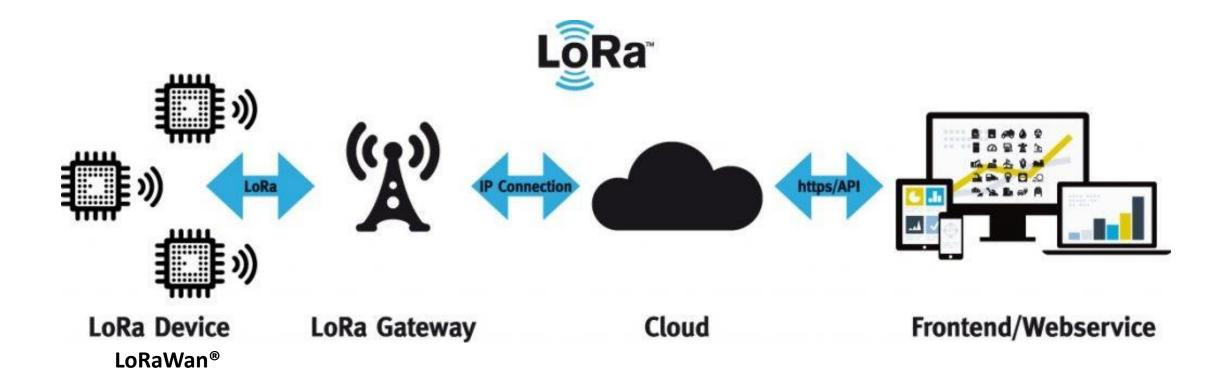
Tim Chan, *Sales Director*
March 4 2022

Multisoft
The source of technologies

Hong Kong
Macau
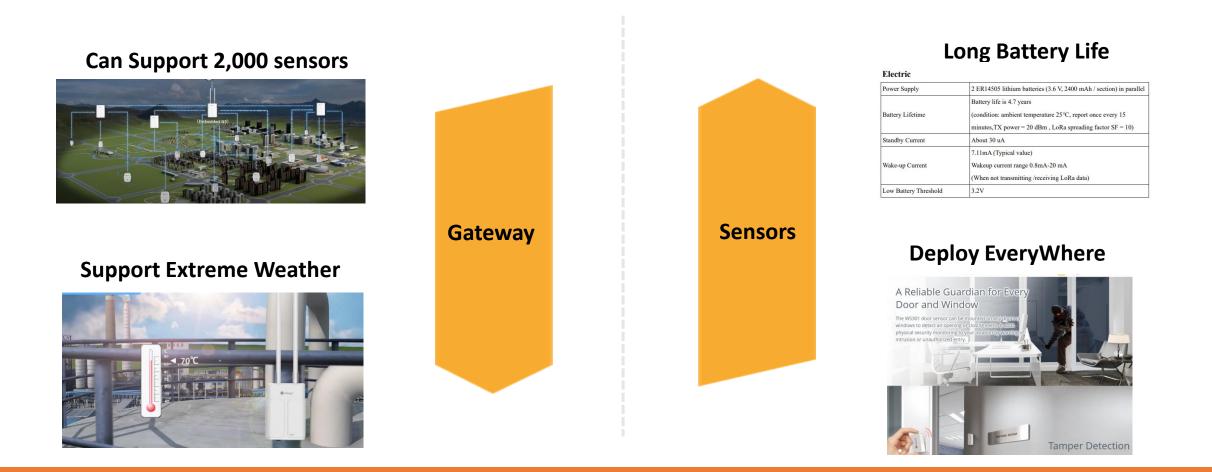Shenzhen
Guangzhou
Shanghai
Beijing

Collect Data?

What is LoRa

- Derived from chirp spread spectrum (CSS) technology
- Low-power wide-area network (LPWAN) modulation technique
- Can be used to connect sensors, gateways, machines, devices, animals, people etc. wirelessly to the cloud

LoRa Device   LoRa Gateway   Cloud   Frontend/Webservice

LoRaWan®

LoRaWAN®

- A Media Access Control (MAC) layer protocol built on top of LoRa modulation
- Enable smart IoT applications, which solve some of the biggest challenges facing our planet

Can Support 2,000 sensors

Support Extreme Weather

Gateway

Sensors

Long Battery Life

Electric	
Power Supply	2 ER14505 lithium batteries (3.6 V, 2400 mAh / section) in parallel
Battery Lifetime	Battery life is 4.7 years (condition: ambient temperature 25℃, report once every 15 minutes,TX power = 20 dBm , LoRa spreading factor SF = 10)
Standby Current	About 30 uA
Wake-up Current	7.11mA (Typical value) Wakeup current range 0.8mA-20 mA (When not transmitting /receiving LoRa data)
Low Battery Threshold	3.2V

Deploy EveryWhere

A Reliable Guardian for Every Door and Window

The WS301 door sensor can be mounted on any doors or windows to detect an opening or closing event. It adds physical security monitoring to your location by warning of intrusion or unauthorized entry.

Tamper Detection

Why LoRaWAN®

1

Scrutinized Security
- End-to-end Security
- Public & Private Network

2

High Performance
- Long Battery Life
- Geolocation
- High Capacity
- Low Cost
- Ultra Long Ran

3

Easy to Use
- Firmware Update over the Air
- License-Free Spectrum

4

Next-Gen Technology
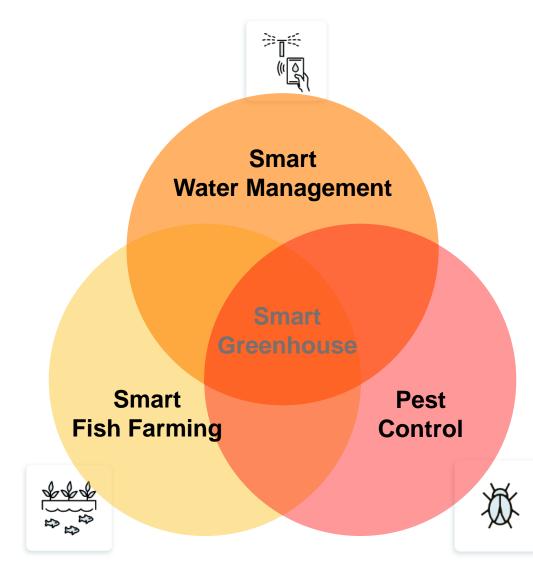- New Ecosystem and Industry

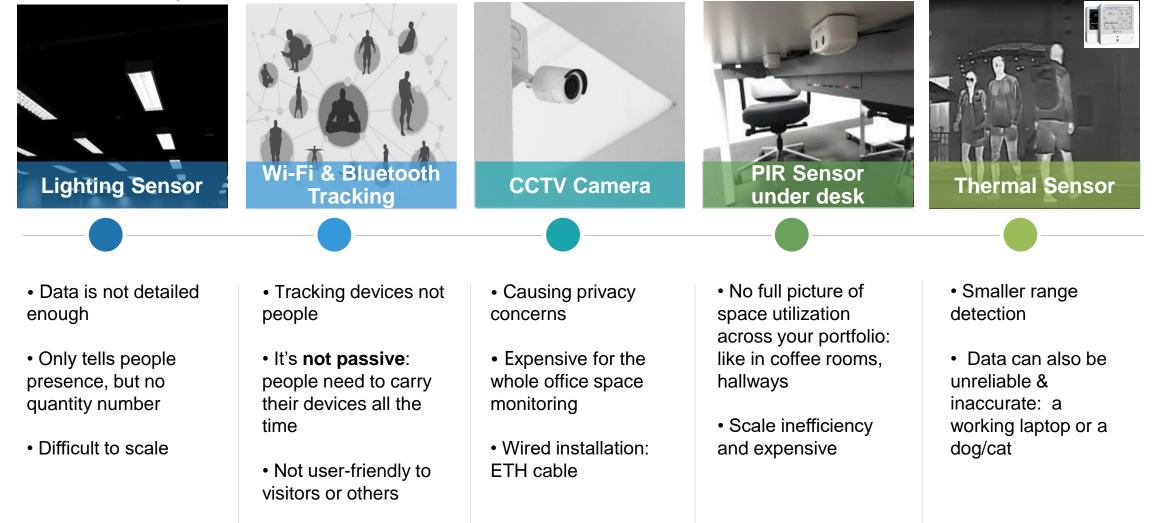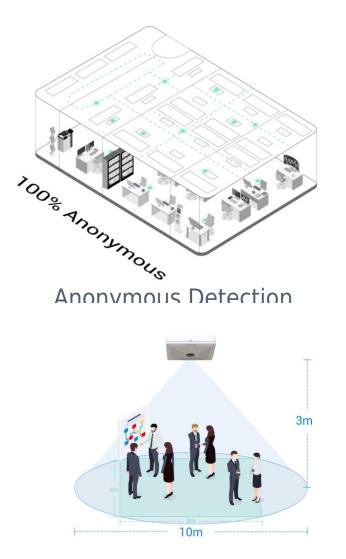| Agriculture | Buildings | Cities | Industry | Logistics | Utilities |

Greenly LoRa 1 - Smart Greenhouse

Greenly LoRa 2 - Smart Office Solution

LoRa®

People Counters & Occupancy

Magnetic Contact Switch

PIR& Light Detection

Smart Socket

Water Leak Detection

Indoor Air Quality Sensor

AI Vision sensor

VS121 delivers highly accurate people count & occupancy info for a zone

Smart Button

3rd Party Management Platform

APIs or MQTT/HTTP/HTTPS

UG65 Indoor Gateway

ETH or Cellular

IoT Cloud

Greenly LoRa 2 - Office Solution Using Sensors (Old methods)

Lighting Sensor	Wi-Fi & Bluetooth Tracking	CCTV Camera	PIR Sensor under desk	Thermal Sensor
• Data is not detailed enough • Only tells people presence, but no quantity number • Difficult to scale	• Tracking devices not people • It's **not passive**: people need to carry their devices all the time • Not user-friendly to visitors or others	• Causing privacy concerns • Expensive for the whole office space monitoring • Wired installation: ETH cable	• No full picture of space utilization across your portfolio: like in coffee rooms, hallways • Scale inefficiency and expensive	• Smaller range detection • Data can also be unreliable & inaccurate: a working laptop or a dog/cat

Greenly LoRa 2 - AI Workplace Sensor (New

100% Anonymous

Anonymous Detection

Detection Region

Custom Detection Region

95% Recognition An Rate

High Recognition Rate

3m

6m

8m

10m

Large Detection Area

Easy Configuration

LoRaWAN® Products
Smart Construction Safety and Monitoring

Chemical Hazard

- Wireless CO2, temperature and humidity sensor
- Wireless CO Sensor
- Wireless NO Sensor
- Wireless NO2 Sensor
- Wireless O3 Sensor
- Wireless H2S Sensor
- CO2 Sensor (4 in 1)

Safety

- Wireless Emergency Push Button
- Wireless Vibration Sensor
- Wireless Activity Detection Sensor
- Wireless Asset Sensor

Monitoring

- Wireless Air Pressure and Temperature Sensor
- Wireless Temperature Sensor
- Wireless Outdoor CO2/Temperature/Humidity Sensor
- Wireless
- Wireless Outdoor PM2.5/Noise/Temperature/Humidity Sensor
- Wireless Outdoor Wind Speed/Wind Direction/Temperature/Humidity Sensor with a Solar Panel
- Wireless Soil Moisture/Temperature/Electrical Conductivity Sensor
- Wireless Thermocouple Sensor
- Wireless Capacitive Proximity Sensor
- Wireless Water Leak Detector with Rope Sensor
- Wireless Water Level Sensor
- Spot Leakage Detection Sensor
- Zone Leakage Detection Sensor
- Industrial Temperature Sensor
- Submersible Water Level Sensor
- Soil Moisture, Temperature and Electrical Conductivity Sensor
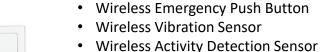- Pipe Pressure Sensor

**Ready to embrace the digital economy
but need the environment refined?**

PRODUCTIVITY   ANALYSIS   BRAINSTORMING   FINANCE

LET OUR TEAM HELP YOU!