

LoRa to Build Smart Communities and Factories

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LoRa technology from space

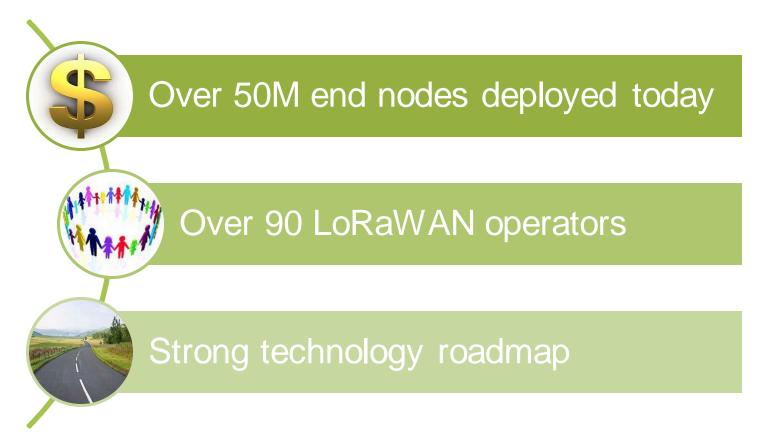


- Delivering long range with very low power sensors
 - Satellites (low earth orbit 600 1600km) are using LoRa technology for IoT today
- □ Long battery life with no repeaters
- □ Flexible network deployment model
- □ Supported by global LoRa Alliance



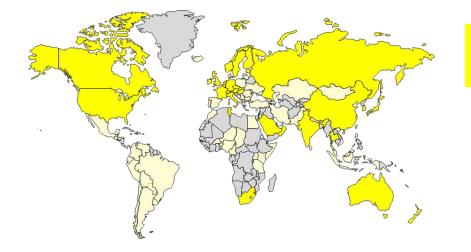
Proven technology, Sustainable growth





LoRaWAN operators





100 % increase in the last 12 months

Expect > 90 operators in 2018

- LoRa technology enables operators to support indoor and outdoor networks
- Network coverage expanding with outdoor gateways
- Network densification with indoor gateways

Some LoRa Alliance Members



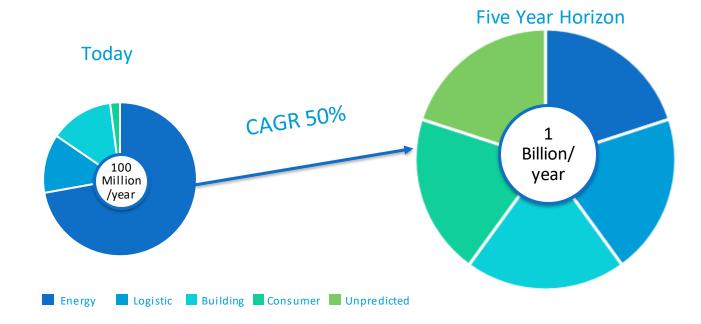


https://lora-alliance.org/member-directory

Worldwide LPWAN Market Growth Opportunities



IoT Market is Dominated by Low Power Wide Area Network (LPWAN)

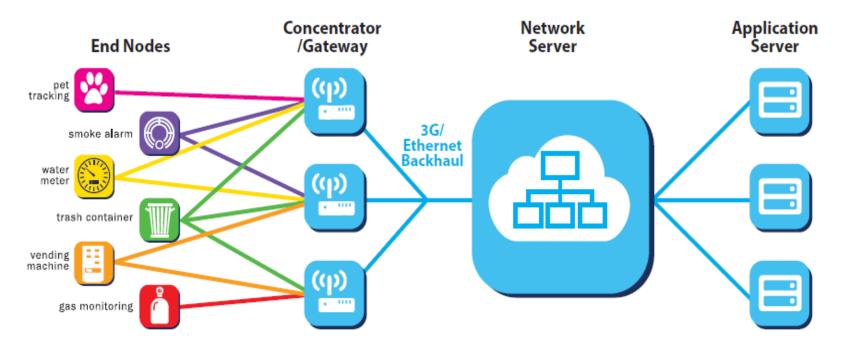


Source: IHS + Semtech Internal

LoRa: Making Things Smarter

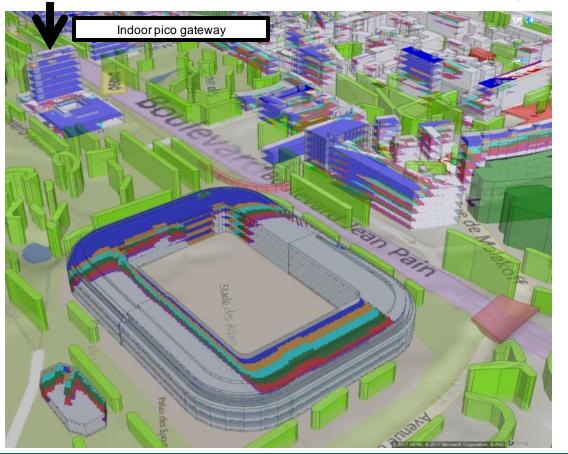


- □ Simple Star networking structure
- □ Smart Industrial is a LAN application



3D multi floor SF maps – indoor range





-	eading actor	Th	Throughputs (bps)				
	SF12		290				
	SF11		530				
	SF10		970				
	SF9		1700				
	SF8		3100				
	SF7		5400				

11/30/2018

Smart Factory and Community: use cases

- **Lighting**
- Parking
- Entrance Guard
- Manhole
- Charging pole
- People Tracking and Localization
- Asset Tracking
- Environmental Monitoring
- Surveillance
- □ Fire Prevention

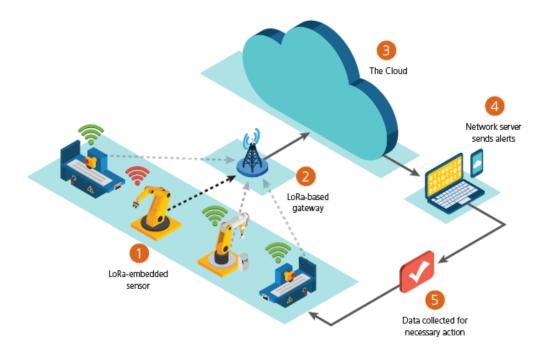




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LoRaWAN-Based Industrial Control System





- 1. LoRa Sensor embedded in equipement
- 2. Sensor data sent to GW
- 3. GWs send sensor data to Cloud
- 4. Cloud sends to Application server
- 5. Data collected for decision

LoRaWAN Certified Products



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https://lora-alliance.org/lorawan-certified-productsSensor

China platform and solution providers





http://www.claaiot.com



Thank You !