



# LoRa to Build Smart Communities and Factories

*Mike Wong, VP China Sales and Marketing, Semtech Corp.*

# 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



Over 50M end nodes deployed today

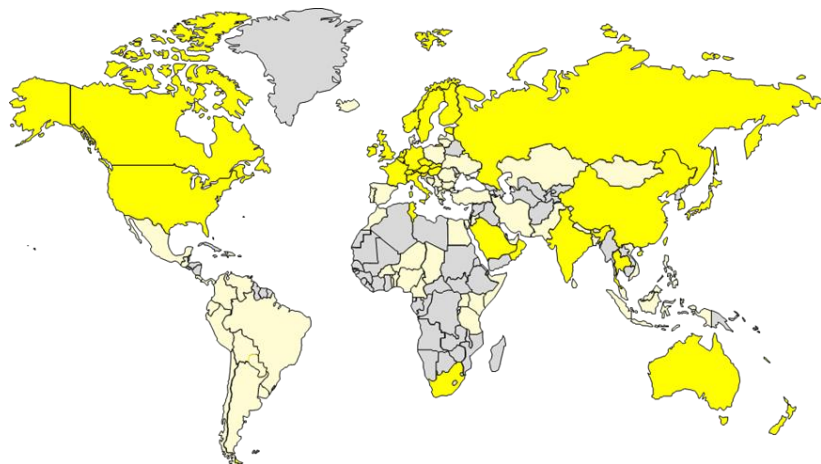


Over 90 LoRaWAN operators



Strong technology roadmap

# 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

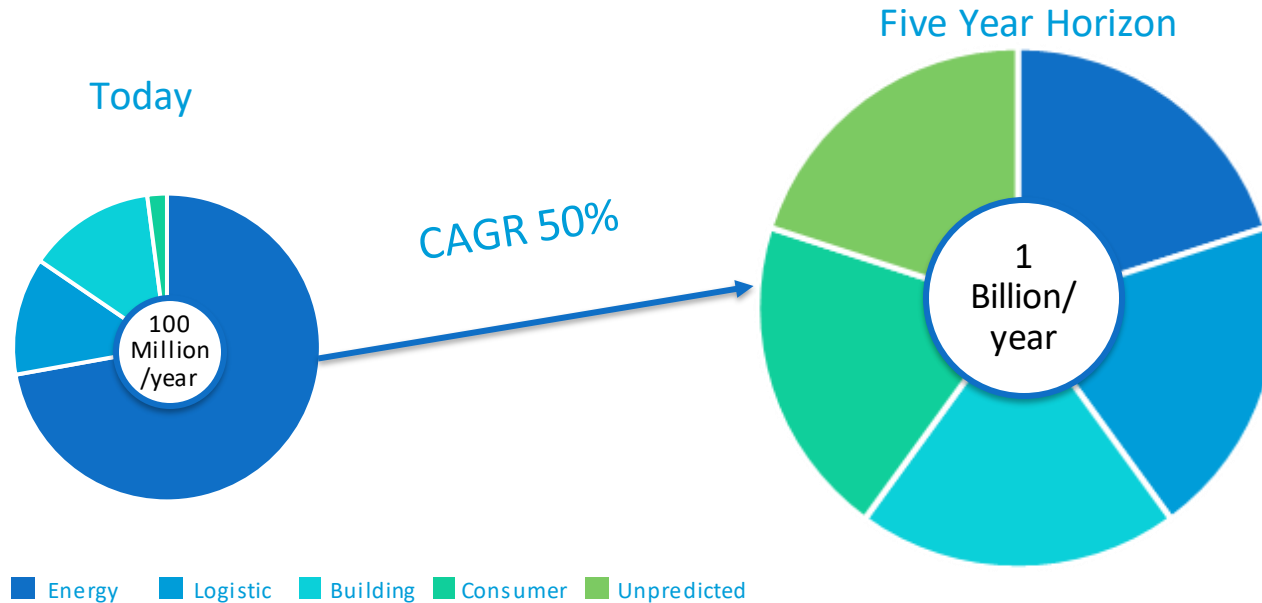
# Some LoRa Alliance Members



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

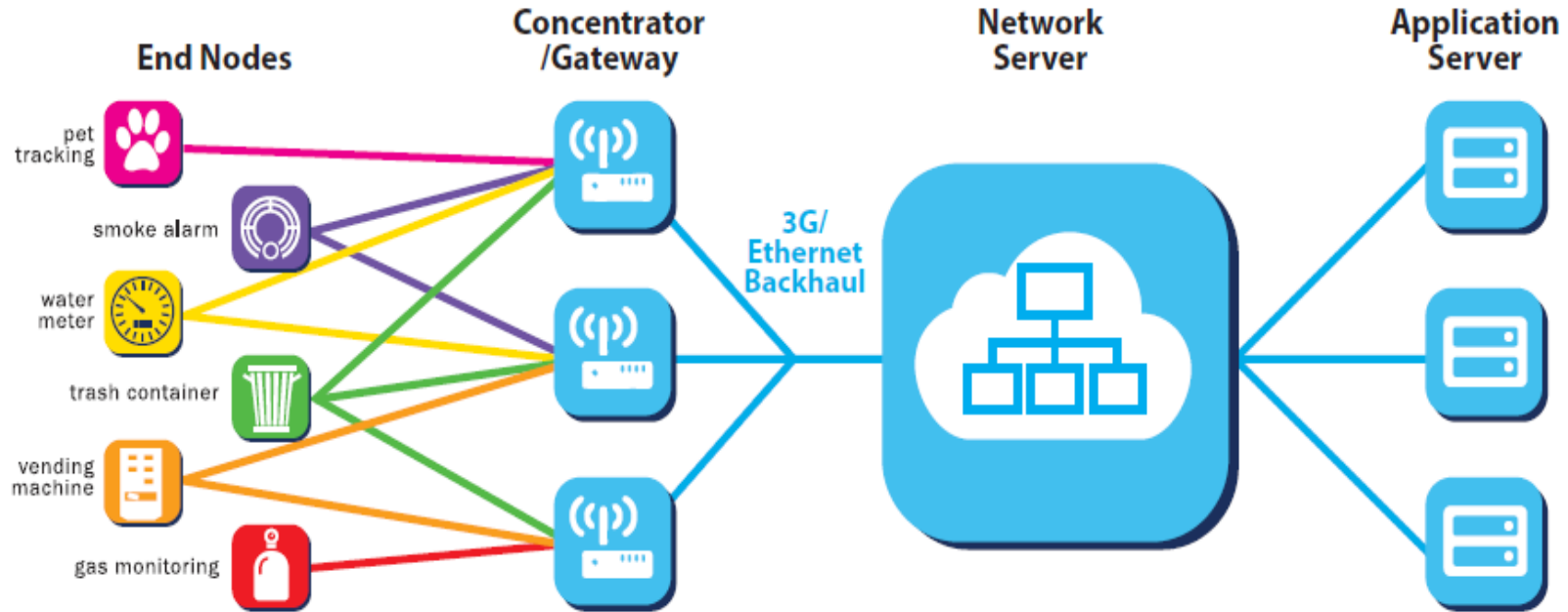
# Worldwide LPWAN Market Growth Opportunities

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

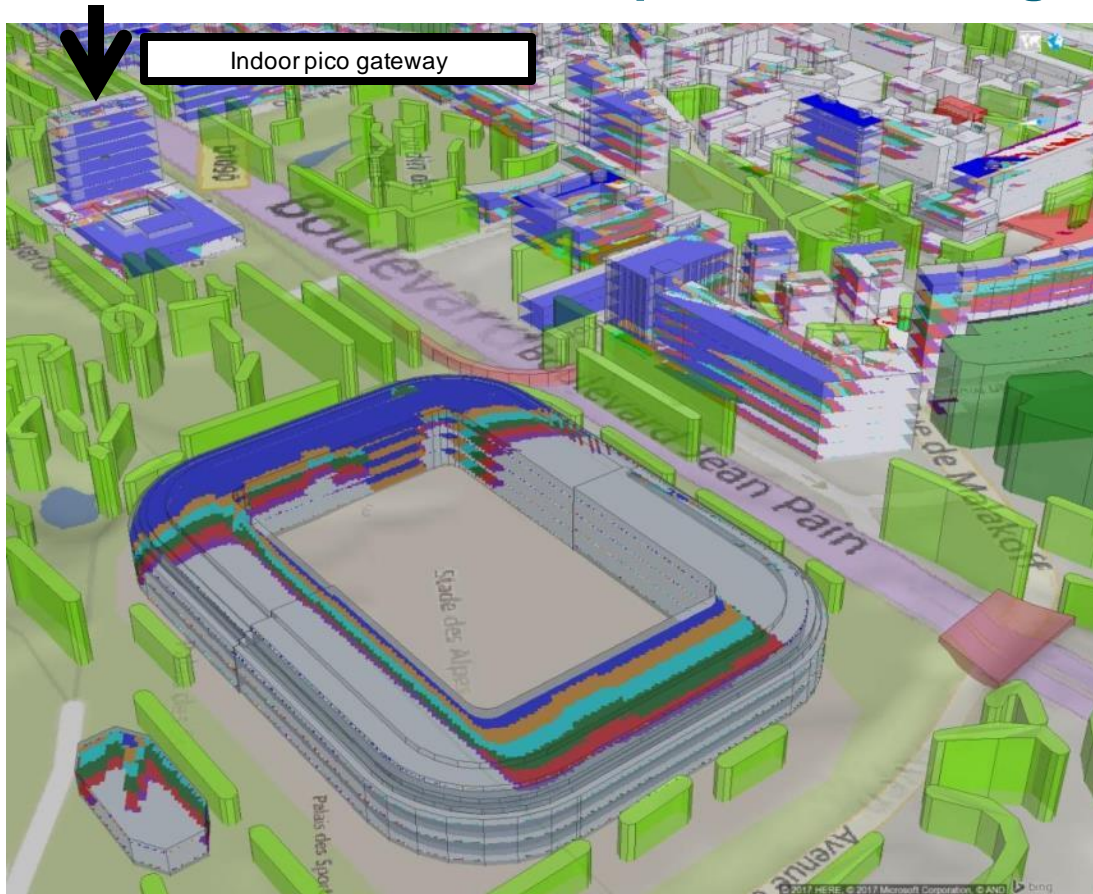


# LoRa: Making Things Smarter

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



# 3D multi floor SF maps – indoor range



**Spreading  
Factor**

**Throughputs  
(bps)**

SF12	290
SF11	530
SF10	970
SF9	1700
SF8	3100
SF7	5400



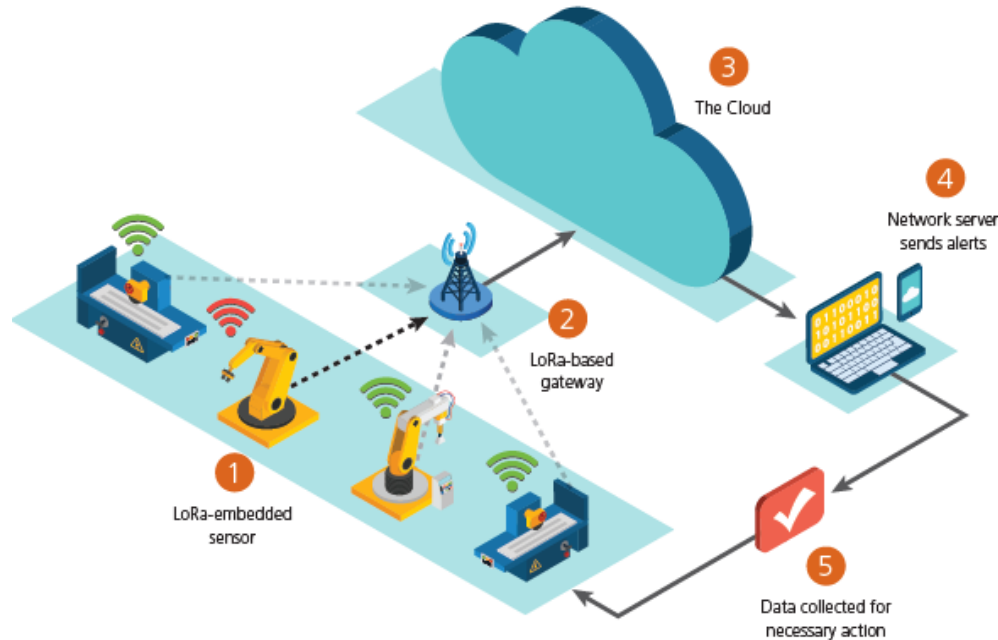


# Smart Factory and Community: use cases

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


















# LoRaWAN-Based Industrial Control System



1. LoRa Sensor embedded in equipment
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



 <p><b>MOC6</b> <b>MOC</b></p> <p>MOC6 is a low-cost LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6 Full Temperature Sensor</b> <b>MOC6</b></p> <p>MOC6 Full Temperature Sensor is a LoRaWAN module with an integrated temperature sensor. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>More Tracker</b> <b>More</b></p> <p>The More Tracker is a LoRaWAN module for tracking and monitoring. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6A (APR2024A)</b> <b>MOC6A</b></p> <p>MOC6A is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6B (APR2024A)</b> <b>MOC6B</b></p> <p>MOC6B is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6C (APR2024A)</b> <b>MOC6C</b></p> <p>MOC6C is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6D</b> <b>MOC6D</b></p> <p>MOC6D is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6E</b> <b>MOC6E</b></p> <p>MOC6E is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6F</b> <b>MOC6F</b></p> <p>MOC6F is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6G</b> <b>MOC6G</b></p> <p>MOC6G is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6H</b> <b>MOC6H</b></p> <p>MOC6H is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6I</b> <b>MOC6I</b></p> <p>MOC6I is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6J</b> <b>MOC6J</b></p> <p>MOC6J is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6K</b> <b>MOC6K</b></p> <p>MOC6K is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>	 <p><b>MOC6L</b> <b>MOC6L</b></p> <p>MOC6L is a LoRaWAN module for remote control. It is designed for low-power applications and is compatible with LoRaWAN Class B.</p> <p><a href="#">Product Page</a></p>
--	---	---	--	--	--	---	---	---	---	---	---	---	---	---

<https://loro-alliance.org/lorawan-certified-products/Sensor>

# China platform and solution providers



<https://linkmarket.aliyun.com/>



<http://www.claiiot.com>



**Thank You !**