

# Welink IoT, Welink Your Smart

Simple, Smart IoT Solutions

Yao Xinyu / Mar 2016



# Agenda



1. **Burgeoning IoT**
2. Various IoT Link Technologies
3. WeLink IoT Smart, Simple
  - LoRa (Utility)
  - Telematics (Transportation)
  - Cellular Wireless Module

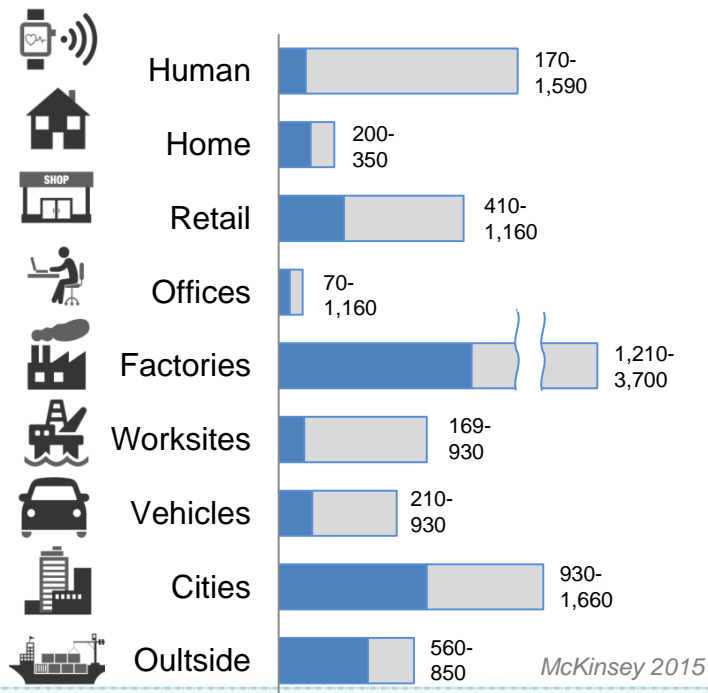


# Burgeoning IoT: 25B Connected Devices 2020 – Gartner, 2015

Potential Economic Impact of IoT in 2025

\$3.9T~\$11.1T

■ Low

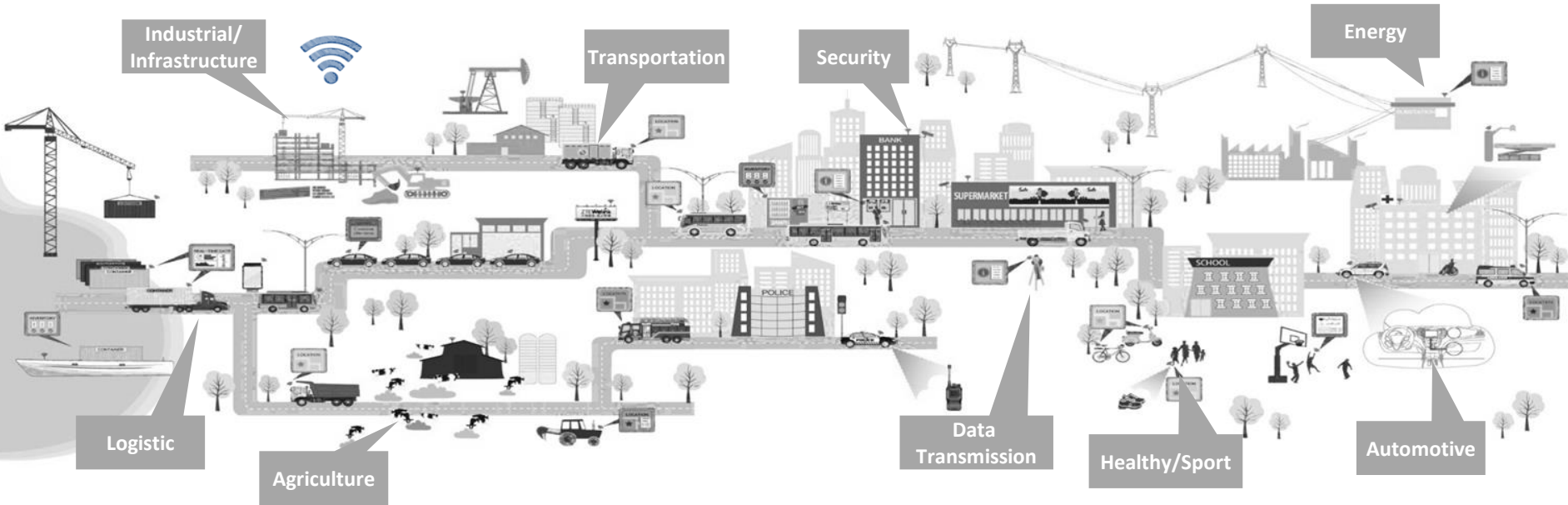


- **Top vertical:** Utilities, transportation, manufacturing, government
- **Barriers:** Interoperability / MEMS/ Power Profile

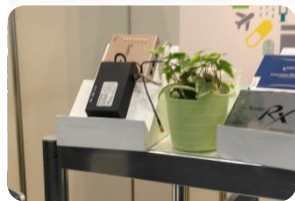
Gartner

McKinsey

# IoT Current Characteristics



# IoT Link Technologies Trends: Simple, Smart



Sensors  Gateway 



- Enterprise ICT inability pursue simple IoT solution among scattered vertical industries.
- Low cost MEMS helps capture IoT generated value



 *Telecom Communication*



 *LPWAN*



*nwave*



 *SRW (short Range Wireless Communication)*

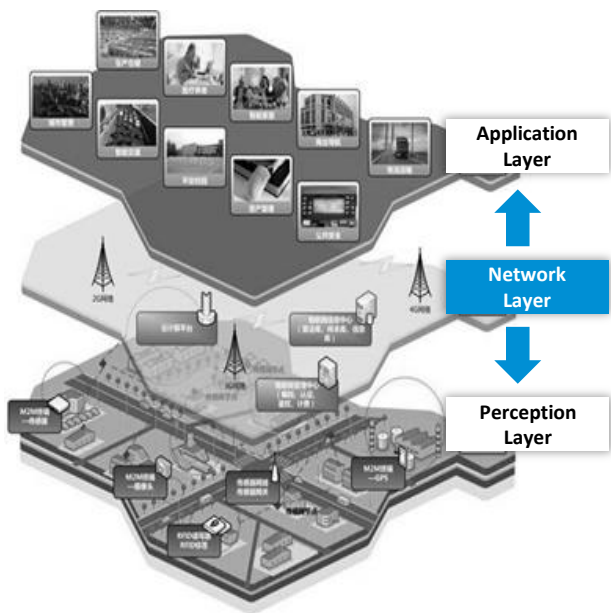


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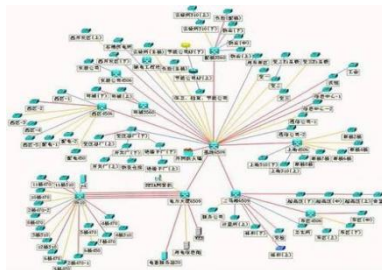
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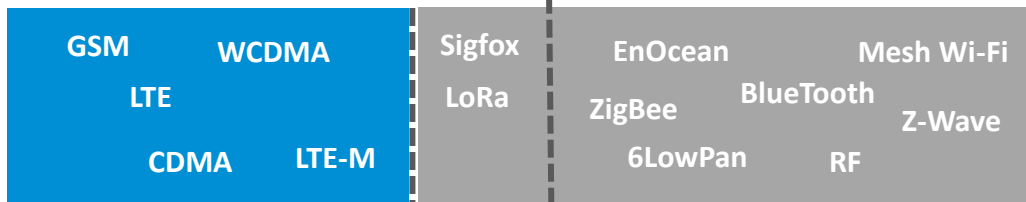
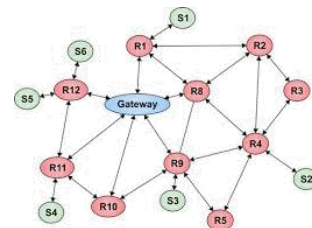
# Telecom Communication vs. LPWAN&SRW



Star



Mesh









Telecom Communication

LPWAN & SRW



# LPWAN vs. SRW

	LPWAN (Low Power Wide Area)		SRW (short range wireless communication)			
	 LoRa Alliance	 SIGFOX	 enocean	 Z WAVE	 ZigBee	 WLAN
<b>Frequency</b>	433/490/868/915	868/915	315/868/902/928	868/915	2.4G ( 868/915 )	2.4G
<b>Standard</b>	DSSS CDMA	UNB	ICE 14543-3-10	Private	IEEE802.15.4	IEEE 802.11
<b>Power Profile</b>	Battery 3y~10y	Battery 3y~10y	Self-generate	Battery 3m~5y	Battery 3m~5y	Power required
<b>Range km(m)</b>	20km	10km	10m~100m	10m~100m	10m~100m	100m
<b>Data Rate</b>	0.3 to 50 kbps.	10bps to 1kb	125Kbps	9.6/40Kbps	250Kbps	11-300Mb
<b>Anti interfering</b>	Good	Good	Good	Good	Medium	Good
<b>Sleep current</b>			0~0.8μA	2.5~10μA	1~10μA	--
<b>Compatibility</b>	Y	Y	Y		NO	Y
<b>Module Price</b>	\$4.5-\$15	\$7.5-15	\$38	\$9-\$11	\$3-\$8	\$1.5-7.5
<b>Location Aware</b>	Y	N				

## Our Strategy...



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# LoRa: Smart, Simple Gateway+ Endnodes



## ZTE LoRa Gateway: LB-01

### Specifies :

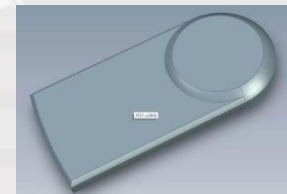
- Frequency:433/470/490/780/868/915MHz
- Power: POE
- Sensitivity: -157dBm
- Tx power: 27dBm



## LoRa Module : LM100

### Specifies :

- Support LoRaWAN™ 1.0 Stack, Class A/ B/C; Power 2.4v-3.6v, 168 dB maximum m +20 dBm - 100 mW constant RF output
- 127 dB Dynamic Range RSSI
- Rx 9.9 mA, 200nA-register retention



## Position Device : PT100

### Specifies :

- Power: 3.3V/160ma (GPS working), 3.3V/5ma(GPS sleep)
- 6-axis gyroscope , Built-in GPS
- Cold start positioning time : 30s
- Range: >1.5km

# LoRa LBS Scenarios



Ski playground



Worksite



Mountaineering



Insurance

## LB-01 gateway +PT100 LBS sensors supervise players.

- SOS button
- Tourist roll call
- Message broadcast
- Interactive SMS
- LBS

## PT100 LBS on safety helmet.

- SOS button
- LBS & check in
- Assets, inventory, tools management
- Worksite environment & safety supervision

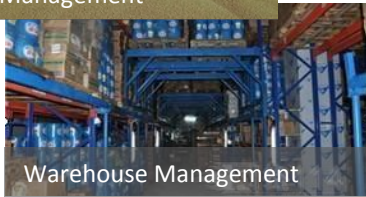
## LB-01 gateway in helicopter for climbing mountain.

- SOS button
- Tourist LBS locating
- Interactive SMS

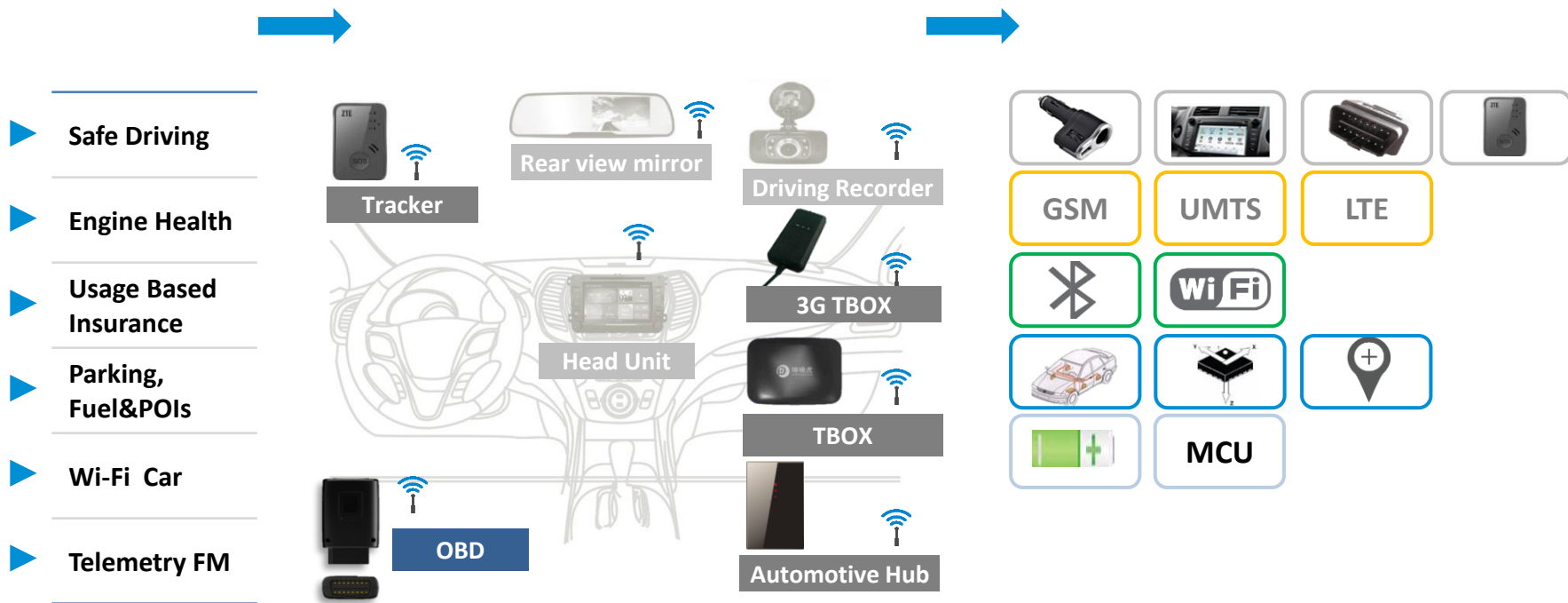
## Animal husbandry

- Health, movement, geo fence.
- Environment.
- Plating, irrigation.
- Food management.
- Anti-insect, anti-fire, disaster.

# LoRa with Sensors

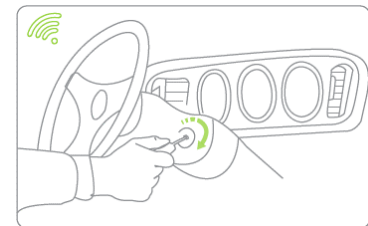
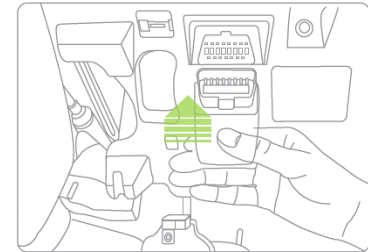
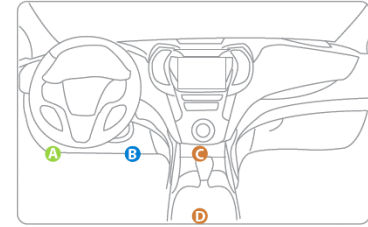


# Telematics: Simple, Smart Modular Design





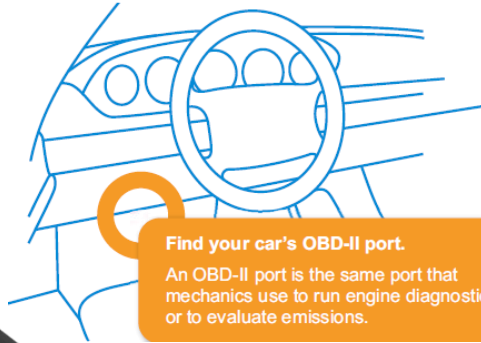
# VM6200 Wi-Fi Hotspot



*"The ZTE Mobley is our first Wi-Fi plug-in for the car. It's great for everyone - families, entertainment enthusiasts and professionals. It allows multiple Wi-Fi-capable devices to connect to AT&T's 4G LTE network, making it perfect for anyone on-the-go."*

*----Chris Penrose, senior vice president, Internet of Things (IoT), AT&T Mobility.*

# VM6200s - OBD II Telematics Device



**Find your car's OBD-II port.**

An OBD-II port is the same port that mechanics use to run engine diagnostics or to evaluate emissions.

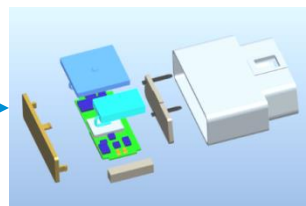
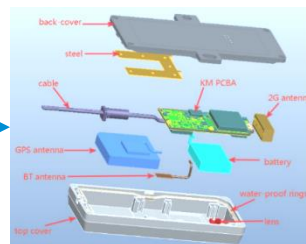




## 2G Tracker UBI



### OBU



### OBD

The most UBI suitable terminal product, one of the most small size OBD in the industry (embedded SIM card)



# Cellular Wireless Module

U.S. SMARTDRIVE, a innovator in fuel management and driver safety, 3G modules, high performance.



Netherlands ALLIANDER, the largest energy network company in Netherlands, 450M CDMA modules with high criteria.



U.S. CADIOCOM, the leader in integrated clinical tele-health services, 3G Module with high reliability.



China STATE GRID, operating the biggest power network, 3G/4G modules, high reliability.

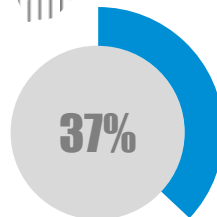


China SHANGHAI PATEO, leading TSP in China, 3G/4G module for automotive market.

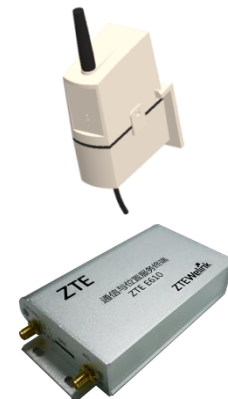


**20,000,000** Terminals embedded our Wireless modules.

**500+** clients, in **50** countries



Global CDMA1X Module market share



# Thank you

The CeBIT logo consists of the word "CeBIT" in a bold, blue, sans-serif font. It is positioned to the right of a light blue square. To the left of the square are several smaller, semi-transparent blue squares of varying sizes, creating a sense of depth and movement.

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