

**SPORTON LAB.**

# **SPORTON INTERNETIONAL INC.**

**6146.TW**



**2018/11/28**



**[www.sporton.com.tw](http://www.sporton.com.tw)**

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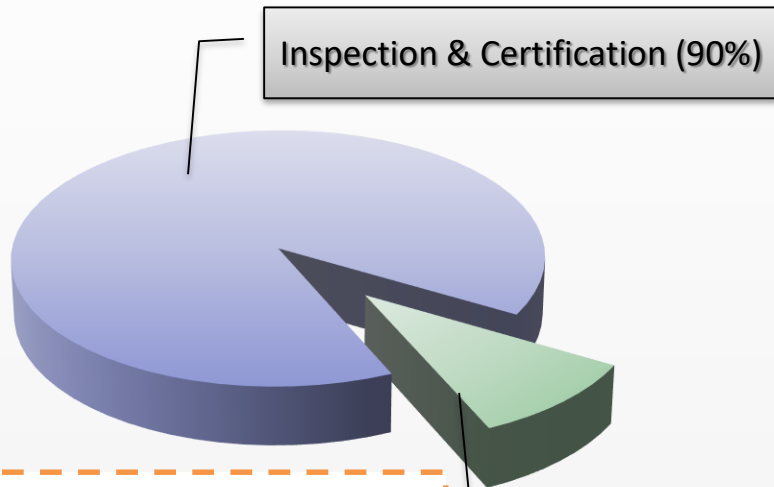
Business Operation



# Company Profile & Core Strengths



# Company Profile



Inspection & Certification (90%)

**Sporton business is focused around testing and is one of the few companies in the world capable of offering both inspection services and EMI shielding components**

EMI Shielding Components (10%)

## A. Mandatory Requirement :

Government standards that need to be passed for product launch

- (1).EMC (Electro-Magnetic Compatibility)
- (2).Safety
- (3).RF & Telecom

## B. Conformance Requirement :

Standards set by Telecom Operators/Carriers

- (1). Mobile Device(2G/3G/3.5G/4G/5G)Inspection & Certification
- (2).Wireless product Inspection & Certification
- (3).Others ( automobile, IoT, NFC...etc. )

Sales of EMI shielding components is complementary to inspection business.



# Sporton Partners



# Core Strengths

Large number of service locations and strong international certification capabilities with leading inspection technology

America  
Testing Lab.

Germany  
Office

- Service Locations : Taiwan 8 、 China 2 、 U.S. 1 、 Germany 1 ; Sporton is one of few global companies providing complete inspection and certification services for IT products.
- Recognized by 150 countries.
- Sporton's number of smartphone and wireless communication fillings at the US FCC ranks number 1 for 3 years.
- 1<sup>st</sup> Asian lab authorized by Wireless Power Consortium (WPC)
- One of few able to provide testing & certification for 200GHZ high speed wireless and 1<sup>st</sup> 802.11ad (WiGig),WiHD certified lab.



1. 100%-owned investment – International Certification Co. (Founded in 2013 and profitable since 2014.)
2. Sporton ShenZhen founded in 2017, and IoT testing is the mainly professional lab.

# Core Strengths /Market Share analysis

FCC Filing IDs for WLAN – 2018.01.01~2018.9.30				
Test Firm	2.4GHz (2412-2462)		5GHz (5745-5825)	
Sporton Group	237	8.4%	157	14%
BV Group	185	6.5%	119	10.6%
UL Group	144	5.1%	89	7.9%
SGS Group	154	5.4%	62	5.5%

- Of the total 1,122 FCC 5GHz high-end networking device filings, 157 are filed by Sporton, representing a 14% global market share which is No. 1 among global vendors.
- From 9M18, the US FCC had received 926 smartphone test filings of which Sporton filed 139 with a 15% global market share which ranks as No.1.

FCC Filing IDs for 3G / 4G LTE – 2018.01.01~2018.9.30			
Test Firm		3G / 4G LTE	
Sporton Group		139	15%
BV Group	BV	20	2.2%
	Siemic	34	3.7%
UL Group		34	3.7%
SGS Group		24	2.6%

## •Sporton lab's feature of testing service

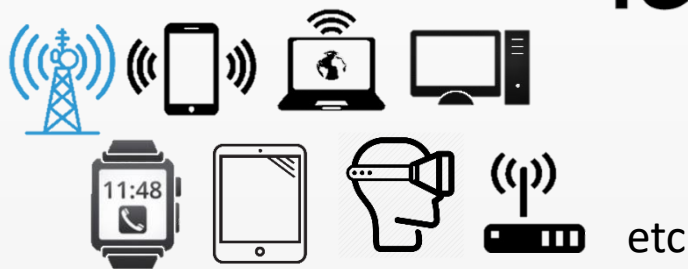
Sporton lab.(6146 T.W.) is focus at electronic products testing, especially Wi-Fi networking and mobile phones, it has **professional testing skill depth.**

International testing company including SGS (SGSN VTX), BV(BV EPA), Intertek, and ITRK(ITRK LON)...etc, these testing service is including diversity industry, but electronic products is one of the service.



# Growth Momentum

# Sporton stands the leading position in the latest inspection technology



4G<sup>LTE</sup>



After Y2019~

5G **Technical Skills**

Sporton further assisted major customer in launching their first CBRS (Citizens Broadband Radio Service) radio spectrum sharing system for 4G/5G LTE band 48, receiving the first USA FCC Grant utilizing 3.5GHz band (Sub-6GHz) band in 5<sup>th</sup> Generation wireless systems.

Device Application Technology

**VoLTE**

3CA、4CA、5CA

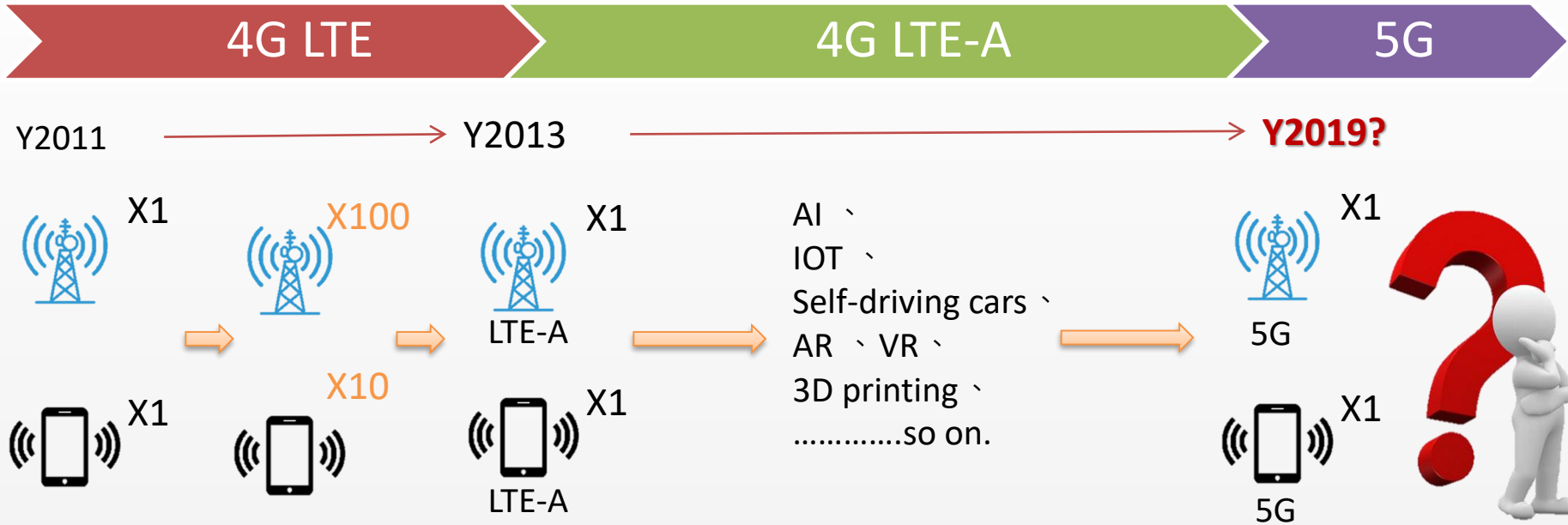
Spectrum : 700MHz、900MHz、1800MHz

LoRa NB-IoT

LAA (Licensed Assisted Access)、5G wireless system Sub-6GHz band、Millimeter Wave band

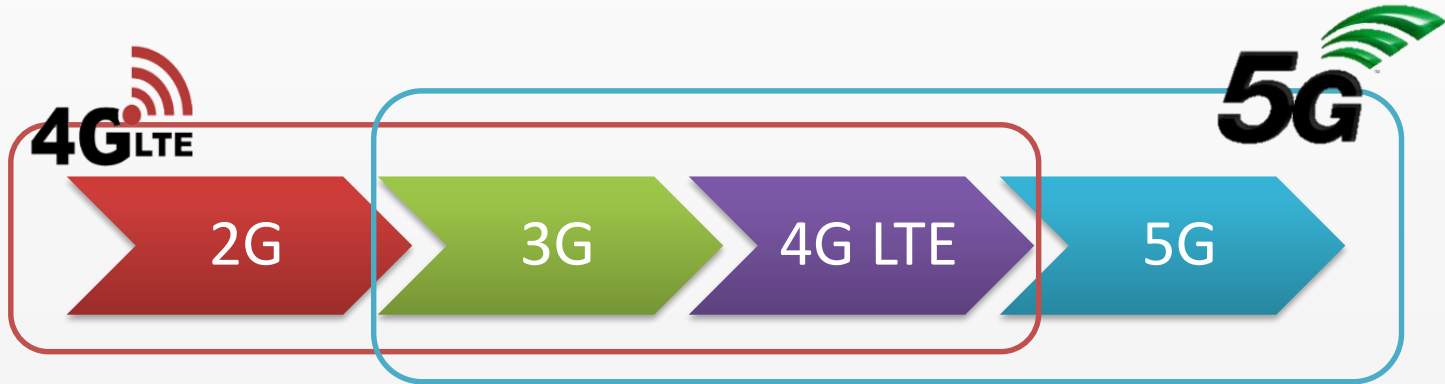


# 5G Technology Evolution



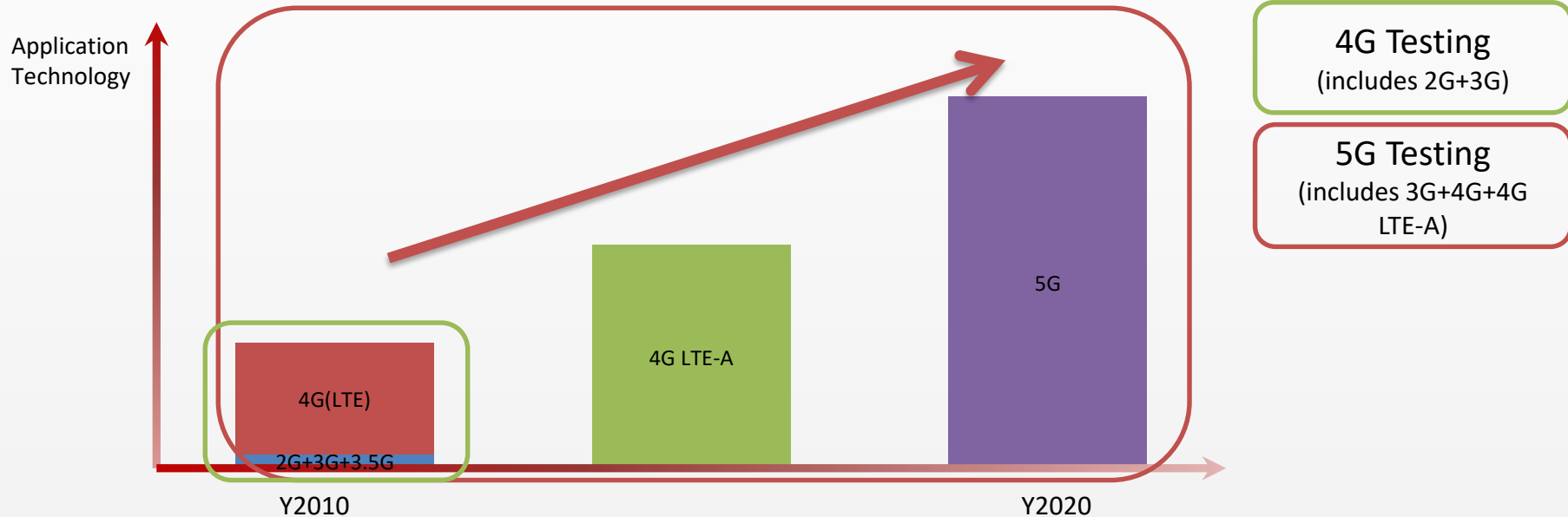
# 3G 、 4G LTE base station will support 5G NSA for a period of time

- 2G base stations will be phased out when 5G is deployed (US and Taiwan currently already phased out 2G)
- 4GLTE base station will support 5G NSA for a period of time
- 5G phones will include 3G and 4G LTE (backwards compatibility)



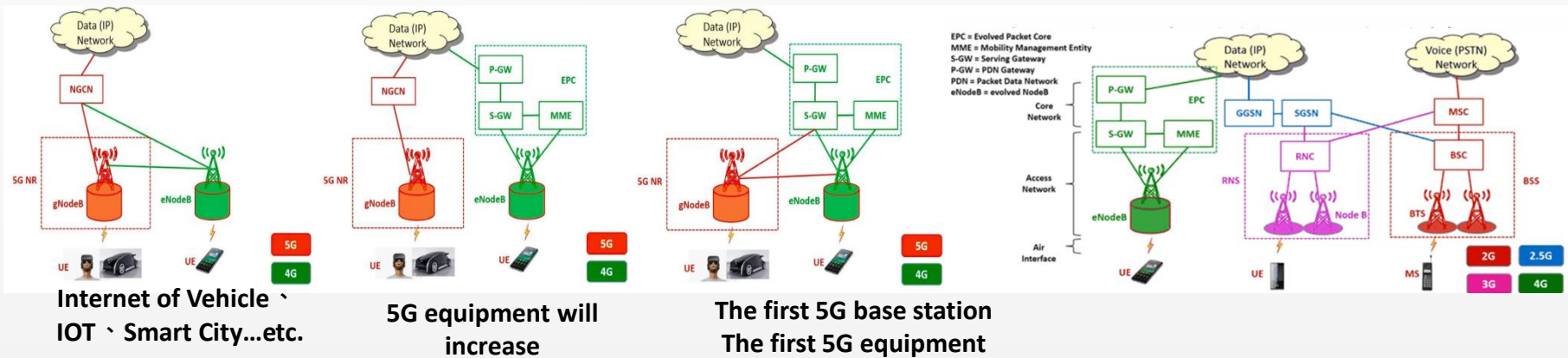
# 5G phones of testing items will increase

- 5G is an extension of 2G、3G、4G、4G LTE、4G LTE-A. Most 5G phones will require testing for previous cellular technology which will lead to higher testing revenue.



# 5G business conversion will increase market for testing

- More 5G equipment will be deployed which will increase the addressable market for testing
- Phase 1: 5G NR(New Radio), 5G and 4G base station will simultaneously connect to 4G core network
- Phase 2: 5G base station connect exclusively to 5G core network (NGCN – next generation core network)
- Phase 3: 5G and 4G base station both connect to 5G core network and 4G core network will phase out

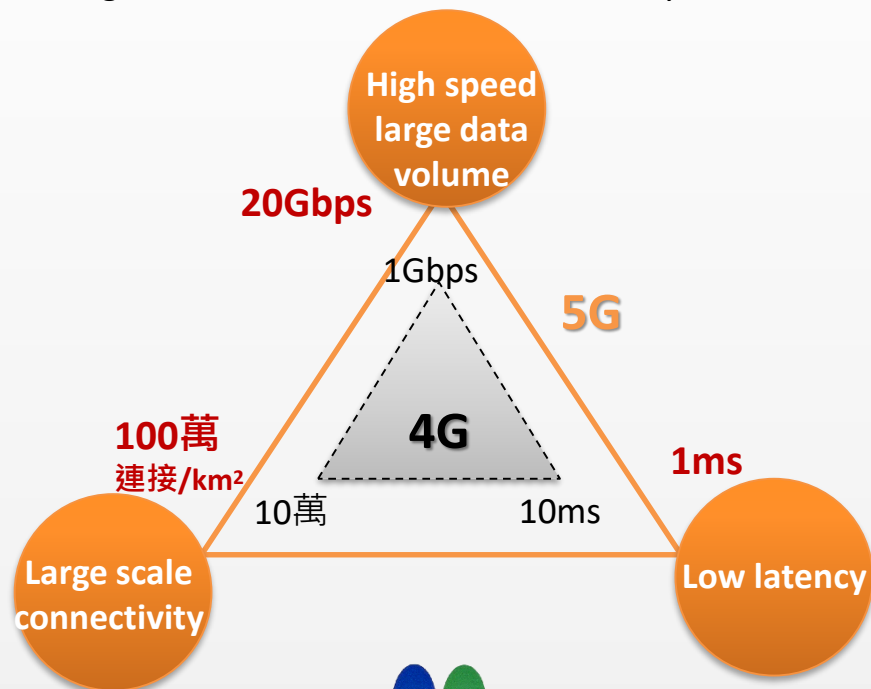


**5G** Generation

**2G**

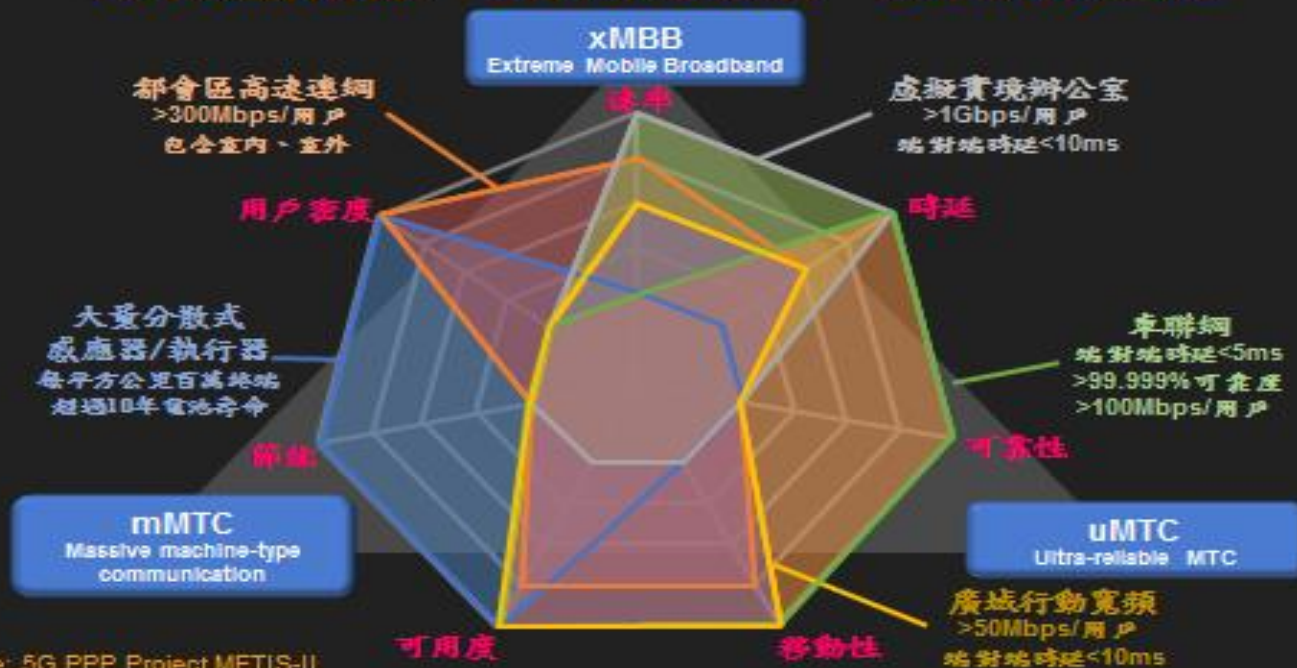
# 5G trend is clearly Application breadth will increase dramatically

- 5G is not just about networking speed improvements over 2G, 3G (image transmission), and 4G (video transmission) but about creating a true mobile and connected society



# 5G High technology depth & width of application

## 7大網路指標、5種應用場景、3種服務型態

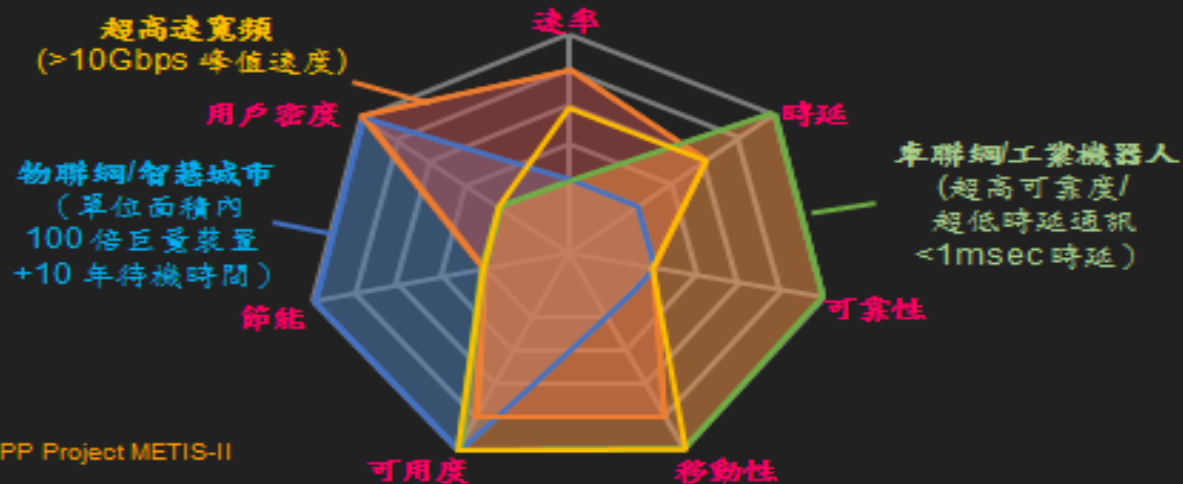


Source: 5G PPP Project METIS-II

# 5G High technology depth & width of application

## 建構滿足多面向服務需求之整合網路

- 產業服務指標需求為主體
- 適配網路資源符合服務指標





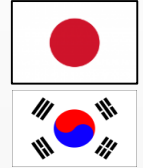






Source: 5G PPP Project METIS-II

# Future Prospects

# 5G Ecosystem Landscape

Activities ramping towards early deployment in 2019

Spectrum	sub-6GHz					mmWave			
	0.6GHz	2.5GHz	3.4-3.7GHz		4.4-4.9GHz	28GHz		39GHz	
Geography									
Carriers	T-Mobile	Sprint	Orange Vodafone	China Mobile	NTT DoCoMo SK、KT	NTT DoCoMo SoftBank	Verizon AT&T T-Mobile	NTT DoCoMo SoftBank SK、KT	Verizon AT&T T-Mobile
Commercial Services	2019	Late'19	TBD	2020	2020	Mid-2020	2H18	2020+	2H18
<b>Sporton Layout</b>	<b>U.S Lab.</b>	<b>U.S Lab.</b>	<b>T.W Lab.</b>	<b>China Lab.</b>	<b>T.W Lab.</b>	<b>T.W Lab.</b>	<b>U.S Lab.</b>	<b>T.W Lab.</b>	<b>U.S Lab.</b>

# 5G mobile phones will be commercialized in 2019 with great potential

- Currently 90% of the global testing market value comes from smartphones and networking devices. Wearables, IoT and connected vehicles still represents <10%. Sporton has already invested and completed projects for wearables, IoT and vehicles. Sporton will continue to invest in these areas to capture to market when it starts to grow.
- According to an IHS study sponsored by Qualcomm. 5G could enable as much as \$12.3 trillion in goods and services by 2035 when its effects are fully realized. By that time, companies developing 5G products and services could generate \$3.5 trillion in revenue and 22 million jobs. The so-called 5G value chain will spend as much as \$200 billion a year building 5G products and services, it estimated.

*Source: MWC2017*



## 5G mobile phone will start to commercialize in 2019. Sporton is active in 5G mobile phone's market:

- Sporton actively participate in the International 5th Generation Action (5G) standard-setting technical meeting.
- In the development of technical meetings, it has to do technical, testing venues, and equipment to layout before the specific and consensus technical specifications completed.

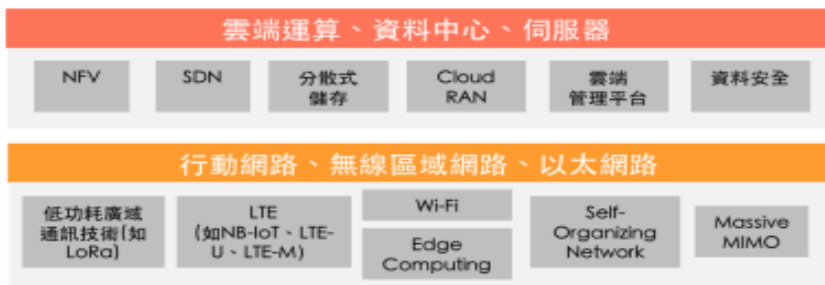
# The great marketing demand of IoT

## IoT 產業價值鏈

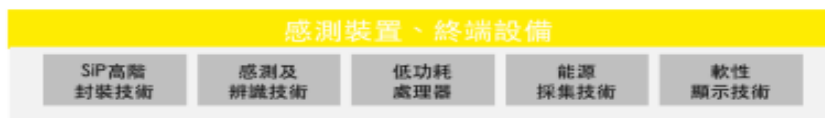
第3層  
應用服務層



第2層  
網路層



第1層  
感知層



物聯網商機

\$262 Billion (79.9%)

\$18 Billion (5.5%)

\$17 Billion (5.2%)

\$31 Billion (9.5%)

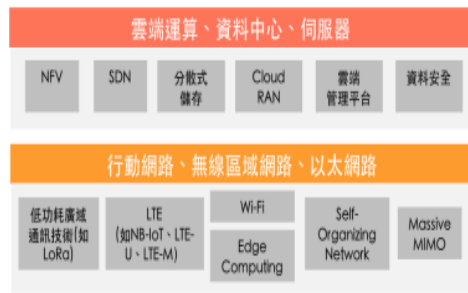


資料來源：工研院IEK、Gartner (2016)  
Created by 大和有話說



# Wi-Fi skill is more improving, the application is more wide.

第2層  
網路層



\$18 Billion (5.5%)



\$17 Billion (5.2%)



消耗電力、通訊速度



- LPWAN is a low power, low speed, and low cost solution for small data volume transmission that is suitable for applications like smart electric grid, smart agriculture and smart city applications like parking management, livestock tracking, and other small data volume applications.
- NB-IoT technology has seen faster growth. NB-IoT is a global telecom standard supported by 3GPP for IOT application on telecom networks. It is a low cost solution with good data security and quality that can be deployed without significant modification to current 4G LTE telecom network structure. Major telecom operators in Asia, N. America and Europe have begun commercializing NB-IoT starting 2017.





# Wireless Device and IoT

## Inspection Services of testing Business opportunities

### IOT SUB-GHZ RF transmitter

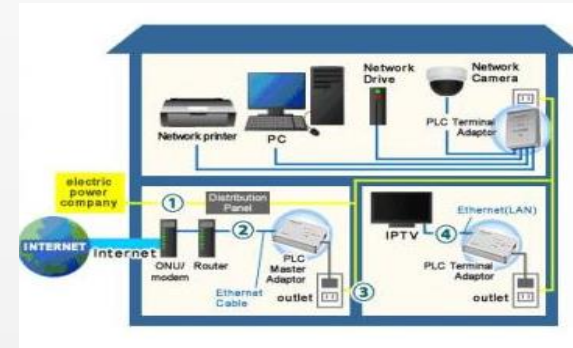
LoRa / Sigfox / NB-IoT/WI-SUN/ Ha-Low(802.11ah)

- FCC 15.247
- CE EN300220 -2
- Japan STD-108



### PLC service

- FCC Part 15 Subpart B
- ICES 006
- EN 50561-1(New)
- IDA TS PLC Issue 1
- Australia PLC



# Wireless Device and IoT

## Inspection Services of testing Business opportunities

### WiGig/ mm-wave P tp P & Radar

#### WiGig 60G(802.11ad)

- FCC part 15.225
- CE EN302567

#### 77G P to P & Radar

- FCC part 95M
- CE EN 301091
- CE EN302217-2



# Sporton lab. has developed new application technology range

**New technology in 2017-2018:** Sporton is participating in the standard setting process for new technologies and will be ready to provide service immediately for these new technologies.

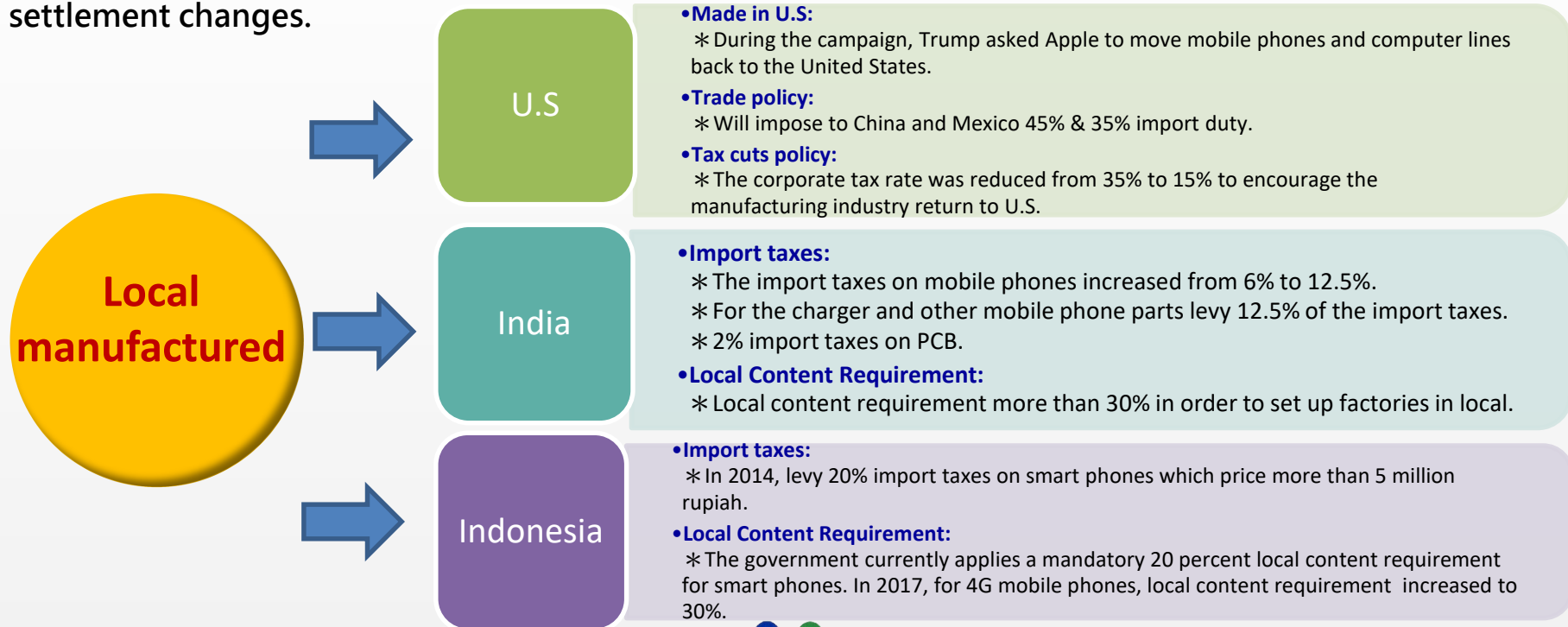
Technology	FCC/CE	OTA	GCF/PTCRB	Field trial
NB-IoT	V	V	V	V
5G Generation mobile phone	V	V	V	V
4.5G or 4G+	V	V	V	V
RED	V			
3CC, 4CC	V	V	V	V
VR with 60Ghz	V			
LoRa	V		V	
4x4, AT&T 3CC		V		
4x4 MIMO+CA combination	V	V	V	V

# Sporton lab. is keeping develop new testing skill and enlarge the market share.

Future Operation Development	Time	Main Item/Contents
Convert KunShan Lab to self owned from rented	2015/12~	<ul style="list-style-type: none"><li>• KunShan: Sporton raised USD 4 million in 2015/12. Built fully owned testing lab.</li><li>• New lab commence on 08/2018</li><li>• Hire automobile IOT team. New lab will have sufficient space to expand automobile testing business (2018Q4)</li></ul>
Chinese Inspection Lab Ownership (Reduced systemic risk)	2016~2020	<ul style="list-style-type: none"><li>• ShenZhen</li></ul>
Global Allocation	2018~	<ul style="list-style-type: none"><li>• America region testing lab : Pilot run in 12/2018 with official operation to being in 2019</li><li>• Expand into ASEAN (include India and Indonesia) Sales Office</li></ul>

# Expand Global Allocation

“Local manufactured” is new trend that make mobile phone assembly settlement changes.



# Business Operation

# Consolidated Income Statement

(Unit: Thousands of NTD)

	Y2017/1-3Q		Y2018/1-3Q		YoY	Y2017/3Q		Y2018/3Q		YoY
	Amount	%	Amount	%		Amount	%	Amount	%	
<b>Total Revenue</b>	2,258,400	100.00%	2,223,974	100.00%	-1.52%	804,397	100.00%	776,303	100.00%	-3.49%
<b>Gross Profit</b>	1,062,155	47.03%	1,006,743	45.27%	-5.22%	381,066	47.37%	359,582	46.32%	-5.64%
<b>Operation Expenses</b>	405,017	17.93%	367,952	16.54%	-9.15%	138,518	17.22%	114,246	14.72%	-17.52%
<b>Operating Income</b>	657,138	29.1%	638,791	28.72%	-2.79%	242,548	30.15%	245,336	31.60%	1.15%
<b>Pre-Tax profit</b>	678,017	30.02%	654,756	29.44%	-3.43%	243,500	30.27%	246,234	31.72%	1.12%
<b>Net Profit</b>	524,601	23.23%	524,973	23.61%	0.07%	189,794	23.59%	198,703	25.60%	4.69%
<b>EPS (NTD)</b>	5.69		5.68			2.06		2.15		

Note 1: The reason for the decrease in gross profit margin in the first three quarters of 2018 is due to the increase in the relocation costs of the Kunshan plant in China and the cost of new hires in the US.

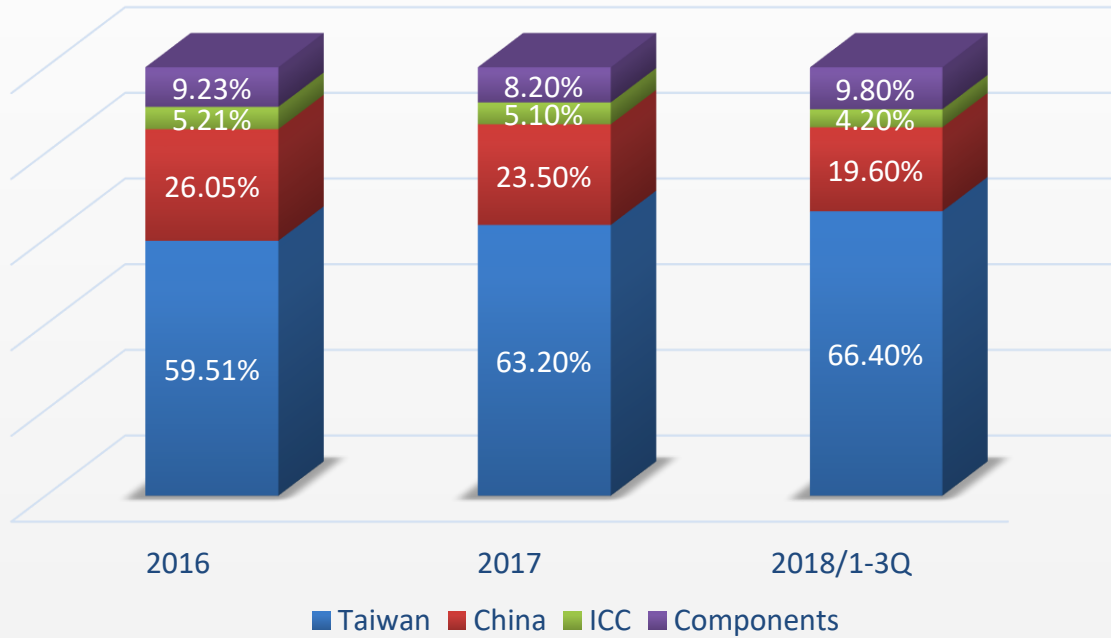
Note 2: The after-tax earnings per share are calculated based on the current year's share capital. The share capital for the first half of 2017 was \$914,556,000, and the share capital for the second quarter of 2018 was \$923,965,000.



# Revenue Breakdown

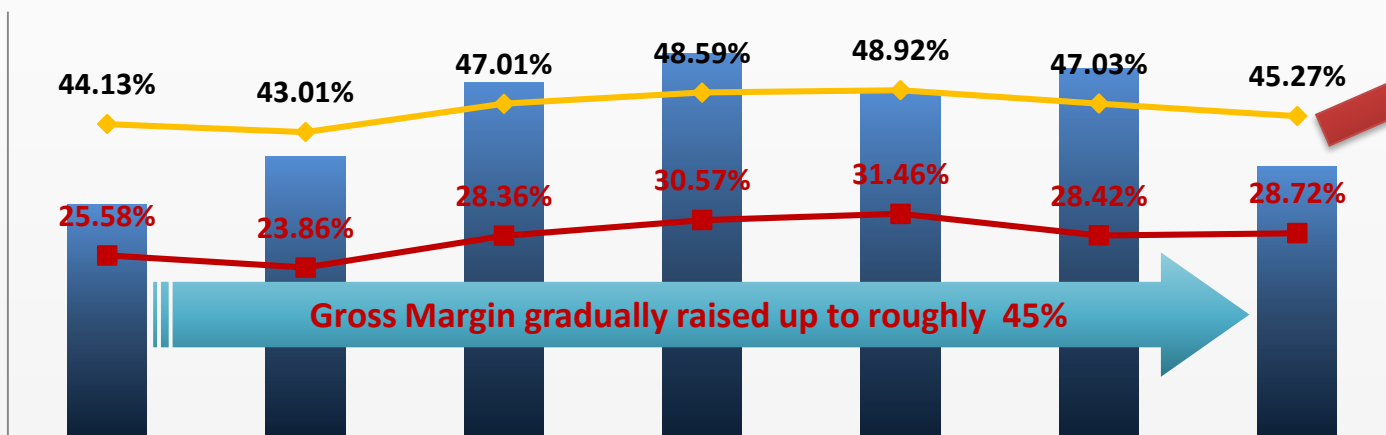
(Unit : %)

## Region Revenue Breakdown



- Main customer over the last few years have mostly been from Taiwan and China
- Main Customer by products : Phones, Networking and Others ; that Others including IoT related products, such as: cars, appliances, wearables, NB, PCs, etc. The main revenue is from large supplier of Phones and Networking.

# Return on investment analysis

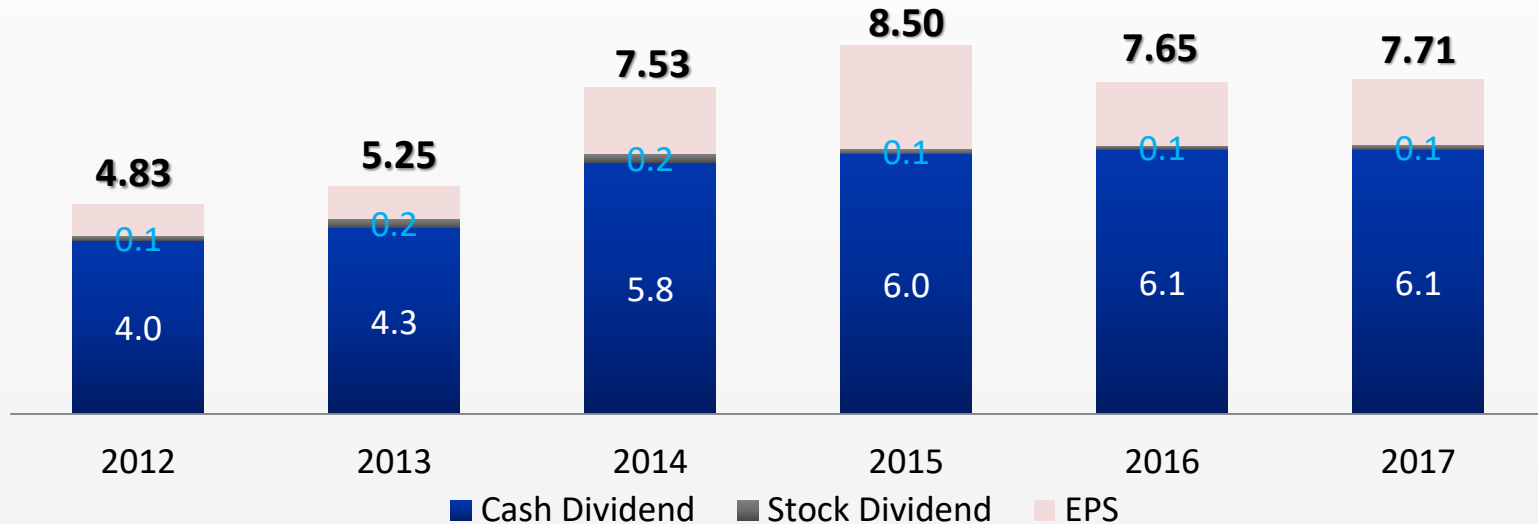


■ Total Revenue	1,914,703	2,304,446	2,921,759	3,156,938	2,830,957	3,029,513	2,223,974
◆ Gross Margin	44.13%	43.01%	47.01%	48.59%	48.92%	47.03%	45.27%
■ Op Margin	25.58%	23.86%	28.36%	30.57%	31.46%	28.42%	28.72%



# EPS and Dividend for the last 6 years

Dividend Allotment was over 70% of the net profit for the last 6 years

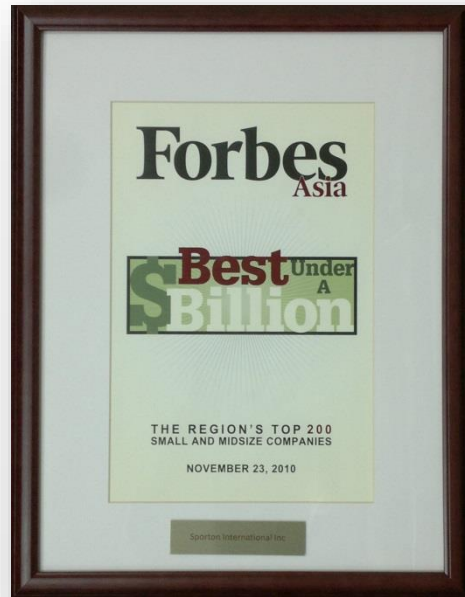


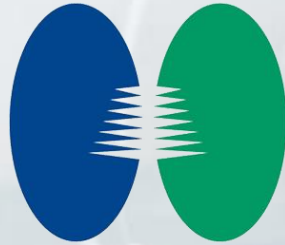
· Sporton has been profitable since listing in 2002. Sporton's revenue was able to grow even during financial crisis.



# Awarded the top 200 SMEs in Forbes Asia for two consecutive years

Won the region's top 200 Small and midsize companies in Asia in 2009-2010





**SPORTON LAB.**

**THANK YOU  
Q&A**



**SPORTON LAB.**