

# OPPORTUNITIES OF ICT INDUSTRY IN TAIWAN

## - ICT HARDWARE, 4G, SEMICONDUCTOR AND GAMING

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BUSINESS SWEDEN TAIPEI

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Aug 2015  
Taipei

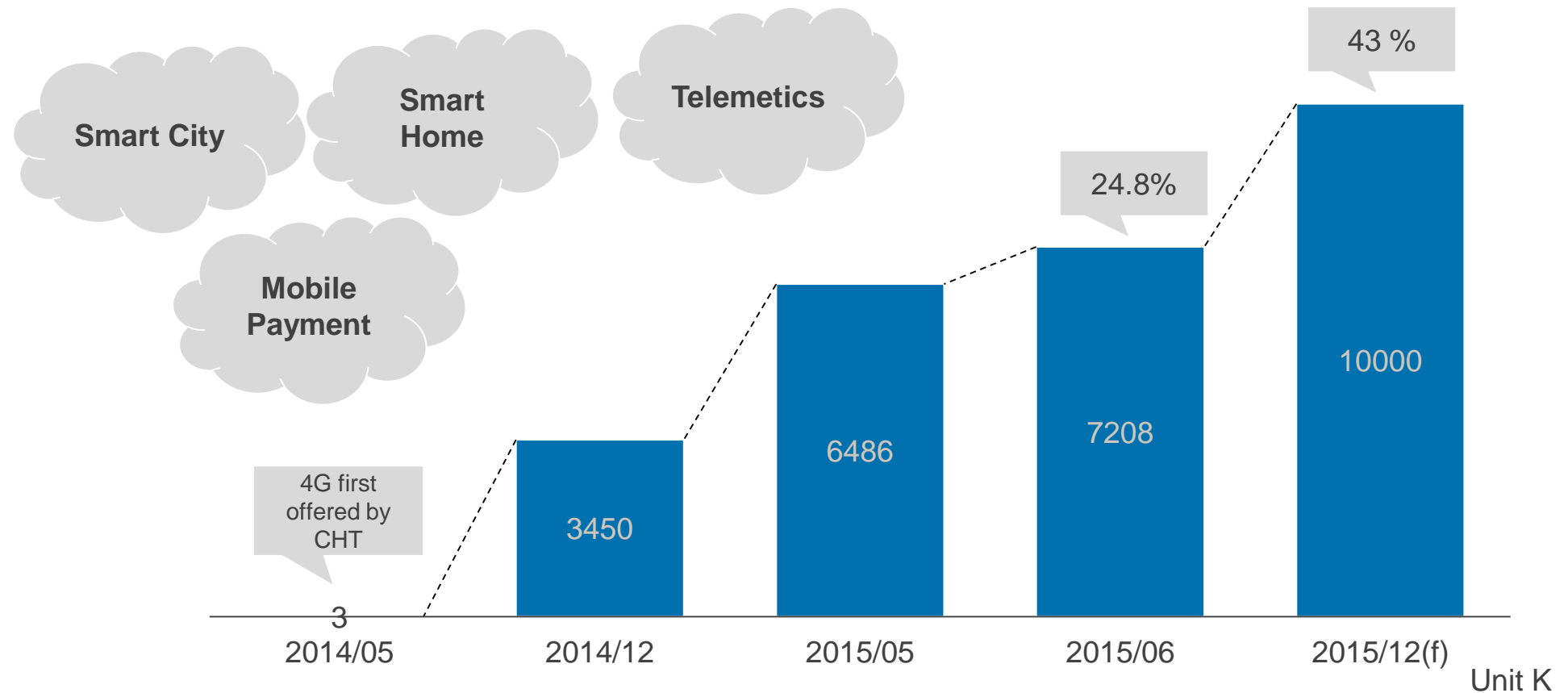
# AGENDA

- ▶ Taiwan's 4G operators
- ▶ Taiwan's information and communication hardware industry
- ▶ Taiwan's semiconductor industry
- ▶ Success cases and drivers for Taiwan ICT industry
- ▶ Mobile gaming market in Taiwan



# 4G PENETRATION IS 25% AND EXPECTED TO REACH 10M USERS AND 43% PENETRATION BY END OF 2015

NUMBER OF 4G USERS PASSED 7.2 MILLION AND EXPECTED TO REACH 10 M BY END OF THE YEAR

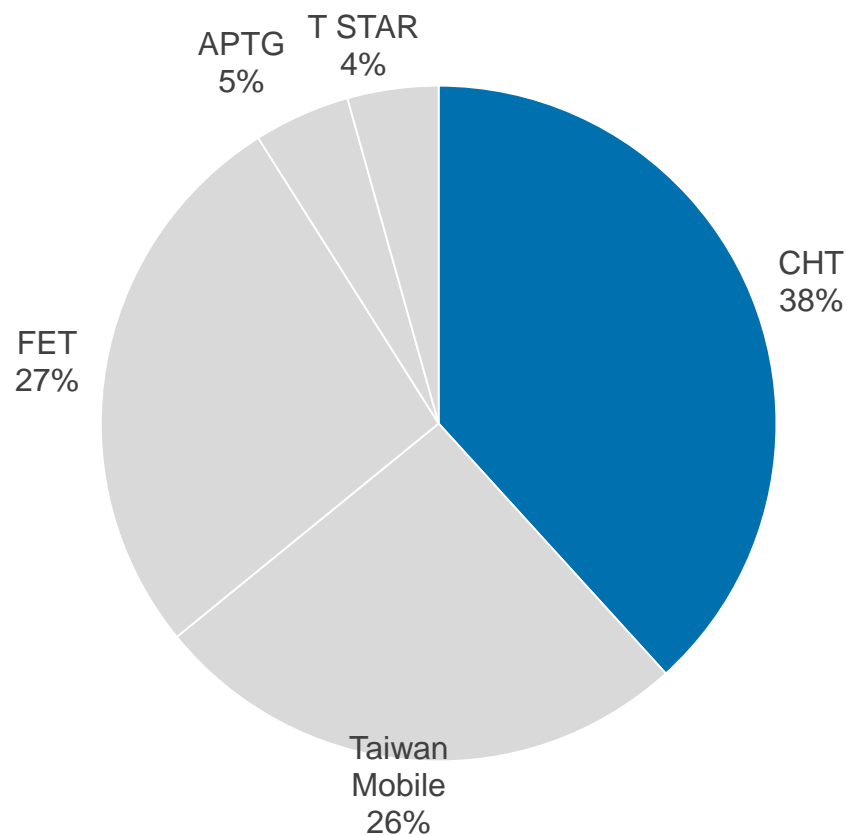


INCREASED PENETRATION RATE DRIVES DEMAND FOR NEW SERVICES



# CHT, TAIWAN MOBILE AND FET DOMINATE THE MARKET

4G MARKET SHARE BY OPERATORS, 2015/06



## ACQUISITION AND ALLIANCE IS UNDERGOING

- ▶ A total of 270MHz of frequency spectrum, in the 700MHz, 900MHz and 1,800MHz bands, was auctioned for mobile broadband service in 2013 Oct. with six winners.
- ▶ Foxconn's subsidiary, one of the six winners of 4G bandwidth announced to acquire APTG



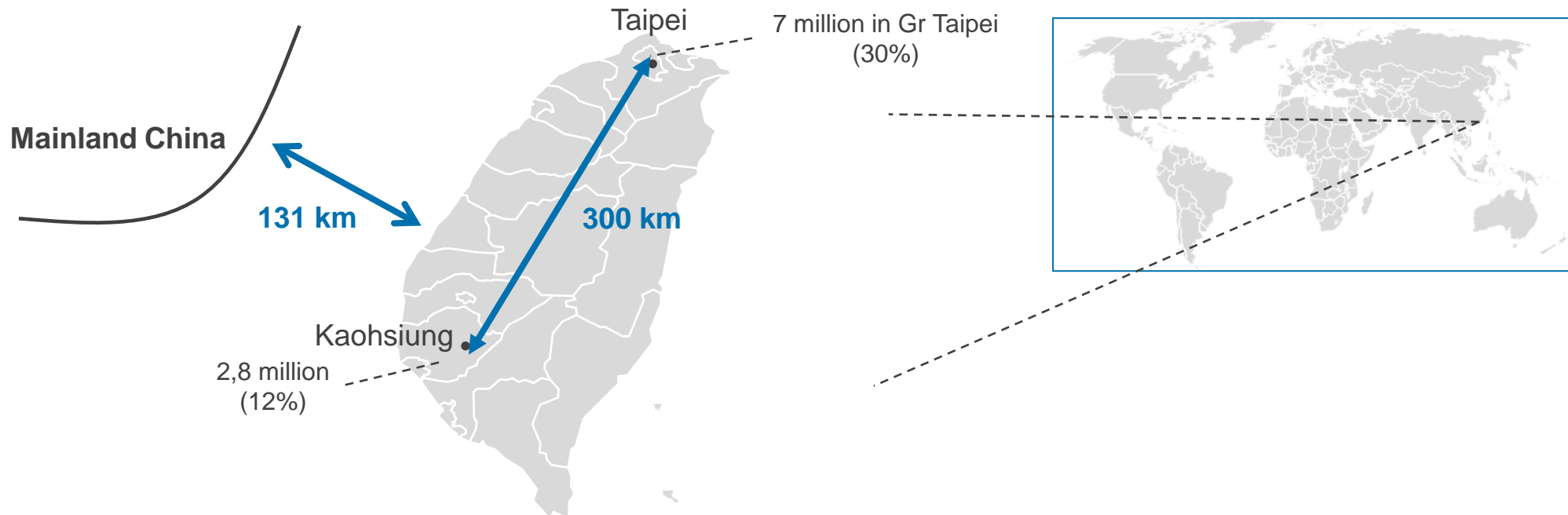
- ▶ The next auction of a total of 190MHz of frequency in the 2600MHz will be released by end of 2015

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# TAIWAN IS KNOWN AS A ICT MANUFACTURE HUB



- ▶ **Area:** 36 000 km<sup>2</sup> (1,2 times of Belgium)
- ▶ **Inhabitants:** 23 million (one of the world most dense population)
- ▶ **GDP per capita:** US\$ 39,600 (PPP)
- ▶ **Capital city:** Taipei

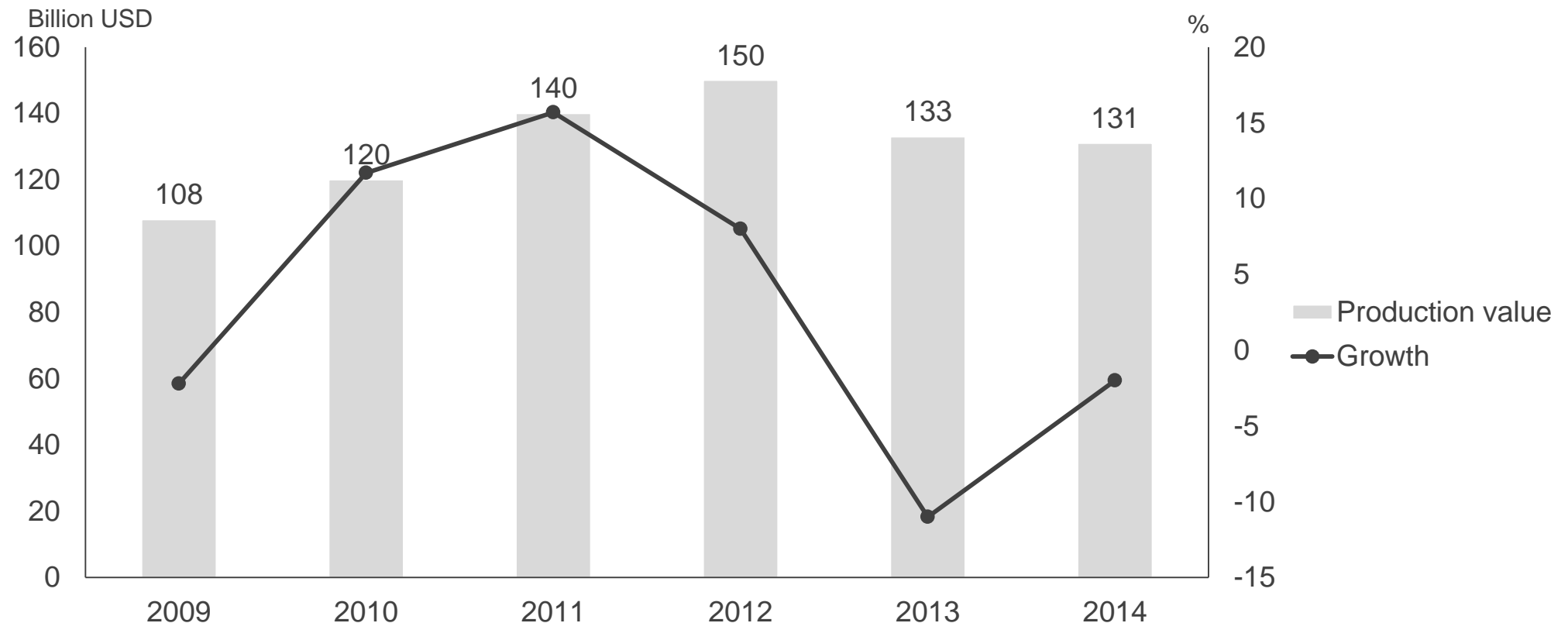
- ▶ **PC penetration rate:** 88%
- ▶ **Internet penetration rate:** 85%
- ▶ **Mobile phone rate:** 113%
- ▶ **Smart phone penetration rate:** 65%
- ▶ **Digital TV penetration:** 80%

SOURCE: BUSINESS SWEDEN TAIPEI COMPILE

# GROWTH FOR IT HARDWARE HAS BEEN STAGNATED

- DECREASED GLOBAL DEMAND FOR LAPTOP AND TABLET

## PRODUCTION VALUE OF IT HARDWARE OF TAIWAN



## DEMAND FOR CLOUD COMPUTING AND DATA CENTER DRIVE SERVER INDUSTRY

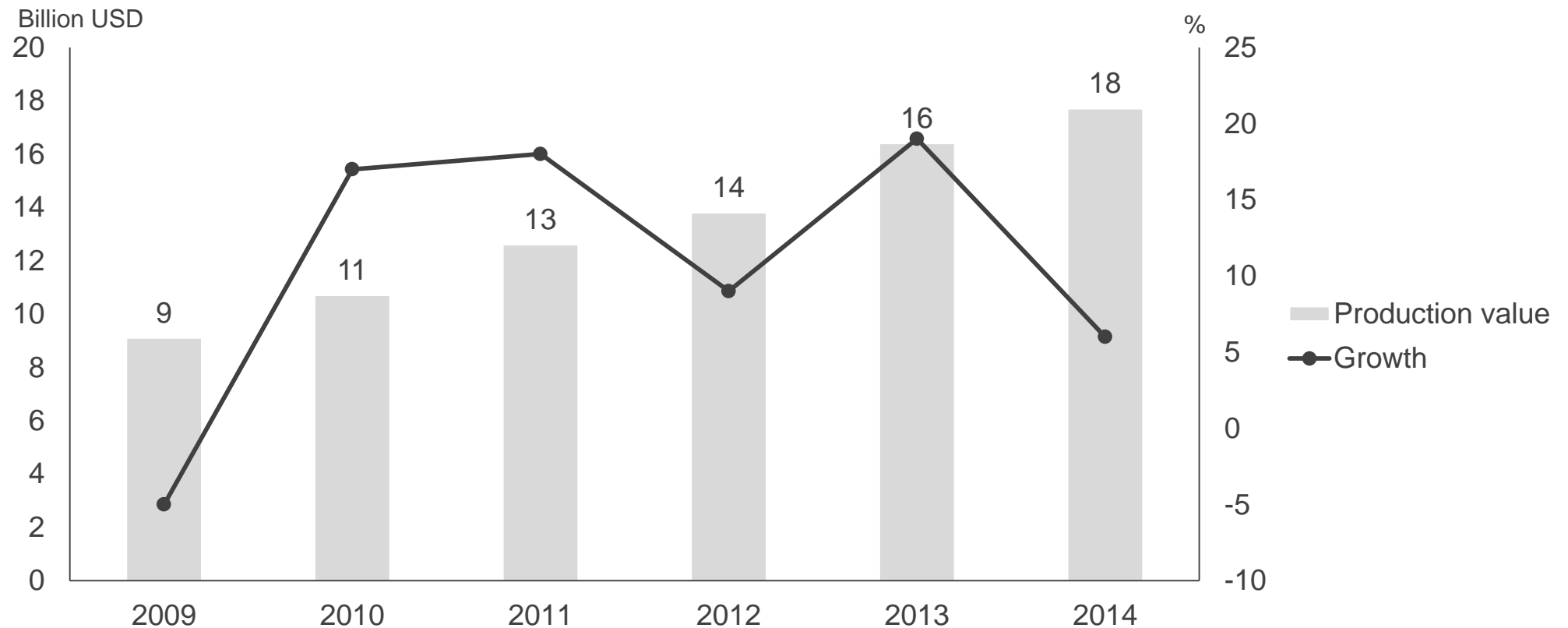
SOURCE: MIC, 2015

\*INCLUDE OVERSEAS PRODUCTION BY TAIWANESE COMPANIES

# COMMUNICATION HARDWARE KEEPS STRONG GROWTH

- DRIVES COMES FROM SMALL CELL AND SET TOP BOX

PRODUCTION VALUE OF DATA COMMUNICATION HARDWARE OF TAIWAN

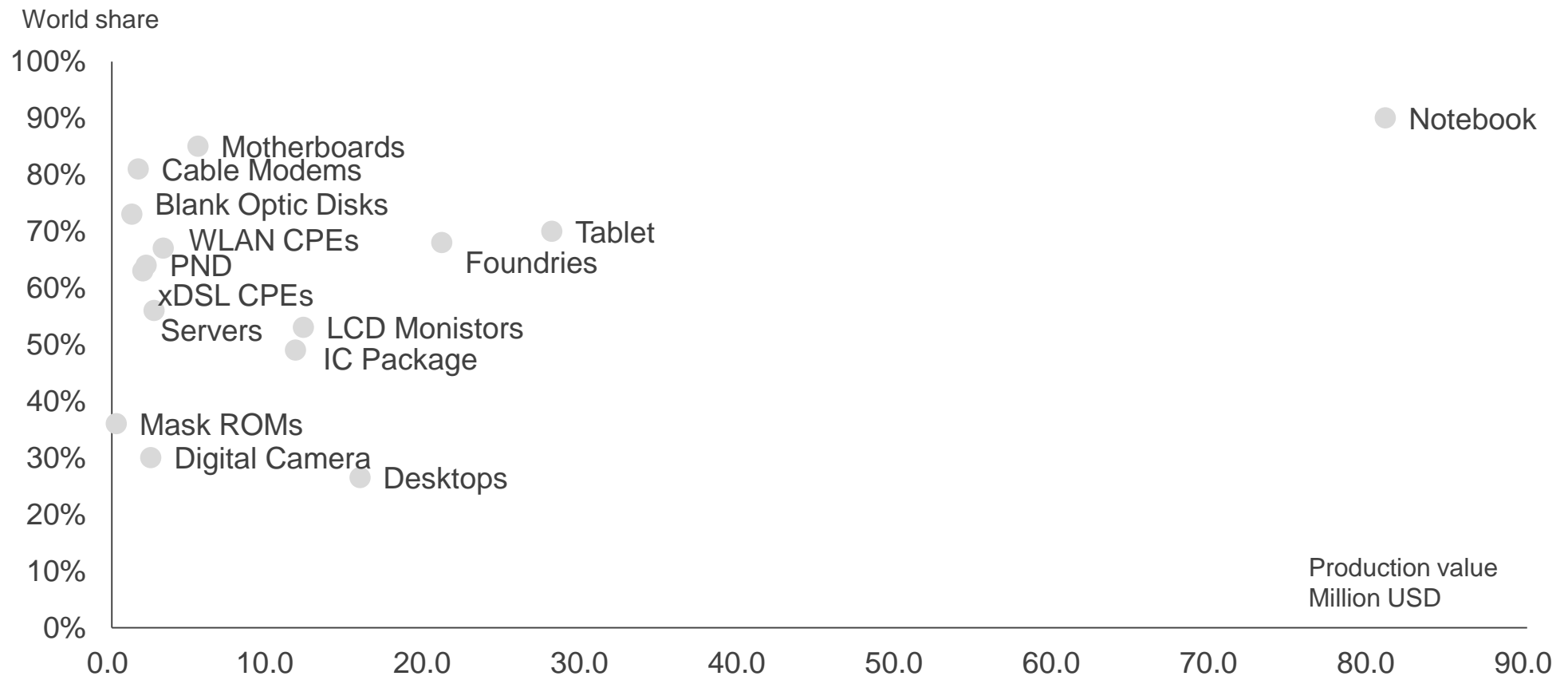


SOURCE: MIC, 2015



# SEVERAL IT AND COMMUNICATION HARDWARE RANKED NUMBER ONE IN THE WORLD

PRODUCTS MADE BY TAIWAN\* RANKED TOP IN THE WORLD, 2012



WORK WITH TAIWANESE HARDWARE VENDORS FOR SOURCING AND TECHNOLOGY INTEGRATION



# IMPORTANT PARTNER FOR GLOBAL IT BRANDS

- GLOBAL IT INNOVATION CENTER

- ▶ Taiwan vendors supply 90% of notebook and desktop PC and 80% WiFi products globally
- ▶ Product made in Taiwan like IC foundry, IC package, blank optical disk, Mask ROM are ranked number one in the world
- ▶ IT products made by Taiwan like notebook, tablet, LCD monitor, server, motherboard, CPE, PND etc. ranked number one in the world



TAIWAN COMPANIES ARE EXPERIENCED WITH ASIAN RESOURCE INTEGRATION AND GLOBAL LOGISTICS

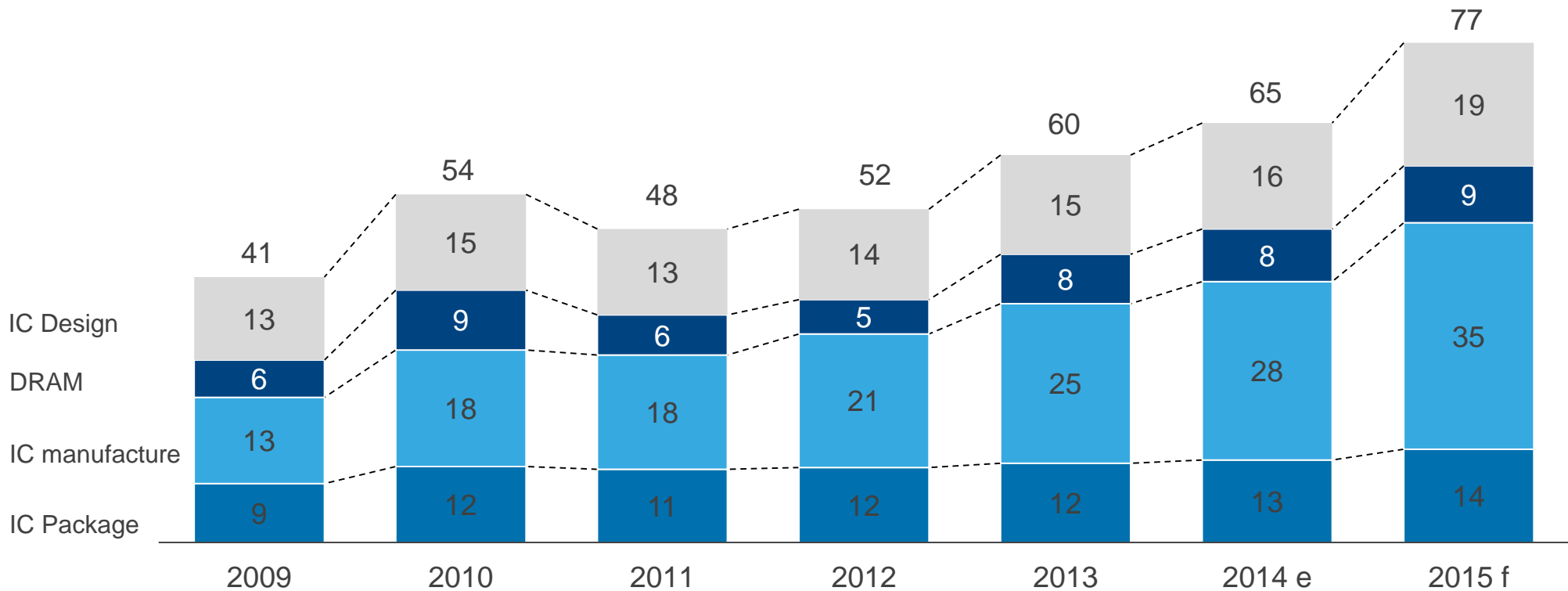
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# TAIWAN SEMICONDUCTOR INDUSTRY CONTINUES STRONG GROWTH

PRODUCTION VALUE OF SEMICONDUCTOR INDUSTRY OF TAIWAN

US billion



INTERNET OF THINGS AND MOBILE PAYMENT DRIVES THE DEMAND

SOURCE: MIC, 2015

# TAIWAN IS WORLD NO.1 FOR IC FOUNDRY AND PACKAGE

TSMC AND ASE ARE WORLD BIGGEST IC FOUNDRY AND IC PACKAGE MANUFACTURE

WORLD TOP 10 IC FOUNDRY, 2014

2014 Ranking	Company	Revenue (USD million)	
		2014	2013
1	<b>TSMC*</b>	24,976	19,935
2	Global Foundries	4,350	4,122
3	<b>UMC*</b>	4,350	3,959
4	Samsung	2,990	3,950
5	SMIC	1,969	1,962
6	Tower Jazz	828	505
7	<b>VIS*</b>	790	713
8	Hua Hong	685	585
9	Dongbu HiTek	531	452
10	IBM	515	485

SOURCE: IC INSIGHT, MIC, 2015/03

WORLD TOP 10 IC PACKAGE MANUFACTURE, 2014

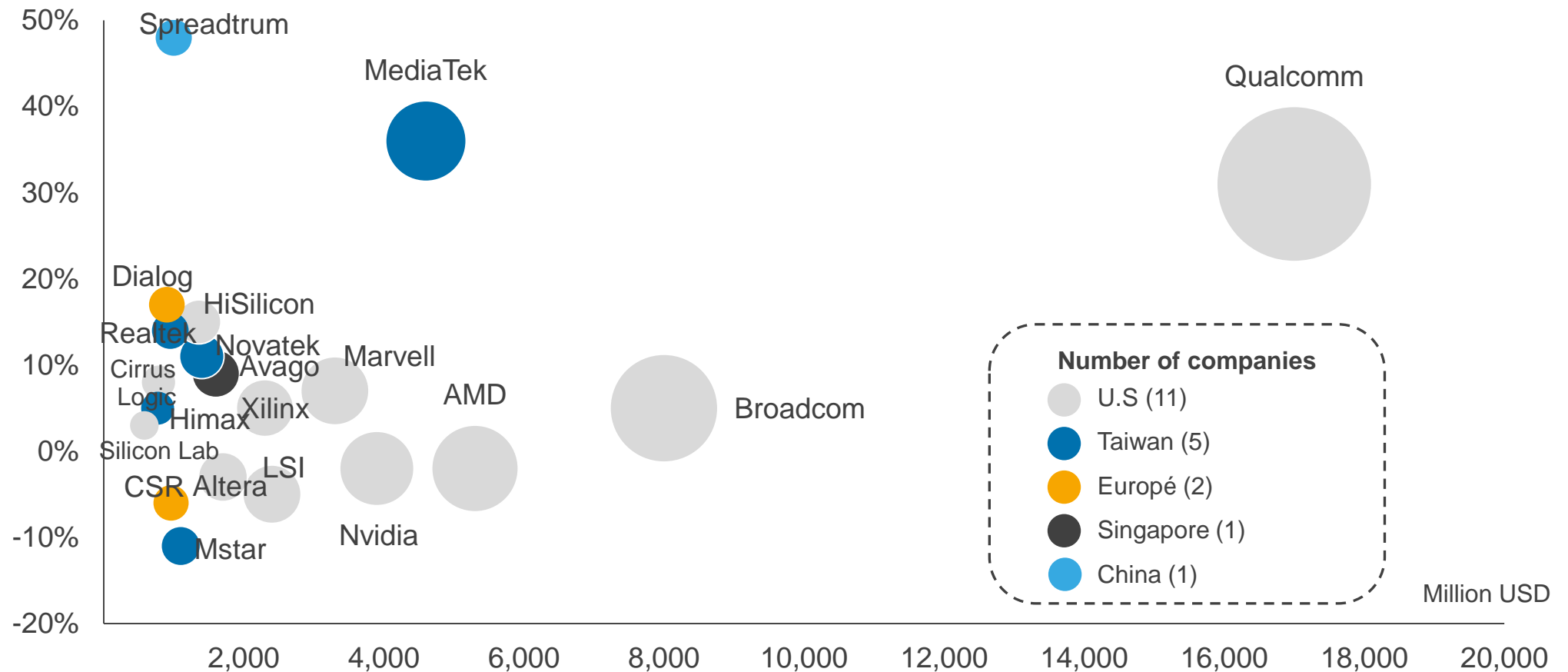
2014 Ranking	Company	Revenue (USD million)	
		2014	2013
1	<b>ASE</b>	4,046	4,014
2	Amkor	3,081	2,956
3	<b>SPIL</b>	2,505	2,131
4	STATS ChipPAC	1,586	1,599
5	<b>PTI</b>	1,317	1,263
6	JCET	977	828
7	J-Devices	833	801
8	UTAC	734	748
9	<b>ChipMOS</b>	725	650
10	Shinko	669	726

\*TAIWANESE COMPANY

# WORLD TOP 20 IC DESIGN FIRMS, FIVE ARE TAIWANESE

## TAIWAN IC DESIGN RANKS NUMBER TWO WORLDWIDE

TOP 20 IC DESIGN COMPANIES, REVENUE AND YEAR ON YEAR GROWTH, 2013



WORK WITH TAIWANESE IC DESIGN COMPANY FOR GLOBAL MARKET

SOURCE: IC INSIGHTS, 2014



# IOT AND MOBILE PAYMENT DRIVE THE MARKET

SOC, SENSOR, IDENTIFICATION, CONNECTIVITY AND LOW POWER CONSUMPTION ARE KEY TRENDS

## SoC (system on chip )

- ▶ Multi-processing chips
- ▶ Compact
- ▶ Low cost



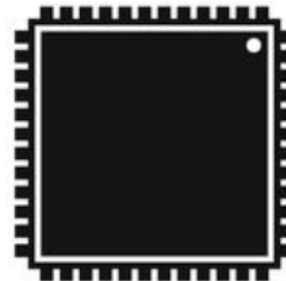
## Power consumption

- ▶ Low power consumption
- ▶ Re-charging technology
- ▶ Energy harvesting



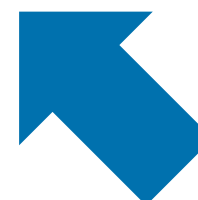
## Sensor and identification

- ▶ MEMS
- ▶ Imagery
- ▶ Finger print and voice identification



## Connectivity

- ▶ Integrate wireless communication technology like NFC



OPPORTUNITY FOR SWEDISH TECHNOLOGY COMPANIES TO APPROACH TAIWAN SEMICONDUCTOR VENDORS

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# SUCCESS CASES OF SWEDISH ICT COMPANIES LEVERAGE ON TAIWAN'S ICT STRENGTH FOR EXPORT

Company A: PC accessory,  
Swedish Design

Company B: Touch technology,  
Swedish Technologies

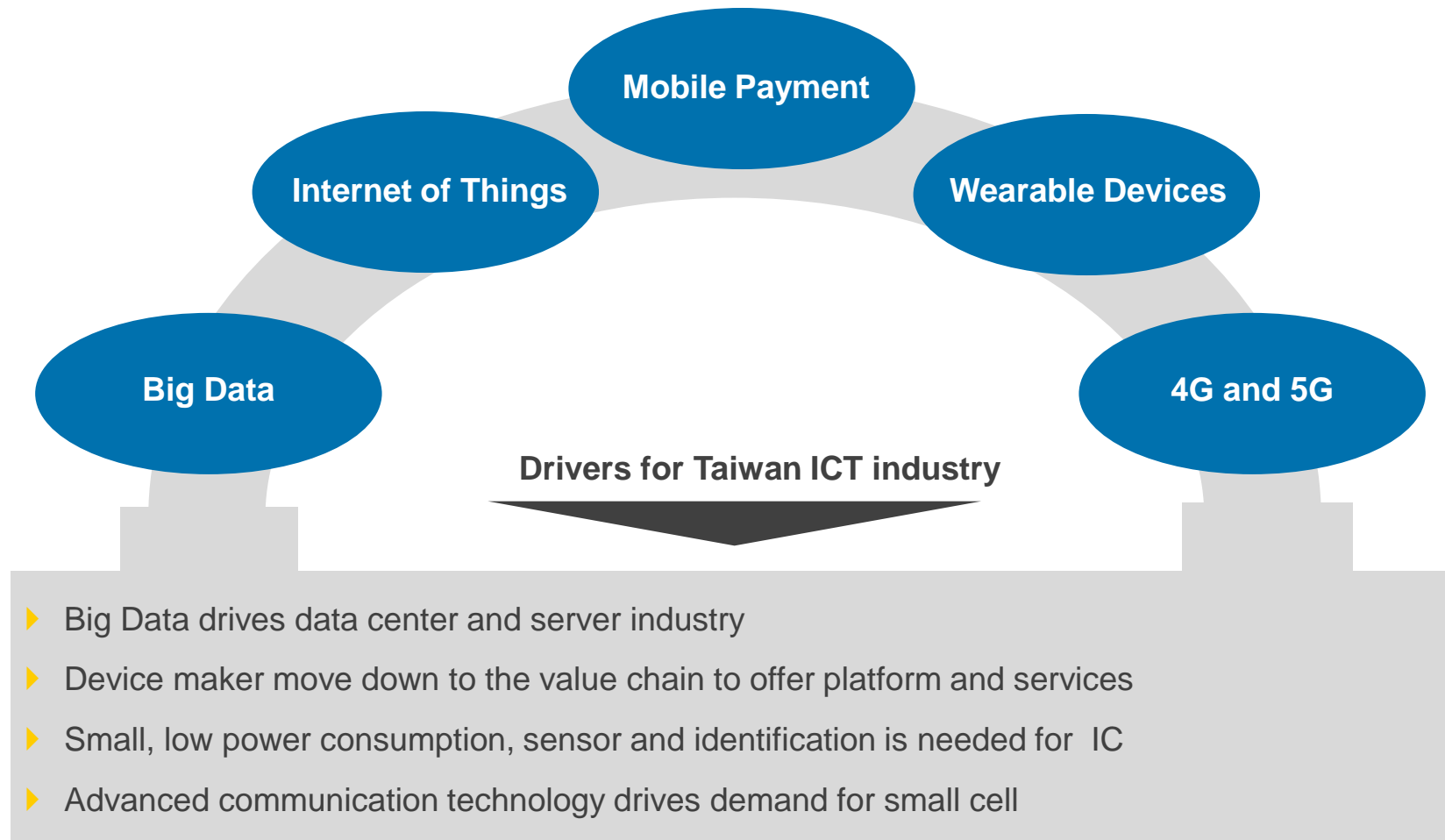
Company A:  
Product made in  
Taiwan  
Sell to Global  
Market

Company B:  
License to ICT  
industry in Taiwan  
and sell to Global  
Market

USE STRENGTH OF TAIWAN TO DEVELOP YOUR GLOBAL DEPLOYMENT STRATEGY

SOURCE: BUSINESS SWEDEN TAIPEI COMPILE

# GLOBAL TRENDS DRIVES THE TRANSITION OF ICT INDUSTRY OF TAIWAN



STRONG DEMAND FROM TAIWAN ICT INDUSTRY FOR SOFTWARE AND SERVICE INTEGRATION AND PARTNERSHIP

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# TAIWAN RANKS WORLDWIDE #5 BY REVENUE OF GOOGLE PLAY AND #10 BY IOS APP STORE

TAIWAN RANKS #5 BY GOOGLE PLAY REVENUE

Rank	Country 2014	Vs. 2013
1	Japan	-
2	United States	-
3	South Korea	-
4	Germany	-
5	Taiwan	↑ 1
6	United Kingdom	↓ 1
7	France	-
8	Hong Kong	↑ 1
9	Australia	↓ 1
10	Canada	↑ 1

TAIWAN RANKS #10 BY IOS APP STORE REVENUE

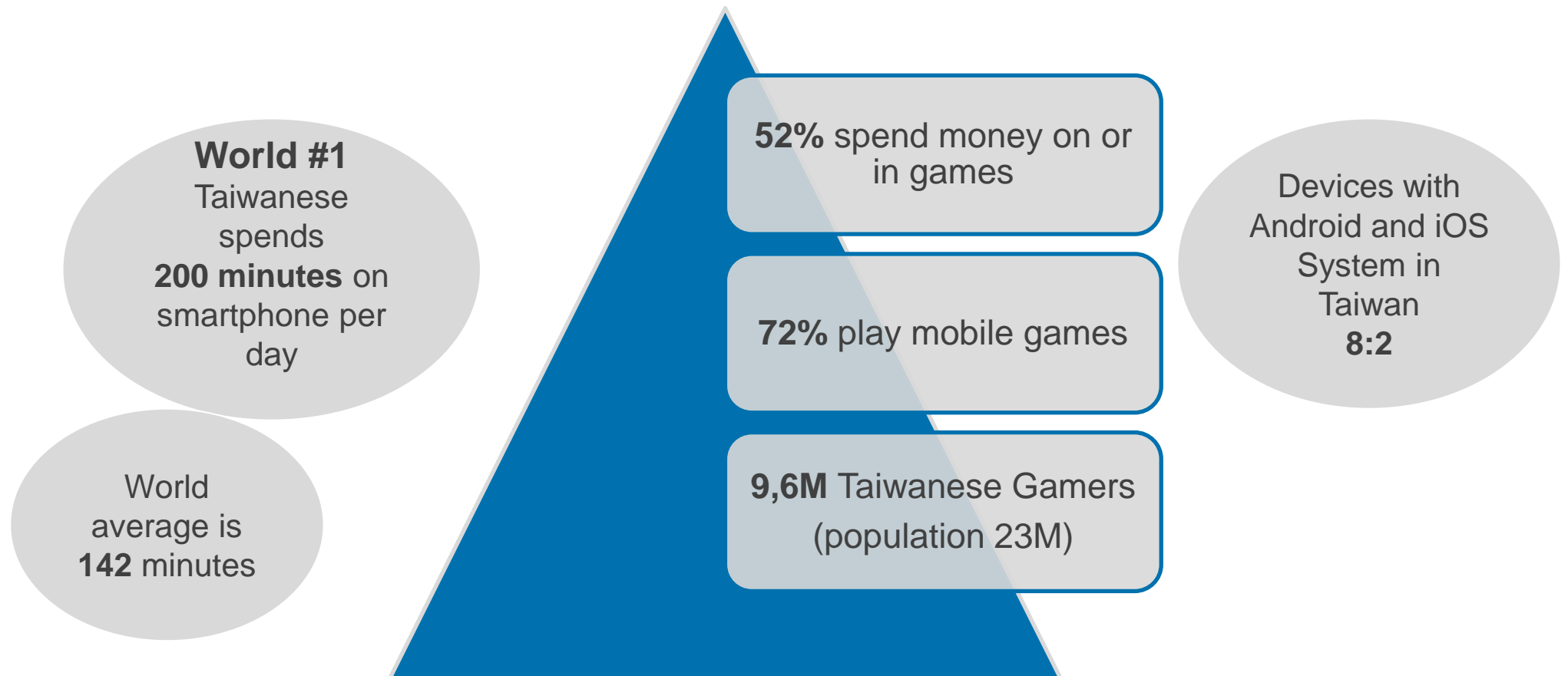
Rank	Country 2014	Vs. 2013
1	United States	-
2	Japan	-
3	China	-
4	United Kingdom	-
5	Australia	-
6	Canada	-
7	Germany	-
8	France	-
9	Russia	-
10	Taiwan	↑ 2

SOURCE: METAPS



# 52% TAIWANESE GAMERS SPEND MONEY ON GAMES

TAIWAN RANK #1 IN THE WORLD FOR AVERAGE DAILY SMARTPHONE USE



SOURCE: MILWARD BROWN, NEW ZOO



# TAIWAN IS A GOOD TEST MARKET FOR JAPANESE AND ASIAN GAMERS

## Japan



Google Play Top Grossing Chart Category Frequency September 2014	
Rank	Category
#1	RPG
#2	Casual
#3	Simulation
#4	Card
#5	Action
#6	Puzzle
#7	Sports
#8	Casino
#9	Strategy
#10	Entertainment

## Taiwan



Google Play Top Grossing Chart Category Frequency September 2014	
Rank	Category
#1	RPG
#2	Strategy
#3	Action
#4	Casual
#5	Casino
#6	Card
#7	Simulation
#8	Arcade
#9	Puzzle
#10	Sports



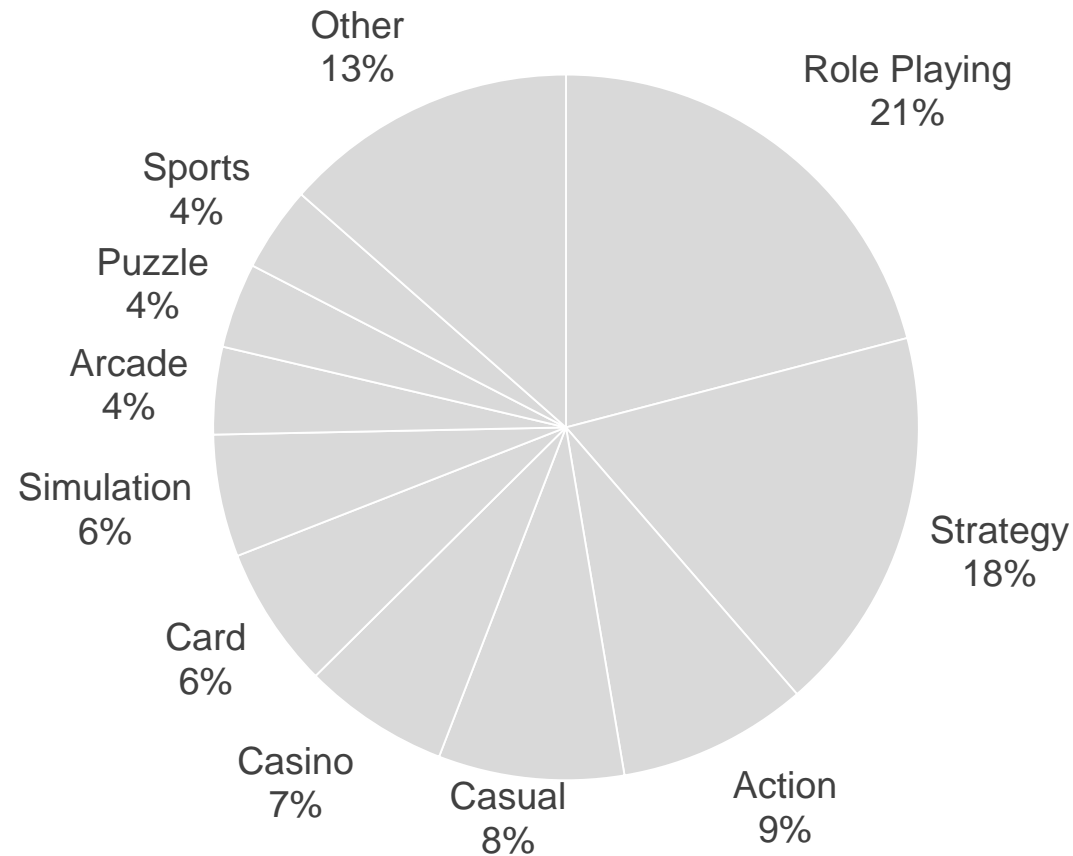
**Looking to target Japan with your mobile game? Try Taiwan first**

- ▶ The sorts of games and genres that are popular in Japan are equally as popular in Taiwan
- ▶ Increase in competition and heavy ad spending by local app developers and publishers, the barrier to entry for the Japanese market is extremely high for most Western developers
- ▶ Western games like Candy Crush and Clash of Clans are successful in Taiwan

# ROLE PLAYING IS THE TOP GAME CATEGORY IN TAIWAN

TOP 10 CATEGORIES ACCOUNTS FOR 8% OF TOTAL REVENUE

TAIWAN GOOGLE PLAY TOP GROSSING CHART, CATEGORY FREQUENCY, SEPTEMBER 2014



SOURCE: METAPS



# KING AND SUPERCCELL ARE HOT IN TAIWAN, AN EASIER AND EFFECTIVE ENTRY POINT INTO ASIA



December 2014

Dec Rank	Nov Rank		Title	Developer	Category
1	5		LINE Everybody's Marble	LINE	Casual
2	1		Dot Arena	LemonGame	Strategy
3	2		LINE	LINE	Communication
4	3		Tower of Saviors	Mad Head	Puzzle
5	4		LINE Rangers	LINE	Action
6	NEW		Pili Heroes	WeGames	Strategy
7	7		決戦神魔	IWPLAY WORLD	RPG
8	6		Summoner's War	Com2uS	RPG
9	8		Candy Crush Saga	King	Casual
10	12		Clash of Clans	Supercell	Strategy

AN EASIER AND EFFECTIVE WAY ENTRY POINT INTO ASIA MARKET THROUGH TAIWAN





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