



# THE 50 ALL-STARS

1	Apple	(2014 rank: 1)	26	BlackRock	[31]
2	Alphabet	[2]	27	CVS Health	[45]
3	Amazon.com	[4]	28	Toyota Motor	[24]
4	Berkshire Hathaway	[3]	29	Marriott International	[37]
5	Walt Disney	[6]	30	Delta Air Lines	[39]
6	Starbucks	[5]	31	Home Depot	[41*]
7	Southwest Airlines	[7]	32	IBM	[25]
8	FedEx	[12]	33	UPS	[34]
9	Nike	[13]	34	Salesforce.com	[50]
10	General Electric	[9]	35	Samsung Electronics	[30]
11	American Express	[8]	36	Accenture	[49]
12	Costco Wholesale	[16]	37	Exxon Mobil	[32]
13	Nordstrom	[14]	38	Nestlé	[33]
14	Facebook	[26]	39	Target	[48]
15*	Coca-Cola	[10]	40	St. Jude Medical	[—]
15*	Johnson & Johnson	[11]	41	Unilever	[36]
17	Microsoft	[20]	42	Walmart Stores	[38]
18	BMW	[15]	43	Intel	[40]
19	Netflix	[—]	44	PepsiCo	[41*]
20	J.P. Morgan Chase	[35]	45	Caterpillar	[28*]
21	Procter & Gamble	[17]	46	Deere	[—]
22	Boeing	[27]	47	Visa	[—]
23	Goldman Sachs Group	[23]	48	AT&T	[47]
24	Whole Foods Market	[18]	49	Publix Super Markets	[—]
25	Wells Fargo	[22]	50	Charles Schwab	[—]

**New AAA Standard** in Corporate

**America :**

**The one-two three punch of**

**Apple, Alphabet, and Amazon.**





# **IT Paradigm Shift with The Rise & Fall of Global IT Companies**

**- A Story of Rising and Fading Stars in the Skies of IT -**

**April 21 2016**

**Sung-Pyo Hong**

**IITP**



# **Contents**

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- I Introduction**
- II Global IT Industry Paradigm Shift**
- III IT Key Issues in 2016**
- IV Fading Stars and Shining Stars**
- V Rising Stars?**
- VI Lessons from Looking Back**



The background features a soft, light blue sky with large, fluffy white clouds. Scattered throughout the scene are several 3D cubes of varying sizes. Some cubes are a vibrant blue, while others are a light cream or off-white color. They appear to be floating or falling through the air, adding a sense of depth and movement to the composition.

# **I. Introduction**



## What Will Happen in the Future?

- To **Reduce Risks** in the Future
- To Prepare for **Competitiveness in Advance**
- Check **the Trend**, Catch **the Changes** of **Paradigm Shift**

## How Do We Know Future IT Technology / Service?

- **Ranking of Global IT Companies** Over the Past 35 Years
- **Sales : Current Value / Market Capitalization : Future Value**
- The **Rise and Fall** of Global IT Companies





## **II. Global IT Industry Paradigm Shift**



## 2. Top 30 IT Companies in Market Capitalization

1980	1990	2000	2010	2015
1 <b>IBM</b>	1 <b>IBM</b>	1 <b>CISCO SYSTEMS</b>	1 <b>Apple</b>	1 <b>Apple</b>
2 <b>HEWLETT PACKARD</b>	2 <b>HITACHI</b>	2 <b>Microsoft</b>	2 <b>Microsoft</b>	2 <b>Alphabet</b>
3 <b>Panasonic</b>	3 <b>Panasonic</b>	3 <b>NOKIA</b>	3 <b>Google</b>	3 <b>Microsoft</b>
4 <b>xerox</b>	4 <b>ALCATEL</b>	4 <b>intel</b>	4 <b>IBM</b>	4 <b>amazon.com</b>
5 <b>digital</b>	5 <b>NEC</b>	5 <b>ORACLE</b>	5 <b>ORACLE</b>	5 <b>facebook</b>
6 <b>SONY</b>	6 <b>SONY</b>	6 <b>IBM</b>	6 <b>SAMSUNG</b>	6 <b>Alibaba.com</b>
7 <b>TEXAS INSTRUMENTS</b>	7 <b>FUJITSU</b>	7 <b>EMC<sup>2</sup></b>	7 <b>intel</b>	7 <b>Tencent 腾讯</b>
8 <b>HITACHI</b>	8 <b>Nintendo</b>	8 <b>NORTEL</b>	8 <b>CISCO</b>	8 <b>intel</b>
9 <b>MOTOROLA</b>	9 <b>FUJIFILM</b>	9 <b>Sum</b>	9 <b>HEWLETT PACKARD</b>	9 <b>SAMSUNG</b>
10 <b>UNISYS</b>	10 <b>SHARP</b>	10 <b>ERICSSON</b>	10 <b>amazon.com</b>	10 <b>ORACLE</b>
11 <b>intel</b>	11 <b>SANYO</b>	11 <b>TEXAS INSTRUMENTS</b>	11 <b>QUALCOMM</b>	11 <b>CISCO</b>
12 <b>Apple</b>	12 <b>Microsoft</b>	12 <b>SONY</b>	12 <b>Canon</b>	12 <b>IBM</b>
13 <b>HARRIS</b>	13 <b>KYOCERA</b>	13 <b>HEWLETT PACKARD</b>	13 <b>tsmc</b>	13 <b>tsmc</b>
14 <b>SANYO</b>	14 <b>HEWLETT PACKARD</b>	14 <b>ALCATEL</b>	14 <b>SAP</b>	14 <b>SAP</b>
15 <b>NEC</b>	15 <b>intel</b>	15 <b>QUALCOMM</b>	15 <b>TATA CONSULTANCY SERVICES</b>	15 <b>QUALCOMM</b>
16 <b>FUJITSU</b>	16 <b>Canon</b>	16 <b>Panasonic</b>	16 <b>EMC<sup>2</sup></b>	16 <b>TATA CONSULTANCY SERVICES</b>
17 <b>PHILIPS</b>	17 <b>MOTOROLA</b>	17 <b>PHILIPS</b>	17 <b>Infosys</b>	17 <b>accenture</b>
18 <b>Canon</b>	18 <b>NORTEL</b>	18 <b>CORNING</b>	18 <b>Tencent 腾讯</b>	18 <b>Baidu 百度</b>
19 <b>SHARP</b>	19 <b>ERICSSON</b>	19 <b>DELL</b>	19 <b>FOXCONN</b>	19 <b>TEXAS INSTRUMENTS</b>
20 <b>Tektronix</b>	20 <b>digital</b>	20 <b>Lucent Technologies</b>	20 <b>TEXAS INSTRUMENTS</b>	20 <b>salesforce</b>
21 <b>FUJIFILM</b>	21 <b>Pioneer</b>	21 <b>MOTOROLA</b>	21 <b>NOKIA</b>	21 <b>EMC<sup>2</sup></b>
22 <b>CORNING</b>	22 <b>Apple</b>	22 <b>JDS Uniphase</b>	22 <b>Nintendo</b>	22 <b>Adobe</b>
23 <b>NORTEL</b>	23 <b>COMPAQ</b>	23 <b>ADP</b>	23 <b>ERICSSON</b>	23 <b>AVAGO</b>
24 <b>Pioneer</b>	24 <b>CORNING</b>	24 <b>JUNIPER</b>	24 <b>vmware</b>	24 <b>ADP</b>
25 <b>KYOCERA</b>	25 <b>ADP</b>	25 <b>ST</b>	25 <b>ebay</b>	25 <b>ASML</b>
26 <b>National Semiconductor</b>	26 <b>EDS</b>	26 <b>VERITAS</b>	26 <b>SONY</b>	26 <b>FOXCONN</b>
27 <b>AVNET</b>	27 <b>TEXAS INSTRUMENTS</b>	27 <b>YAHOO! JAPAN</b>	27 <b>Baidu 百度</b>	27 <b>Infosys</b>
28 <b>ADP</b>	28 <b>TDK</b>	28 <b>APPLIED MATERIALS</b>	28 <b>accenture</b>	28 <b>Cognizant</b>
29 <b>Data General</b>	29 <b>muRata</b>	29 <b>Canon</b>	29 <b>BlackBerry</b>	29 <b>BROADCOM</b>
30 <b>CRAY</b>	30 <b>PHILIPS</b>	30 <b>NEC</b>	30 <b>CORNING</b>	30 <b>KEYENCE</b>



## 2. Top 30 IT Companies in 1980

1980

★	1	IBM	
★	2	HEWLETT PACKARD	
	3	Panasonic	
★	4	xerox	
★	5	digital	
	6	SONY	
	7	TEXAS INSTRUMENTS	
	8	HITACHI	
	9	MOTOROLA	
★	10	UNISYS	
	11	intel	
	12	Apple	
	13	HARRIS	
	14	SANYO	
★	15	NEC	
★	16	FUJITSU	
	17	PHILIPS	
	18	Canon	
	19	SHARP	
	20	Tektronix	
	21	FUJIFILM	
	22	CORNING	
	23	NORTEL	
	24	Pioneer	
	25	KYOCERA	
	26	National Semiconductor	
	27	AVNET	
	28	ADP	
	29	Data General	
	30	CRAY	

### Era of Mainframe Computing

- IBM used to be the absolute No. 1 company in IT
- IBM was famous for their System 360 Mainframe Computer
- IBM's market value was about 4 times higher than that of HP (2nd highest)



## 2. Top 30 IT Companies in 1990

1990

	1	IBM	★	
★	2	HITACHI		
★	3	Panasonic		
	4	ALCATEL		
★	5	NEC		
★	6	SONY		
★	7	FUJITSU		
★	8	Nintendo		
★	9	FUJIFILM		
★	10	SHARP		
★	11	SANYO		
	12	Microsoft	★	
★	13	KYOCERA		
	14	HEWLETT PACKARD	★	
	15	intel		
★	16	Canon		
	17	MOTOROLA		
	18	NORTEL		
	19	ERICSSON		
	20	digital		
	21	Pioneer		
	22	Apple	★	
	23	COMPAQ	★	
	24	CORNING	★	
	25	ADP		
	26	BDS		
	27	TEXAS INSTRUMENTS		
	28	TDK		
	29	muRata		
	30	PHILIPS		































### Era of Electronics · PC

- Many Japanese home appliance companies rose to the top
- The computer industry began trending toward **Personal Computers**
- IBM opened **PC specification**



## 2. Top 30 IT Companies in 2000

2000

★	1	CISCO SYSTEMS	
	2	Microsoft	
★	3	NOKIA	
	4	intel	
	5	ORACLE	
	6	IBM	
	7	EMC <sup>2</sup>	
★	8	NORTEL	
	9	Sun computers	
★	10	ERICSSON	
	11	TEXAS INSTRUMENTS	
	12	SONY	
	13	HEWLETT PACKARD	
★	14	ALCATEL	
	15	QUALCOMM	
	16	Panasonic	
	17	PHILIPS	
★	18	CORNING	
	19	DELL	
★	20	Lucent Technologies	
★	21	MOTOROLA	
	22	JDS Uniphase	
	23	ADP	
★	24	JUNIPER NETWORKS	
	25	ST MICROELECTRONICS	
	26	VERITAS	
	27	YAHOO! JAPAN	
	28	APPLIED MATERIALS	
	29	Canon	
	30	NEC	

### Era of Dot Com

- Popularity of Internet access through PCs to search or get information
- Network Devices and Components companies appeared



## 2. Top 30 IT Companies in 2010

2010

★	1	Apple		
	2	Microsoft		
	3	Google	★	
	4	IBM		
	5	ORACLE		
★	6	SAMSUNG		
	7	intel		
	8	CISCO		
	9	HEWLETT PACKARD		
	10	amazon.com	★	
★	11	QUALCOMM		
	12	Canon		
	13	tsmc		
	14	SAP	★	
	15	TATA CONSULTANCY SERVICES		
	16	EMC <sup>2</sup>		
	17	Infosys		
	18	Tencent 腾讯		
	19	FOXCONN		
	20	TEXAS INSTRUMENTS		
	21	NOKIA		
	22	Nintendo		
	23	ERICSSON		
	24	vmware		
	25	ebay	★	
	26	SONY		
	27	Baidu 百度		
	28	accenture		
★	29	BlackBerry		
	30	CORNING		

### Era of Mobile Computing

- ❖ The internet access devices changed from PC to mobile devices
- ❖ Apple appeared again with iPhone; SAMSUNG rose to the Top 30
- ❖ SW companies providing Internet services began getting powerful



## 2. Top 30 IT Companies in 2015

2015

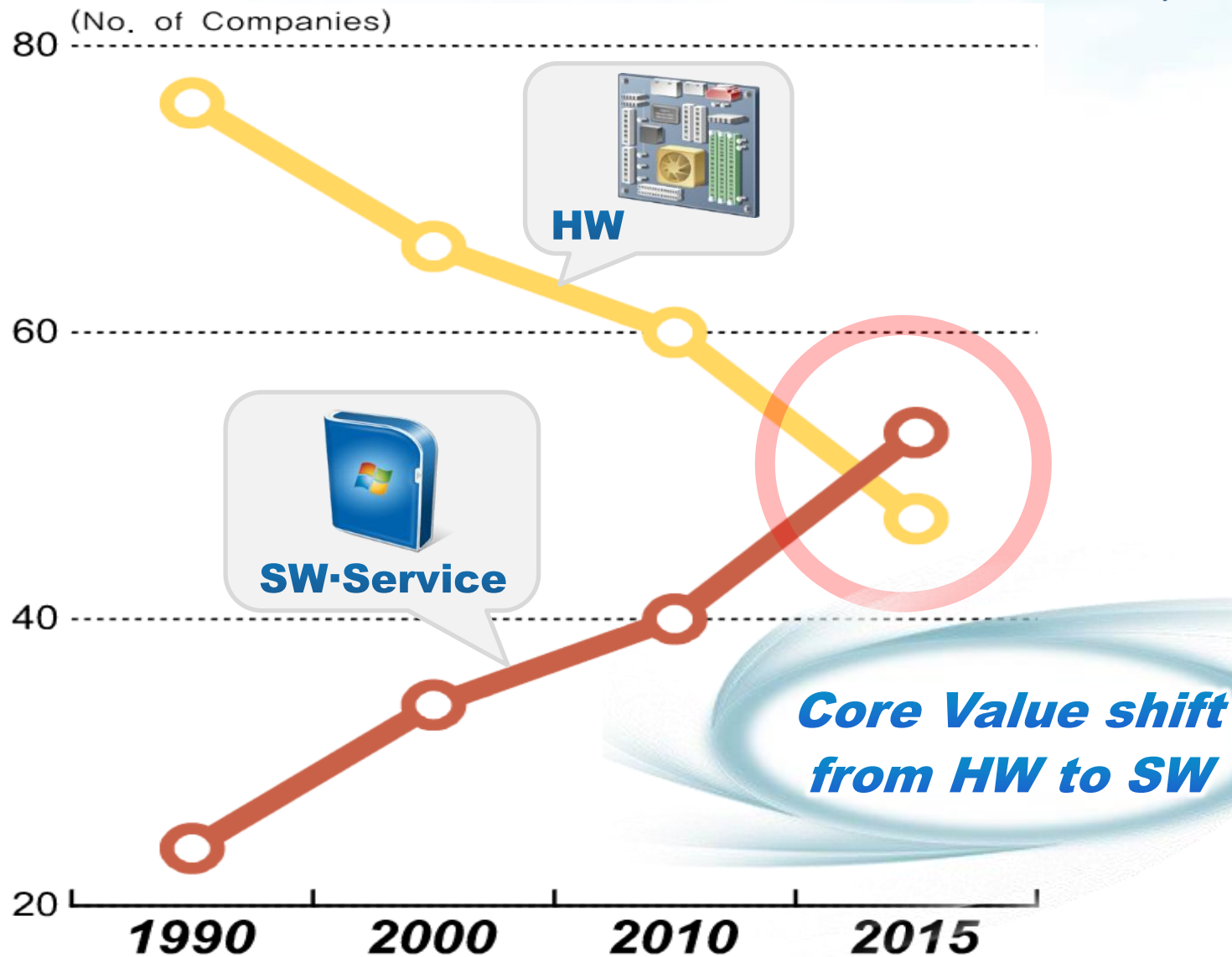
1	Apple	USA	
★ 2	Alphabet	USA	
3	Microsoft	USA	
★ 4	amazon.com	USA	
★ 5	facebook	USA	
★ 6	Alibaba.com	China	★
★ 7	Tencent 腾讯	China	★
8	intel	USA	
9	SAMSUNG	South Korea	★
10	ORACLE	USA	
11	CISCO	USA	
12	IBM	USA	
13	tsmc	Taiwan	★
14	SAP	Germany	
15	QUALCOMM	USA	
16	TATA CONSULTANCY SERVICES	India	★
17	accenture	USA	
18	Baidu 百度	China	★
19	TEXAS INSTRUMENTS	USA	
20	salesforce	USA	
21	EMC <sup>2</sup>	USA	
22	Adobe	USA	
23	AVAGO TECHNOLOGIES	China	
24	ADP	USA	
25	ASML	Netherlands	
26	FOXCONN	Taiwan	★
27	Infosys	India	★
28	Cognizant	USA	
29	BROADCOM.	USA	
30	KEYENCE	Japan	

### Era of SW (ICBM)

- ❖ ICBM is no longer known for InterContinental Ballistic Missiles
- ❖ ICBM is now better known for IoT, Cloud, Big data and Mobile
- ❖ ICBM is the leading trend in SW technology
- ❖ The rapid growth of Chinese SW Companies

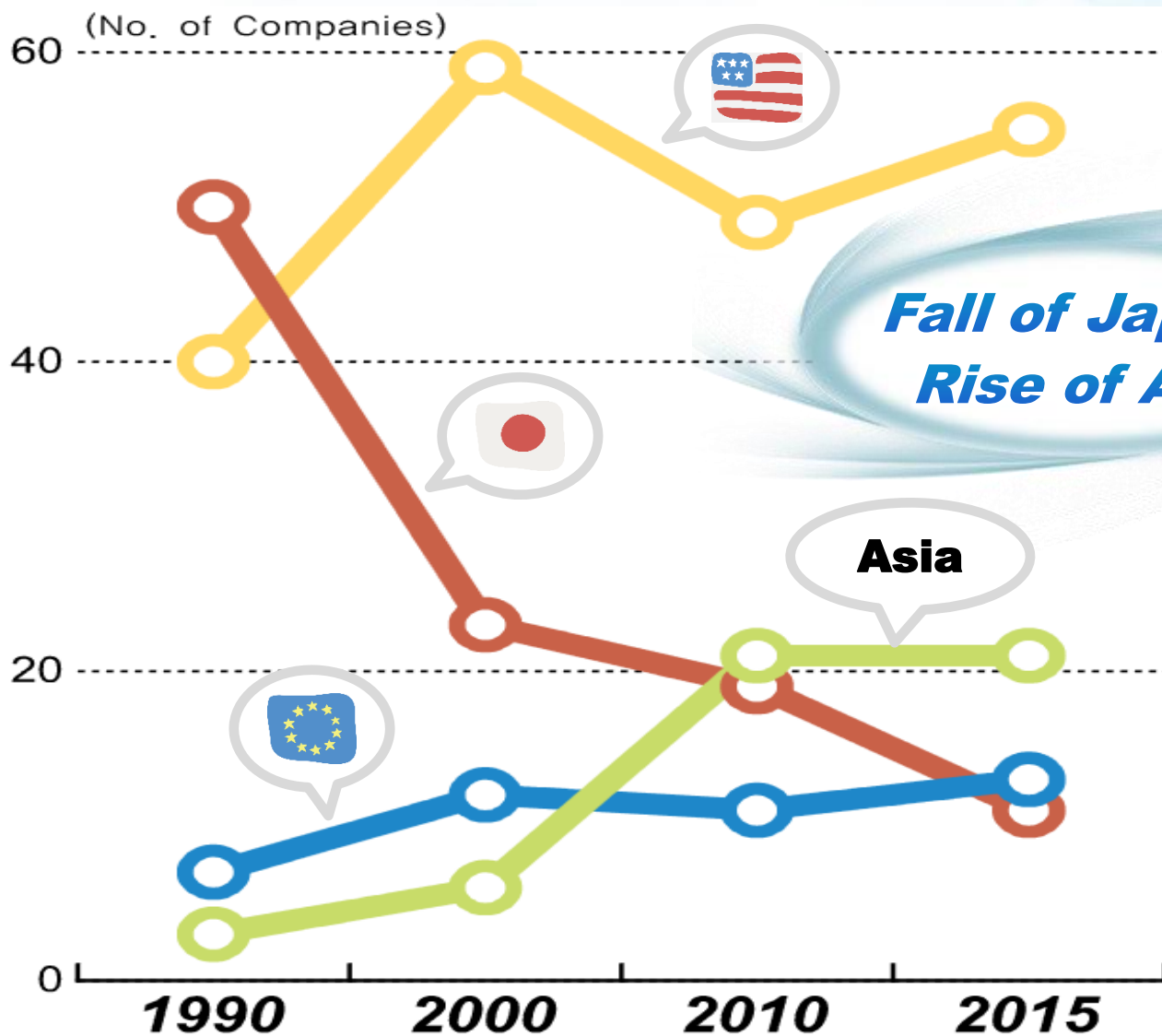


## 2-1. Trend of HW·SW Industry





## 2-2. Major Countries with Top 100 ICT Companies



*Fall of Japan,  
Rise of Asia*

**Asia**



# 2-3. Status Changes of Asian Companies

1980	1990	2000	2010	2015
1 IBM	1 IBM	1 CISCO SYSTEMS	1 Apple	1 Apple
★ 2 HEWLETT PACKARD	★ 2 HITACHI	2 Microsoft	2 Microsoft	2 Alphabet
★ 3 Panasonic	★ 3 Panasonic	3 NOKIA	3 Google	3 Microsoft
4 xerox	4 ALCATEL	4 intel	4 IBM	4 amazon.com
5 digital	★ 5 NEC	5 ORACLE	5 ORACLE	5 facebook
★ 6 SONY	★ 6 SONY	6 IBM	★ 6 SAMSUNG	★ 6 Alibaba.com
7 TEXAS INSTRUMENTS	★ 7 FUJITSU	7 EMC <sup>2</sup>	7 intel	★ 7 Tencent 腾讯
★ 8 HITACHI	★ 8 Nintendo	8 NOKIA	8 CISCO	8 intel
9 MOTOROLA	★ 9 FUJIFILM	9 Sun	9 HEWLETT PACKARD	★ 9 SAMSUNG
★ 10 UNISYS	★ 10 SHARP	10 ERICSSON	10 amazon.com	10 ORACLE
11 intel	★ 11 SANYO	11 TEXAS INSTRUMENTS	11 QUALCOMM	11 CISCO
12 Apple	12 Microsoft	★ 12 SONY	★ 12 Canon	12 IBM
13 HARRIS	★ 13 KYOCERA	13 HEWLETT PACKARD	★ 13 tsmc	★ 13 tsmc
★ 14 SANYO	14 HEWLETT PACKARD	14 ALCATEL	14 SAP	14 SAP
★ 15 NEC	15 intel	15 QUALCOMM	★ 15 TATA CONSULTANCY SERVICES	15 QUALCOMM
★ 16 FUJITSU	★ 16 Canon	★ 16 Panasonic	16 EMC <sup>2</sup>	★ 16 TATA CONSULTANCY SERVICES
★ 17 PHILIPS	17 MOTOROLA	17 PHILIPS	★ 17 Infosys	17 accenture
★ 18 Canon	18 NOKIA	18 CORNING	★ 18 Tencent 腾讯	★ 18 Baidu 百度
★ 19 SHARP	19 ERICSSON	19 DELL	★ 19 FOXCONN	19 TEXAS INSTRUMENTS
20 Tektronix	20 digital	20 Lucent Technologies	20 TEXAS INSTRUMENTS	20 salesforce
21 FUJIFILM	★ 21 Pioneer	21 MOTOROLA	21 NOKIA	21 EMC <sup>2</sup>
22 CORNING	22 Apple	22 JDS Uniphase	★ 22 Nintendo	22 Adobe
23 NOKIA	23 COMPAQ	23 ADP	23 ERICSSON	23 AVAGO TECHNOLOGIES
★ 24 Pioneer	24 CORNING	24 JUNIPER NETWORKS	24 vmware	24 ADP
★ 25 KYOCERA	25 ADP	25 ST	25 eBay	25 ASML
26 National Semiconductor	26 EDS	26 VERITAS	★ 26 SONY	★ 26 FOXCONN
27 AVNET	27 TEXAS INSTRUMENTS	★ 27 YAHOO! JAPAN	★ 27 Baidu 百度	★ 27 Infosys
28 ADP	★ 28 TDK	28 APPLIED MATERIALS	28 accenture	28 Cognizant
29 Data General	★ 29 muRata	★ 29 Canon	29 BlackBerry	29 BROADCOM
30 CRAY	30 PHILIPS	★ 30 NEC	30 CORNING	★ 30 KEYENCE

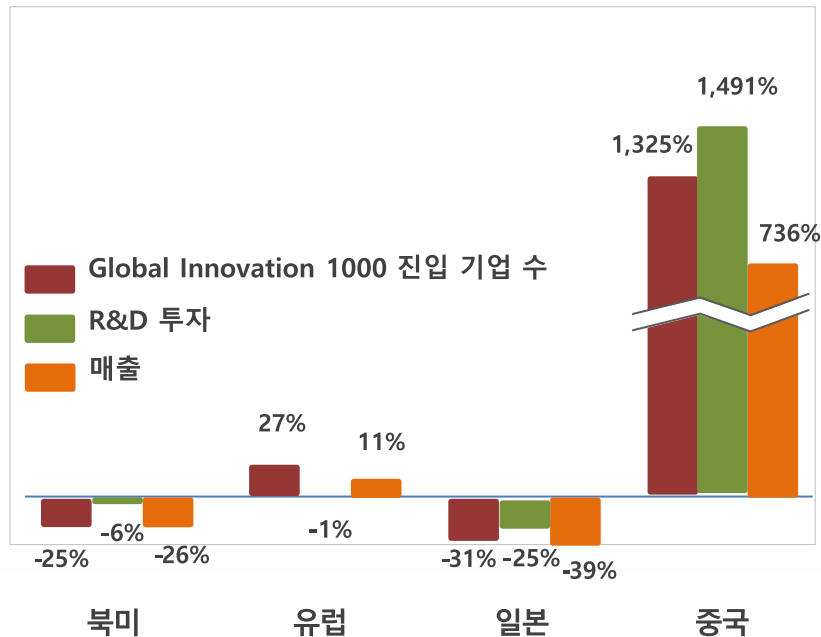


### Chinese companies are no longer “Copy Cats,” but “Innovators.” From “Fast Followers” to “1st Movers”

#### 2016 CES

- 33% of the 3,600 exhibitions; Overtook MS spot and other Japanese Positions
- Faraday Future EV “FFZERO1,” “Ehang184” Manned Drone, “Ninebot” Transportation Robot

<China's Change Global innovation 1000 ('05-'14)>



- B : Baidu(Internet Search), 2000
- A : Alibaba(E-Commerce), 1999
- T : Tencent(On-line Game), 1998
- X : Xiaomi(S. phone &), 2010
- H : Huawei(Net. Device &), 1987

#### China's other Strength : Zhongguancun

- China's Silicon Valley (50 startups / day) : 20,000 Companies
- Startup Ecosystem : Mgmt., Support Org., Univ., R&D Inst., Companies
- Young Entrepreneurs' Mecca : Avg. Age of 33 and 200,000 with Masters/Doctorates
- Baidu, Tencent, Lenovo



## 2-4. China's Status Change: Other Strengths = Startups

		13 	21 	29 	37 	45 
		14 	22 	30 	38 	46 
1 	7 	15 	23 	31 	39 	47 
2 	8 	16 	24 	32 	40 	48 
3 		17 	25 	33 	41 	49 
4 	10 	18 	26 	34 	42 	50 
5 	11 	19 	27 	35 	43 	
6 	12 	20 	28 	36 	44 	171 

- Fortune's List of Unicorn Startups (2016.01.19) : 174 Companies
- Unicorn Startups : Startups with \$1 billion market value
- USA(101), CHN(35), IND(7), EUR(18), KOR(2), ISR(2), SGP & JPN(0)



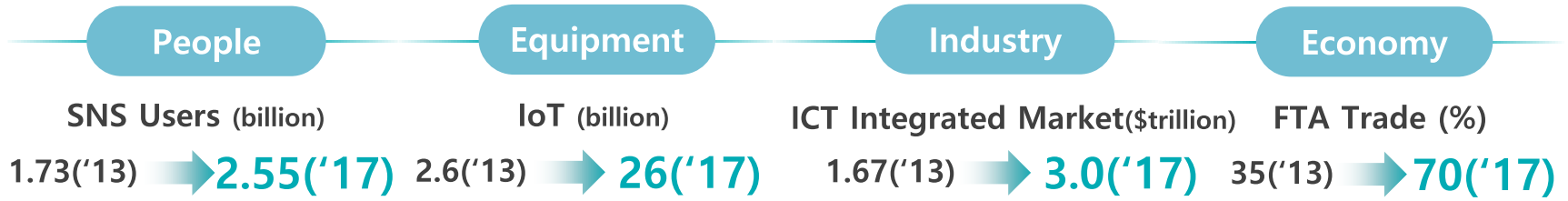


# **III. IT Key Issues in 2016**



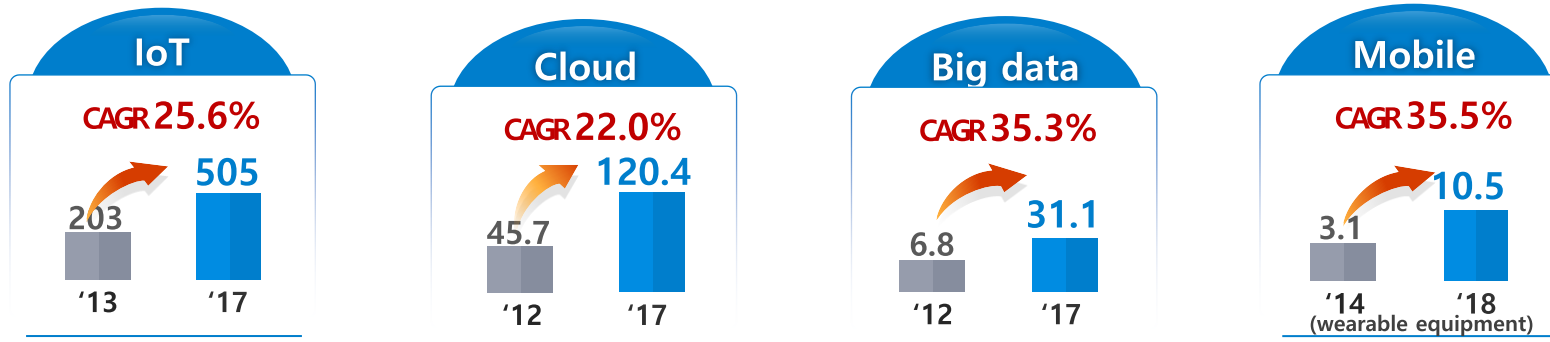
### 3. IT Key Issues in 2016 (1) - Hyper-Connected Society, ICBM

#### Hyper Connectivity



- Hyper-Connected: Era of a completely new level of Connectivity
- New Opportunities and BM: Sharing Economy, O2O,

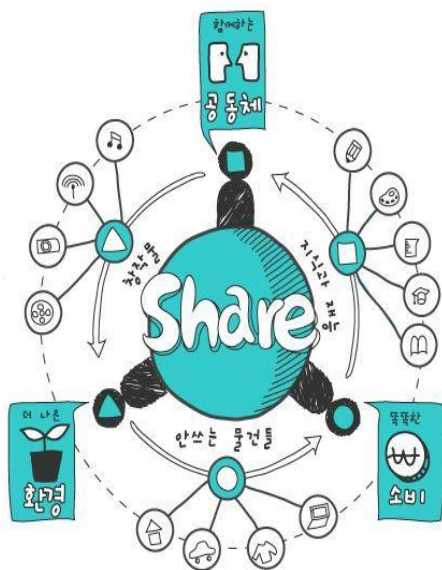
#### ICBM Global Market Growth (\$billion)



- ICBM Market: Grows about 30% each year
- IoT is the key for industries' convergence and leadership competition



### 3. IT Key Issues in 2016 (2) - Sharing Economy



- **Consumption through Sharing** Instead of Ownership
- Things to Share: Cars, Rooms, Time(Talent, Necessities),
- Close Contact Services, Concierge Economy, On-Demand Economy
- **Uberfication:** **Business model for an intermediary platform** that provides opportunities for common unlicensed people to sell commodities and services





### 3. IT Key Issues in 2016 (2) - Sharing Economy



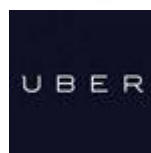
FORTUNE

THE UNICORN LIST

2016









#### Uber (2009) Service Infra.

- Value: \$62 billion
- Hyundai Car+ SK Hynix



#### Airbnb & Hilton Hotel

- Airbnb (2008): \$25.5 billion
- Hilton (1919) : \$27.6 billion

1.		<b>Uber</b> San Francisco, Calif. Transportation services	\$62	amazon
2.		<b>Xiaomi</b> Beijing, China Consumer electronics	\$46	
3.		<b>Airbnb</b> San Francisco, Calif. Lodging services	\$25	to
4.		<b>Palantir</b> Palo Alto, Calif. Data analytics software	\$20	
6.		<b>Snapchat</b> Venice, Calif. Social media	\$16	
5.		<b>Didi Kuaidi</b> Beijing, China Transportation services	\$16	
8.		<b>Flipkart</b> Bangalore, India E-commerce	\$15	
7.		<b>China Internet Plus</b> Beijing, China Internet services	\$15	0/ROOM



### 3. IT Key Issues in 2016 (3) - SW

#### Platform-based ICT Companies (Apple, Google) Gain High Economic Value

##### Apple breaks its market capitalization record of \$774.7 bn ('15.2.23)

- Google stomps Microsoft and breaks its market capitalization record of \$510 bn ('15.Nov)
- After Facebook's Controversial IPO ('12 May), market capitalization exceeds Intel and IBM ('14 Aug) with \$292.9 bn

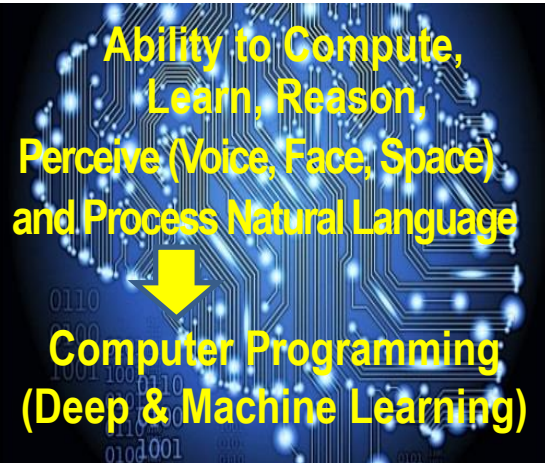


(Source) S&P Capital IQ



### 3. IT Key Issues in 2016 (4) – Artificial Intelligence

#### British Mathematician Alan Turing(1950) - **Can a Machine Think?** (Turing Test)



**From ears, mouth, eyes, to even the brain (Artificial Everything)**

#### ❖ Deep Learning with Big Data

- Brain neuroanatomy imitation, data scaling, pattern recognition, self learning, deduction

#### ❖ Robots, Drones, Autonomous Vehicles

#### ❖ Solving Difficult Problems (AGI) with versatile algorithms

- Predict Natural Disasters, Diagnose/Treat Cancer, Emotional Robots, Financial Advise, Write News Articles

#### AlphaGo : Google's AI that Plays "Go"

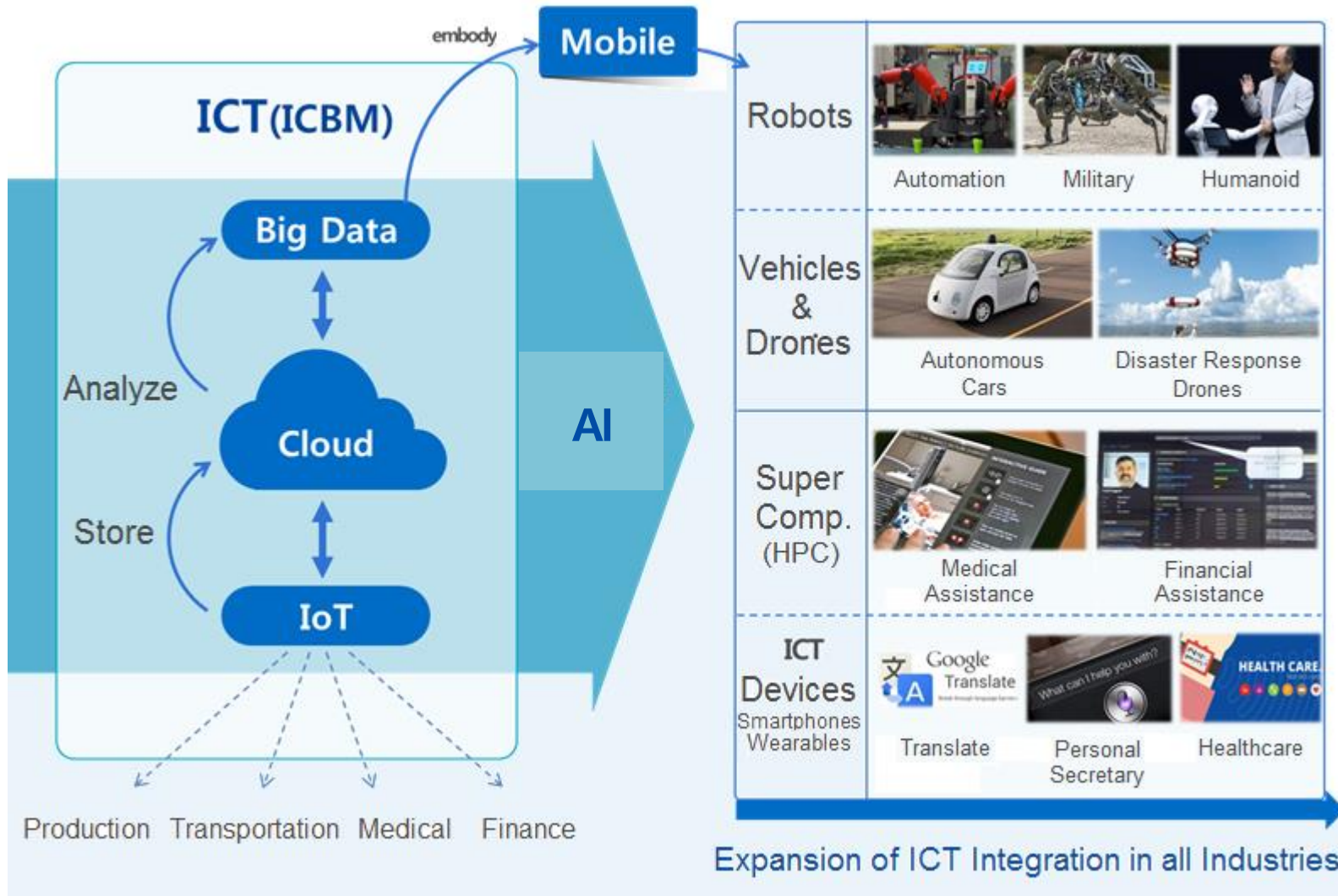


- ❖ Developed by British Startup (Deepmind); taken over in 2014
- ❖ Incorporeal: Algorithm in England, Server in the US
- ❖ **Cloud Computing**: 1,202 CPUs; 176 GPUs
- ❖ **Deep Learning**: 1 million games in 4 weeks (1,000 years by humans)  
Dominates KR/JP/CN Go programs in 1 year (494 Wins / 495 Matches)
- ❖ **Google Deep Mind Challenge Match**: March 9th, 5 countries, Four Seasons Hotel, worldwide broadcast



### 3. IT Key Issues in 2016 (4) – Artificial Intelligence

Intelligent Information Technology: Intelligence (AI) + Information (Big Data, IoT, Cloud)  
New Products & Services from Combination of ICBM and Intelligent Information Tech.







25



The background features a soft, light blue sky with fluffy white clouds. Scattered throughout the scene are several 3D cubes of varying sizes and colors. Some cubes are a pale cream or off-white, while others are a vibrant blue. They appear to be floating or falling, adding a whimsical, dreamlike quality to the overall composition.

# **V. Fading Stars and Shining Stars**



## 4. Fading Stars and Shining Stars

**MOTOROLA**

**SONY**

**NOKIA**

**Nintendo**

**Kodak**

**FUJIFILM**

**IBM**





# 4-1. Fading Stars

Failure to See the Trends and Prepare

1980

2014

- 1 IBM
- 2 HEWLETT PACKARD
- 3 Panasonic
- 4 xerox
- 5 digital
- 6 SONY
- 7 TEXAS INSTRUMENTS
- 8 HITACHI
- 9 MOTOROLA
- 10 INTEL

- 1 IBM
- 2 HITACHI
- 3 Panasonic
- 4 ALCATEL
- 5 NEC
- 6 SONY
- 7 FUJITSU
- 8 Nintendo
- 9 FUJIFILM
- 10 SHARP

- 1 SAMSUNG
- 2 SONY
- 3 SONY
- 4 SONY
- 5 SONY
- 6 IBM
- 7 EMC
- 8 NORTEL
- 9 Sun
- 10 ERICSSON
- 11 TEXAS INSTRUMENTS
- 12 SONY
- 13 HEWLETT PACKARD
- 14 ALCATEL
- 15 QUALCOMM
- 16 Panasonic
- 17 PHILIPS
- 18 CORNING

- 1 Apple
- 2 Microsoft

Google

lenovo



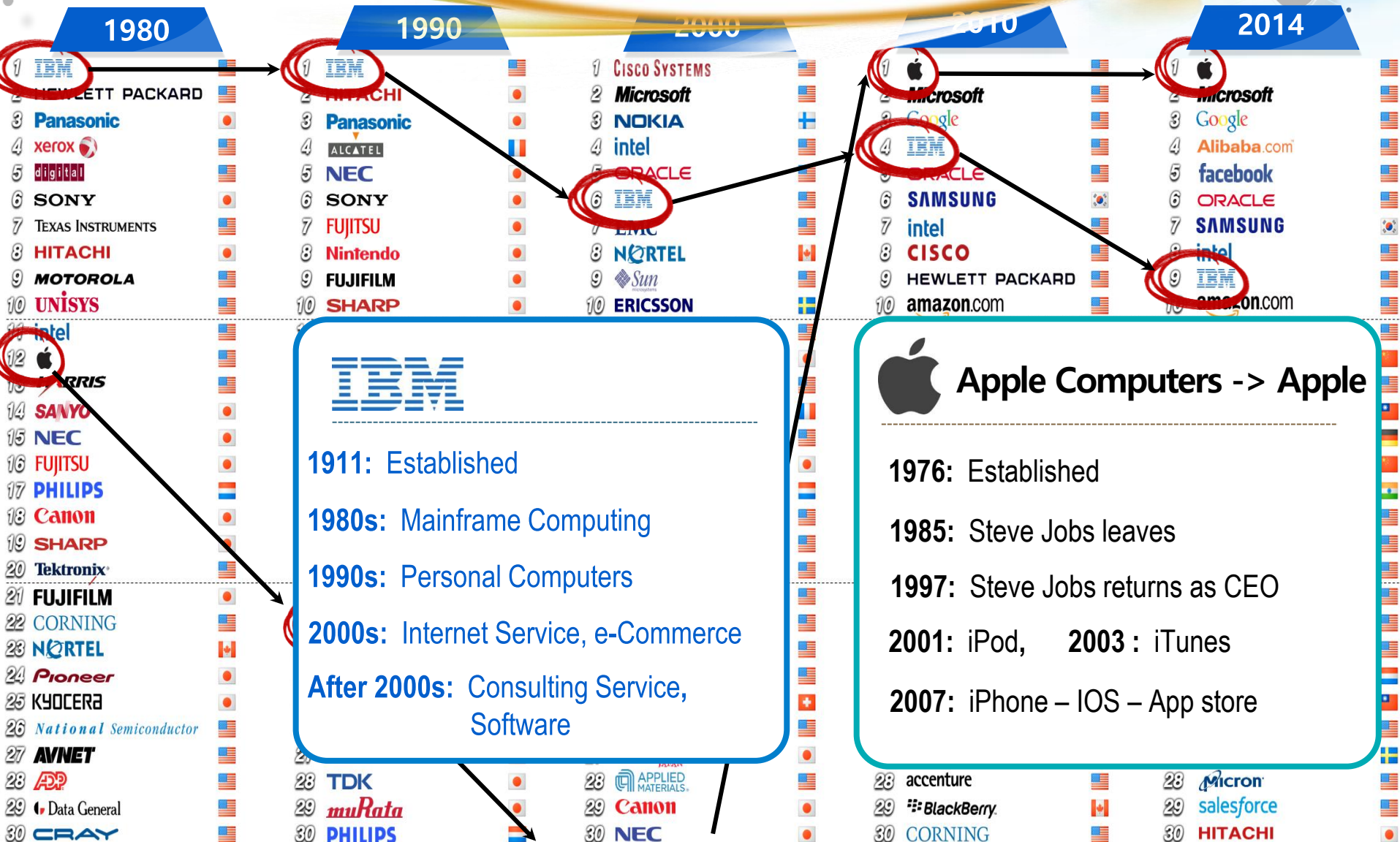
- 18 Tencent 腾讯
- 19 FOXCONN
- 20 TEXAS INSTRUMENTS
- 21 NOKIA
- 22 Nintendo
- 23 ERICSSON
- 24 vmware
- 25 eBay
- 26 SONY
- 27 Baidu 百度
- 28 accenture
- 29 BlackBerry
- 30 CORNING

- 18 HEWLETT PACKARD
- 19 eBay
- 20 EMC
- 21 TEXAS INSTRUMENTS
- 22 accenture
- 23 YAHOO!
- 24 ASML
- 25 FOXCONN
- 26 ADP
- 27 ERICSSON
- 28 Micron
- 29 salesforce
- 30 HITACHI



## 4-2. Shining Stars

# Endless Transformation







### General Electric : Declares to Transform into SW Company (Sept. 29, 2015)

#### 100 Year History / Biggest US mfr. Company(1878)

- Edison, home appliances, jet engines, Drilling Rigs, etc.

#### GE Capital (28% of overall revenue) sold (2014), Appliance business sold to China's Haier (2016.01)

#### Declares to become a SW Company

- Company without Soft Power = Computer without CPU
- Considers IBM & SAP as competitors; Aims to rise as one of the Top 10 SW Company

#### SW Company Transformation in Motion

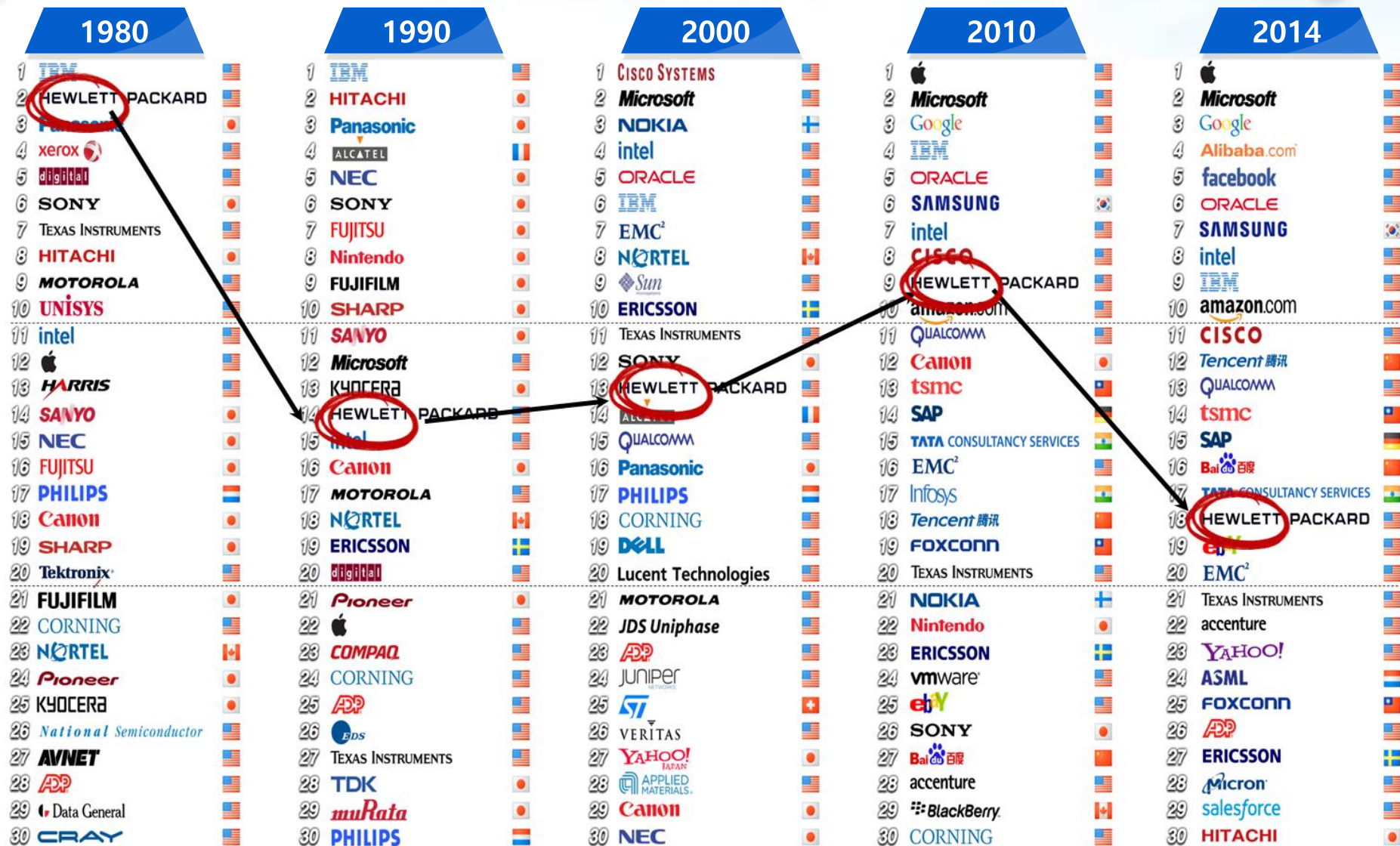
- Large-scale investments in SW infused IOT
- Confidence in success through Software Development and Big Data Implemented Factory Efficiency
- Develops Software Dev. Platform (Predix) and proliferates Industrial Internet Business



Jeffrey Immelt GE CEO



## 4-4. Trying to Survive





## 4-4. Trying to Survive



### HP Breakup & Business Divided (Nov. 2015); Retreat of a Tech Giant



- ❖ Developed 100,000 high-tech products and is the **1st Silicon Valley Company** (1939):
  - Printers, Remote Controls, Telemeters, Calculators, Medical Appliances, Photocopiers, Fax Machines, Computers, etc.
- ❖ Company of the Year (1995); Lack of leadership starting from the late 90's
- ❖ IBM sells their declining PC industry, HP takes Compaq (CEO Fiorina):
  - Exhausts energy from competing with China's Lenovo (Global Ranking No.1)
- ❖ Strategic Failures: Withdrawal of PC business / turned over,
  - Late advancement into Smartphones / pulled out
- ❖ New Efforts to Overcome Crisis: **HP is divided into two separate companies**
  - HP Inc.: Electronics such as PCs & Printers
  - **HP Enterprise**: Information Services such as SW Dev. & Infrastructure Dev.





## IV Rising Stars?

- **Financial Times (England)**: Top 21 Disrupters (2014.12)
- **MIT Tech. Review**: 50 Smartest Companies in 2015
- **BCG Survey**: The Most Innovative Companies 2015
- **Fast Company**: World's Most Innovative Companies 2015
- **Fortune**: List of Unicorn Startups (2016.01.19)



## 5-1. Market Disruptors – 2014, FT

### Top 21 “Disrupters” in Different Industries

2014: year of disruption

Selected disrupters and the sectors most affected



- ✓ Market Disruptors crush existing business models and put people out of jobs, but also creates new opportunities
  - ✓ Financial Times (FT) names these companies as Disruptively Innovative Companies
- Another word for “Innovation” = “Demolition”



## 5-2. 50 Smartest Companies – 2015 MIT Tech Review

**Creative Technology; Business Model Innovation Selection Standard; Companies that Changed the Fundamental Market Frame**

1 Tesla Motors	2 Xiaomi	3 Illumina	4 Alibaba	5 Counsyl	6 SunEdison	7 Tencent	8 Juno Therapeutics	9 SolarCity	10 Netflix
11 OvaScience	12 Google	13 Amazon	14 AliveCor	15 Gilead Sciences	16 Apple	17 Voxel8	18 IDE Technologies	19 Amgen	20 Aquion Energy
21 Baidu	22 SpaceX	23 Sakti3	24 Freescale Semiconductor	25 Universal Robots	26 Bristol-Myers Squibb	27 Teladoc	28 Nvidia	29 Facebook	30 Alnylam
31 Rethink Robotics	32 Philips	33 Collectis	34 Bluebird Bio	35 ThyssenKrupp	36 Slack	37 Line	38 Improbable	39 Enlitic	40 Coinbase
41 HaCon	42 3D Systems	43 Generali	44 Intrexon	45 DNAnexus	46 IBM	47 Snapchat	48 Microsoft	49 Imprint Energy	50 Uber

**New Approach other than Reputation, Growth Speed, Sales, Stock Growth, Patent**



## 5-3. 50 Most Innovative Companies – 2015 BCG survey

### EXHIBIT 2 | 2015 Most Innovative Companies

1. Apple	18. The Walt Disney Company	35. Volkswagen
2. Google	19. Marriott International	36. Visa
3. Tesla Motors	20. Johnson & Johnson	37. DuPont
4. Microsoft Corp.	21. Netflix	38. Hitachi
5. Samsung Group	22. AXA	39. Roche
6. Toyota	23. Hewlett-Packard	40. 3M
7. BMW	24. Amgen	41. NEC
8. Gilead Sciences	25. Allianz	42. Medtronic
9. Amazon	26. Tata Motors	43. JPMorgan Chase
10. Daimler	27. General Electric	44. Pfizer
11. Bayer	28. Facebook	45. Huawei
12. Tencent	29. BASF	46. Nike
13. IBM	30. Siemens	47. BT Group
14. SoftBank	31. Cisco Systems	48. MasterCard
15. Fast Retailing	32. Dow Chemical Company	49. Salesforce.com
16. Yahoo!	33. Renault	50. Lenovo
17. Biogen	34. Fidelity Investments	

Source: BCG Global Innovation Survey, 2015.

- ✓ Fast Innovation
- ✓ Utilizing Tech Platform
- ✓ Simple and Complete R&D
- ✓ Systematic Market Environment Exploration



## 5-4. Fast Company's "World's Most Innovative Companies 2015."

<b>FAST COMPANY</b> <small>THE WORLD'S</small> <b>50 MOST INNOVATIVE COMPANIES</b>		13 inVenture	21 NEXT BIG SOUND	29 ammunition	37 ANY PERK	45 anixIDRIVE
		14 LINE ✓	22 DJI ✓	30 NETFLIX ✓	38 AMERICA'S SPORTS	46 Perfint
1 WARBY PARKER	7 HBO	15 wework	23 EATALY	31 MADE IN KIGALI	39 revolution FOODS	47 omada
2 Apple	8 Virgin ✓	16 GILEAD	24 fuhu	32 SOUNDCLOUD	40 IKEA	48 ElMindA
3 Alibaba.com	9 IndiGo ✓	17 TESLA ✓	25 李树林 让您行医更轻松	33 KICKSTARTER	41 SAMSUNG	49 mark43
4 Google	10 slack	18 TOYOTA	26 ElaCarte	34 豌豆荚	42 72and	50 L'ORÉAL
5 Instagram ✓	11 houzz	19 CREE	27 Panera BREAD	35 gumroad	43 algramos	
6 colorofchange.org	12 catapult.	20 stripe	28 GENERAL ASSEMBLY	36 westfield labs	44 silvercristal sports	

- ✓ Innovative Stars of the Future.
- ✓ The Power and Potential of Innovative Ideas and Creative Execution.



## 5-5. TOP 30 IT Companies of 2020?

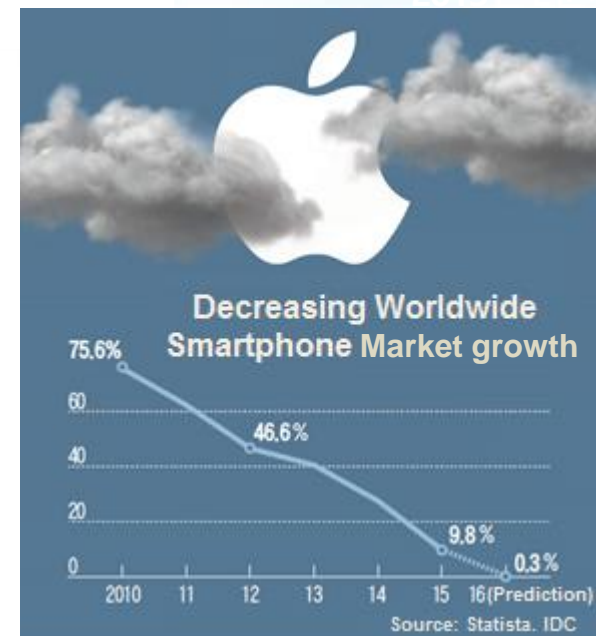
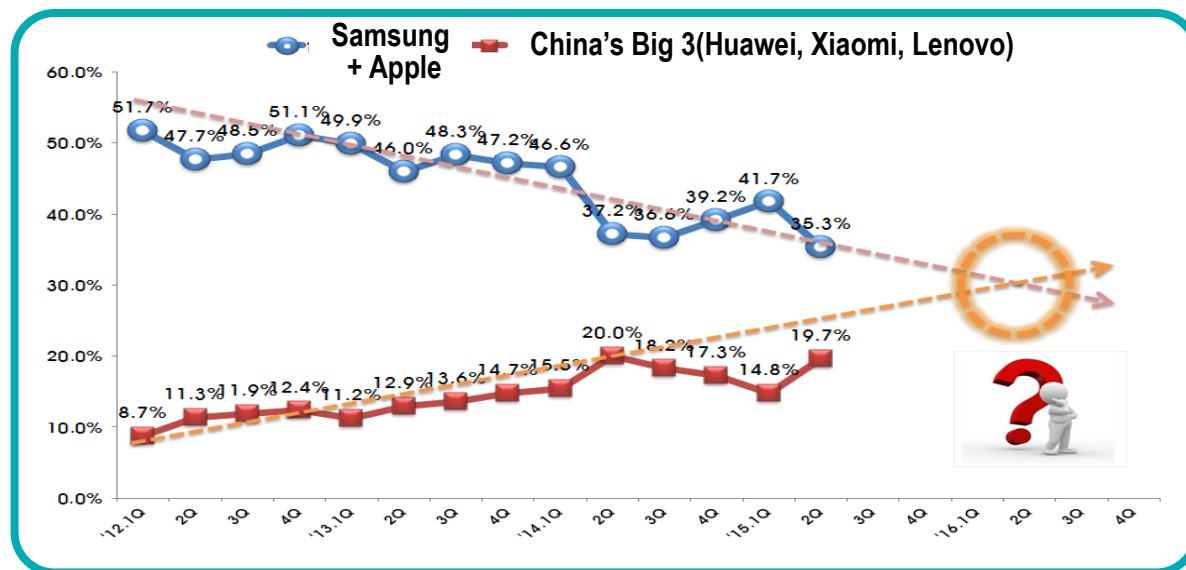




## QUIZ

## Will Apple Remain as No. 1?

2015년 2분기



- Smart Phone Market: China's Big 3 are closing in on the Big 2
- Plummeting Smart Phone Growth Rate (Red Ocean?); 60% of Apple Sales: iPhone
- Wall Street Changes Apple from "Growth Stock" to "Value Stock"; Google and Facebook are still "Growth Stocks"



## QUIZ

# Does Finland Go Bankrupt After Nokia Goes Broke?

- ❖ Nokia is **another name** of Finland (Nokialand), 2006
  - Nokia dominated 50% of the world phone market (2007)
- ❖ Nokia's **pain** becomes Finland's **pain**, June 2011 (WSJ)
  - Nokia's Phone Business sold to Microsoft (2013)
- ❖ Nokia's **loss** becomes Finland's **gains**, Sept 2015 (WSJ)
  - Unemployed Nokia engineers become Startup Boomers (Rovio, Supercell )





The background features a soft, light blue sky with fluffy white clouds. Scattered throughout the sky are several 3D cubes of varying sizes. Some cubes are a light cream color, while others are a vibrant blue. They appear to be floating or falling, adding a dynamic and whimsical feel to the slide.

# **VI. Lessons from Looking Back**



## 6. Lessons from looking back?

### 01 Shorter Tech Trend... Overconfidence=the Seed of Failure

- Overconfidence → Greed → Denial of Risk → Finding Saver → Eventually Fall
- Just like a baton pass in a relay race, players must always be running (easy to miss)

### 02 Destructive Creativity to Lead the New World

- Motorola and Nokia fell to the destructive creativity of Apple
- Not 'Think Differently', But 'Think Different'
- Imagine the unimaginable

### 03 Importance of Government IT Policies for Start-ups

- Support Start-ups to become global companies (ex. Google / Facebook)
- Improve IT industry Fundamentals for Start-ups, with K-ICT Strategy (Mar, 2015)





Thanks !!

ขอบพระคุณ

ครับ