



**Apacer**  
*Access the best*

[www.apacer.com](http://www.apacer.com)



# Apacer

## Apacer Technology Inc. 2017 Investor Conference

【 Stock Code : 8271 】

August, 10th , 2017

# Disclaimer

The predictive information mentioned in the present briefing and as promulgated simultaneously is set up on the grounds of the information obtained by the Company through internal and external sources. The operating outcome, financial conditions and outcome in business operation that might actually occur in the future, might possibly differ from these predictive information either explicitly or implicitly. The very reasons might come from a variety of risks and such factors might be beyond the control by the Company.

The future outlook contained in the present briefing reflects the Company's perspective to date. In case of a change or adjustment toward such perspective in the future, the Company assumes no responsibility to remind or to update once more.

# Apacer

## Agenda

- **Company Profile**
- **Industrial Trends**
- **2<sup>nd</sup> Half Major Product & Technology**
- **1<sup>st</sup> Half Financial Performance**
- **Future Plan**
- **Q&A**

The Apacer logo is rendered in a white, serif typeface. The letters are closely spaced, and the 'A' features a prominent, slightly curved top edge. The overall appearance is clean and professional, set against a dark blue background with abstract, glowing teal lines that create a sense of motion and depth.

# Company Profile

# Introduction



- **Founded: April, 1997**
- **Headquarters: Taiwan**
- **Subsidiaries: America, China, India, Japan, Netherlands**
- **Total Employees: 530 (HQ: 448 & Subsidiaries: 82)**
- **2016 Revenue: USD\$211M**

# History and Business Scope

- 2016** The leader in integrated information service solutions centering on digital storage.
- 2013** Integrator of digital storage, innovative application & value-added services.
- 2009** Leader in DRAM & digital application & innovation.
- 2007** Digital application leader .
- 2005** Digital application innovator .
- 2002** Digital application integrator.
- 1999** Digital storage supplier.
- 1997** Memory manufacturer



# Vision and Mission

## Vision

To become the leader in integrated information service solutions centering on digital storage.

## Mission

Committed to the motto “Access the best”, Apacer is a reliable integrator of digital storage, innovative application, and value-added services.

# Product Line

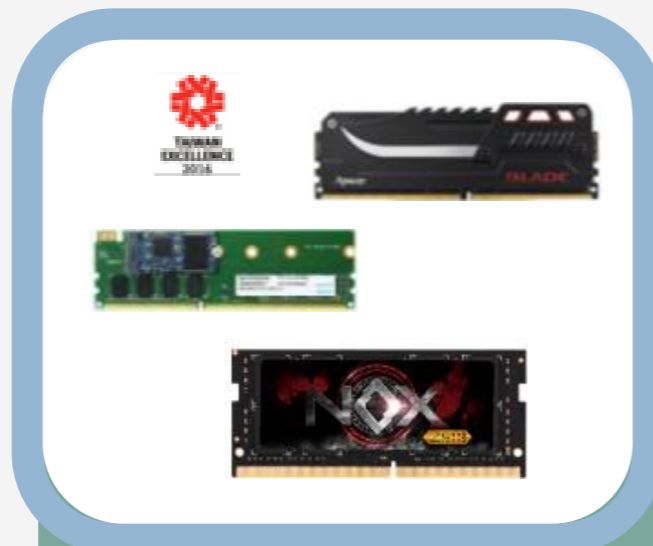
With consolidated ability for R&D, design, manufacturing, and marketing, Apacer provide trusted products and services with a view to pursue perfection and share memory.

## Industrial Solutions



- SATA SSD Series
- PATA SSD Series
- Flash Card SSD Series
- USB SSD Series
- PCIe SSD Series

## Computer-related



- Desktop/ Notebook Computer Memory
- Server Memory
- Overclocking Memory
- Gaming Memory
- Consumer SSD

## Mobile Peripherals



- USB Flash Drive / OTG Flash Drive
- Portable Hard Drive
- Memory Card
- Card Reader
- Mobile Accessory
- Power Bank

## Innovative Products



- Spectroradiometer
- Spectral Irradiance Meter
- Cube

# Global Presence



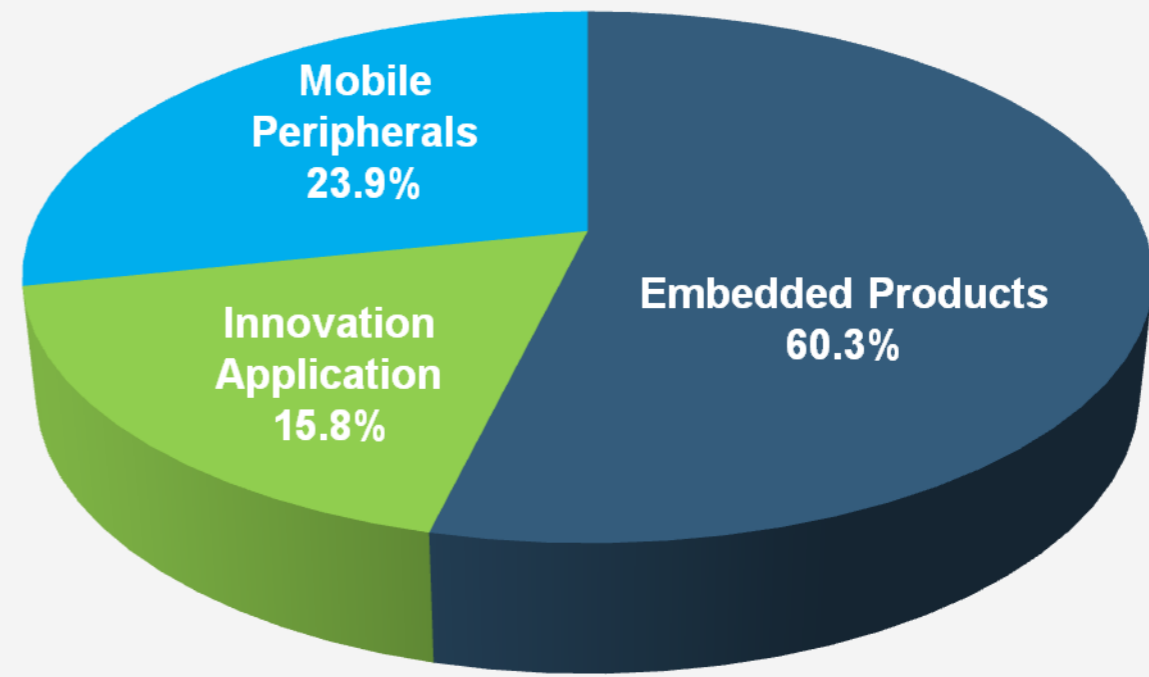
# Core Competence

## Apacer

- Complete SOP for product design
- Competitive manufacturing capability
- Quality management system
- Comprehensive global logistic system
- Ongoing customer service enhancement
- Worldwide channel penetration

# Patented Technology

**Total Patents 234**  
(Pending Included)



**Advanced mobile storage device**



**Next-generation DDR technology**



**High capacity/speed SSD technology**



# Global Ranking

Ranked number 1 supplier of industrial SSD for 5 consecutive years by Gartner, from 2012 to 2016

Table 10. Revenue Market Share Ranking for SSD Subcategories, Worldwide, 2016

Rank	PC SSD			Enterprise SSD		Industrial SSD
	Entry-Level	Mainstream	SATA	PCIe	SAS	
1	Kingston Digital	Samsung	Intel	Samsung	Samsung	Apacer
2	Samsung	Western Digital	Samsung	Western Digital	Western Digital	Swissbit
3	Lite-On	Toshiba	Western Digital	Intel	Toshiba	Smart Modular Technologies
4	Western Digital	Lite-On	SanDisk	Google	Hitachi	Innodisk
5	SK hynix	Kingston Digital	Toshiba	Lite-On	SanDisk	Virtium

Source: Gartner (May 2017)

Source: Gartner (May 2016)

Source: Gartner (May 2015)

Source: Gartner (June 2014)

Source: Gartner (June 2013)

The image shows a sequence of five overlapping screenshots of Gartner's market share rankings for Industrial SSDs, each with Apacer circled in red as the number 1 supplier:

- 2017 (May):** Apacer is ranked 1st.
- 2016 (May):** Apacer is ranked 1st.
- 2015 (May):** Apacer is ranked 1st.
- 2014 (June):** Apacer is ranked 1st.
- 2013 (June):** Apacer is ranked 1st.

# Global Ranking

Ranked the world's 9th highest turnover DRAM manufacturer by DRAMeXchange in 2015.

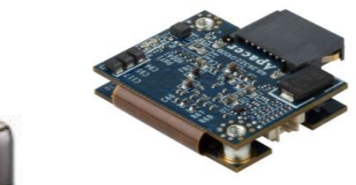
Table: Global Revenue Ranking of DRAM Module Makers, 2014~2015

Company	Country	Global Revenue Ranking		DRAM Module Gross Sales Revenue (USD Million)			Market Share	
		2015	2014	2015	2014	YoY %	2015	2014
Kingston Technology	U.S.	1	1	5,400	5,200	3.85%	68.36%	59.00%
Micron Consumer Products Group	U.S.	2	5	485	515	-5.83%	6.14%	5.84%
Ramaxel	China	3	2	450	675	-33.33%	5.70%	7.66%
SMART Modular Technologies	U.S.	4	3	350	600	-41.67%	4.43%	6.81%
ADATA Technology	Taiwan	5	4	219	525	-58.30%	2.77%	5.96%
tigo	China	6	8	205	212	-3.30%	2.60%	2.41%
Transcend Information	Taiwan	7	6	194	227	-14.58%	2.45%	2.58%
MA Labs	U.S.	8	7	150	225	-33.33%	1.90%	2.55%
<b>Apacer Technology</b>	<b>Taiwan</b>	<b>9</b>	<b>9</b>	<b>120</b>	<b>199</b>	<b>-39.70%</b>	<b>1.52%</b>	<b>2.26%</b>
Corsair Memory	U.S.	10	10	113	185	-38.92%	1.43%	2.10%
Others				213	250	-14.80%	2.70%	2.84%
<b>Total Revenue</b>				<b>7,899</b>	<b>8,813</b>	<b>-10.37%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: DRAMeXchange, Oct., 2016

Note: As memory module makers' operations are becoming increasingly diverse, the ranking is based solely on their DRAM module revenues.

# Product Awards

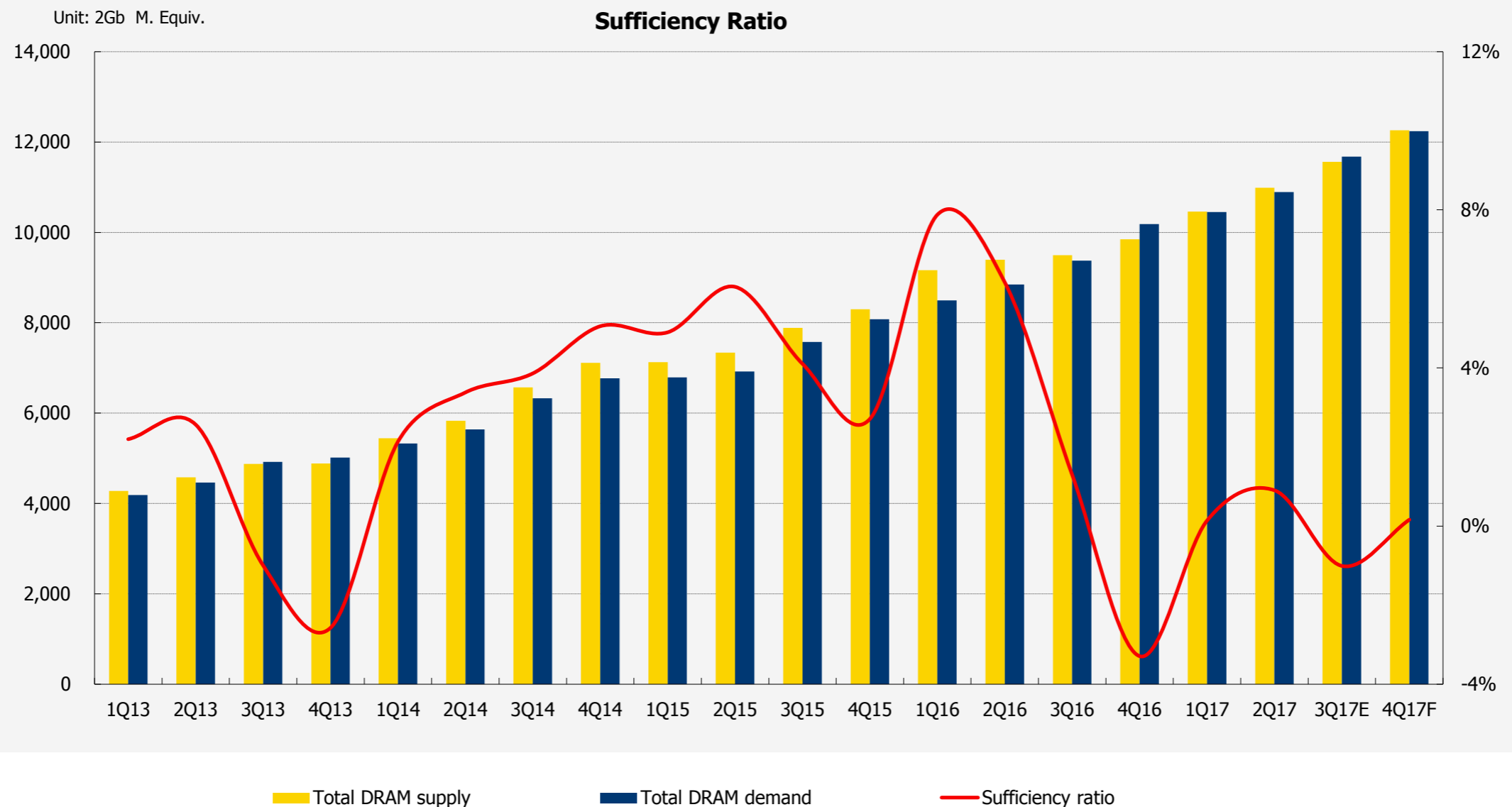


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# Industrial Trends

# Global DRAM Supply and Demand in 2017: Tight Supply Continues to Trail Demand

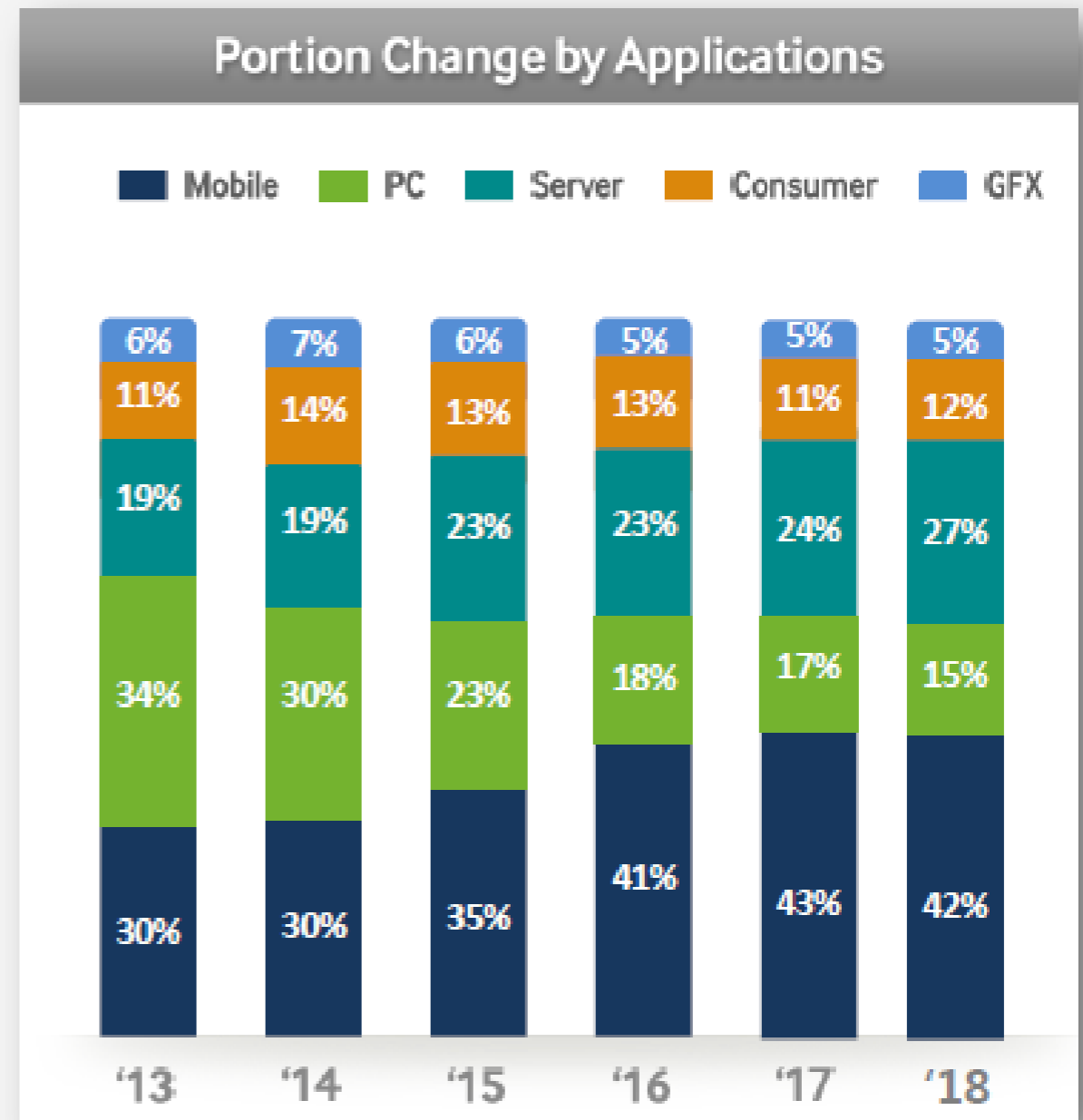
- Where DRAM manufacturing dives below 20 nanometer, the complexity of design and production rise significantly.
- Products are classified in an increasingly complicated manner, as a result of which suppliers must simultaneously cope with varied demands.



Source: Jibang Technology, July 2017




# DRAM Market Update – Smart Phones and Servers Dominate Markets

- The robust demand for server tender cases in the first half of 2017.
- During the third quarter, leading cellphone manufacturers will launch new models with average memories of up to 3-6GB.
- The peak season for Netcom products and robust demand for consumer oriented electronic products .
- DRAM bit demand to grow 22.5% on 2017 and overall bit demand would come to 45, 093Mpcs (2Gb equiv.).



# Future Plans of DRAM Suppliers: Market Share Expansion Gives Way to Profit-orientation

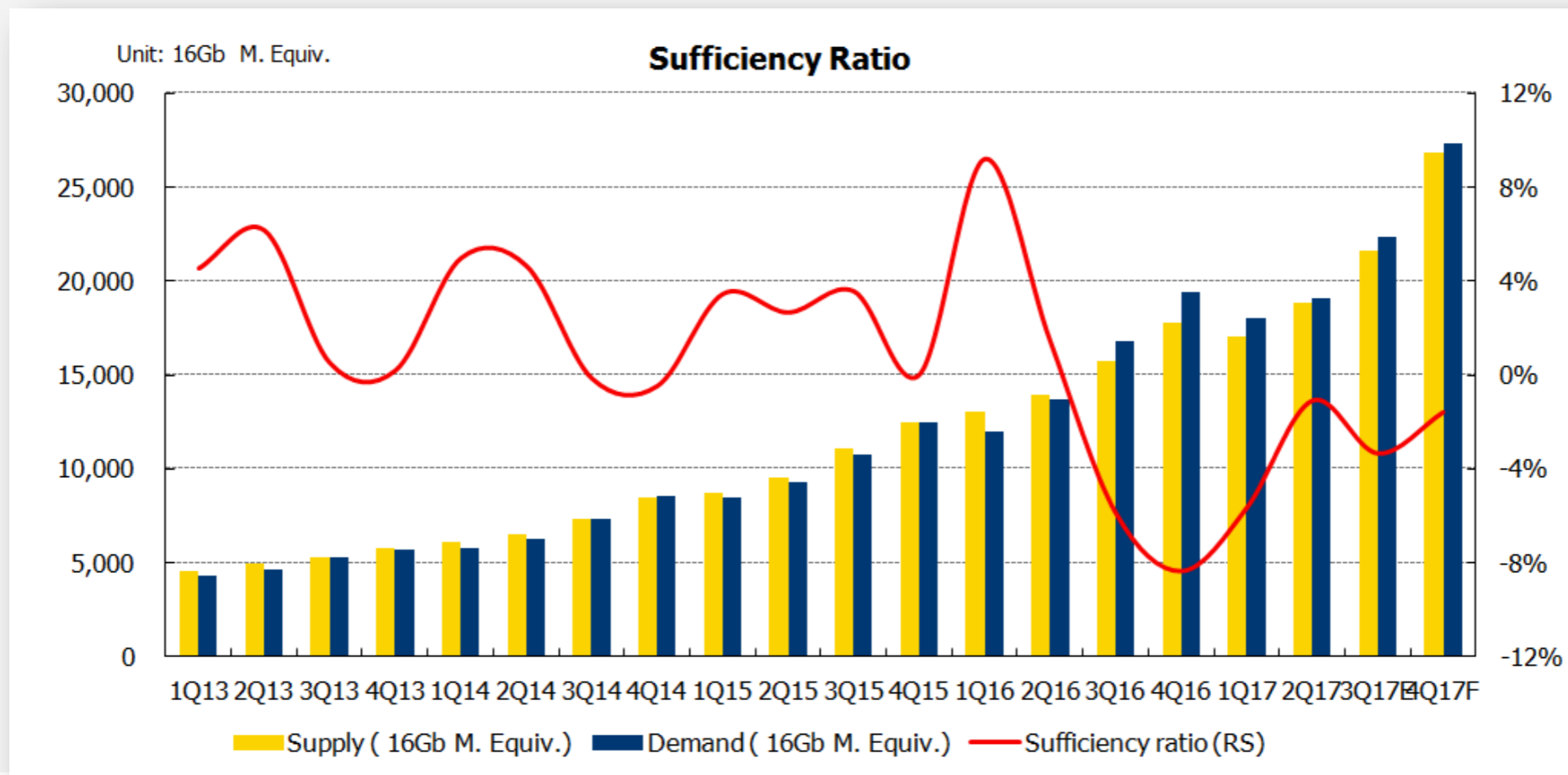
- Manufacturers face issues of varied extent during the manufacturing process. It is the challenges to increase the output or the manufacturing process proportion.
- The top three DRAM giants shift from an orientation on expanding market share to an orientation on increasing profit margins. They remain hesitant to expand production capacity.
- Major manufacturers are not interested in teaming up with Chinese counterparts on new advanced production. China faces up significant barriers to enter the DRAM market.

	Supply YoY Bit Growth	
	2016	2017 (F)
	24.8%	17.9%
	21.5%	23.5%
	26.8%	23.0%

Source: Jibang Technology, July 2017

# Global NAND Supply and Demand in 2017: Tight Supply Continues to Trail

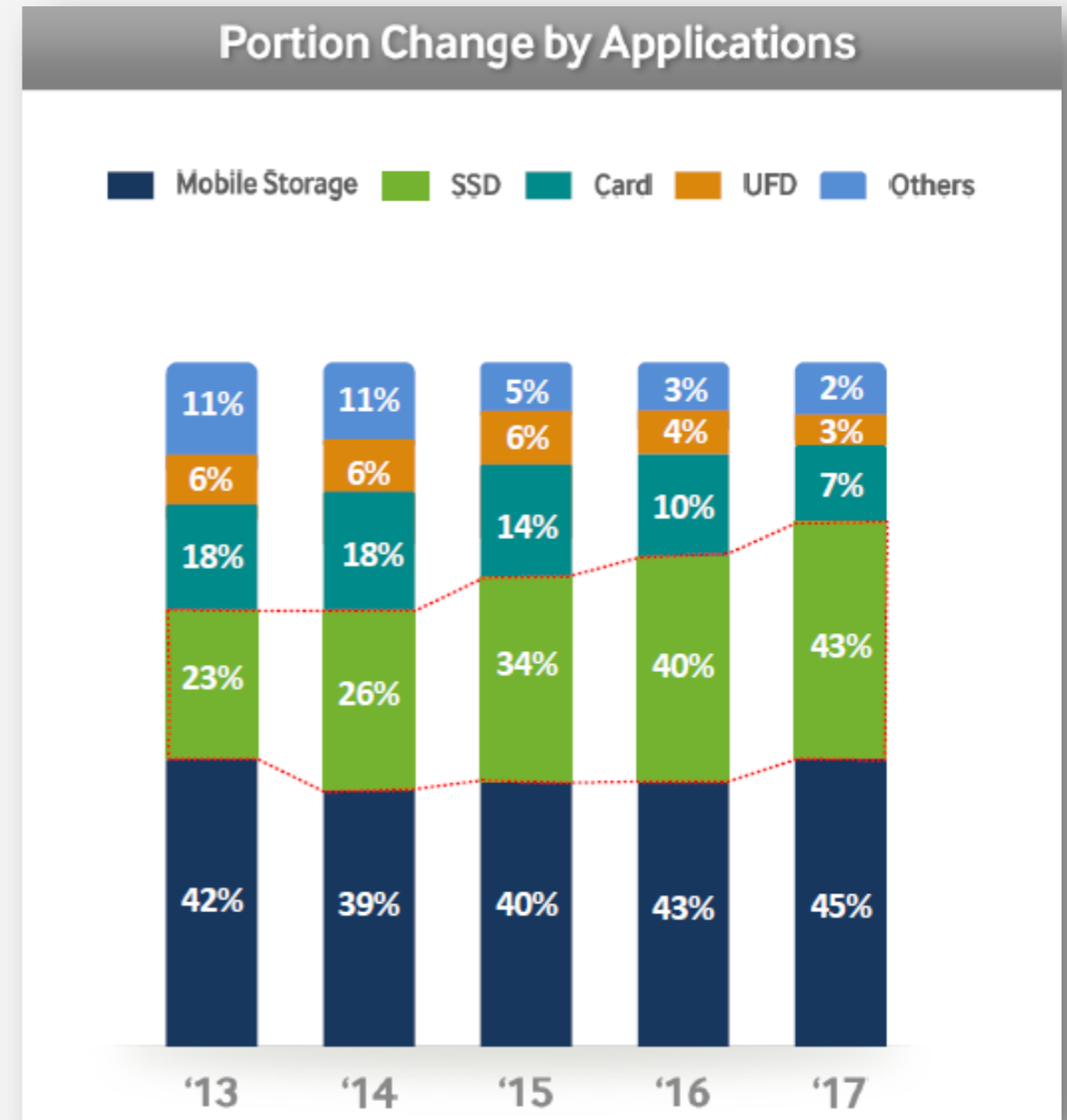
- 2D-NAND Flash: amidst reduced output by all suppliers, 3D-NAND Flash: the low inventory levels will continue until late Q3 at least.
- Whether supply will be tight or sufficient in Q4 will depend on demand for Client-SSD, Enterprise-SSD, and new smartphone models.
- The key factor affecting supply and demand in Q4 are the yield rate and progress of production capacity of 3D NAND.



Source: Jibang Technology, July 2017

# NAND Market Scale: USB Flash Drives and Mobile Apps Drive the Market

- The SSD penetration rate into laptops increases rapidly plus the growth in enterprise-level SSD, the annual growth of overall NAND Flash will grow by over 50%.
- In Q3, the peak season for smart phones and laptops starts, in particular the much-anticipated new smartphone model will hit the shelves.
- 2017 NAND Flash bit demand will grow by 38.5% and overall bit demand would hit as much as 85,697Mpcs (16Gb equiv.).



# Future plans of NAND suppliers: Speed up mass production for 3D 64L

- In Q2, the 3D-NAND Flash output by Samsung and Micro exceeded 55%.
- SK Hynix is starting research and development for 72-layer stack 3D-NAND Flash, with mass production expected by the end of the year.
- The overall 3D-NAND Flash output will challenge the 60% level by Q4.

Vendor	Version	Layers	ES Sample	MP
Samsung	V4 MLC/TLC	64	4Q16	3Q17
SK Hynix	V4 TLC	72	1Q17	4Q17
TSB/WDC	BS3 TLC	64	4Q16	3Q17
Micron/Intel	B110 TLC	64	4Q16	3Q17

Source: Jibang Technology, July 2017

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**2<sup>nd</sup> Half Major Product &  
Technology**

# Industrial Solutions

## Industrial SSD

- 3D SSD
- Full series CorePower Supported
- TCG-OPAL2.0 SSD

## Industrial DRAM

- Anti-sulfuration DDR4
- DDR4 RDIMM
- LRDIMM 2666 MHz



## CAN Modules

- In-Vehicle Networking Application
- Application in Industrial Automatization

## Optical Application

- Spectral Irradiance Meter
- Colormeter Cube
- Skin Detection Instrument

# PC & Gaming Products

## Major Product

- LED RGB DRAM Modules
- PCIe SSD
- Brilliant M.2 SSD

## Software Technology

- RGB Controllable Software
- Compatibility with All Leading Mainboards
- SSD Optimization



# Consumer Products

## Digital Storages

- Variety of USB drives
- Functional Portable Hard Drives



## Mobile Peripherals

- Type-C
- Apple Lightning

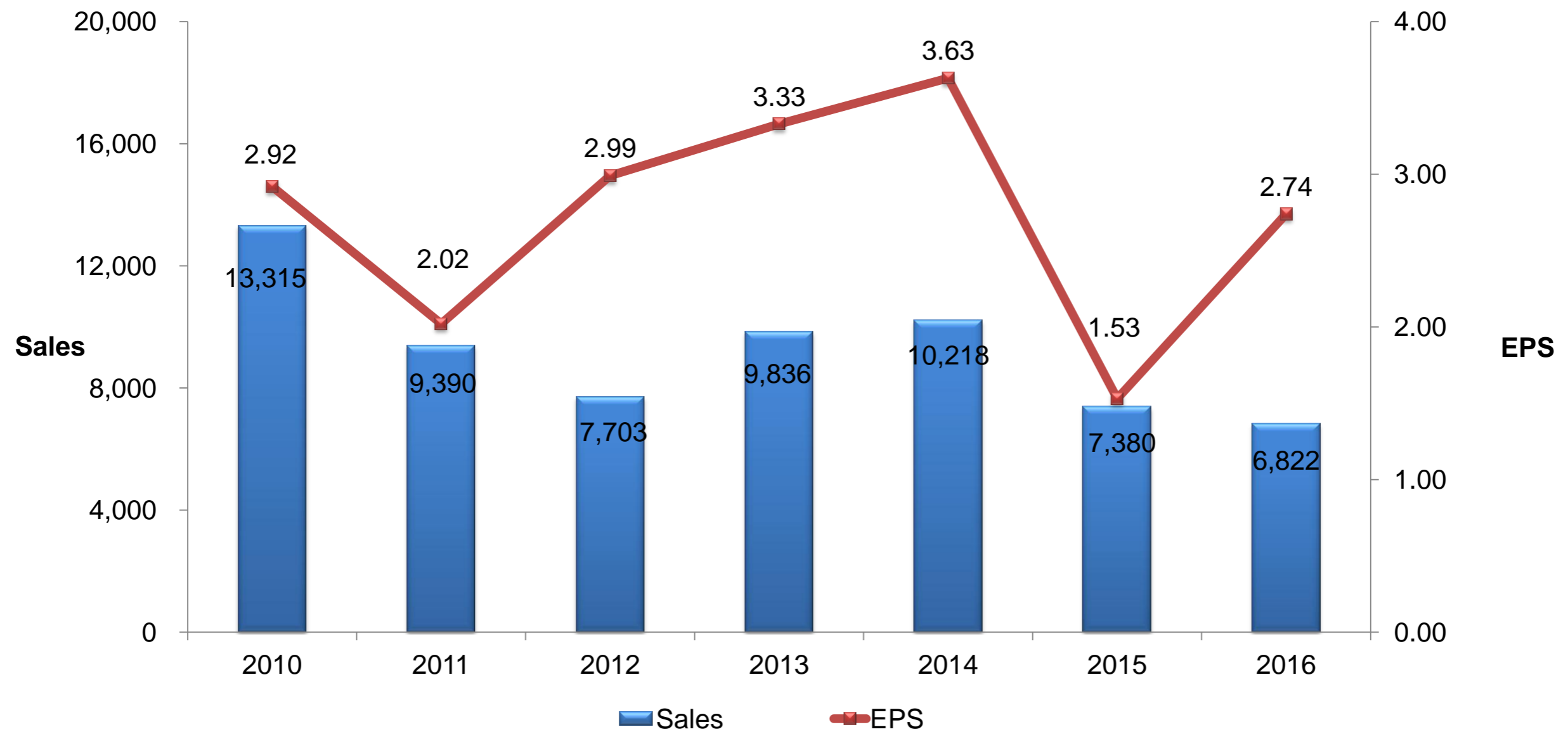
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# 1<sup>st</sup> Half Financial Performance

# Sales Trend and Earning

Unit: In Millions of New Taiwan Dollars, Except Earnings Per Share



# Income Statement (Consolidated)

Unit: In Millions of New Taiwan Dollars, Except Earnings Per Share

	1H'17		1H'16		YoY
	Amount	%	Amount	%	%
<b>Net revenue</b>	4,569	100	3,120	100	46.4
Cost of good sold	3,950	86	2,588	83	52.6
<b>Gross profit</b>	619	14	532	17	(3.0)
Operating expenses	386	9	344	11	12.2
<b>Income from operation</b>	233	5	188	6	23.9
Non-operating income and expense	3	0	5	0	(40.0)
<b>Income before income tax</b>	236	5	193	6	22.3
Net income	188	4	157	5	19.7
<b>Basic earnings per share</b>	1.87		1.04		

# Balance Sheet (Consolidated)

Unit: In Millions of New Taiwan Dollars

	1H'17		1H'16		YoY
	Amount	%	Amount	%	%
Cash and cash equivalents	516	12	1,187	29	(56.5)
Notes and accounts receivable	1,128	26	712	17	58.4
Inventories	1,658	38	921	22	80.0
Property, plant and equipment	916	21	896	22	2.2
<b>Total assets</b>	<b>4,402</b>	<b>100</b>	<b>4,142</b>	<b>100</b>	<b>6.3</b>
Short-term loans	639	15	81	2	688.9
Accounts payable	766	17	675	16	13.5
<b>Total liabilities</b>	<b>2,046</b>	<b>46</b>	<b>1,411</b>	<b>34</b>	<b>45.0</b>
Capital stock	1,009	23	1,506	36	(33.0)
<b>Total equity</b>	<b>2,356</b>	<b>54</b>	<b>2,731</b>	<b>66</b>	<b>(13.7)</b>

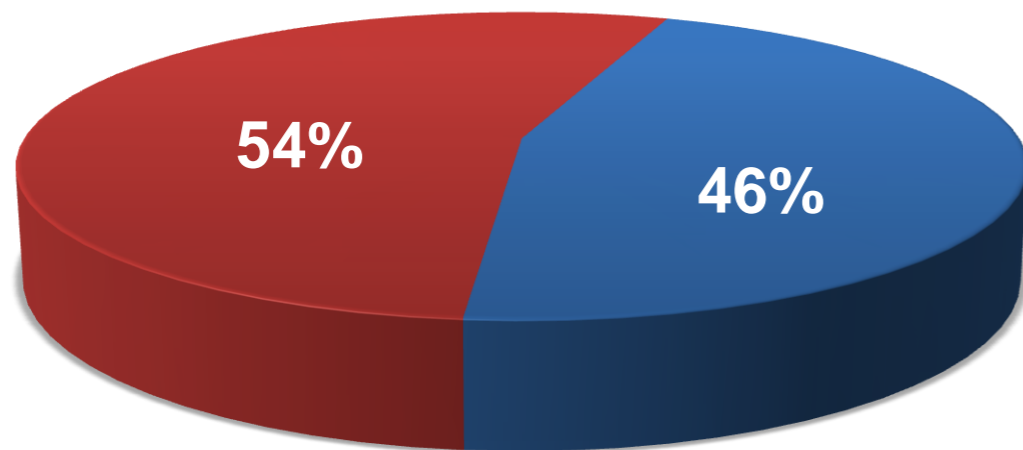
# Cash Flow(Consolidated)

Unit: In Millions of New Taiwan Dollars

	1H'17	1H'16
	Amount	Amount
<b>Income before income tax</b>	236	193
Adjustments	(712)	(168)
<b>Net cash generated (used) by operating activities</b>	(476)	25
<b>Net cash generated (used) by investing activities</b>	(35)	(24)
<b>Net cash generated (used) by financing activities</b>	515	(9)
Effect of exchange rate changes	(13)	1
<b>Net decrease in cash and cash equivalents</b>	(9)	(7)
<b>Cash and cash equivalents, beginning of period</b>	525	1,194
<b>Cash and cash equivalents, end of period</b>	516	1,187

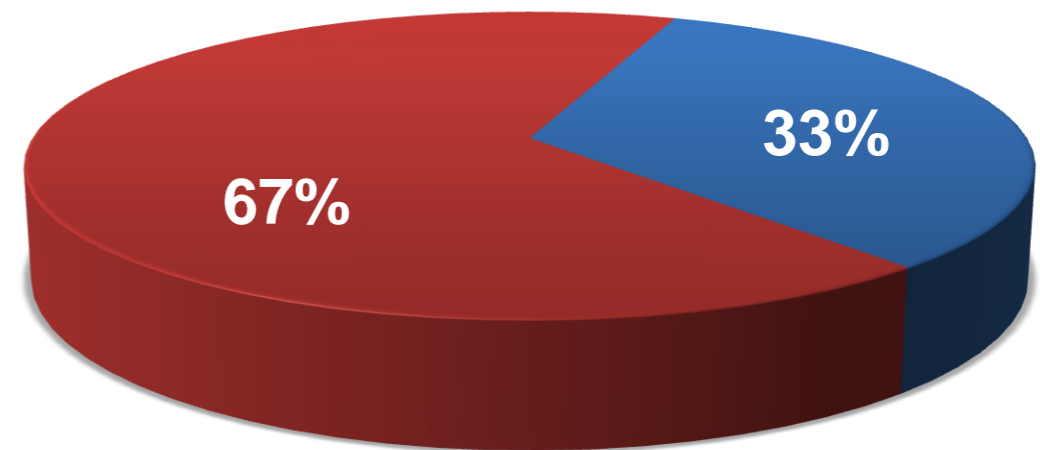
# Product Portfolio

1H'17



■ DRAM ■ Flash

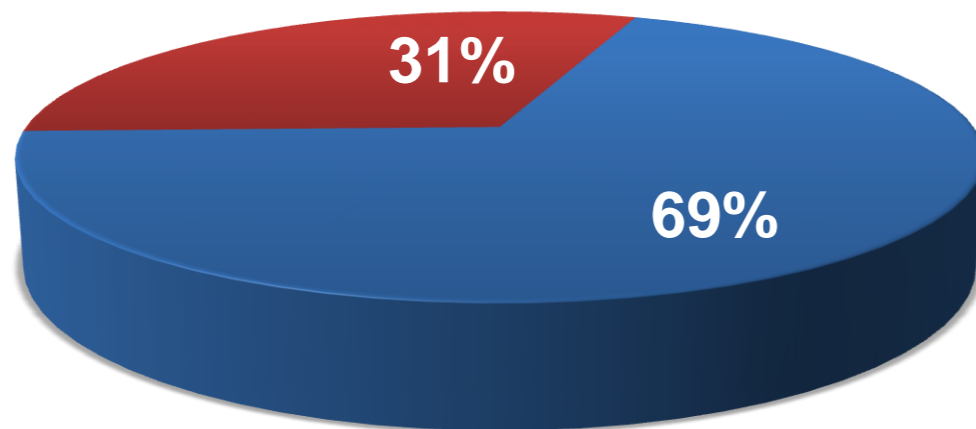
1H'16



■ DRAM ■ Flash

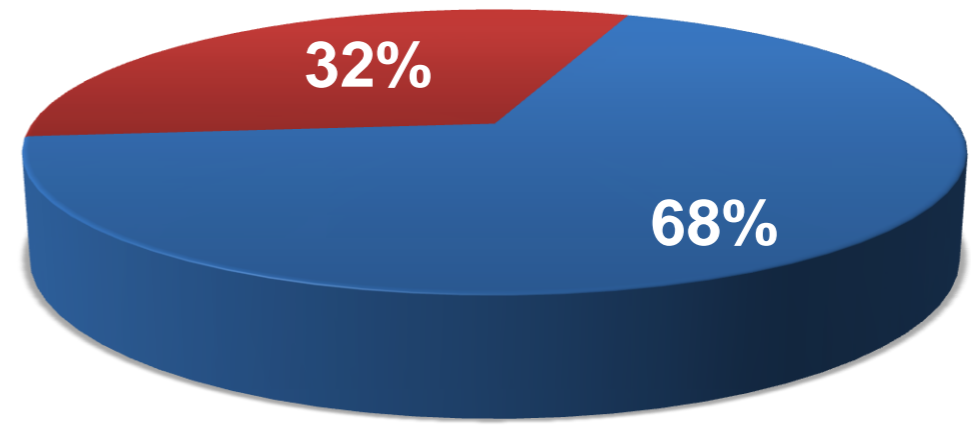
# Product Application

1H'17



■ Vertical Market   ■ Consumer Product

1H'16



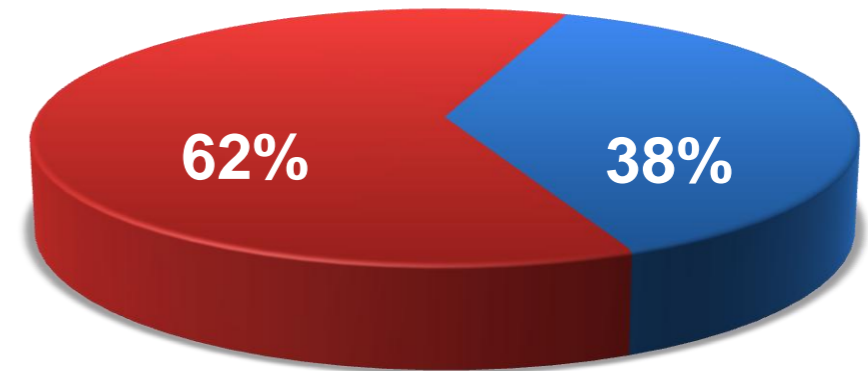
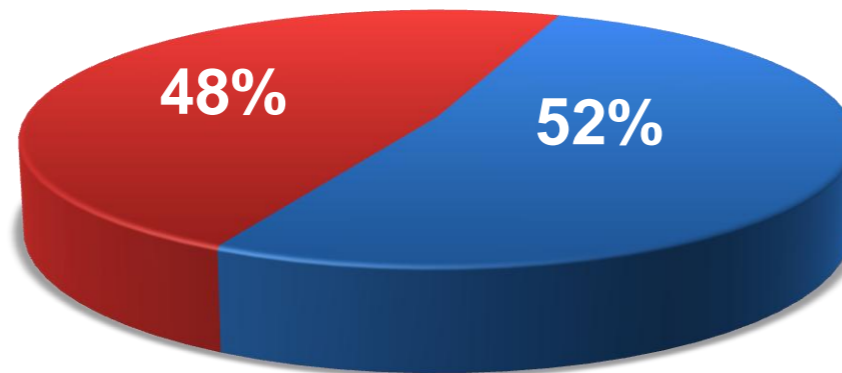
■ Vertical Market   ■ Consumer Product

# Product Application

1H'17

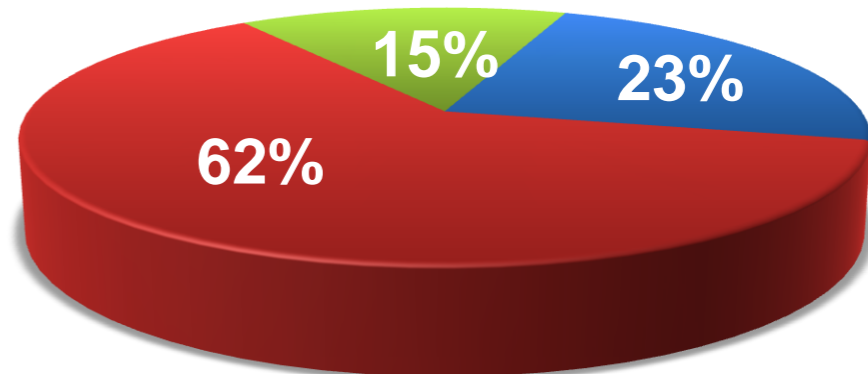
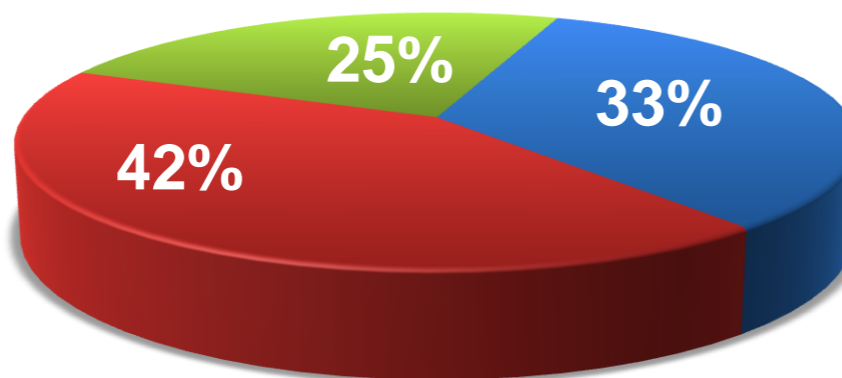
1H'16

Vertical Market



■ DRAM ■ Flash

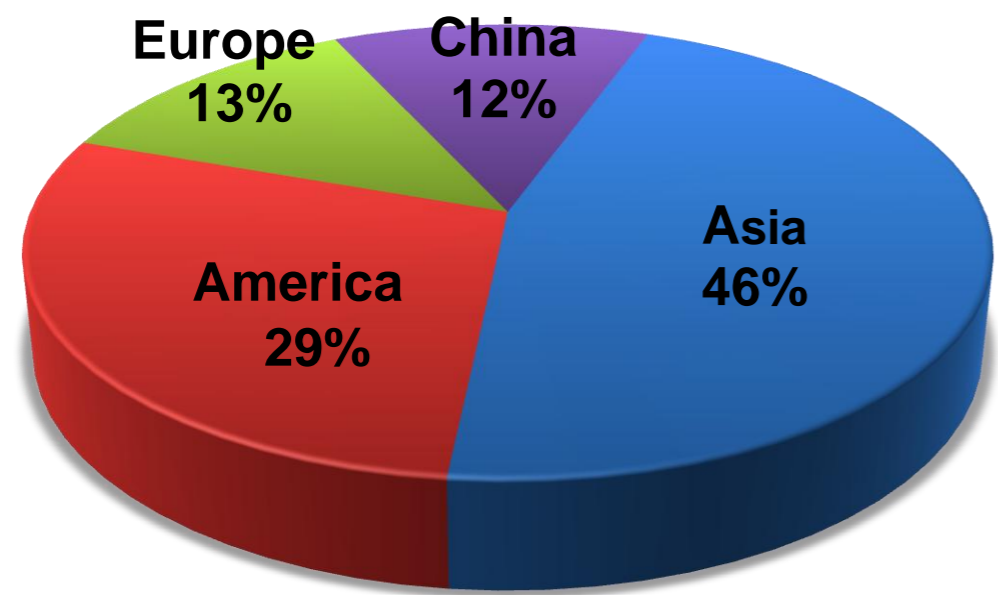
Consumer Product



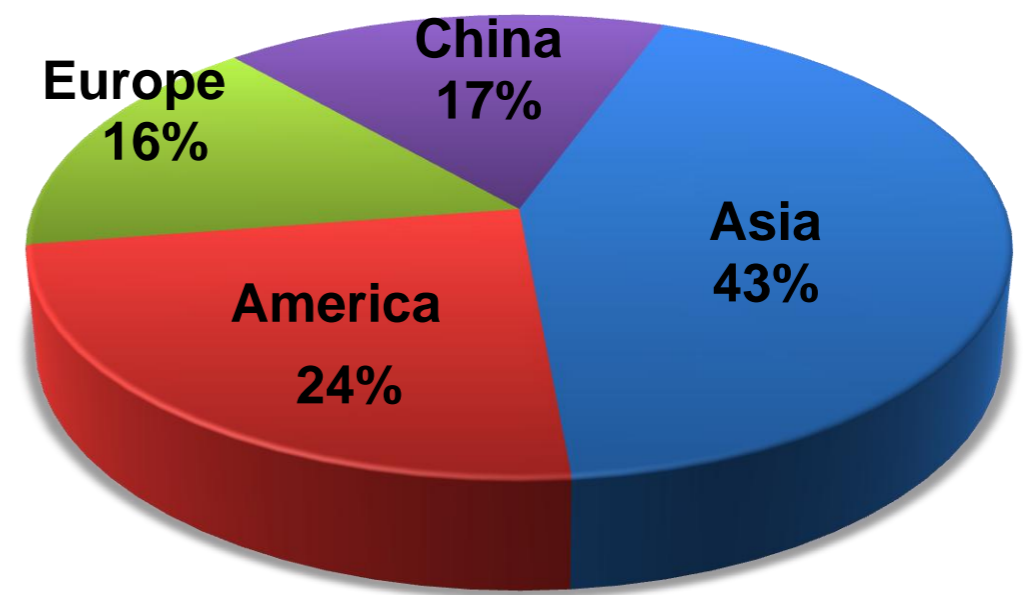
■ DRAM ■ Mobility ■ SSD

# Sales by Region

1H'17

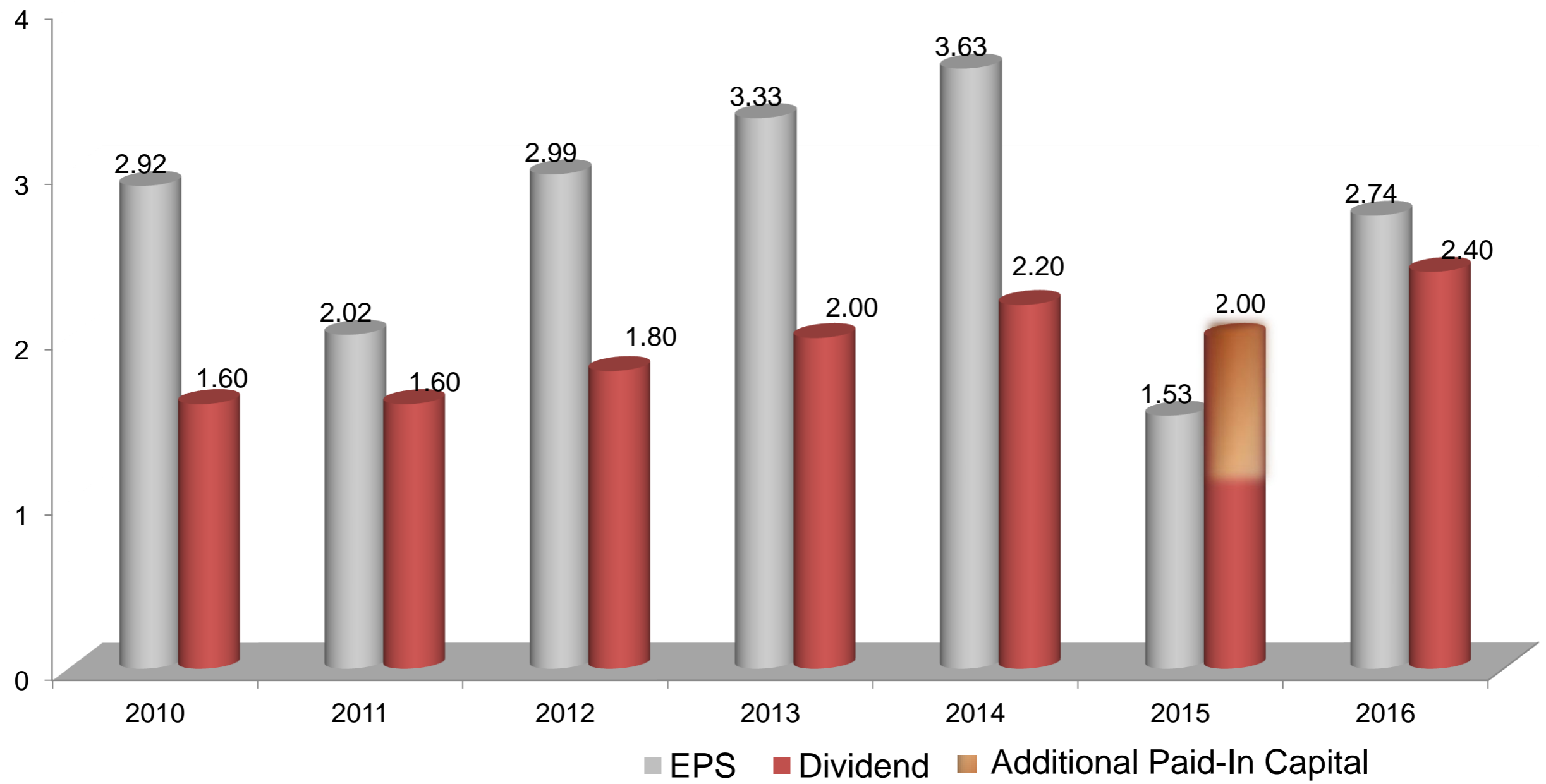


1H'16



# Dividend

Unit: New Taiwan Dollars

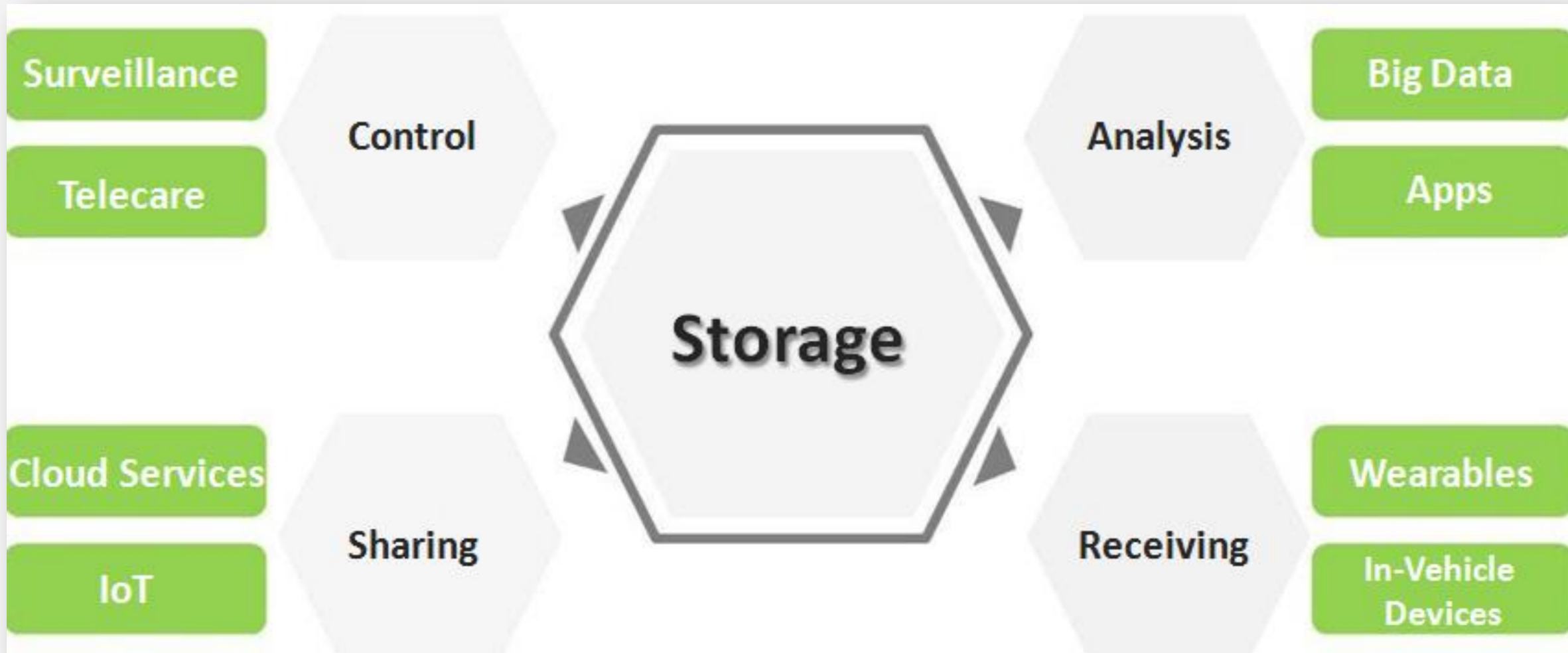


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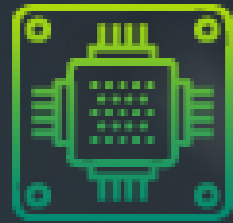
**Future Plan**

# Eco-system of Information Service Integration

Strengthening core storage technologies, Apacer will develop the integrated ecosystem for data storage, reception, analysis, control, and sharing services.



# Future Prospects



- **Research and develop innovative products, to accumulate and leverage intellectual capital**
- **Strengthen core competitive competencies**
- **Pursue revenue growth and stable profit**
- **Boost brand value and enhance distribution structure**

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Q & A