



Nanya Technology Corp.

MasterLink Non-Deal Roadshow

Presentation to Investors & Analysts, June 20th – 21st, 2017

Dr. Pei Ing Lee, President & Spokesman



Safe Harbor

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Outline

01.	NTC Overview
02.	DRAM Industry Landscape & Business Strategy

Nanya Technology Overview

IDM Company

- Founded in 1995, IPO in 2000
- DRAM Process, Design, Production & Sales
- Headquarters: New Taipei, Taiwan
- Employees: >2,700
- Focus on value-added DRAM market
- Formosa Plastic Group (FPG) has 75.8% equity ownership

Technology & Capacity

- **Technology :**
 - 20nm verification completed in Q2'17
 - Plan to ramp 20nm to 38K WSPM in 1H'18
- **Capacity:**
 - Current: 60,000 WSPM(12")
 - 2018: 68,000 WSPM(12") (38K 20nm + 30K 30nm)

Partnerships

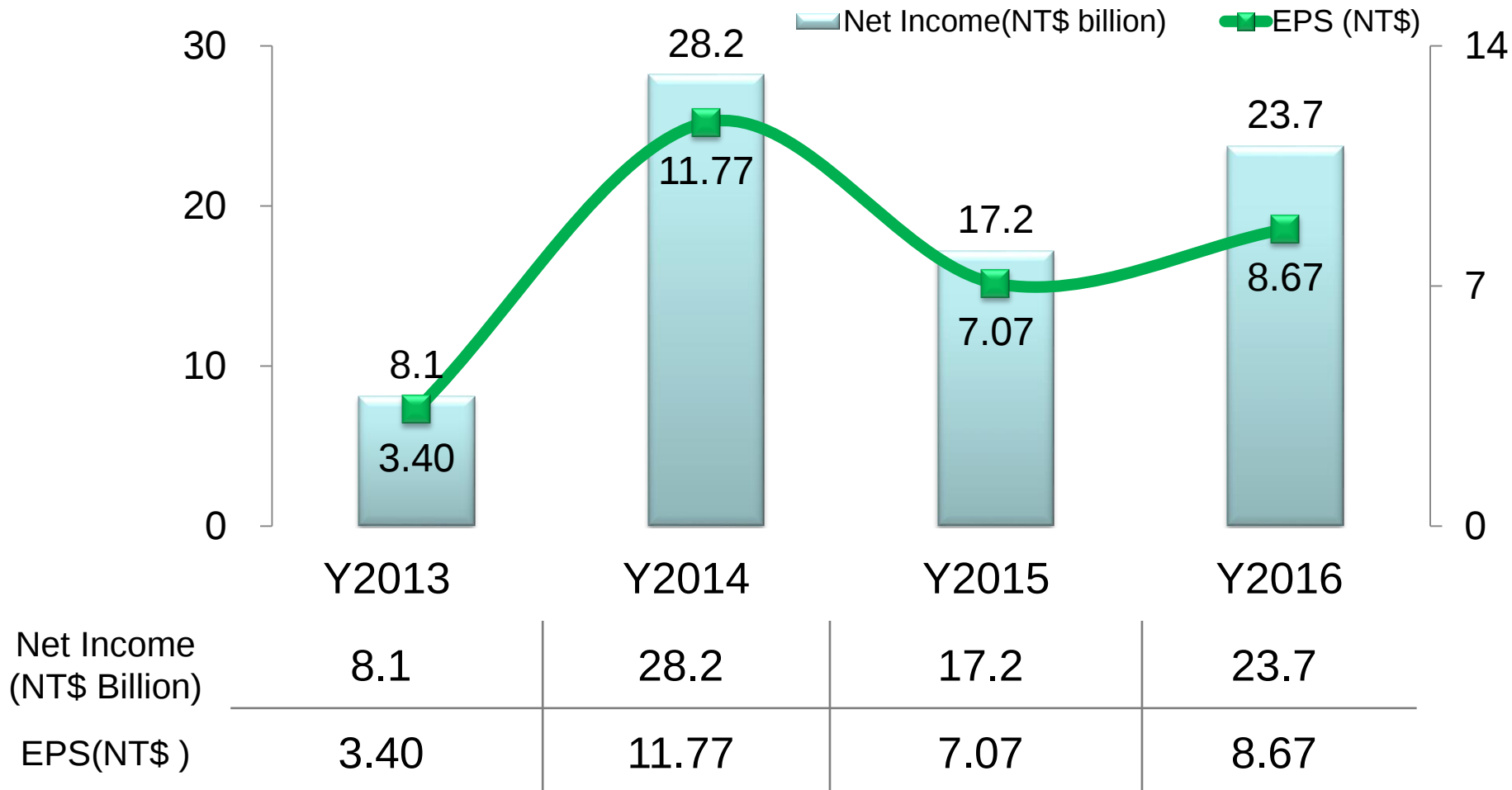
- **Technology license form MU**
Option rights to license Micron 1x and 1y nm technologies and products.
- **Shareholding in Micron**
 - About 5.22% of Micron's share in Mar., 2017, as major shareholder of Micron
 - Locked-up period expired on Jun. 2, 2017

Worldwide Coverage & Location



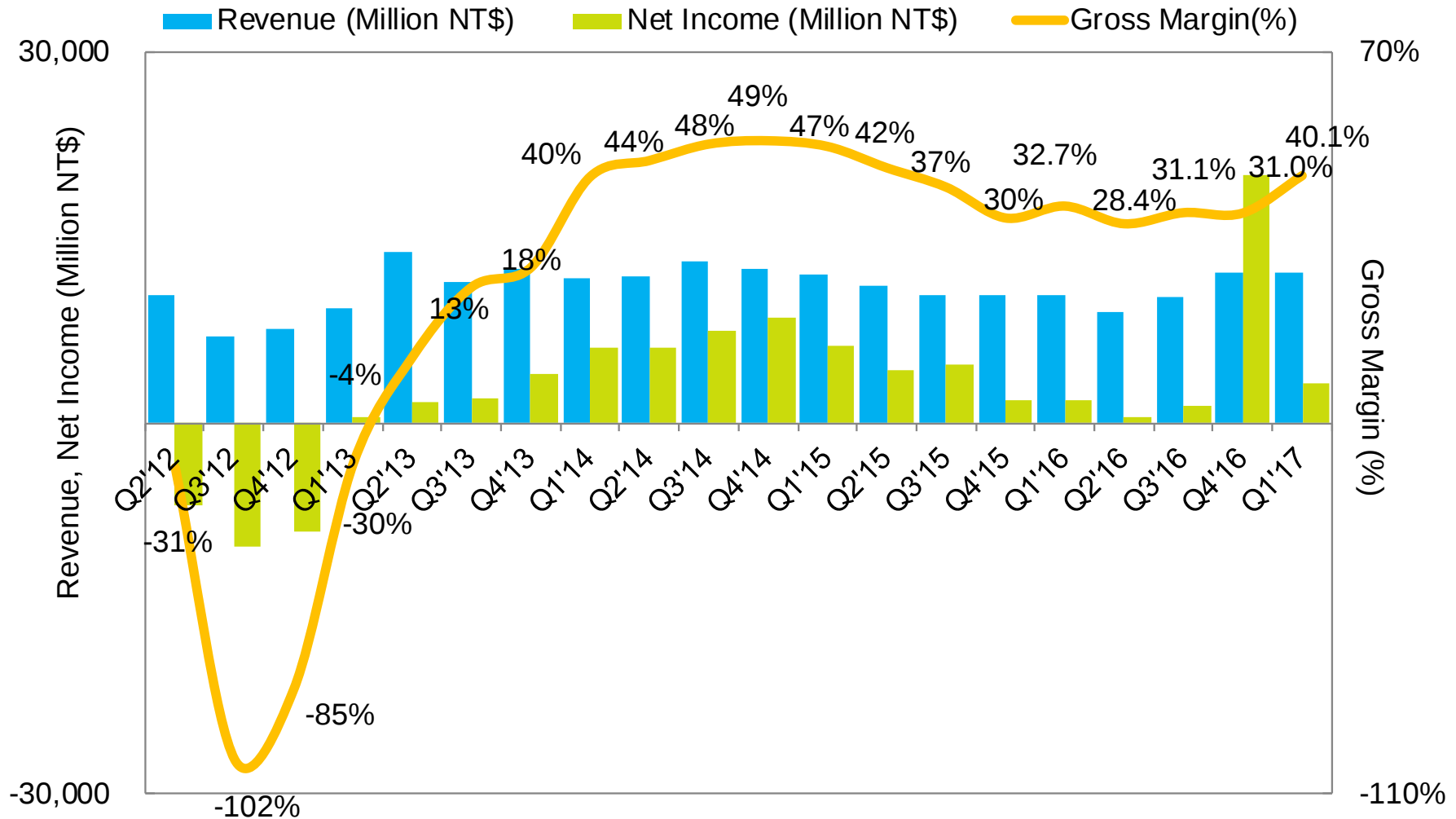
Strong Performance

- NTC strategically focus on premium specialty market segments from 2013
- Positive outlook on 2017



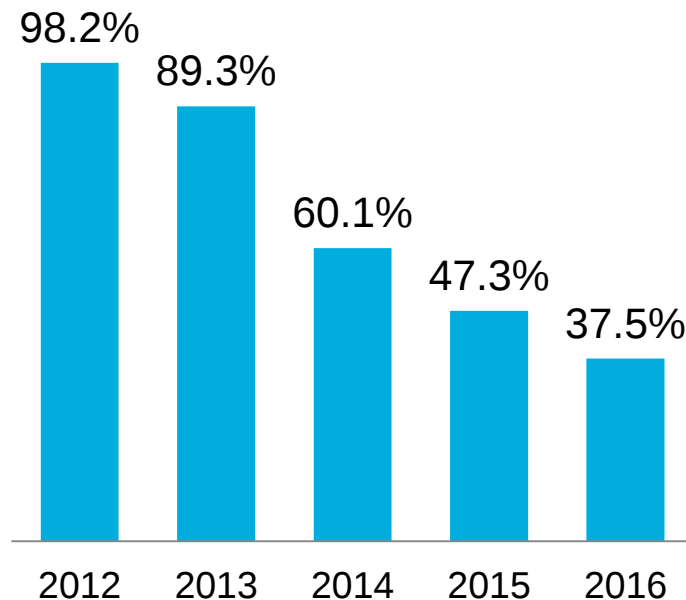
Financial Highlights

■ Q1'17 Gross Margin back to 40% since Q2'15



Financial KPI

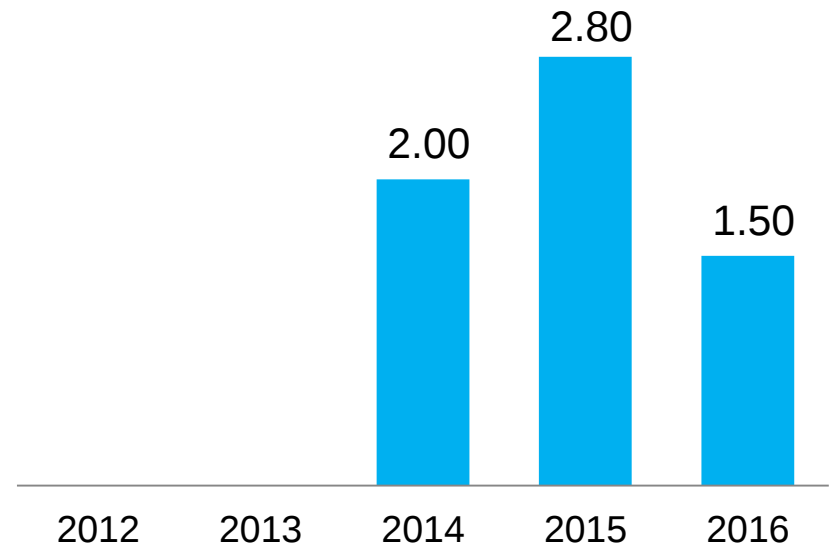
Debt Ratio



- Debt ratio 38.9% at the end of the 31st of March, 2017
- Book value per share was NT\$ 35.31 of 2017/3/31

Dividend for Years

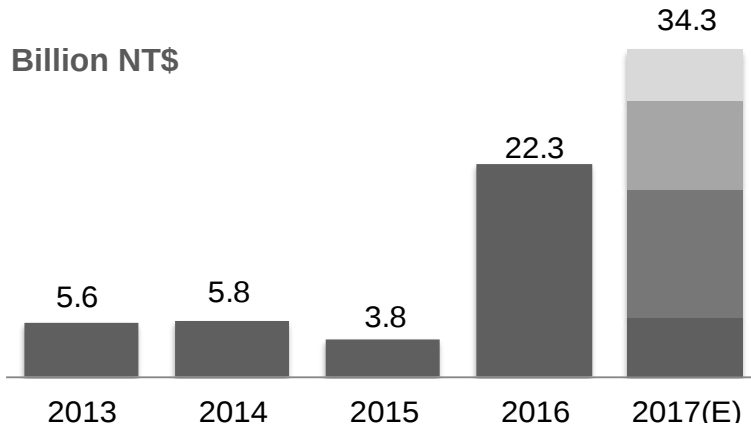
■ Cash dividend/per share (NT \$)



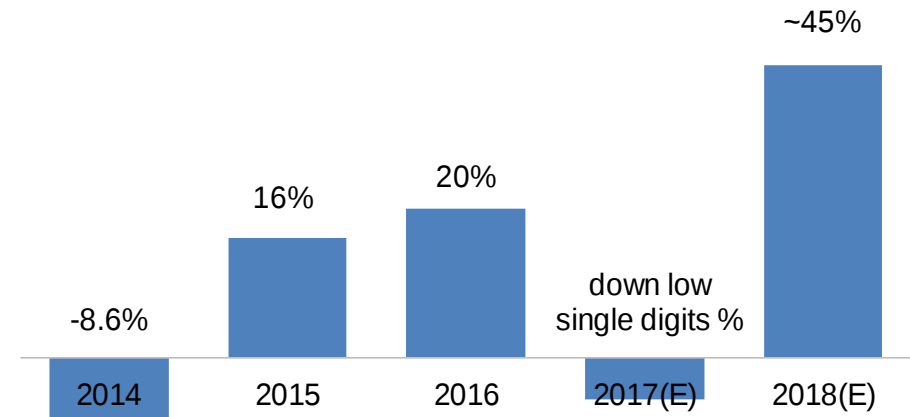
- Consecutive 3 years stable dividend policy since 2014

20nm CAPEX & Bit Shipment

CAPEX



BIT SHIPMENT (YOY)



Capital Expenditure (CAPEX)

- Estimated 2017 CAPEX of NT\$ 34.3B
- Anticipated CAPEX of NT\$55.7B for 38K WSPM 20nm migration. (2016 CAPEX NT\$ 20.6B for 20nm)
- 20nm CAPEX mainly from: 1. Cash on hand 2. US\$500M ECB, 3. Cash from operating activities

Bit Shipment

- Q1'17 bit shipment down 14.4%, Q2'17 bit shipment forecast to increase low single digits % and future bit shipment to grow onward
- 2017 bit shipment to decrease low single digits %

Q1'17 & 2016 P&L Results

NT\$	Q1'17	2016	2015
Revenue	12.2B	41.6B	43.9B
Gross Profit <i>Gross Margin (%)</i>	4.9B <i>40.1%</i>	12.9B <i>30.9%</i>	17.3B <i>39.4%</i>
Operating Income <i>Operating Margin (%)</i>	3.9B <i>31.5%</i>	8.6B <i>20.5%</i>	13.5B <i>30.7%</i>
Non-operating Income	-0.6B	17.2B	4.2B
Net Income <i>Net Margin (%)</i>	3.3B <i>26.8%</i>	23.7B <i>57.0%</i>	17.1B <i>39.1%</i>
Capital	27.5B	27.5B	24.3B
EPS	1.19	8.67	7.07

Company highlights

- 2016 NT\$ 23.72Billion (B) net income of 2016, EPS NT\$ 8.67.
- Q1'17 Net Income of NT\$ 3,275M, Net Margin 26.8%, EPS NT\$ 1.19

Note: All financial numbers are audited and approved by BoD

Q1'17 Consolidated Cash Flow

(Unit: Million NT\$)	Q1'17	2016	2015
Beginning Balance	9,102	3,104	7,268
Cash from Operating Activities	5,498	15,945	18,522
Capital expenditures	-6,147	-22,336	-3,842
Long-term & Short-term loans	9,984	-6,351	-14,382
Investments and others	1,864	18,740	-4,463
Ending Balance	20,300	9,102	3,104
Free Cash Flow ⁽¹⁾	-649	-6,391	14,680

(1) Free Cash Flow = Cash from operating activities – Capital expenditures

*Inotera transaction net cash inflow NT\$ 16B, (Disposal of IMI shares(NT\$ 47.5B), Acquisition of Micron's private placement (NT\$ 31.5B)).

Note: All financial numbers are audited and approved by BoD

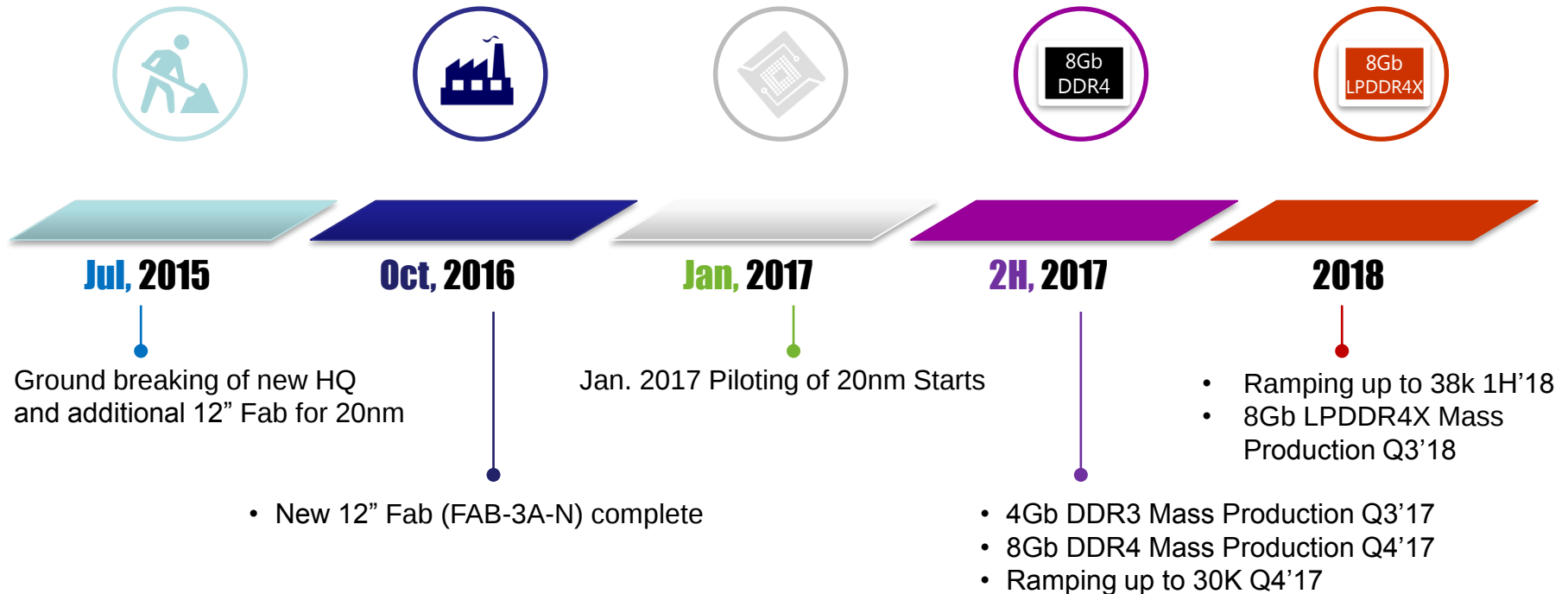
Nanya Manufacturing Site

- New clean room completed in Oct 2016 to facilitate the deployment of advanced technology nodes



20nm Conversion

- 20nm technology to reach 38K WSPM. Total capacity will amount to 68K WSPM
- 20nm verification completed in Q2'17, volume production scheduled for Q3'17,
- 30K wafers input expected in Q4'17, cost cross-over anticipated in Q4'17
- For DDR3, DDR4 & LPDDR4X offerings



Outline

01.

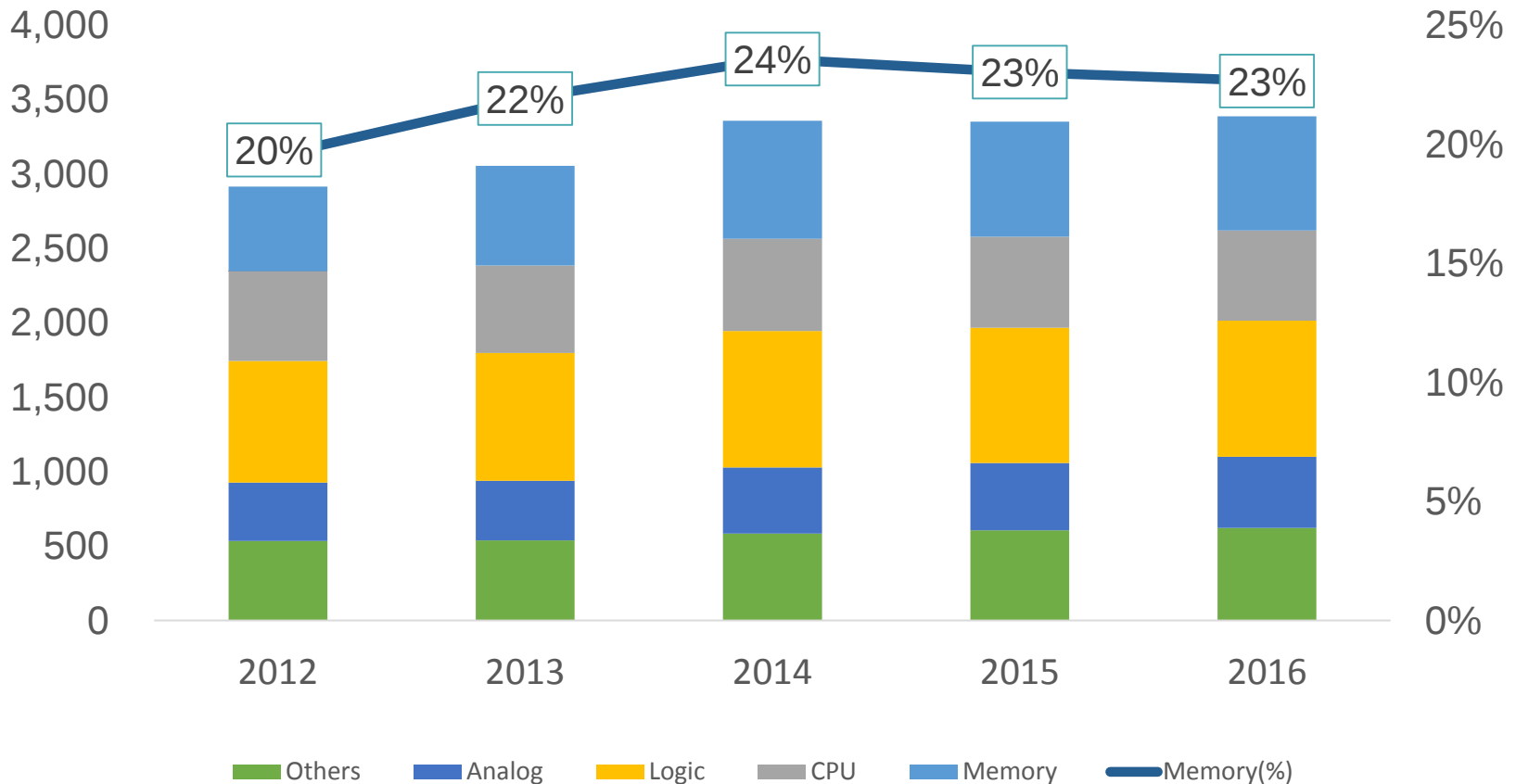
NTC Overview

02.

DRAM Industry Landscape & Business Strategy

Semiconductor Revenue by Categories

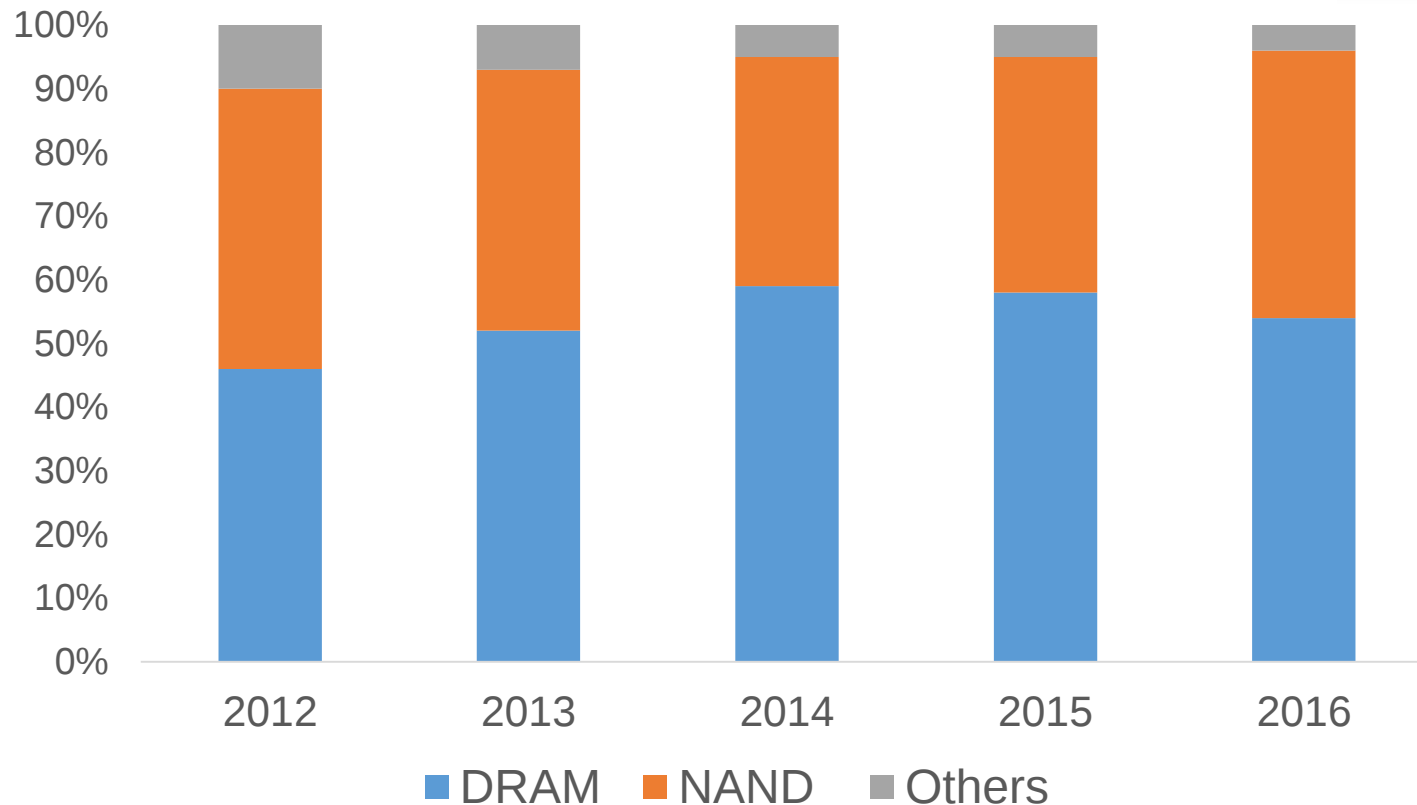
Unit: US\$B



Source: Gartner, WSTS

- In 2016, memory products accounted for 23% of semiconductor market
- In 2017, YoY growth rate of semiconductor is forecasted to be 12.3%

Memory Market and Outlook



Note: % calculated by respective market revenue

Source: WSTS, Gartner, DRAmEXchange

- DRAM and NAND Flash are 2 key products in memory market
- DRAM revenue was \$41.2B in 2016, expected to exceed \$60B in 2017 and 2018
- Memory market revenue is forecasted approx. \$110B in 2017 with 38% YoY

Stable DRAM Industry Structure

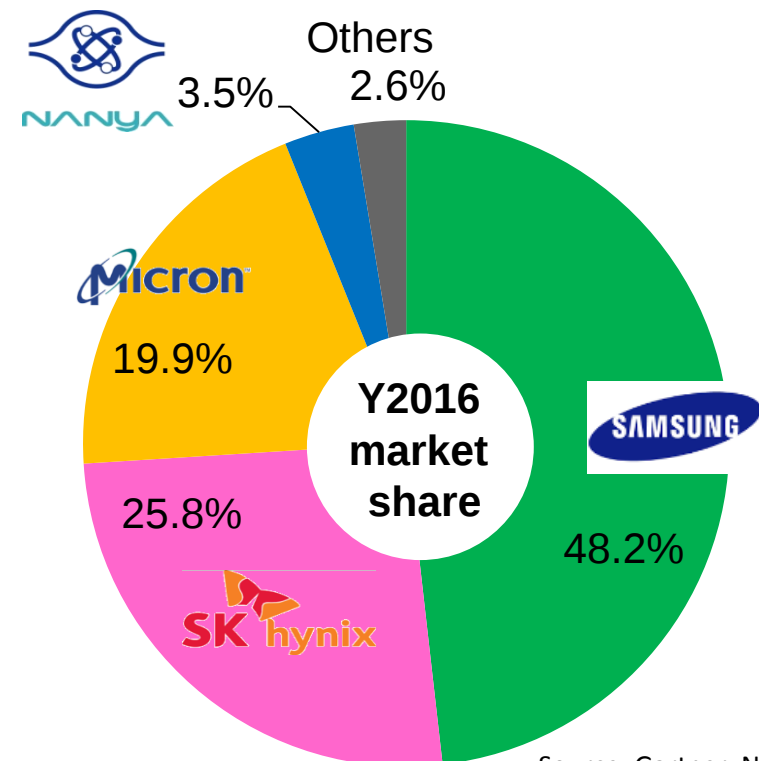
- Supply side consolidate to 3 major and 3 small suppliers
- New comers are facing enormous barrier of entry



Complexity of Advanced
Process Technologies

Trade Secrets and
Patents Defense

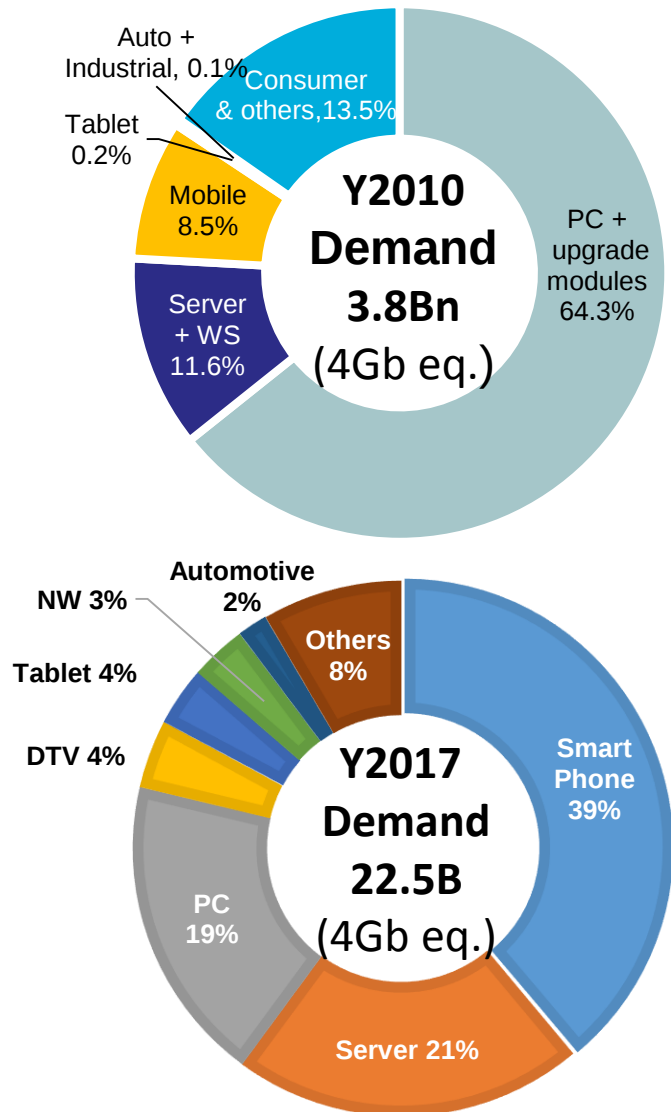
Since 2013 (3 plus major suppliers)



Source: Gartner, NTC

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Big Data Era / Diversified DRAM Demand



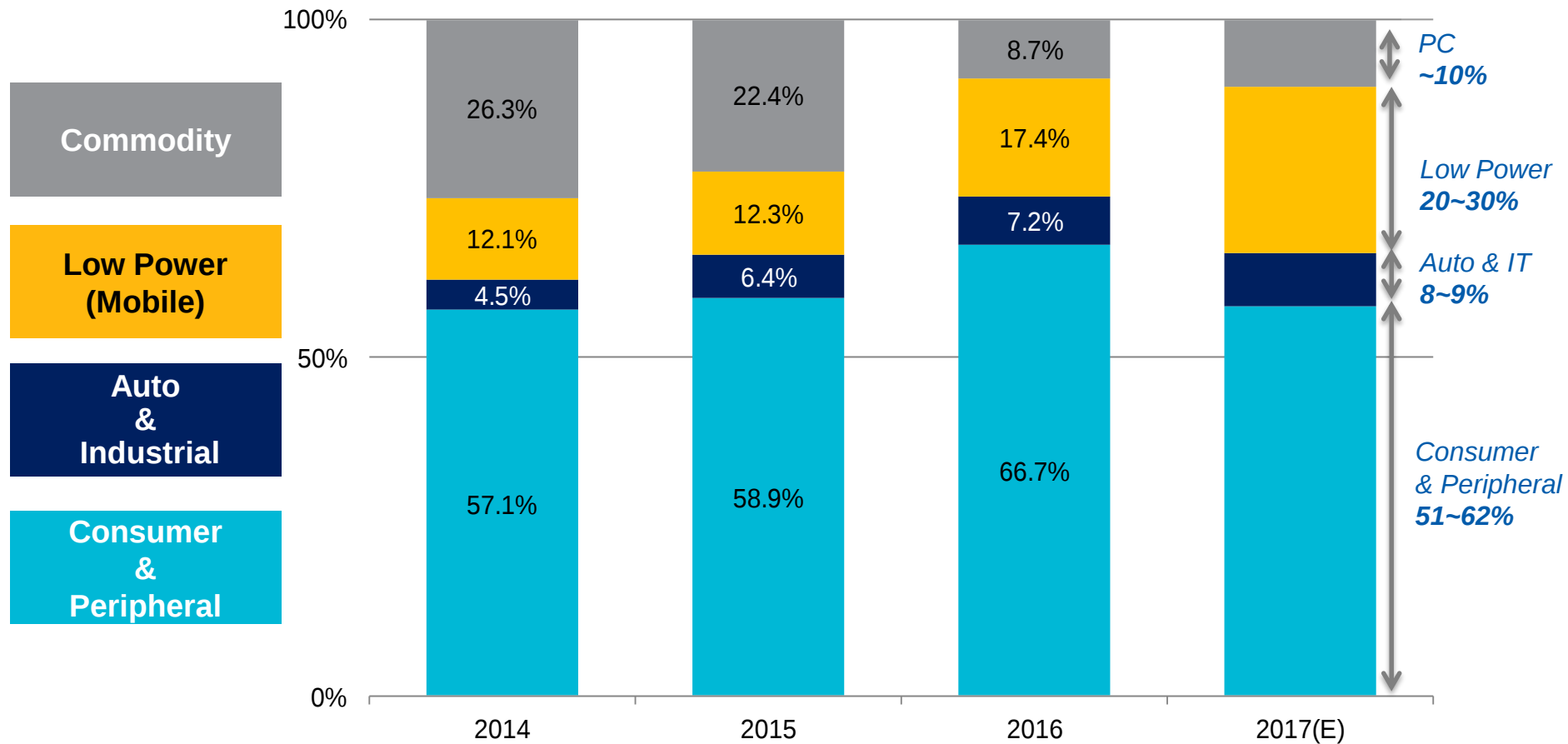
	Y2017		YoY(Y2017/Y2016)		
	QTY (Mu)	C/B (GB)	QTY	C/B	Bit Growth
Smart Phone	1,521	2.8	6.5%	27.3%	38.7%
Server	17.5	136	5.4%	22.5%	29.5%
SSD	185	0.35	27.6%	16.7%	48.9%
Car	94	2.15	2.7%	22.9%	26.3%
Switch	239	1.36	4.4%	19.3%	25.1%
DTV	224	2.1	1.4%	17.1%	18.6%
STB	302	0.6	3.8%	10.0%	14.4%
PC	269	5.6	1.5%	9.2%	11.5%

*Others includes STB, Storage (HDD/SSD), Gaming, Graphics, IP Cam, Industrial...

Source: Gartner, IHS, NTC MKT

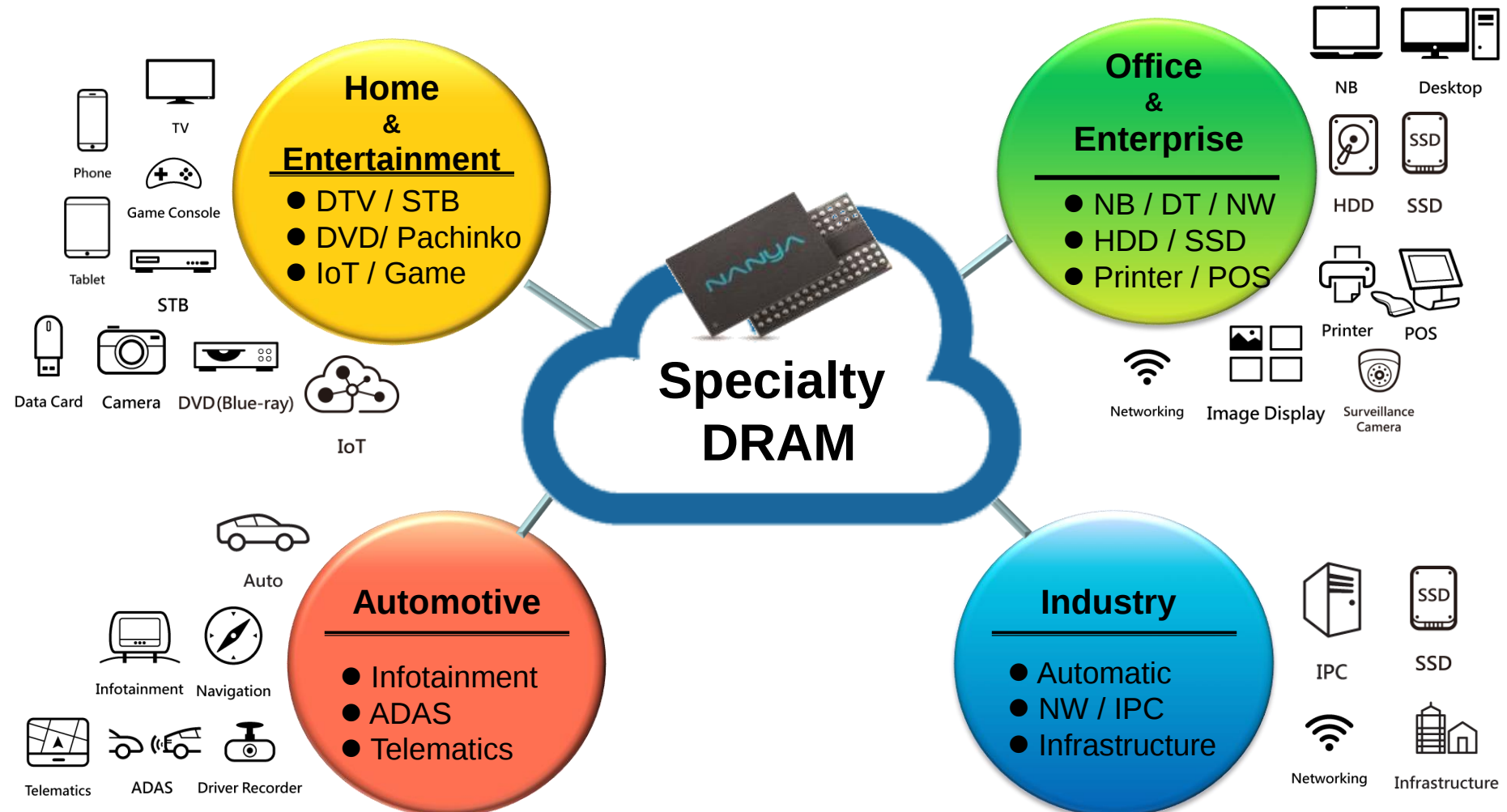
Focus on Specialty DRAM Business

Applications

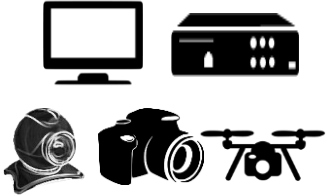


Specialty DRAM Application

- Specialty DRAM widely adopted by consumer, PC peripherals, auto, industrial and IoT
- Specialty DRAM demand growth continuously promising



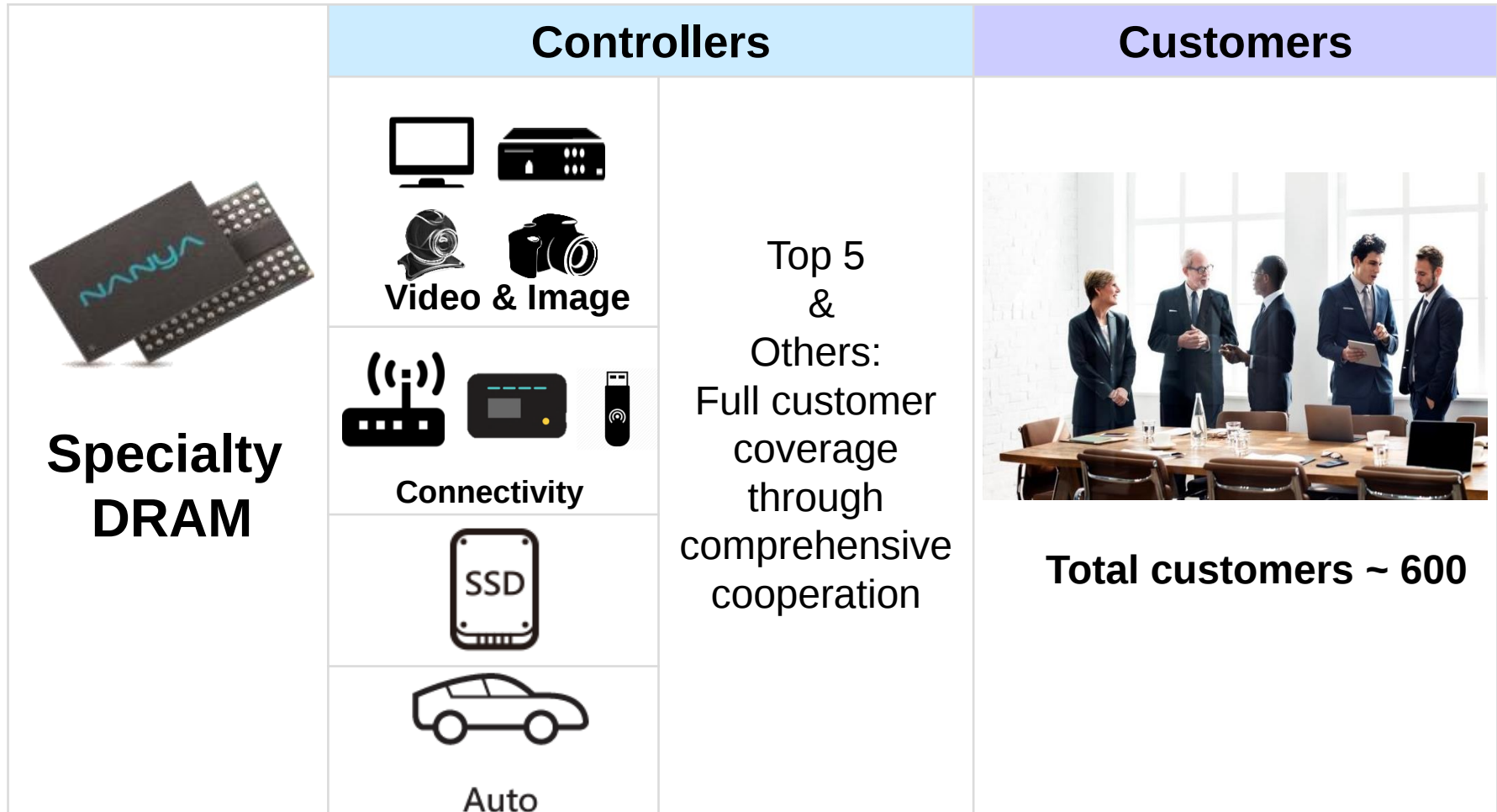
Specialty DRAM Facilitators

		Now 2017~2018	Future (2019~)
 Video & Image	DRAM Content	1GB ~ 3GB	1GB ~ 6GB
	Driving Force		
 Connectivity	DRAM Content	1Gb ~ 4Gb	1Gb ~ 8Gb
	Driving Force		
	DRAM Content	1Gb ~ 4Gb	1Gb ~ 16Gb
	Driving Force		
 Auto	DRAM Content	2GB ~ 3GB	18GB ~24GB
	Driving Force	Infotainment  ADAS 	M2M  Infotainment  ADAS 

- Specialty DRAM spec ranging from consumer DRAM, auto/industrial grade and mobile DRAM

Nanya Specialty DRAM Marketing Strategy

- Comprehensive cooperation with controller suppliers
- Strong ties with customers



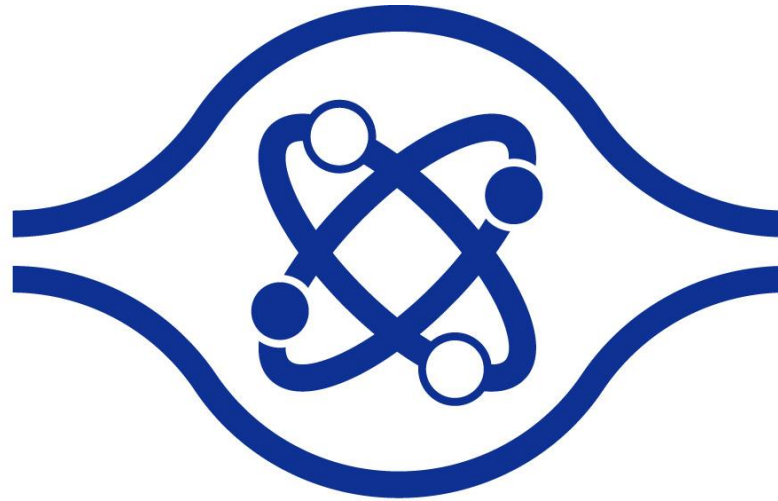
Nanya Specialty DRAM Product Lineup

- Comprehensive product portfolio to meet various requirements
- Long-life support to fulfill customer needs

Technology	30nm	20nm
Spec.	• DDR/DDR2/DDR3 • LPDDR1/LPDDR2/LPDDR3 • Customized	• DDR3/DDR4 • LPDDR3/LPDDR4X • Customized
Density	512Mb/1Gb/2Gb/4Gb	2Gb/4Gb/6Gb/8Gb
Grade	Commercial/Industrial/Automotive	
Lifecycle	Long-life and stable supply	

Key Takeaways

- Limited DRAM supply growth 2017, favorable market condition expected
- 20nm mass production ahead of schedule, cost cross-over anticipated in early Q4'17
- Consumer and Automotive to adopt DDR4/LPDDR4 from 2018
- As a dedicated specialty DRAM supplier, Nanya offers a comprehensive portfolio of DRAM solution to our customers



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Thanks & Questions