

The background of the slide is a white field filled with a pattern of 3D cubes. The cubes are rendered in a light gray outline style, giving them a three-dimensional appearance. They are scattered across the page, with some appearing in vertical columns and others in more irregular, overlapping arrangements. The overall effect is a clean, modern, and geometric aesthetic.

# emory

## **Q2 2016 Investor Conference**

**Aug. 9<sup>th</sup>, 2016**

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# Cautionary Statement

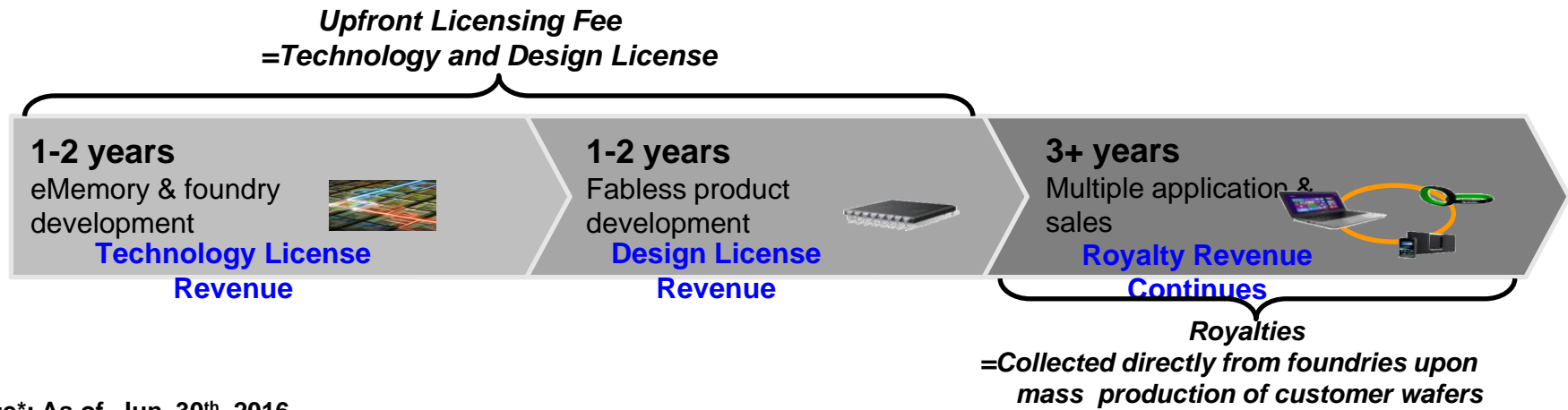
**This presentation contains forward-looking statements, which are subject to risk factors associated with semiconductor and intellectual property business. It is believed that the expectations reflected in these statements are reasonable. But they may be affected by a variety of variables, many of which are beyond our control. These variables could cause actual results or trends to differ materially which include, but are not limited to: wafer price fluctuation, actual demand, rapid technology change, delays or failures of customers' tape-outs into wafer production, our ability to negotiate, monitor and enforce agreements for the determination and payment of royalties, any bug or fault in our technology which leads to significant damage to our technology and reputation, actual or potential litigation, semiconductor industry cycle and general economic conditions. Except as required by law, eMemory undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.**

# Outline

- **Business Model**
- **Review of Operations for Q2 2016**
- **Future Outlook**
- **Q & A**

# Business Model

- Founded in 2000. First customer engaged in 2002. Achieved profitability in 2005 and IPO in 2011. The largest logic non-volatile memory IP company, 228 employees (159 R&D)\*.
- Since its IPO, the company initiated no new fund raising or bank debt, and has distributed in excess of 100% of earnings in cash dividends.
- **Growth Indices:** 1) No. of on-going technology platforms  
2) No. of design licenses  
3) Royalty



Note\*: As of Jun. 30<sup>th</sup>, 2016

# Worldwide Customers



## Foundry



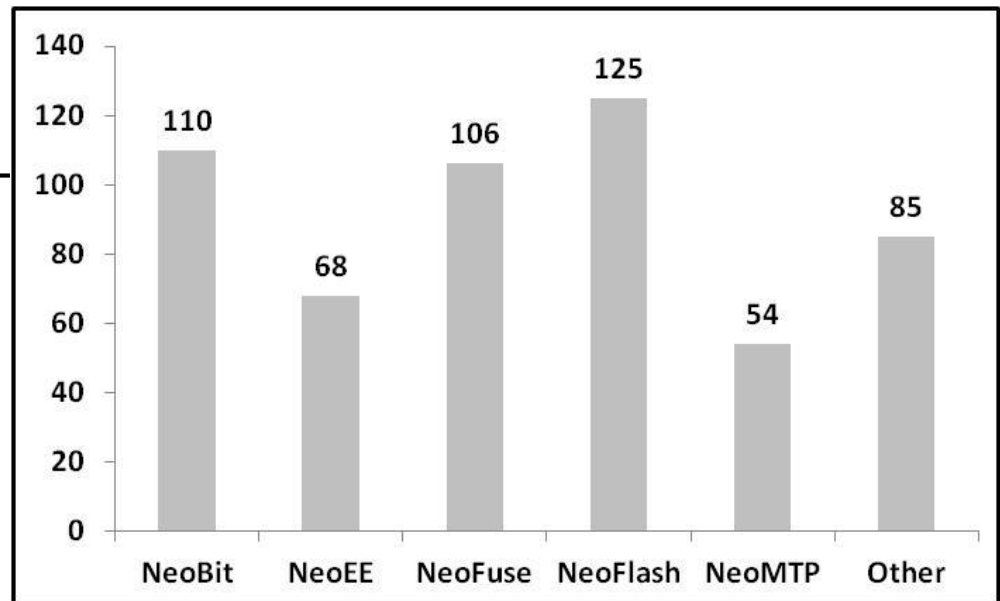
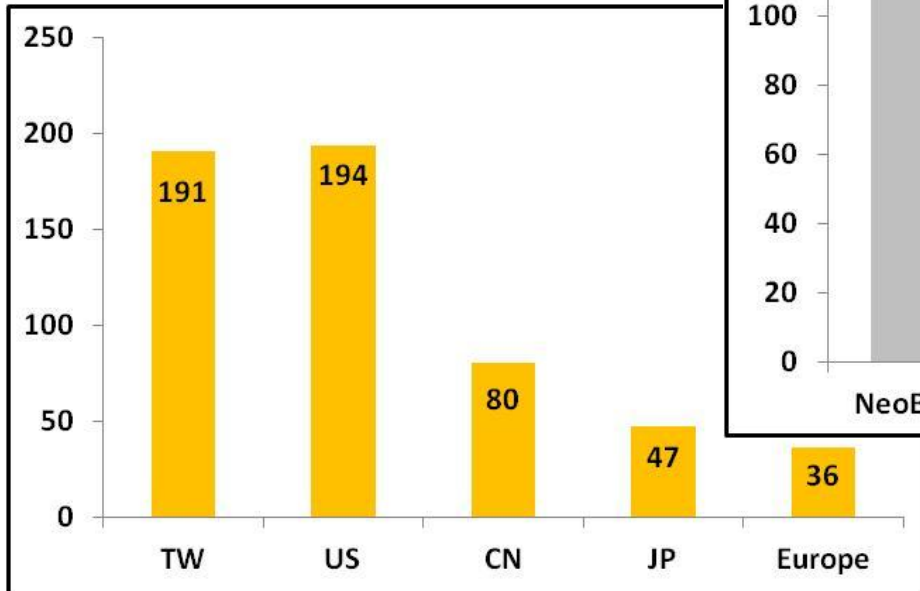
## IDM



	Taiwan	China	Korea	Japan	North America	Europe	Others
Foundry	5	7	3	2	1	1	1
IDM	0	0	0	8	2	1	0
Fabless	251	409	59	47	191	107	42

# Patent Portfolio

	Q1 16	Q2 16	Diff.
Pending	185	193	+ 8
Issued	345	355	+ 10
<b>Total</b>	<b>530</b>	<b>548</b>	<b>+ 18</b>

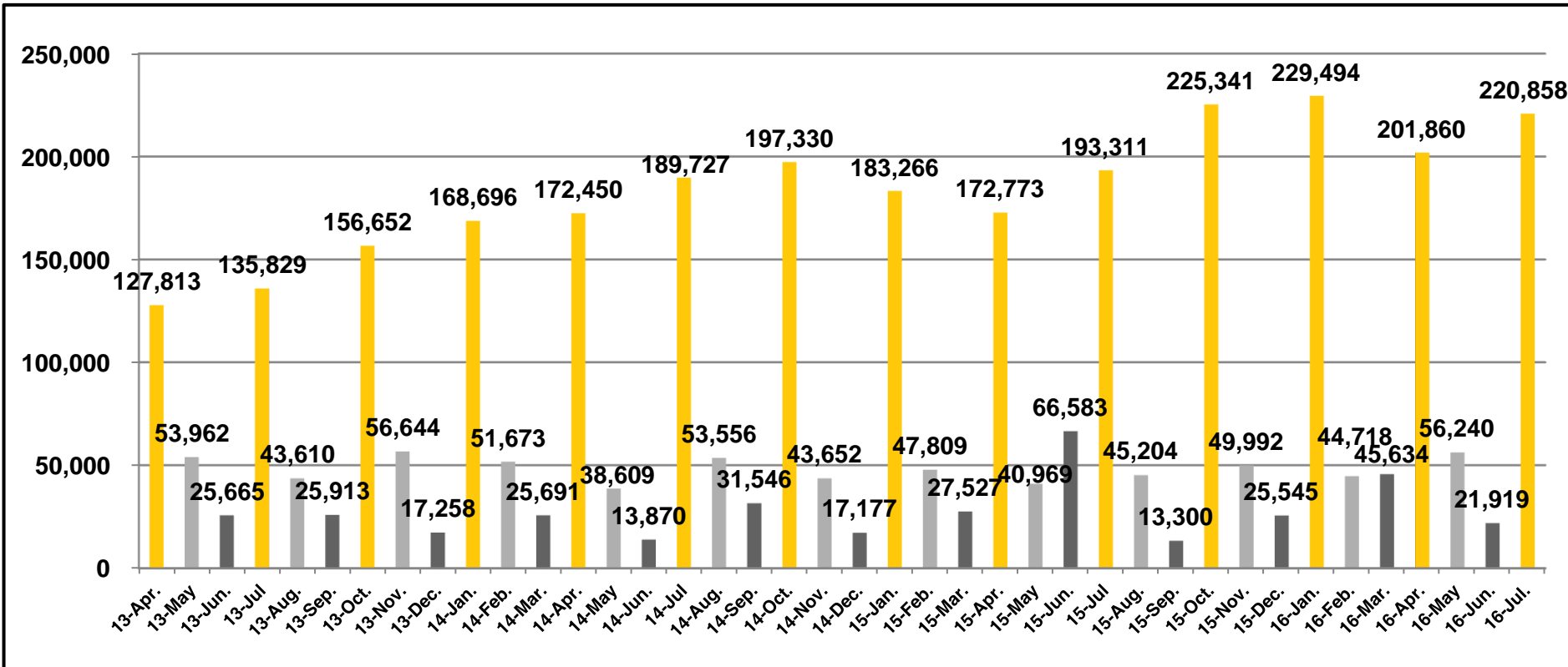


Note\*: As of Jun. 30<sup>th</sup>, 2016

# Quarterly Revenue Pattern

- The quarterly royalty from most of foundries are collected at first month of each quarter and from some other foundries are collected at second month, and none at third month.

Unit : NTD Thousands





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# Q2 Revenue Breakdown

Unit: NTD thousands

	Q2 2016	Q1 2016	QoQ	Q2 2015	YoY	H1 2016	H1 2015	YoY
Licensing	77,715	85,976	-9.61%	95,982	-19.03%	163,691	160,038	2.28%
Royalty	202,304	233,870	-13.50%	184,343	9.74%	436,174	378,889	15.12%
Total	280,019	319,846	-12.45%	280,325	-0.11%	599,865	538,927	11.31%

Unit: Number of contracts

	Q2 2016	Q1 2016	2015	2014
Technology Licenses	14	13	28	21
Design Licenses	NRE	14	13	82
	Usage	96	69	363

# Financial Income Statement

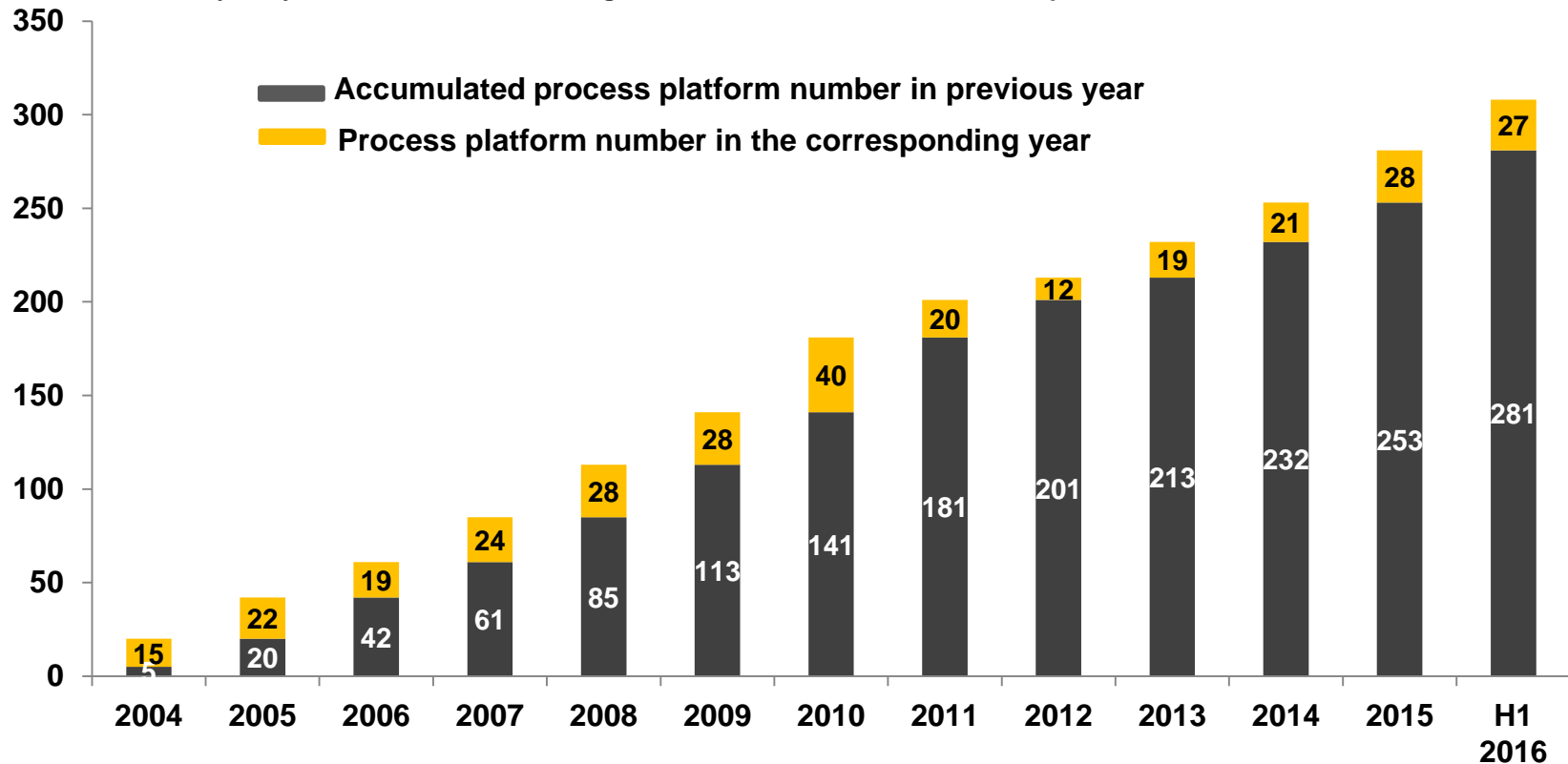
(Unit: NTD thousands)	Q2 2016	Q1 2016	% change	Q2 2015	% change
Revenue	280,019	319,846	-12.5%	280,325	-0.1%
Gross Margin	100%	100%	-	100%	-
Operating Expenses	163,276	177,088	-7.8%	141,435	15.4%
Operating Margin	41.7%	44.6%	-2.9ppts	49.5%	-7.8ppts
Net Income	106,245	166,012	-36.0%	130,297	-18.5%
Net Margin	37.9%	51.9%	-14.0ppts	46.5%	-8.6ppts
EPS (Unit: NTD)	1.40	2.19	-36.1%	1.72	-18.6%
ROE	24.5%	34.9%	-10.4ppts	30.9%	-6.4ppts

# Technology License

Unit: Number of contract

Year	2013	2014	2015	H1 2016
License number	19	21	28	27

Note: The terms (including number of process platforms and licensing fees) for each technology license are set contractually. Payments are made according to set milestones, and there are no particular seasonal factors involved.



# Current Technology Development Platforms

- Total (As of June) : **108**
- **20** for NeoBit, **46** for NeoFuse, **21** for NeoEE, and **21** for NeoMTP.

	7/10nm	14/16nm	28nm	40nm	55/65nm	80/90nm	0.11~ 0.13um	0.15~ 0.18um	>0.25 um
NeoBit	-	-	-	-	-	-	6	13	1
NeoFuse	2	3	9	6	11	5	7	3	-
NeoFlash	-	-	-	-	-	-	-	-	-
NeoEE	-	-	-	-	-	1	5	15	-
NeoMTP	-	-	-	-	2	2	6	11	-

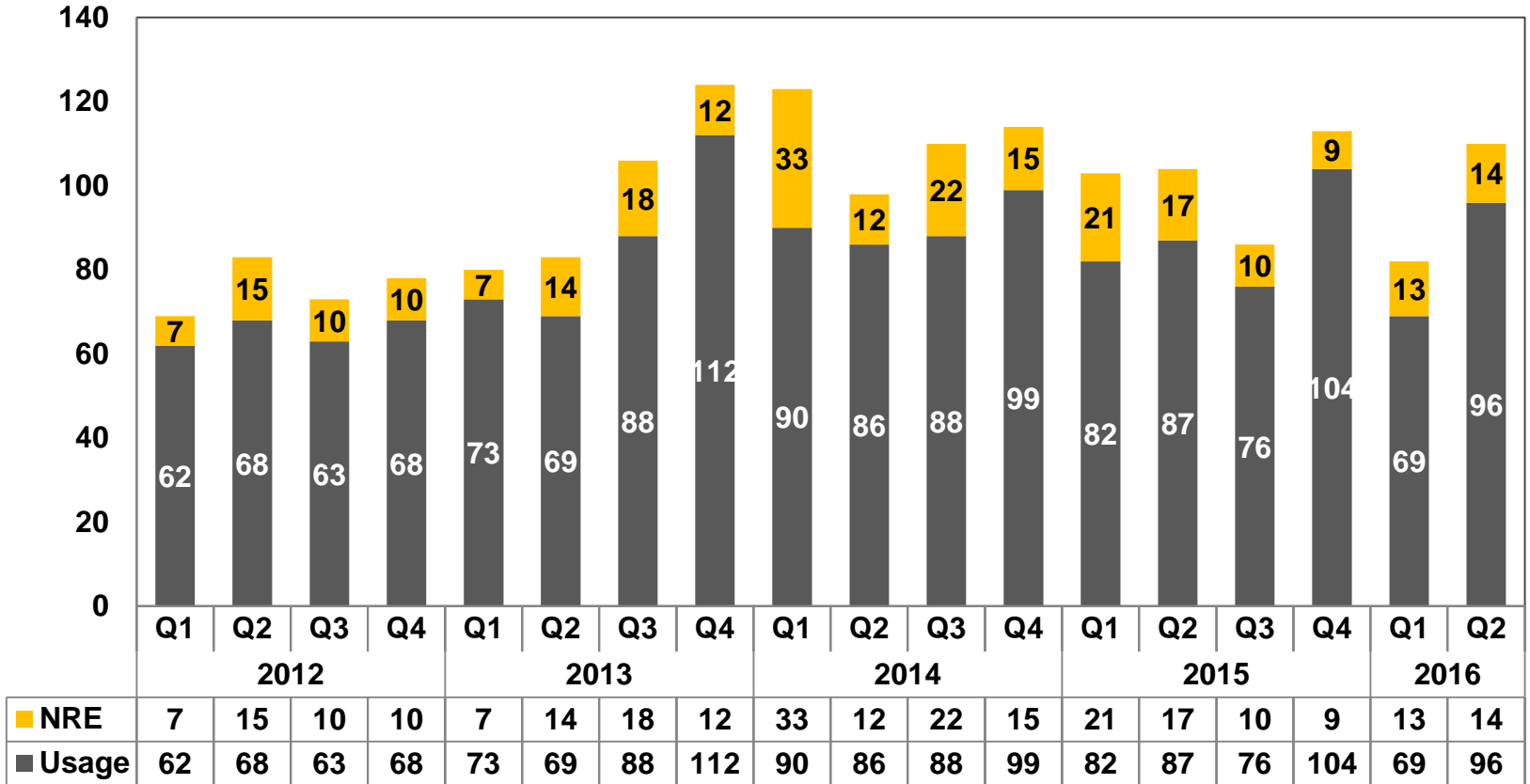
# Current Technology Development Platforms

12" Fabs	Production	Development	NVM Type	Process Type
7/10nm	0	2	OTP	FF
14/16nm	1	3	OTP	FF+
28nm	5	9	OTP	LP/HPM, HLP/HPM, LPS
40nm	4	6	OTP, MTP	HV-DDI, LP
55/65nm	11	13	OTP, MTP, Flash	LP, HV-DDI, HV-OLED, DRAM, CIS
80/90nm	5	8	OTP, MTP	HV-DDI, HV-OLED, LP
0.13/0.11um	6	4	OTP, Flash	HV-DDI, BCD, Generic
0.18um	1	0	OTP	BCD

8" Fabs	Development	NVM Type	Process Type
0.13/0.11um	20	OTP, MTP, Flash	HV-DDI, BCD, LP, RF, CIS, LL
0.18/0.16/0.152um	42	OTP, MTP	Generic, LP, LL, MR, HV, Green, BCD
0.25um	1	OTP, MTP	BCD
0.35um	0	OTP	UHV

# Quarterly Design Licensing (New Tape Out)

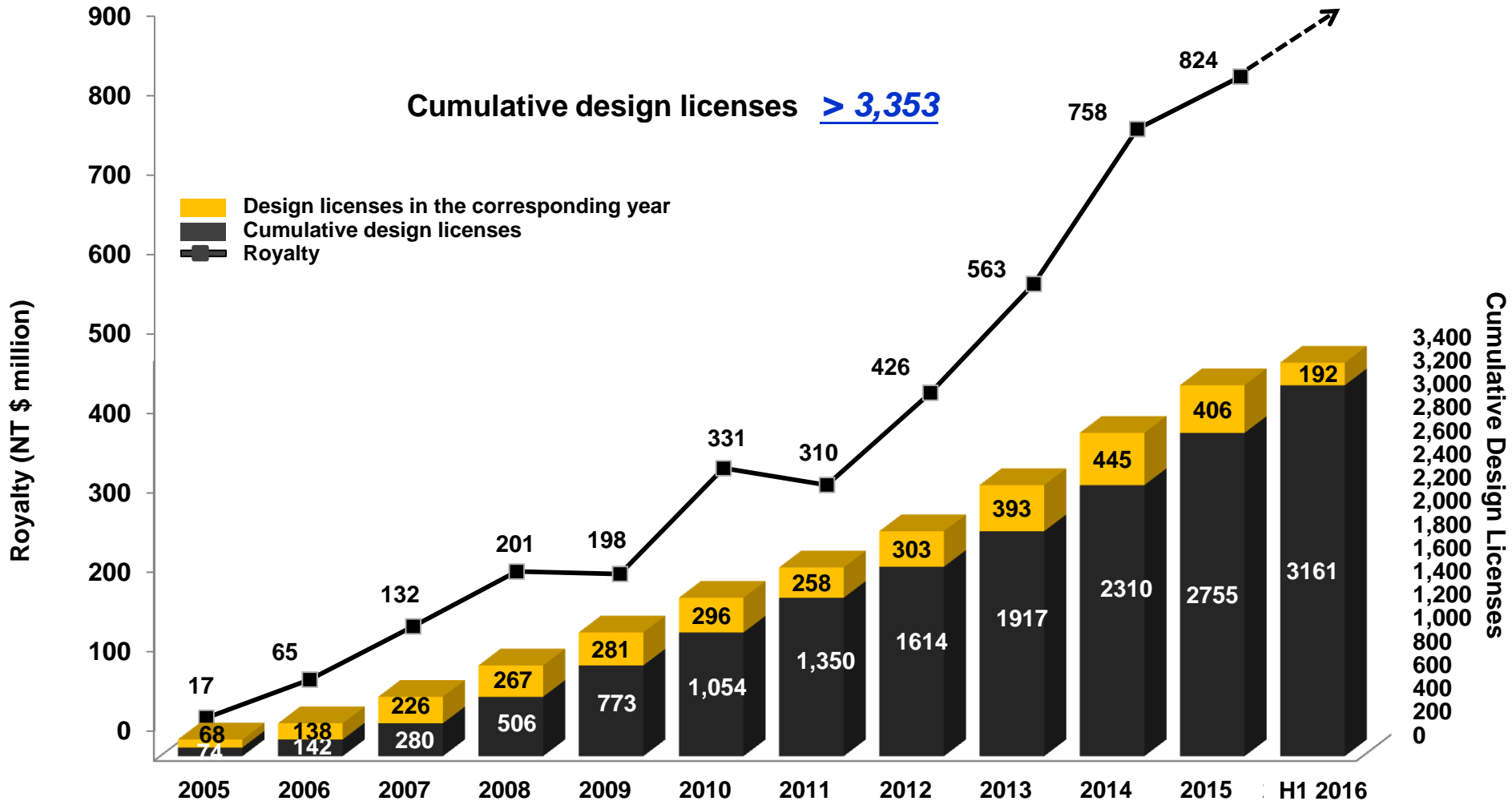
- Total 192 NTO as of H1 2016 ( 406@2015, 445@2014, 393@2013, 303@2012)



Note\*: As the applications of MCU at several foundries have gradually entered mass production, and the business model of the main foundry partner which provides green process has shifted to — eMemory licenses IP cell to the foundry for it to provide direct design service to customers — as the result, the new tape out number of MCU has been affected, but the royalty coming from IP cell usage continues to roll in.

In summary, even the new tape out number of MCU is lower than before; the corresponding wafer output and royalty continue to grow.

# Cumulative Licenses Drive Future Royalties



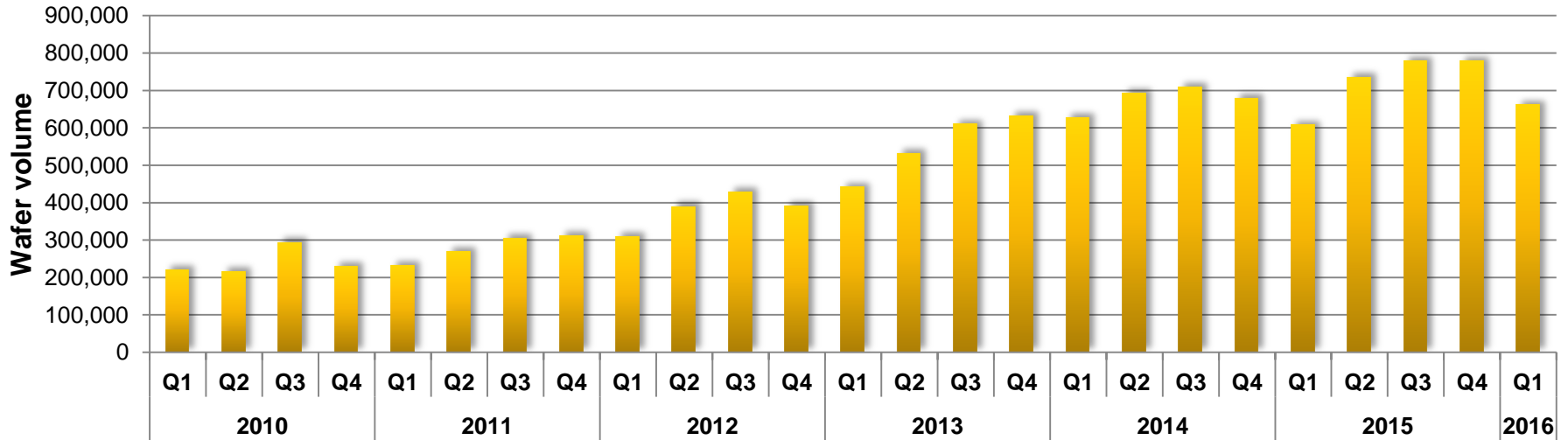
note 1: Due to the 2009 recession, royalty income was down annually 1.5%.

note 2: Pre-payment of royalty fees by a single customer contributed to 2010 annual growth of 67%, causing a drop of 6.3% in the following year, 2011.

note 3: CAGR for 2009-2013 was 30%.



# Wafer Production Volume



embedded eMemory IP in T Company (\$Revenue); \* % of Process node in T company total revenue in Q2 2016

	Process node	*% of T	Q2 16	Q1 16	2015	2014
8"	0.25/0.35	3%	* 18.44%	40.91%	33.49%	30.5%
	0.15/0.18	11%	12.32%	13.41%	8.73%	11.9%
	0.11/0.13	2%	43.90%	27.53%	29%	20.8%
12"	90nm	5%	* 11.33%	20.04%	19.85%	16.3%
	65nm	12%	3.76%	2.91%	0.55%	0%
	40/45nm	15%	0%	0%	0%	0%
	28nm	28%	0.41%	0.46%	0.05%	0%
	16/20nm	23%	0	0%	0%	0%
8"		17%	16.39%	20.33%	16.64%	15.6%
12"		83%	1.36%	1.97%	1.87%	1.4%
<b>Total</b>		<b>100%</b>	<b>3.92%</b>	<b>5.09%</b>	<b>4.76%</b>	<b>4.5%</b>

\* Due to Inventory correction of iOS related customers in Q2.

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# Outlook for Q3 and Beyond

- **iOS related applications will increase wafer production in Q3 after experiencing an inventory correction in previous quarters, and are expected to see a substantial increase in royalty contribution in Q4.**
- **With more customers ramping up production and expanding into new applications, PMIC related products will maintain strong growth momentum in the coming quarters.**
- **55nm TDDI continues volume production.**
- **Fingerprint customer started wafer production in Q2 and contributed 4% of total July royalty. We expect more fingerprint customers to ramp up production in Q3, resulting in further contribution to royalties in the following quarters.**

# Outlook for Q3 and Beyond

- **28nm DTV applications will increase volume production in 2H of 2016. 2 more STB customers have taped-out in the 1H of 2016.**
- **7 process platforms for OLED are under qualification at different foundries. There were 2 tape-outs for OLED drivers in second quarter and more tape-outs expected in 2H.**
- **We expect 2 NRE designs and tape outs in 16nm FFC in 2H of 2016.**
- **NeoPUF, our new technology for security applications is expected to tape-out IP in September.**
- **Automotive applications continue platform build with further tape outs for European and Japan customers.**

# Key Growth Drivers

## Growth in application per mobile devices

- More chip applications per smartphone/tablet product.

## Growth into more markets

- From consumer electronics and mobile devices to wearable devices.
- Adding new NVM product lines further enable more product applications.

## Growth in advanced technology

- Higher royalty per wafer is contributed from more advanced technology nodes.

## Great IoT era

- Embedded Logic NVM will be a must.

# Q & A

The background of the slide is a light gray color with a pattern of 3D cubes. The cubes are arranged in a grid-like fashion, with some cubes appearing to be stacked or overlapping, creating a sense of depth. The cubes are rendered in a simple, wireframe style with light gray outlines.

# eMemory

**Embedded Wisely, Embedded Widely**