

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 rows and others more isolated. The overall effect is a clean, modern, and geometric aesthetic.

# emory

## **Q1 2016 Investor Conference**

**May 9<sup>th</sup>, 2016**

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# Cautionary Statement

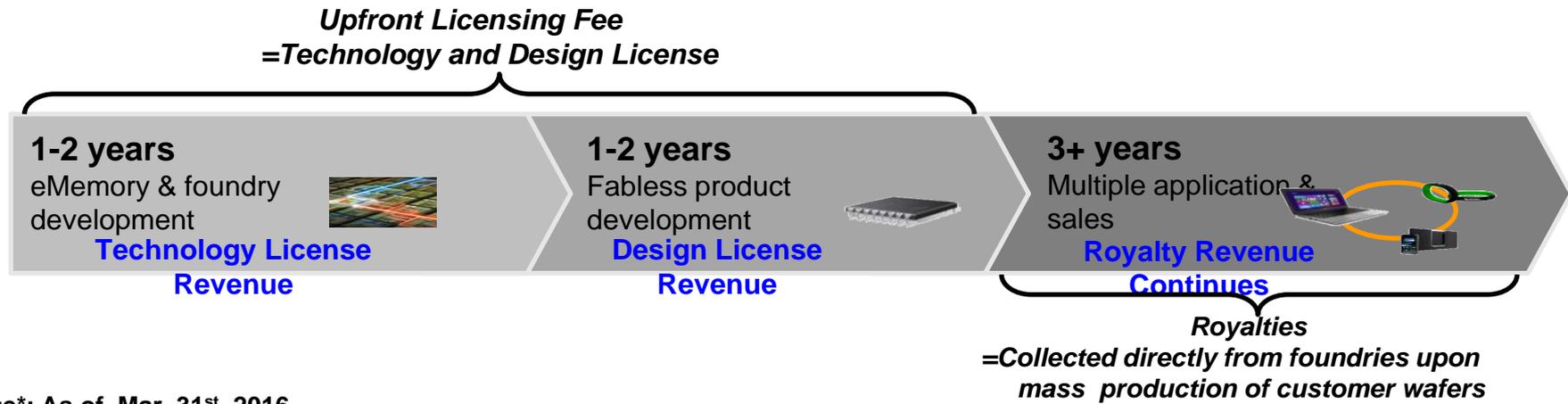
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# Outline

- **Business Model**
- **Review of Operations for Q1 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, 224 employees (157 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 Mar. 31<sup>st</sup>, 2016

# Worldwide Customers



## Foundry



## IDM

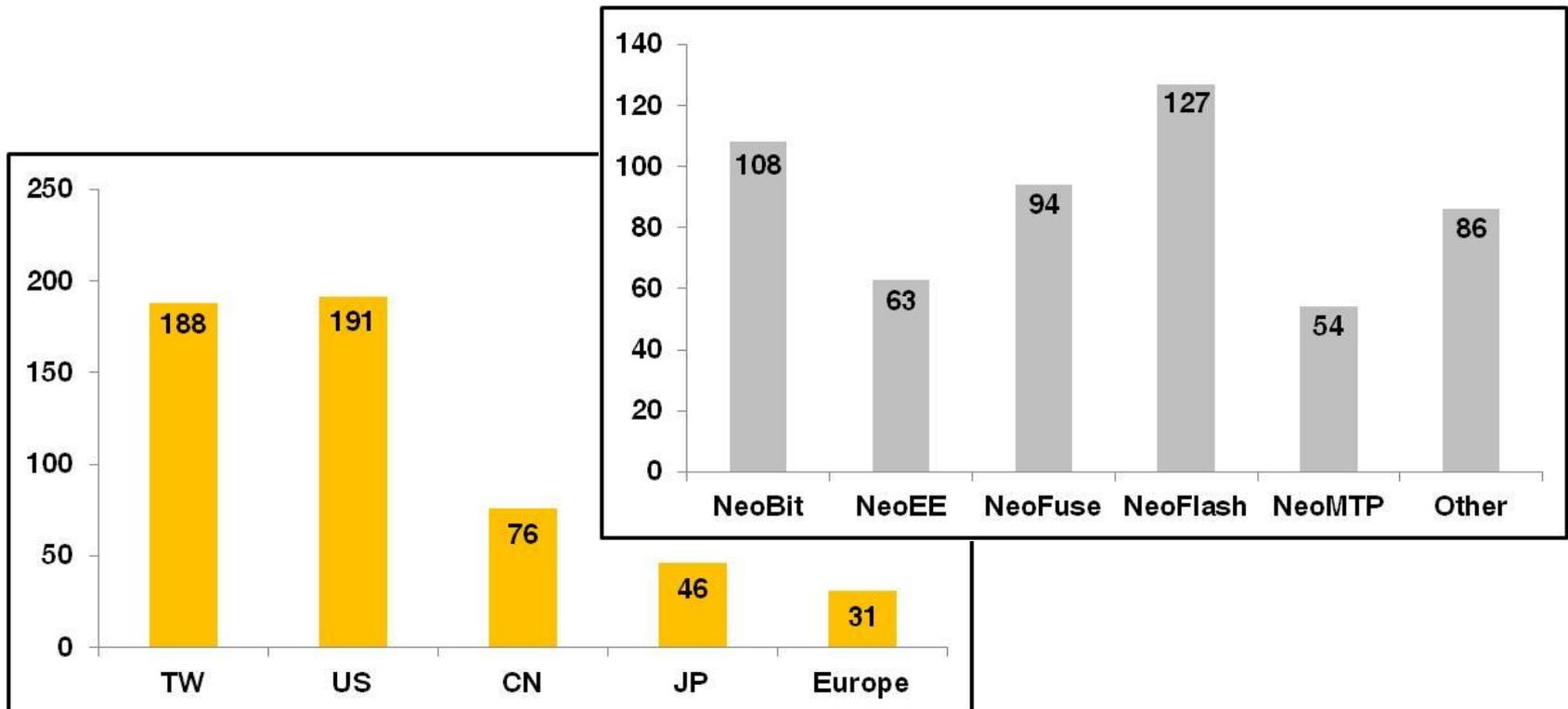


	Taiwan	China	Korea	Japan	North America	Europe	Others
Foundry	5	7	3	2	1	1	1
IDM	0	0	0	8	2	1	0
Fabless	251	409	59	47	191	107	42

Note\*: As of Mar. 31<sup>st</sup>, 2016

# Patent Portfolio

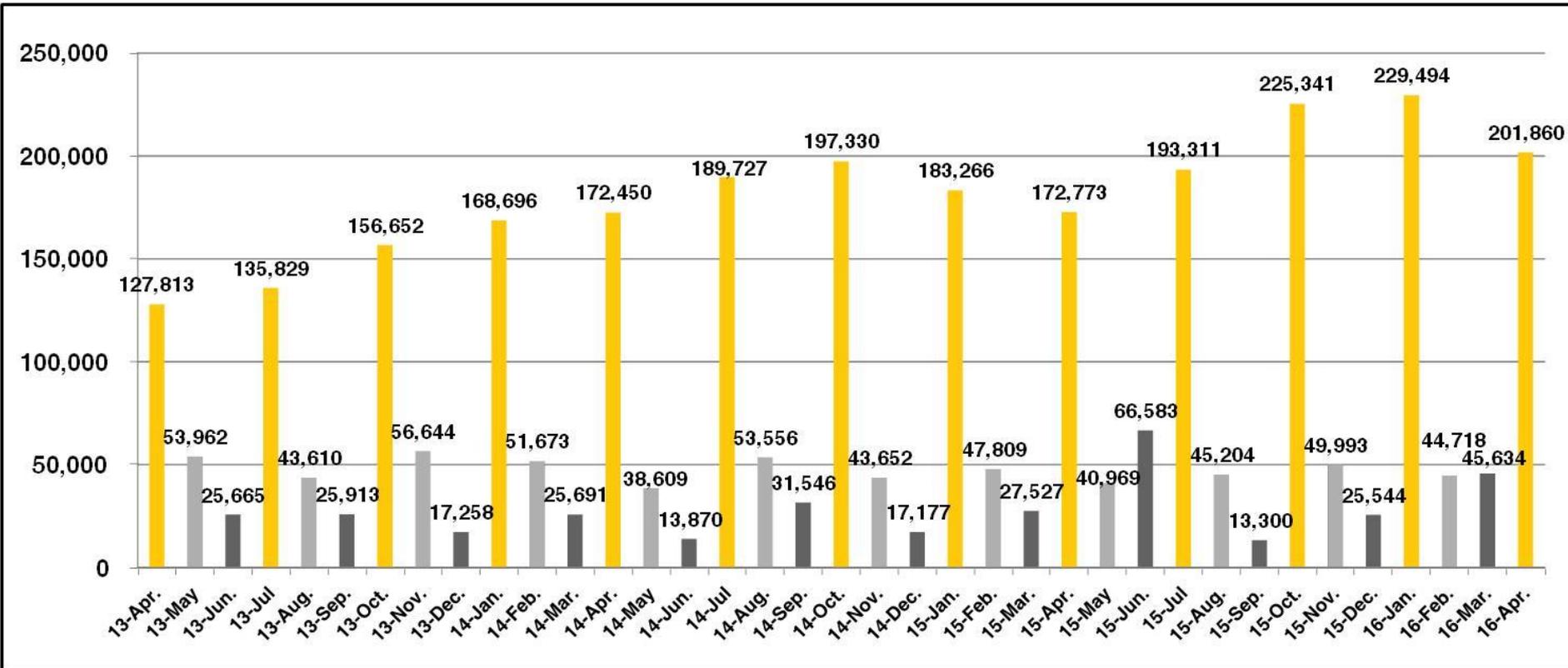
	Q4 15	Q1 16	Diff.
Pending	187	187	-
Issued	325	345	+20
Total	512	532	+20



# 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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# Q1 Revenue Breakdown

Unit: NTD thousands

	Q1 2016	Q4 2015	QoQ	Q1 2015	YoY
Licensing	85,976	69,307	24.05%	64,056	34.22%
Royalty	233,870	231,571	0.99%	194,546	20.21%
Total	319,846	300,878	6.30%	258,602	23.68%

Unit: Number of contracts

	Q1 2016	Q4 2015	2015	2014
Technology Licenses	13	11	28	21
Design Licenses	NRE	9	57	82
	Usage	104	349	363

# Financial Income Statement

(Unit: NTD thousands)	Q1 2016	Q4 2015	% change	Q1 2015	% change
Revenue	319,846	300,878	6.3%	258,602	23.7%
Gross Margin	100%	100%	-	100%	-
Operating Expenses	177,088	156,216	13.4%	128,976	37.3%
Operating Margin	44.6%	48.1%	-3.5ppts	50.1%	-5.5ppts
Net Income	166,012	128,090	29.6%	114,423	45.1%
Net Margin	51.9%	42.6%	+9.3ppts	44.2%	+7.7ppts
EPS (Unit: NTD)	2.19	1.69	29.6%	1.51	45.0%
ROE	34.9%	28.4%	+6.5ppts	24.8%	+10.1ppts

Note 1: The employee stock option was recognized under compensation cost in Q1 2016; therefore, the operating expenses increased by NT\$2.281 million while the operating margin was down 0.71ppts.

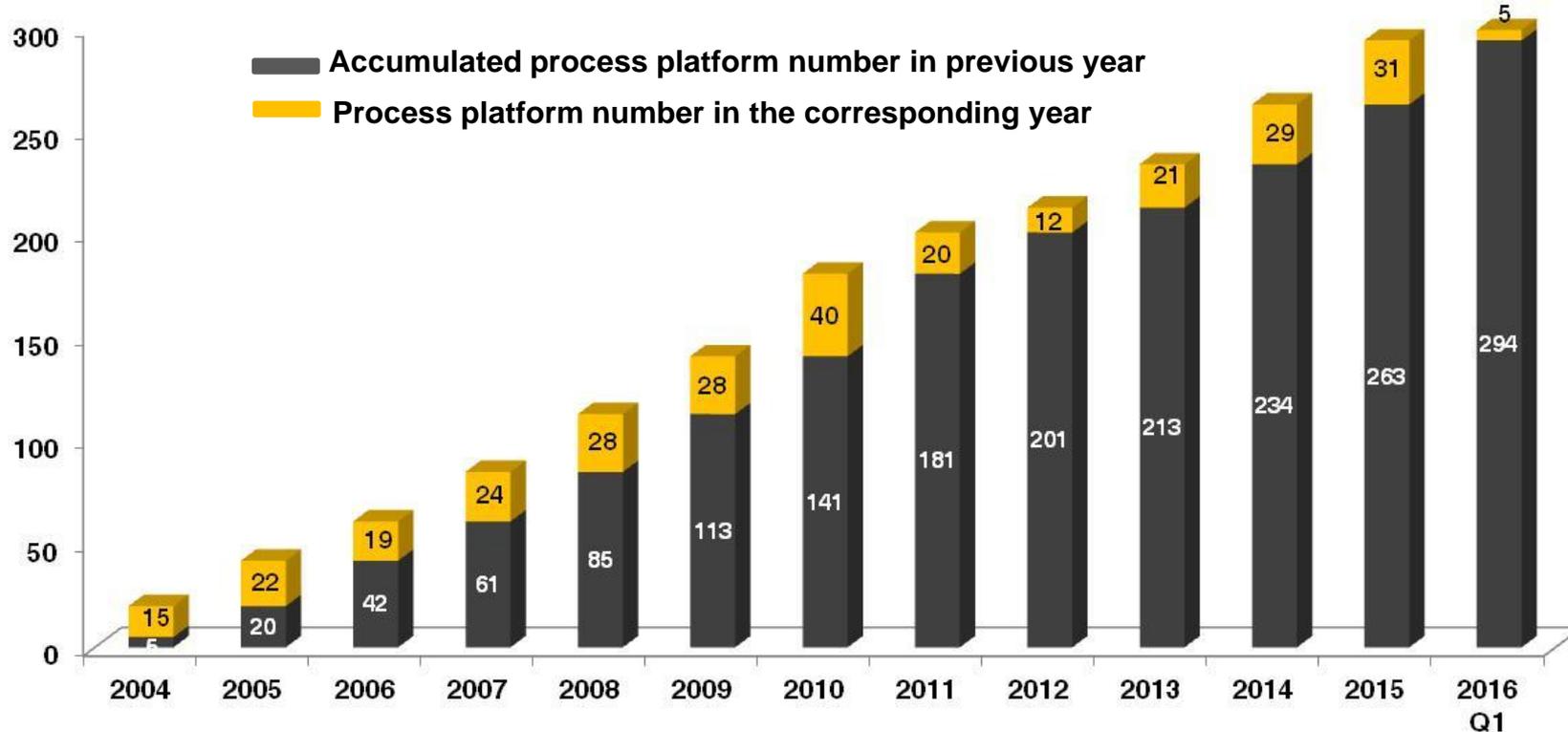
Note 2: Due to the disposal of financial assets in Q1 2016, the related cost from profit sharing to employees by non-operating income increased by NT\$7.389 million which affected the operating margin by 2.31%.

# Technology License

Unit: Number of contract

Year	2013	2014	2015	Q1 2016
License number	19	21	28	13

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 Mar.) : **100**
- **18** for NeoBit, **40** for NeoFuse, **23** for NeoEE, and **19** for NeoMTP.

	10nm	14/16nm	28nm	40nm	55/65nm	80/90nm	0.11~ 0.13um	0.15~ 0.18um	>0.25 um	Total
NeoBit	-	-	-	-	-	-	6	12	-	18
NeoFuse	1	3	9	5	8	4	7	3	-	40
NeoFlash	-	-	-	-	-	-	-	-	-	0
NeoEE	-	-	-	1	-	1	5	16	-	23
NeoMTP	-	-	-	-	2	2	5	10	-	19

# Current Technology Development Platforms

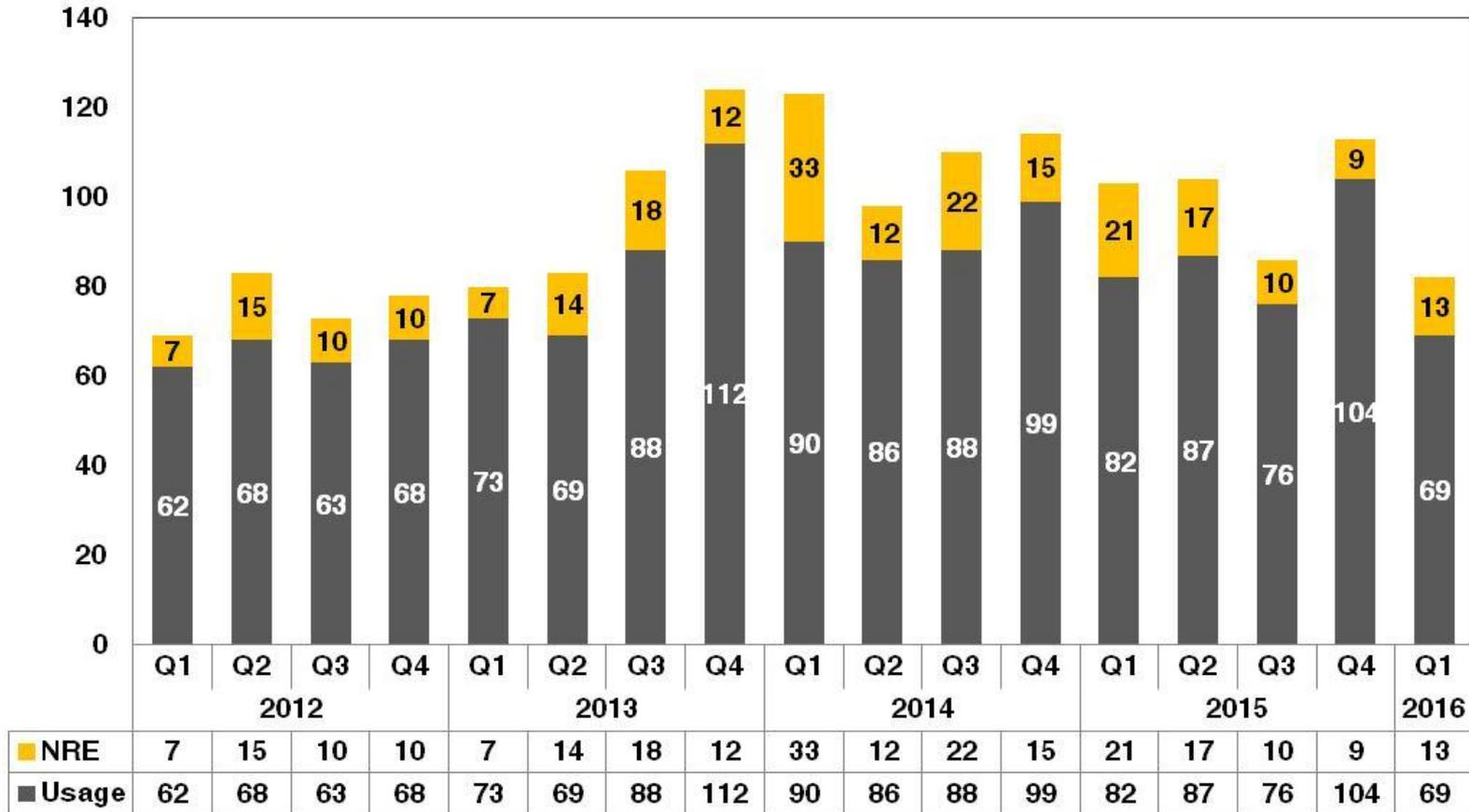
12" Fabs	Production	Development	NVM Type	Process Type
10nm	0	1	OTP	FF
14/16nm	0	3	OTP	FF+
28nm	5	9	OTP	LP/HPM, HLP/HPM, LPS
40nm	2	6	OTP, MTP	HV-DDI, LP
55/65nm	11	10	OTP, MTP, Flash	LP, HV-DDI, HV-OLED, DRAM, CIS
80/90nm	5	7	OTP, MTP	HV-DDI, HV-OLED, LP
0.13/0.11um	6	4	OTP, Flash	HV-DDI, BCD, Generic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

8" Fabs	Development	NVM Type	Process Type
0.13/0.11um	19	OTP, MTP, Flash	HV-DDI, BCD, LP, RF, CIS, LL
0.18/0.16/0.152um	41	OTP, MTP	Generic, LP, LL, MR, HV, Green, BCD
0.25um	0	OTP, MTP	BCD
0.35um	0	OTP	UHV

\*As of Mar. 31<sup>st</sup>, 2016

# Quarterly Design Licensing (New Tape Out)

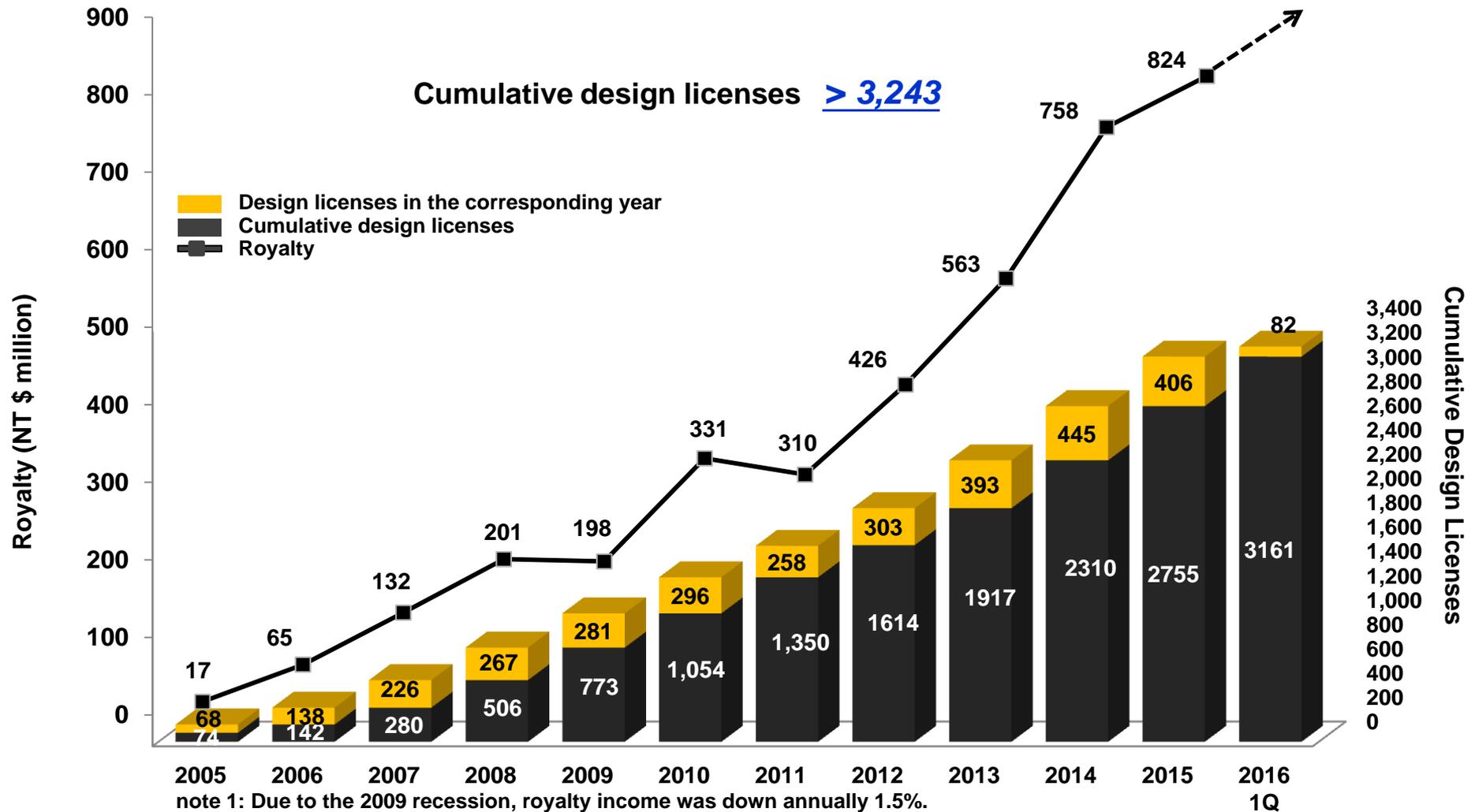
- Total 82 NTO as of in Q1 2016( 406@2015,445@2014, 393@2013, 303@2012)



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, drop 25 as it compare to Q1 2015, 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

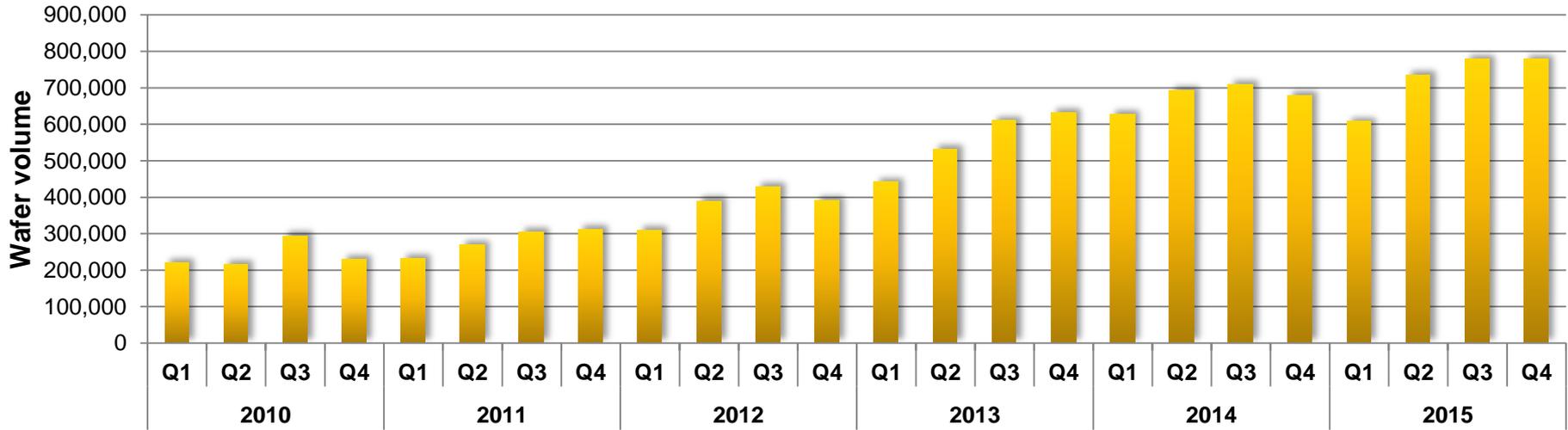


note 1: Due to the 2009 recession, royalty income was down annually 1.5%.

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 Q1 2016

	Process node	*% of T	Q1 16	Q4 15	2015	2014
8"	0.25/0.35	3%	40.91%	47.61%	33.49%	30.5%
	0.15/0.18	11%	13.41%	10.11%	8.73%	11.9%
	0.11/0.13	2%	27.53%	29.24%	29%	20.8%
12"	90nm	6%	20.04%	20.20%	19.85%	16.3%
	65nm	10%	2.91%	0.61%	0.55%	0%
	40/45nm	14%	0%	0%	0%	0%
	28nm	30%	0.46%	0.18%	0.05%	0%
	16/20nm	23%	0%	0%	0%	0%
8"		17%	20.33%	21.64%	16.64%	15.6%
12"		83%	1.97%	1.88%	1.87%	1.4%
<b>Total</b>		<b>100%</b>	<b>5.09%</b>	<b>5.42%</b>	<b>4.76%</b>	<b>4.5%</b>

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# Outlook for Q1 and Beyond

- License fees expected to grow due to the successful development of NeoFuse in advanced nodes, and MTP technology.
- PMIC continually expands to applications for wireless charger and fast charger related products.
- 55nm TDDI continues volume production. 40nm OLED DDI is under development at several major foundries.
- 28nm Set-top Box processor starts volume production. More customers tape out new products in Q2 of 2016.
- Fingerprint and CIS customers start volume production in Q2 of 2016.

# Outlook for Q1 and Beyond

- The qualification of 16nm FF+ was completed at end of March 2016 and 16nm FFC qualification started in Q2 of 2016.
- 10nm FF IP taped out in Q2.
- NeoPUF, new technology for security application is under development.
- Continuously tape outs on automotive applications.

# 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.

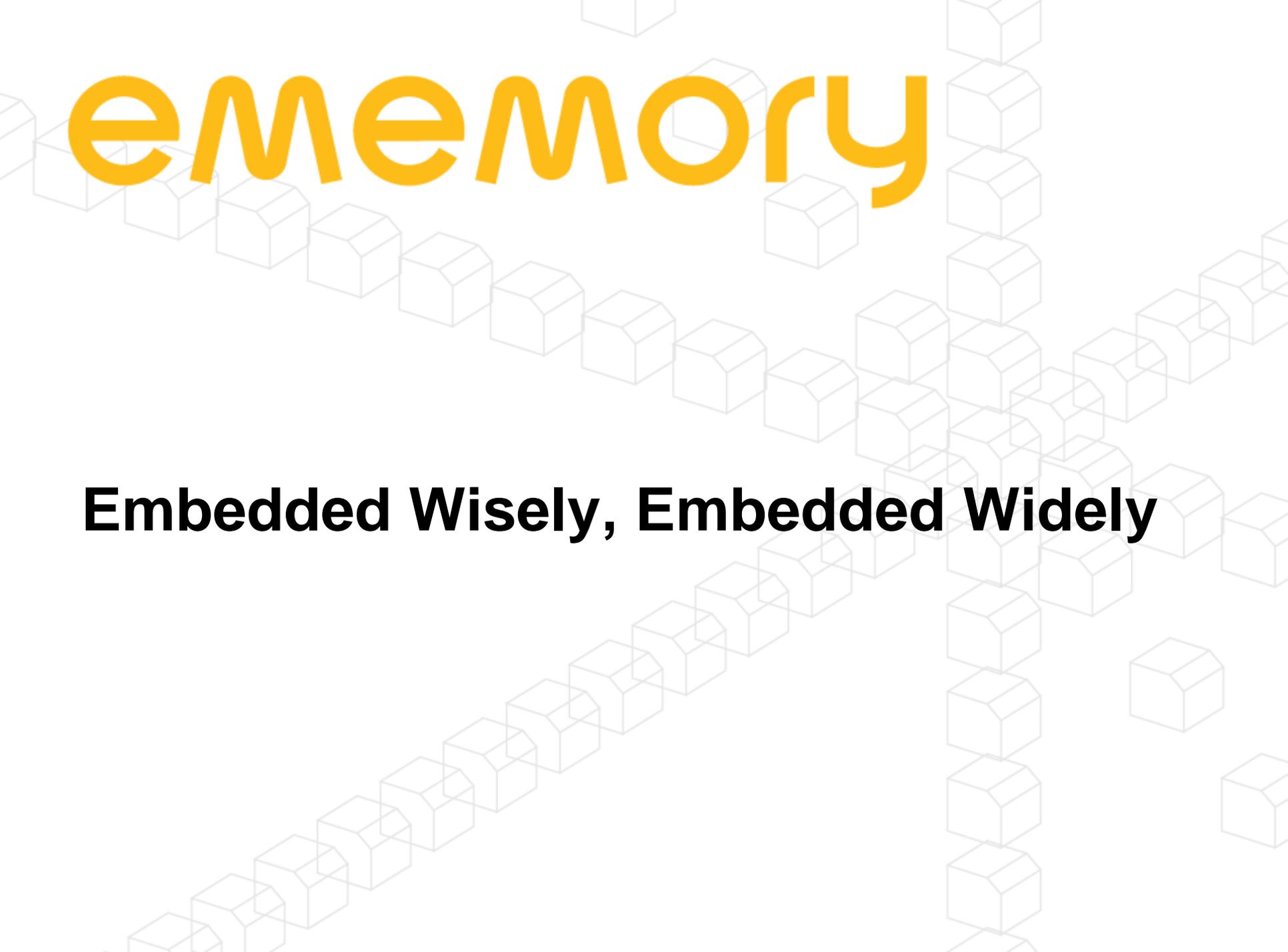
## Growth in advanced technology

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

## Great IoT era

- Embedded Logic NVM will be a must.

# Q & A

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# ememory

**Embedded Wisely, Embedded Widely**