



**eMemory**

# **2015 Q2 Investor Conference**

**Aug. 13<sup>th</sup>, 2015**

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# Cautionary Statement

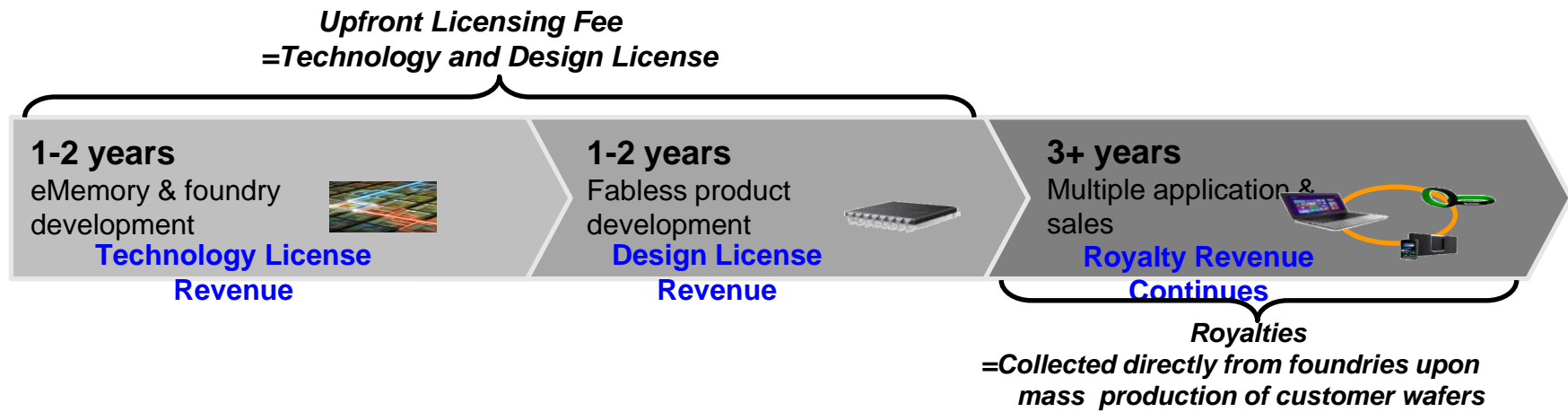
**This presentation contains forward-looking statements, which are subject to risk factors associated with semiconductor and intellectual property business. It is believed that the expectations reflected in these statements are reasonable. But they may be affected by a variety of variables, many of which 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 2Q15**
- **Growth Opportunity and 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, 220 employees (152 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 ongoing technology platforms  
2) No. of design licenses  
3) Royalty



Note\*: As of July 31<sup>th</sup>, 2015

# Worldwide Customers



## Foundry



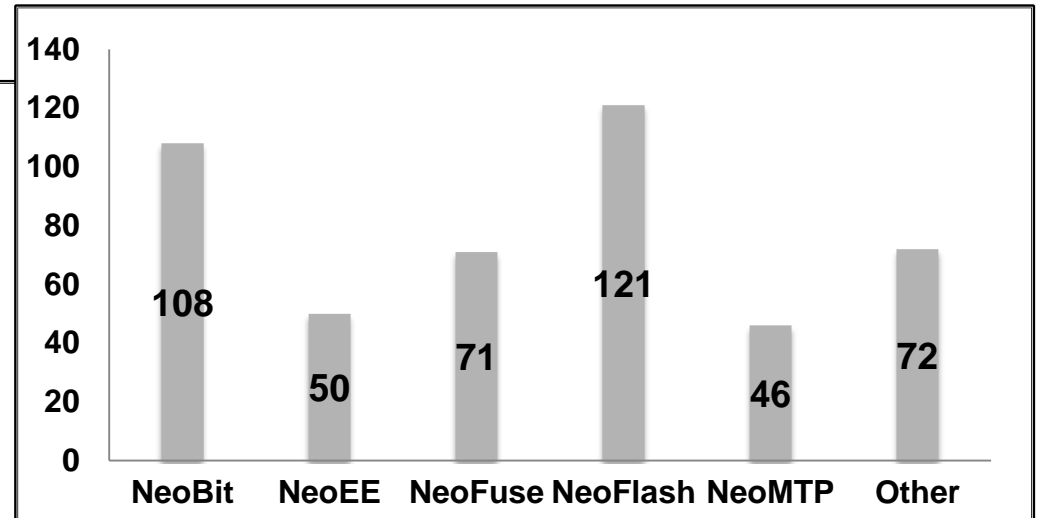
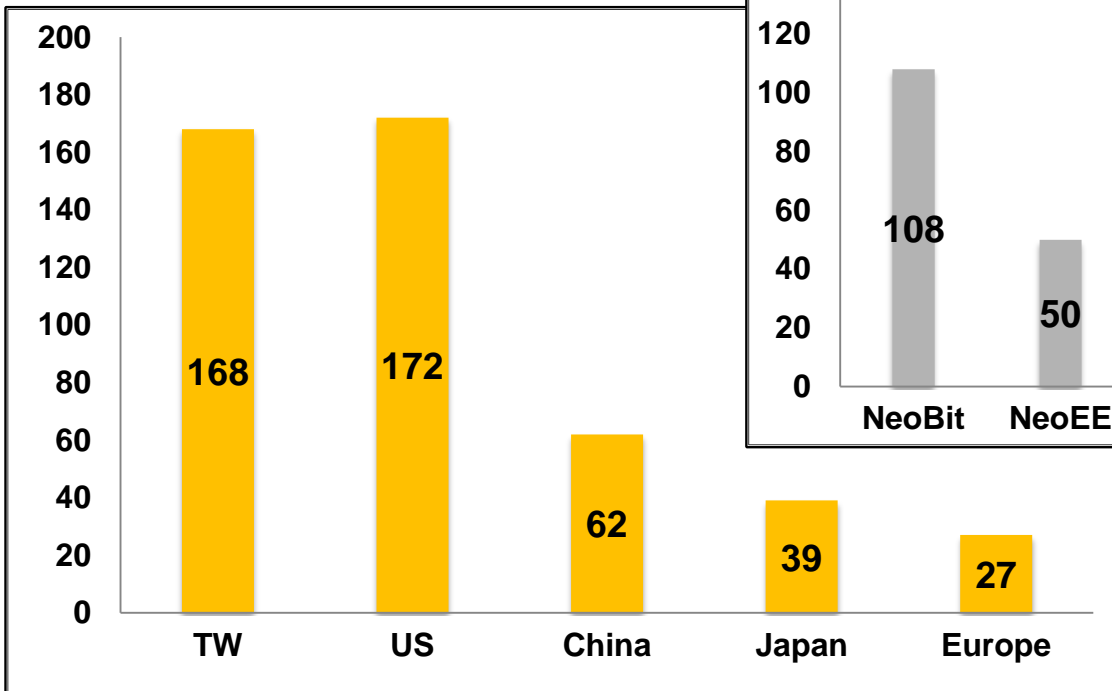
## IDM



	Taiwan	China	Korea	Japan	North America	Europe	Others
Foundry	5	6	3	2	1	1	1
IDM	0	0	0	8	2	1	0
Fabless	237	351	51	36	181	94	40

# Patent Portfolio

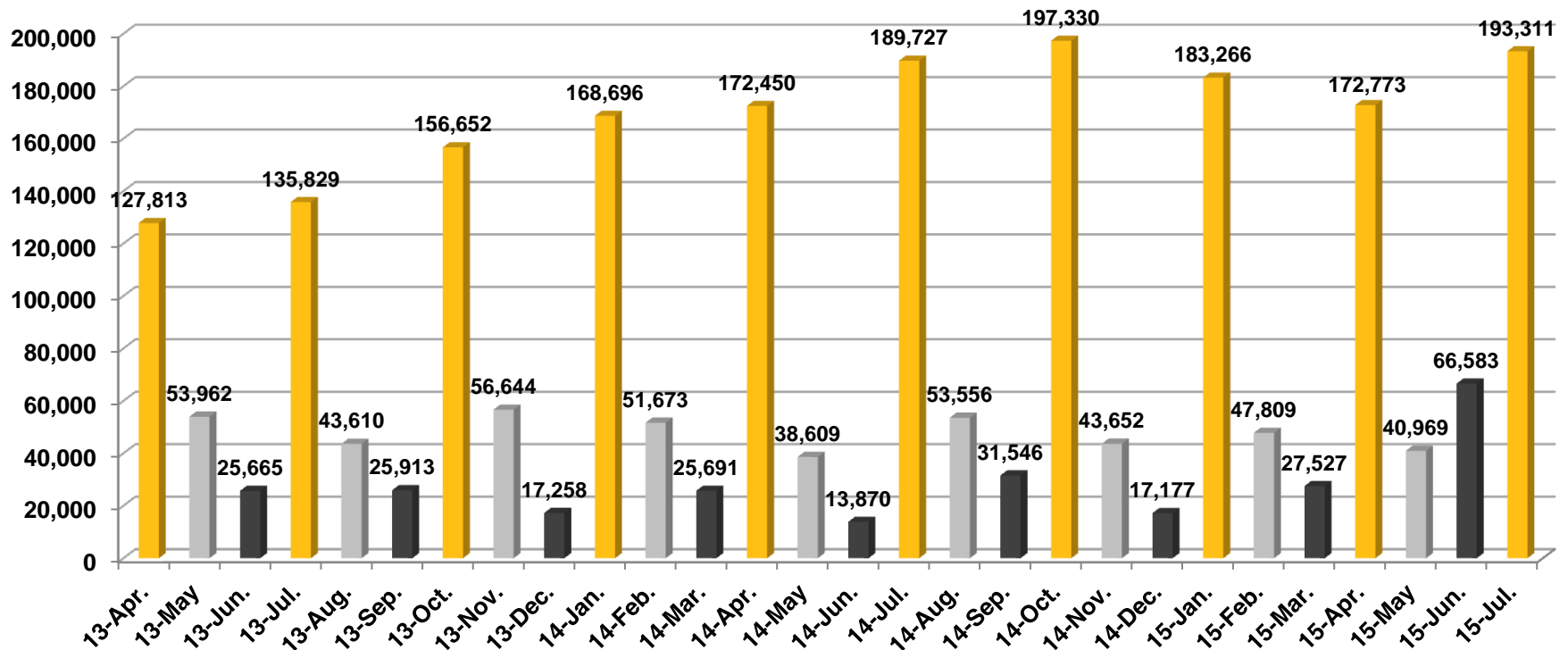
	1Q15	2Q15	Diff.
Pending	175	181	+6
Issued	278	287	+9
<b>Total</b>	<b>453</b>	<b>468</b>	<b>+15</b>



# 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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# 2Q Revenue Breakdown

Unit: NTD thousands

	2Q15	1Q15	% change	2Q14	% change	20151H	20141H	% change
Licensing	95,982	64,056	49.84%	57,198	67.81%	160,038	132,243	21.02%
Royalty	184,343	194,546	-5.24%	167,731	9.90%	378,889	338,746	11.85%
Total	280,325	258,602	8.40%	224,929	24.63%	538,927	470,989	14.42%

Unit: Number of contracts

	2Q15	1Q15	2014	2013
Technology Licenses	8	5	21	19
Design Licenses	NRE	21	82	51
	Usage	87	363	342

# Financial Income Statement

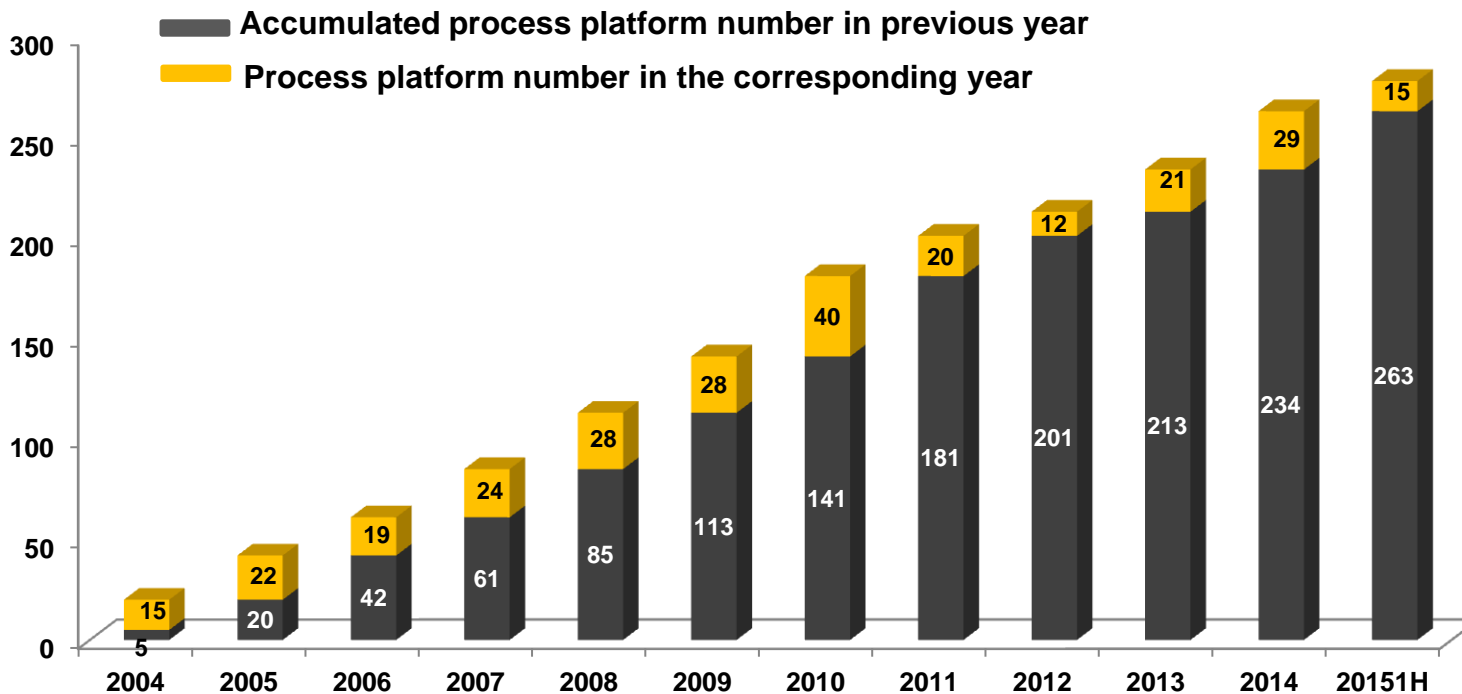
(Unit: NTD thousands)	2Q15	1Q15	% change	2Q14	% change
Revenue	280,325	258,602	8.40%	224,929	24.63%
Gross Margin	100%	100%	-	100%	-
Operating Expenses	141,435	128,976	9.66%	129,406	9.30%
Operating Margin	49.5%	50.1%	-0.6ppts	42.5%	+7.0ppts
Net Income	130,297	114,423	13.87%	82,385	58.16%
Net Margin	46.5%	44.2%	+2.3ppts	36.6%	+9.9ppts
EPS (Unit: NTD)	1.72	1.51	13.91%	1.09	57.80%
ROE	30.9%	24.8%	+6.1ppts	20.5%	+10.4ppts

# Technology License

Unit: Number of contract

Year	2013	2014	20151H
License number	19	21	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 Jun.) : **80\***
- **20** for NeoBit, **26** for NeoFuse, **20** for NeoEE, and **14** for NeoMTP.

	16nm	28nm	40nm	55/65nm	80/90nm	0.11~ 0.13um	0.15~ 0.18um	>0.25 um	Total
NeoBit	-	-	-	-	-	6	12	2	20
NeoFuse	1	7	4	8	1	3	2	-	26
NeoFlash	-	-	-	-	-	-	-	-	-
NeoEE	-	-	2	-	1	6	10	1	20
NeoMTP	-	-	1	1	2	3	7	-	14

Note\*: 6 platforms qualified in 2Q, 8 platforms kicked off in 2Q

# Current Technology Development Platforms

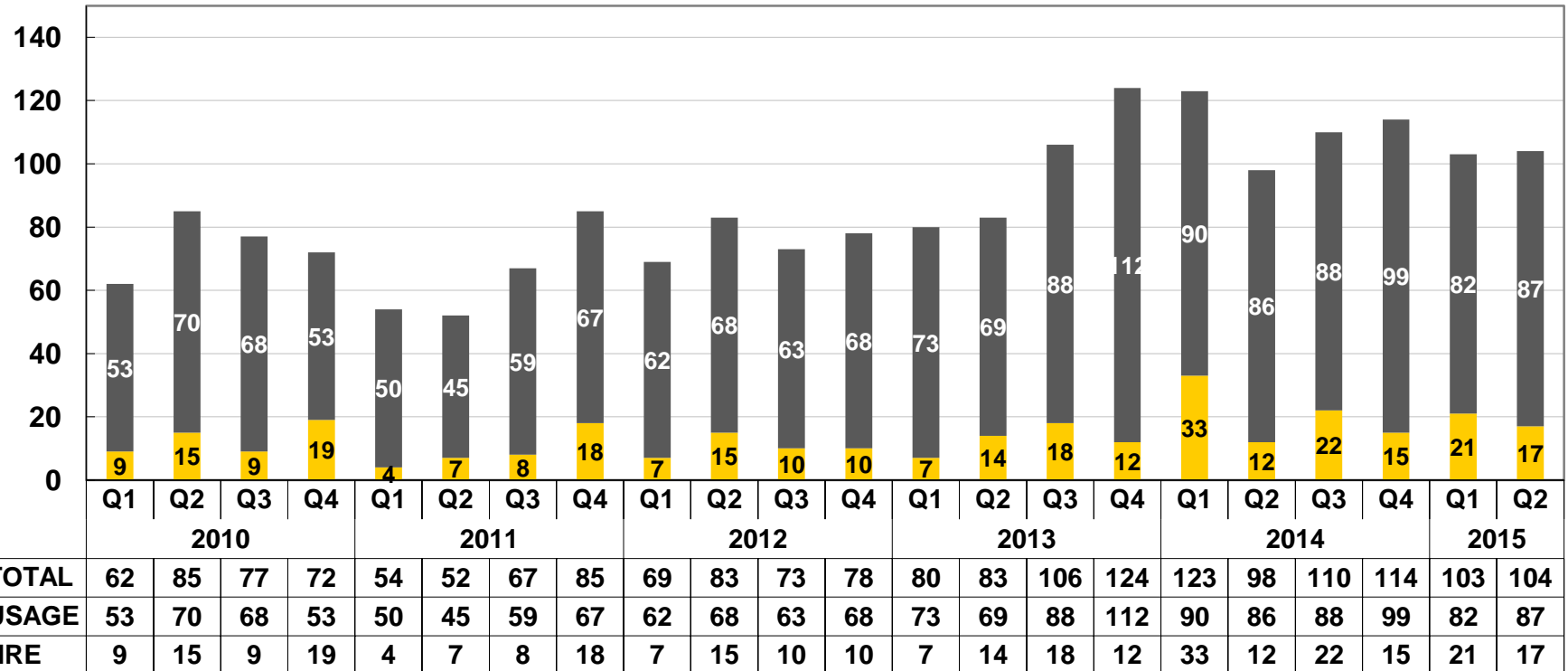
12" Fabs	Production	Development	NVM Type	Process Type
16nm	0	1	OTP	FF+
28nm	3	7	OTP	LP/HPM, HLP/HPM, LPS
40nm	2	7	OTP, MTP	HV-DDI, LP
55/65nm	10	9	OTP, MTP, Flash	LP, HV-DDI, HV-OLED, DRAM, CIS
80/90nm	5	4	OTP, MTP	HV-DDI, HV-OLED, LP
0.13/0.11um	6	3	OTP, Flash	HV-DDI, BCD, Generic
0.18um	1	0	OTP	BCD

8" Fabs	Development	NVM Type	Process Type
0.13/0.11um	15	OTP, MTP, Flash	HV-DDI, BCD, LP, RF, CIS, LL
0.18/0.16/0.152um	31	OTP, MTP	Generic, LP, LL, MR, HV, Green, BCD
0.25um	2	OTP, MTP	BCD
0.35um	1	OTP	UHV

\*As of Jun. 30, 2015

# Quarterly Design Licensing (New Tape Out)

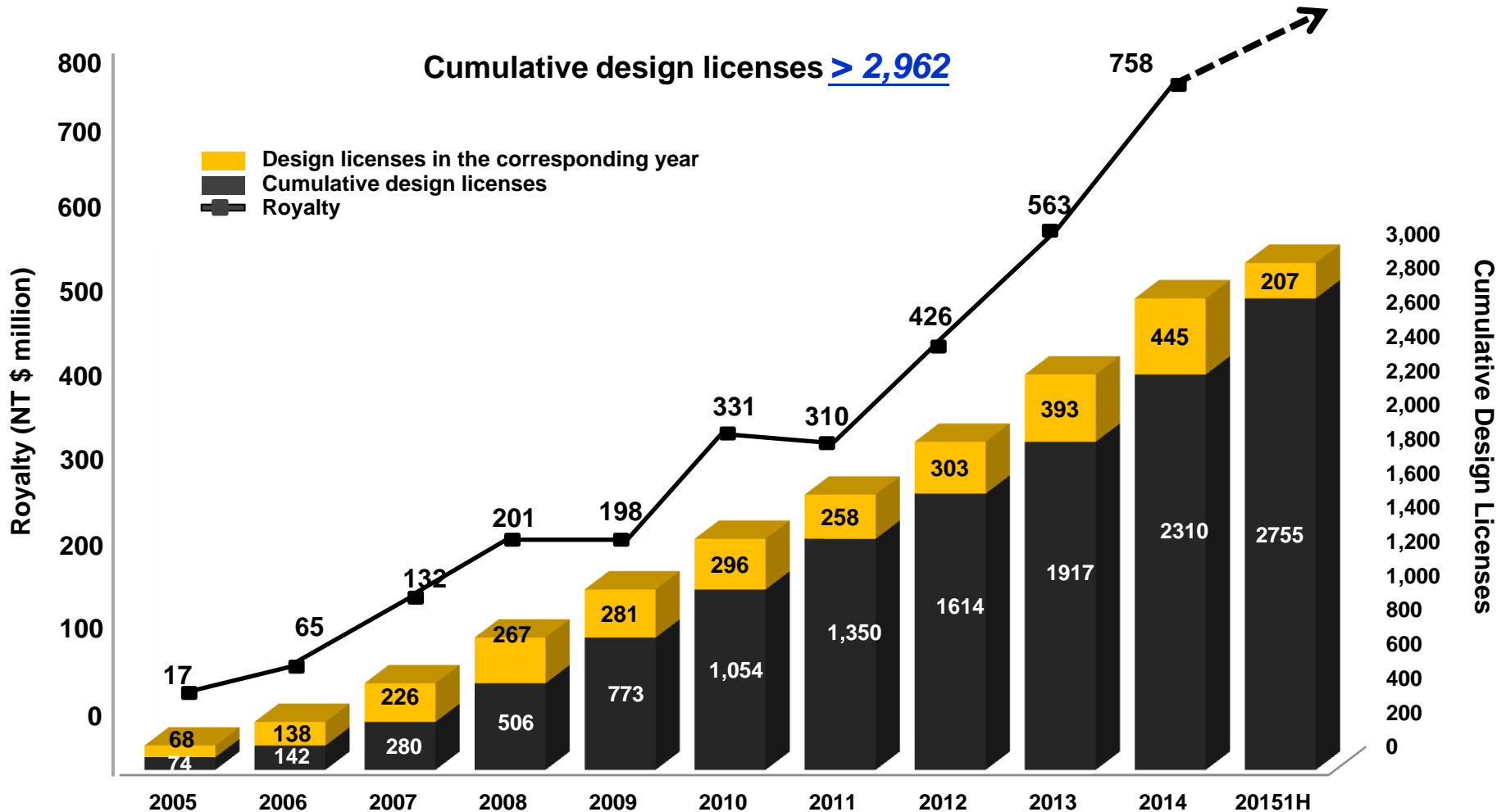
- Total 207 NTO as of 1H 2015 ( 445@2014 393@2013, 303@2012, 258@2011)



Usage : Usage of pre-qualified and verified IP (charged by per product tape out or annual package), the cycle time from design implementation to royalty payments for mass production is faster, typically less than one year.

NRE: NRE covers the customization of IP that must undergo new verification or qualification. It typically requires 1 to 1.5 years before resulting in royalty revenue.

# Cumulative Licenses Drive Future Royalties



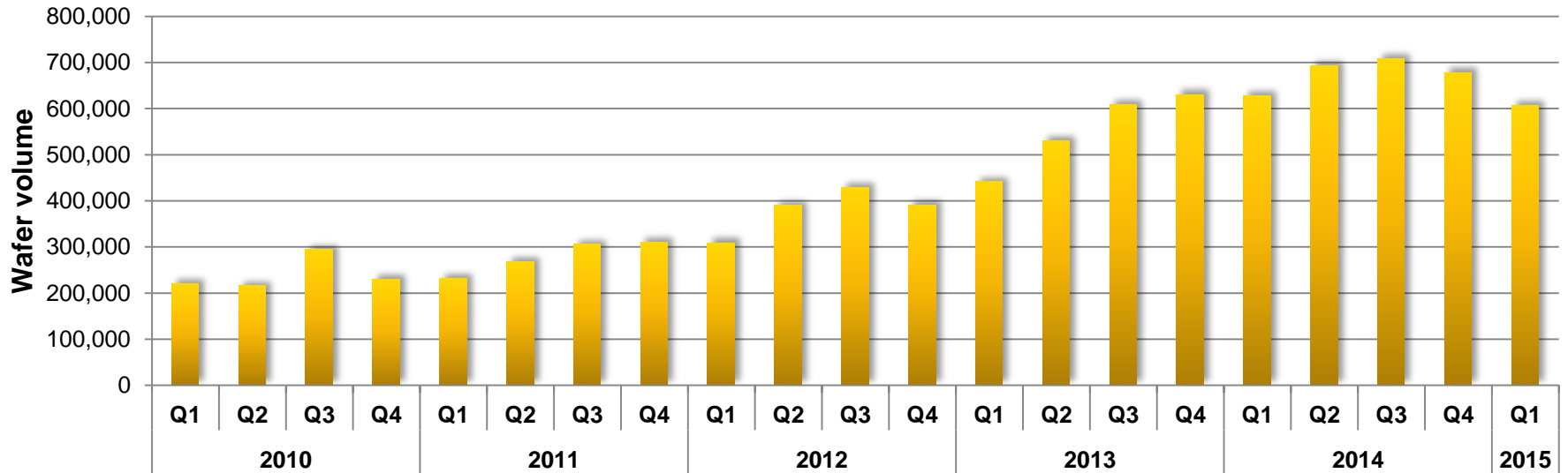
note 1: Due to the 2009 recession, royalty income was down annually 1.5%.

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 2Q15

	Process node	*% of T	2Q15	1Q15	2014	2013
8"	0.25/0.35	4%	34.4%	32.1%	30.5%	27.3%
	0.15/0.18	13%	8.9%	8%	11.9%	10.7%
	0.11/0.13	3%	17.0%	20.5%	20.8%	19.1%
12"	90nm	7%	19.2%	18.2%	16.3%	4.8%
	65nm	11%	0.4%	0.3%	0%	0%
	40/45nm	14%	0%	0%	0%	0%
	28nm	27%	0.01%	0%	0%	0%
	20nm	20%	0%	0%	0%	0%
8"		21%	14.5%	14.1%	15.6%	14.2%
12"		79%	1.8%	1.5%	1.4%	0.69%
<b>Total</b>		100%	4.5%	4.1%	4.5%	4.1%

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# Applications by Technology

12"			8"					
16/20nm	28nm	40nm	55/65nm	80/90nm	110/130nm	160/180nm	250nm	350nm

**NeoBit**



**NeoFuse**



**NeoFlash**



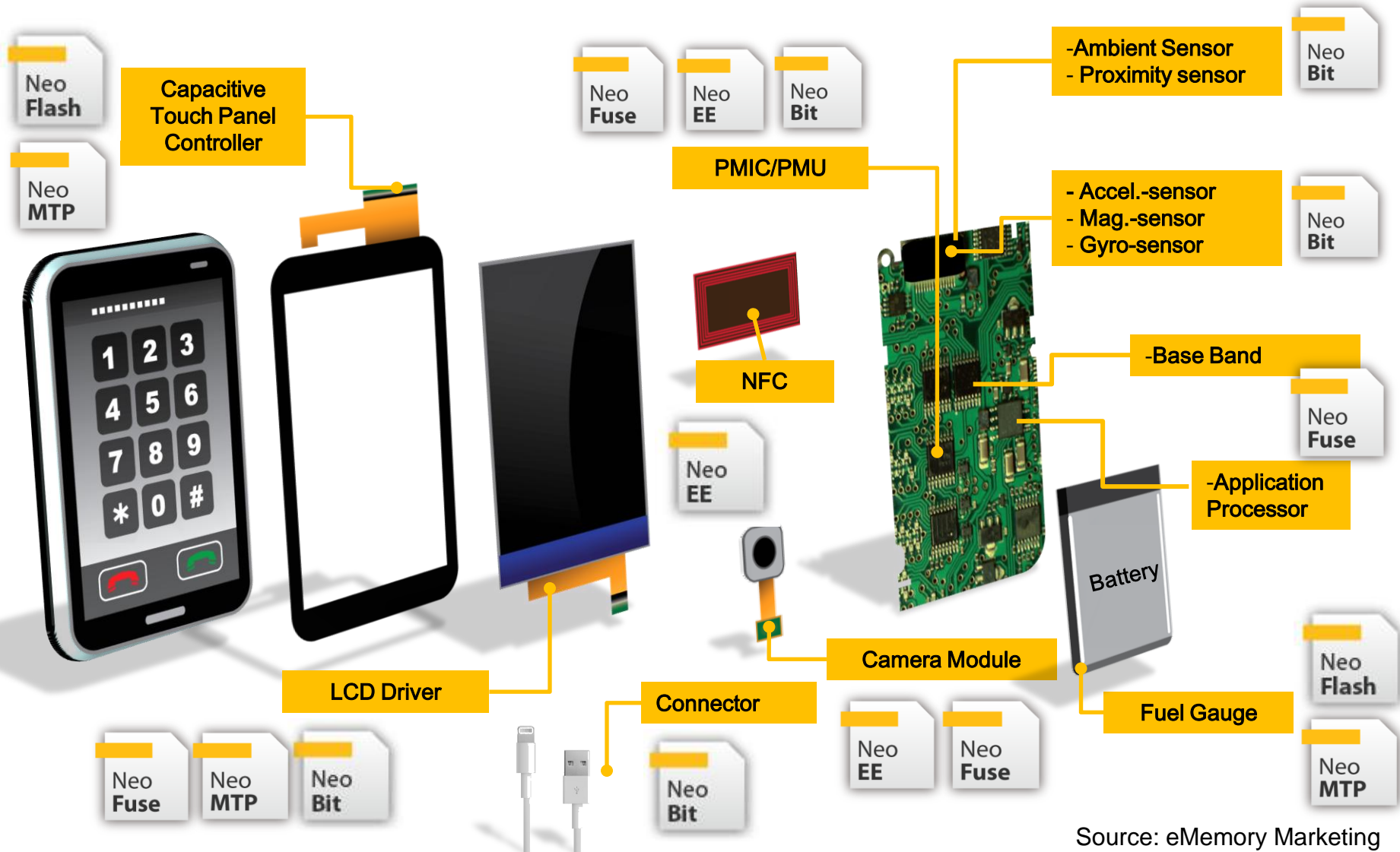
**NeoEE**



**NeoMTP**



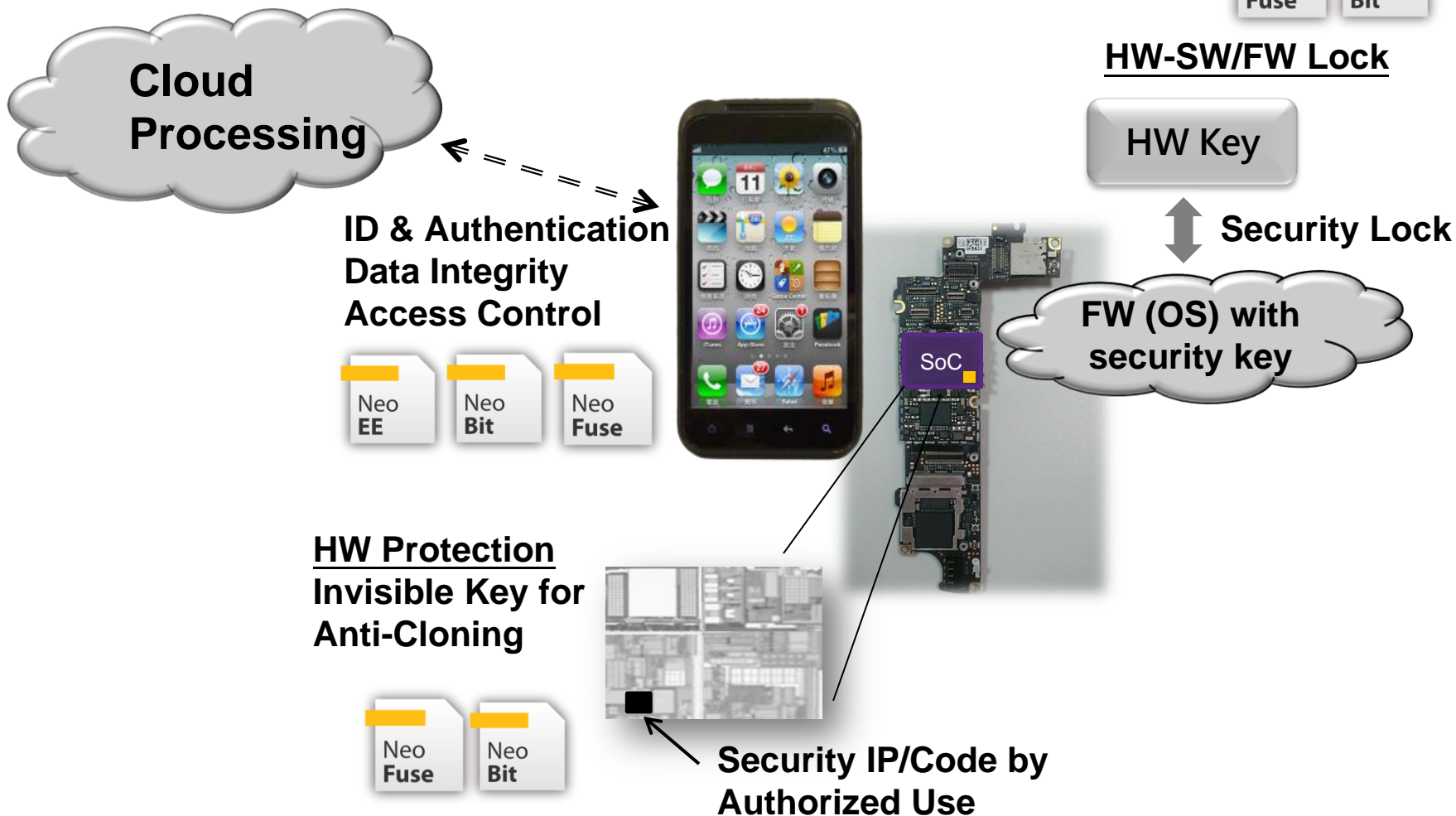
# eMemory IP in Smartphone



Source: eMemory Marketing

# Security with eMemory IPs

## Security for System Service



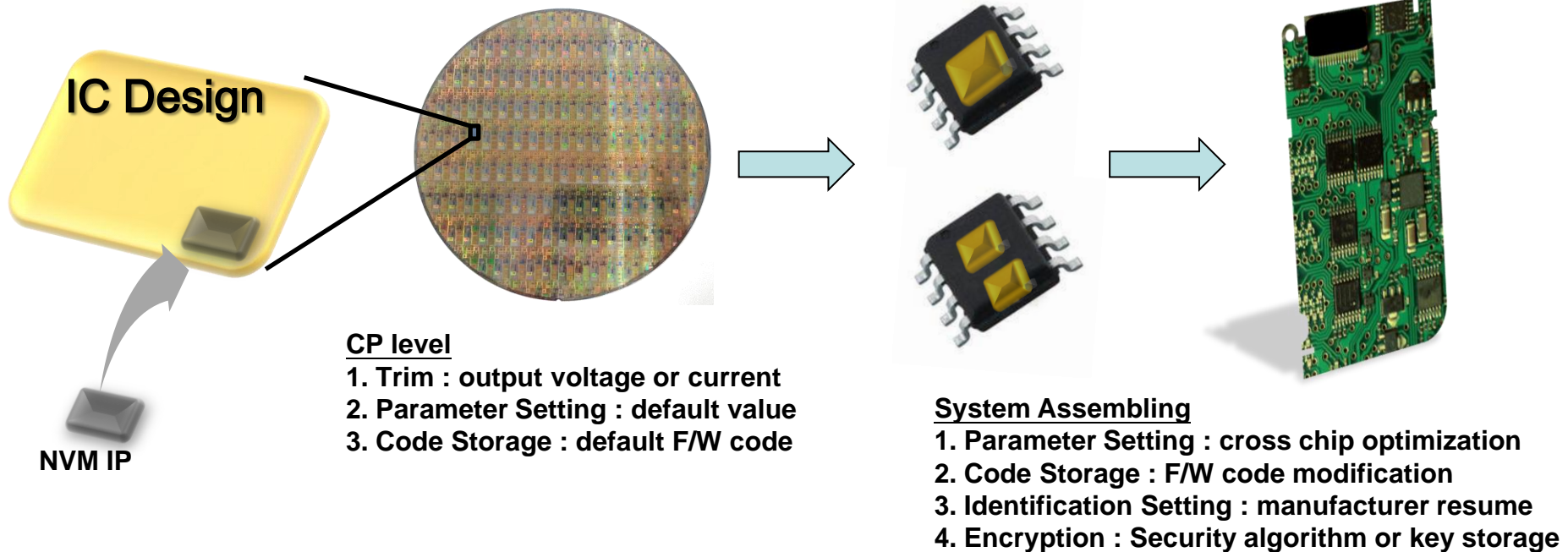
# Benefits from Using eMemory IPs

## Design-in for

1. Trimming
2. Parameter Setting
3. Code Storage
4. Identification Setting
5. Encryption
6. Function Selection

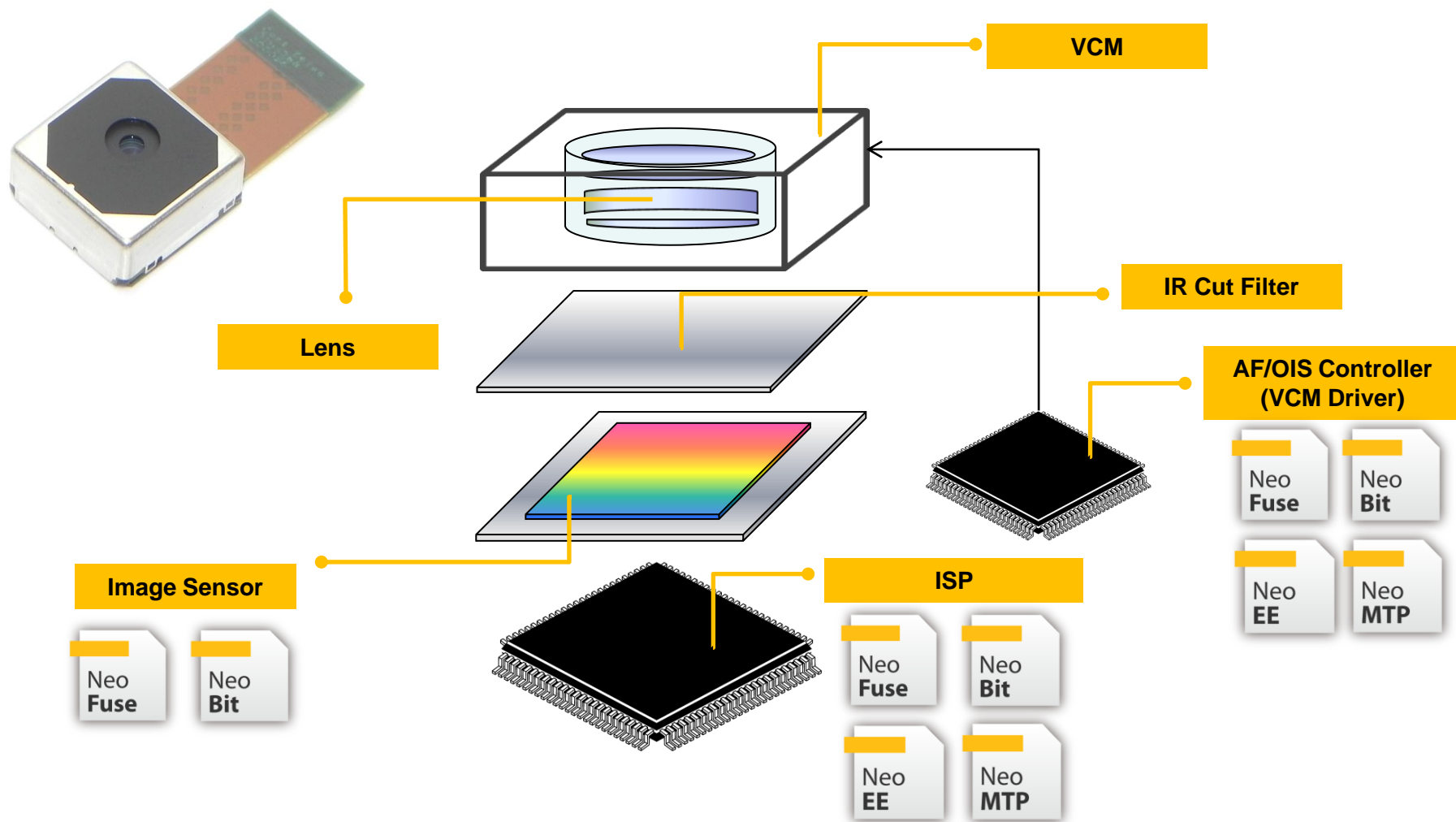
## Package/FT level

1. Trim : SPEC shift
2. Parameter Setting : cross chip optimization
3. Identification Setting : manufacturer resume
4. Function Selection : setting for target market

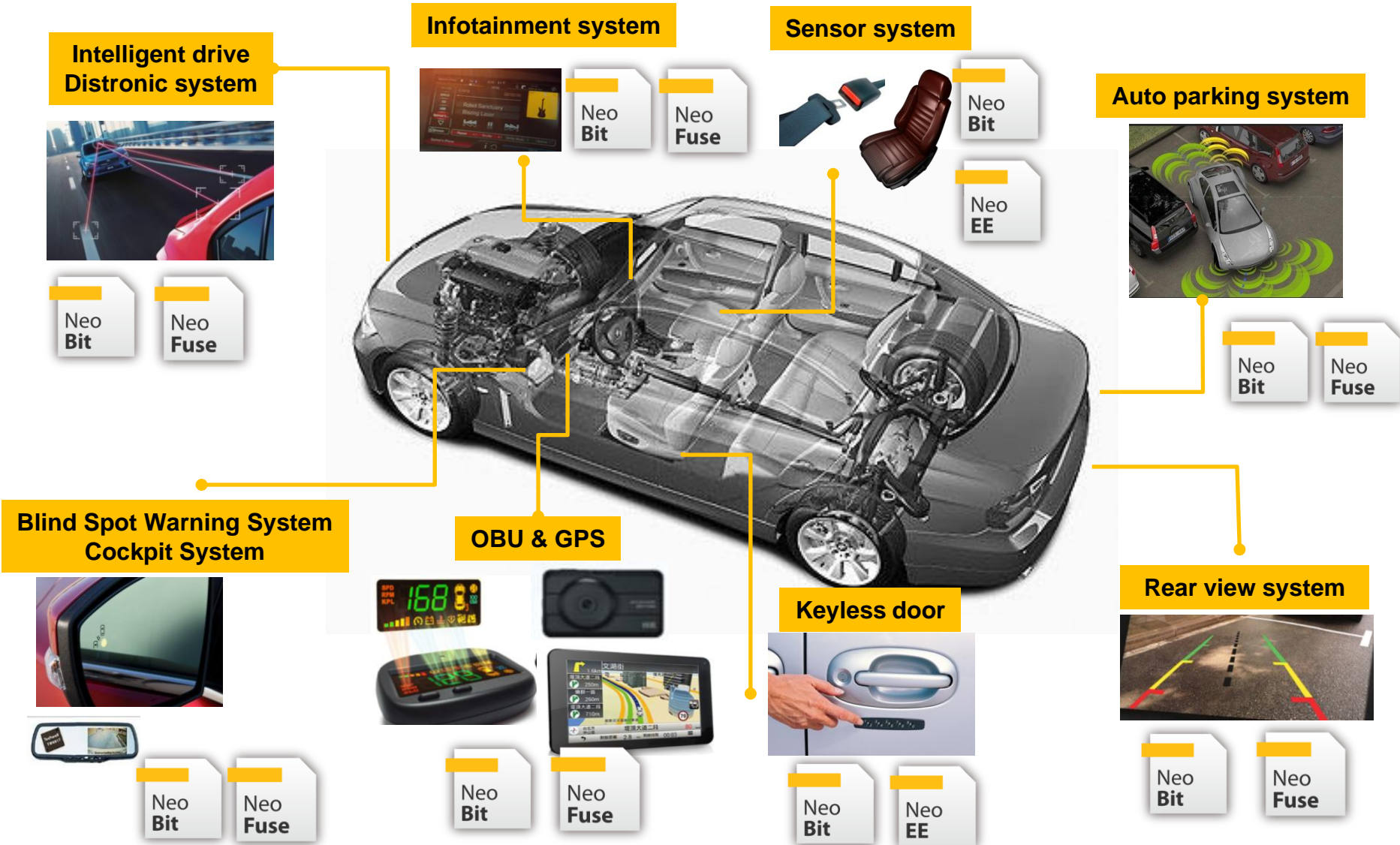




# Imager Module with eMemory IPs



# Autotronics with eMemory IPs





# Outlook for 3Q and Beyond

- Applications in major smart phone customer continue their momentum and expand to wearable devices.
- PMICs in Chinese smart phone continue to increase production and expand to new power management applications , such as fast charger and wireless charger.
- TDDI and 55nm LCD Drivers start to ramp up.
- Applications in STB, Fingerprints, and CIS will ramp up in 2H of 2015.
- Due to security requirement and yield issue, replacement of e-fuse by NeoFuse is accelerating in the advanced process nodes.
- Co-work with leading foundry and European auto-electronic customers to provide automotive grade IP.

# Key Growth Driver

## 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 way that creates a sense of depth and perspective, with some cubes appearing to be stacked or overlapping. The cubes are rendered in a simple, wireframe style with light gray outlines.

# eMemory

**Embedded Wisely, Embedded Widely**