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2015 Q2 Investor Conference

Aug. 13th, 2015

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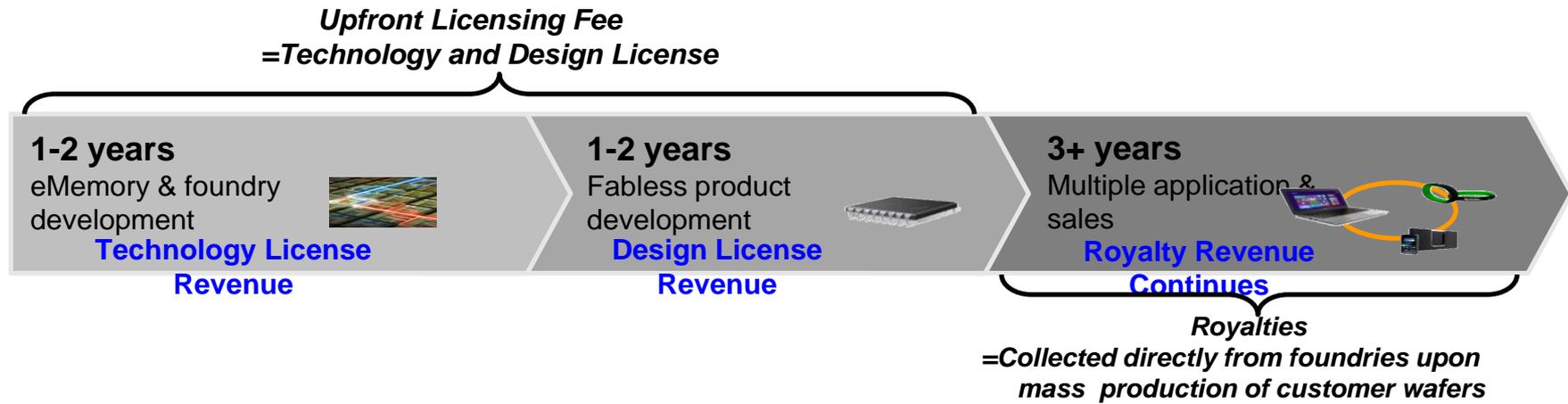**Embedded Wisely, Embedded Widely**

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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

Upfront Licensing Fee
=Technology and Design License

1-2 years	1-2 years	3+ years
eMemory & foundry development	Fabless product development	Multiple application & sales
Technology License Revenue	**Design License Revenue**	**Royalty Revenue Continues**

Royalties
=Collected directly from foundries upon mass production of customer wafers

Note*: As of July 31th, 2015

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Worldwide Customers

	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

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Patent Portfolio

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

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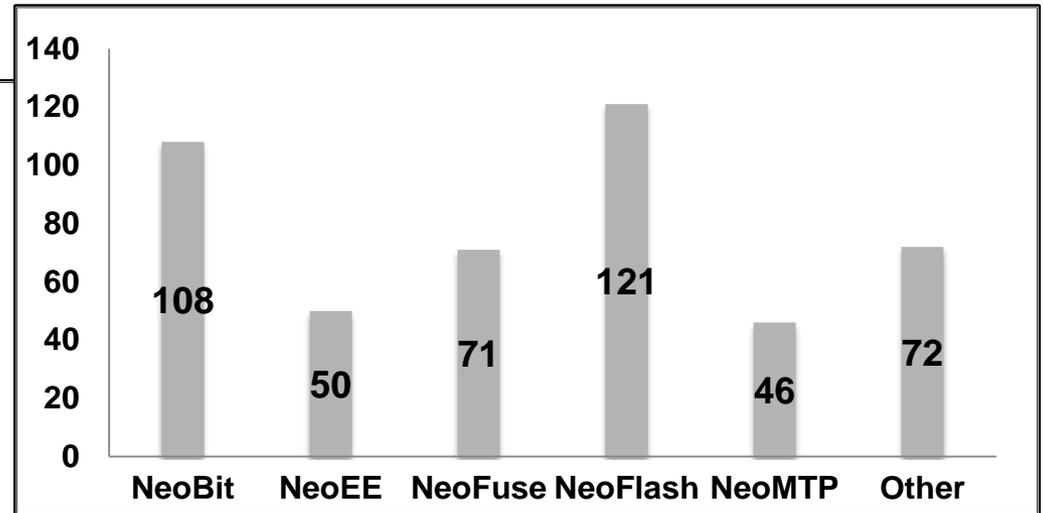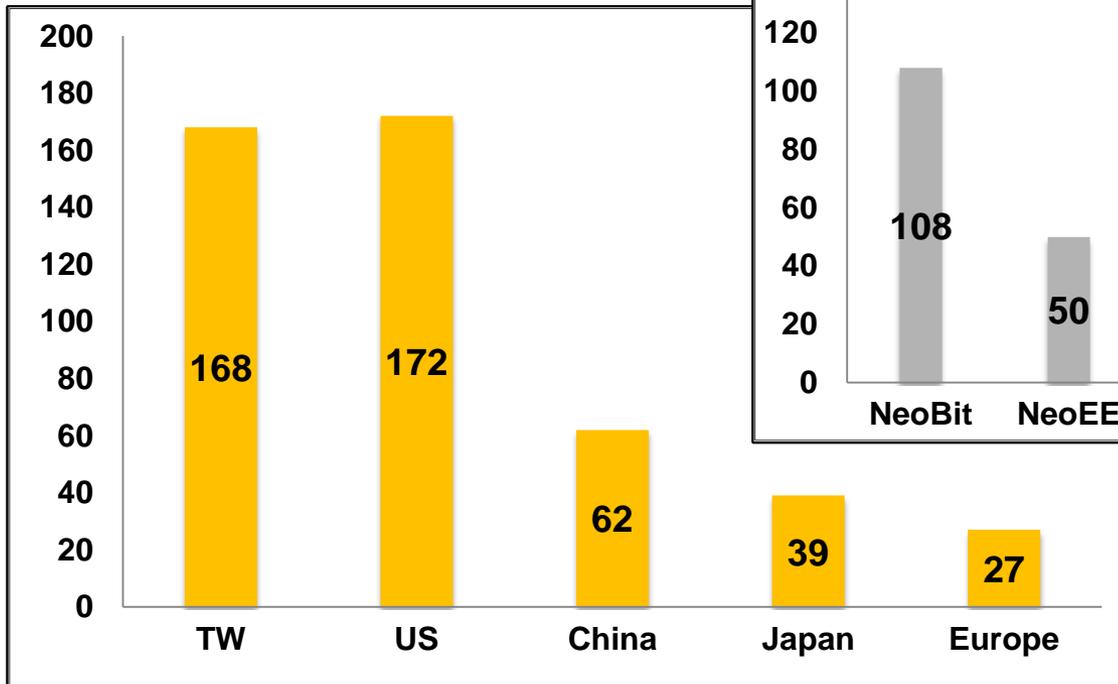
Quarterly Revenue Pattern*

- **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
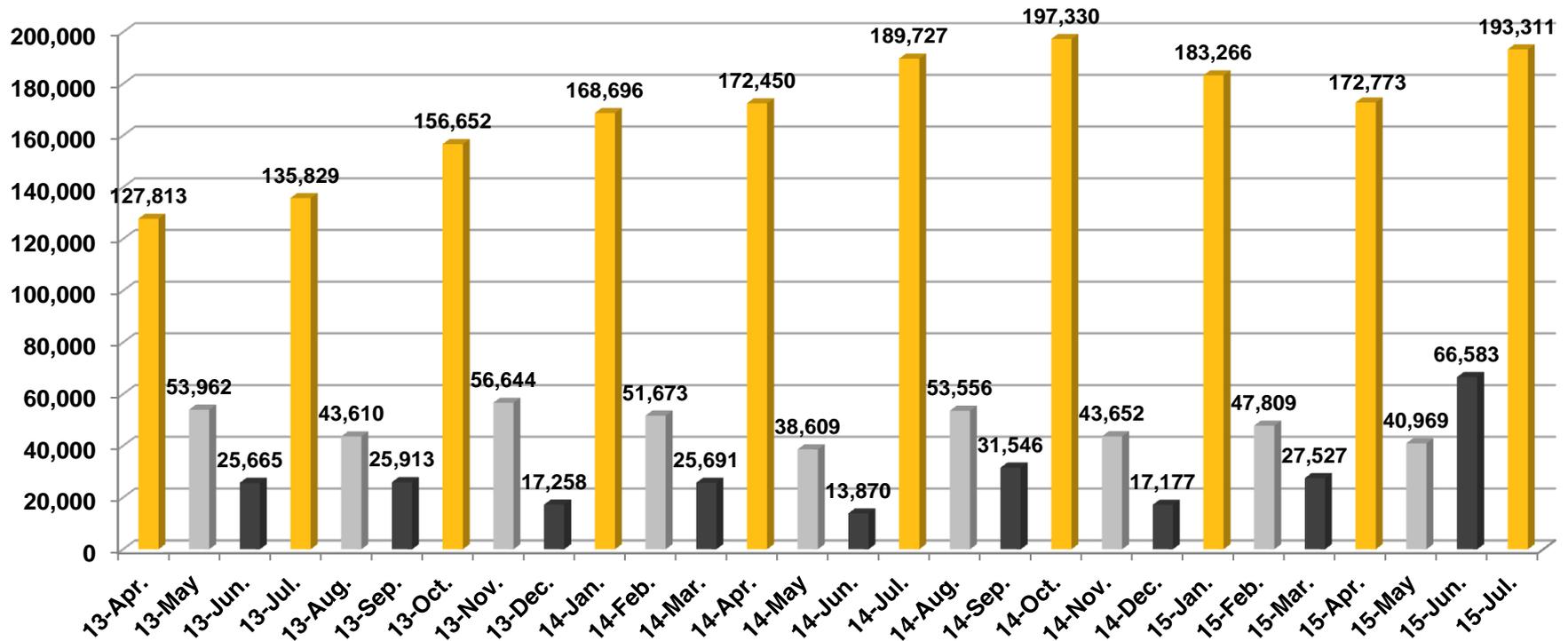
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2Q Revenue Breakdown

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**	17	21	82	51
	Usage	87	82	363	342

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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.

Legend:
- Accumulated process platform number in previous year
- Process platform number in the corresponding year

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	20151H
Accumulated	5	20	42	61	85	113	141	181	201	213	234	263
Corresponding year	15	22	19	24	28	28	40	20	12	21	29	15

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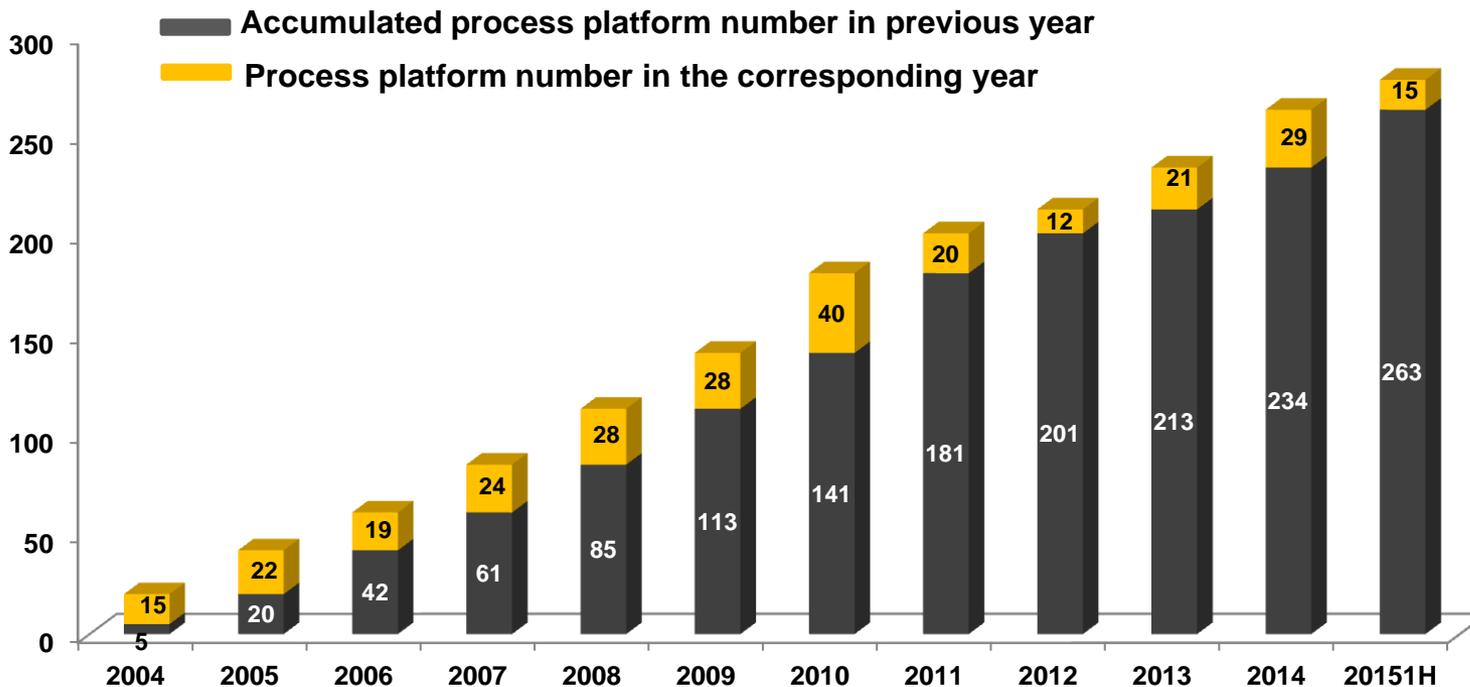
Current Technology Development Platforms

- **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	>0.25um	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

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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

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Quarterly Design Licensing (New Tape Out)

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

	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
		2010				2011				2012				2013				2014				2015
TOTAL	62	85	77	72	54	52	67	85	69	83	73	78	80	83	106	124	123	98	110	114	103	104
■USAGE	53	70	68	53	50	45	59	67	62	68	63	68	73	69	88	112	90	86	88	99	82	87
■NRE	9	15	9	19	4	7	8	18	7	15	10	10	7	14	18	12	33	12	22	15	21	17
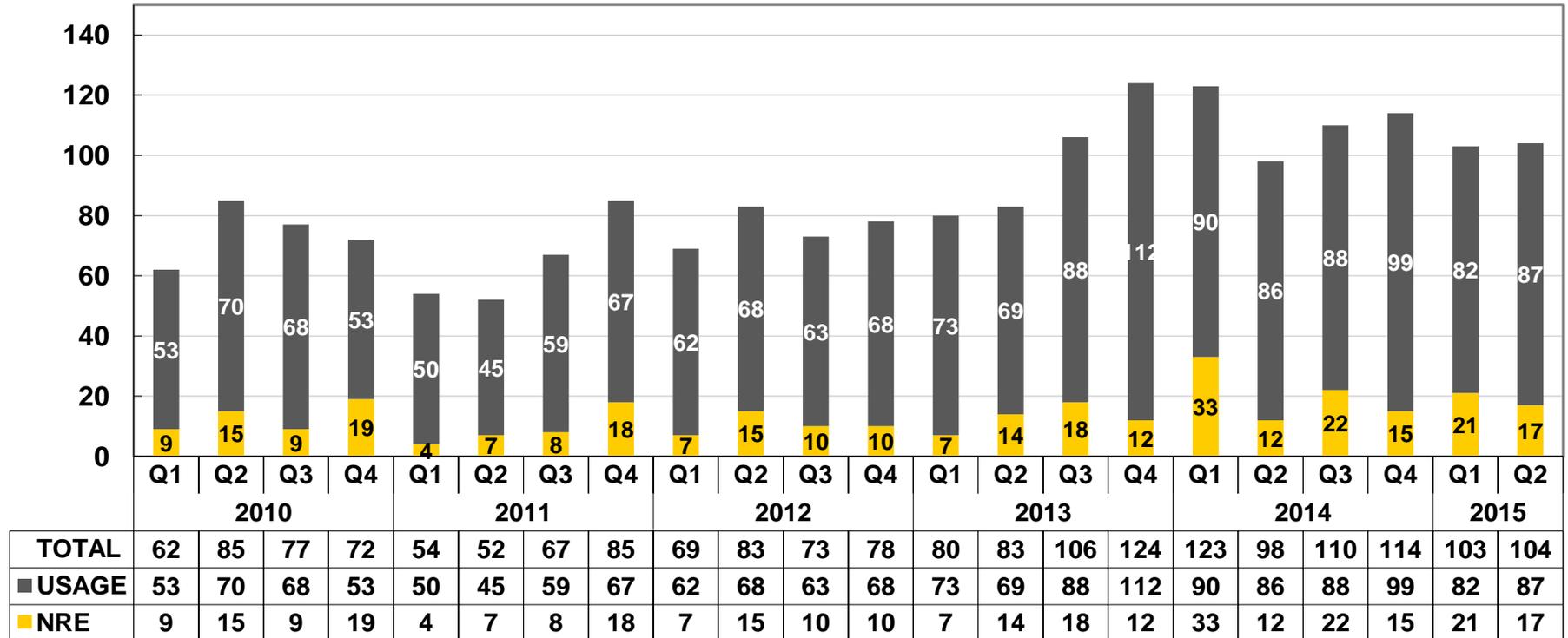
Usage : Usage of pre-qualified and verified IP (charged by per product tape out or annual package), the cycle time from
    design implementation to royalty payments for mass production is faster, typically less than one year.
NRE: NRE covers the customization of IP that must undergo new verification or qualification. It typically requires 1 to 1.5
    years before resulting in royalty revenue.

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Cumulative Licenses Drive Future Royalties

Cumulative design licenses > 2,962

Legend:
- Design licenses in the corresponding year
- Cumulative design licenses
- Royalty

Royalty (NT $ million) / Cumulative Design Licenses

| Year	Design licenses	Cumulative design licenses	Royalty
2005	68	74	17
2006	138	142	65
2007	226	280	132
2008	267	506	201
2009	281	773	198
2010	296	1,054	331
2011	258	1,350	310
2012	303	1614	426
2013	393	1917	563
2014	445	2310	758
20151H	207	2755	

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%.

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Wafer Production Volume
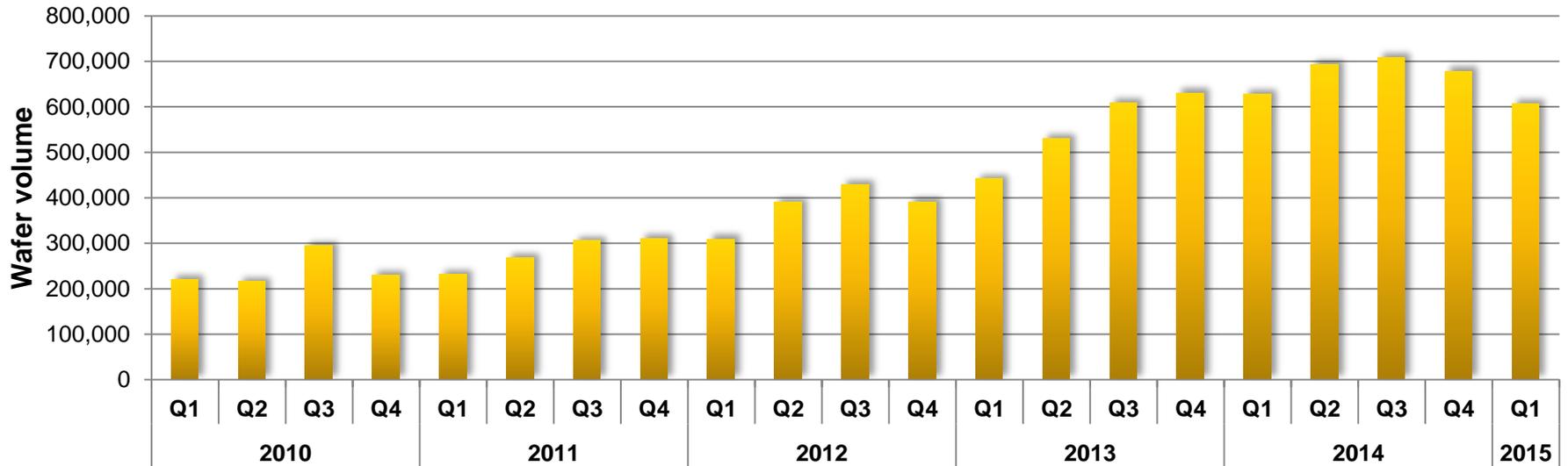
embedded eMemory IP in T Company ($revenue); * % of Process node in T company total revenue in 2Q15

	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%
Total		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

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eMemory IP in Smartphone

Neo Flash

Capacitive Touch Panel Controller

Neo MTP

Neo Fuse **Neo EE** **Neo Bit**

-Ambient Sensor
- Proximity sensor

Neo Bit

PMIC/PMU

- Accel.-sensor
- Mag.-sensor
- Gyro-sensor

Neo Bit

NFC

-Base Band

Neo Fuse

Neo EE

-Application Processor

Battery

LCD Driver

Camera Module

Connector

Fuel Gauge

Neo Fuse **Neo MTP** **Neo Bit**

Neo Bit

Neo EE **Neo Fuse**

Neo Flash

Neo MTP
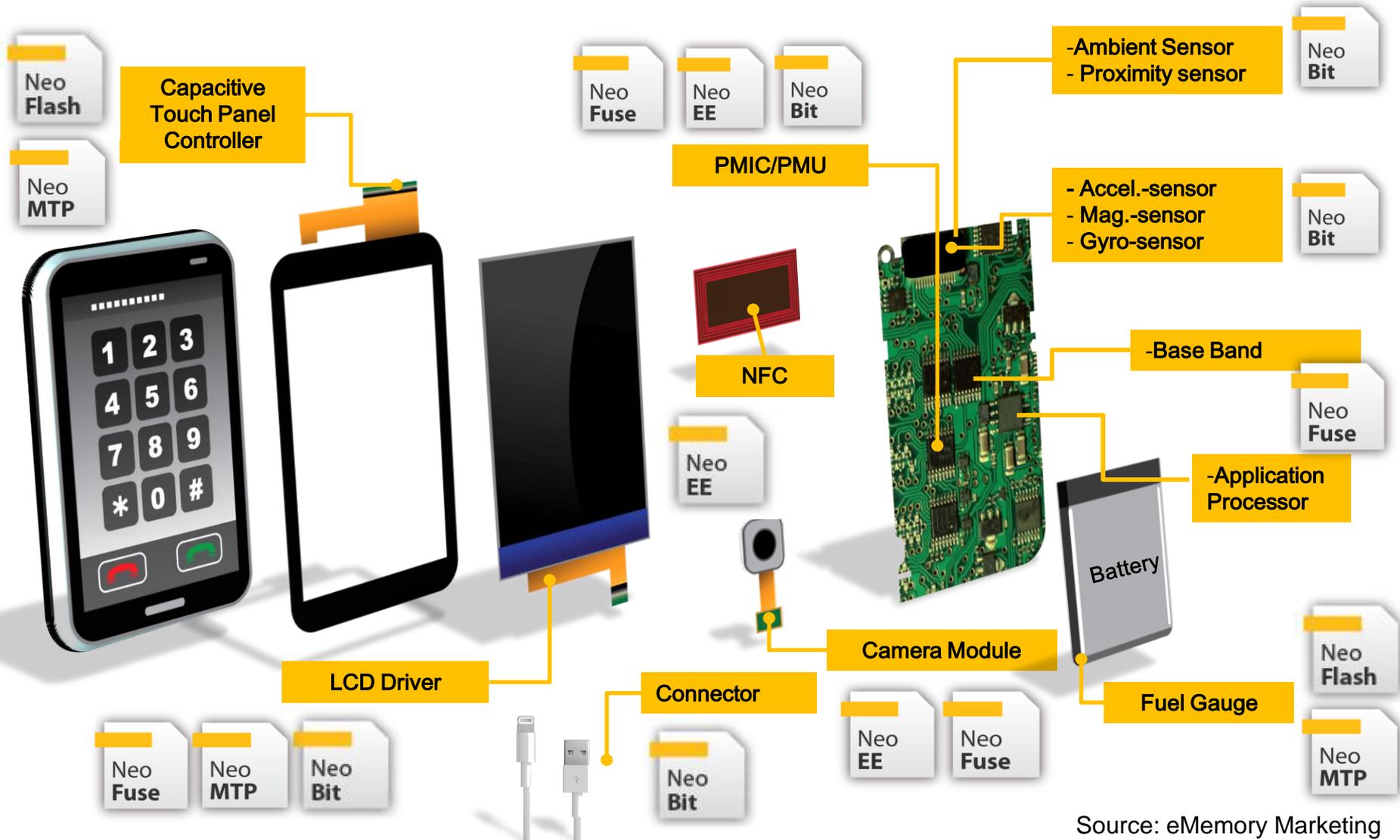
Source: eMemory Marketing

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Security with eMemory IPs

Security for System Service

Cloud Processing

Neo **Fuse**   Neo **Bit**

HW-SW/FW Lock

HW Key

ID & Authentication
Data Integrity
Access Control

Neo **EE**   Neo **Bit**   Neo **Fuse**

SoC

Security Lock

FW (OS) with security key

HW Protection
Invisible Key for Anti-Cloning

Neo **Fuse**   Neo **Bit**

Security IP/Code by Authorized Use

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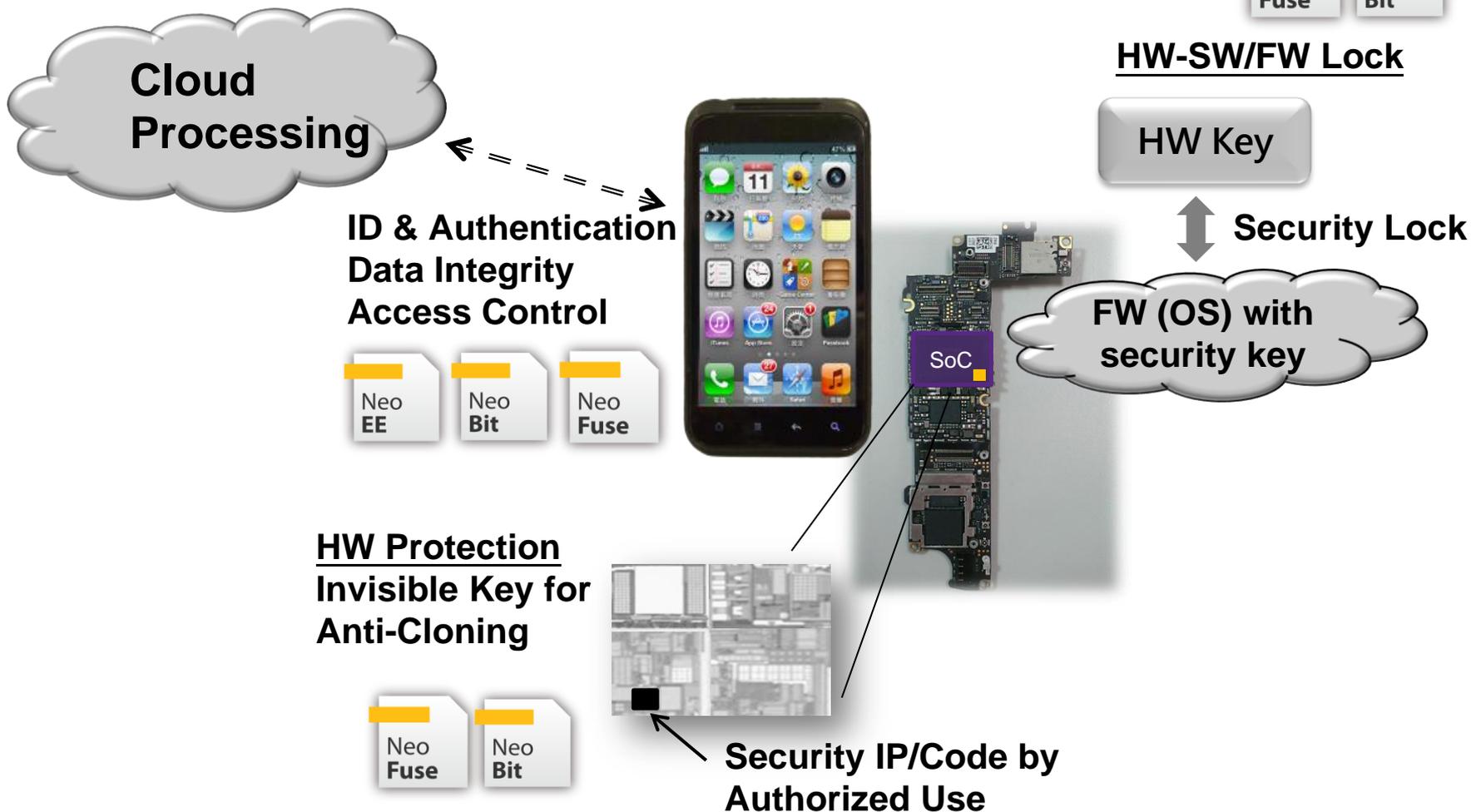
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Benefits from Using eMemory IPs

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
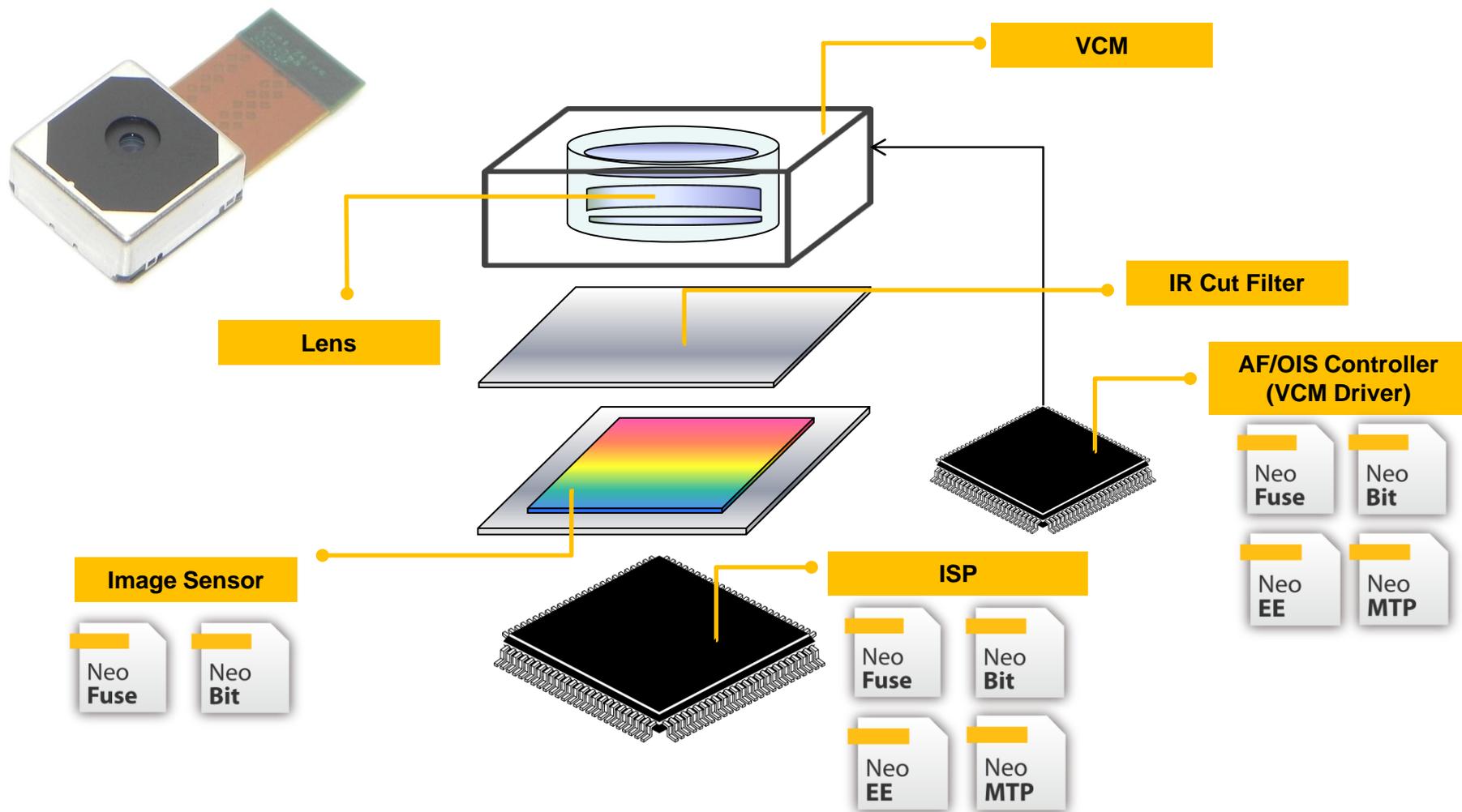4. Function Selection : setting for target market

CP Test

Package/FT

System Assembling

IC Design

NVM IP
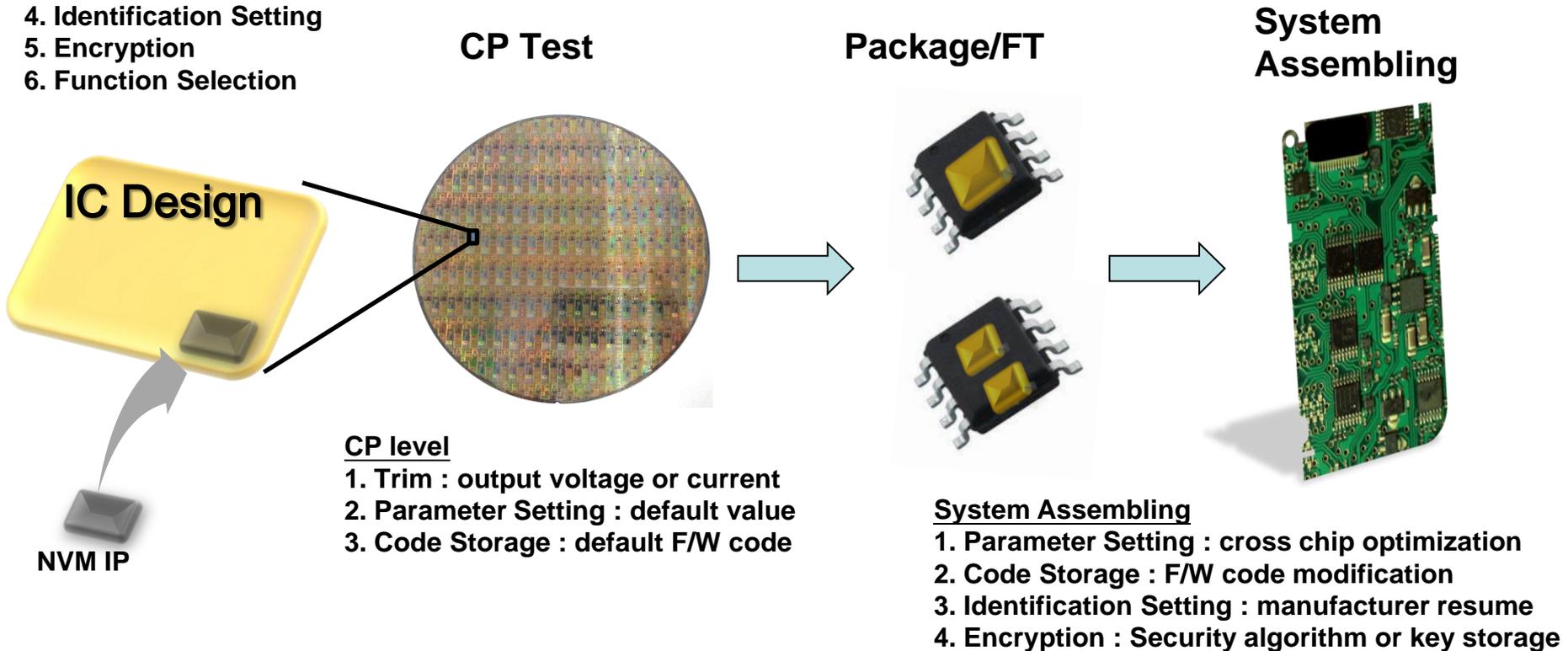
CP level
1. Trim : output voltage or current
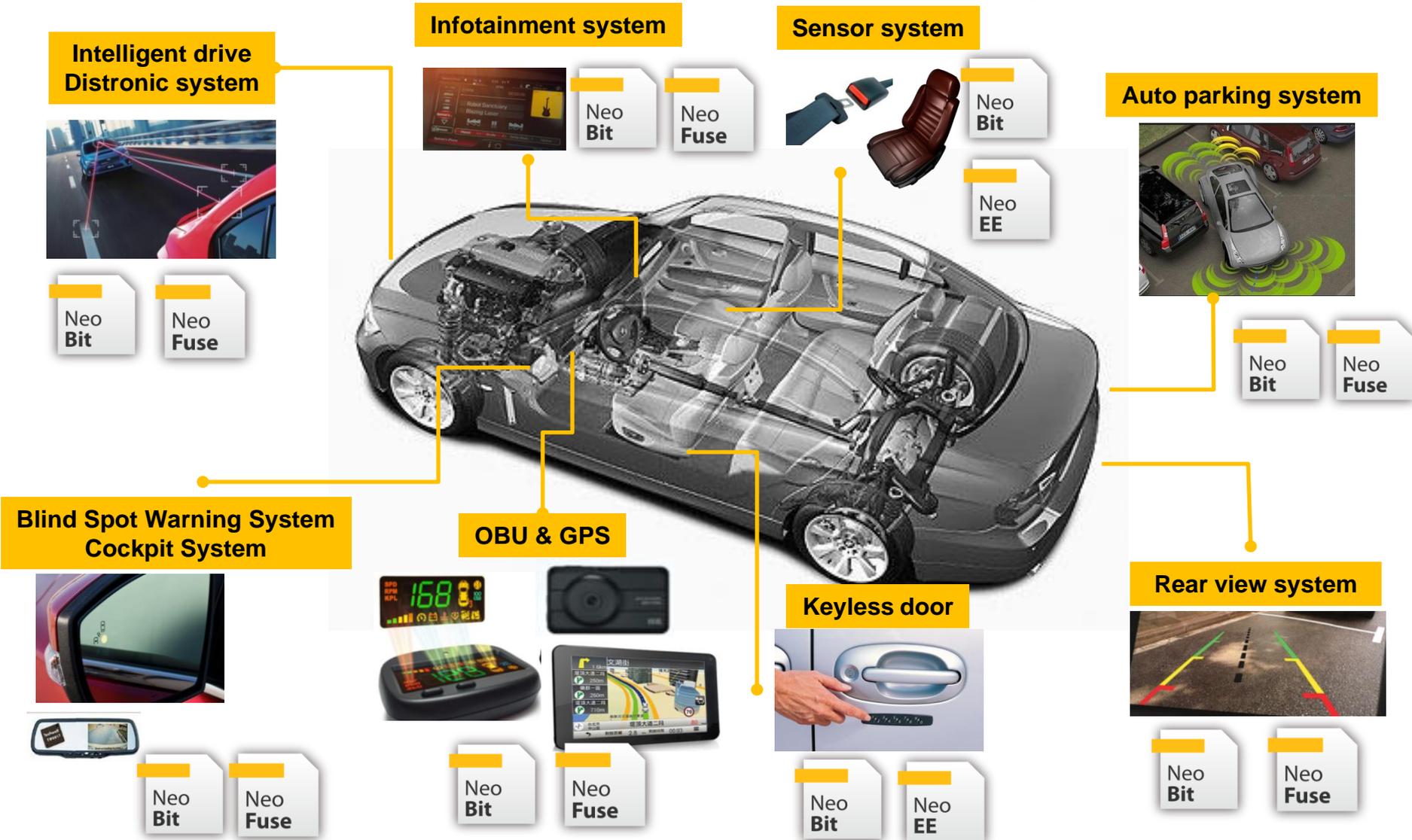2. Parameter Setting : default value
3. Code Storage : default F/W code

System Assembling
1. Parameter Setting : cross chip optimization
2. Code Storage : F/W code modification
3. Identification Setting : manufacturer resume
4. Encryption : Security algorithm or key storage

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Imager Module with eMemory IPs

VCM

IR Cut Filter

AF/OIS Controller (VCM Driver)

Lens

Image Sensor

ISP

Neo **Fuse** Neo **Bit**

Neo **Fuse** Neo **Bit**

Neo **EE** Neo **MTP**

Neo **Fuse** Neo **Bit**

Neo **EE** Neo **MTP**

Autotronics with eMemory IPs

Intelligent drive Distronic system

Neo **Bit** Neo **Fuse**

Infotainment system

Neo **Bit** Neo **Fuse**

Sensor system

Neo **Bit** Neo **EE**

Auto parking system

Neo **Bit** Neo **Fuse**

Blind Spot Warning System Cockpit System

Neo **Bit** Neo **Fuse**

OBU & GPS

Neo **Bit** Neo **Fuse**

Keyless door

Neo **Bit** Neo **EE**

Rear view system

Neo **Bit** Neo **Fuse**

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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.
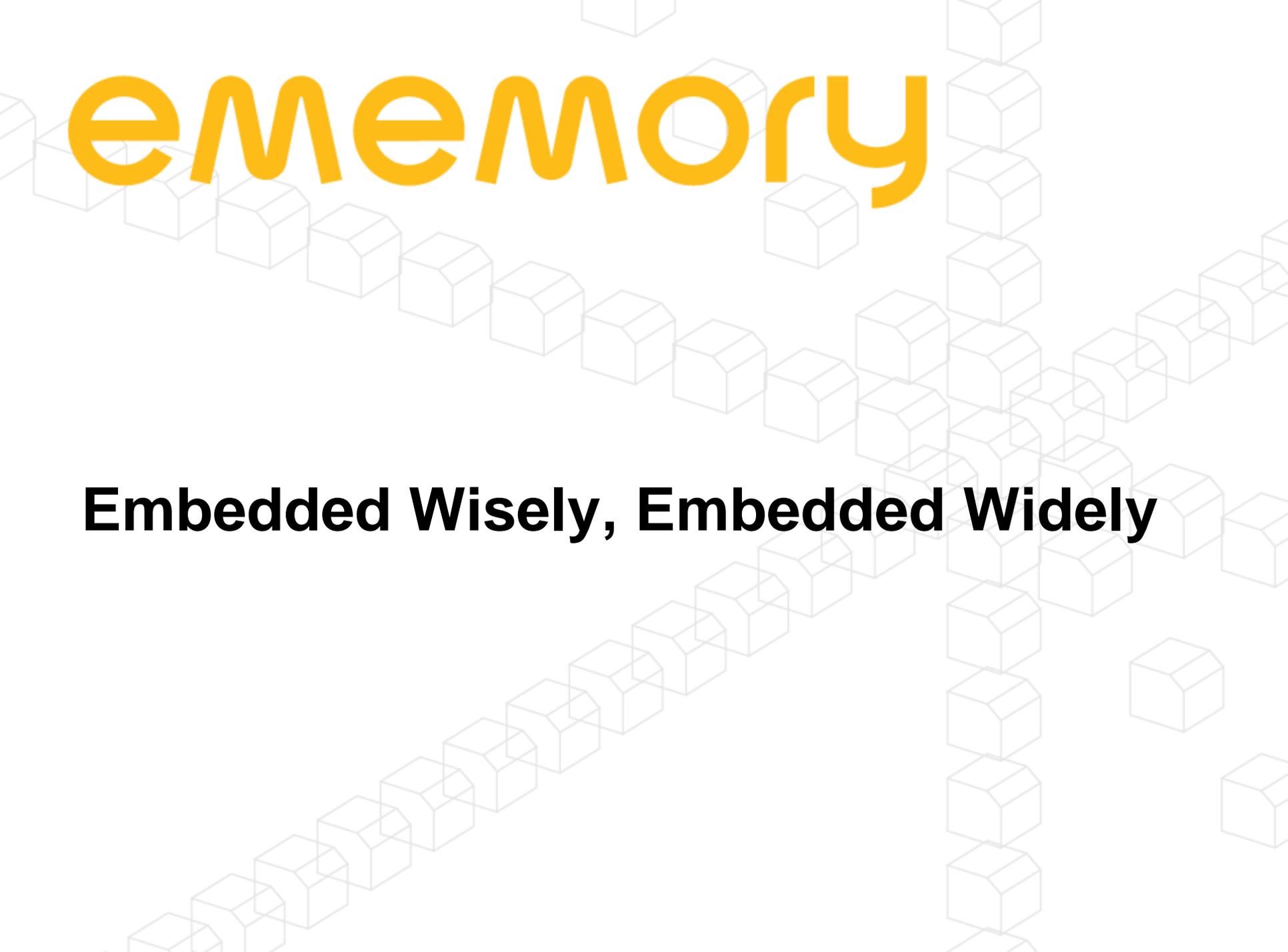
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Q & A

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