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### **Q3 2016 Investor Conference**

Nov. 8<sup>th</sup>, 2016

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## Outline

### Business Model

- Review of Operations for Q3 2016
- Future Outlook
- Q & A

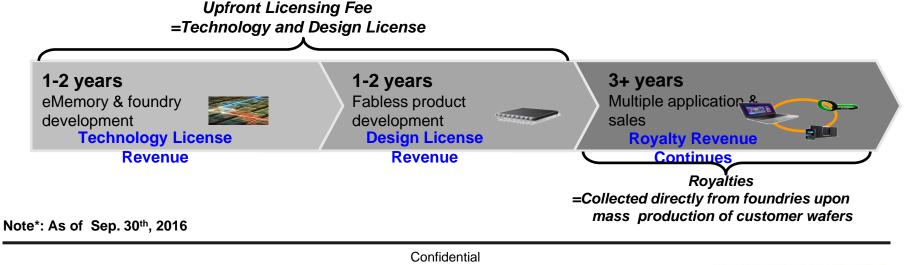


### **Business Model**

- Founded in 2000. First customer engaged in 2002. Achieved profitability in 2005 and IPO in 2011. The largest logic non-volatile memory IP company, 230 employees (160 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

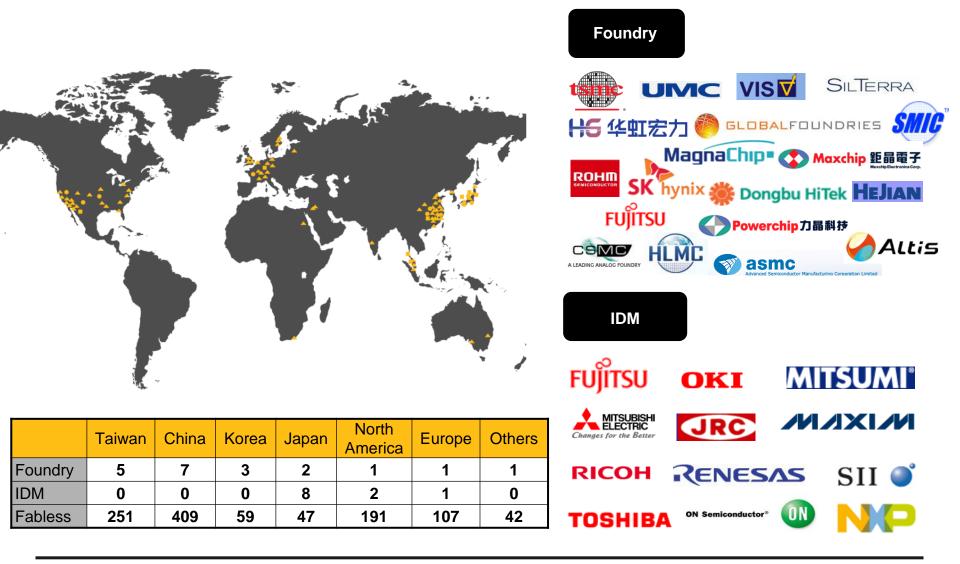
3) Royalty



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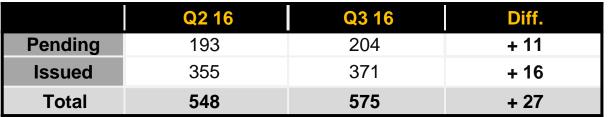
### **Worldwide Customers**

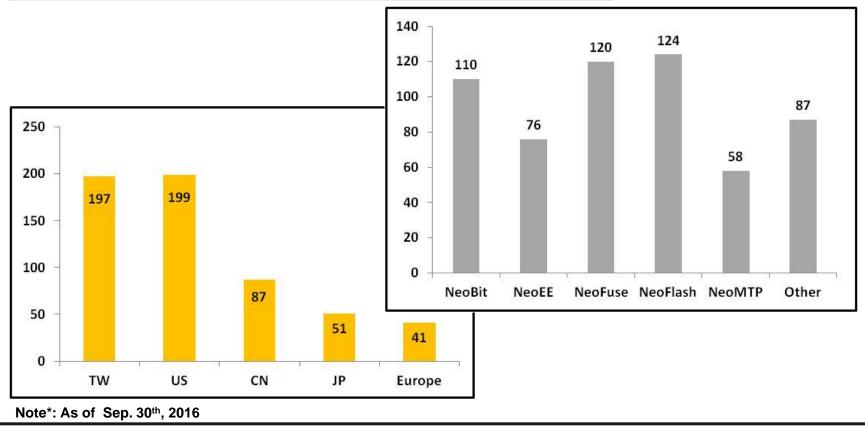


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### **Patent Portfolio**





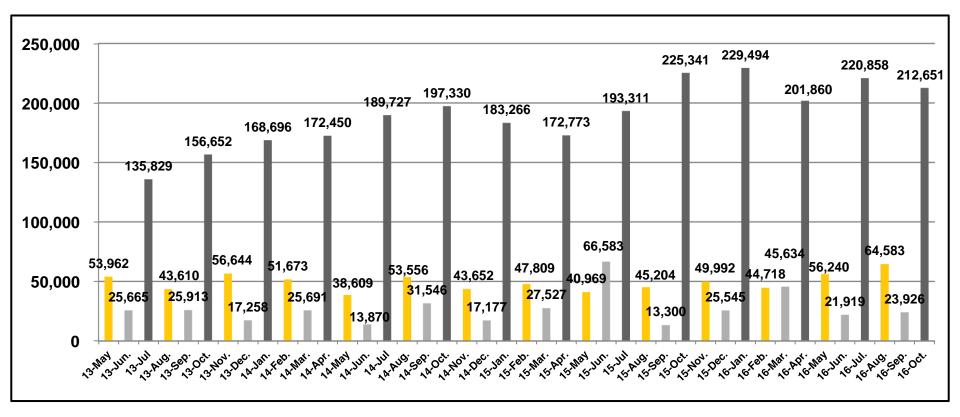
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### **Quarterly Revenue Pattern**

 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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## Q3 Revenue Breakdown

#### **Unit: NTD thousands**

	Q3 2016	Q2 2016	QoQ	Q3 2015	ΥοΥ	Q1-Q3 2016	Q1-Q3 2015	YoY
Licensing	86,712	77,715	11.58%	38,167	127.19%	250,403	198,205	26.34%
Royalty	222,655	202,304	10.06%	213,648	4.22%	658,829	592,537	11.19%
Total	309,367	280,019	10.48%	251,815	22.85%	909,232	790,742	14.98%

#### **Unit: Number of contracts**

		Q3 2016	Q2 2016	2015	2014
Technology Licenses		6	14	28	21
Design Licenses Usage	NRE	18	14	57	82
	Usage	81	94	349	363

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## **Financial Income Statement**

(Unit: NTD thousands)	Q3 2016	Q2 2016	% change	Q3 2015	% change
Revenue	309,367	280,019	10.5%	251,815	22.9%
Gross Margin	100%	100%	-	100%	-
Operating Expenses	173,605	163,276	6.3%	143,776	20.7%
Operating Margin	43.9%	41.7%	2.2ppts	42.9%	1.0ppts
Net Income	130,299	106,245	22.6%	106,301	22.6%
Net Margin	<b>42.1%</b>	37.9%	4.2ppts	42.2%	-0.1ppts
EPS (Unit: NTD)	1.72	1.40	22.9%	1.40	22.9%
ROE	28.9%	24.5%	4.4ppts	24.5%	4.4ppts

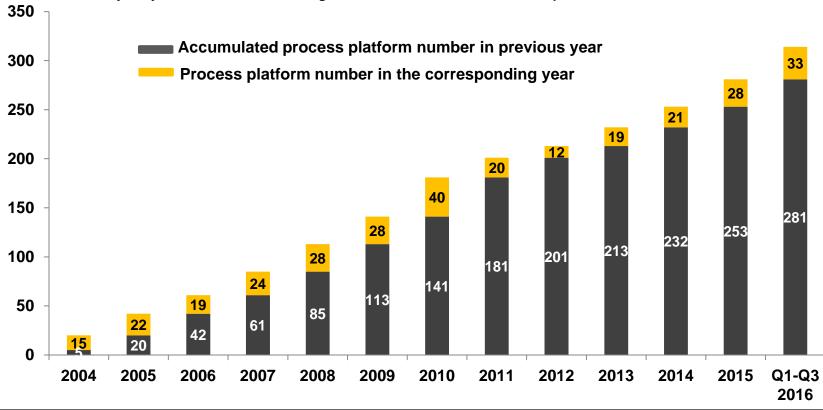


# **Technology License**

#### **Unit: Number of contract**

Year	2013	2014	2015	Q1-Q3 2016
License number	19	21	28	33

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.



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### **Current Technology Development Platforms**

- Total (As of Sep.) : 111
- 20 for NeoBit, 46 for NeoFuse, 22 for NeoEE, and 23 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	14	
NeoFuse	2	3	9	6	12	4	6	4	-
NeoFlash	-	-	-	-	-	-	-	-	-
NeoEE	-	-	-	-	-	1	4	17	-
NeoMTP	-	-	-	-	2	2	6	13	-

### **Current Technology Development Platforms**

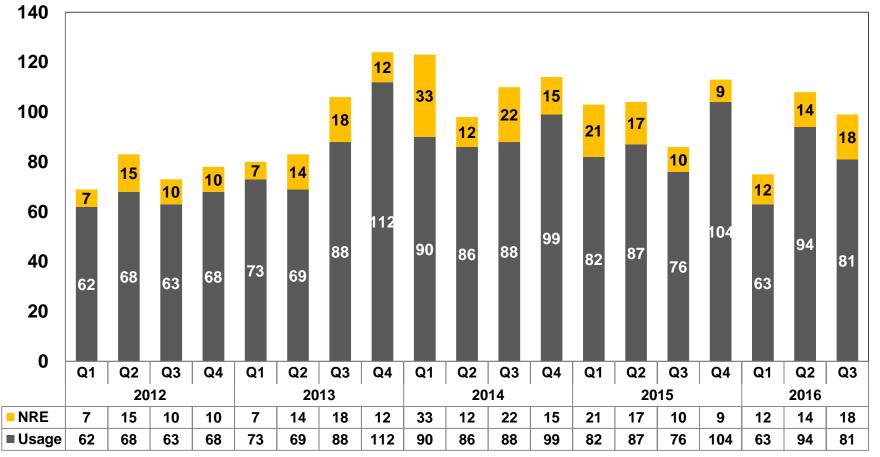
12" Fabs	Production	Development		NVM Ty	уре	Process Type		
7/10nm	0	0		2		ОТР		FF
14/16nm	1	3		OTP		FF+		
28nm	5	9		ОТР		LP/HPM, HLP/HPM, LPS		
40nm	4	6		OTP, MTP		HV-DDI, LP		
55/65nm	12		14	OTP, MTP, Flash		LP, HV-DDI, HV-OLED, DRAM, CIS		
80/90nm	6	7		OTP, MTP		HV-DDI, HV-OLED, LP		
0.13/0.11um	6		3	OTP, Flash		HV-DDI, BCD, Generic		
0.18um	1		0	ОТР		BCD		
8" Fabs	Develop	nent	NVM	1 Туре		Process Type		
0.13/0.11um	19		OTP, M	ITP, Flash HV-DD		0I, BCD, LP, RF, CIS, LL		
0.18/0.16/0.152ui	m 48		OTP, MTP		Generic, LP, LL, MR, HV, Green, BCD			
0.25um	0		OTP, MTP		BCD			
0.35um	0		C	ОТР				

Note\*: As of Sep. 30th, 2016

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# Quarterly Design Licensing (New Tape Out)

- Total 282 NTO as of Q1-Q3 2016( 406@2015,445@2014, 393@2013, 303@2012)



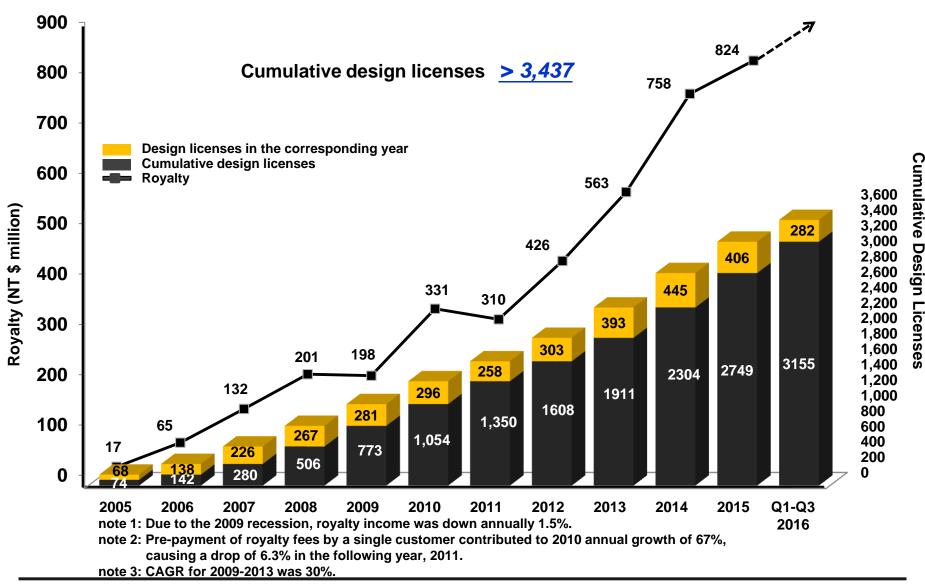
Note\*: As the applications of MCU at several foundries have gradually entered mass production, and the business model of the main foundry partner which provides green process has shifted to — eMemroy licenses IP cell to the foundry for it to provide direct design service to customers as the result, 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.

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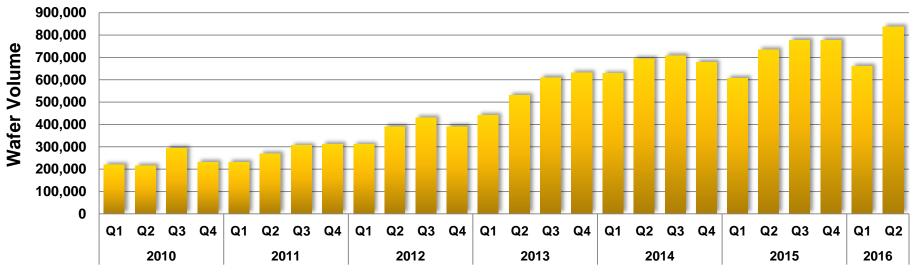
### **Cumulative Licenses Drive Future Royalties**



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### **Wafer Production Volume**



embedded eMemory IP in T Company (\$revenue); \* % of Process node in T company total revenue in Q3 2016

	Process node	*% of T	Q3 16	Q2 16	2015	2014
8"	0.25/0.35	3%	26.44%	18.44%	33.49%	30.5%
	0.15/0.18	9%	13.07%	12.32%	8.73%	11.9%
	0.11/0.13	3%	40.96%	43.90%	29%	20.8%
12"	90nm	5%	* 3.83%	11.33%	19.85%	16.3%
	65nm	11%	3.85%	3.76%	0.55%	0%
	40/45nm	13%	0	0%	0%	0%
	28nm	24%	0.61%	0.41%	0.05%	0%
	16/20nm	31%	0	0	0%	0%
8"		16%	20.1%	16.39%	16.64%	15.6%
12"		84%	0.87%	1.36%	1.87%	1.4%
Total		100%	3.95%	3.92%	4.76%	4.5%

\* iOS customer royalty recognition to 2017 Q1.

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# **Outlook for Q4 and Beyond**

- We expect that Q4 will be better than Q3, and that growth momentum will speed up in 2017 for the following reasons:
- For PMIC applications, there are three factors which drive continuous growth.
  - 1. A new contractual agreement with our biggest PMIC customer.
  - 2. We have engaged with another large US customer and taped-out products.
  - 3. Existing customers are expanding their product portfolio.
- For TDDI, we expect 55nm TDDI will contribute to growth in 2017 as some DDI production will switch to TDDI. TDDI adds touch functionality to DDI resulting in larger chip sizes and increased ASP. A customer win with the largest Korea smart phone maker through our US customer should lead to significant growth in 2017 and 2018.



# **Outlook for Q4 and Beyond**

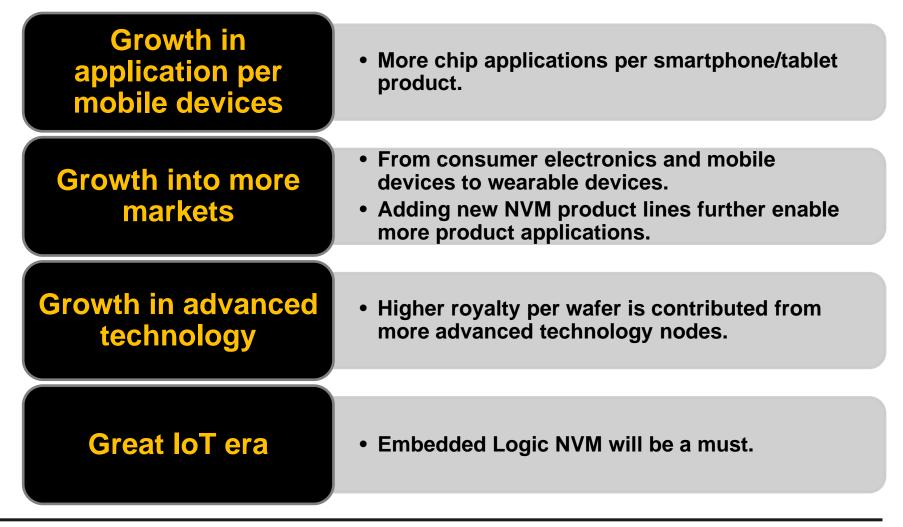
- For Fingerprint Sensor applications, in the second half of 2016 volume production began and we expect revenue to continue increasing into 2017. One US fingerprint sensor supplier and one Chinese supplier have started to tape-out its CIS fingerprint sensors, which will contribute to growth in 2017 and beyond.
- For 28nm, one DTV customer continues in production, and there are two other customers ready for production in 2017.
- For OLED Driver applications, our customers supplying to Korean panel makers has taped-out products.
- For CIS, one big customer has begun production ramp up.



# **Outlook for Q4 and Beyond**

- Advanced technology nodes will drive our future growth:
  - 1. For 16nm, one security related application customer is already planning to tape-out.
  - 2. For 10nm, our first IP has been successfully verified.
  - 3. Our 7nm project has already kicked-off.
- NeoPUF, our new technology platform for security applications taped-out 55nm IP in October.
- Automotive applications continue their platform build and have started production.
- Increasing demand in MTP technology for USB type-c related applications.

# **Key Growth Drivers**





## **Q & A**



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