力旺電子(3529)
A Leading Logic NVM Company

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智慧財產權聲明

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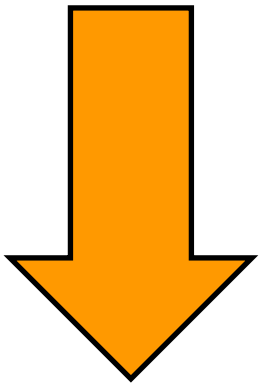
eMemory, NeoBit, NeoFuse, NeoFlash, NeoEE與 NeoMTP皆為力旺電子在台灣或其他國家之註冊商標或服務標章。

何謂 Logic Non-Volatile Memory

Embedded NVM = LOGIC + 10 Masks

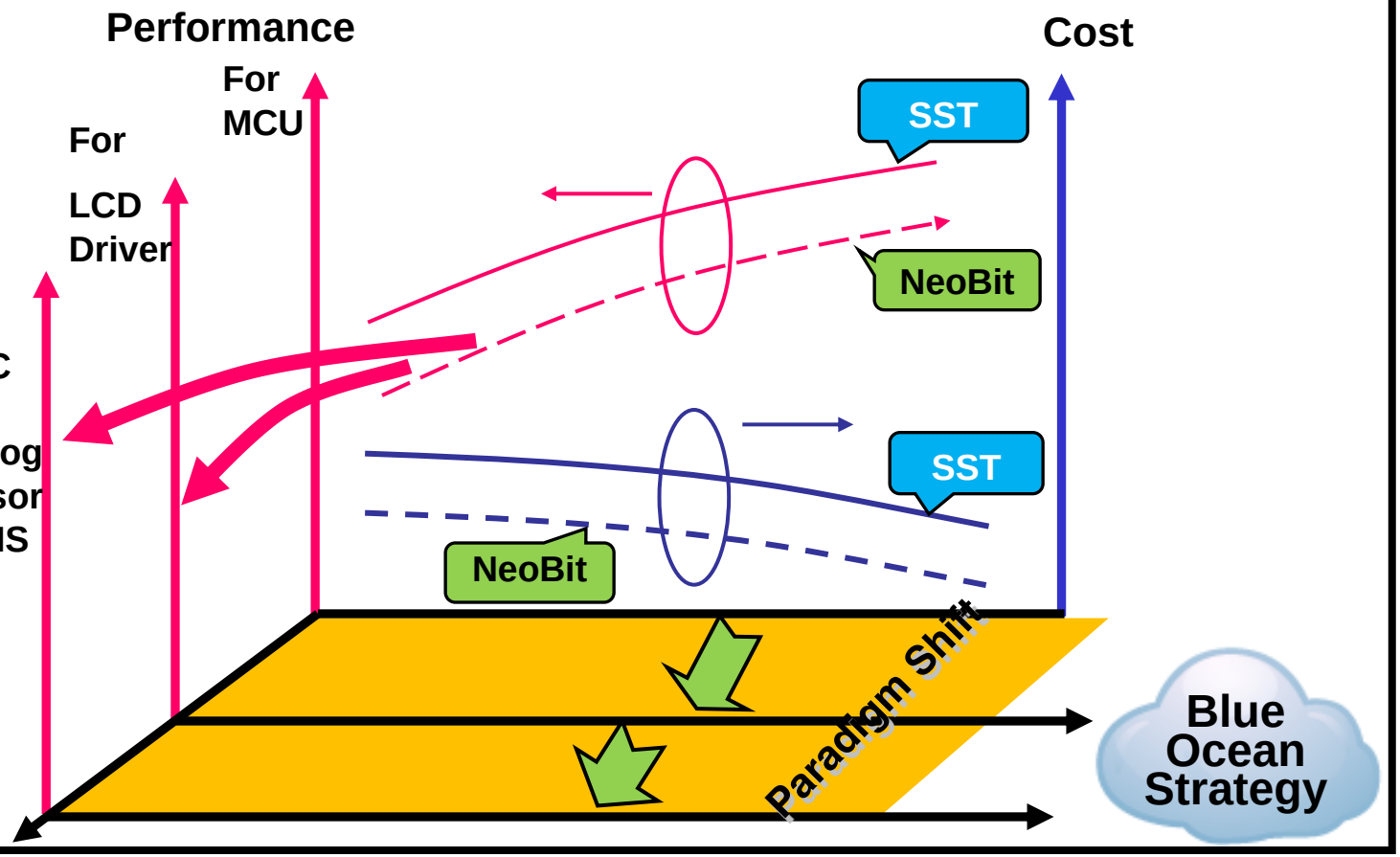


30% more cost reduction

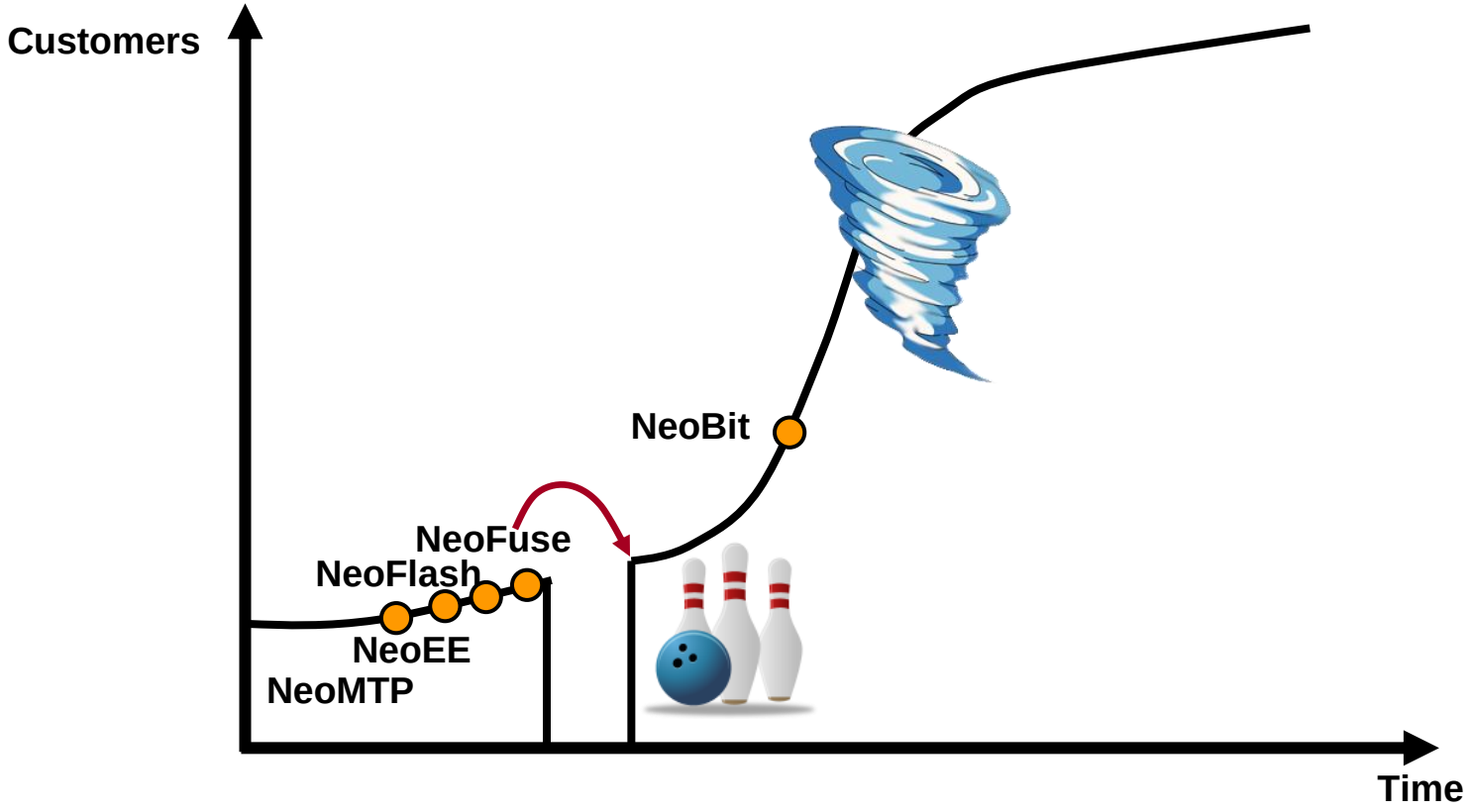
Embedded LOGIC NVM = LOGIC

破壞性創新

- *Innovation, Innovation, and Innovation !*



跨越鴻溝



我們的定位

- Global leader of logic non-volatile memory (NVM) Technology
- Received TSMC's best IP partner award for 4 consecutive years (2009-2013), on par with ARM and Synopsys
- Innovative business model leads to high profit margin
  - Upfront license fee + Running royalties

- Over 2500 technology & design licenses
  - Growing by 400+ every year
- 700+ potential royalty payers
- Industry's largest talent pool
  - More than 70% of employees on R&D teams

獨特的營運模式

No capex needed to drive organic growth

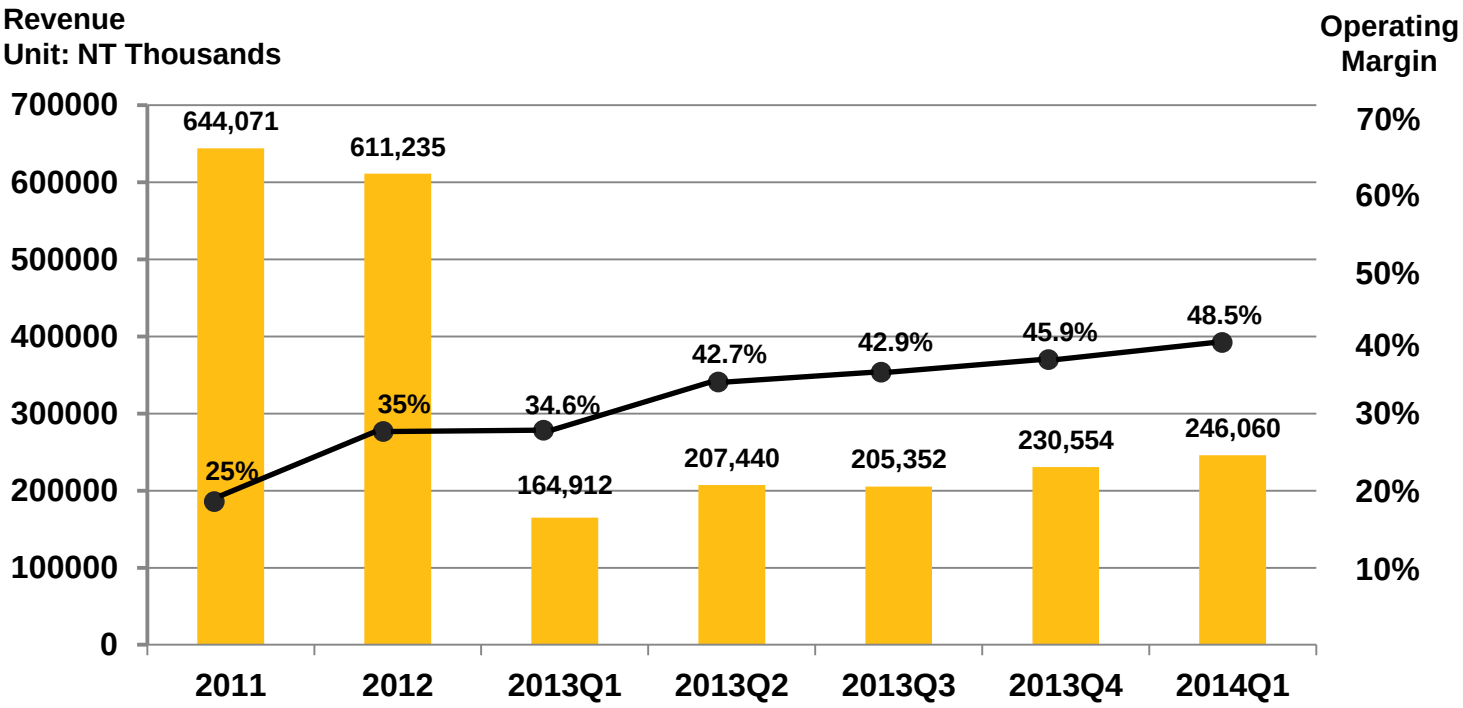
- **Only investment is R&D personnel. Dedicated team moves from fab to fab to finish process development and qualification. All costs (mask, QD) incurred are absorbed by foundry.**

Competitive upfront fee structure and accumulated royalty backlog, hard for new comer to catch up

Able to enter the right technology node at the right time to maximize ROI.

Returns 100% cash to shareholder

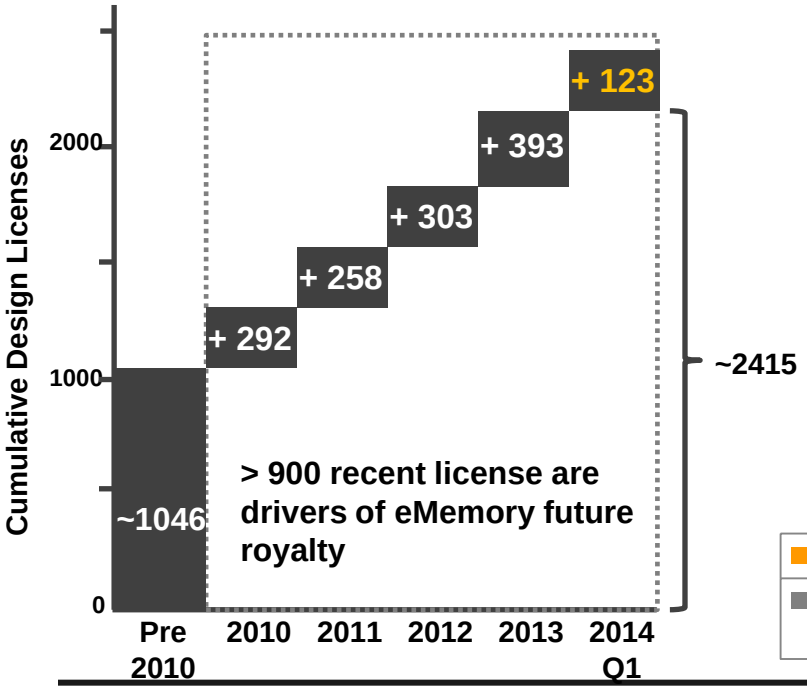
高營運槓桿

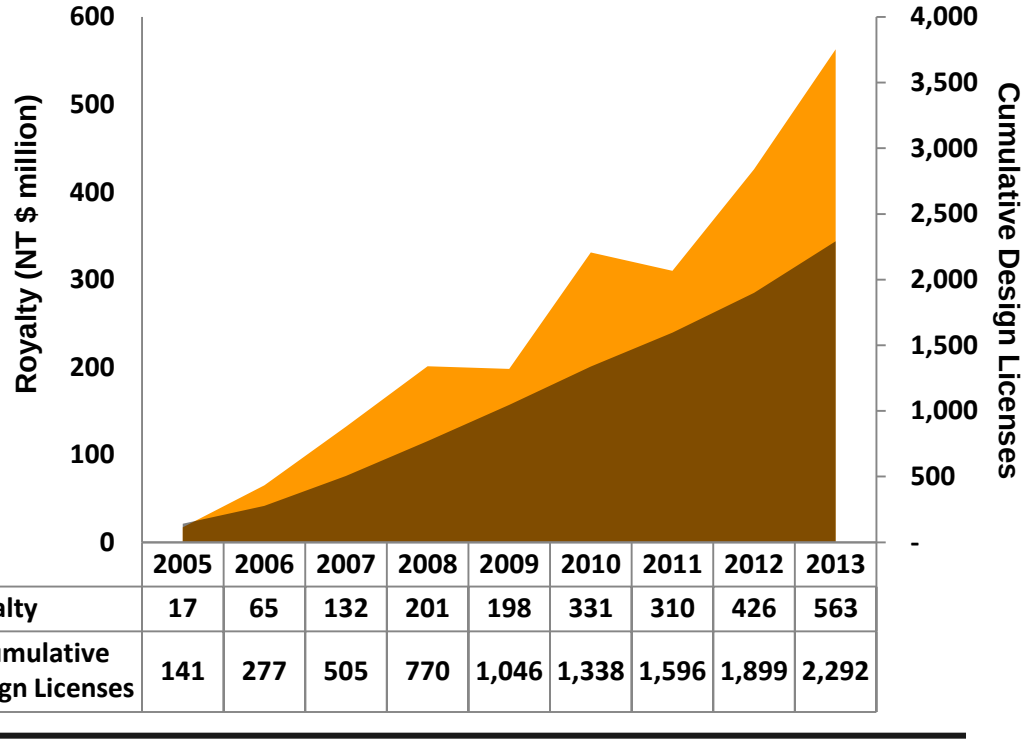


- Upfront fee (Licensing) covers most of operating expense.
- Royalty payments contribute to bottom line earnings.
- 2013 revenue grows 32.23%(YoY), ESP up 80% (YoY)
- 2014Q1 revenue grows 49.21%(YoY), EPS up 108.57% (YoY)

持續的授權案驅動權利金成長

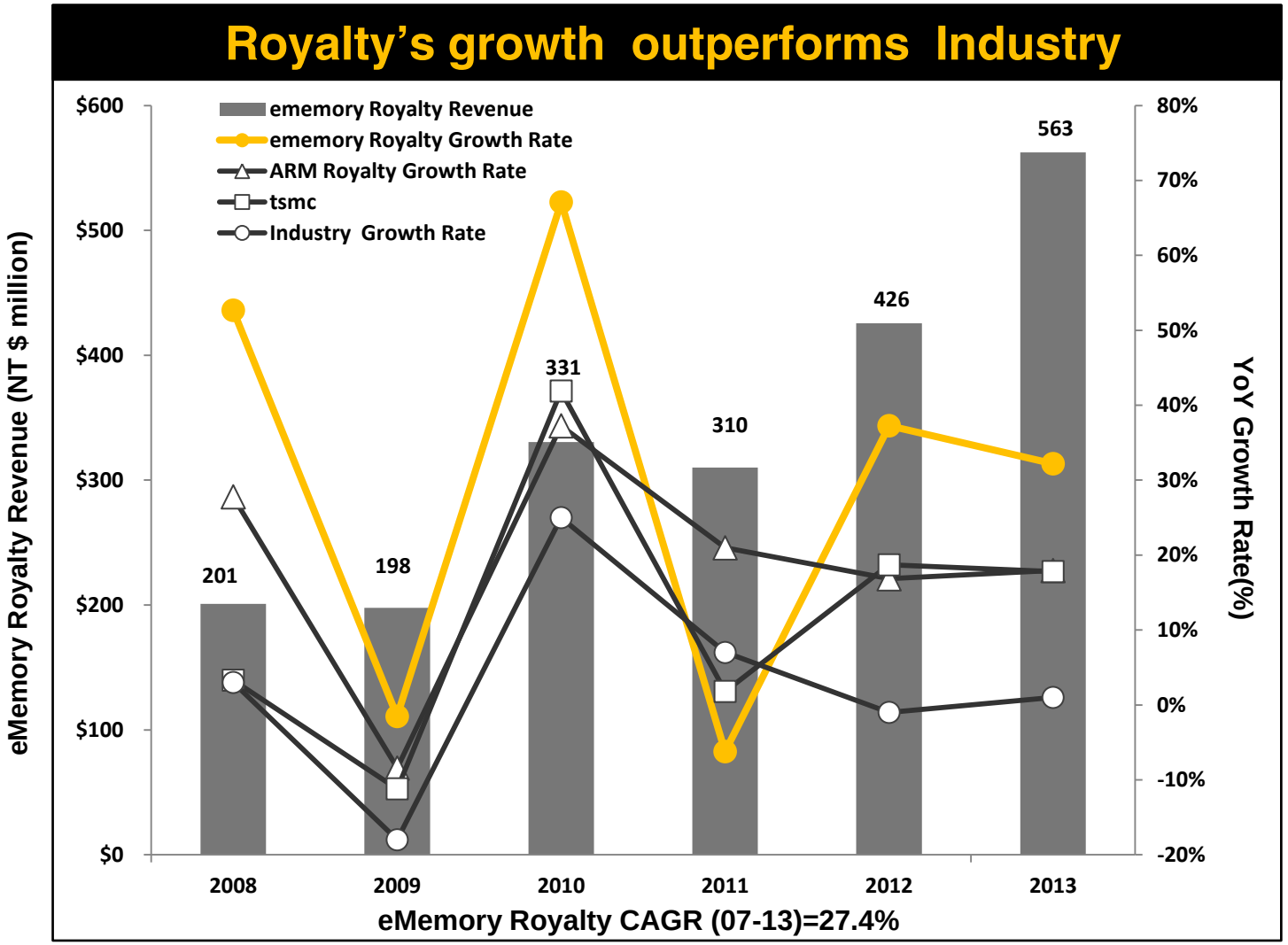
- 20 technology and 393 design licenses were signed in 2013
- 5 technology and 123 design licenses were signed in 2014Q1
- Current royalty revenues are derived from design licenses signed many years ago
- Growing license base leads to royalty revenues over long period





	2005	2006	2007	2008	2009	2010	2011	2012	2013
Royalty	17	65	132	201	198	331	310	426	563
Cumulative Design Licenses	141	277	505	770	1,046	1,338	1,596	1,899	2,292

力旺表現優於產業


Royalty's growth outperforms Industry
ememory Royalty Revenue
ememory Royalty Growth Rate
ARM Royalty Growth Rate
tsmc
Industry Growth Rate
$600
$500
$400
$300
$200
$100
$0
80%
70%
60%
50%
40%
30%
20%
10%
0%
-10%
-20%
201
198
331
310
426
563
2008
2009
2010
2011
2012
2013
eMemory Royalty Revenue (NT $ million)
YoY Growth Rate(%)
eMemory Royalty CAGR (07-13)=27.4%

持續增加滲透率

We believe TAM is equal to total world-wide foundry capacity.

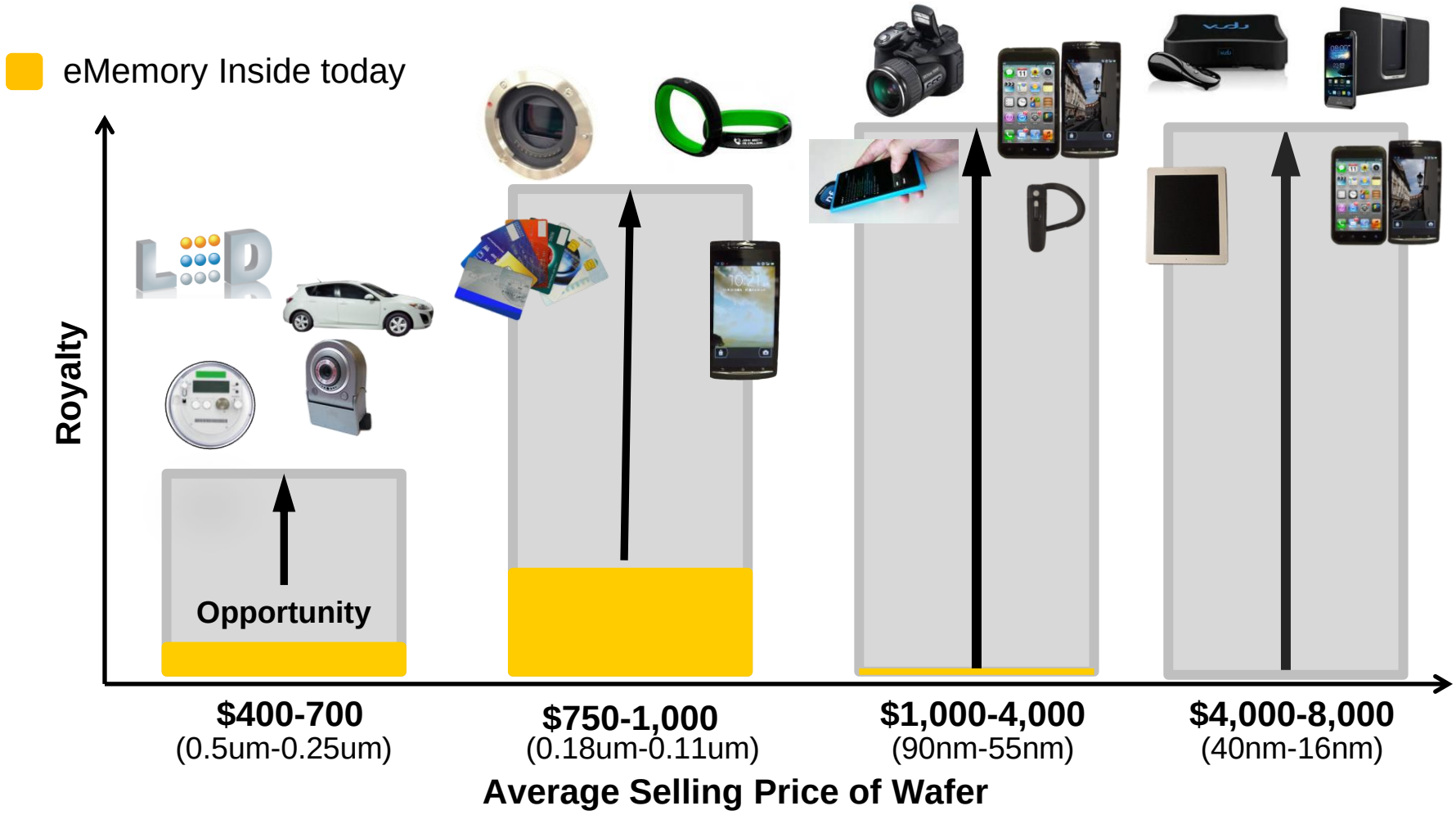
In 2013, the numbers of wafers embedded with eMemory IP totaled 2.2 mil. Total world wide foundry capacity is 43 mil 8” equiv. wafers. Our current penetration share is only around 5%.

TSMC was the main driving force for the last 3 yrs. Our penetration rate in TSMC increased from 3% in 2010 Q4 to 10% in 2013 Q4, and quarterly royalty revenue from TSMC increased 385% accordingly.

Apple products related chip suppliers’ contribution went from less than 15% of total royalty payments in 2013 to 25% in Q1 2014 . Expect the number to further increase in H2 of 2014.

Penetrates into PMIC chip suppliers among Chinese smart phone vendors (used to dominate mainly on DDI chip solution) .

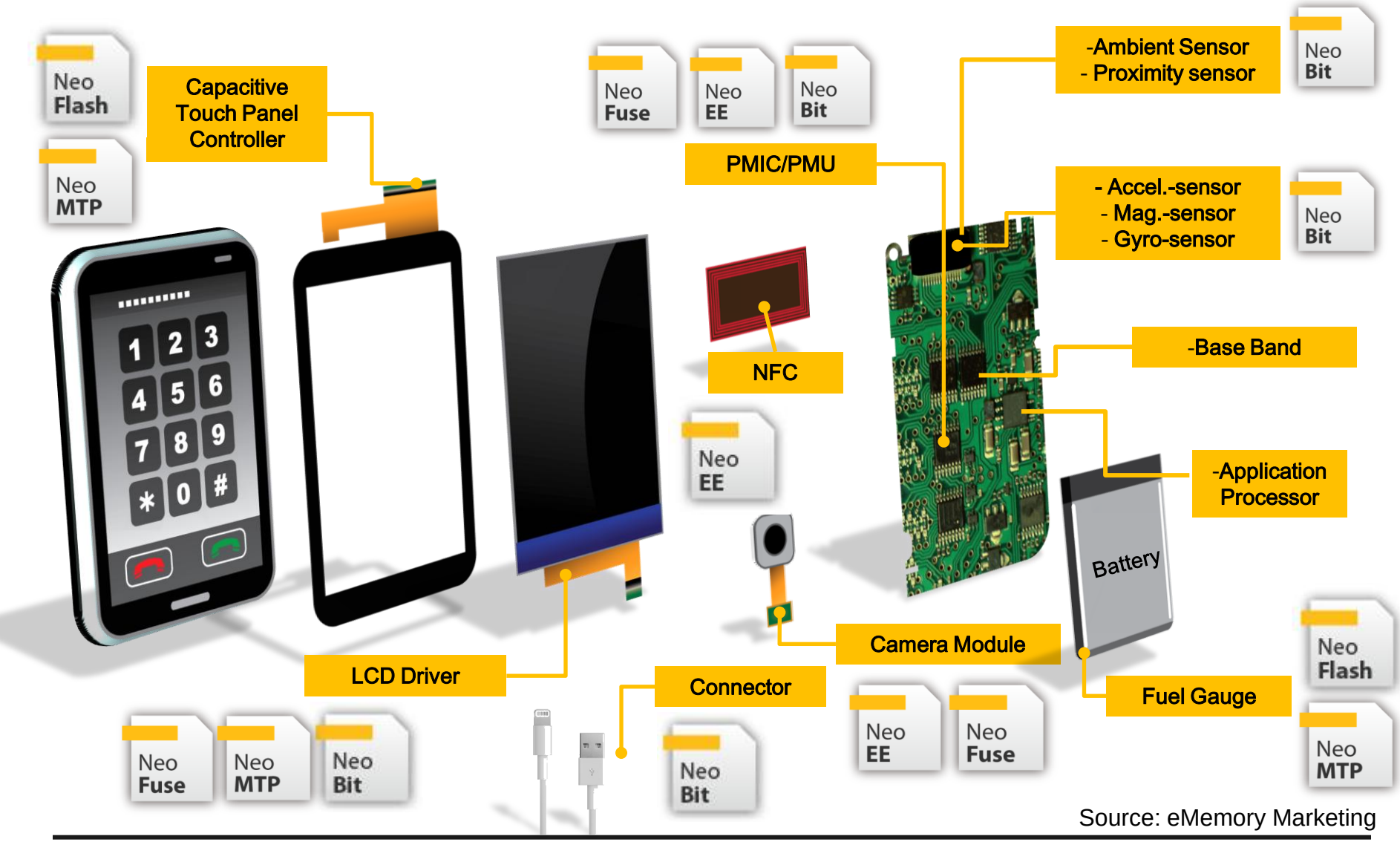
商機與潛力



力旺IP的應用

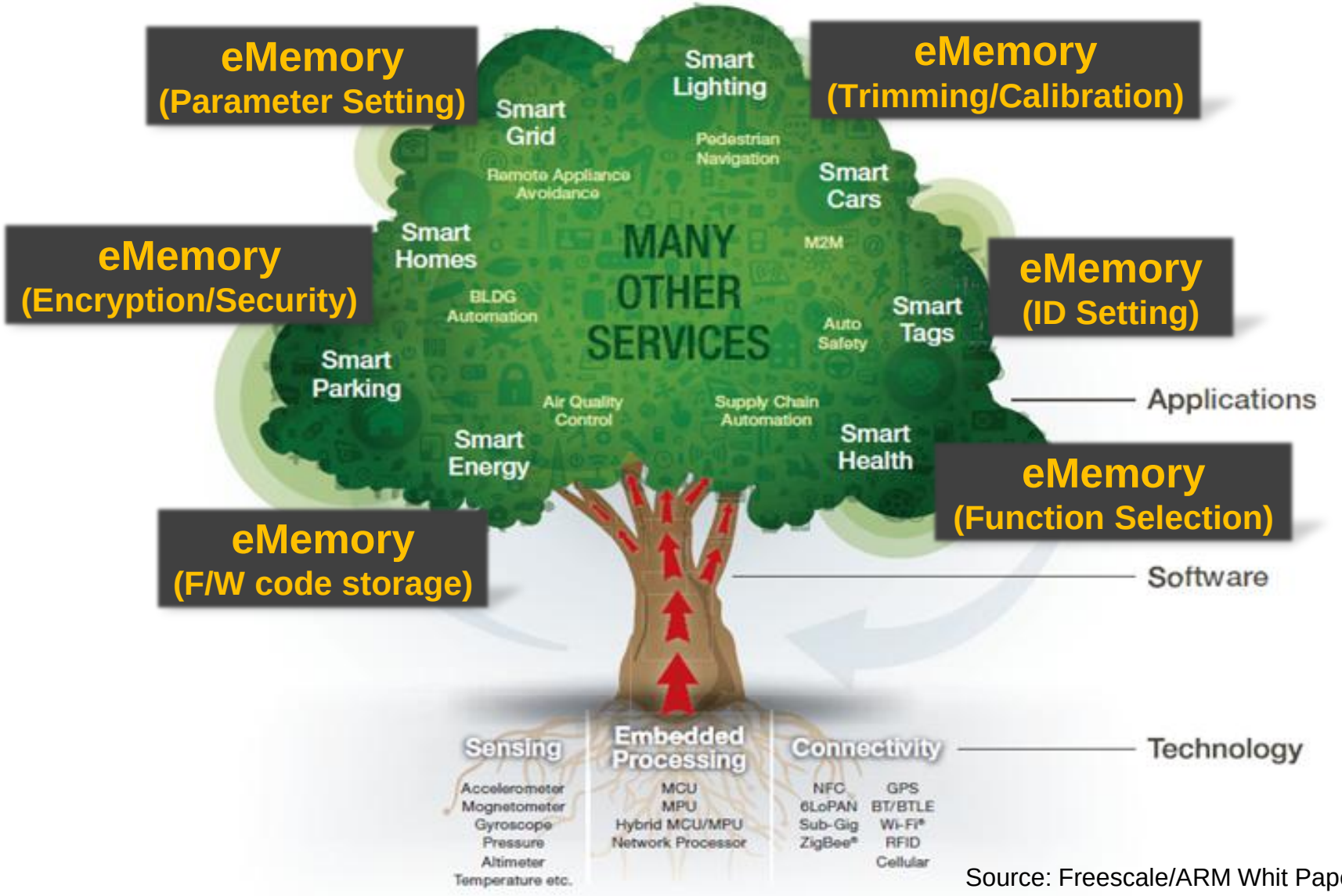
12"						8"		
16/20nm	28nm	40nm	55/65nm	80/90nm	110/130nm	160/180nm	250nm	350nm

智慧型手機中力旺 IP 的應用



Source: eMemory Marketing

MCU & NVM 於 IoT 之應用



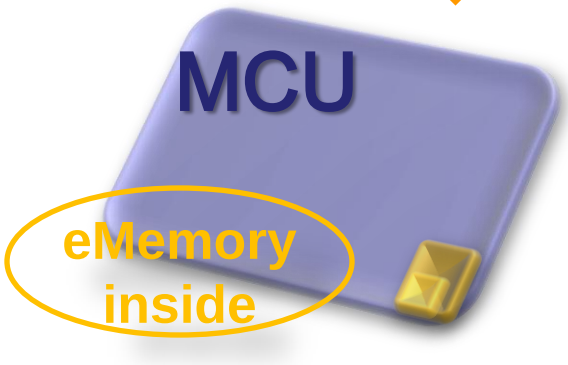
Source: Freescale/ARM Whit Paper 2013

取代Embedded Flash之競爭優勢

product design & manufacturing by embedded Flash
Logic Process + 10 Masks

30% more cost reduction

wafer cost & testing time



product design & manufacturing by Embedded Logic NVM (OTP/MTP)
Logic Process

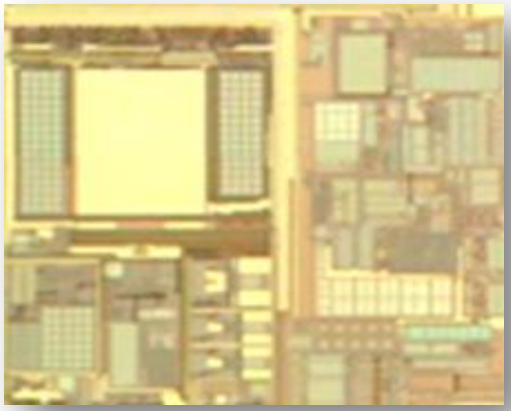
安全 & 防護

Authorized Product

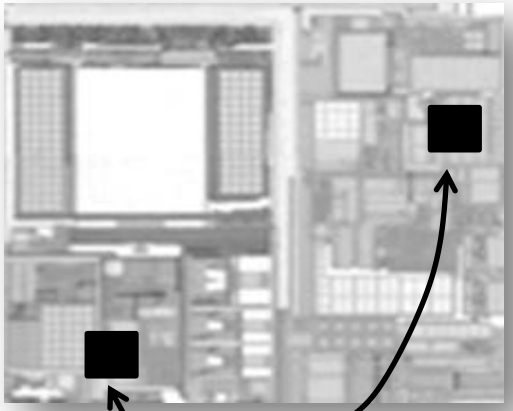
reverse copy

re-produce

Fake Product

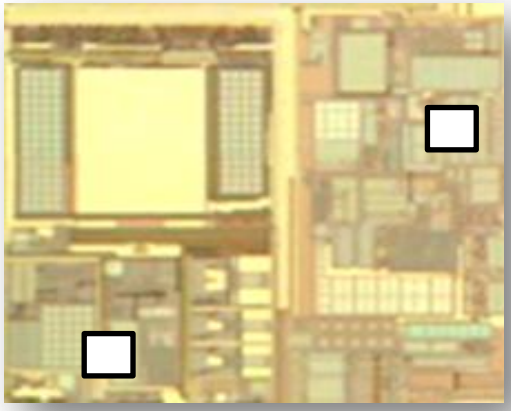


without protection



reverse copy

re-produce



with protection

Security IP/Code by Authorized Use

Can NOT Work w/o Security IP/Code

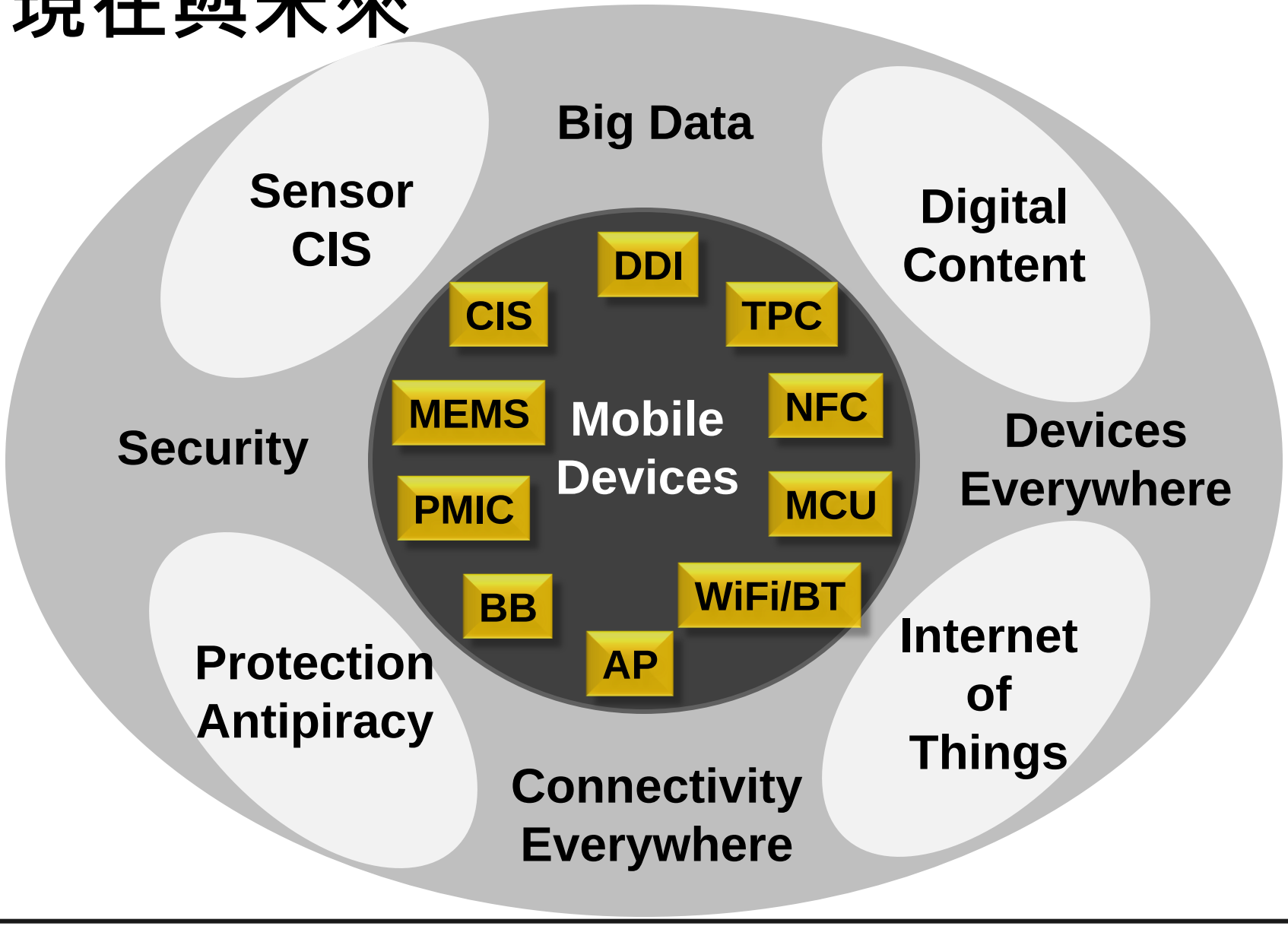
未來展望

over 30% CAGR for the next 5 yrs

Key growth drivers:

Growth in value 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 more advanced technology	• Higher royalty per wafer is contributed from more advanced technology nodes.
IOT great era	• Embedded Logic NVM will be a must.

現在與未來



ememory

Embedded Wisely, Embedded Widely