

The background of the slide is filled with a pattern of white, 3D-outlined cubes. These cubes are arranged in a way that creates a sense of depth and movement, with some cubes appearing to be in the foreground and others receding into the background. The cubes are scattered across the entire slide, providing a modern, geometric aesthetic.

# ememory

## **A Leading Logic NVM Company**

**Charles Hsu**

**June 17, 2014**

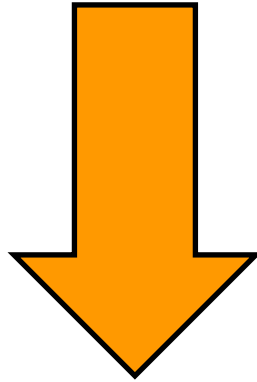
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# What's Logic Non-Volatile Memory (NVM)

**Embedded NVM = LOGIC + 10 Masks**

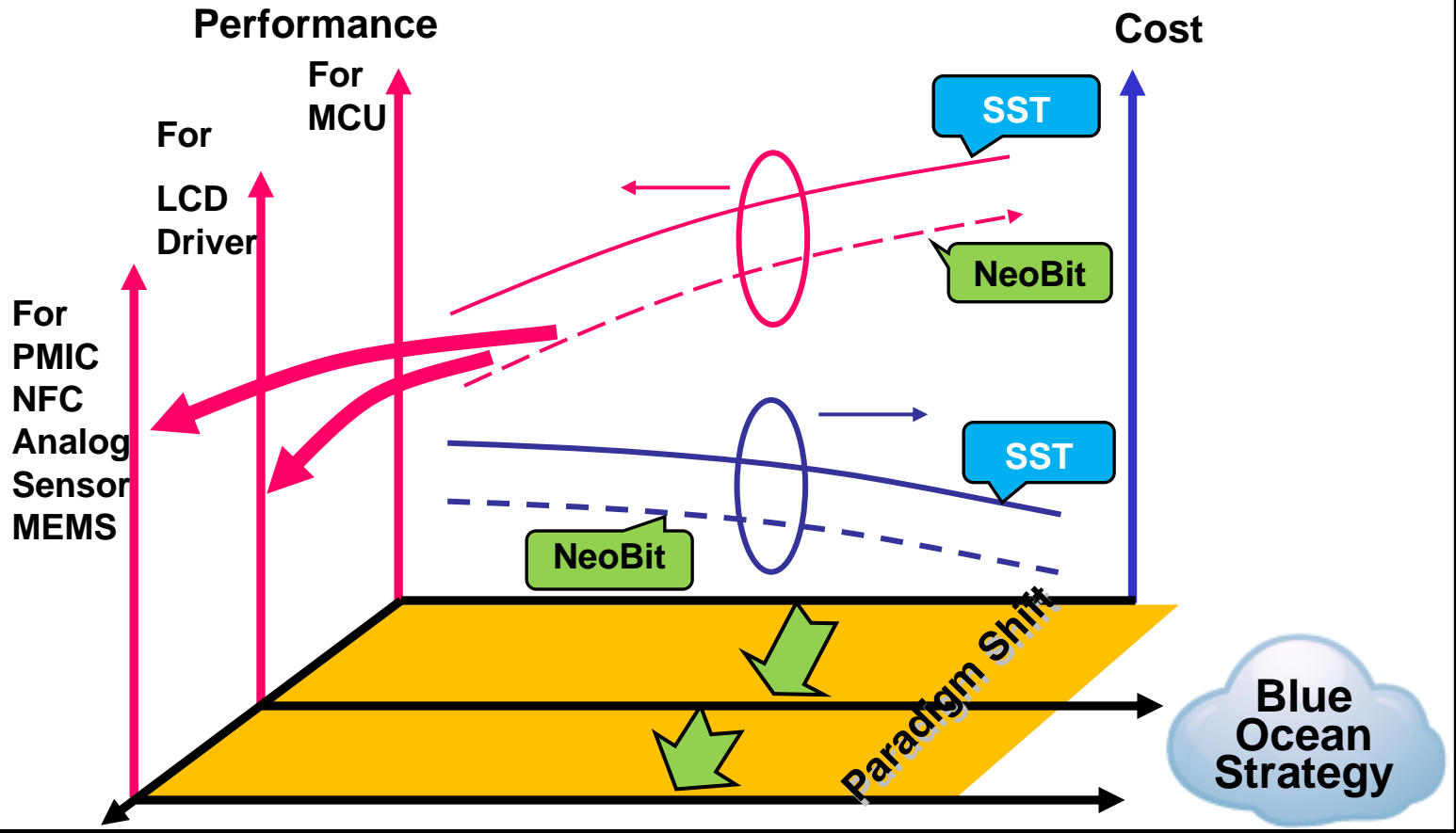


**>30%**  
*cost reduction*

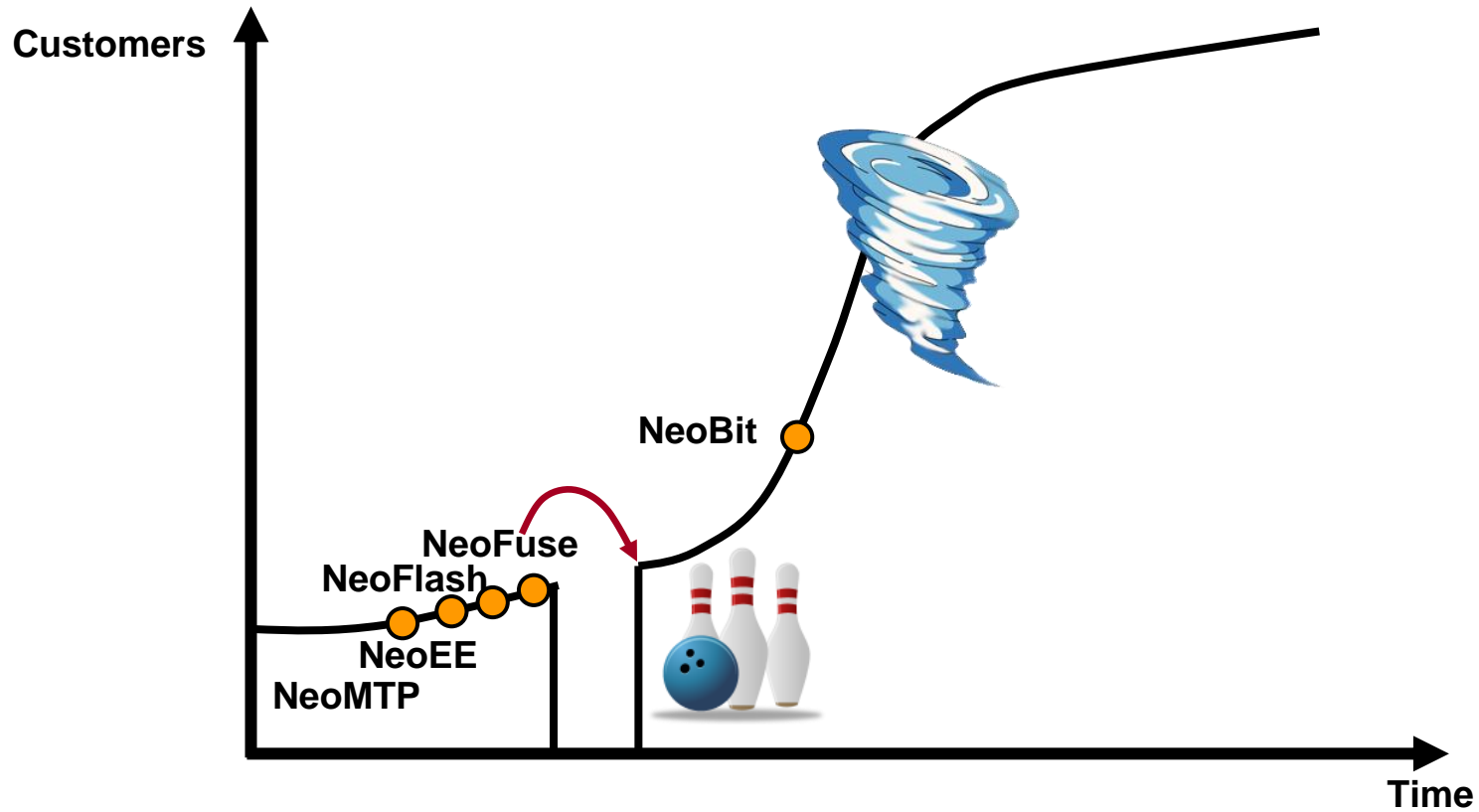
**Embedded LOGIC NVM = LOGIC**

# What We Have Done

● *Innovation, Innovation, and Innovation !*



# Crossing the Chasm



# Our Position

- 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

# Unique Business Model

## **No capex needed to drive organic growth**

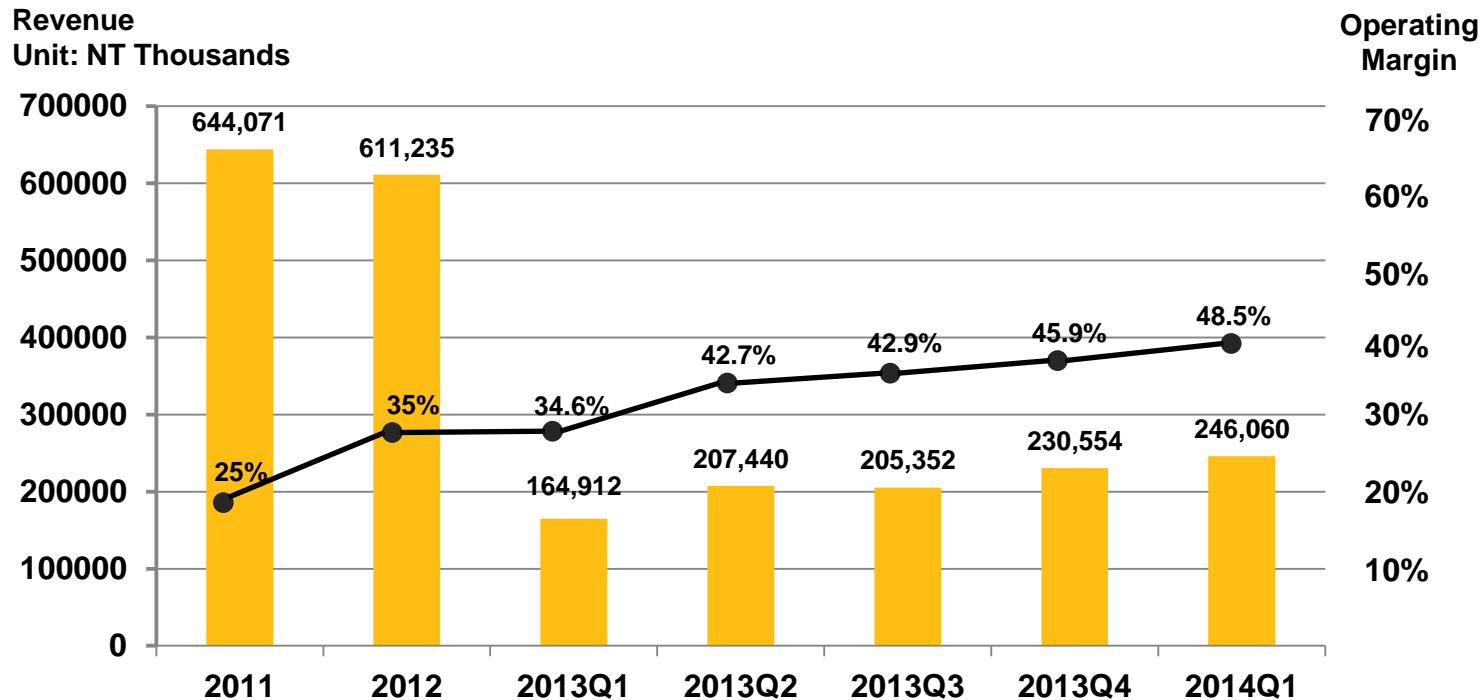
- Only investment is R&D personnel. Dedicated team moves from fab to fab to finish process development and qualification. All costs (mask, QD) incurred are absorbed by foundry.

## **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**

# High Operating Leverage

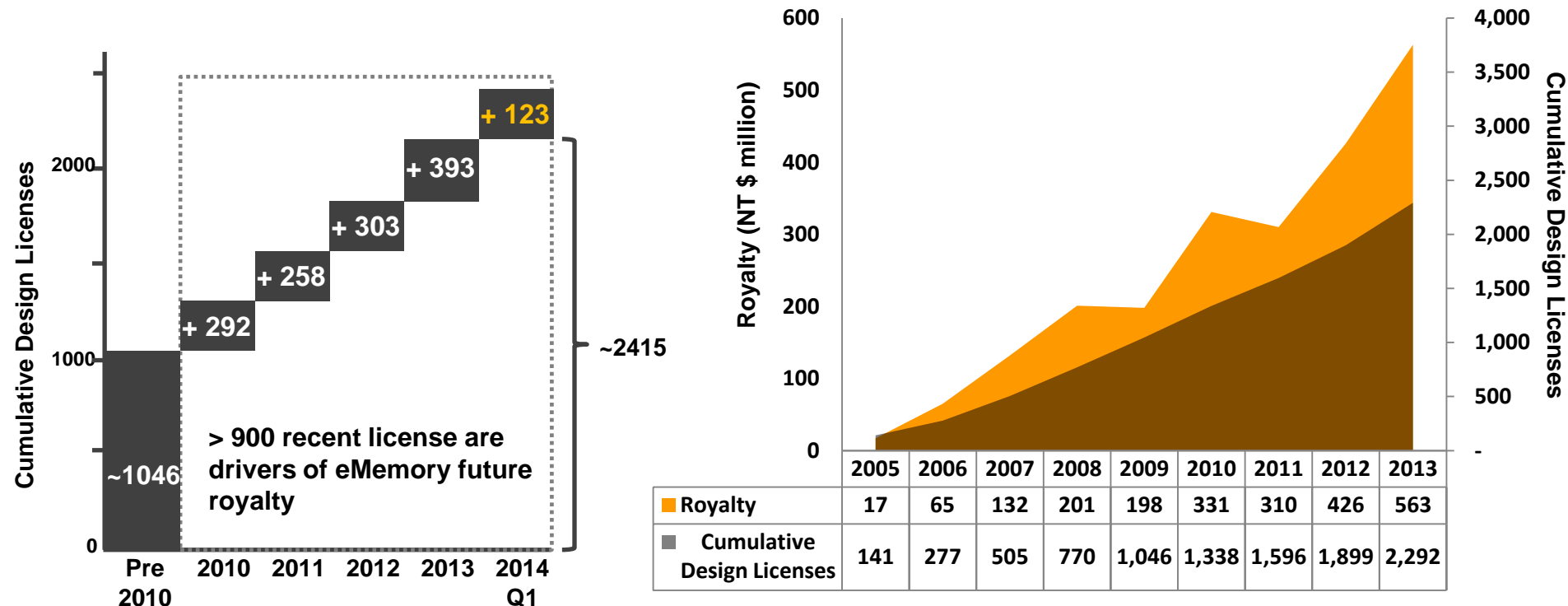


- Upfront fee (Licensing) covers most of operating expense.
- Royalty payments contribute to bottom line earnings.
- 2013 revenue grows 32.23%(YoY), EPS up 80% (YoY)
- 2014Q1 revenue grows 49.21%(YoY), EPS up 108.57% (YoY)

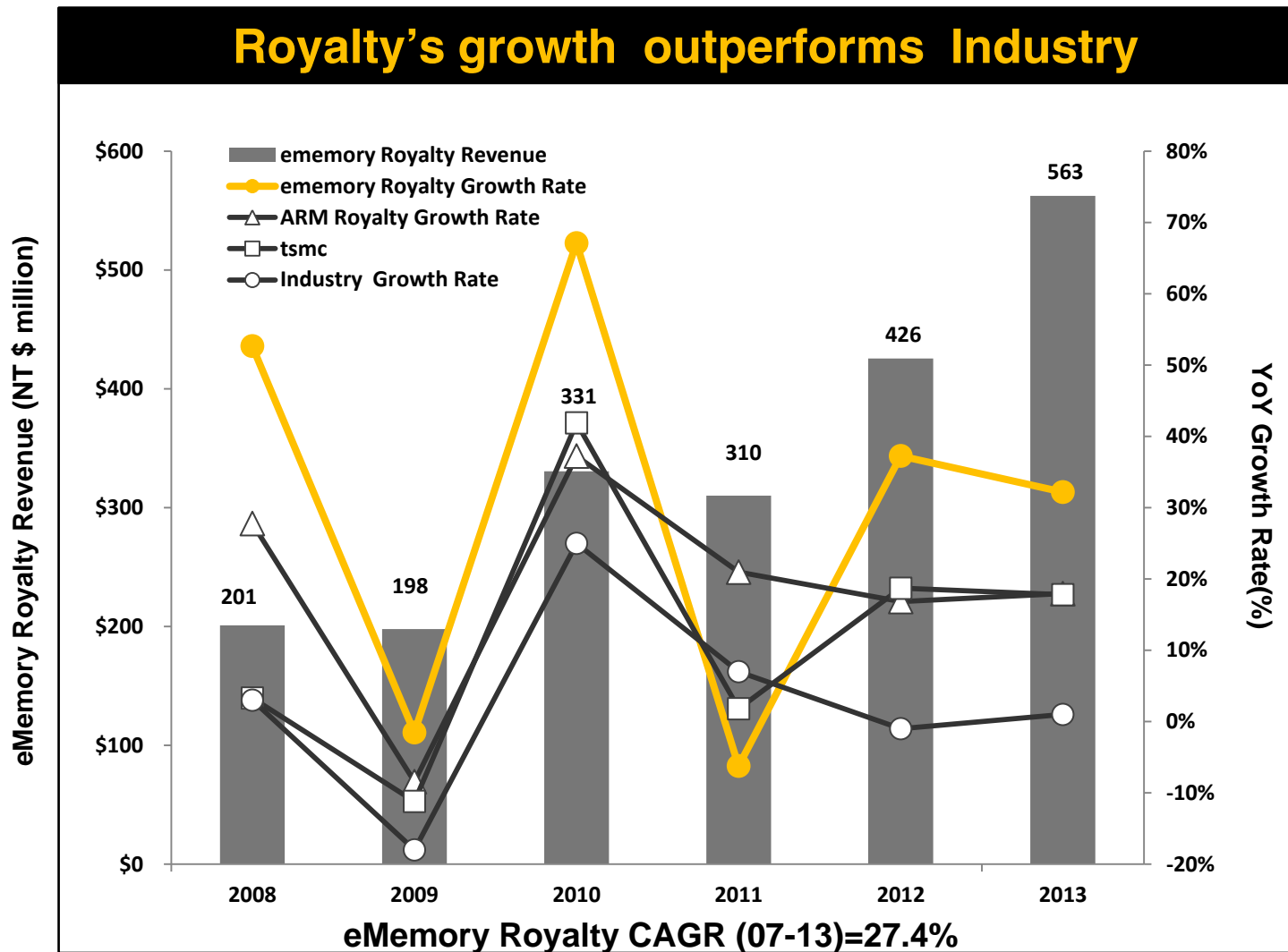


# Licensing Drives Future Royalties

- 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



# eMemory Outperforms Industry



# Increasing penetration rate

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

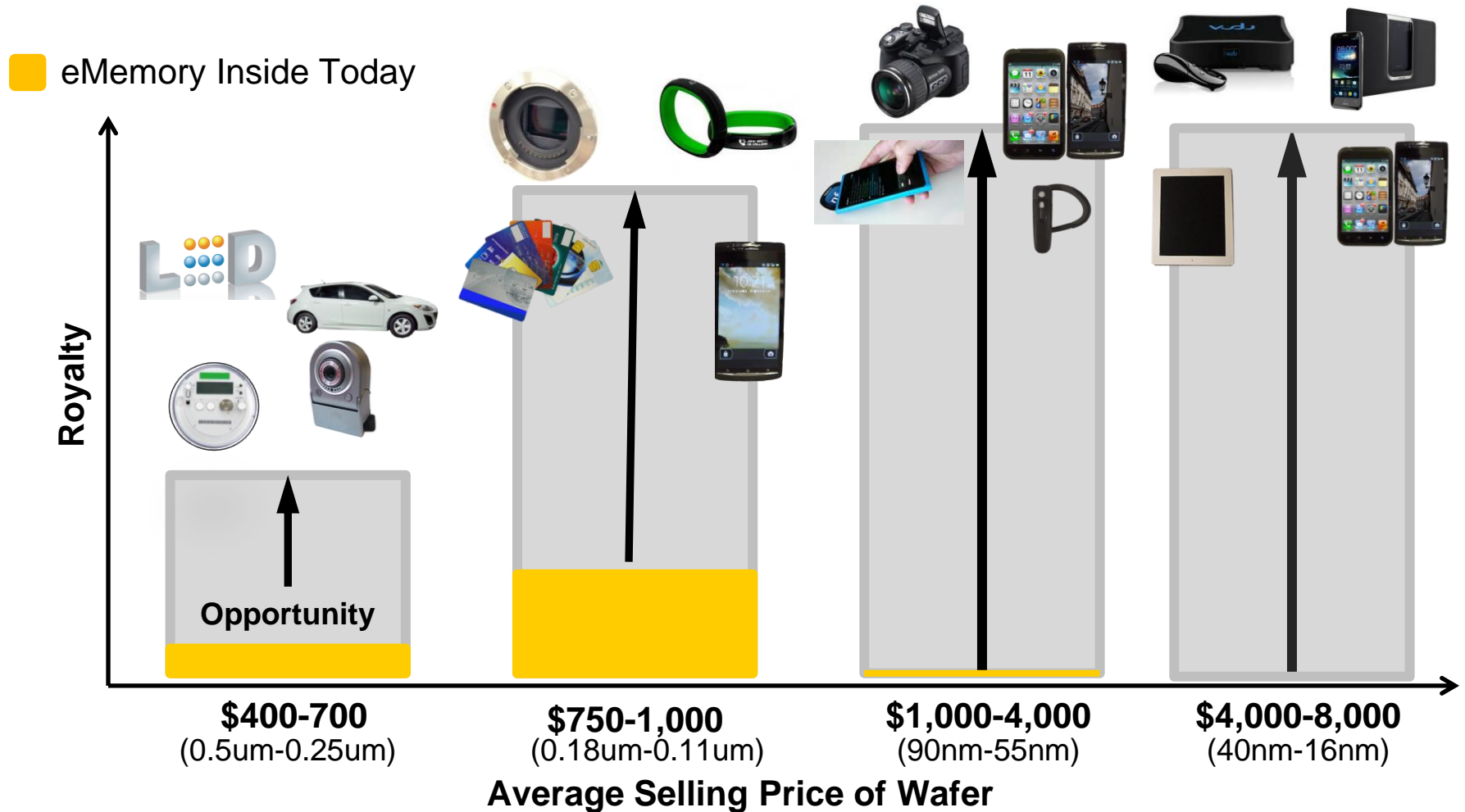
**In 2013, the numbers of wafers embedded with eMemory IP totaled 2.2 mil. Total world wide foundry shipment is 43 mil 8" equiv. wafers. Our current penetration share is only around 5%.**

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) .

# Opportunity at all Price Points



Note: 2.2 million 8" equivalent wafers with eMemory IP were shipped in 2013. (~5% of WW foundry shipment)

# Applications with eMemory IP

12"

8"

16/20nm

28nm

40nm

55/65nm

80/90nm

110/130nm

160/180nm

250nm

350nm

NeoBit

NeoFuse

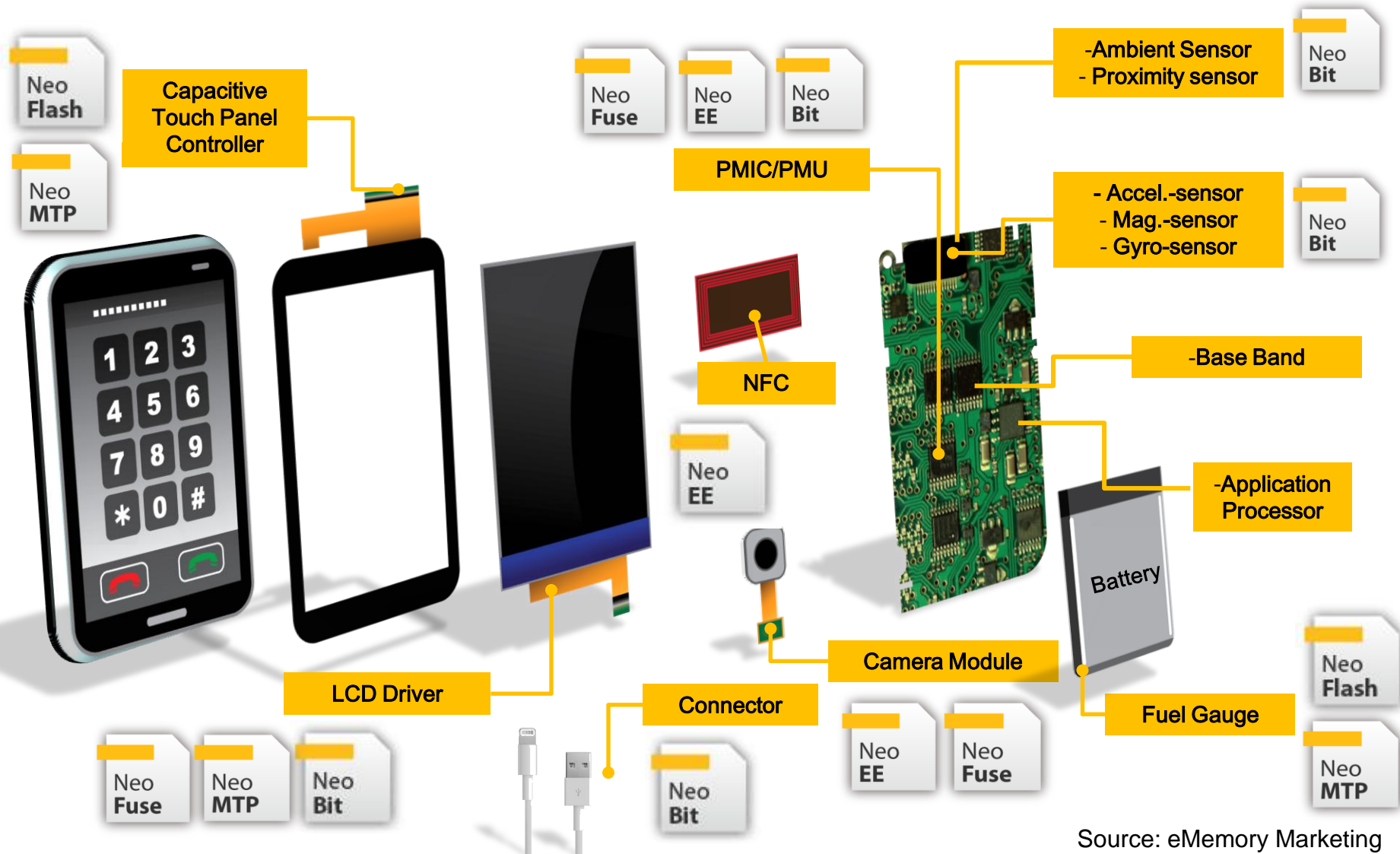
NeoFlash

NeoEE

NeoMTP



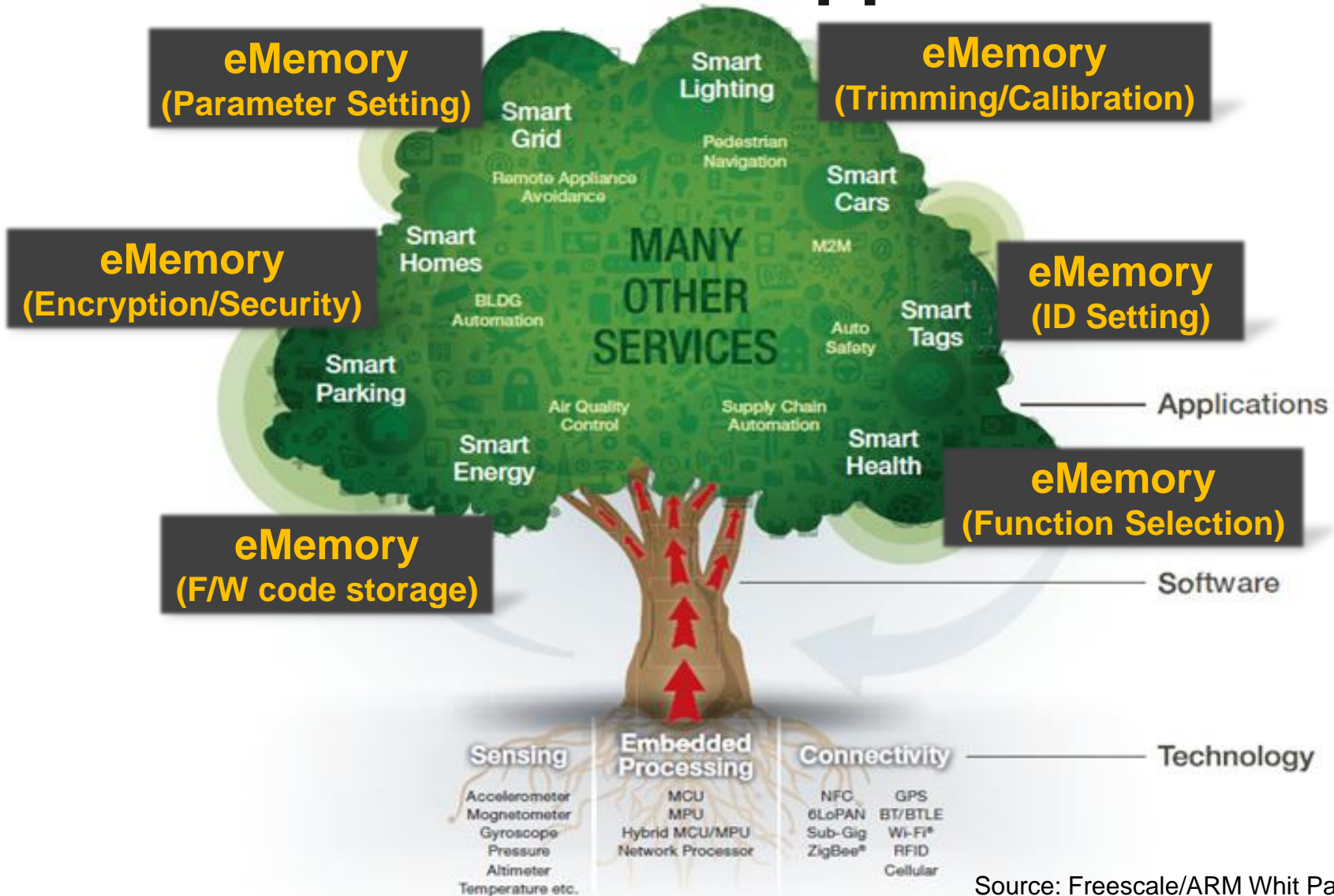
# eMemory IP in Smart Phone



Source: eMemory Marketing



# MCU & NVM in IoT Applications

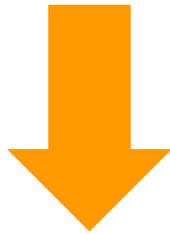


Source: Freescale/ARM Whit Paper 2013

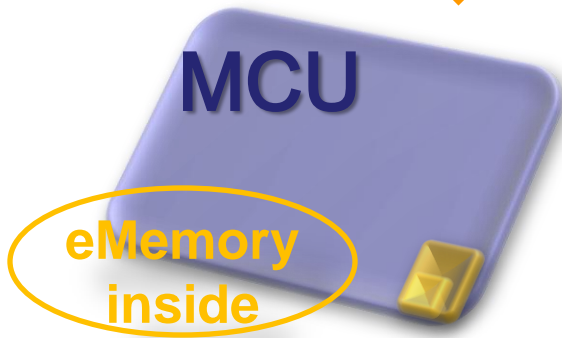
# Replacement of Embedded Flash for Competitiveness Improvement



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



***30% more  
cost reduction*** ⎵ *wafer cost &  
testing time*

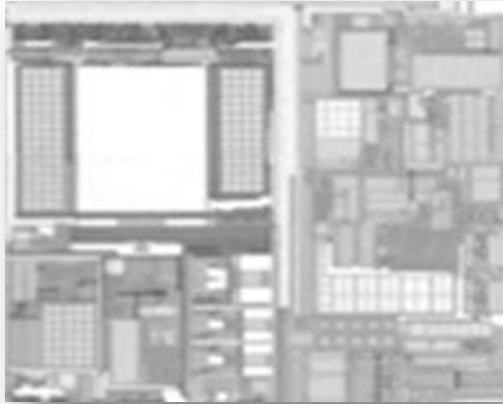


product design & manufacturing by  
Embedded Logic NVM (OTP/MTP)  
Logic Process



# Security & Protection

**Authorized Product**



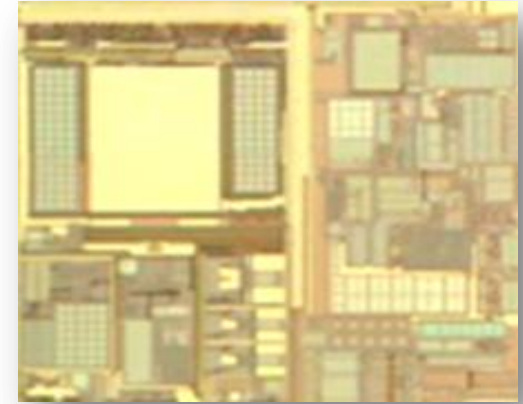
**reverse  
copy**

**re-produce**



**without protection**

**Fake Product**

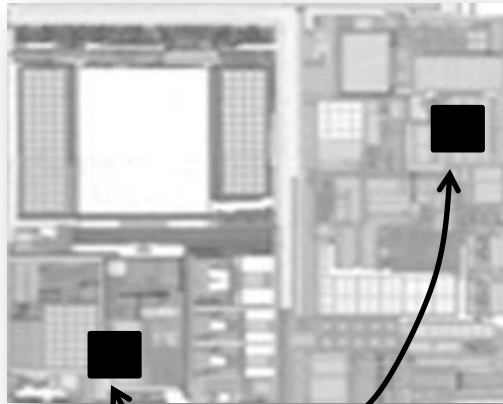


**reverse  
copy**

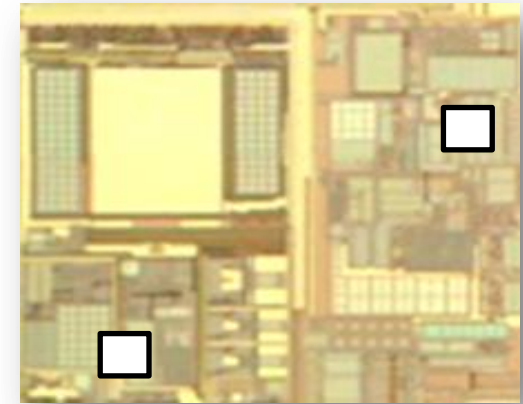
**re-produce**



**with protection**



**Security IP/Code by  
Authorized Use**



**Can NOT Work w/o  
Security IP/Code**

# Future Prospect

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

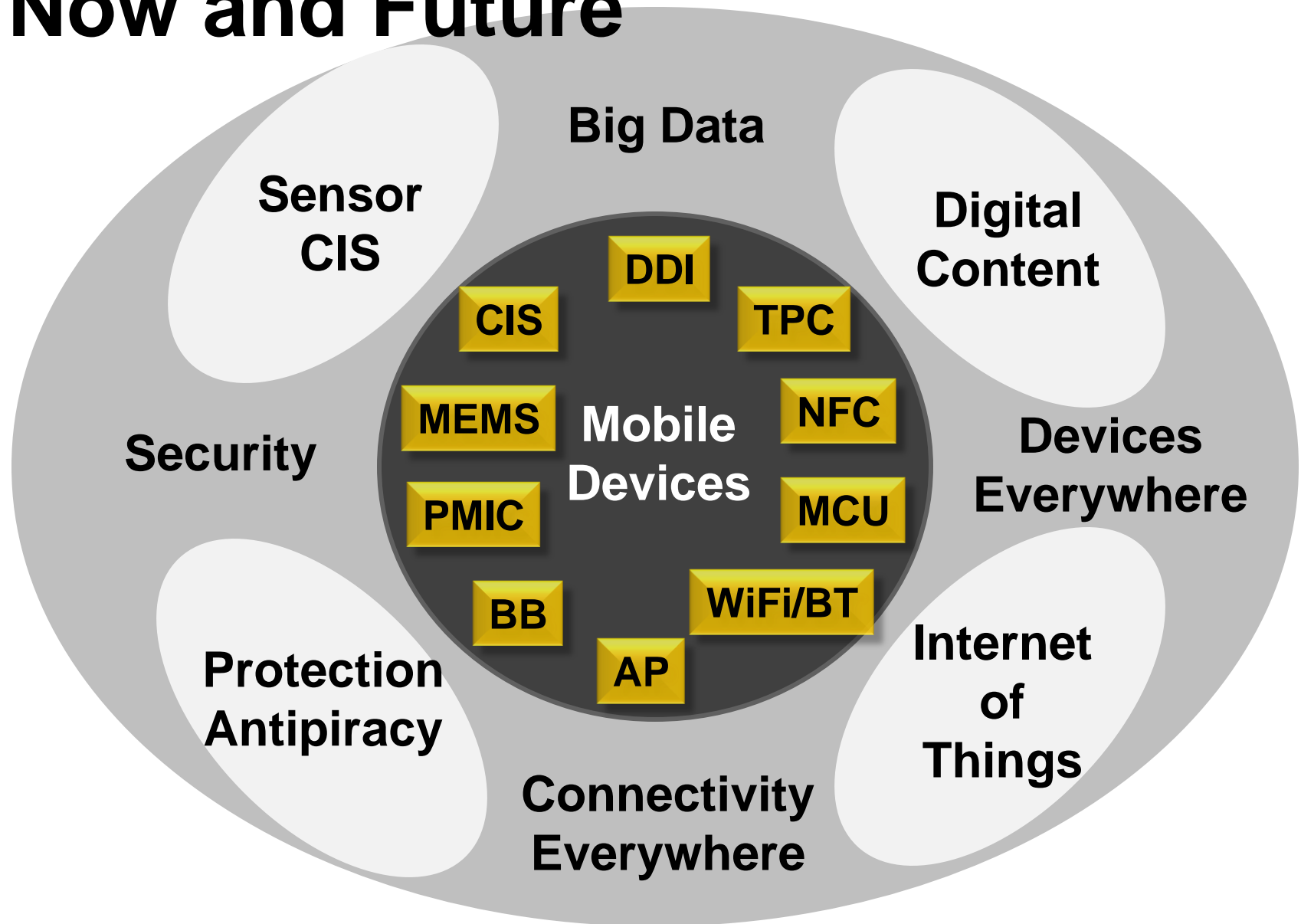
### Growth in more advanced technology

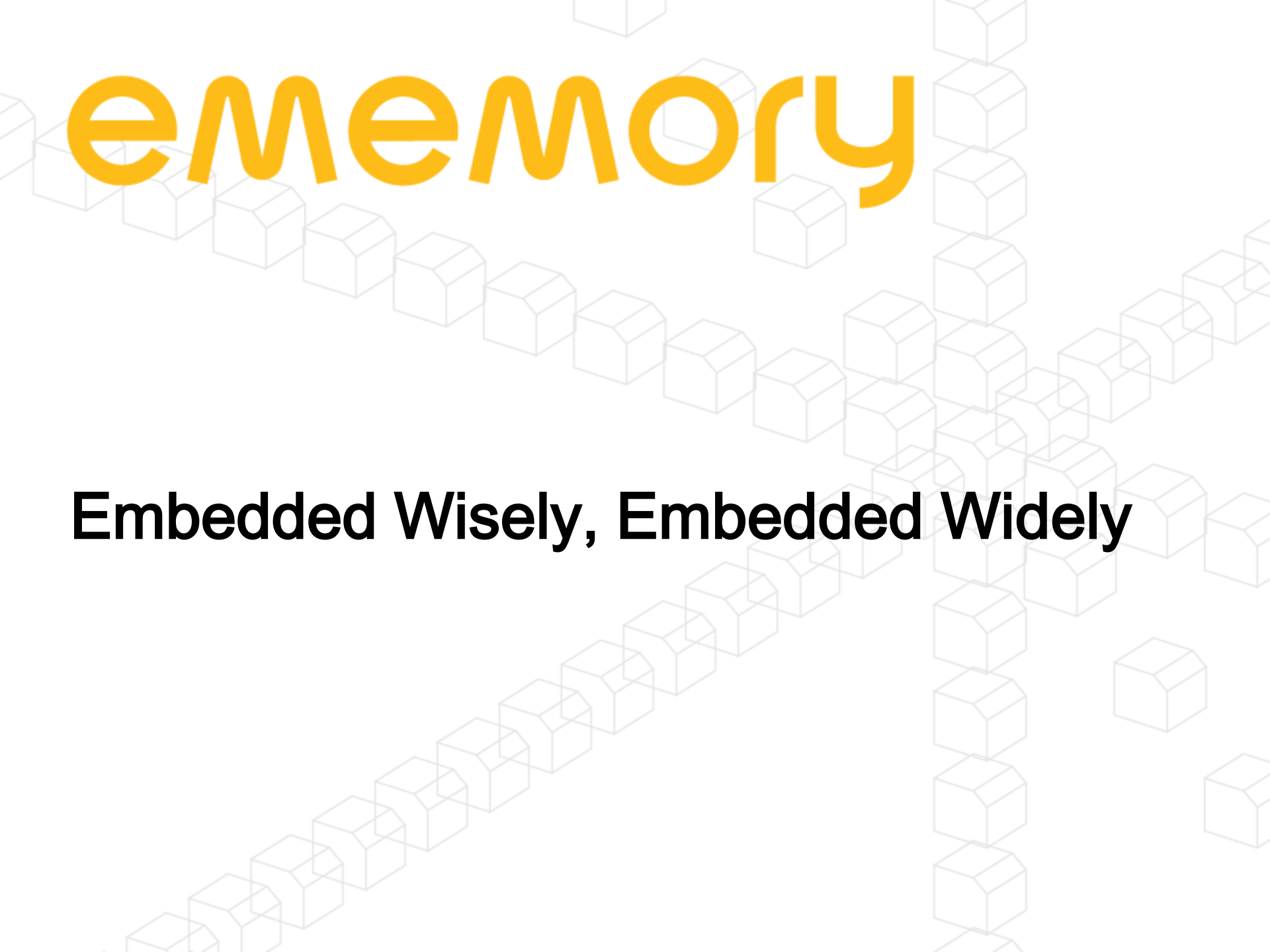
- Higher royalty per wafer is contributed from more advanced technology nodes.

### IOT great era

- Embedded Logic NVM will be a must.

# Now and Future





# ememory

**Embedded Wisely, Embedded Widely**