Q2 2025 Investor Conference

Aug 15th, 2025

Embedded Wisely, Embedded Widely

ememory

IPR Notice

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.

Contents

Review of Operations

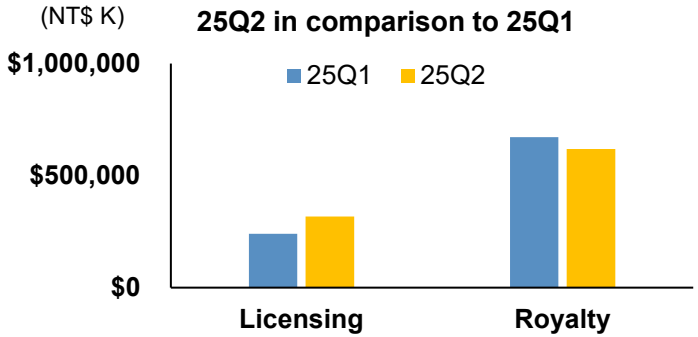
Q2 2025 **Financial Results**

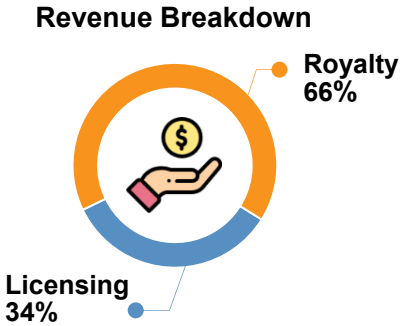
(thousands of NT dollars)

	Q2 2025	Q1 2025	QoQ	Q2 2024	YoY	H1 2025	H1 2024	YoY
Revenue	936,535	911,734	2.7%	893,010	4.9%	1,848,269	1,695,774	9.0%
Gross Margin	100%	100%	-	100%	-	100%	100%	-
Operating Expenses	390,644	389,387	0.3%	397,829	-1.8%	780,031	779,972	0.0%
Operating Income	545,891	522,347	4.5%	495,181	10.2%	1,068,238	915,802	16.6%
Operating Margin	58.3%	57.3%	1.0ppt	55.5%	2.8ppts	57.8%	54.0%	3.8ppts
*Net Income	399,995	461,706	-13.4%	475,096	-15.8%	861,701	905,673	-4.9%
Net Margin	42.5%	49.8%	-7.3ppts	53.0%	-10.5ppts	46.1%	52.8%	-6.7ppts
EPS (NT$)	5.36	6.18	-13.3%	6.36	-15.7%	11.54	12.13	-4.9%
ROE	50.4%	48.7%	1.7ppts	67.3%	-16.9ppts	54.3%	64.1%	-9.8ppts

*Net income attributable to Shareholders of the Company

Revenue across **Different Streams**





Revenue

NT$ Thousands	Q2 2025	Q1 2025	QoQ	Q2 2024	YoY	H1 2025	H1 2024	YoY
Licensing	317,976	240,217	32.4%	299,711	6.1%	558,193	528,040	5.7%
Royalty	618,559	671,517	-7.9%	593,299	4.3%	1,290,076	1,167,734	10.5%
Total	936,535	911,734	2.7%	893,010	4.9%	1,848,269	1,695,774	9.0%

Revenue by **Technology**

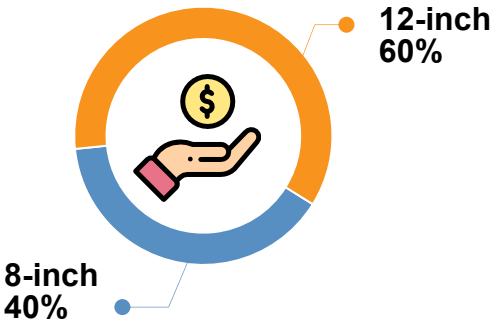
(thousands of NT dollars)

Technology	Q2 2025								
	Total Revenue			Licensing Revenue			Royalty Revenue		
	% of Q2 Revenue	QoQ	YoY	% of Q2 Licensing	QoQ	YoY	% of Q2 Royalty	QoQ	YoY
NeoBit	23.8%	-1.9%	-3.7%	18.8%	5.6%	-18.6%	26.4%	-4.3%	3.3%
NeoFuse	60.0%	-7.0%	8.2%	39.4%	6.3%	25.5%	70.5%	-10.3%	4.1%
PUF-Based	5.0%	169.5%	25.7%	14.7%	176.3%	24.7%	0.1%	-5.0%	238.0%
MTP	11.2%	66.4%	-0.4%	27.1%	77.0%	-3.1%	3.0%	30.4%	15.0%

Technology	H1 2025					
	Total Revenue		Licensing Revenue		Royalty Revenue	
	% of H1 Revenue	YoY	% of H1 Licensing	YoY	% of H1 Royalty	YoY
NeoBit	24.4%	6.9%	20.9%	-3.9%	25.9%	11.3%
NeoFuse	63.0%	10.3%	43.5%	10.7%	71.5%	10.2%
PUF-Based	3.5%	15.9%	11.4%	14.2%	0.1%	346.5%
MTP	9.1%	3.5%	24.2%	2.7%	2.5%	7.2%

Royalty Revenue by **Wafer Size**

Q2 Royalty Breakdown



- 8-inch wafers contributed 40% of royalty, down 13.4% sequentially and down 2% yearly.
- 12-inch wafers contributed 60% of royalty, down 3.8% sequentially but up 8.8% yearly.

Wafer Size	Q2 2025			H1 2025	
	% of Q2	QoQ	YoY	% of H1	YoY
8-Inch	40.0%	-13.4%	-2.0%	41.3%	7.0%
12-Inch	60.0%	-3.8%	8.8%	58.7%	13.1%

Future
Outlook

Future Outlook

Licensing & Royalty:

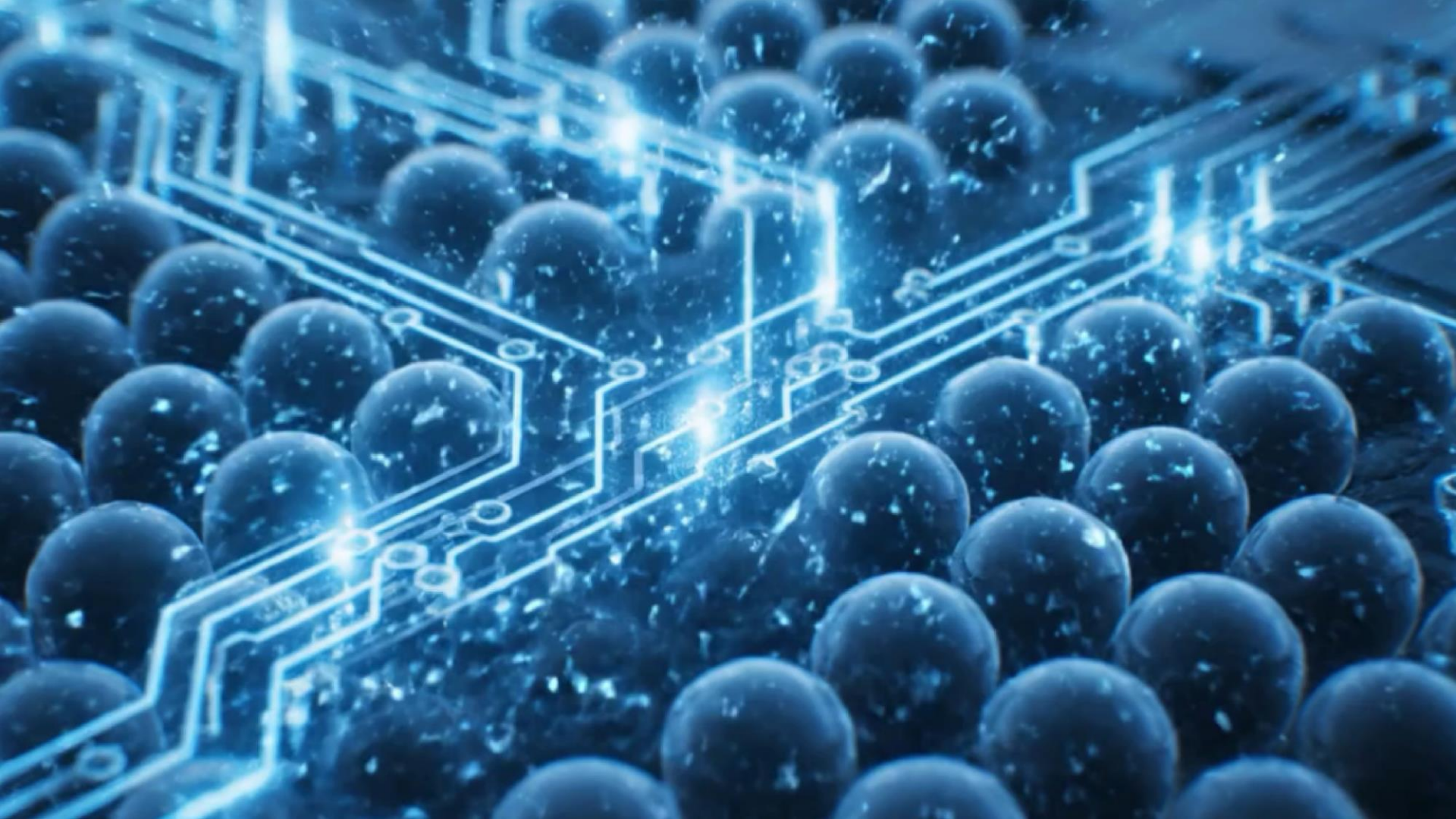
- **Licensing:**
  - We anticipate that licensing revenue will continue its growing momentum due to very strong demand from both foundries and fabless customers for our IPs.

- **Royalties:**
  - We expect royalty revenue to continue its growth trend as the accumulated tape outs in the pipeline that are moving into production. Particularly, we have started receiving PUF royalties which will accelerate our royalties growth momentum in the future.

Future Outlook

New IP Technology & Business Development:

- **New IP Technologies:**
  - Our new Post-Quantum Cryptography (PQC) has been fully developed and certified under NIST's CAVP program, covering the published FIPS 203 (ML-KEM) and FIPS 204 (ML-DSA) standards. This marks the official launch of our full-stack PUF_{PQC} architecture.
  - On TSMC's N3P process, our NeoFuse OTP, NeoPUF, and PUF-based Root of Trust have been qualified, enabling secure PUF-based solutions for advanced AI, HPC chips, and chiplet designs. We're also advancing development on N3C and N3A processes to serve value-tier products and automotive applications.
  - In partnership with leading foundries, we are advancing the development of 2nm technologies.



Chiplet Supply Chain Secured by NeoPUF

Security Challenges in Chiplets

Chiplet Supply Chain

IP Piracy 01
IP theft

Malicious Parts 02
“Trojan” chiplets may exist

Counterfeit Parts 03
Unauthorized chiplets can be inserted

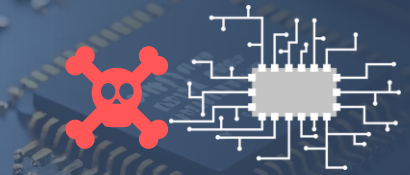
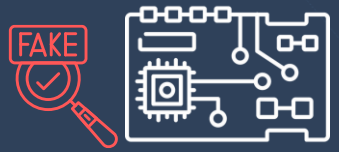
Authentication between Chiplets

01 **Primary Components**
e.g. Core / Accelerator

02 **Enabling Components**
e.g. I/O

03 **Supportive Components**
e.g. Memory

NeoPUF for Supply Chain Securiy

Design	Fab./ Packaging	Deployment
		
IP Piracy	**Malicious Parts**	**Counterfeit Parts**
NeoPUF	NeoPUF	NeoPUF
Built-in HUK, eliminating the need for key injection	Each component carries a PUF UID for device management	Keys & certificates generated by the PUF assist in supply chain management

Authentication between Chiplets

	Security Requirment	Hardware Root of Trust	Authentication Scheme
✓ Primary Components	High	• Anti-Tampering • Secure Storage • Unique ID • TRNG	• Two-way Authentication • Asymmetric Crypto
✓ Enabling Components	Moderate	• Anti-Tampering • Secure Storage • Unique ID • TRNG	• One-way Authentication • Symmetric Crypto
✓ Supportive Components	Basic	• Anti-Tampering • Secure Storage	• One-way Authentication • Symmetric Crypto

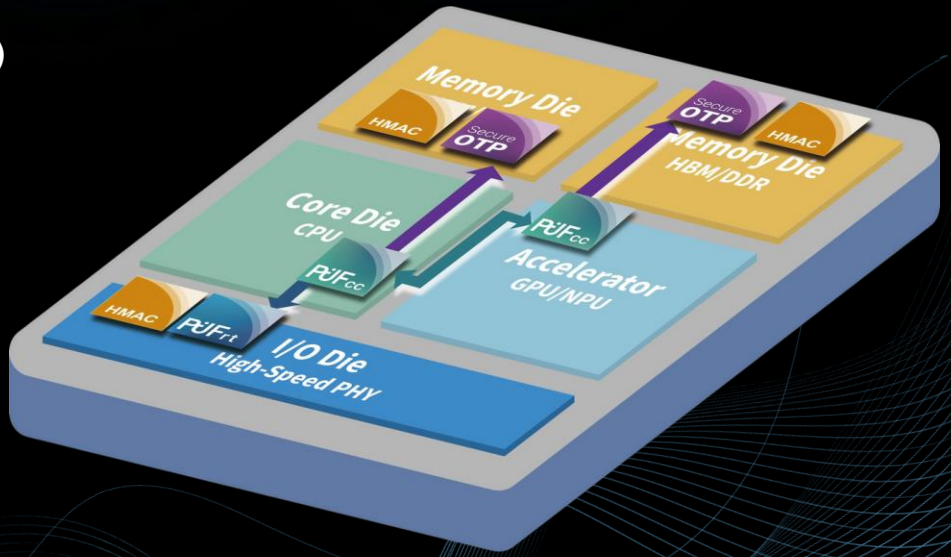
NeoPUF-based Solutions for Chiplet Security

Cryptographic Accelerator
(One-way symmetric authentication)

Secure Storage
(For key / certificates)

Hardware Root of Trust
(UID / Key)

Crypto Coprocessor
(Two-way asymmetric authentication)



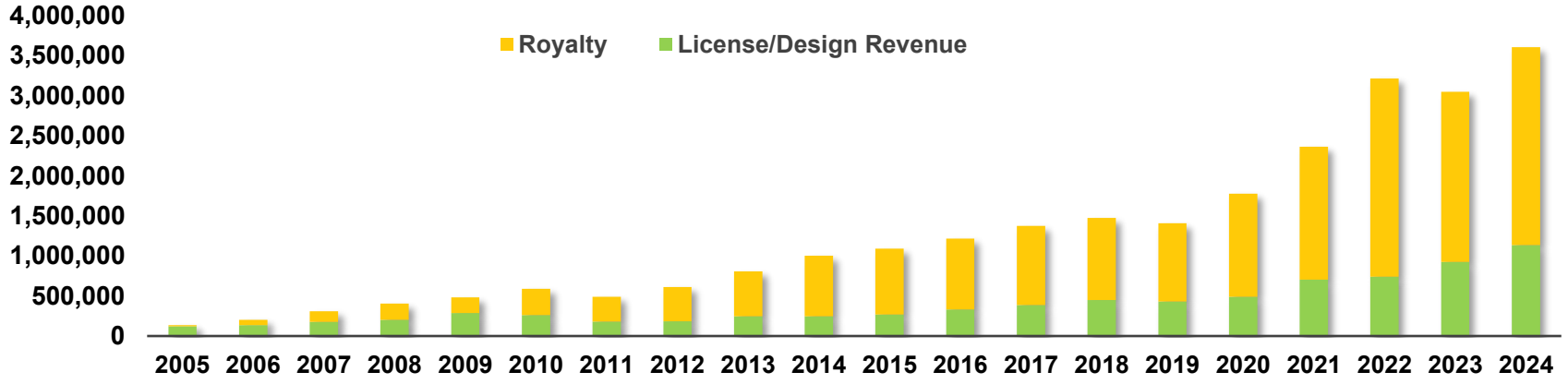
Q&A

Appendix

Company Overview

- eMemory is the global leader of embedded non-volatile memory IP

Revenue Trend
(Unit: NT$ 1,000)



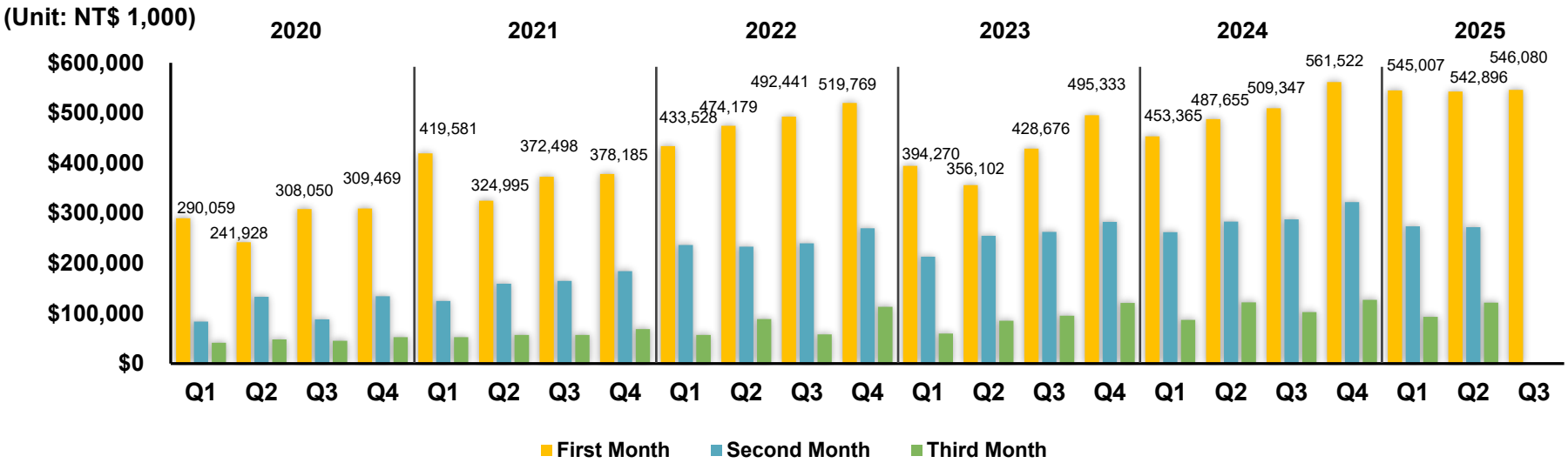
Founded
In 2000
Based in Hsinchu, Taiwan. IPO in 2011. Over 69M wafers shipped.

1300+
Patents Issued
214 pending patents. 360 employees with 69% R&D personnel.

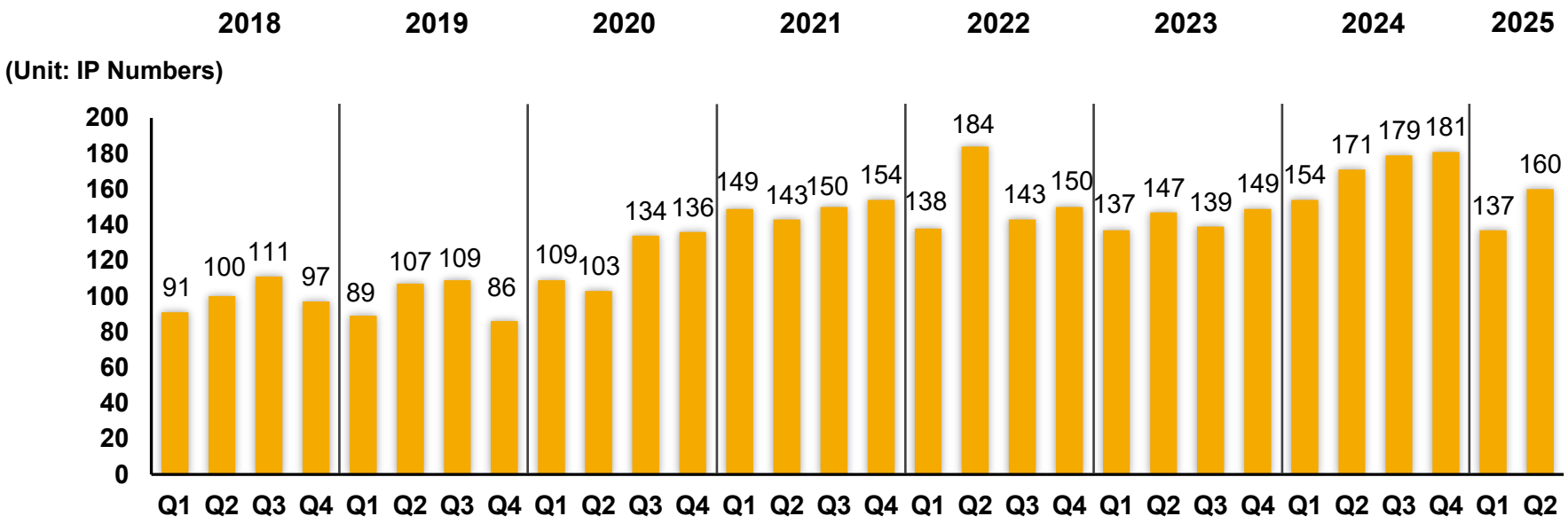
Best IP Partner
With TSMC
TSMC Best IP Partner Award since 2010.

Quarterly Revenue **Pattern**

- 1st month: Receive License Fees of the month and Royalty from most foundries on previous quarter's wafer shipments.
- 2nd month: Receive License Fees of the month and Royalty from other foundries.
- 3rd month: License Fees Only.



Quarterly Number of **New Tape-outs**



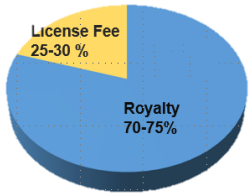
Worldwide Customers

- Our IP solutions are adopted by leading foundries, IDMs and fabless worldwide

Country	Foundry	IDM	Fabless
Taiwan	4	1	350
China	12	0	1361
Korea	4	0	103
Japan	1	9	88
North America	2	2	368
Europe	2	2	237
Others	1	0	127

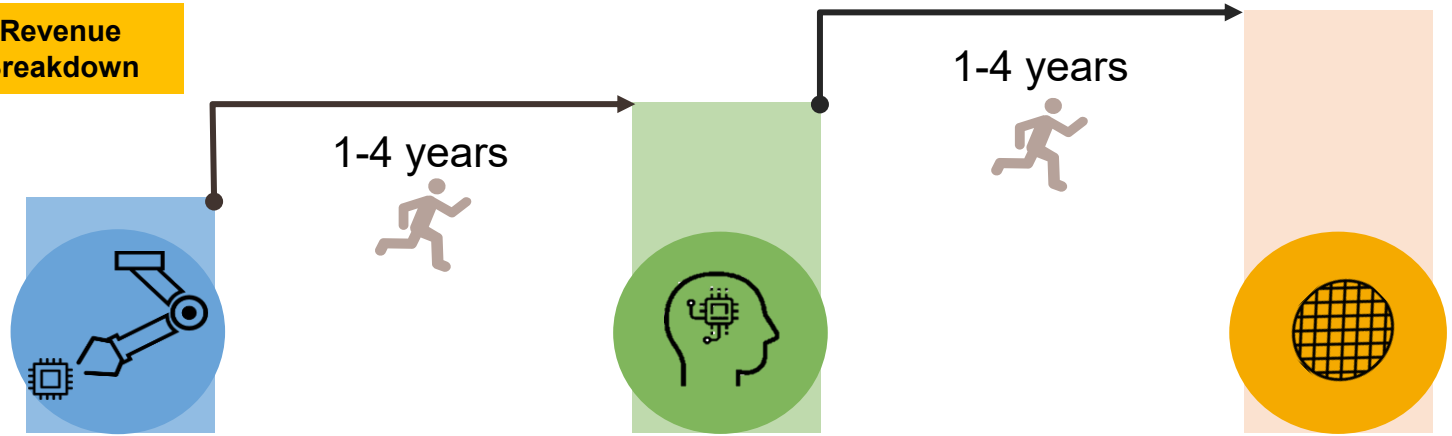
Business Model

- Recurring royalty is the backbone of our business



Revenue Breakdown

- 70-75% revenue are from royalty based on wafer production
- More adoption = more volume shipment
- More advanced node wafers = higher ASP per wafer



License Fee
Foundries Process Development

Design License Fee
Fabless Product Development

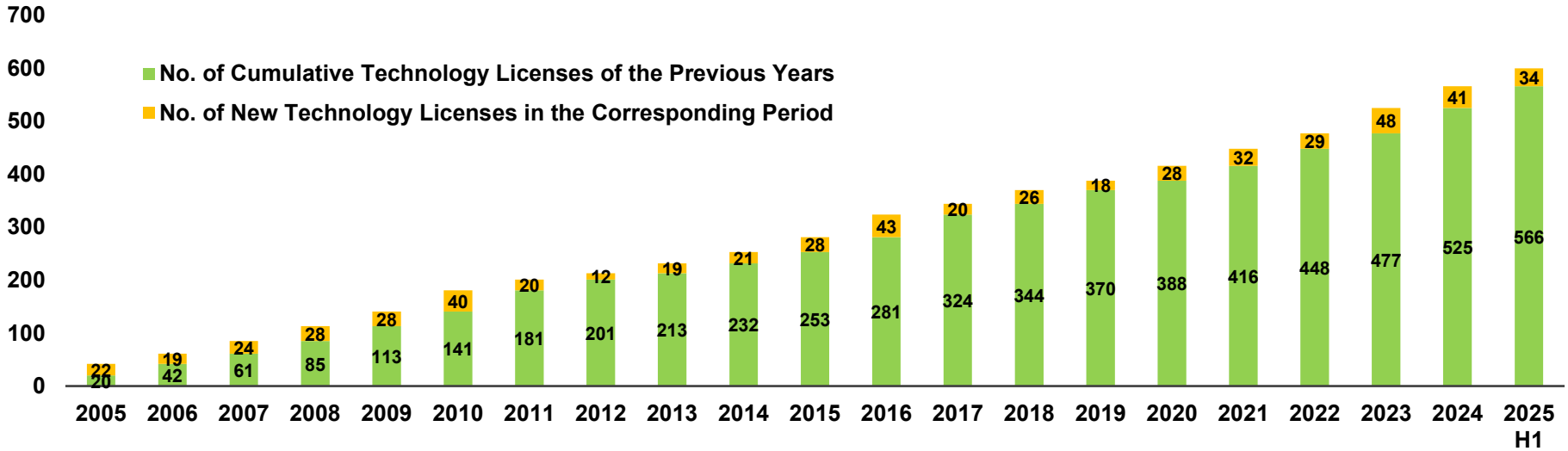
Royalty
Wafer Mass Production

Technology **Licenses**

Number of Licenses

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025 H1
License	43	20	26	18	28	32	29	48	41	34

Note: 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.



New Technology Under Development

- New technologies are being developed for 188 platforms by Q2 2025.
- 17 licensing contracts were signed.

Technology	2nm	3nm	4/5nm	6/7nm	12/16nm	22/28nm	40nm	55/65nm	80/90nm	0.11~ 0.13um	0.15~ 0.18um	>0.25um
NeoBit	-	-	-	-	-	-	-	1	1	14	12	3
NeoFuse	2	1	1	1	6	22	9	17	8	6	1	-
PUF-Based	-	-	1	1	1	1	-	1	-	1	-	-
MTP	-	-	-	-	1	2	3	12	12	17	30	-

Note: As of June 30th, 2025

Technology Development

- Developments by process nodes

12" Fabs	Production	Development	IP Type	Process Type
2nm	0	2	OTP	Nanosheet
3nm	2	1	OTP, PUF	FF, FFP
4/5nm	6	2	OTP, PUF	FF, FF-Auto
6/7nm	4	2	OTP, PUF	FF, FF+
12/16nm	14	8	OTP, PUF, MTP	FF, FF+, FFC. FFC+, LPP, DRAM, HV
22/28nm	65	25	OTP, PUF, MTP	LP/ULP/ULL, HPC/HPC+, HV-OLED, DRAM, SOI, RRAM, MRAM, E-Flash, BCD, WoW
40nm	26	12	OTP, PUF, MTP	LP/ULP, E-Flash, HV-DDI/OLED,ReRAM, BCD+
55/65nm	62	31	OTP, PUF, MTP	LP/ULP, E-Flash, HV-DDI/OLED, DRAM, CIS, BCD,PM
80/90nm	35	17	OTP, MTP	HV-DDI/OLED, LP,Generic ,BCD, CIS
0.11/0.13um	27	8	OTP, MTP	HV-DDI, BCD, Generic
0.15/0.18um	13	16	OTP, MTP	BCD, Generic
Total	254	124		

8" Fabs	Production	Development	IP Type	Process Type
80/90nm	9	4	OTP, MTP	HV-DDI, LL, BCD
0.11/0.13um	89	30	OTP, PUF, MTP	HV/HV-MR, BCD, LP/LL, CIS, Green, Flash, SOI, Generic, BiCMOS
0.152/0.16/0.18um	257	27	OTP, MTP	HV/HV-MR, BCD, LP/LL, CIS, Green,Generic
0.25um	42	2	OTP	BCD
0.3/0.35um	53	0	OTP, MTP	UHV, BCD
0.4/0.5um	11	1	OTP	UHV, BCD
Total	461	64		

Note: As of June 30th, 2025

THANKS

Embedded Wisely, Embedded Widely

For more information, please visit:
eMemory Website: https://www.ememory.com.tw/
PUFsecurity Website: https://www.pufsecurity.com/