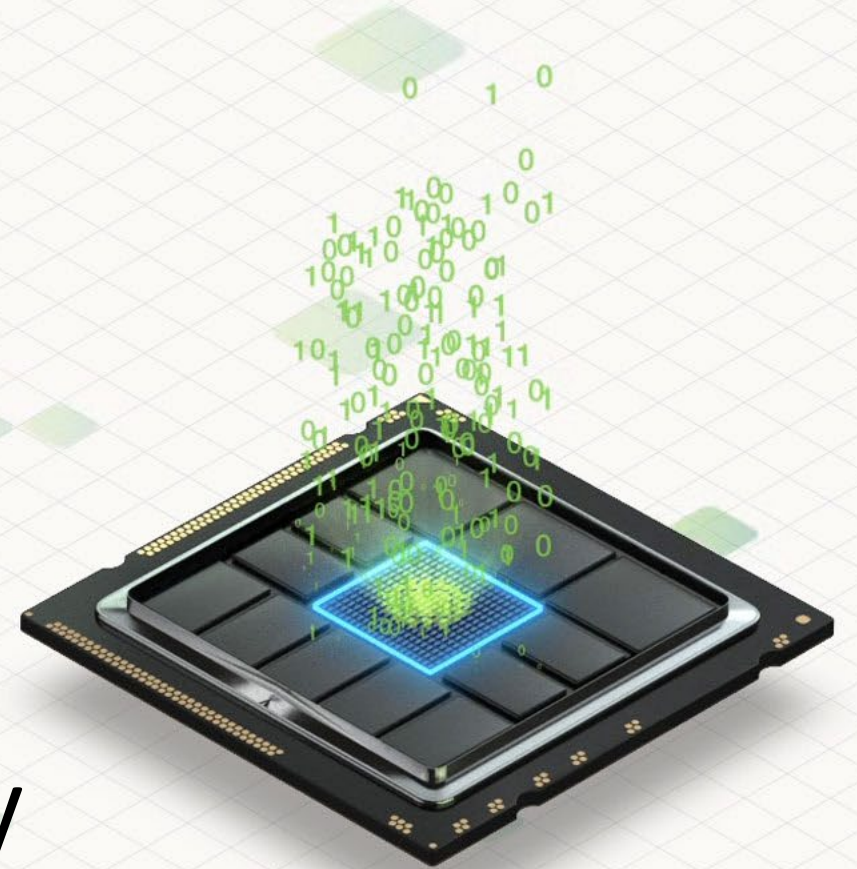




# ReRAM IP: A Revolutionary Semiconductor Opportunity

Semiconductor Australia Conference 2024

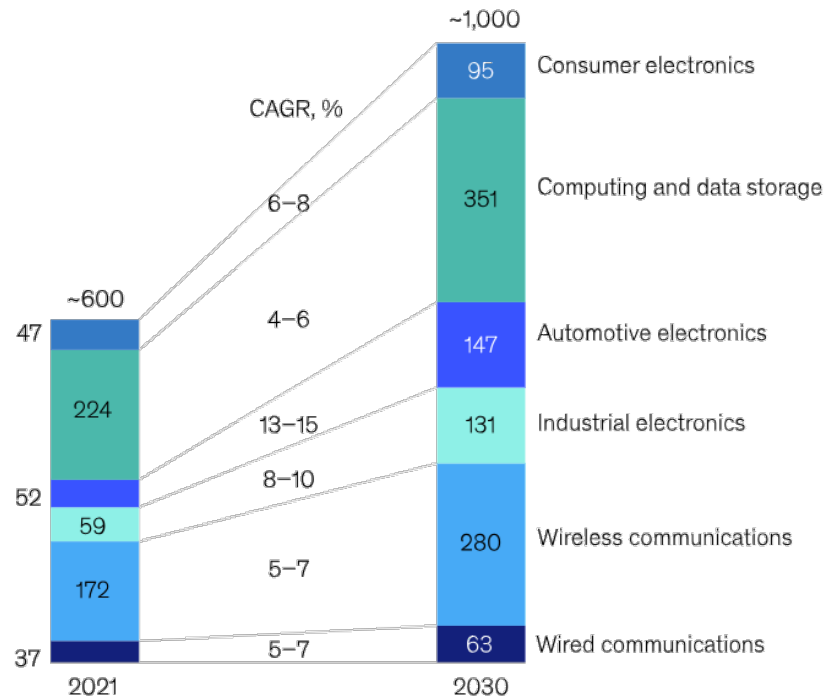


# Semiconductors Represent an Incredible Opportunity

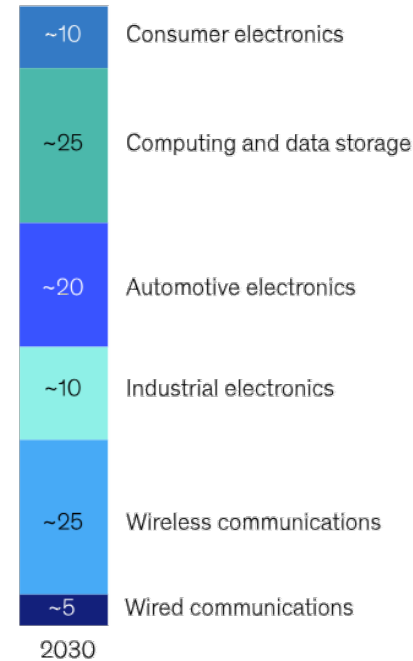
Semiconductors are everywhere, driving world markets

The semiconductor market is expected to reach \$1 trillion in value by 2030.

Global semiconductor market, \$ billion



Growth contribution per vertical, %



## Most of the world's top companies design or make semiconductors<sup>2</sup>

1. Microsoft
2. Apple
3. Nvidia
4. Alphabet
5. Amazon
6. Meta
7. TSMC
8. Berkshire Hathaway
9. Eli Lilly
10. Broadcom

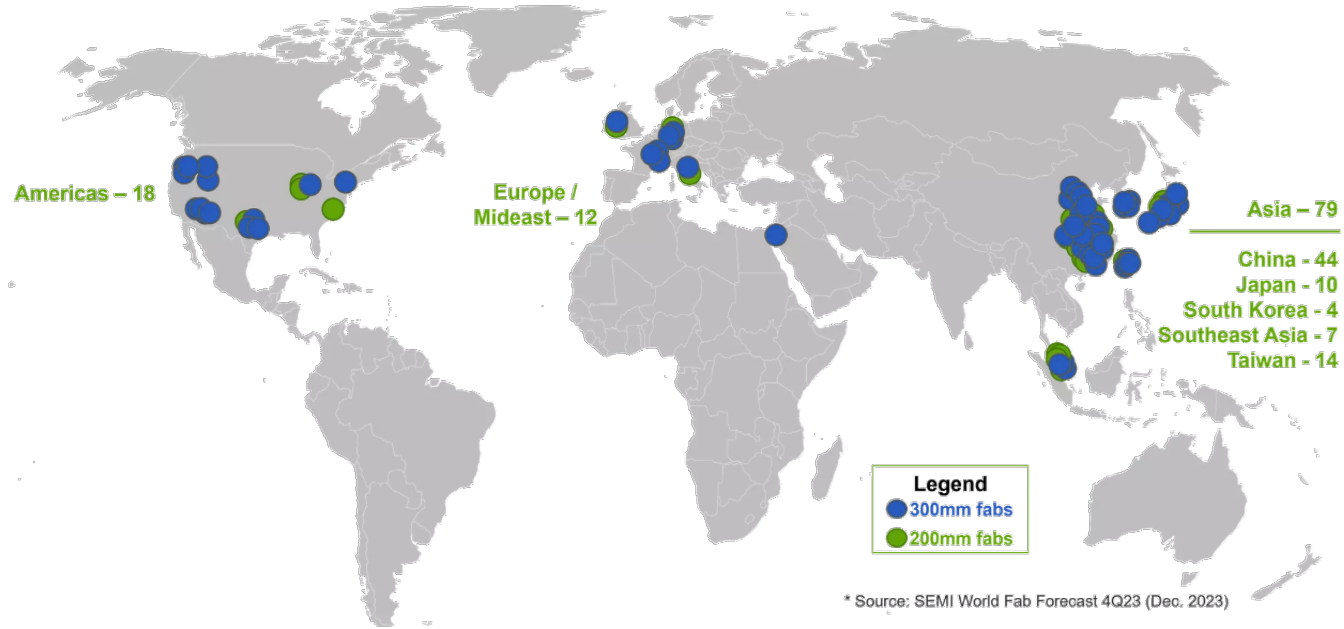
McKinsey & Company

(1) [https://www.mckinsey.com/~media/mckinsey/industries/semiconductors/our%20insights/mckinsey%20on%20semiconductors%202024/mck\\_semiconductors\\_2024\\_webpdf.pdf](https://www.mckinsey.com/~media/mckinsey/industries/semiconductors/our%20insights/mckinsey%20on%20semiconductors%202024/mck_semiconductors_2024_webpdf.pdf)  
 (2) By market cap as of June 30, 2024. [https://en.wikipedia.org/wiki/List\\_of\\_public\\_corporations\\_by\\_market\\_capitalization](https://en.wikipedia.org/wiki/List_of_public_corporations_by_market_capitalization)

# Investment in Semiconductors Ramping up Globally

## A growing opportunity for IP solutions

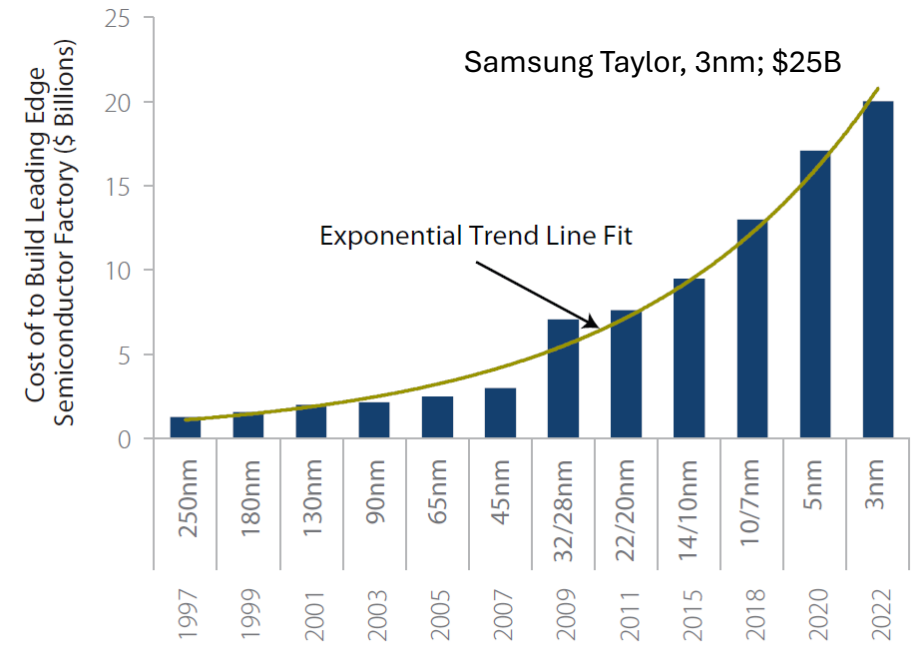
A record number of new fabs are coming online over the next couple of years<sup>1</sup>



SEMI World Fab Forecast: **109 new fabs worldwide** expected to come online 2022-2026

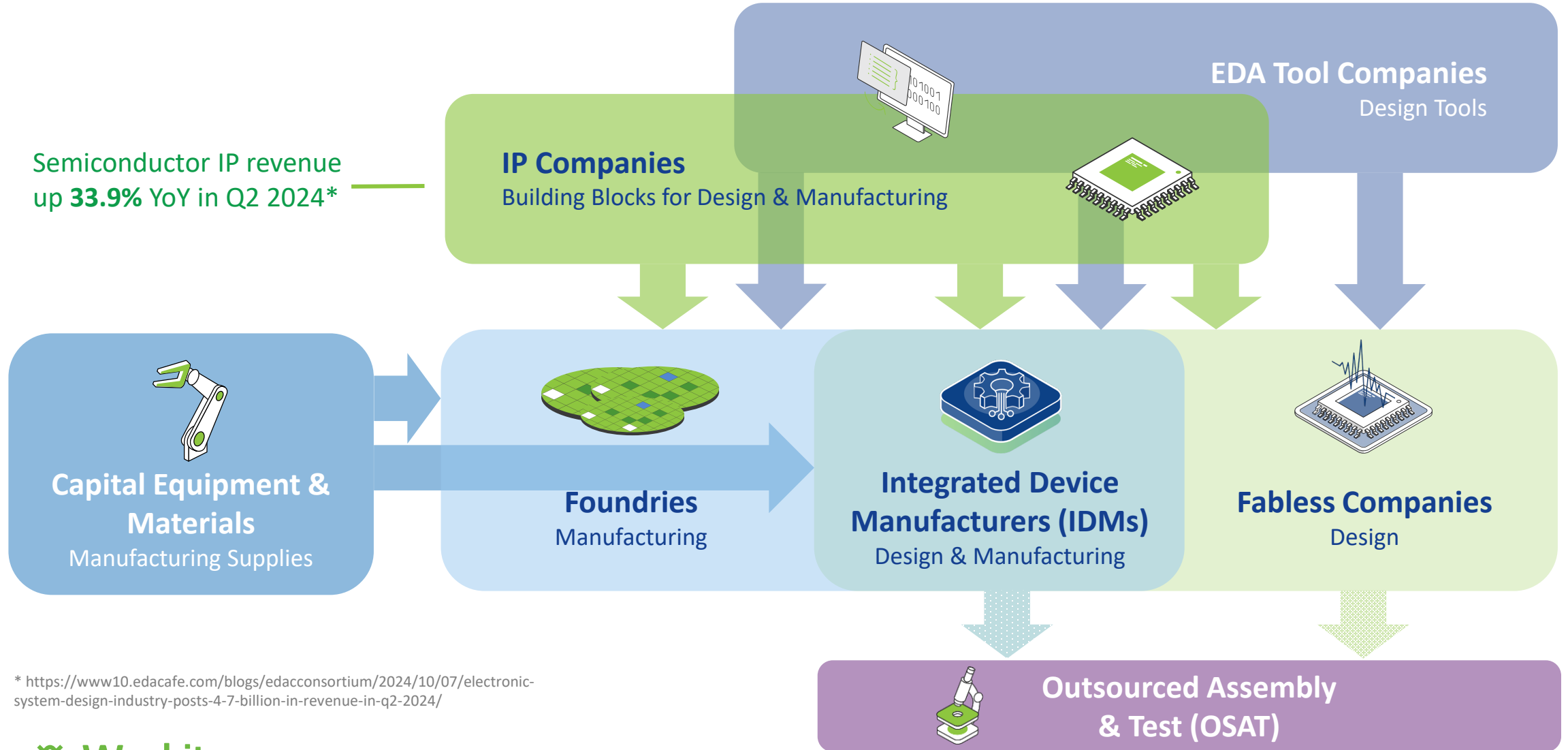
**\$800B** semiconductor fab investments 2021-2023<sup>2</sup>

Fab costs are skyrocketing; even the largest product companies license IP and use foundries<sup>3</sup>



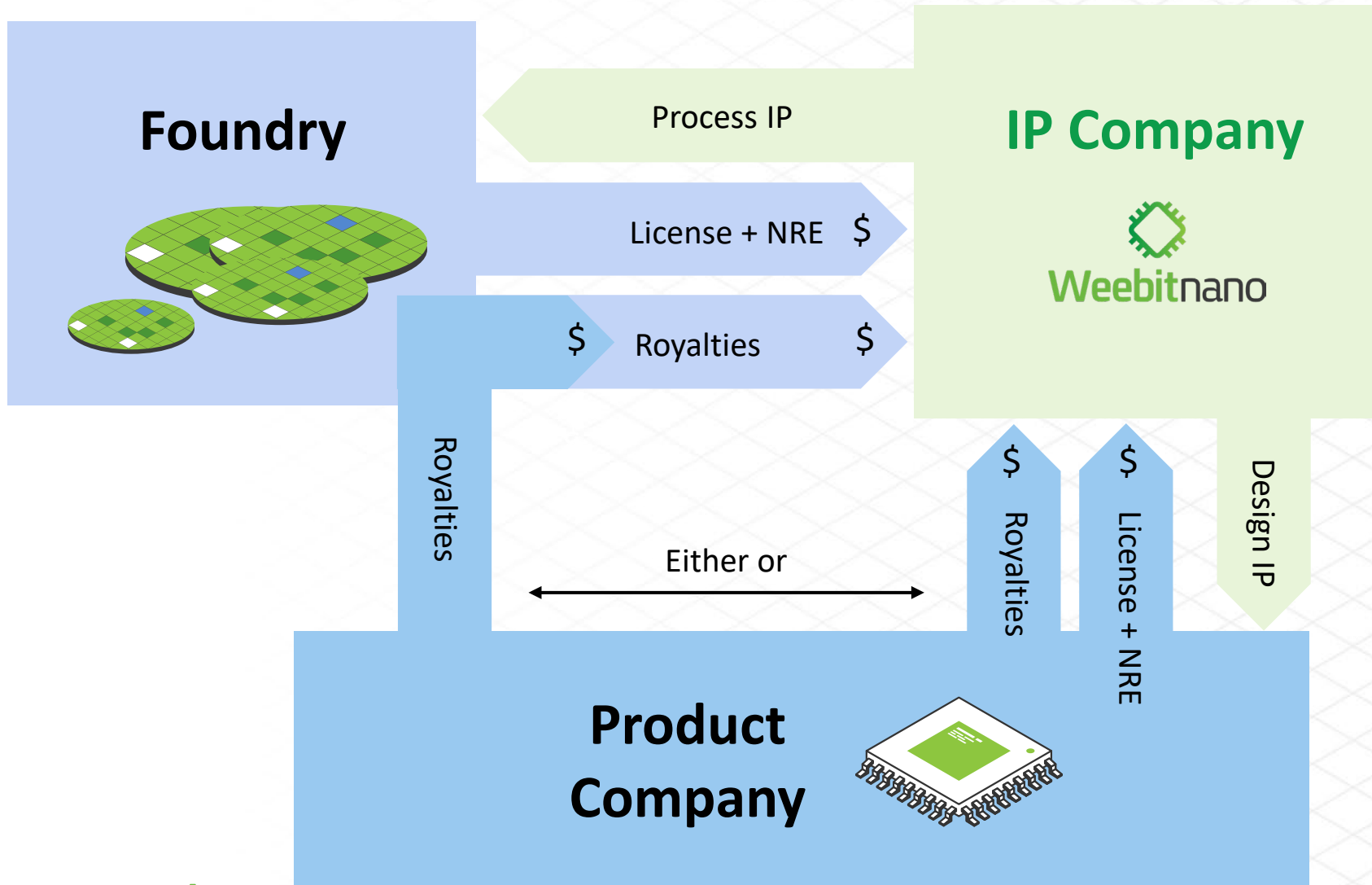
# The Semiconductor Ecosystem is Diverse

Semiconductor IP revenue up **33.9%** YoY in Q2 2024\*



\* <https://www10.edacafe.com/blogs/edaconsortium/2024/10/07/electronic-system-design-industry-posts-4-7-billion-in-revenue-in-q2-2024/>

# IP Business Model

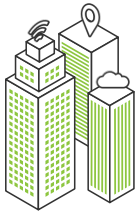


## Benefits of IP Model

- ❖ Low COGS
  - ◆ Direct costs are associated with supporting and maintaining IP
  - ◆ No inventory
- ❖ High gross and operating margins
  - ◆ Once IP is created, it gets sold multiple times
  - ◆ Royalties go directly to the bottom line

# Weebit: Leading Vendor of ReRAM IP

## Advanced Non-Volatile Memory (NVM) Now Entering Production



### Founded: 2015

Located: Israel & France  
50 personnel<sup>(1)</sup> (90% engineers/scientists; 13 PhDs)



### Multiple commercial deals

AU \$1million revenues received  
Ongoing discussions & evals with >12 foundries & customers



### Business model

IP licensing to semiconductor companies & fabs



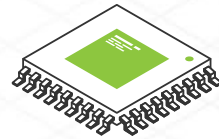
### Fast-growing markets

Edge AI, automotive, microcontrollers, power management/analog ICs...



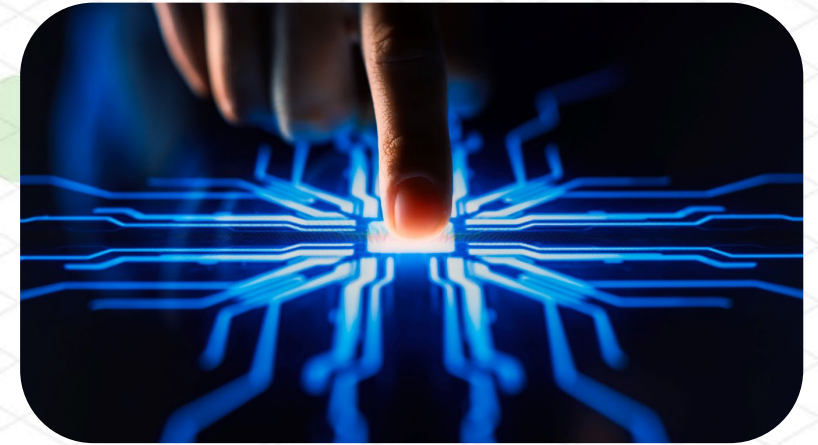
### R&D partner

CEA-Leti, a leading microelectronics research institute



### Proven, protected technology

Fully qualified per JEDEC; available for chip designers; 50+ patents & applications



ASX: WBT

S&P/ASX 300

MSCI  
Global Small Cap Index

\* Source: <https://www.mordorintelligence.com/industry-reports/non-volatile-memory-market>  
(1) Includes employees and full-time contractors

# Strong Board With World-renowned Semiconductor Industry Experience

**David (Dadi) Perlmutter**  
CHAIRMAN



**Dr. Yoav Nissan-Cohen**  
NON-EXEC. DIRECTOR



**Atiq Raza**  
NON-EXEC.  
DIRECTOR



**Naomi Simson**  
NON-EXEC.  
DIRECTOR



**Ashley Krongold**  
NON-EXEC.  
DIRECTOR



**Coby Hanoch**  
CEO



# Strong & Experienced Management

**Coby Hanoch**  
CEO



**Ishai Naveh**  
CTO



**Ilan Sever**  
VP R&D



**Amir Regev**  
VP QUALITY &  
RELIABILITY



**Issachar Ohana**  
CRO



**Eran Briman**  
VP MARKETING &  
BUSINESS DEV.



**Alla Felder**  
CFO

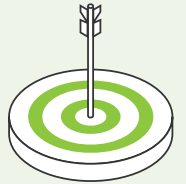


# The ReRAM Difference

ReRAM is the Emerging Memory Best Positioned to Lead the Next NVM Wave

		eFlash	MRAM	PCM	ReRAM
<b>Reliability</b>	High-temp reliability	●	●	●	●
	Radiation immunity	●	●	●	●
	EMI immunity	●	●	●	●
<b>Performance</b>	Low power consumption	●	●	●	●
	Fast programming	●	●	●	●
	High endurance	●	●	●	●
<b>Cost</b>	Production cost	●	●	●	●
	Contaminating materials	●	●	●	●
	Small module size	●	●	●	●
<b>Maturity</b>	Mature technology	●	●	●	●

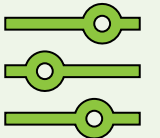
Weebit is the only independent provider of qualified ReRAM



We can license our technology to any fab\*



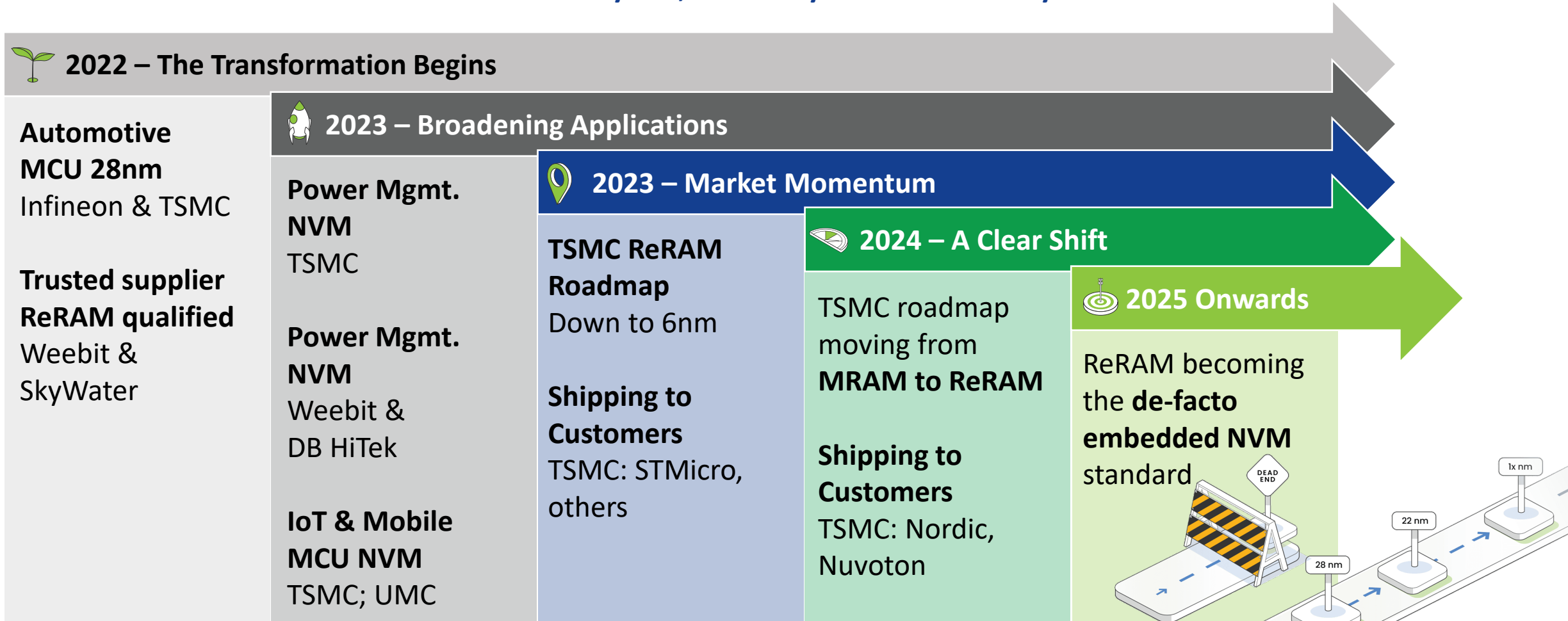
We can customize Weebit ReRAM per customer requirements



\* Except US blacklisted

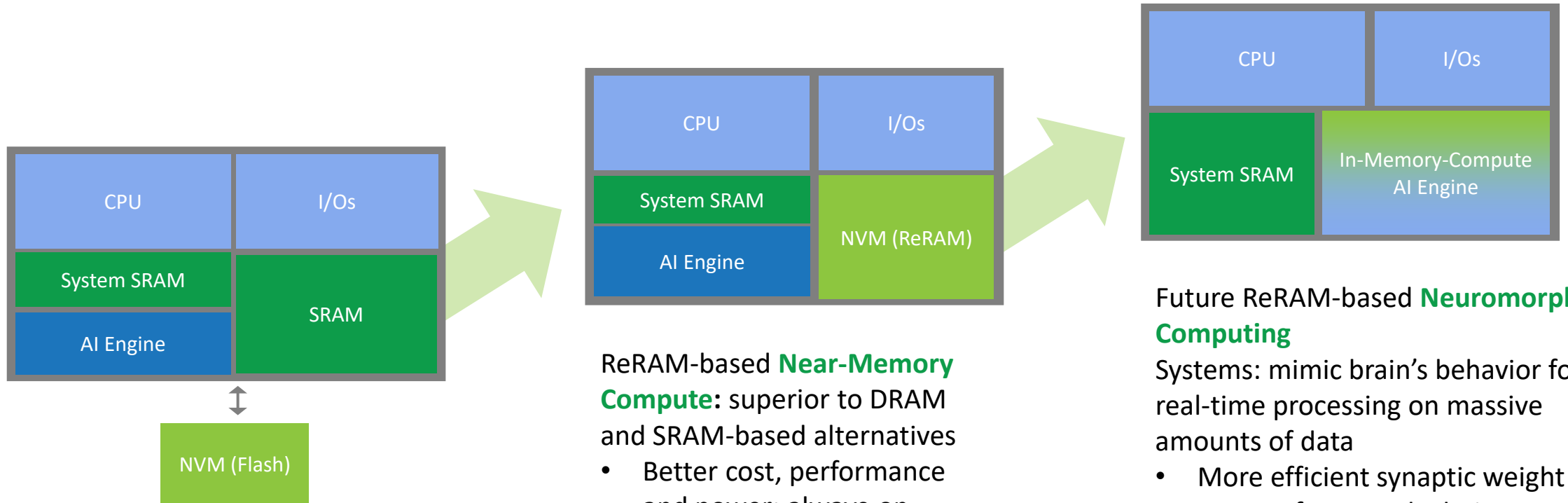
# The Transformation of the Embedded NVM Market

The market has transitioned over the last 1-2 years, and today it is clear to everyone that ReRAM is it!



\* Source: Emerging Non-Volatile Memory report, Yole Intelligence, 2023 and 2024; Internal company information

# ReRAM to Drive Innovation for Edge AI and Future Neuromorphic Compute



## Today's **2-chip solution**

External NVM holds weights

Weights copied into SRAM

- Wasteful in terms of size & cost
- Prohibitive power

ReRAM-based **Near-Memory Compute**: superior to DRAM and SRAM-based alternatives

- Better cost, performance and power; always-on availability
- Eliminates external NVM

## Future ReRAM-based **Neuromorphic Computing**

Systems: mimic brain's behavior for fast real-time processing on massive amounts of data

- More efficient synaptic weight storage for NN calculations: **4X greater capacity** than SRAM
- Three orders of magnitude (**x1000**) **better energy efficiency**

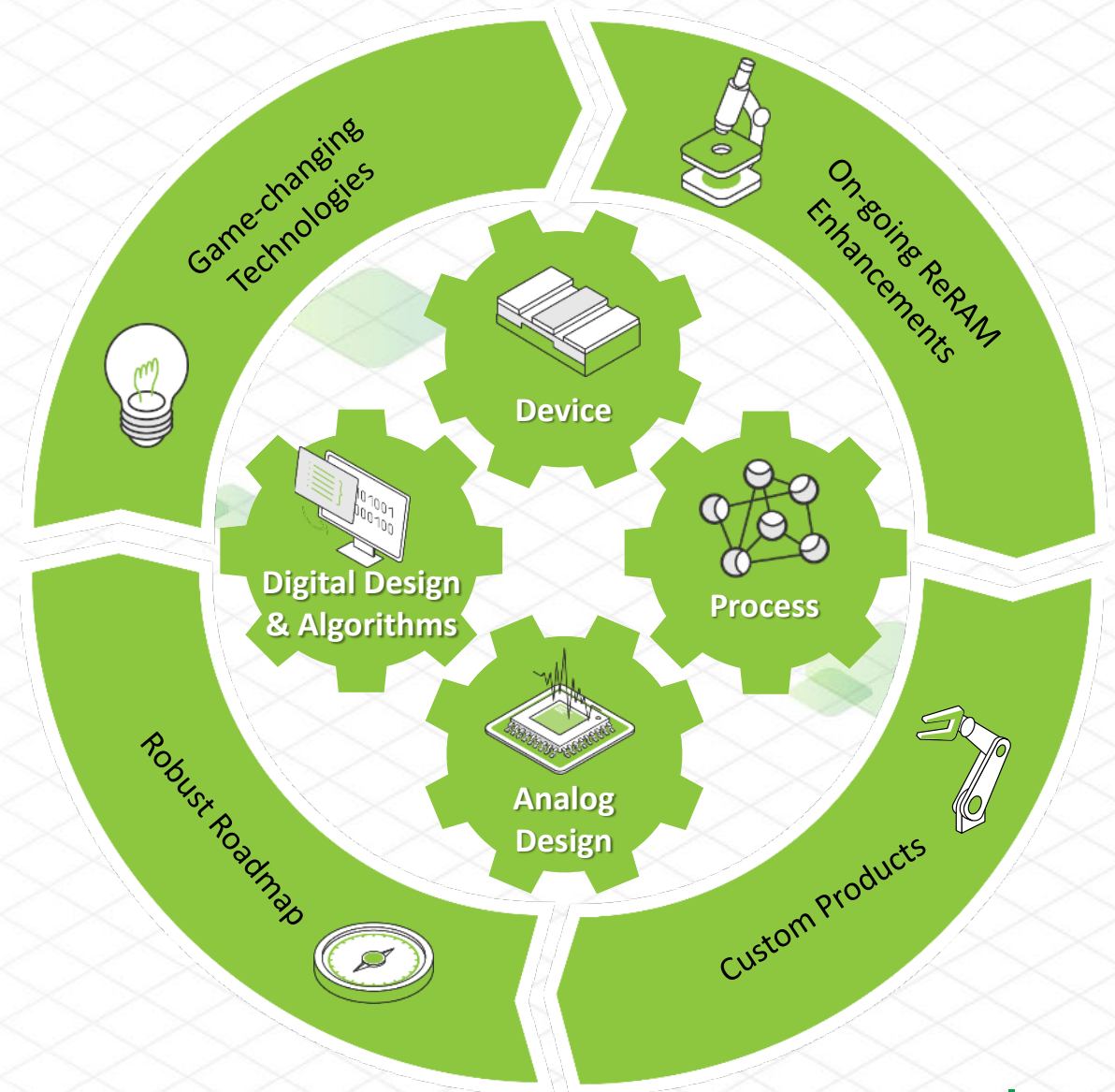
# We've Got What it Takes

State-of-the-art ReRAM requires intimate cooperation between the different disciplines

Precise characterization and rigorous testing ensure continuous improvements

- ❖ Test and characterization team enables fast adjustments → higher reliability/yield
- ❖ Advanced lab in-house enables very short loop

A focused, experienced, management team is critical



# How Can we Raise Visibility for Semiconductors in Australia?

- ❖ Government strategic decision
  - ◆ Reflected in funding and incentives
- ❖ ASIC/ASX regulations
  - ◆ Currently a major obstacle to high-tech
- ❖ Encourage multinational semiconductor giants to set up local design and manufacturing centers
- ❖ Set up semiconductor association – Oz Semi
- ❖ Let's discuss other ideas!

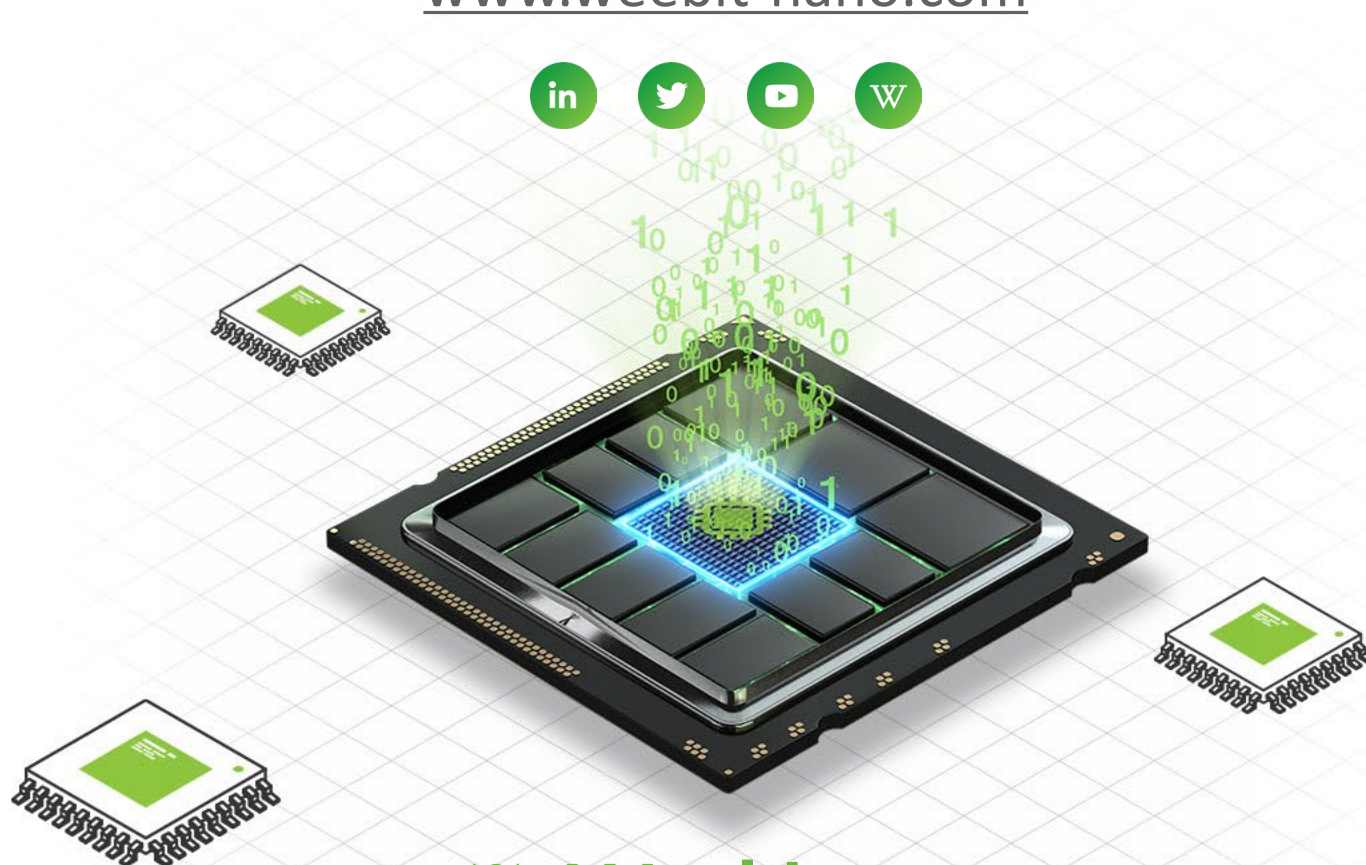
**Australia has strengths in design, entrepreneurship and materials – building blocks for a local semiconductor industry**



Source: By Flickerd - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=60802045>

# Thank You!

[www.weebit-nano.com](http://www.weebit-nano.com)



 **Weebitnano**  
THE NEXT NVM IS HERE