

# Weebit ReRAM: A Strategic IP for the Semiconductor Industry

May 2025





## **Semiconductors Represent an Incredible Global Opportunity**

#### Revenues indicate the possibility of the chip industry hitting US\$1 trillion in 2030

The path to \$1 trillion in semiconductor revenues (\$Billions)

WSTS actuals, estimates and predictions

Industry revenue slope



Note: A = Actual, E = Estimate, P = Prediction.

Source: Deloitte analysis and extrapolation based on data from World Semiconductor Trade Statistics.

Deloitte. deloitte.com/us/en/insights/research-centers/center-for-technology-media-telecommunications.html

https://www2.deloitte.com/us/en/insights/industry/technology/technology-media-telecom-outlooks/semiconductor-industry-outlook.html (1)

(2) By market cap as of March 31, 2025. https://en.wikipedia.org/wiki/List of public corporations by market capitalization

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

1.	Apple
2.	Microsoft
3.	<mark>Nvidia</mark>
4.	Amazon
5.	Alphabet
6.	<mark>Meta</mark>
7.	Berkshire Hathaway
8.	Tesla

- Broadcom 9.
- Eli Lilly 10.



Semiconductor Conference 2025

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## Embedded Non-Volatile Memory (NVM) is Strategic IP

#### **Ubiquitous across Foundational to Drives Strategic across Growing Applications Modern Electronics** Differentiation the Supply Chain Performance: faster Al, IoT, automotive, Critical for: • Designers: simplify Firmware and code industrial, medical, operation, better architecture; reduce consumer, defense endurance BOM storage Enables device • Foundries: added value Data logging Power consumption: intelligence, security, Both run-time and Al weights and data vs. competition and resilience tables sleep power • OEMs: smarter, more Configuration and System integration: secure products calibration data Enabling single-chip • Ecosystem: differentiate and monetize IP solutions Secured: Prevent from chip hacking



## **Emerging NVMs Growing Steadily**

#### Emerging Memory Revenues 2023-2034 (US\$M)\*



\* Source: A Deep Look at New Memories, Objective Analysis & Coughlin Associates, 2024 Baseline projection



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## A Brief History of Non-Volatile Memory (NVM)



## 2024 NVM Survey Shows ReRAM Making Strides

What type of NVM IP are you considering for your next design?



\* Source: https://semiwiki.com/ip/355284-emerging-nvm-technologies-reramgains-visibility-in-2024-industry-survey-2/



# Weebit Overview: 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

Including tier-1 IDM onsemi; ongoing discussions/evals with >20 foundries/IDMs/product companies



#### **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 and AEC-Q100; available for chip designers; 80+ patents/applications



### **ASX: WBT**

S&P/ASX 300



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



### **Addressing Fast-Growing Semiconductor Markets**

#### >US\$200 Billion TAM in Customer Markets



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### **Embedded NVM for Power Management ICs**



### APPLICATIONS

Code storage (controller), configuration, trimming and calibration in high-voltage designs & size-constrained devices

### TREND: SYSTEM INTEGRATION

Reduces cost, size and complexity; enhances power efficiency and security

### REQUIREMENTS

Low density (1Mb), low endurance (1K), high-temp operation (125°C) Must be easy to integrate with BCD process (BEOL preferred)

#### **ALTERNATIVES**

OTP and MTP (limited endurance, large die size) eFlash (integration cost and risk!) ReRAM (lower cost, easy integration, high-temp stability)

#### Weebit has agreements with onsemi (65nm BCD) and DB HiTek (130nm BCD)



## **Embedded NVM for Automotive**



#### **APPLICATIONS**

Motor control, power management, microcontrollers NVM for code storage, data tables, data logging, configuration

### TREND: SCALING TO ADVANCED NODES

Increasing number of semiconductors per car, performance requirements increasing; NVM must effectively scale <28nm

#### REQUIREMENTS

High-temp reliability (150°C), high endurance (100K), high density (2-16MB), EMI immunity, fast switching speed, secure

#### **ALTERNATIVES**

eFlash can no longer scale <28nm MRAM (not immune to EMI, high complexity and cost) ReRAM (EMI immunity, high-temp stability)

\* Flash equivalent

#### Weebit ReRAM is qualified for AEC-Q100 150°C operation for up to 100K endurance cycles



## **Embedded NVM for Edge AI**



### **APPLICATIONS**

Al inference at the edge Broad applications in consumer, industrial, IoT, automotive and more

### TREND: NEAR-MEMORY COMPUTE

Bring compute and memory together; eliminate external ICs, reduce cost, size and complexity; enhance power efficiency and security

#### REQUIREMENTS

High density (4-32MB), high bandwidth, wide temperature range, low power consumption, scalable to advanced nodes

#### **ALTERNATIVES**

External flash IC (wasteful in power/cost/size, unsecure) MRAM (high cost, not immune to EMI, security risk) ReRAM (lower cost, easy integration, high-temp stability)

#### We demonstrated Weebit ReRAM + EMASS' ultra-low power AI SoC in our booth this week



### **Select Recent Progress Highlights**





## 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 characterisation team enables fast adjustments → higher reliability/yield
- Advanced lab in-house enables very short loop

# A focused, experienced, management team is critical







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