



# **Progressing on technical & commercial fronts**

Q1 FY23 update

31 October 2022

### **Key Q1 FY23 Highlights**



## **Progressing on technical and commercial fronts**

Successfully qualified ReRAM module at CEA-Leti, meeting industry standard requirements for production-quality

Progressing ReRAM selector development – now suitable for discrete <u>and</u> embedded applications

Increases target applications

Wafers expected back from SkyWater in 2022; qualification will commence immediately after

Increased engagement with potential customers and partners; leading fabs in different stages of engagement and evaluation



## **Significant Progress in Last 12 Months**

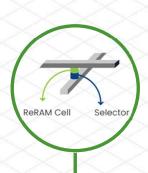


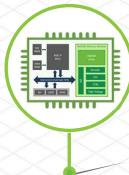












#### **OCT 2022**

Final qualification of ReRAM IP module. Industrial-grade temperatures



Raised further A\$35m; well funded to 2024 **MAR 2022** 

Scaling the technology to 22nm FD-SOI

**JUN 2022** 

**ReRAM IP** module fully functional, live demonstration **JUL 2022** 

Tape-out of IP module to SkyWater foundry; first tape-out to commercial fab **OCT 2022** 

ReRAM selector can achieve high densities needed for discrete & embedded applications

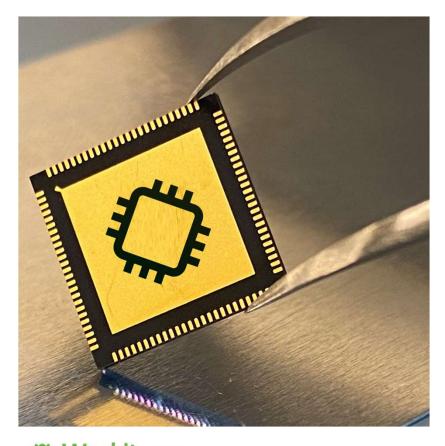
#### **OCT 2021**

Demonstrated 1Mb ReRAM arrays in 28nm FD-SOI



Weebit Nano Proprietary

## Successful completion of qualification of ReRAM memory module



Successfully completed technology qualification of the ReRAM memory module produced at Leti

 Qualified wafer lots met JEDEC microelectronics standards for endurance, retention, and SMT reflow at industrial temperatures

Weebit and Leti are now qualifying the ReRAM module at even higher temperatures and endurance, required for some advanced applications

Qualification results have shown the repeatability, uniformity, and maturity of Weebit's embedded ReRAM

 Qualification results are significant and relevant for other foundries and potential customers

As a result of this qualification data, Weebit is already in various stages of discussion and evaluation with several Tier-1 fabs and potential customers



#### ReRAM Selector further enhanced to increase target applications

Further development of ReRAM selector means it is now suitable for both embedded and discrete applications

Significantly increasing the number of target applications

Demonstrated the ability of the selector to achieve high densities required for discrete chips while using fab-friendly materials and standard tools

Selector is also suitable for future embedded applications that will benefit from higher densities, such as edge AI and automotive

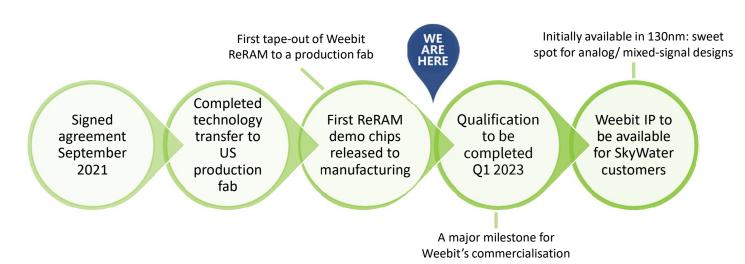
Latest progress paves the way for the selector to be easily integrated into any CMOS fab

 Reduces manufacturing costs, complexity and potentially enabling high-capacity memory arrays while keeping size and power requirements to a minimum





### **Continued progress with SkyWater**







President Biden holding a SkyWater wafer; Source: NBC News, April 12, 2021

- Once chips are received back from the fab, SkyWater customers can use them for testing & prototyping ahead of qualification
- After qualification, SkyWater customers can embed Weebit ReRAM IP in new product designs



#### Increasing market engagement

#### **Progressing with Tier-1 fabs and customers**

Tier-1 fabs are experiencing increased demand from customers for advanced NVM technology and are actively looking for suitable solutions

- Qualification results from the Leti wafers enabled engagement with several Tier-1 fabs and key customers, and some of whom are now in different stages of evaluation
- Evaluation engagements are very detailed and require significant work, but present a real potential for expanding Weebit's commercial activities

Weebit Nano was an exhibitor and speaker at the Flash Memory Summit (FMS) 2022 – the largest global conference for the Non-Volatile Memory ecosystem

 Showed two demonstrations of its ReRAM technology at the conference

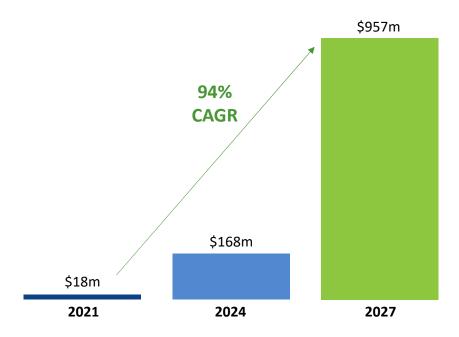






#### **Embedded ReRAM Market – Approaching the Tipping Point**

#### **Embedded ReRAM Market Size 2021 - 2027**



Source: Yole Emerging Non-Volatile Memory 2022 Note: The embedded emerging NVM market size is evaluated based on assumptions of the average chip area occupied by a given memory technology (Yole)

Embedded emerging NVM market expected to reach \$2.9B by 2027

ReRAM expected market share: 33%

Embedded memory is a clear differentiator for semiconductor companies



Nordic to buy its embedded memory supplier, Mobile Semi

8th July 2022

Norwegian RF chip maker Nordic Semiconductor is to acquire US embedded memory IP supplier Mobile Semiconductor.

### **Weebit Nano Key Targets for FY23**





## **SkyWater**

Conclude qualification of embedded ReRAM module at SkyWater



Qualify the technology also for automotive operating conditions



#### **Fab Partners**

Sign an agreement with a tier-1 fab



#### **Customers**

Close initial customer agreements



Further technical enhancements to the ReRAM cell and Selector technologies



Continue scaling down the technology to 22nm and beyond

## **Key Takeaways**

The semiconductor industry is nearing the tipping point of moving to a new embedded NVM technology



The industry needs a new Non-Volatile Memory solution



Weebit ReRAM
has unique
advantages;
well positioned
to replace flash



Strong tech progress: first tape-out to production fab; tech proven across multiple geometries



Board
& management
have extensive
semiconductor
commercialisation
experience



On track to deliver a production solution across a range of high-growth markets



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