

## ASX RELEASE

### Weebit demonstrates successful scaling of its ReRAM technology to 28nm

#### Key highlights:

- Weebit, together with its development partner CEA-Leti, demonstrate production-level parameters for its ReRAM technology at 28nm
- Key step in productising the technology for the embedded memory market
- Weebit's ReRAM technology can support smaller geometries used in AI, autonomous driving, 5G and advanced IoT
- Weebit's ReRAM is well-positioned to be a key memory technology for embedded non-volatile memory for advanced process nodes where flash memory is no longer feasible

1 October 2021 – **Weebit Nano Limited (ASX:WBT)**, a leading developer of next-generation memory technologies for the global semiconductor industry, together with its development partner CEA-Leti, have demonstrated production-level parameters of Weebit's Resistive Random-Access Memory (ReRAM) technology in a 28 nanometre (nm) process.

Demonstrating production level parameters of Weebit's ReRAM technology at 28nm is a key step toward productisation<sup>1</sup> of embedded Non-Volatile Memory (NVM) for applications such as AI, autonomous driving, 5G, and advanced Internet-of-Things (IoT) processors<sup>2</sup>.

Weebit and CEA-Leti, the French research institute recognised as a global leader in the field of microelectronics, jointly tested, characterised and measured functional 1 Megabit (Mb) ReRAM arrays in a 28nm process technology on 300 millimetre (mm) wafers, the largest diameter used in mass production and the standard in advanced nodes.

The 28nm ReRAM arrays are implemented using a small and power-efficient switching device, taking full advantage of the low power and low voltage capabilities of the 28nm process, and enabling an up to 4 times increase in memory density. Testing of Weebit's one-transistor-one-resistor (1T1R) ReRAM arrays, embedded in 28nm Fully Depleted Silicon on Insulator (FDSOI), proved its robustness with very good endurance and data retention alongside other production-level quality parameters.

<sup>1</sup> The fast tracking of technical activities, including initiating the shift to 28nm technology in the embedded memory market, was referred to in Weebit's December 2021 quarterly activities report (dated 29 January 2021)

<sup>2</sup> See article: <https://omdia.tech.informa.com/OM016176/28nm-to-be-a-long-lived-node-for-semiconductor-applications-in-the-next-five-years>



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This successful demonstration of reliability and robustness at 28nm strongly positions Weebit's ReRAM technology to be a key memory technology in NVM for advanced processes where it is no longer technically or economically feasible to embed flash memory technology.

**Olivier Faynot, Head of Silicon component Division at CEA-Leti, said:** *"The semiconductor industry is constantly moving to smaller geometries for advanced processes. Since embedded flash faces scalability challenges below 40nm, companies today use complex and inefficient solutions when embedding it into their chips. The industry has been crying out for a new technology to succeed flash memory in advanced geometries, and these results show Weebit has a viable solution."*

**Commenting on another key development milestone achieved by Weebit, CEO Coby Hanoch said:** *"Weebit, through its close partnership with CEA-Leti, has already demonstrated the significant advantages of its ReRAM technology at larger geometries, and we have now shown that we can successfully scale this technology down to 28nm. Mark Liu, Chairman of TSMC, the world's largest fab, recently called 28nm 'the sweet spot for our embedded memory applications'<sup>3</sup> since the 28nm geometry is widely deployed in a range of applications and is considered the gateway to the most advanced process nodes."*

*"Given the achievements we have managed in scaling down Weebit's technology to date, we believe our ReRAM technology can scale to most advanced nodes, enabling Weebit to offer a highly competitive embedded memory solution that replaces flash memory for leading-edge applications."*

*"Weebit's first commercial deal with SkyWater was a major milestone for the Company, providing commercial validation of our innovative technology and enabling us to bring Weebit's cutting-edge ReRAM technology to volume production at 130nm. With our ReRAM technology now achieving production-level parameters at 28nm, we are significantly expanding the range of potential industries and total addressable market for Weebit's cutting-edge memory technology."*

- ENDS -

This announcement has been authorised for release by the Board of Weebit Nano Limited.

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<sup>3</sup> Source: <https://investor.tsmc.com/english/quarterly-results/2021/q2>



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#### About Weebit Nano Limited

Weebit Nano Ltd. is a leading developer of next-generation semiconductor memory technology. The company's ground-breaking Resistive RAM (ReRAM) addresses the growing need for significantly higher performance and lower power memory solutions in a range of new electronic products such as Internet of Things (IoT) devices, smartphones, robotics, autonomous vehicles, 5G communications and artificial intelligence.

Weebit's ReRAM allows semiconductor memory elements to be significantly faster, less expensive, more reliable and more energy efficient than those using existing Flash memory solutions. Because it is based on fab-friendly materials, the technology can be quickly and easily integrated with existing flows and processes, without the need for special equipment or large investments.

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