Weebit Nano reaches silicon oxide ReRAM 1Mb array at 40nm milestone

Technology demonstrated at a capacity that addresses the embedded memory market when commercialised

25 June 2018 – Weebit Nano (ASX: WBT), the Israel-based semiconductor company seeking to develop and commercialise the next generation of memory technology, today announced it has achieved the significant milestone of demonstrating a 1Mb (1 Megabit > 1 million bits) capacity ReRAM array at 40nm using silicon oxide (SiOx). This milestone was achieved on schedule as committed to by the company two years ago.

Weebit Nano's ReRAM technology is now at the capacity of memory larger than what is currently being used across most of the embedded non-volatile[1] memory (NVM) market, which is the first market segment the company is targeting. This market is currently estimated to be worth over US$25 billion[2], with potential for significant growth, and includes various applications such as Internet of Things (IoT) and wearable technology. In addition, with the introduction of faster and more energy-efficient memories like ReRAM, this market will soon expand to also be a cornerstone of machine learning and artificial intelligence.

Commenting on the milestone, **Coby Hanoch, CEO of Weebit Nano**, said: "We are very excited and proud to have reached this very important milestone. Our technology will be able to address the vast majority of the non-volatile memory demand in embedded memory applications, so we can now proceed to the next step of preparing for productisation. We have already held initial discussions with various leading global companies in the consumer and memory domains. With the achievement of this globally significant milestone we now intend to progress these discussions.

"Weebit Nano's SiOx ReRAM technology can be manufactured using existing processes with the existing equipment in production lines, as opposed to other technologies that use non-standard materials. Consequently, you can see why we believe we have significant advantages to harnessing this massive market opportunity. Using standard materials has enabled us to achieve this milestone significantly quicker than any competitive ReRAM technology", added Mr Hanoch.

The 1Mb initial tests, conducted in CEA/Leti facilities in Grenoble, France, demonstrated the capability of addressing and programming nearly all of the memory cells. These are very impressive results for a first batch, and are especially encouraging as they were achieved without using performance improvement techniques such as redundancy, which are commonly used in the memory industry to achieve programmability of 100 per cent of the array cells.

Weebit Nano recently announced it has extended its agreement with Leti to further develop and optimise its ReRAM memory technology. This will allow the acceleration of the optimisation process that will focus on improving the

[1] See "Glossary of key terms" at back of this release

[2] US$25bn for 2016 year, Yole Development, Emerging Non-Volatile Memory (NVM) 2017 report, July 2017

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quality of the 1Mb array, bringing the technology to the level needed to move to a production level fab (where silicon components are manufactured).

The Company will continue to provide updates as further progress is achieved.

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About Weebit Nano Limited

Weebit Nano is a leader in the development of next generation computer memory technology, and plans to become the new industry standard in this space. Its goal is to address the growing need for a significantly higher performance and lower power computer memory technology. Weebit Nano's ReRAM technology is based on fab-friendly Silicon Oxide, allowing the company to rapidly execute, without the need for special equipment or preparations. The company secured several patents to ensure optimal commercial and legal protection for its ground-breaking technology.

Weebit Nano's technology enables a quantum leap, allowing semiconductor memory elements to be significantly cheaper, faster, more reliable and more energy efficient than the existing Flash technology. Weebit Nano has signed an R&D agreement with Leti, an R&D institute that specialises in nanotechnologies, to further develop SiOx ReRAM technology.

For more information please visit: http://www.weebit-nano.com/

Glossary of key terms

ReRAM - Resistive random-access memory (ReRAM) is a type of non-volatile (NV) random-access memory that works by changing the resistance across a dielectric solid-state material rather than directly storing charge.

Volatile memory – Volatile memory is computer memory that only maintains its data while the device is powered. When power is interrupted the stored data is lost.

Non-volatile memory – Non-volatile memory (NVM) retains its data even when the power supply is disconnected, and thus is used for storage of data.

Flash / 3D NAND – Flash memory is a type of NVM. It is often found in USB flash drives, MP3 players, digital cameras and solid-state drives.

SiOx- Silicon Oxide (SiOx) is the most commonly used material for producing semiconductor devices.

Fab – A factory where semiconductor devices are fabricated

Embedded memory - A memory which is integrated together with other elements such as processor in a chip.

Single chip memory – A chip which contains only memory

Nanometer - one billionth (10^{-9}) of a meter. It is widely used as a scale for building tiny, complex, and atomic scale computing and electronic components - specifically in nanotechnology.

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