

Q4 FY21 Activities Report

Successful selector integration and tape-out of embedded memory module

Key highlights for Q4 FY21

- Demonstrated industry's first commercial integration of OTS selector with oxide-based ReRAM cell for the discrete memory market
- Advanced negotiations with potential production partners and customers
- Completed final design, verification and tape-out of embedded memory module test chip post-quarter end

23 July 2021 – Weebit Nano Ltd (ASX: WBT, Weebit or Company) is pleased to provide this activity update for the quarter ended 30 June 2021 (Q4 FY21), along with the Company's Appendix 4C cash flow report.

Commenting on the fourth quarter, Weebit Nano CEO Coby Hanoch said: "Weebit Nano made significant steps towards productisation and commercialisation during the quarter, achieving key technical milestones within both the embedded and discrete memory markets. The embedded market remains our key priority at this point, and we successfully completed the tape-out of our memory module design in July.

"Integrated with a sub-system, potential customers are now able to test the effectiveness of our embedded memory technology within their own applications. This capability will fast-track the development of new IoT devices and sensors as well as the adoption of our technology in future products.

"In the discrete domain, we successfully integrated our ReRAM with Leti's selector three months ahead of our development schedule. While the discrete memory market is part of our mid-term focus, it remains the largest addressable market for our ReRAM technology with broad applications spanning from AI and 5G, to IoT devices.

"Alongside our technical progress, we have also advanced our commercial negotiations, meeting with several potential partners, customers and fabs during the quarter. Our first international face-to-face meetings in over a year were highly productive and we are making good progress to securing an initial commercial agreement.

Successful integration of Weebit Nano's ReRAM with Leti's selector

In June, Weebit Nano and its development partner Leti created the industry's first commercial integration of an oxide-based ReRAM (OxRAM) cell with an ovonic threshold switching (OTS) selector. This critical milestone was achieved three months ahead of schedule and is a significant step in Weebit's development of a ReRAM technology for the discrete memory market.



The integration leverages Leti's proprietary OTS selector – a key component within a ReRAM chip that assists in isolating specific cells within the memory array when accessing them. OTS is an ideal selector technology for discrete ReRAM chips as it enables the smallest ReRAM bit cell, as small as 4F², as well as low energy consumption and high switching speed.

The discrete memory market is key to Weebit's medium-term strategy, broadening the Company's focus beyond embedded non-volatile memory (NVM) where it is nearing commercialisation.

"Our ReRAM technology has broad applicability within the discrete memory market. We have been able to accelerate our development of a solution for the discrete market by leveraging Leti's extensive work on an OTS selector over the past six years. Unlike embedded memory chips where a transistor is typically used as a selector, discrete memory chips require more sophisticated selectors that are much smaller and enable high-capacity memory chips," said Mr. Hanoch.

Tape-out of embedded memory module

Post quarter-end, with the support of Leti's design team, Weebit Nano completed the design and verification stages of its embedded ReRAM memory module and taped-out (released to manufacturing) a test chip that integrates this module. The integrated test chip will be used as the final platform for testing and qualification, ahead of customer production.

Weebit's module leverages the Company's unique patent-pending analog and digital smart circuitry to enhance functionality, significantly improving the array's technical parameters including speed, retention and endurance.

The module is one of the first in the world to integrate ReRAM into a sub-system consisting of a RISC-V microcontroller processor (MCU), Static Random-Access Memory (SRAM), the ReRAM array and peripherals. Potential customers can use the test chip to test Weebit's embedded module within their own applications as well as fast-track the development of new low-power IoT devices and sensors.

Weebit's new memory module is easily customisable and provides a foundation for its future ReRAM compiler, which will enable customers to automatically reconfigure the design according to their specific requirements without going through exhaustive manual design and fab qualification processes. It will also be the basis for other ReRAM modules that Weebit will develop, tape-out and qualify at production fabs later this year (based on customer requests).

Weebit expects to have the first test chips with the embedded ReRAM module finish the manufacturing process in the fab in late 2021. Demonstration of the module and functional testing results are expected in the first quarter of 2022 with qualification to follow in mid-2022.

Faster and more energy efficient memory than existing Flash technology, Weebit's embedded memory module is ideal for analog, power, sensor and IoT applications, where customers are looking for simpler and cheaper to manufacture solutions that require low-power consumption.



Other activities

In May, together with Silvaco, Inc., a leading supplier of EDA software and design IP, Weebit Nano jointly delivered a poster presentation on new developments in ReRAM simulation at the 13th International Memory Workshop (IMW) 2021. IMW is the premier international forum for technologists to share and learn about new developments in memory technology.

In June, Weebit Nano was an exhibitor and sponsor at the 2021 Leti Innovation Days conference, held virtually. CEO Coby Hanoch was a guest speaker at the event, presenting on the future of the semiconductor memory. A video of his presentation is available at https://youtu.be/UGXHz pMUJk

During the quarter, Weebit and Leti filed a new patent outlining an innovative programming algorithm that minimises the ReRAM bit error rate (BER) by intelligently mixing various programming techniques. This programming algorithm assists in dealing with memory cells that have a non-ideal behaviour and reduces array variability.

Summary of Q4 FY21 cashflows; received \$2.03m French R&D incentive

During the quarter, Weebit Nano received \$1.1 million through the exercising of listed options. This brings the number of not yet exercised listed options with a price of 45 cents per share to 36 million.

Notable operating cash flow items over the quarter included the receipt of approximately \$2 million from the French Government for research and development activities conducted in France during 2020. This delivered research and development income of \$1.8 million for the quarter. Payments to related parties over Q4 FY21 were \$210,000, which included fees paid to directors and the CEO's cost of payroll for the period.

Looking forward

Securing a first commercial agreement remains Weebit's key focus over the coming quarter. The Company is in advanced discussions with multiple potential customers and production partners and expects to finalise an agreement soon.

Ongoing global semiconductor shortages have impacted Weebit's ability to enter into a production agreement. However, the Company is making good progress and is aiming to initiate the transfer of its technology, followed by the qualification process, in the coming quarter.

Other key technical priorities include ongoing improvements to Weebit's baseline ReRAM technology and the development of a solution for the discrete memory market.

"We had an exceptionally productive quarter given the ability to hold face-to-face meetings with potential customers and production partners, and are well on the way to commercialisation of our next generation ReRAM memory technology. Our negotiations are also emphasising the need for faster and more energy efficient memories for new applications and devices, and our industry-leading technology is well-placed to address this need," said Mr. Hanoch.



Investor briefing details

David Perlmutter (Chairman) and Coby Hanoch (CFO) will host an investor webinar at **3:00pm AEST** on Friday, 23 July 2021. Following the presentation, participants will have an opportunity to ask questions.

To attend the webinar, please pre-register at: https://us02web.zoom.us/webinar/register/WN_mibaGaStSPuHZExdzB9TIQ

Follow Weebit on its new Twitter account at: @WeebitNano

- ENDS -

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

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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. See: www.weebit-nano.com or follow us on https://twitter.com/WeebitNano

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

4F²: Memory cell sizes are measured using an nF² formula where 'n' is a constant derived from the cell design and 'F' is the feature size of the process technology. For example, in a 130nm process node, F = 0.13 micron, and therefore $4F2 = 4 \times 0.13 \times 013 = 0.0676$ square micron. For the same feature size, as the cell size becomes smaller, memory capacity increases.

Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity

Weebit Nano Limited (ASX: WBT)				
ABN	Quarter ended ("current quarter")			
15 146 455 576	30 June 2021			

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) research and development	1,817	(2,292)
	(b) product manufacturing and operating costs	-	-
	(c) advertising and marketing	(82)	(190)
	(d) leased assets	(45)	(151)
	(e) staff costs	(669)	(2,516)
	(f) administration and corporate costs	(390)	(1,787)
1.3	Dividends received (see note 3)		-
1.4	Interest received		3
1.5	Interest and other costs of finance paid	(1)	(11)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	630	(6,944)

2.	Cash flows from investing activities		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	(3)	(16)
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	(37)	(37)

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Cons	olidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
2.2	Proceeds from disposal of:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(40)	(53)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)		21,887
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	1,128	4,548
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(5)	(1,779)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	1,123	24,656

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	19,960	4,115
4.2	Net cash from / (used in) operating activities (item 1.9 above)	630	(6,944)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(40)	(53)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	1,123	24,656

Conso	olidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	52	(49)
4.6	Cash and cash equivalents at end of period	21,725	21,725

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	21,725	19,960
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	21,725	19,960

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	210
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.

The payments at 6.1 relate to salaries of management and directors' fees for entities of the group.

7.	Financing facilities Note: the term "facility' includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	Total financing facilities	-	-
7.5	Unused financing facilities available at quarter ϵ	end	-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	630
8.2	Cash and cash equivalents at quarter end (item 4.6)	21,725
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	21,725
8.5	Estimated quarters of funding available (item 8.4 divided by item 8.1)	N/A
	Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as for the estimated quarters of funding available must be included in item 8.5.	s "N/A". Otherwise, a figure

- 8.6 If item 8.5 is less than 2 quarters, please provide answers to the following questions:
 - 8.6.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer:

The company received a significant R & D refund of AUD 2,100,000 from the French Government this quarter generating cash from operating activities.

8.6.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer:

8.6.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:			

Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.

Compliance statement

- This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date:	23 July 2021
Authorised by:	The Board of Directors
	(Name of body or officer authorising release – see note 4)

Notes

- 1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- 2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 107: Statement of Cash Flows apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.