

Q2 FY20 Activities Update

*Technology successfully verified externally and ahead of schedule;
manufacturing efficiency improvements confirmed and path to
commercialisation progresses*

Key highlights for Q2 FY20

- **Successful technology verification by XTX Technology in China, four months ahead of schedule**
- **Leti confirms efficiency improvements, reducing manufacturing costs and improving yield**
- **Three new patents filed with research partner Leti**
- **Commercialisation continues to progress with discussions with several potential customers**

29 January, 2020 – Weebit Nano Ltd (ASX: WBT) (“**Weebit**” or the “**Company**”) is pleased to provide the following operational update for the quarter ending 31 December 2019 (“**Q2 FY20**”), along with its Q2 FY20 Appendix 4C cash flow report.

Over Q2 FY20, Weebit Nano made significant progress on its path to commercialisation, improving the manufacturing efficiency of its silicon oxide (SiOx) ReRAM memory technology and achieving independent third-party technical verification by XTX Technology.

XTX Technology’s third-party verification was a significant milestone for the Company, achieved four months ahead of schedule. The two companies are now exploring ways to integrate Weebit’s ReRAM memory technology into XTX products.

Development work on the customised memory module for a potential first customer in South Korea continues, albeit at a slower pace than initially planned given Weebit’s focus on achieving third-party verification.

Coby Hanoch, CEO of Weebit Nano, said: “This was another significant quarter of progress for Weebit on its path to commercialisation. Outside of a first customer contract, external technology verification is the most important milestone for a new memory technology company. In addition, the efficiency improvements achieved over the quarter mean our technology is more attractive to potential customers given reduced manufacturing costs and improved yields.

“Discussions with several potential semiconductor customers, technical partners and production facilities continue, and we are working to obtain first orders in 2020. The recent progress with XTX Technology strongly positions Weebit to target the discrete memory market”, said Mr Hanoch.



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Successful technology verification by XTX Technology

During the quarter, Weebit Nano achieved arguably the most important commercialisation milestone apart from a customer agreement – external verification of its technology. Weebit’s silicon oxide ReRAM technology was successfully verified by Chinese memory solutions provider XTX Technology at its facility.

A joint team of Weebit and XTX engineers confirmed the industry-leading technical parameters of Weebit’s technology at XTX’s Shenzhen facility, reproducing results previously achieved with French development partner Leti. This external verification was accomplished four months ahead of schedule.

XTX provides Flash-based Non-Volatile Memory solutions to about 2,000 customers, including some of the world’s leading semiconductor companies. It is focused on discrete, stand-alone, memory chips (i.e. chips that contain only memory). While entry into the discrete memory market was originally planned at a later stage, the progress achieved with XTX has enabled Weebit to fast track this stream.

Mr Hanoch said: “Independent technology validation, particularly by a potential customer, is a very important milestone on the path to commercialisation. In the case of XTX, they have expressed strong interest in our technology for the discrete memory market and have allocated time and resources to test and validate it.

“Discrete memory chips contain larger memory arrays and are more technically challenging than embedded modules, requiring additional development work before reaching productisation. With XTX, we have now identified what those developments are, and are now defining with XTX how to create a memory product that meets the needs of their customers. It should be noted that these developments are not unique for XTX and will allow Weebit to address the very large Non-Volatile Memory market once they are available.”

Leti confirms manufacturing efficiency improvements

Weebit improved its manufacturing efficiency during the quarter, continuing to fine-tune the production processes.

Testing conducted by research partner Leti confirmed Weebit arrays can be manufactured for embedded memory applications using just one or two added masks, compared to the 7 to 10 additional masks normally required for current Flash memory. Mask sets in geometries below 28nm can cost millions of dollars, so reduced mask rates significantly lower manufacturing costs.

Leti also confirmed Weebit’s novel methodologies can improve production yield by reducing device malfunctions, thereby increasing the profitability of each device.

“These efficiency improvements are very important for potential customers as well as the future profitability of Weebit’s ReRAM memory technology. Achieving lower-cost manufacturability using a



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smaller number of masks can reduce manufacturing costs for our customers by millions of dollars, and make Weebit's technology even more attractive for them."

Three new patents filed

As a result of the progress made with Leti, Weebit strengthened its intellectual property during Q2 FY20, filing three new joint patents. These patents use newly developed smart algorithms to increase the reliability and yield of ReRAM memory cells and enable scalable ReRAM process improvements.

Two of these patents identify failure modes, in which optimised smart programming algorithms then improve the window margin and array yield. The third patent improves process flows, allowing increased stability at scaled memory cells in geometries of 40nm and below.

Weebit filed a total of five joint patents with Leti in 2019 as well as one sole patent. According to the agreement with Leti, only Weebit can commercialise the joint patents.

Memory module development

Weebit continues to adapt its SiOx ReRAM technology to meet the memory module requirements of a Tier-2 South Korean potential first customer. This development work on the customised memory continued over the quarter, albeit at a slower pace than initially planned, given Weebit's focus on achieving external verification of its technology. This means that the mid-year timeframe for the completion of the memory module will likely be pushed out by around four months.

Developing a working memory module is an essential component on the path to productisation and commercialisation of embedded memory IP modules, enabling Weebit's technology to interact with the rest of the design in a potential customer's product.

While each design has its own specific module requirements, such as size, shape and number of read/write ports, this initial memory module is being built in a configurable manner so it can later be adapted to the requirements of other projects much faster. It is anticipated that after the first few projects Weebit will be able to automate this process and develop a "Memory Compiler" which can generate future modules almost automatically.

Alongside this development work, Weebit Nano continues to engage and progress discussions with other potential customers and partners.

Looking ahead

Weebit remains focused on productising its technology, securing first orders and achieving revenues.

The work with XTX provides a unique opportunity for Weebit to move into the discrete memory chip market, identifying the needed developments required to productise its technology in this market. Weebit believes it can significantly accelerate entry into this market and is now exploring ways to



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implement these required developments, given the huge market opportunity this segment represents. Weebit and XTX are currently discussing the next steps of their co-operation.

In parallel to the work on the discrete memory chip technology, Weebit is continuing the development of the memory module for the embedded market and plans to have it available before the end of 2020.

The progress in both the discrete memory and in the embedded memory solutions enables Weebit to progress with multiple commercial discussions with potential customers and Weebit is aiming to achieve first orders in 2020.

In partnership with Leti, Weebit will continue to improve its technical parameters and manufacturing processes, ensuring its technology yields the most profitable results in production. The Company is on track to transfer its technology to a production fab by December 2020.

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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/>



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Appendix 4C

Quarterly report for entities subject to Listing Rule 4.7B

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10, 01/09/16

Name of entity

Weebit Nano Limited (ASX:WBT)

ABN

15 146 455 576

Quarter ended ("current quarter")

31 December 2019

| Consolidated statement of cash flows | Current quarter \$A'000 | Year to date (6 months) \$A'000 |
|---|----------------------------|--|
| 1. Cash flows from operating activities | | |
| 1.1 Receipts from customers | - | - |
| 1.2 Payments for | | |
| (a) research and development | (723) | (824) |
| (b) product manufacturing and operating costs | - | - |
| (c) advertising and marketing | (40) | (67) |
| (d) leased assets | (38) | (78) |
| (e) staff costs | (350) | (675) |
| (f) administration and corporate costs | (284) | (678) |
| 1.3 Dividends received (see note 3) | - | - |
| 1.4 Interest received | 1 | 2 |
| 1.5 Interest and other costs of finance paid | (1) | (3) |
| 1.6 Income taxes paid | - | - |
| 1.7 Government grants and tax incentives | - | - |
| 1.8 Other: Former activities (Exploration) | - | - |
| 1.9 Net cash from / (used in) operating activities | (1,435) | (2,323) |

| | | | |
|------------|---|----------|----------|
| 2. | Cash flows from investing activities | | |
| 2.1 | Payments to acquire: | | |
| | (a) property, plant and equipment | - | - |
| | (b) businesses (see item 10) | - | - |
| | (c) investments | - | - |
| | (d) intellectual property | - | - |
| | (e) other non-current assets | - | - |
| 2.2 | Proceeds from disposal of: | | |
| | (a) property, plant and equipment | | - |
| | (b) businesses (see item 10) | - | - |
| | (c) investments | - | - |
| | (d) intellectual property | - | - |
| | (e) 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 | - | - |

| | | | |
|-------------|---|-------------|--------------|
| 3. | Cash flows from financing activities | | |
| 3.1 | Proceeds from issues of shares | 161 | 3,185 |
| 3.2 | Proceeds from issue of convertible notes | - | - |
| 3.3 | Proceeds from exercise of share options | - | - |
| 3.4 | Transaction costs related to issues of shares, convertible notes or options | (177) | (458) |
| 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 | (16) | 2,727 |

| | | | |
|------------|--|--------------|--------------|
| 4. | Net increase / (decrease) in cash and cash equivalents for the period | | |
| 4.1 | Cash and cash equivalents at beginning of quarter/year to date | 3,537 | 1,671 |
| 4.2 | Net cash from / (used in) operating activities (item 1.9 above) | (1,435) | (2,323) |
| 4.3 | Net cash from / (used in) investing activities (item 2.6 above) | | |
| 4.4 | Net cash from / (used in) financing activities (item 3.10 above) | (16) | 2,727 |
| 4.5 | Effect of movement in exchange rates on cash held | (15) | (4) |
| 4.6 | Cash and cash equivalents at end of quarter | 2,071 | 2,071 |

| | | | |
|------------|---|------------------------------------|-------------------------------------|
| 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 | 2,071 | 3,537 |
| 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) | 2,071 | 3,537 |

| | | |
|-----------|--|------------------------------------|
| 6. | Payments to directors of the entity and their associates | Current quarter \$A'000 |
| 6.1 | Aggregate amount of payments to these parties included in item 1.2 | 123 |
| 6.2 | Aggregate amount of cash flow from loans to these parties included in item 2.3 | |
| 6.3 | Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2 | |
| | | |

| 7. Payments to related entities of the entity and their associates | Current quarter \$A'000 |
|--|------------------------------------|
| 7.1 Aggregate amount of payments to these parties included in item 1.2 | - |
| 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3 | - |
| 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2 | |

| 8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i> | Total facility amount at quarter end \$A'000 | Amount drawn at quarter end \$A'000 |
|--|---|--|
| 8.1 Loan facilities | - | - |
| 8.2 Credit standby arrangements | - | - |
| 8.3 Other (please specify) | - | - |
| 8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well. | | |

| 9. Estimated cash outflows for next quarter | \$A'000 |
|--|----------------|
| 9.1 Research and development | 128 |
| 9.2 Product manufacturing and operating costs | - |
| 9.3 Advertising and marketing | 49 |
| 9.4 Leased assets | 35 |
| 9.5 Staff costs | 305 |
| 9.6 Administration and corporate costs | 121 |
| 9.7 Other | - |
| 9.8 Total estimated cash outflows | 638 |

| 10. Acquisitions and disposals of business entities (items 2.1(b) and 2.2(b) above) | Acquisitions | Disposals |
|--|---------------------|------------------|
| 10.1 Name of entity | - | - |
| 10.2 Place of incorporation or registration | - | - |
| 10.3 Consideration for acquisition or disposal | - | - |
| 10.4 Total net assets | - | - |
| 10.5 Nature of business | - | - |

Compliance statement

- 1 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.

Sign here: 
(Director/Company secretary)

29 January 2020
Date:

Mark Licciardo
Print name:

Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly 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 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.