

ASX RELEASE

31 July 2020

QUARTERLY ACTIVITY REPORT & APPENDIX 4C

4DS Memory Limited (ASX:4DS) (**4DS** or the **Company**) is pleased to provide its Quarterly Activity Report and Appendix 4C for the quarter ended 30 June 2020.

Operational Review

COVID-19 Restrictions

Early in March 2020 the San Francisco Bay Area counties announced a shelter-in-place order aimed at slowing transmission of COVID-19.

In late April 2020, a joint statement of the seven San Francisco Bay Area health officers revised shelter-in-place orders that largely kept the prevailing restrictions in place and extended them through May 2020.

As such, 4DS personnel were restricted to operating from home and could not access the Fremont facilities for most of the quarter. However, despite the restrictions, 4DS was able to effectively communicate and interact with imec and Western Digital.

Importantly COVID-19 restrictions in Belgium did not affect imec's operations, to the extent of its operational performance in producing wafers for 4DS.

Progress at imec

During the quarter strategic meetings between representatives from Western Digital, imec and the Company continued to take place and these discussions culminated in;

1. The production of the planned Initial Platform Lot wafers as originally planned to validate the integration of 4DS' memory cells on imec's megabit platform; and
2. An additional time slot at imec to produce an Additional Wafers Lot based around specific input on process conditions from Western Digital / HGST and imec to accelerate the Company's stated goals of (i) developing a repeatable process for producing 4DS' memory using state-of-the-art production equipment, and (ii) demonstrating this process by fabricating a 4DS megabit memory chip on imec's platform with high endurance and read speed comparable to DRAM.

As soon as local COVID-19 ordinances started to be eased, the Company reconfigured its testing lab in compliance with local COVID-19 social-density and social-distancing requirements, so that wafer testing could resume safely in early June. The results of this testing were released by 4DS to ASX on 24 June 2020 and are outlined below.

A. Additional Wafers Lot

Analysis confirmed the highest speed and endurance in the Additional Wafers Lot that have ever been recorded by the Company:

- The best recorded speed at near DRAM speed exceeds Storage Class Memory requirements without the need for speed crippling error correction;
- Endurance is two to three times better than previously reported. Actual endurance may be significantly higher but is currently not quantified due to available lab time and test equipment capacity; and

- The Company also measured retention and the results remain confidential to the Company and its partners until such time as the upper limits of retention can be more accurately defined.

B. Initial Platform Lot

Testing of the Initial Platform Lot validated the integration process steps required to integrate 4DS memory cells with imec's megabit platform. The information gathered from this testing has enabled 4DS to identify which process steps will be further tuned, to benefit future platform iterations.

The Company has been undertaking planning work with imec and Western Digital/HGST with respect to the next wafer lot. This work has culminated in a number of meetings between the parties (via videoconference) being undertaken over the course of this week (27 to 31 July 2020¹). This planning work is now almost complete, and 4DS expects to be in a position to provide a separate update next week.

Patent Grant

During the quarter 4DS was granted a 23rd USA patent titled "Resistive Memory Device Having a Template Layer". This patent relates specifically to its operation as high-speed Storage Class Memory. This supports additional patents which have been granted around architectural changes to the Company's Interface Switching ReRAM which improve read access time so dramatically that it is near DRAM speed.

4DS has an additional nine (9) patent applications in process.

HGST Joint Development Renewal

On 1 May 2020, the Company announced that Western Digital subsidiary, HGST, had renewed its Joint Development Agreement with 4DS, well ahead of the 30 June 2020 renewal date. The Joint Development Agreement has been in place since July 2014.

As highlighted above, HGST has been integrally involved in the development processes at imec during the quarter and will continue to be for the foreseeable future.

Corporate Review

Placement and Share Purchase Plan (SPP)

The Company completed a \$4.5 million Placement on 29 June 2020 and also announced an SPP to offer all eligible shareholders on the record date, the opportunity to subscribe for up to \$15,000 of new shares at the same price as the Placement (\$0.045 per share), without any brokerage or other costs.

On 24 July 2020, the Company successfully completed its SPP which closed oversubscribed. Based on strong support for the SPP the Company resolved to accept the oversubscriptions, which increased the amount raised by the SPP from \$2.5 million to \$3.1 million.

Total proceeds raised from the Placement and SPP was \$7.6 million.

COVID-19 Restrictions effect on Remuneration

Due to COVID-19 restrictions, the Board quickly put in place a freeze on Board, Executive and senior management remuneration as from 1 April 2020. The Company however was able to access some non-repayable borrowings under a USA COVID-19 support program which supported USA staff. Please refer to Summary of Cash Flows.

¹ Meetings are taking place on US time, and will thus run into the Australian weekend

Summary of Cash Flows

As at 30 June 2020, the Company held cash of \$2.5 million, compared with \$2.7 million as at 31 March 2020. Net cash of \$441k was used in operating activities during the quarter, compared to \$847k in the March quarter. The main variances when compared to the previous quarter were a reduction in research and development expenditure by \$301k (due mainly to the deferral of some payments and the reduced salaries paid to technical staff) and a reduction in staff costs by \$74k (due mainly to no fees being paid to the Executive Director for the quarter). The Company received \$245k in cash flows during the quarter, of which \$75k related to the proceeds of the exercise of options and \$197k to the proceeds of borrowings (refer to 7.6 in the attached Appendix 4C).

Listing Rule 4.7.C

In item 6 of the Appendix 4C cash flow report for the quarter, payments to related parties of approximately \$37k represents a reduced salary paid to the CEO to comply with the USA COVID-19 support program. No fees were paid to Non-Executive Directors and no salary was paid to the Executive Director for the quarter.

ENDS

Authorised for release by the Board

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About 4DS

4DS Memory Limited (ASX: 4DS), with facilities located in Silicon Valley, is a semiconductor development company of non-volatile memory technology, pioneering Interface Switching ReRAM for next generation gigabyte storage in mobile and cloud. Established in 2007, 4DS owns a patented IP portfolio, comprising 23 USA patents granted and 9 patent applications pending which have been developed in-house to create high-density Storage Class Memory. 4DS has a joint development agreement with Western Digital subsidiary HGST, a global storage leader, which accelerates the evolution of 4DS' technology. 4DS also collaborates with imec, a world-leading research and innovation hub in nanoelectronics and digital technologies. The combination of imec's widely acclaimed leadership in microchip technology and profound software and information and communication technology expertise makes them unique.

For more information, please visit www.4dsmemory.com.

About imec

imec is the world-leading research and innovation hub in nanoelectronics and digital technologies. The combination of our widely acclaimed leadership in microchip technology and profound software and ICT expertise is what makes us unique. By leveraging our world-class infrastructure and local and global ecosystem of partners across a multitude of industries, we create ground breaking innovation in application domains such as healthcare, smart cities and mobility, logistics and manufacturing, energy and education.

As a trusted partner for companies, start-ups and universities we bring together close to 3,500 brilliant minds from over 75 nationalities. Imec is headquartered in Leuven, Belgium and also has distributed R&D groups at a number of Flemish universities, in the Netherlands, Taiwan, USA, China, and offices in India and Japan. In 2016, imec's revenue (P&L) totalled 496 million euro. Further information on imec can be found at www.imec-int.com.

imec is a registered trademark for the activities of IMEC International (a legal entity set up under Belgian law as a "stichting van openbaar nut"), imec Belgium (IMEC vzw supported by the Flemish Government), imec the Netherlands (Stichting IMEC Nederland, part of Holst Centre which is supported by the Dutch Government), imec Taiwan (IMEC Taiwan Co.) and imec China (IMEC Microelectronics (Shanghai) Co. Ltd.) and imec India (Imec India Private Limited), imec Florida (IMEC USA nanoelectronics design center).

For more information, please visit www.imec.be.

Appendix 4C

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

Name of entity

4DS MEMORY LIMITED (4DS)

ABN

43 145 590 100

Quarter ended ("current quarter")

30 June 2020

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	(326)	(2,903)
(b) business development	-	(106)
(c) production	-	-
(d) staff costs	-	(189)
(e) administration and corporate costs	(107)	(591)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	1	11
1.5 Interest and other costs of finance paid	(9)	(15)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (Insurance Claim)	-	23
1.9 Net cash from / (used in) operating activities	(441)	(3,770)

2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) entities	-	-
(b) businesses	-	-
(c) property, plant and equipment	-	(10)
(d) investments	-	-
(e) intellectual property	-	-
(f) other non-current assets	-	-

Consolidated 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	-	(10)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	4,000
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	75	232
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	(273)
3.5	Proceeds from borrowings (Refer 7.6)	197	197
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other – principal elements of lease payments ⁽ⁱ⁾	(27)	(60)
3.10	Net cash from / (used in) financing activities	245	4,096

- (i) The Group adopted new Accounting Standard AASB 16 *Leases* with effect from 1 July 2019. in accordance with the requirements of AASB 16, cash payments for the principal portion of the Group's lease liabilities are presented within financing activities. Cash payments for the interest portion are presented within interest and other costs of finance paid.

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	2,703	2,168
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(441)	(3,770)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	(10)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	245	4,096
4.5	Effect of movement in exchange rates on cash held	5	28
4.6	Cash and cash equivalents at end of period	2,512	2,512

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	2,512	2,703
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)	2,512	2,703

6. Payments to related parties of the entity and their associates

- 6.1 Aggregate amount of payments to related parties and their associates included in item 1
- 6.2 Aggregate amount of payments to related parties and their associates included in item 2

**Current quarter
\$A'000**

37

-

Reduced salary paid to Managing Director, no fees paid to the non-executive directors and no salary paid to the Executive Director for the quarter.

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)	197	197
7.4 Total financing facilities	197	197

7.5 **Unused financing facilities available at quarter 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.

Subsidiary 4DS Inc received US Small Business Administration Paycheck Protection Program (PPP) Loan of US\$131,542 on 11 May 2020. Maturity date is 2 years from the date of disbursement with a fixed interest rate of 1% per annum. The loan was enacted by US Congress under the Coronavirus Aid, Relief and Economic Security Act (the "Act"). The Act provides that the loan is subject to conditional loan forgiveness provided the loan proceeds are used in accordance with the Act and the Borrower (4DS Inc) provides all documentation to support the application for loan forgiveness. The Company believes that its use of the proceeds will meet the conditions for full forgiveness of the loan.

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	441
8.2 Cash and cash equivalents at quarter end (item 4.6)	2,512
8.3 Unused finance facilities available at quarter end (item 7.5)	-
8.4 Total available funding (Item 8.2 + item 8.3)	2,512
8.5 Estimated quarters of funding available (item 8.4 divided by item 8.1)	5.70

Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise a figure for the estimated quarters of funding available must be included in item 8.5.

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: N/A

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: N/A

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: N/A

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

- 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.

Date: 31 July 2020

Authorised by: The Board of 4DS Memory Limited
(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.