

ASX RELEASE

30 April 2024

QUARTERLY ACTIVITY REPORT AND APPENDIX 4C

4DS Memory Limited (ASX:4DS) (**4DS**) (the **Company**), is pleased to provide its Quarterly Activity Report and Appendix 4C for the Quarter ended 31 March 2024.

Company Update

New Write Speed Milestone

On 5 February 2024, 4DS announced that it had successfully completed further analysis of the Fourth Platform Lot and the results obtained were significantly better as compared to results announced on 18 September 2023.

The focus of the additional testing was to investigate the speed and power efficiency of the 60nm memory cells in the megabit array.

Specifically, analysis of the Fourth Platform Lot verified that 4DS had demonstrated:

- Reliable write speeds of 4.7 nanoseconds
- That memory cell programming was due to the phenomenon of Electric Pulse Induced Resistance switching, or EPIR
- Variable cell level writing by voltage or time pulse modification
- Persistent non-volatile memory with low energy consumption

Background to New Write Speed Milestone

In an ASX announcement released on 18 September 2023, 4DS reported further results of the analysis of the Fourth Platform Lot. In these results, 4DS reported write speeds of 9.5 nanoseconds, outperforming DRAM write speeds. These results also reported endurance of 3 billion cycles, and variable and tuneable retention characteristics of the memory cell.

Since that release the technical team at 4DS had continued to characterise the Fourth Platform Lot to more finely understand the underlying performance characteristics of the 4DS Technology. This included the response of the 4DS cell under different conditions, including programming voltage and time changes, which demonstrated the unique flexibility of the 4DS Interface Switching ReRAM Technology.

These investigations led to the results being announced on 5 February 2024.

Speed Programming Milestone

After extensive analysis 4DS showed that its advanced Interface Switching ReRAM memory cell can be written to 4.7 nanoseconds, the fastest reported programming to date and significantly better than DRAM write speed of 30 nanoseconds. 4DS had previously announced cell programming at faster than DRAM write speeds but extensive characterization work by the 4DS team confirmed this higher level of performance.

The write speed achievement is in part due to the fundamental nature of 4DS's Interface Switching ReRAM technology: all 4DS cells are written with single pulse or "one-shot" programming. One-shot programming means that the cell responds instantly to a single pulse on the cell where most non-volatile memory solutions require an iterative, multi-pulse programming approach, which takes substantially more time and energy than the 4DS Interface Switching ReRAM technology. 4DS Memory's leading-edge work on maximizing the performance of the

memory cell led to the series of industry first announcements that have been made and these current metrics will be of potential interest to significant industry participants, particularly Advanced AI players.

Electric Pulse Induced Resistance Switching

The unique 4DS Interface Switching ReRAM technology achieves its high write speeds because of a phenomenon known as Electric Pulse Induced Resistance switching, or EPIR. In essence, this means that the entire area under the interface responds to the programming pulse coherently, setting or resetting the high or low resistance state in the cell uniformly and with a single pulse. EPIR and one-shot programming are interchangeable terms in this context.

Analog Programming Capability

Additionally, 4DS demonstrated the ability to control the level of programming by modification of programming voltage, time, or a combination of both. Being able to program the memory cell to a specific value gives the cell an analog characteristic, which can be used directly in applications where analog programming aids in certain operations. This added dimension of analog programmability expands the potential applications that 4DS can pursue and demonstrates the unique characteristic of the 4DS Interface Switching ReRAM technology.

Technical Update for the March Quarter

The Fifth Platform Lot is seeking to further optimise the unique characteristics of the results already seen on the 60nm memory cells. The new optimized process will also be applied to the manufacturing of the Sixth Platform Lot on 20nm memory cells.

Both Platform Lots may benefit from the new improvements in cell performances.

All necessary hardware, materials and additional CMOS wafers for the next two Platform Lots were received at imec during Q1 2024. Following extensive technical planning during Q1 2024, both the Fifth and Sixth Platform Lots have commenced manufacturing at imec on Dory platform 60nm and 20nm memory cells respectively. Estimated delivery to 4DS remains on track for the Fifth Platform Lot in Q3 2024, but based on current estimated timeframes the Sixth Platform Lot will arrive at 4DS in early to mid Q4 2024.

Appointment of Chief Strategic Officer

Peter Himes was appointed as a Strategic Advisor to the 4DS Board on 1 December 2023, however his role has evolved into a more permanent position to assist the Company with developing a comprehensive strategic plan by collaborating with the Chief Technical Officer, Executive Chairman and the Board of directors, to determine and implement 4DS's overall vision, marketing, networking and JV / M&A plan. As such on 15 April 2024, 4DS announced that Peter would assume the role of Chief Strategic Officer.

As an experienced senior executive in high growth technology firms, Peter excels at defining and addressing new markets, building key relationships and partnerships across the value chain, and promotion.

Peter is a valued member of the 4DS team and a critical decision maker in how the Company determines commercialisation strategies on the back of potential positive results in 2024 on 4DS's 60nm and 20nm memory cells.

Marketing and Strategy Efforts

The major focus for the Q1 2024 was the repositioning of 4DS' Interface Switching ReRAM technology in the advanced memory space and in architecting the communications plan to get this new messaging broadcast across the industry, particularly in the USA.

To support this goal 4DS undertook two major activities in the quarter:

1. Australian Open Briefing Presentations to communicate the new positioning of 4DS as the “Memory for the AI Age” conducted in Sydney, Melbourne, Perth and more recently the Gold Coast. All briefings were extremely well attended; and
2. Engagement of a professional USA Technology PR Agency with extensive experience in the memory space to craft the USA communications plan. Tanis Communications, based in Silicon Valley, has been retained and 4DS has outlined a PR plan which includes outreach and engagement with over 90 reporters and analysts across 48 news and research organizations. The program will begin in Q2 2024 and run for the course of the year. The goal of this plan is to raise awareness of the 4DS technology across the industry, separate 4DS Interface Switching technology from the other ReRAM players in the market, and drive outreach and engagement with potential partners or licensees.

4DS will keep shareholders updated on activities and progress in these areas and already has up to 18 interviews planned with media organisations and technology analysts in the USA.

The 4DS Memory website is currently in redesign to reflect this new positioning and is expected to be relaunched in May 2024.

Conferences

In March 2024, 4DS attended the Memory Con (MemCon) Conference in Silicon Valley, where among other things the Company met with Yole Development (one of the industry’s leading market research firms) to update them on 4DS’ positioning and strategy. The Yole annual Emerging Memory report is due out in June 2024 and the updated 4DS strategy will be reflected in this report.

4DS Chief Technical Officer and Chief Strategic Officer will be attending the 40th Anniversary Celebration of imec in May 2024. This celebration will draw top executives from across the semiconductor industry, many of which are potential partners, and allow us the opportunity to forge higher level relationships with these executives. The leadership at imec encouraged our attendance as part of their ongoing strong support for the 4DS Memory program.

Systems Architecture Expert Potential Appointment

4DS is in discussions with potential candidates for a systems architect expert consultancy role, which will help 4DS value propositions across the different possible application domains (Big Data, Server, Generative AI). This person will be an invaluable asset in our ongoing discussions with potential partners and licensees of 4DS Memory technology. These efforts are preliminary and ongoing so there is nothing concrete to disclose at this time.

Executive Chairman Comment

Executive Chairman Mr David McAuliffe commented “4DS’s focus is to ensure we work closely with imec to achieve our 2024 goals on time and within budget, to continue to expand our industry outreach and engagement, launch the new website, begin the PR outreach to reporters and analysts, engage with the systems architecture experts and continue to meet with and update 4DS shareholders on our progress.

“The Board continues to believe that 4DS is the right memory, for the right market, at the right time and that this approach is the best way to raise awareness of and interest in 4DS’ high bandwidth, high endurance, high density, and low energy, persistent non-volatile memory technology.”

COVID-19 Update

Currently, there are no COVID related restrictions significantly affecting the Company's operations in Australia, the USA or Belgium. All 4DS employees are fully vaccinated.

Financial Review

As of 31 March 2024, the Company held cash of \$9.472 million, compared to \$10.323 million at 31 December 2023. Net cash of \$1.493 million was used in operating activities during the March quarter, which included a contractual payment to imec (no payment to imec in the December 2023 quarter), compared to \$0.908 million used in the December quarter. During the December quarter the Company received proceeds of \$0.688 million from the exercise of unlisted options.

Listing Rule 4.7.C

In item 6 of the Appendix 4C cash flow report for the quarter, payments to related parties of approximately \$132k represent salary and superannuation paid to the Executive Chairman and Director fees paid to the Non-Executive Directors, including advisory fees paid to the US based Non-Executive Director.

ENDS

Authorised for release by the Board.

Contact information

4DS Interactive Investor Hub

If you have any questions on this announcement or any past 4DS announcements, check out our Investor Hub. Like, comment, ask a question and view video summaries on important announcements. Shareholders can link through to the Investor Hub via: announcements.4dsmemory.com

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About 4DS

4DS Memory Limited (ASX: 4DS), with facilities located in Silicon Valley, is a semiconductor technology company bringing high bandwidth, high endurance, persistent non-volatile memory to advanced CMOS process nodes. Its technology, known as Interface Switching ReRam, features tunable persistence and low energy per bit for today's most challenging computer intensive and AI processor applications. Established in 2007, 4DS owns a patented IP portfolio, comprising 34 USA patents, and is the first company to develop Area based ReRam, also known as PCMO, on an advanced CMOS processing node. 4DS has a joint development agreement with Western Digital subsidiary HGST, a global leader in storage solutions, and a development agreement with Belgium-based imec - a world leading research and innovation hub in nano electronics and digital technologies.

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

Disclaimer

This release contains certain forward-looking statements that are based on the Company's management's beliefs, assumptions and expectations and on information currently available to management. Such forward looking statements involve known and unknown risks, uncertainties, and other factors which may cause the actual results or performance of 4DS to be materially different from the results or performance expressed or implied by such forward looking statements. Such forward looking statements are based on numerous assumptions regarding the Company's present and future business strategies and the political and economic environment in which 4DS will operate in the

future, which are subject to change without notice. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. To the full extent permitted by law, 4DS and its directors, officers, employees, advisers, agents and intermediaries disclaim any obligation or undertaking to release any updates or revisions to information to reflect any change in any of the information contained in this release (including, but not limited to, any assumptions or expectations set out in the release).

You should not place undue reliance on these forward- looking statements. Except as required by law or regulation (including the ASX Listing Rules) we undertake no obligation to update these forward- looking statements.

Appendix 4C

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

Name of entity

4DS MEMORY LIMITED (4DS)

ABN

43 145 590 110

Quarter ended ("current quarter")

31 March 2024

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers		
1.2 Payments for		
(a) research and development	(1,350)	(2,328)
(b) business development	(89)	(220)
(c) production	-	-
(d) staff and board remuneration	(71)	(230)
(e) administration and corporate costs	(120)	(583)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	137	202
1.5 Interest and other costs of finance paid	-	(4)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other Income	-	-
1.9 Net cash from / (used in) operating activities	(1,493)	(3,163)

2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) entities	-	-
(b) businesses	-	-
(c) property, plant and equipment	(5)	(5)
(d) investments	-	-
(e) intellectual property	-	-
(f) other non-current assets	-	-

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 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	(5)	(5)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	688	7,178
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
3.5	Proceeds from borrowings (Refer 7.6)	-	-
3.6	Repayment of borrowings (Insurance Premium)	-	-
3.7	Transaction costs related to loans and borrowings	(6)	(46)
3.8	Dividends paid	-	-
3.9	Other – principal elements of lease payments	(35)	(94)
3.10	Net cash from / (used in) financing activities	647	7,038

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	10,323	5,600
4.2	Net cash (used in) operating activities (item 1.9 above)	(1,493)	(3,163)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(5)	(5)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
4.4	Net cash from financing activities (item 3.10 above)	647	7,038
4.5	Effect of movement in exchange rates on cash held	-	2
4.6	Cash and cash equivalents at end of period	9,472	9,472

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	1,452	803
5.2	Call deposits	20	20
5.3	Bank overdrafts	-	-
5.4	Other (term deposits)	8,000	9,500
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	9,472	10,323

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	132
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
	- Aggregate amount paid to Executive Chairman (\$55) including salary, and superannuation.	
	- Aggregate amount paid to Non-Executive Directors (\$77k) including salary and directors' fees.	

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 amounts at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (Insurance Premium Funding)	-	-
7.4 Total financing facilities	-	-

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.

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8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	1,493
8.2 Cash and cash equivalents at quarter end (item 4.6)	9,472
8.3 Unused finance facilities available at quarter end (item 7.5)	-
8.4 Total available funding (Item 8.2 + item 8.3)	9,472
8.5 Estimated quarters of funding available (item 8.4 divided by item 8.1)	6.34

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: 30 April 2024

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.