

4DS MEMORY LIMITED (ASX:4DS)

JP Equity Partners | Trading Opportunity | September '24

4DS SHORT BIO

Clients of JP Equity may be familiar with 4DS Memory Limited (“Company” or “4DS”) and the journey it has taken in the development of its storage class “Interface Switching Resistive Random Access Memory” (ReRAM) technology.

4DS is a semiconductor technology company based in Silicon Valley, specialising in the development of high bandwidth, high endurance, persistent non-volatile memory to advanced computing processes. Its innovative technology features tunable persistence and low energy per bit, which is highly relevant for addressing the demands of today’s most complex AI and computing applications.

Whilst JP Equity believes that 4DS has made significant progress in the development of its core memory technology over the last 12 months, (supported by 34 US patents), this note has not been designed to extoll the virtues of 4DS’ unique ReRAM features but rather to alert the market to a potential trading opportunity we believe currently exists.

CAN HISTORY REPEAT?

Analysis of the Company’s share trading history and various ASX announcements leads JP Equity to conclude that shareholders may soon experience a rise in the share price (from the current ~\$0.07 at the time of this document), with an anticipated time frame of 3-6 months.

Our basis for this prediction is generated from an analysis of the Company’s share trading history during the period mid July 2023 to September 2023, during which time the Company’s share price appreciated from approximately \$0.03 (~\$50m market cap) to an intraday high of approximately \$0.21 (~\$350m market cap). Effectively a 700% return over that short time period.

WHAT CAUSED THIS SPECTACULAR RISE?

On 3 July 2023, 4DS announced that its R&D fabrication partner¹, Belgium based IMEC, had successfully manufactured and shipped the Fourth Platform Lot 4 (PL4) iteration of the Company’s wafer technology, with testing results due some time in Q3 2023.

By mid-July 2023, risk tolerant investors would have begun to appreciate the significance that, as each day passed without an update from the Company, the likely conclusion was that the Company’s rigorous testing of PL4 was yielding positive results.

(NB: This was in marked contrast to a previous iteration of the 4DS wafers (PL3) being shipped by IMEC on or about 4 August 2022², with the Company subsequently entering into a Trading Halt 7 days later, to inform the market of technical challenges with this 3rd PL)³.

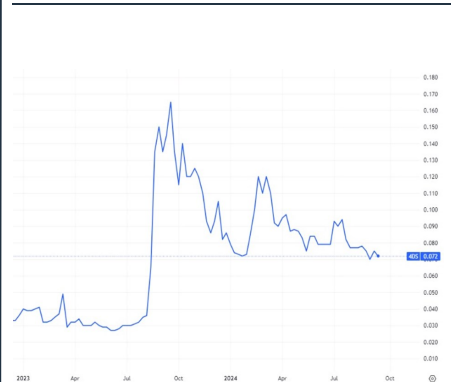
As evidenced in the 4DS share price chart (see Figure 1 on page 2), by late July / early August 2023, it is clear from the significant uptick in share trading volumes, that the broader market had begun to appreciate the significance of the Company not updating the ASX, which, for continuous disclosure obligations, they would have been obliged to do earlier if PL4 had failed to generate any meaningful data. (Failure of the PL4 would have been understood almost immediately by 4DS management upon testing the wafers on 4DS’ equipment, or even earlier during preliminary testing at IMEC, prior shipping).

On 21 August 2023, 4DS entered into an ASX Trading Halt⁴, with the share price at approximately \$0.125. The subsequent announcement to ASX on 23 August 2023 highlighted “Megabit Success”⁵. Furthermore on 14 September 2023, the Company entered into an additional Trading Halt⁶ with the share price at approximately \$0.145. The subsequent announcement to ASX on 18 September highlighted “Significant Megabit Success”⁷.

CORPORATE SNAPSHOT

GICS Sector	Information Technology
Share Price (c)	\$0.07
52 Week High/Low	6.7c - 21.5c
Market Capitalisation	\$126 million
Cash (\$) at 30/06/2024	~7.9 million
Shares On Issue	1.763 billion
Options with various exp	45.5 million

12-MONTH SHARE PRICE



DIRECTORS & MANAGEMENT

Mr David McAuliffe	Executive Chairman
Dr Guido Arnout	Non-Exec Director
Mr Howard Digby	Non-Exec Director
Mr Ting P Yen	Chief Tech Officer
Mr Peter Himes	Chief Strategic Officer

MAJOR SHAREHOLDERS

Mr K MacCulloch	5.4%
Mr J Dorrian	2.5%
Dr J Love	2.3%

JP EQUITY PARTNERS

Jason Skinner | M: +61 439 975 723
jskinner@jpequity.com.au

Nic Brownbill | M: +61 417 914 659
nbrownbill@jpequity.com.au

Matthew Sheldrick | M: +61 417 923 155
msheldrick@jpequity.com.au

WHERE ARE WE NOW?

Fast forward to 24 July 2024, and clients will note that Company's Fourth Quarter Activities⁸ report highlighted that PL5 & 6 were being processed at IMEC's facilities and that PL5 (seeking to optimize and enhance the results from PL4 on 60nm cells) would arrive at 4DS' facilities in Silicon Valley at the end of Q3 2024.

In the absence of any recent guidance from 4DS, our assumption is that PL5 should arrive at 4DS' facilities within the next two weeks. We could then assume that the market will begin to factor in positive testing results from this PL5. Our view is that because of the issues with PL3 back in 2022, it is in IMEC's best interest to ship wafers that have already yielded some preliminary positive testing (or at least that are not terminally defective).

By mid-October 2024, we believe that the market will be assuming a positive outcome from testing of PL5 and the share price will have begun to appreciate albeit off a higher base of circa \$0.07 at the time of writing, than the \$0.03 base that the share price was back in July 2023. Our view is that the market will also begin to factor in the successful delivery of PL6 (compression of cells to 20nm) later in calendar Q4, 2024.



Figure 1 – 4DS price chart

CONCLUSION

For sophisticated investors, our view is that 4DS currently represents an excellent entry price with various catalysts that should provide investors with reasons to be optimistic about the outlook for favourable 4DS share price appreciation.

Furthermore, we believe it is worth noting that based on the July 2024 Quarterly Report, with cash at bank of \$7.9m, we do not believe that 4DS will be conducting any dilutive capital raising initiatives until approximately mid-calendar 2025.

KEY RISKS

Commercialisation Risk: 4DS need to establish a justification for its market niche and technological feasibility. If development targets are not met, future licensing and the potential to be acquired maybe unlikely for the company

Termination of Agreements with Western Digital & IMEC: These strategic alliances are pivotal for 4DS to continue refining their product in a cost-efficient manner.

Development Risk: ReRAM product development may run into unpredictable performance or manufacturing problems.

Key Management Risk: Fragmentation of the management team could occur if a key person were to leave the team. A quality management team would ensure 4DS is aligned with achieving key milestones on the journey to commercial viability.

Competing alternative technologies: Given the urgency in finding solutions for the global data storage explosion, competitors may enter the ReRAM market and develop technologies that are superior to 4DS.

General Advice: This report may contain general, personal opinions of JP Equity Partners which, while believed to be accurate at the time of publication, are not appropriate for all persons or accounts and should not be considered as advice.

SOURCES

- [1.https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02682296-6A1156613&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400](https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02682296-6A1156613&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400)
- [2.https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02549900-6A1103263&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400](https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02549900-6A1103263&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400)
- [3.https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02552062-6A1104088&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400](https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02552062-6A1104088&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400)
- [4.https://cdn-api.markitdigital.com/apiman-gateway/CommSec/commsec-node-api/1.0/event/document/1410-02699523-7LS285NL1KN29MNOV3LRHFBN28/pdf?access_token=0007euz0SKse8LF1e1Dz65M5ngbC](https://cdn-api.markitdigital.com/apiman-gateway/CommSec/commsec-node-api/1.0/event/document/1410-02699523-7LS285NL1KN29MNOV3LRHFBN28/pdf?access_token=0007euz0SKse8LF1e1Dz65M5ngbC)
- [5.https://cdn-api.markitdigital.com/apiman-gateway/CommSec/commsec-node-api/1.0/event/document/1410-02700802-02TN1NBB5N6273U6PPATD7RFH0/pdf?access_token=0007euz0SKse8LF1e1Dz65M5ngbC](https://cdn-api.markitdigital.com/apiman-gateway/CommSec/commsec-node-api/1.0/event/document/1410-02700802-02TN1NBB5N6273U6PPATD7RFH0/pdf?access_token=0007euz0SKse8LF1e1Dz65M5ngbC)
- [6.https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02711602-6A1168263&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400](https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02711602-6A1168263&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400)
- [7.https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02712816](https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02712816)
- [8.https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02830766-6A1216974&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400](https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02830766-6A1216974&v=fc9bdb61fe50ea61f8225e24ce041a0e155a9400)

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JP EQUITY HOLDINGS PTY LTD

CAR: 001265594

ABN: 98 626 933 364

SUITE 5, 29 THE AVENUE, NEDLANDS, WA 6009, AUSTRALIA

T: +618 9386 2801

E: ADMIN@JPEQUITY.COM.AU

WWW.JPEQUITY.COM.AU