

ASX RELEASE

18 September 2023

## FURTHER SIGNIFICANT MEGABIT SUCCESS

4DS Memory Limited (ASX:4DS) (**4DS**) (the **Company**), is pleased to inform shareholders that it has successfully completed further analysis of the Fourth Platform Lot and the results obtained are significantly better as compared to results announced on 23 August 2023.

The focus of the additional testing was to establish the optimal conditions of the 60nm memory cells in the megabit array.

4DS has now successfully completed the second test cycle of the Fourth Platform Lot and the analysis shows that 4DS has:

- **Demonstrated write speed at 9.5 nanoseconds which significantly outperforms DRAM write speed**
- **Increased endurance in excess of 3 billion cycles on a megabit array**
- **Verified equivalent DRAM read speed**
- **Verified persistent memory with variable and tuneable retention**

### Background

As announced on 23 August 2023, the Company demonstrated the successful transfer of all new process improvements and learning cycles developed at the Stanford Nanofabrication Facility into the megabit array.

These process improvements included modification of the PCMO etch process and the composition of the memory cells, and it validated that the technology optimization is transferable from fab to fab.

After extensive analysis 4DS showed, for the first time, a fully functioning megabit array with 60nm memory cells, access transistors and write circuitry.

Within the fully functioning megabit array 4DS testing confirmed:

- Read and write speeds at 27 nanoseconds;
- Endurance well in excess of 2 billion cycles; and
- Retention is persistent and tuneable.

The focus of the analysis of the megabit array has been and remains on read/write speed and endurance.

### Further Significant Megabit Success

After extensive additional analysis 4DS has again shown a functioning megabit array with 60nm memory cells, access transistors and write circuitry.

Today the Company is pleased to confirm that following additional testing within the megabit array, 4DS has:

- Write speeds at 9.5 nanoseconds which is significantly superior to DRAM;
- Endurance in excess of 3 billion cycles;
- DRAM read speed; and
- Retention is persistent and tuneable.

The Company again advises that the upper limit of endurance is unknown because the Company has a finite capacity due to equipment and manpower to test the upper limit in this additional analysis period. Further analysis will be done over time as previously advised.

The read/write speed and endurance parameters are critical to the Company's goals in the memory space requiring DRAM-like performance. 4DS' ReRAM performance profile to suitably meet this goal has again been clearly demonstrated on the Fourth Platform Lot via the additional testing.

The Company is also pleased to advise that Mr David McAuliffe has moved to Executive Chairman.

Executive Chairman Mr David McAuliffe stated "These additional megabit array results are a significant milestone for the Company. Moving forward we will continue to undertake further analysis to test the upper limits of endurance and read/write characteristics for the purpose of further enhancements to the Platform. With significant results and a strong balance sheet the Company is extremely well placed to position itself in the memory space that targets a technology that can be closer to DRAM."

**ENDS**

Authorised for release by the Board.

#### **Contact information**

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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 34 USA patents granted 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](http://www.4dsmemory.com).

#### **Disclaimer**

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