



Beyond Barriers: Enabling Future AI

PERSISTENT RERAM FROM 4DS MEMORY

Semiconductor Conference 2025

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4DS: The Right Memory for the Right Market at the Right Time



4DS Overview	<ul style="list-style-type: none">• Based in Silicon Valley, 4DS is developing a high speed, high endurance and low energy memory technology to enable future AI systems.• 4DS' unique PCMO ReRAM technology will bridge the gap between volatile DRAM (fast & short term) and non-volatile FLASH memory (slow & long term), offering an important solution to known limitations of warm data, big data and AI applications.
Demonstrated Technology	<ul style="list-style-type: none">• Through its strategic relationship with imec, 4DS is the only company to demonstrate PCMO ReRAM on an advanced CMOS node.• imec is the world's largest independent research and innovation centre, specialising in nanoelectronics and digital technologies, with over 5,500 scientists and engineers headquartered in Belgium.• 4DS has demonstrated extremely fast write times (DRAM speeds) and persistence without refresh whilst retaining high bandwidth and high endurance.
Solving future AI challenges	<ul style="list-style-type: none">• In current AI computing, data transfer between processing units (logic) and memory/storage consumes up to 200 times the energy used in computation.• Fast and efficient memory solutions like 4DS' PCMO ReRAM are the key to unlocking in-memory and near memory computing.• Global memory technology market forecast to be > US\$200B by 2030.
Commercial Strategy	<ul style="list-style-type: none">• 4DS has established high value engagements with imec, Infineon Technologies and a top 2 Taiwanese foundry.• The agreement with Infineon Technologies (Market Cap A\$71 billion) will leverage their deep expertise in designing and developing memory chips and 4DS' expertise in PCMO ReRAM.• Following successful development of the memory test chip by Infineon, 4DS will be well placed to explore commercial M&A and partnering opportunities.
Key Catalysts	<ul style="list-style-type: none">• Key upcoming catalysts for 4DS include:<ul style="list-style-type: none">◦ Results of Sixth Platform Lot – Demonstration of working 4DS memory at 20nm node – wafers shipped from imec April 2025, evaluation to follow◦ Completion of 4DS memory Test Chip design, verification and tape out – expected 1H CY26

World Class Management Team



Mr Ting P Yen
Chief Technology Officer

- Over 30 years of semiconductor experience
- Expert in semiconductor memory architecture / process integration
- Long career in the heart of Silicon Valley with semiconductor pioneers: Fairchild, Hewlett Packard and Philips Research
- Managed the Advanced Memory program at Cypress Semiconductor (subsequently acquired by Infineon)
- Held key engineering management roles in advanced Research & Development of memory platforms including SRAM, Ternary CAM, Non-Volatile Flash memory and Emerging memory
- 21 US Patents and a Master's of Science Chemical Engineering from the University of California, Santa Barbara



Mr David McAuliffe
Executive Chairman

- Experienced board director and entrepreneur who has over 24 years' corporate experience and been involved in numerous capital raisings and in-licensing of technologies
- Founder of several companies in Australia, France and the United Kingdom, many of which have become public companies
- Bachelor of Laws (Honours), a Bachelor of Pharmacy, is Interim Non-Executive Chairman of Invex Therapeutics Ltd and is the President of the Dyslexia-Speld Foundation WA (Inc)



Mr Peter Himes
Chief Strategic Officer

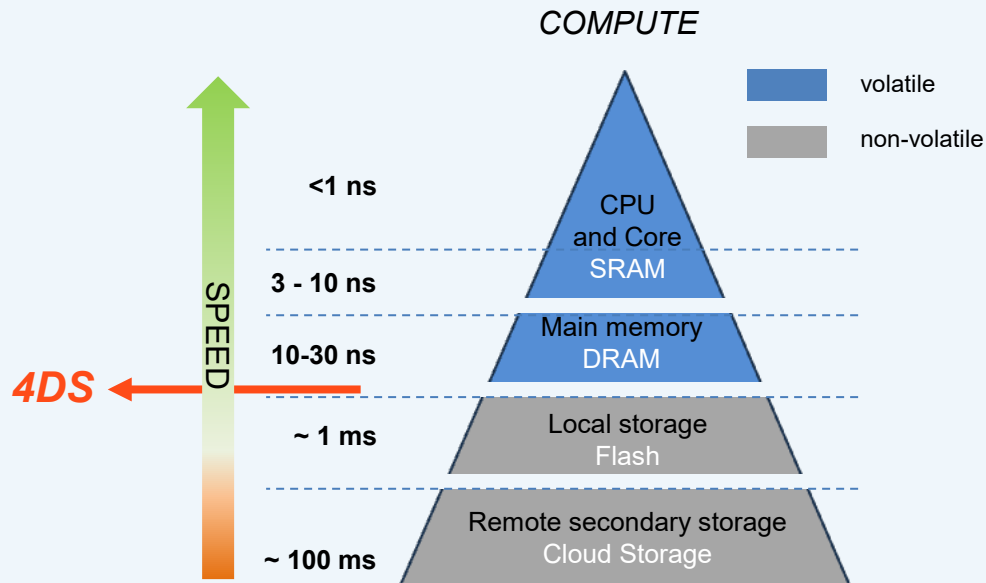
- Over 35 years in high growth technology firms, with extensive general management, sales and business development responsibilities
- Skilled at building winning teams, defining and addressing new markets, building key relationships and partnerships across the value chain, and promoting and evangelizing for business opportunities
- Consistently recognized as a thought leader across multiple industries with a strong focus on innovation systems and strategic alliances



4DS Fits Uniquely Into The Existing Memory Hierarchy

System memory architectures generally trade off between speed and capacity

Traditionally the large datasets are remote, imported into Compute only as needed, with smaller amounts of fast access memory next to the CPU



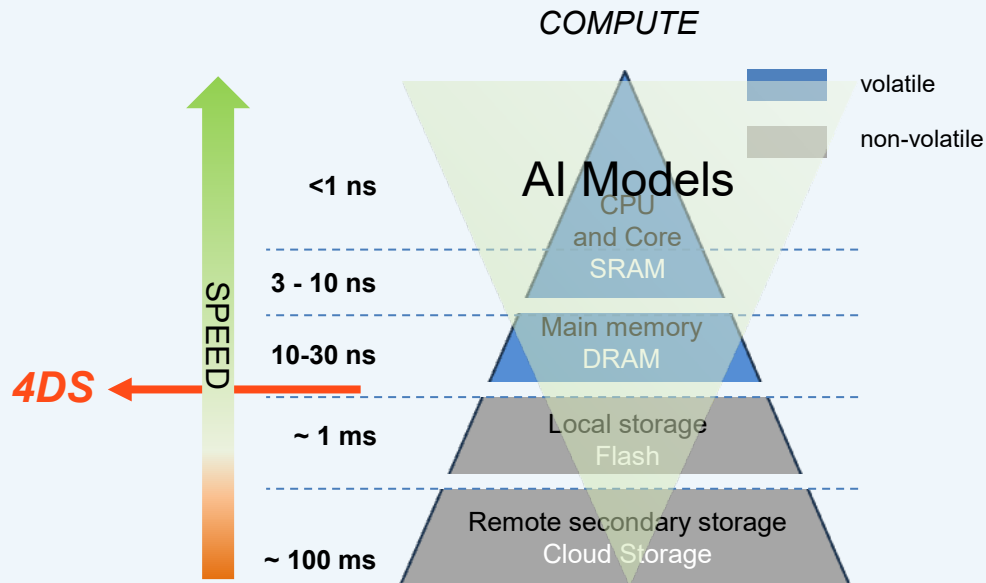
4DS Fits Uniquely Into The Existing Memory Hierarchy

While AI Models need large datasets as close to Compute as possible

To date there is a gap between the high speed (but volatile) DRAM and the high density (but slow) Flash

4DS Memory is uniquely positioned to fill this gap

- ***As fast as DRAM***
- ***Managed retention***
- ***High endurance***
- ***Gigabit scale achievable***



4DS Technology



The technology behind **4DS Memory** is a type of **Persistent Resistive Random Access Memory (ReRAM)** which switches the memory cell between a '1' or '0' state, in the digital sense.

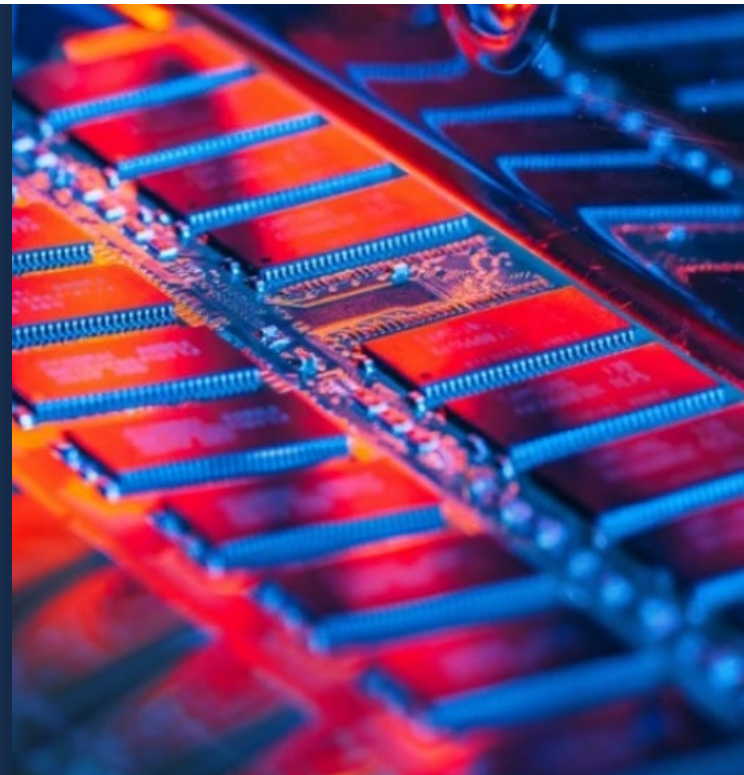
The 4DS cell is based on a different physical switching mechanism called **Area Based Interface Switching**.

Most other ReRAM on the market is called filamentary which holds various performance limitations.

Our switching mechanism gives us the high speed, high endurance and tunable retention characteristics that position 4DS uniquely in the market and potentially fulfilling the limitations imposed on filamentary ReRAM.

Memory can be broadly divided into Volatile and Non-Volatile (NV) technologies

- Volatile memories (DRAM or SRAM) deliver high speed and endurance but require constant power to be usable.
- Non-Volatile (NV) technologies retain their data without power or refresh, but at slow write speeds and limited endurance.



The 4DS Advantages



Persistent Memory at DRAM Speeds

Hours to days of retention for a single write

DRAM speeds means no system performance compromises

Managed Retention from Hours to Days

Highest energy optimization for warm data applications

Can trade off endurance for longer retention when required

Reliable Data Caching Without Refresh

For Warm Data and Persistent Memory Applications

Scalable to Any Process Node

Simple fab processing, compatible with modern fabs

Low-cost BEOL Integration, compatible to any advanced CMOS process nodes

Analog Programmability

By time or voltage modulation

Importance of 4DS for Today's Applications



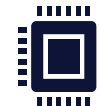
Persistent Memory for Big Data

Combines DRAM speed with persistent data retention for faster data access and improved system reboot. Integrates seamlessly into the memory hierarchy, residing between memory and storage devices



Warm Data Applications

Operates at DRAM speeds without constant updating, lowering energy costs in AI inference and enhancing memory efficiency. In Memory or Near Memory Compute compatible.



Edge AI Applications

Meets high performance in resource-constrained, battery powered devices with low energy consumption and efficiency focus

Infineon Technologies Design Agreement



- 4DS will work with imec, Infineon Technologies and a Tier One Taiwanese foundry to design and build a custom ReRAM Test Chip
- This Test Chip will be based on the unique requirements of the 4DS Interface Switching ReRAM Technology
- The Agreement leverages Infineon's deep expertise in designing and developing memory chips and 4DS' expertise in PCMO ReRAM
- The Agreement covers a 15-month project timeline at a cost to 4DS of USD\$4.5M with an up front payment of USD\$1.5M, followed by a schedule of monthly payments
- The deliverable of the Agreement is a fully designed and verified Memory Test Chip which will accelerate discussions with potential commercial partners and acquirers



Infineon Technologies AG is Germany's largest semiconductor manufacturer. As a global semiconductor leader Infineon Technologies AG has:

- Listings on the Frankfurt Exchange and the USA OTCQX
- A market capitalisation of more than €40 billion
- Revenue in fiscal year 2023: more than €16 billion
- About 58,600 employees worldwide (as of September 2023)
- 69 R&D locations; 17 manufacturing locations

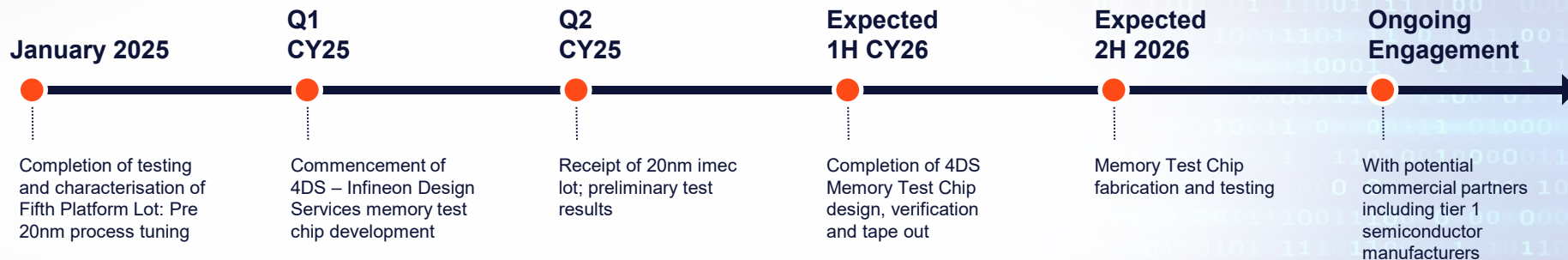
Source: Google Search

4DS Commercialisation Pathway

Significant technical de-risking achieved. Material technical and commercial milestones over the coming 18 months



Key Catalysts & Outlook



Corporate Summary

Shares on issue	2,002,323,558
Options on issue	320,495,824
Cash on hand (as of 31 March 2025)	\$9.1M
Share price (5 May 2025)	\$0.030
Market Cap (at \$0.030 share price)	\$64.0M

Top 5 Shareholders

Citicorp Nominees Pty Limited	3.00%
James Dorrian	2.26%
KZ3 Pty Ltd	158%
Mr Sam Huu-Hai Nguyen	1.58%
BNP Paribus Nominees Pty Ltd	1.43%

4DS Memory 12 month share price graph

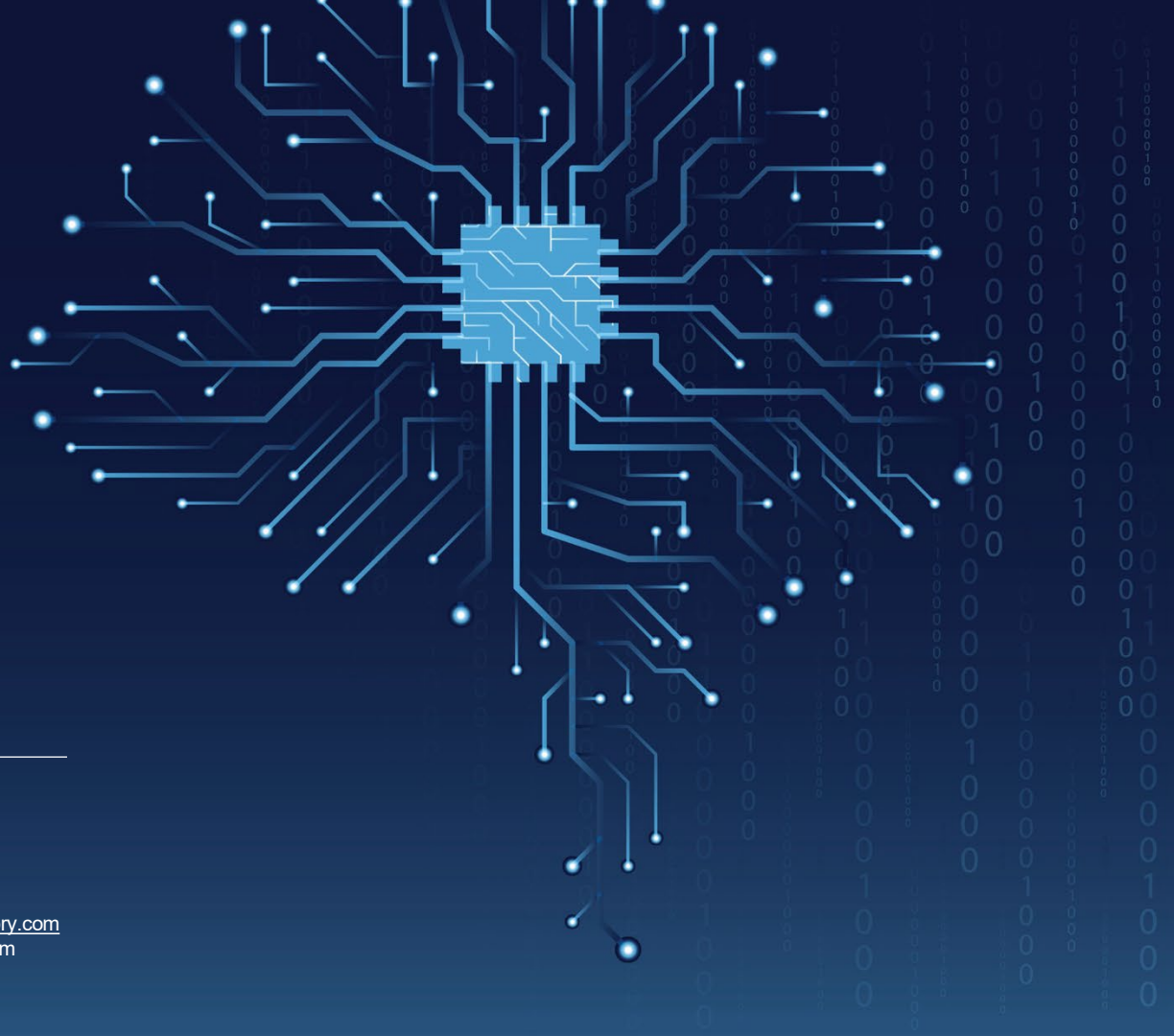


Thank you for your time.





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