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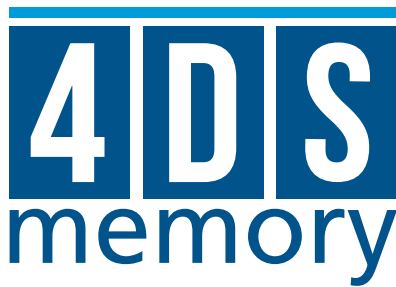
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Pioneering a *solution for memory storage demands of tomorrow*

By David Ikin

The statistics are mind-boggling

Every second, 6,000 tweets are sent worldwide and around six hours of video and 5,000 photos are saved online.

In the time it will take you to read this article, some 2 billion emails will have been sent.

Over the past two years, more data has been created than in all preceding history and very little of this content is ever deleted.

The increasing demand for data storage has been driven in no small part by the rapid take-up of mobile devices and cloud services, along with the move towards digital content, combined with the fact that people have an insatiable appetite for accessing everything instantly.

To cater for that, a new form of storage memory needs to be created – it's what has been dubbed storage class memory ("SCM"). It's the buzzword of the semiconductor industry; a technology with characteristics somewhere between DRAM and NAND FLASH. These are the two main memory and storage technologies used today, respectively US\$50 billion and US\$40 billion markets annually and growing.

4DS Memory is working hard to develop a SCM technology at its research and development facilities in Silicon Valley as it targets the global data storage market.

4DS Memory is pioneering Interface Switching ReRAM (Non-Filamentary ReRAM), for next generation gigabyte storage. The company owns a patented IP portfolio, comprising 17 granted US patents and 6 patents pending, which has been developed in-house and fully owned.

Established in 2007, and listed on the ASX in 2015

(stock code: 4DS), the company has partnered with HGST, a 100% subsidiary of US\$17 billion giant Western Digital Corporation, the world's largest data storage company, to optimise and accelerate the development of 4DS Memory's technology.

"Our R&D is moving us closer and closer to being able to be a participant in storage class memory," said Executive Director David McAuliffe.

SCM is considered vital as it effectively introduces a new level in the memory hierarchy between DRAM and FLASH.

Historically, whenever this has happened it has opened the door to significantly faster systems consuming far less power and which are capable of processing more data in a more cost-effective way.

As a result, 4DS Memory's technology is potentially disruptive to the global memory industry.

4DS Memory's Silicon Valley facility is home to a small team of engineers, scientists and other experts.

"Semiconductor companies are looking for a long-term solution. They don't want something that is going to last five years and then have to develop something else. They want a new memory technology that is scalable over the next 20 or 30 years, just like FLASH has been over the past 35 years.

"We believe we are getting closer to demonstrating that 4DS Memory's technology can be commercialised via a strategic sale and / or licensing agreement, then can be brought to market by one of the large data storage companies."

The goal is high-density non-volatile memory with the endurance, speed, retention and cost characteristics that nicely fit between DRAM and FLASH.

The energy consumed in data storage is staggering.

"Google uses as much energy as Turkey. Combined, all the data centres around the world consume more energy than the UK. And if the iCloud was a country it would be the sixth largest country in the world in terms of energy consumption.

"Our technology addresses this as it runs cooler, which will increasingly become an important factor in the years ahead," Mr McAuliffe said.

4DS Memory continues to make progress towards its technology milestones and is well positioned to address the massive memory storage demands of tomorrow.



David McAuliffe
4DS Memory Executive Director