16 July 2025

dorsaVi's RRAM Performance Metrics in Embedded Systems and Edge AI Platforms

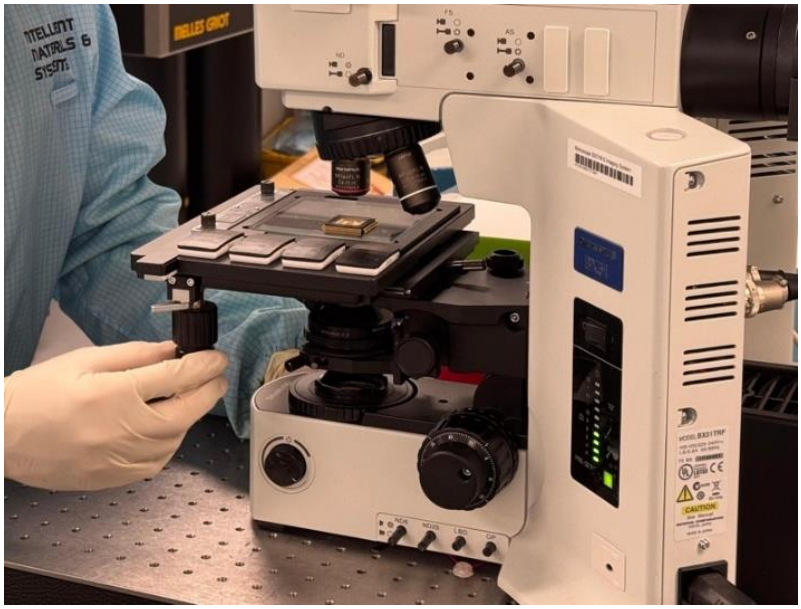
40nm RRAM performance confirms suitability for high-speed, low-power use in next-gen embedded and edge AI platforms.

- dorsaVi builds on initial assessment with validation data confirming the performance and capabilities of licensed next-generation RRAM technology.
- Integration of RRAM is expected to significantly reduce latency, improve power efficiency, and enable smarter, autonomous decision-making.
- The RRAM platform's dual binary and analog modes support both memory and neuromorphic computing, opening future opportunities in robotics, adaptive sensing, and advanced edge-AI systems.
- Head-to-head comparisons with industry peers at the 40nm node demonstrate dorsaVi's platform offers highly competitive speed, retention, and endurance metrics, confirming suitability for embedded, wearable, and AI-driven devices.
- High-speed performance was achieved with 50–200ns switching and ultra-low energy consumption, establishing RRAM as a compelling option for edge computing demands.
- dorsaVi will continue internal and third-party testing to explore long-term stability, software integration, and miniaturisation as it moves toward commercial deployment and strategic expansion into adjacent markets.

Melbourne, Australia, 16 July 2025 – dorsaVi Limited (ASX: DVL) ('dorsaVi' or 'the Company'), a leader in FDA-cleared movement-sensor technology, is pleased to announce the details of validation data and integration findings related to its recently licensed Resistive Random-Access Memory (RRAM) technology. These results support dorsaVi's roadmap toward delivering a new generation of ultra-efficient, AI-enabled sensor platforms.

The RRAM platform is set to become a cornerstone of dorsaVi's roadmap for embedded intelligence offering significant enhancements in sensor responsiveness, power efficiency, and on-device computation for real-time biomechanics and movement monitoring. Integration into dorsaVi's wearable sensors is expected to reduce latency, improve signal fidelity, and enable more autonomous decision-making at the edge.

Gernot, Chairman of dorsaVi, commented: *"The integration of RRAM into edge AI platforms is a pivotal step in our evolution toward intelligent, low-power motion systems. This technology not only enhances the performance of our existing solutions but also opens the door to future applications in AI, robotics, and neuromorphic computing. We're excited by the commercial and technical opportunities this creates as we continue to lead in real-time movement analysis."*



(Figure 1: Demonstrating dorsaVi's RRAM during Evaluation)

RRAM: A Foundational Step Towards Sensor Intelligence, Robotics and Neuromorphic Computing

RRAM is a next-generation non-volatile memory (NVM) technology that stores data by switching the resistance states of a metal-insulator-metal (MIM) structure. Unlike traditional memory, RRAM operates in both binary and analog modes offering not only fast storage and retrieval, but also tunable resistance for in-memory processing and synapse-like behaviour.

This dual capability positions RRAM at the forefront of conventional memory and adaptive learning convergence. In binary mode, it delivers **sub-100ns switching**, **>10 million cycles** of endurance, and multi-year data retention, all within **a low-voltage (2–2.5V)** operating range. In analog mode, resistance can be modulated across a continuous range supporting multi-bit storage, weight training, and on-device inference.

A further advantage lies in manufacturability with RRAM able to integrate seamlessly with existing CMOS processes, and its simplified material stack enhances scalability while reducing fabrication cost.

These capabilities mark RRAM as a critical enabler not only for medical-grade wearable sensors, but also for AI, IoT, neuromorphic processors and advanced robotic systems, fields where power efficiency and real-world adaptability are paramount. dorsaVi intends to explore these adjacent domains through further technical development and strategic partnerships.

Performance Metrics Summary (40nm Node)[1]:

Metric	DVL's RRAM Performance Metrics
Process Node (nm)	40
Memory Type	1T1R
Endurance (cycles)	>10 Million
Retention	>10 years@ 85°C
Write Voltage (V)	2-2.5
Write Speed	50-200ns

(Figure 2: Performance Metrics with 40nm RRAM Platform)

Interpreting RRAM Performance Metrics Results in Real-World Context

RRAM performance can vary significantly depending on material composition, device architecture, and fabrication methodology often tested under differing, non-standardised conditions. As such, interpreting comparative performance requires careful alignment with application-specific requirements. All data was sourced from peer-reviewed publications and verified industry disclosures, with testing parameters aligned to 40nm process nodes for consistency.

While some standalone results may suggest superior device characteristics, these do not always translate into real-world system performance unless evaluated within the operational range of the intended use case such as low-latency, real-time edge computing. dorsaVi's platform has been engineered with this lens, prioritising metrics such as switching speed, retention, and cycle endurance that directly impact system responsiveness, reliability, and scalability in embedded environments.

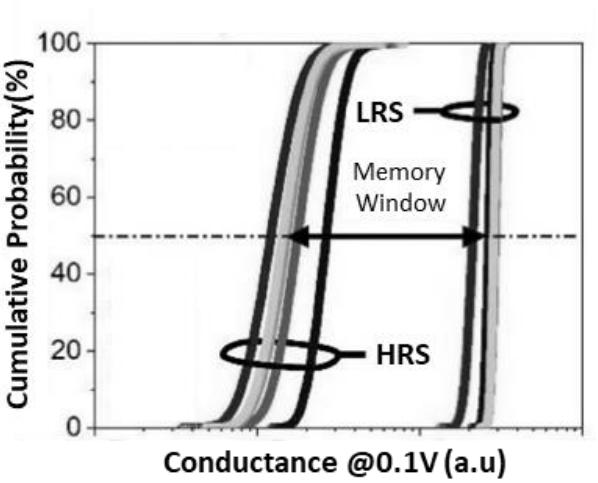


Figure 3: Spatial and temporal uniformity of the RRAM cells

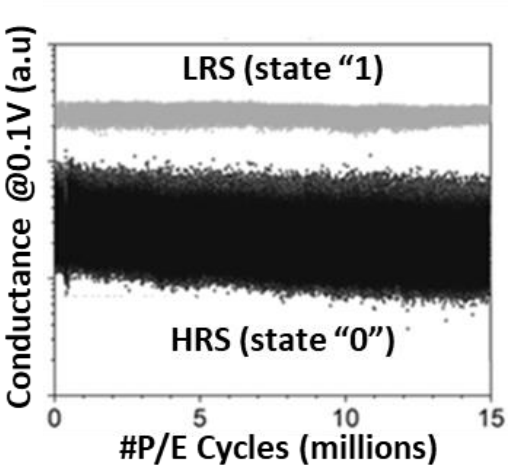


Figure 4: P/E cycles demonstration under read-intensive endurance test

[1] Refer to Annexure for Definitions and System Relevance

Next Steps

dorsaVi will continue refining the RRAM technology stack as it prepares for integration into its ViMove+™ and workplace safety platforms. Additional internal and third-party testing is planned to further evaluate long-term performance, miniaturisation potential, thermal stability, and compatibility with edge AI processing.

Results also indicate promising heat retention characteristics, supporting consistent performance in environments with elevated or fluctuating temperatures. Further updates on specific product upgrades, software integration, and potential applications in robotics and neuromorphic systems will be announced in due course.

Annexure

Metric	Definition	System Relevance
Switching Voltage	Minimum voltage needed to toggle between high (HRS) and low (LRS) resistance states.	Lower voltage reduces dynamic power consumption and enhances compatibility with advanced low-power CMOS architectures.
Program/Erase & Read Latency	Time required to complete a write (SET/RESET) or read operation.	Lower latency improves memory bandwidth and is critical for real-time, high-throughput edge and embedded applications.
Energy per Operation	Total energy consumed during a single write or read cycle.	Essential for power-sensitive applications such as mobile, wearable, and autonomous edge devices.
Endurance	Number of write/erase (P/E) cycles a memory cell can sustain before degradation.	High endurance supports repeated data updates—key for on-device learning, AI inference, and adaptive sensing.
Retention Time	Duration data remains intact under nominal conditions without power.	Ensures data reliability in long-term storage, even under thermal or electrical stress.
Resistance Window	Ratio of high-resistance (HRS) to low-resistance (LRS) states.	A wider window improves signal fidelity, enabling accurate binary reads and higher analog resolution for neuromorphic systems.
Device Variability	Consistency in device performance across space (between cells) and time (across cycles).	Low variability enhances yield, system stability, and reliability in large-scale memory arrays and AI-driven hardware platforms.

For further information about dorsaVi, please contact:

Gernot Abl **Chairman** **+61 419 802 653** **Email: ga@dorsaVi.com**	**Andrew Ronchi** **Chief Executive Officer** **+61 417 882 267** **Email: ar@dorsaVi.com**

About dorsaVi

dorsaVi Ltd (ASX: DVL) is an ASX company focused on developing innovative motion analysis device technologies for use in clinical applications, elite sports, and occupational health and safety. dorsaVi believes its wearable sensor technology enables, for the first time, many aspects of detailed human movement and position to be accurately captured, quantified, and assessed outside a biomechanics lab, in both real-time and real situations for up to 24 hours. dorsaVi's focus is on two major markets:

- **Workplace:** dorsaVi enables employers to assess risk of injury for employees as well as test the effectiveness of proposed changes to OHS workplace design, equipment or methods based on objective evidence. dorsaVi works either directly with major corporations, or through an insurance company's customer base with the aim of reducing workplace compensation and claims. dorsaVi has been used by major corporations including London Underground, Vinci Construction, Crown Resorts, Caterpillar (US), Boeing, Monash Health, Coles, Woolworths, Toll, Toyota, Orora, Mineral Resources and BHP Billiton.

- **Clinical:** dorsaVi is transforming the management of patients with its clinical solutions (ViMove+) which provide objective assessment, monitoring outside the clinic and immediate biofeedback. The clinical market is broken down into physical therapy (physiotherapists), hospital in the home and elite sports. Hospital in the home refers to the remote management of patients by clinicians outside of physical therapy (i.e. for orthopaedic conditions). Elite sports refer to the management and optimisation of athletes through objective evidence for decisions on return to play, measurement of biomechanics and immediate biofeedback to enable peak performance.

Further information is available at www.dorsaVi.com