22 July 2025

Breakthrough Results from RRAM Sensor Integration

Evaluation Highlights RRAM's Readiness for Integration into dorsaVi's Next-Generation Biomedical & AI Platforms

Key Highlights:

- RRAM integration delivers significantly material gains, including up to 50x faster write speeds, >5,000x faster read access, and >10 million endurance cycles under biosignal workloads vs the current flash memory system.
- Ultra-low power operation validated, with <200pJ per bit write energy supporting extended device uptime and smaller battery requirements.
- Hybrid memory architecture proven exceptionally effective, offloading high-frequency tasks to RRAM and significantly improving overall system responsiveness and NAND longevity.
- Formidable performance observed in real-time electromyography (EMG) and electrocardiography (ECG) conditions, supporting enhanced signal tagging, processing accuracy, and clinical reliability.
- Broader market potential identified, with relevance across implantables, adaptive prosthetics, gesture-based wearables, and closed-loop therapeutic systems.
- DVL continues to engage with executives and advisors with strong expertise in RRAM and semiconductor technologies.

Figure 1: Deposition Machine

Melbourne, Australia, 22 July 2025: dorsaVi Limited (ASX: DVL) ('dorsaVi' or 'the Company'), a leader in FDA cleared movement-sensor technology, is pleased to share results from its internal evaluation of RRAM-enabled biomedical sensors, conducted in Singapore.

Building on the announcement made earlier this month (ASX Announcement 16 July 2025), the evaluation confirms that RRAM integration into dorsaVi's sensor & AI architecture delivers measurable and significant system-level improvements across speed, endurance, and energy consumption metrics. These findings support the strategic vision of transitioning toward more intelligent, low-power edge processing platforms for real-time biosignal applications.

Evaluation Confirms Superior Performance with RRAM Technology

Metric	Legacy Memory	RRAM-Enabled System
Write Latency	1,000–10,000ns	200ns
Read Latency	50,000–100,000ns	<10ns
Write Energy (per bit)	1250pJ	<200pJ
Program/Erase Endurance	10^4–10^5 cycles	>10^7 cycles
Retention Stability	10 years @ 85°C	>10 years @ 85°C

Table 1: Displaying system gains using RRAM over legacy memory

These translate to:

- 5x–50x faster write speeds
- >5,000x faster read access
- 100x–1,000x improvement in endurance
- 8x–10x lower write energy
- Improved signal responsiveness and system longevity

Figure 2: DVLs sensors being qualified in clean room

These performance improvements are not just significant theoretically, but they translate into tangible, system-level advantages that directly impact how dorsaVi's sensors perform in real-world environments. By combining faster memory access, lower power draw, and greater endurance, RRAM technology enables a new class of wearable biomedical devices capable of operating more intelligently and reliably in demanding clinical and movement-monitoring scenarios.

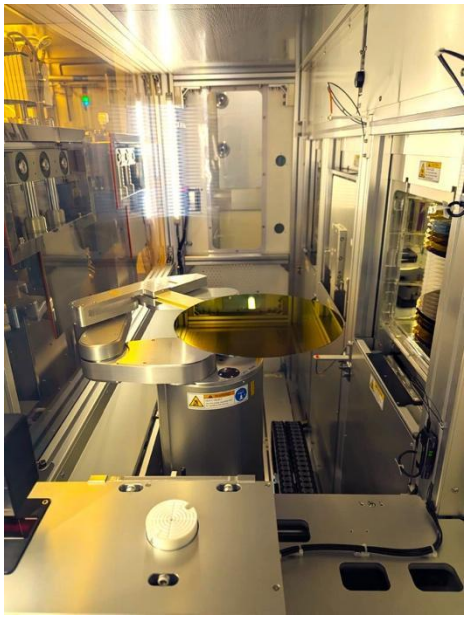

Figure 3: RRAM wafer undergoing deposition

Real-World Impact for dorsaVi's Sensor Platform

Building on these system-level gains, the integration of RRAM into dorsaVi's next-generation biomedical & AI sensors is expected to unlock a range of performance enhancements, including:

- Faster and more accurate real-time data handling, especially in high-signal environments like EMG and ECG.
- Reduced energy consumption, enabling longer device uptime and smaller battery footprints.
- Increased write endurance, extending the operational lifespan of memory-constrained wearables.
- Improved responsiveness, enhancing the accuracy of on-device signal analysis and decision-making.
- Greater system stability over time, particularly in applications requiring constant memory updates.

In its current hybrid configuration, the memory architecture reliably offloads high-frequency, wear-intensive tasks to RRAM improving system responsiveness, reducing strain on NAND, and extending overall device longevity. These performance gains are especially critical in applications such as motion-based rehabilitation, continuous cardiac monitoring, and adaptive prosthetic control, where reliability, speed, and battery life are non-negotiable.

Gernot Abl, Chairman of dorsaVi, said: "The results provide strong technical validation for the role RRAM can play in advancing our sensor platforms. We're seeing clear evidence that RRAM can enable faster, more durable, and energy-efficient systems. Capabilities that are essential as we develop the next generation of real-time biomedical & AI sensors, wearable technologies and beyond."

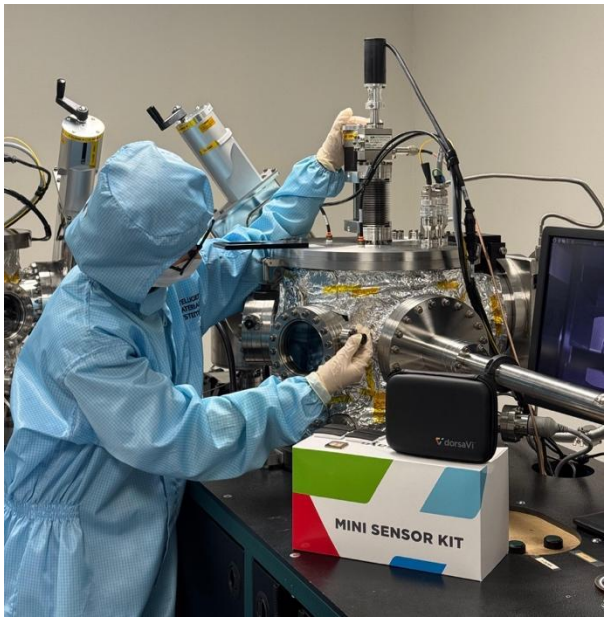

Figure 4: DVL sensors undergoing evaluation

While the immediate integration of RRAM enhances the performance of dorsaVi's core biomedical sensors, its broader potential is far-reaching. The same core advantages demonstrated exceptional responsiveness, minimal power draw, and the ability to withstand intensive, repeated use position RRAM as a critical building block for a new class of smart, connected devices. As demand grows for medical technologies that can process data locally, adapt in real time, and operate reliably in power-constrained environments, RRAM stands out as a strategic enabler across both clinical and embedded markets.

Expanding Applications Across Healthcare and Embedded Systems

The performance advantages demonstrated go well beyond dorsaVi's immediate sensor use cases. RRAM's capabilities open opportunities across a broader spectrum of next-generation medical and embedded technologies, including:

- Adaptive prosthetic controllers with real-time motor feedback
- Implantable cardiac and neuro monitors requiring long-term reliability under power constraints
- Gesture-based wearable interfaces for rehab and motion tracking
- Multimodal e-skin platforms that require high write frequency
- Closed-loop therapeutic systems dependent on fast, in-sensor memory operations

Figure 5: DVL sensor undergoing wafer-level testing

Each of these applications relies on memory that can operate efficiently, handle frequent use, and support fast, on-device decision-making areas where RRAM is particularly well suited, and where it can play a defining role in the future of biomedical technology.

Next Steps

With initial results from now validated, dorsaVi will continue expanding its RRAM evaluation program to include additional metrics such as long-term stability, integration into miniaturised hardware platforms, and software optimisation for edge processing. These efforts will support the next phase of product development and inform future design iterations as the Company advances toward clinical-grade deployment across multiple biosensing applications.

For further information about dorsaVi, please contact:

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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