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dorsaVi Initiates RRAM Sensor Testing

A Key Milestone for validation of real-time edge processing in EMG and ECG applications

Key Highlights:

- RRAM-powered sensor systems delivered to Singapore for comprehensive testing in real-world biomedical contexts.
- Initial evaluation targets electromyography (EMG) and electrocardiography (ECG) applications, where fast, energy-efficient memory is critical for signal accuracy and power management.
- The testing will evaluate the speed, energy efficiency, and durability of the memory under conditions representative of real-world wearable use—focusing on its ability to reliably process high-frequency biosignals with minimal power consumption.
- A hybrid RRAM–NAND memory configuration will be tested to demonstrate near-term performance gains, while building a pathway toward fully RRAM-based systems as the technology matures.
- Results will inform potential scaling strategy for biomedical sensors including prosthetic control, implantables, e-skin, closed-loop systems and sensors in other fields.
- The results of this testing and evaluation is expected to be communicated to shareholders during July.

Melbourne, Australia, 8 July 2025: dorsaVi Limited (ASX: DVL) ('dorsaVi' or 'the Company'), a leader in FDA cleared movement-sensor technology, is pleased to announce it has commenced internal evaluation and testing of its RRAM-powered sensor systems in Singapore.

The evaluation marks a critical step in dorsaVi's strategy to integrate **next-generation Resistive Random-Access Memory (RRAM)** into its biomedical sensor platforms enabling the speed and efficiency needed to keep up with high-frequency and advanced applications such as in electromyography (EMG), electrocardiography (ECG), and other sensors, without draining power or sacrificing performance.

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Gernot Abl, Chairman of dorsaVi, commented: *“The integration of RRAM into our sensor platform represents 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.”*

Overcoming the Limits of Conventional Memory

Traditional NAND flash memory struggles to meet the fast, continuous write demands of biosignal applications like EMG and ECG especially in environments where both power efficiency and low latency are critical. These limitations create bottlenecks for wearable and mobile medical systems that require real-time processing resulting in increased power consumption and reduced system lifespan.

Resistive Random-Access Memory (RRAM) addresses these challenges directly. As a next-generation non-volatile memory (NVM), RRAM stores data by switching resistance states within a metal insulator metal (MIM) structure. Unlike conventional charge-based memory, RRAM can operate in both binary and analog modes, offering fast access speeds (sub-200ns), ultra-low energy consumption, and high endurance for repeated write cycles.

Importantly, its analog capability allows for finely tuneable resistance supporting in-memory processing and synapse-like behaviour, which are foundational for on-device learning and adaptive signal response. These features make RRAM exceptionally well-suited not just for medical-grade wearables, but also for broader applications in AI, IoT, neuromorphic processors, and advanced robotics, where size, power, and responsiveness matter most.

dorsaVi views RRAM as a platform technology and plans to explore these adjacent sectors through ongoing technical development and strategic partnerships.

Evaluation Scope and Testing Metrics

dorsaVi will conduct extensive testing on its hybrid RRAM–NAND platform, with emphasis on edge-device functionality under realistic conditions for EMG and ECG signal processing. Core evaluation metrics include:

- **Read & Write latency**
- **Energy per write operation**
- **Program/erase endurance**
- **Retention stability under thermal/electrical stress**
- **Resistance window breadth and signal margin**

Strategic Use Cases and Immediate Focus

Initial applications include EMG signal tagging and ECG peak detection, where response time and energy use are mission critical. RRAM's performance profile is expected to reduce wear on NAND, lower power draw, and unlock new capabilities in real-time diagnostics and patient monitoring.

Looking ahead, the same core memory advantages can support:

- **Adaptive prosthetic controllers**
- **Implantable neuro and cardiac devices**
- **Gesture-based and haptic wearable interfaces**
- **Multimodal skin-integrated sensors (e-skin)**
- **Closed-loop therapeutic systems**

These domains demand high reliability, low power, and local processing of which are all strengths of RRAM-based architecture.

Next Steps

Initial test results will be released in subsequent updates, expected within the next two weeks. These findings will directly inform dorsaVi's product roadmap, integration timeline, and readiness for clinical-grade deployment across multiple biosensing verticals.

Based on successful initial test results dorsaVi will test its RRAM technology in other sensor fields.

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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:

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- **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