DorsaVi Ltd

Investment Report

October 2025

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About: DorsaVi Limited

Overview

DorsaVi Ltd (ASX: DVL) is an Australian robotics-focused deep-technology company, evolving from its medtech sensor origins into a global innovator in robotics, semiconductors, and artificial intelligence. At the core of this transformation is its exclusive worldwide licence to cutting-edge Resistive Random Access Memory (RRAM) technology, developed by Nanyang Technological University (NTU) in Singapore. This breakthrough memory architecture delivers ultra-fast, ultra-low power, and highly durable data processing, enabling real-time reflexes and decision-making in next-generation robotic platforms, prosthetics, exosuits, and adaptive human–machine systems.

Share Price: 0.050

ASX: DVL
Sector: Technology
03 October 2025

Metrics	Value
Valuation Measures	
Market Cap	AUD 66.40M
Enterprise Value	AUD 64.26M
Share Information	
Shares Outstanding	1.13B
52 week high/low (A$)	$0.059 / $0.0060
% held by Board and Management	~13%

Recent Updates

- **Engineering Validation of Sub-Microsecond Reflex Decisions (17 Sept 2025):** DVL confirmed that its RRAM crossbar inference can deliver decisions in **≤0.8 µs** with **picojoule-class energy efficiency**. This milestone demonstrates the ability to achieve biological-grade reflex performance and sets the stage for real-time robotics such as soft grippers, prosthetics, exosuits, and adaptive HMIs.
- **Multi -Year Sales Agreement with Select Medical (10 Sept 2025):** A landmark sales pathway signed with Select Medical provides access to potential **1,900+ outpatient physical therapy centers** across the United States. The agreement follows an 18-month co-development program and paves the way for national-level commercial rollout of DVL's FDA-cleared products.
- **Ed Doller Appointed Strategic Adviser (9 Sept 2025):** With more than **35 years of leadership** in the semiconductor sector at Micron, Intel, and IBM, Ed Doller joins the advisory board. His experience in NAND, NOR, and emerging memories strengthens DVL's push to commercialise RRAM and deepen industry engagement.

ASX: DVL Share price (A$)

Source: Yahoo Finance

- **Mathew Regan Appointed Group CEO (28 Aug 2025):** Effective 1 November 2025, Mathew Regan brings a track record in scaling AI-driven clinical platforms and achieving FDA approvals. He will lead overall group strategy while Andrew Ronchi continues as CEO of the sensor division, ensuring dual expertise across technology and commercialisation.
- **Launch of Artemis Labs (20 Aug 2025):** The company announced Artemis Labs, a wholly owned subsidiary dedicated to advancing **RRAM-powered AI, sensors, and robotics**. The lab is tasked with building a movement intelligence repository, developing zero-code robotic training systems, and pioneering camera-less motion tracking.
- **A$5.0m Strategic Placement Completed (18 Aug 2025):** DVL successfully raised **A$5.0m** at A$0.04/share with attaching options at A$0.075 (3-year expiry, subject to approval). The oversubscribed placement secures capital to accelerate R&D, integration of RRAM technology, and market entry initiatives.

RRAM Reflex Platform: Unlocking Sub-Millisecond Robotic Intelligence

Technology Proposition

The Reflex Platform represents a leap forward in neuromorphic robotics by integrating **Resistive RAM (RRAM)** directly into the sensor nodes. This innovation enables **in-memory computing**, where both data storage and processing occur in the same physical location, dramatically reducing latency and energy expenditure typical of traditional architectures that separate memory and compute units.

Key capabilities of the Reflex Platform include:

- **Sub-microsecond reflex decisions (≤ 0.8 µs):** This performance benchmark enables real-time responsiveness suitable for tactile control, dynamic motion correction, and near-instantaneous human-robot interaction.
- **Ultra-low energy consumption per decision (13–127 picojoules):** This level of efficiency supports battery-constrained and energy-harvesting devices, such as wearable exosuits or autonomous sensors.
- **Event recalibration in nanojoules:** The system can adapt to new stimuli or sensory patterns with minimal energetic cost, enabling continuous learning and environmental responsiveness.
- **Binary synapse-based Multi-Layer Perceptron (MLP) inference engine:** A neural network architecture optimised for RRAM substrates, leveraging binary weights to maximise processing throughput while maintaining accuracy.

This architecture supports **biological-grade reflexes**, with the ability to mimic natural neuromuscular response patterns. As a result, the Reflex Platform is ideally suited for high-stakes applications in collaborative robotics, wearable prosthetics, industrial co-bots, and camera-less human-machine interfaces where speed, precision, and low-power operation are paramount.

Eliminating the Reflex Gap in Robotics

Robots of the future must shift from deterministic, pre-programmed behaviors to dynamic, human-aware systems capable of responding in real-time to unpredictable environments. Current robotics architectures are constrained by cumulative delays across multiple latency-inducing stages:

- **Transducer physics** – converting a physical stimulus (pressure, force, temperature) to electrical signal.
- **Sensor readout & bus transfer** – collecting data and transmitting to central units.
- **Central processing** – interpreting inputs and computing control actions.
- **Network/fieldbus latency** – coordinating across distributed IO systems.
- **Actuation delay** – time for motors or actuators to respond physically.

Despite 500 Hz to 2 kHz control loop speeds, real-world robotic reflexes often lag at **10–80 ms**, resulting in safety and precision challenges.

Why Sub-1 ms Matters:

- **Safety:** At 1 m/s, a robot travels 20 mm in 20 ms; sub-ms reflexes reduce this to <1 mm, dramatically reducing risk.
- **Tool Life:** Reflex-driven impact avoidance protects high-precision end effectors.
- **Dexterity:** Enables force-tuned manipulation, slip correction, and texture sensing at >1 kHz bandwidth.
- **Power Efficiency:** Event-driven design remains idle in nanoamp to microamp standby, activating only upon input.

RRAM: Enabling Reflexes from Sensing to Action

RRAM-Fused Sensing Modalities:

RRAM can be co-fabricated with sensing layers (piezoelectric, capacitive, ionic, magnetic), allowing:

- **In-sensor memory** for contextual signal tagging
- **Adaptive gain** via tunable resistance profiles
- **Event-based spike output** mimicking biological neurons

Recent prototypes have shown **<50 µs response** in piezo-capacitive skin sensors and thermal arrays. This enables development of **skin-like, flexible sensor arrays** ideal for robotic limbs and prosthetics.

RRAM in Reflex Computing & Neuromorphic Processing:

RRAM crossbars naturally support analog **matrix–vector multiplication (MVM)** the core operation in neural networks.

Benefits for edge robotics include:

Local neural inference without offloading to central compute

Continuous adaptation via on-node learning

Elimination of latency from off-chip memory access

These functions facilitate **neuromorphic reflex loops**, allowing microsecond-class local decisions while reducing bandwidth and energy overhead.

Subsystem Impact Summary:

System Component	RRAM-Enabled Advantage
Tactile Sensing	Skin-level sensors with <50 µs latency for real-time feedback
Motion Control	Neuromorphic loops reacting within microseconds
Power Systems	µW-level wake-up states extending mobile robot lifetime
Soft Grippers	Slip detection and adaptive grip at 1 kHz+ bandwidth
Prosthetics/Exosuits	Real-time EMG/ECG analytics on-node for closed-loop control

Engineering Validation Milestone

dorsaVi has achieved a significant breakthrough with successful engineering validation of its RRAM-powered Reflex Platform, confirming that complete neural reflex decisions can be executed in ≤0.8 µs on in-memory RRAM crossbar arrays. These results mark a pivotal shift where memory is no longer the bottleneck, enabling engineers to focus on peripheral integration and actuator responsiveness.

Neural Reflex Engine: In-Memory MLP

- Compact **feed-forward neural network (MLP)** with binary synapses implemented directly on RRAM.
- Designed for **safety-critical reflex tasks**, e.g., “tighten vs hold” classification in grippers and prosthetics.
- Achieved **ultra-low energy operation (13–127 picojoules)** per reflex decision.
- Enabled real-time adaptation with **nanojoule-class energy** for calibration and plasticity.

Array Conduction Floor Validation Summary:

Array Conduction Floor Metric	RRAM-Enabled Reflex Platform	Implication
Reflex Decision Latency	≤ 0.8 microseconds	Exceeds biological reflex requirements; enables instant response
Energy per Reflex Decision	~13–127 picojoules	Ultra-low energy enables wearable, always-on operation
Calibration/Adaptation Energy	Nanojoule-class	Real-time learning and reconfiguration without energy penalty
System Bottlenecks	Not memory-bound (RRAM validated)	Focus shifts to peripheral circuits (ADCs, sensors, actuators)

This engineering milestone validates **Reflex Platform's use of RRAM** as a transformative core in robotic sensing, computation, and response, and aligns with the strategic goals of the **Artemis Labs** innovation initiative.

Strategic Positioning and Market Implications

From Sensor Platform to Neuromorphic Robotics

dorsaVi is undergoing a strategic metamorphosis from a diagnostics-oriented wearable sensor firm to a **neuromorphic robotics pioneer**. The enabling technology behind this transformation is **Resistive RAM (RRAM)**, a disruptive memory class that allows computational logic to reside directly within the memory array, empowering the edge with unprecedented reflexive intelligence.

Through the integration of RRAM, the Company is able to:

- **Collapse latency bottlenecks** traditionally caused by centralised processing architectures, enabling millisecond-to-sub-millisecond responses
- **Shift machine intelligence to the edge**, allowing decentralised, always-on operation
- **Drastically reduce energy demands**, unlocking event-driven processing models that consume only picojoules to nanojoules per event
- **Unlock reflexive performance for mobile and wearable robotics**, where weight, power, and response time are critical design constraints

This strategic shift positions dorsaVi not just as a component provider but as a **platform company** capable of powering next-gen robotics, wearable AI systems, and autonomous machines that move and react like biological organisms.

Application Domains and Commercial Opportunities

The RRAM-powered Reflex Platform enables a broad spectrum of applications across both established and emerging markets. Its key benefits biological-grade reflexes, ultra-low power usage, and localised processing are uniquely aligned to the following domains:

Application Area	RRAM Reflex Benefit
Soft Robotics	Sub-millisecond latency enables slip correction, adaptive gripping, and haptics
Autonomous Mobile Robots (AMRs)	Ultra-low power, event-triggered collision avoidance and terrain feedback
Autonomous Drones	Reflexive flight stability, obstacle avoidance, and adaptive navigation in cluttered airspaces
Autonomous Vehicles (Cars)	Real-time collision avoidance, pedestrian detection, and microsecond-class reflex braking
Exosuits / Prosthetics	Real-time closed-loop response to EMG/ECG biosignals with embedded inference logic
Industrial Human-Machine Interfaces (HMIs)	Enables camera-less, latency-free gesture recognition for safety-critical control
Clinical AI & Diagnostics	Real-time biomechanical feedback for rehabilitation, gait analysis, and injury prevention
Defense & Tactical Robotics	Reflexive threat avoidance and low-power idle-to-active transitions in field units
Surgical Robotics	Micron-precise tactile control and tissue compliance sensing for robotic instruments

This wide application scope is underpinned by the **Reflex Platform's core technical milestone**: verified **≤0.8 µs reflex latency** and **~13–127 picojoules** energy consumption per neural decision, implemented via compact Multi-Layer Perceptron (MLP) on RRAM.

As dorsaVi progresses toward commercialisation, it is expected to leverage:

- Licensing deals for integration into third-party robotics and sensor platforms
- Partnerships with prosthetics manufacturers, medtech OEMs, robotics integrators, and mobility solution providers
- Expansion of its Artemis Labs innovation stream to co-develop neuromorphic edge AI tools

With biological-grade reflex capability now validated, dorsaVi is positioned to lead in a fast-emerging space where the **intersection of sensing, memory, and compute** becomes a source of competitive differentiation for intelligent machines.

Future Outlook and Near-Term Catalysts

The next 12–24 months present a series of pivotal inflection points for dorsaVi as it accelerates the translation of its RRAM-powered Reflex Platform from engineering validation into commercial adoption. Key catalysts include:

- **Robotic Deployment Evaluations:** Ongoing testing in exosuits, grippers, autonomous mobile robots (AMRs), autonomous drones, and autonomous vehicles will provide quantitative benchmarks on reflex latency, energy efficiency, and system-level safety improvements. Successful trials are expected to establish commercial readiness and attract OEM partnerships.
- **Artemis Labs Partnerships and Licensing Strategy:** Expansion of Artemis Labs as the Company's dedicated innovation arm will be central to building out neuromorphic IP portfolios, forming licensing agreements, and forging collaborations with robotics integrators, medtech device manufacturers, and industrial automation firms.
- **Healthcare Market Expansion:** Leveraging the U.S. physical therapy and rehabilitation markets as early adopters, dorsaVi aims to extend its FDA-cleared wearables into intelligent clinical feedback systems powered by on-node reflex AI. This market provides a low-barrier entry point for demonstrating RRAM-enabled clinical AI in real-world settings.

- **Defense and Aerospace Interest:** Edge-AI reflex systems are drawing attention from defense contractors and aerospace integrators seeking sub-millisecond stability for tactical robotics, autonomous drones, and unmanned systems. Early-stage engagements could translate into strategic contracts.
- **Commercialisation and OEM Engagements:** Global mobility companies, industrial robotics OEMs, and prosthetics manufacturers are expected to engage in pilot programs, with potential for joint development agreements and recurring licensing revenues.
- **Capital and Scaling Roadmap:** With strengthened funding, dorsaVi is positioned to scale engineering, expand its intellectual property portfolio, and accelerate time-to-market for its Reflex Platform across multiple verticals.

Strategic Commitment: dorsaVi Gets Serious on RRAM for Robotics

DorsaVi has underscored its **serious intent to lead in RRAM-enabled robotics** through decisive actions that extend well beyond laboratory validation. Building on a string of technical breakthroughs including sub-microsecond neural reflex execution and ultra-low energy decision-making the Company is aligning resources, partnerships, and internal programs to fast-track RRAM into commercial-grade robotics and human–machine systems.

A key step in this commitment has been the successful **raising of $5 million in growth capital**, which provides the financial foundation to accelerate development across robotics, edge AI, and neuromorphic platforms. This investment underscores the confidence of sophisticated investors in dorsaVi's trajectory and validates the commercial promise of its Reflex Platform. This strategic commitment empowers dorsaVi to:

- **Accelerate Reflex Platform development** across robotics, exosuits, autonomous drones, and vehicles.
- **Advance FDA-cleared sensor platforms** by embedding RRAM for in-sensor intelligence, latency reduction, and ultra-low power operation.
- **Expand its commercialisation roadmap** across edge AI, video-based analysis, and next-generation human–machine interfaces.

Chairman Gernot Abl noted: *"RRAM is not just an incremental upgrade to our FDA-approved sensor platform, it is a leap into the future of robotics, edge AI, and neuromorphic computing. With our reinforced focus, we can fast-track high-impact initiatives across human–machine interaction, autonomous robotics, and in-sensor intelligence."*

This milestone signals that dorsaVi is **moving beyond proof-of-concept into execution at scale**, aligning its technology leadership with commercial ambitions to become a pivotal player in the robotics and neuromorphic AI industries.

Multi-Year Sales Agreement with Select Medical

DorsaVi signed a landmark multi-year sales agreement with **Select Medical**, securing access to more than potential **1,900 outpatient physical therapy centers across the United States**. This milestone followed an extensive **18-month co-development program**, during which dorsaVi's FDA-cleared products were integrated and validated in real-world clinical workflows.

How Big is Select Medical?

Select Medical stands as one of the most influential names in U.S. healthcare, recognized for both its size and its leadership in rehabilitation standards. Each year, it treats over **1.2 million patients across the continuum of care**, employs more than **21,000 licensed nurses and therapists**, and achieves a remarkable **98% patient recommendation rate**. Its network spans critical illness recovery hospitals, inpatient rehabilitation hospitals, and nearly two thousand outpatient rehabilitation centers. With a workforce exceeding **45,000 professionals**, Select Medical combines scale, expertise, and reputation, giving it a unique ability to set the tone for rehabilitation innovation nationwide.

Why This Agreement Matters

For dorsaVi, this partnership is more than a sales arrangement, it represents a powerful validation point and a gateway to wider adoption. Select Medical's **advanced robotics programs** already integrate exoskeletons, robotic gait trainers, FES-enabled systems, and neuro-rehabilitation devices across 26 of its inpatient hospitals. By embedding robotics into its therapy protocols, Select Medical is actively shaping the future of recovery for patients with stroke, spinal cord, and brain injuries. This environment creates an opening for dorsaVi's **RRAM-powered Reflex Platform** to be positioned as the next evolution in robotic rehabilitation, delivering sub-millisecond reflexes and ultra-low power operation that enhance patient outcomes.

The agreement also elevates Select Medical as a **benchmark reference site**, highlighting the clinical readiness and scalability of dorsaVi's solutions. Success in this setting is likely to encourage other global leaders in healthcare and robotics to follow suit, creating momentum beyond the initial rollout. The scale of Select Medical's reach—over 1.2 million patients annually and thousands of licensed professionals—means results achieved here carry industry-wide influence. This partnership is difficult to secure and strengthens dorsaVi's trajectory toward becoming a central enabler of intelligent, reflexive robotics in rehabilitation and broader healthcare applications.

Future Scenarios

Looking ahead, this collaboration has the potential to evolve from a U.S.-focused rollout into a springboard for global healthcare robotics adoption. As Select Medical validates the clinical and operational benefits of dorsaVi's Reflex Platform, other large-scale hospital networks and rehabilitation providers are likely to explore similar partnerships. Future scenarios include:

Expansion into new geographies: Leveraging Select Medical as a case study to win contracts in Europe and Asia.

- **Integration with robotic rehabilitation ecosystems:** Combining dorsaVi's RRAM reflex platform with exoskeletons, gait trainers, and neuro-stimulation systems already in use.
- **Scaling into adjacent markets:** Beyond rehabilitation, the same platform could be deployed into occupational safety, sports performance, and remote patient monitoring.
- **Setting industry benchmarks:** Select Medical's outcomes may help establish new performance and safety standards in robotic rehabilitation, accelerating regulatory acceptance and payer reimbursement models.

These future scenarios underscore that the Select Medical agreement is not an endpoint, but rather a strategic catalyst capable of unlocking wider adoption and market leadership for dorsaVi.

Visionaries Behind the Robotics Revolution: DorsaVi's Leadership Team

Mathew Regan – Incoming CEO

Mathew Regan will formally assume the role of Group Chief Executive Officer at DorsaVi beginning 1 November 2025, marking a new chapter for the company as it transitions from movement analytics to a global innovator in advanced robotics, edge AI, and ReRAM-powered sensor systems. Regan brings a highly accomplished leadership background, having served as CEO of Artrya Limited (ASX: AYA), where he redefined the company's AI-driven clinical platform and secured regulatory approvals including FDA clearance, an achievement that underscores his ability to guide emerging technologies into market-ready solutions.

Across his career, Regan has held senior leadership positions at multiple ASX-listed firms and has been deeply involved in commercialising cutting-edge innovations across digital health, AI, advanced manufacturing, and embedded systems. His global leadership footprint spans North America, Asia, and Australia, and he has demonstrated an ability to cultivate high-value partnerships with original equipment manufacturers (OEMs), academic researchers, and regulatory bodies alike.

Regan's specific experience in adaptive signal processing, wearable sensor design, and AI-integrated diagnostics aligns with DorsaVi's ambitions to lead in sub-millisecond robotics reflex platforms and autonomous systems. His appointment comes as DorsaVi expands applications of its Reflex platform into collaborative robotics, prosthetics, and neuromorphic sensing.

He will lead the broader commercialisation of DorsaVi's ReRAM-powered innovations, support strategic scaling of Artemis Labs, and oversee the development of global go-to-market pathways. Importantly, Regan's leadership coincides with the Company's commitment to building strategic alliances and new revenue channels in high-growth robotics and AI verticals. While Dr. Andrew Ronchi continues as CEO of the Sensor Division, focused on scaling ViMove and ViPerform in the U.S. and beyond, Regan's broader remit will help unify the company's hardware, software, and platform innovations under a cohesive vision for robotics and intelligent motion technologies. This dual-leadership model ensures strong operational continuity alongside accelerated innovation, with Regan steering the Company's next phase of growth into global frontier markets.

Andrew Ronchi – CEO, Sensor Division

A co-founder of DorsaVi, Dr. Andrew Ronchi has led the Sensor Division through regulatory approvals, clinical deployments, and international expansion. With a PhD in biomechanics and a clinical background in physiotherapy, Ronchi was instrumental in developing and launching DorsaVi's FDA-cleared ViMove and ViPerform sensor platforms.

Under his leadership, the company built extensive datasets of biomechanical movement, which today power Artemis Labs' robotic motion and AI training systems. His understanding of real-world motion data and its translation into meaningful robotic interaction gives DorsaVi an authentic edge in human-centric robotics, prosthetics, and rehabilitation technology. Ronchi's insight into clinical-grade sensor validation and regulatory strategy ensures that the company's robotic offerings meet the high standards of health, safety, and efficacy needed for mass adoption.

Ed Doller – Strategic Adviser, Semiconductor & Systems Architectures

Edward Doller has been appointed as the inaugural member of DorsaVi's newly formed Advisory Board. His addition marks a significant milestone in the company's strategic evolution into ReRAM-enabled robotics, neuromorphic systems, and ultra-low power edge AI. With over 35 years of senior leadership in memory systems architecture, Mr. Doller brings substantial technical depth and market insight to support DorsaVi's roadmap for intelligent motion technologies.

Ed Doller has held executive roles at several of the most influential semiconductor firms, including **Micron Technology, Intel, Numonyx**, and **IBM**. At Micron, he served as **Vice President & Chief Strategist of the NAND Solutions Group**, leading strategy and product portfolio development. He also held positions as VP & GM of Enterprise Storage and VP & Chief Memory Systems Architect, overseeing architectural innovations across Micron's enterprise memory business.

Previously, he was **Chief Technology Officer at Numonyx**, a joint venture formed by Intel and STMicroelectronics focused on non-volatile memory innovation. Doller also served as **CTO of Intel's Flash Memory Group**, directing development for NAND and NOR memory solutions. His early contributions at **IBM** laid foundational work in storage-class memory and semiconductor process technology.

Mr. Doller earned his **Bachelor of Science in Computer Engineering from Purdue University**, co-authored the IEEE floating gate standard, and holds numerous patents in memory design. He is a frequent speaker at global semiconductor conferences and is recognised for shaping the trajectory of memory systems architecture.

At a time when DorsaVi is scaling its robotics and AI portfolio, Mr. Doller's appointment provides targeted expertise in:

- Advancing the **RRAM-based Reflex platform** for embedded robotics and prosthetic applications
- Shaping a coherent **technical roadmap** across wearables, neuromorphic processors, and edge systems
- Building strategic alliances with **OEMs, silicon foundries, and AI ecosystem players**
- Supporting **commercial translation and IP strategies** linked to ReRAM innovation

DorsaVi's formation of Artemis Labs, acquisition of ReRAM IP, and demonstration of sub-millisecond robotic reflexes set the stage for Doller's contributions to accelerate innovation. His technical experience in bringing emerging memory systems to market will support DorsaVi as it navigates commercialisation, scalability, and global expansion in intelligent robotics.

Artemis Labs Team

Artemis Labs represents the cutting-edge research and development arm of DorsaVi, functioning as a dedicated innovation engine designed to translate breakthrough technologies into deployable robotic solutions. As a multidisciplinary powerhouse, Artemis Labs unites a world-class team of roboticists, AI scientists, electrical engineers, biomechanical researchers, and semiconductor architects. Their diverse backgrounds converge to solve complex challenges in real-time robotics, neuromorphic computing, and autonomous systems.

The core of the team includes:

- **Former lead researchers from Nanyang Technological University, the University of Melbourne, and other globally recognised robotics centers**, bringing deep academic insight and applied engineering know-how.
- **Specialists in wearable edge-AI platforms and in-memory computing** with prior experience in developing ultra-low-latency devices for the healthcare and defense sectors.
- **Biomechanics and motion capture experts** with extensive knowledge of human kinematics, gait analysis, and motor control systems vital for building reactive robotic limbs and exosuits.

Key accomplishments of Artemis Labs include:

- Designing **zero-code robotic training interfaces** that allow robotics platforms to be taught tasks via demonstration, removing the need for traditional programming.
- Achieving **sub-50 microsecond tactile response latency**, a benchmark that rivals biological reflexes and enables split-second robotic feedback in dynamic environments.
- Creating fully functional prototypes for **next-gen prosthetics**, industrial exoskeletons, and autonomous wearables that harness the computational power of ReRAM to perform local decision-making without relying on cloud-based AI.
- Developing **crossbar ReRAM inference frameworks** that demonstrate highly energy-efficient performance, paving the way for scalable deployments across unstructured environments.

Beyond technical outputs, Artemis Labs functions as a strategic R&D center, tightly integrated with DorsaVi's commercial objectives. It supports collaborative programs with OEMs, academic institutions, and global fabrication partners to accelerate product validation, compliance testing, and field trials.

By bridging fundamental research with real-world implementation, Artemis Labs is not just advancing the field of robotics, it is actively defining what is possible in intelligent motion and reactive machines. Their innovations serve as the core engine powering DorsaVi's transition from deep-tech disruptor to platform-scale robotics leader.

Commercial Applications and Market Opportunity

DorsaVi's exclusive access to NTU's oxide-based RRAM technology positions the company to address a broad spectrum of high-growth verticals, with a primary focus on robotics applications that demand ultra-low-power, high-endurance, and compact memory solutions. Robotics markets from soft robotic grippers and surgical systems to autonomous drones and vehicles are undergoing rapid transformation, driven by AI, edge computing, and next-gen embedded electronics. DorsaVi's capital-light business model and vertically integrated hardware-software platforms offer strategic leverage to enter and scale these robotics-focused markets through licensing, co-development, and direct integration.

Market Size by Application (2025 vs Forecast Year)

Application Area	2025 Market Size (USD)	Forecast Market Size (USD)	Forecast CAGR
Soft Robotics	2.00 billion	8.80 billion (2030)	34.45%
Autonomous Mobile Robots (AMR)	4.49 billion	9.26 billion (2030)	15.60%
Autonomous Drone Platforms	10.60 billion	35.40 billion (2035)	12.80%
Autonomous Vehicles	42.87 billion	122.04 billion (2030)	23.27%
Human-Machine Interfaces (HMI)	5.42 billion	7.92 billion (2030)	7.90%
Military Robots	23.31 billion	36.93 billion (2030)	9.64%
Surgical Robots	9.80 billion	22.90 billion (2035)	8.70%

General Market Drivers for Robotics Applications

Beyond dorsaVi's specific positioning, broader market dynamics across robotics segments are fueling adoption:

- **Soft Robotics:** Demand driven by workplace safety, food automation, and medical exoskeletons. Regulatory hurdles are a challenge, but R&D funding and pandemic-driven automation highlight strong growth potential.
- **Autonomous Mobile Robots (AMR):** E-commerce fulfillment, warehouse labor shortages, falling Li-ion battery costs, and AI-enabled orchestration software accelerate adoption. EU subsidies and Asia-Pacific cost leadership reinforce expansion.
- **Autonomous Drones:** Growth in agriculture, defense, and logistics powered by GPS, sensors, and swarm intelligence. Miniaturisation and AI integration enable scaling into both civilian and military sectors.
- **Autonomous Vehicles:** Driven by ADAS safety mandates, robotaxi pilots, cheaper LiDAR, AI-enabled edge compute, and 5G-V2X corridors. Regulatory clarity in EU and China accelerates rollout, while public acceptance is growing despite safety concerns.
- **Human–Machine Interfaces (HMI):** Industry 4.0 and 5.0 digitalisation, OT-IT convergence, secure architectures, low-code customisation, and 5G-enabled remote control drive modernisation across factories and critical infrastructure.
- **Military Robots:** Defense budget reallocations, NATO and AUKUS digitisation, Ukraine conflict lessons, and AI-enabled tactical decision-making underpin rising demand for attritable swarms and ruggedised autonomous systems.
- **Surgical Robots:** Minimally invasive surgery demand, surgeon ergonomics, remote/tele-surgery capabilities, and the shift to robotic-assisted procedures in multiple disciplines underpin growth through 2035.

Together, these drivers provide a fertile environment in which dorsaVi's Reflex Platform can align with high-growth verticals.

Market Drivers for dorsaVi's RRAM Technology

The convergence of robotics, AI, and neuromorphic computing is creating strong tailwinds for dorsaVi's RRAM-powered Reflex Platform. Key growth drivers include:

- **Exponential growth in robotics markets:** From soft robotics in healthcare to autonomous vehicles and drones, market projections point to multi-billion-dollar opportunities across multiple verticals by 2030 and 2035.
- **Demand for ultra-low latency and energy efficiency:** Sub-millisecond reflexes and picojoule-level energy consumption meet critical requirements for autonomous systems, surgical robotics, and defense platforms.
- **Rising adoption of human–machine interfaces:** Industry 4.0 and Industry 5.0 initiatives prioritise seamless collaboration between humans and machines, making RRAM-enabled reflex platforms pivotal.
- **Healthcare and surgical robotics growth:** The surge in robotic-assisted procedures requires safer, faster, and more adaptive platforms areas where RRAM offers clear differentiation.
- **Defense and security needs:** Military robots and autonomous drones demand resilient, real-time decision-making under constrained energy budgets.
- **Edge AI expansion:** With 5G/6G rollouts and local inference becoming mainstream, in-memory RRAM computing aligns perfectly with distributed intelligence at the edge.

Conclusion: Why DorsaVi Ltd (ASX: DVL) Is Positioned for Significant Growth

DorsaVi Ltd is evolving into a pivotal player at the crossroads of robotics, neuromorphic computing, and advanced semiconductor technologies. With exclusive global rights to NTU Singapore's oxide-based RRAM platform, the company has secured a technology advantage validated by over **A$120 million in R&D investment** and confirmed at wafer-level. This patented breakthrough enables sub-microsecond reflex decisions, ultra-low energy operation, and durability unmatched by conventional memory systems, providing a foundation for robotics, prosthetics, exosuits, and autonomous platforms.

For stakeholders, DorsaVi offers a rare combination of:

- **Exclusive IP Access:** Sole ASX-listed company with secured RRAM licensing, validated for next-generation robotics, wearables, and neuromorphic AI. This exclusive partnership with NTU creates a high barrier to entry for competitors.
- **Capital-Light Model:** With no requirement to operate costly fabs, DorsaVi can pursue a capital-efficient strategy through **licensing, ASIC partnerships, and OEM co-development**, maximising margins while minimising fixed overheads.
- **Exposure to Multi-Billion Dollar Markets:** RRAM-powered Reflex Platforms directly address high-growth verticals forecast to expand rapidly:
    - **Soft Robotics:** USD $2.0B (2025) → $8.8B (2030), CAGR 34.4%
    - **Autonomous Vehicles:** USD $42.9B (2025) → $122.0B (2030), CAGR 23.3%
    - **Autonomous Drones:** USD $10.6B (2025) → $35.4B (2035), CAGR 12.8%
    - **Surgical Robotics:** USD $9.8B (2025) → $22.9B (2035), CAGR 8.7%

  Collectively, these markets exceed **USD $200B in addressable opportunity** within the next decade.
- **Commercialisation Pathway:** Beyond licensing, DorsaVi is embedding its RRAM Reflex Platform into proprietary products such as **ViMove+**, **ViPerform**, and Artemis Labs initiatives (robotics, camera-less motion tracking, and edge-AI diagnostics). This vertical integration strengthens recurring revenue potential.
- **Select Medical Agreement as a Scaling Catalyst:** A landmark multi-year partnership secures access to potential**1,900+ U.S. outpatient physical therapy centers** run by Select Medical—one of the largest rehabilitation networks in America, treating **1.2M+ patients annually**. This is more than a sales channel; it is a strategic validation of clinical readiness. Embedding DorsaVi's Reflex Platform into Select Medical's robotic rehabilitation programs positions the technology as a new standard in patient recovery, while establishing Select Medical as a global benchmark reference site. Success here is likely to create ripple effects, attracting other hospital networks and accelerating adoption across healthcare and beyond.
- **Near-Term Catalysts:** Engineering validation has already proven ≤0.8 µs reflex latency. Forthcoming **prototype demonstrations, OEM engagements, defense partnerships, and expansion into healthcare and rehabilitation markets** are expected to accelerate adoption and drive visibility.
- **Differentiated Technology:** By merging memory and computation within the same architecture, DorsaVi eliminates latency bottlenecks and enables true neuromorphic reflex loops. This is a structural leap in robotics intelligence, creating defensible differentiation against traditional sensor and AI approaches.

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