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COUNTRY REPORT · 2026

State of Robotics Australia 2026

World-leading mining automation, CSIRO field robotics, a growing agricultural sector, and A\$1.8B in market opportunity — the definitive report on Australian robotics.

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KEY FINDINGS

Australia by the Numbers

A\$1.8B

Australian robotics and automation market in 2026 — more than doubling since 2021.

89

Robots per 10,000 workers. Below the global average of 151 — massive headroom for growth.

A\$2.4B

Combined mining automation market. Rio Tinto, BHP, and FMG operate the world's largest autonomous vehicle fleets.

47%

Year-over-year growth in Australian robotics startup funding in 2025 — outpacing the global average.

CHAPTER 01

Executive Summary

Australia occupies a singular position in the global robotics landscape. It is not the largest market, nor the most densely automated. But in one critical vertical — autonomous mining — Australia is the undisputed world leader, operating at a scale and sophistication that no other country has matched. The Pilbara region of Western Australia is home to the largest fleet of autonomous haul trucks on Earth, and the techniques pioneered there are now influencing construction, agriculture, and defense automation globally.

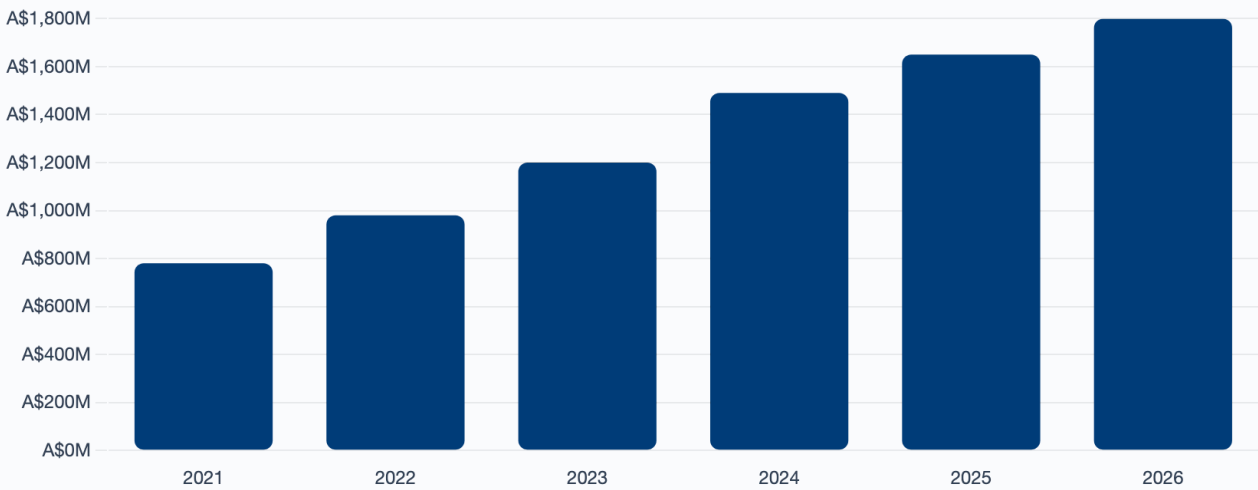
The broader Australian robotics market reached an estimated A\$1.8 billion in 2026, up from A\$780 million in 2021. This growth is driven by three converging forces: the continued expansion of mining automation into adjacent operations (drilling, rail, processing), the emergence of agricultural robotics as a response to chronic labor shortages, and a surge of government investment through programs like the National Reconstruction Fund and the Defence Innovation Hub.

Yet Australia's robot density — 89 robots per 10,000 manufacturing workers — remains well below the global average of 151. This gap is not a weakness; it is a market opportunity. The structural conditions for rapid automation adoption are present: high labor costs (among the highest in the OECD), a vast geography that makes remote operations attractive, world-class research institutions, and a government policy framework that actively incentivizes automation investment.

Australia's robotics thesis in one sentence: The country that perfected autonomous mining at continental scale is now applying those capabilities — remote operations, ruggedized autonomy, fleet coordination — to agriculture, construction, defense, and healthcare. The next five years will determine whether Australia becomes a robotics exporter or remains primarily a robotics deployer.

This report examines Australia's robotics ecosystem across seven dimensions: mining automation (Chapter 2), agricultural robotics (Chapter 3), construction and infrastructure (Chapter 4), the research ecosystem (Chapter 5), healthcare and assistive technologies (Chapter 6), the investment and startup landscape (Chapter 7), and the specific opportunities for RCSV partnership (Chapter 8). Throughout, we draw on data from the IFR, CSIRO, the Australian Bureau of Statistics, and Robotics Center's proprietary deployment tracker.

Australian Robotics Market (A\$M)



Source: RCSV Research, IFR, Australian Bureau of Statistics

CHAPTER 02

Mining Automation: Australia's Global Showcase

If you want to see the future of autonomous heavy industry, you do not go to Silicon Valley or Shenzhen. You go to the Pilbara — a vast, iron-red expanse of Western Australia where Rio Tinto, BHP, and Fortescue Metals Group have deployed the world's largest autonomous vehicle fleets. These are not pilot programs or technology demonstrations. They are full-scale, 24/7 production operations that have been running for years, hauling billions of tonnes of iron ore with no human drivers.

Rio Tinto: The Global Benchmark

Rio Tinto's "Mine of the Future" program, initiated in 2008, has matured into the most comprehensive autonomous mining operation on Earth. As of early 2026, Rio Tinto operates more than 130 autonomous Komatsu 930E haul trucks across its Pilbara iron ore operations. Each truck weighs 320 tonnes when loaded and operates around the clock with no onboard driver. The trucks are coordinated by a fleet management system that optimizes routing, load balancing, and intersection management in real time.

Beyond trucks, Rio Tinto has deployed more than 80 autonomous drill rigs capable of moving between drill patterns, setting up, and completing blast-hole drilling sequences without human intervention. The entire operation is monitored from the Rio Tinto Operations Centre in Perth — 1,500 kilometers from the mine sites — where operators supervise fleet performance, intervene in edge cases, and manage production schedules. This remote operations model has become the template for autonomous mining worldwide.

BHP: AutoHaul and Beyond

BHP operates more than 65 autonomous haul trucks across its Pilbara operations. But BHP's most significant contribution to autonomous mining is AutoHaul — the world's first fully autonomous heavy-haul rail system. AutoHaul operates 1,700 kilometers of rail track, moving iron ore trains up to 2.4 kilometers long from mine to port with no driver onboard. The system was declared fully operational in 2019 after a decade of development and has since become a case study in the challenges and rewards of automating safety-critical infrastructure at scale.

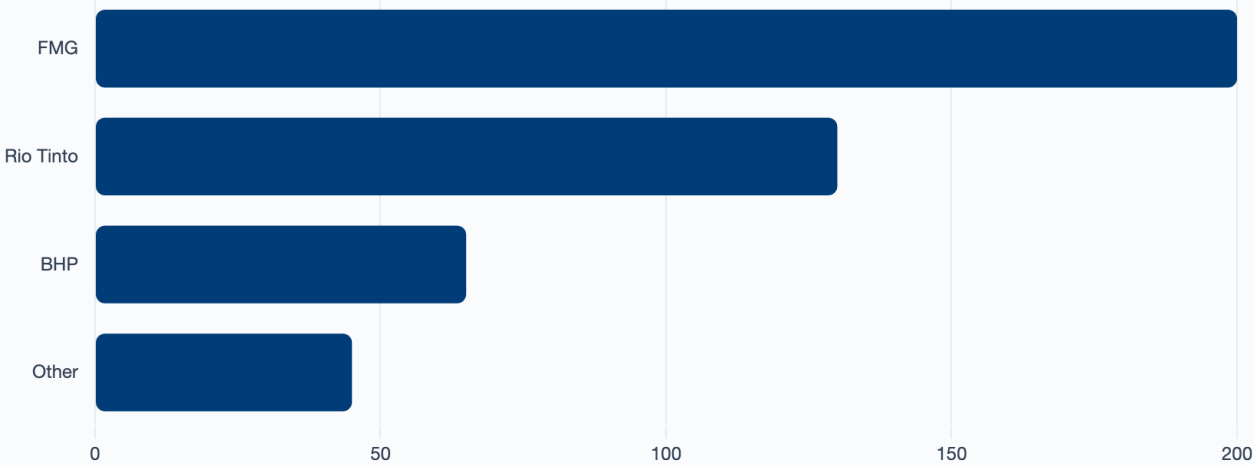
Fortescue Metals Group

FMG operates the largest individual autonomous truck fleet in Australia, with more than 200 autonomous haul trucks deployed across its Pilbara mines. FMG has also pushed aggressively into adjacent automation: Fortescue Future Industries (FFI) is investing in hydrogen-powered autonomous vehicles and exploring the application of mining autonomy techniques to green energy infrastructure construction.

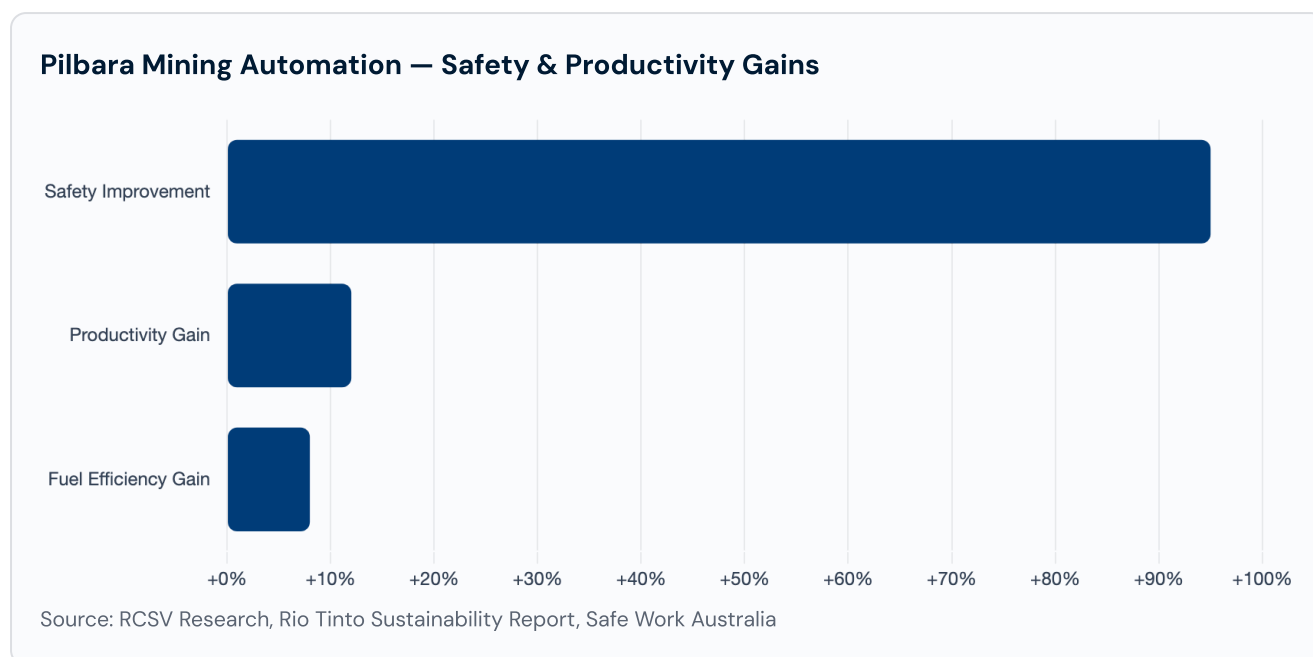
The safety dividend: Autonomous haul truck operations in the Pilbara have recorded zero fatalities since deployment began. In comparable manned operations globally, the fatality rate averages approximately 15 deaths per year. This is not a marginal improvement — it is a categorical change in the safety profile of one of the world's most dangerous industrial operations.

OPERATOR	AUTONOMOUS TRUCKS	OTHER AUTONOMOUS SYSTEMS	KEY INNOVATION
Rio Tinto	130+	80+ drills, remote ops centre	Mine of the Future; Perth remote ops
BHP	65+	AutoHaul autonomous rail	World's first autonomous heavy-haul rail
FMG	200+	FFI green energy robotics	Largest single autonomous fleet
Other operators	~45	Various autonomous drills, loaders	Mid-tier miner adoption

Mining Autonomous Equipment Fleet Size



Source: RCSV Research, company disclosures, IFR Mining



The Export Opportunity

The techniques developed in the Pilbara — ruggedized autonomy for extreme environments, remote fleet coordination, integration with legacy infrastructure — are not mining-specific. They represent a transferable capability set. Australian companies and research institutions are already adapting Pilbara-proven approaches for agricultural automation (autonomous tractors operating in remote broadacre environments), construction (autonomous earthmoving on infrastructure projects), and defense (autonomous logistics vehicles for the Australian Defence Force). This technology transfer from mining to adjacent sectors is perhaps Australia's most significant contribution to the global robotics industry.

CHAPTER 03

Agricultural Robots: Solving the Labor Crisis

Australia is the world's third-largest agricultural exporter, with a sector that generates more than A\$80 billion annually and feeds approximately 80 million people globally. Yet the industry faces a structural labor shortage that has worsened every year since 2020. The Pacific Islander seasonal worker program, which once provided reliable harvest labor, has been strained by post-COVID mobility restrictions and competition from other destination countries. In this context, agricultural robotics is not a technology story — it is a survival story for regional communities and a food security imperative for the nation.

Broadacre Farming

Australia's vast broadacre grain farms — some exceeding 10,000 hectares — are natural candidates for autonomous operations. John Deere AutoTrac GPS guidance is already widespread, with adoption rates exceeding 70% on large grain properties. The next wave of autonomy involves fully driverless tractor operations, where the machine completes entire field passes, turns, and implements changes without an operator in the cab. Several Australian properties are piloting these systems in controlled environments, with commercial-scale deployments expected by 2027.

Viticulture and Horticulture

Australia's wine regions — the Barossa Valley, McLaren Vale, Margaret River — face acute labor pressure for vineyard management tasks: pruning, canopy management, and inter-row weeding. SwarmFarm Robotics, based in Queensland, has developed autonomous inter-row weeding platforms that use GPS-guided navigation and targeted spraying to reduce herbicide usage by up to 80%. Agerris, a University of Sydney spinout, has developed field robots for broadacre and horticultural applications with advanced perception for weed detection and crop monitoring.

In horticulture, the challenge is more complex. Picking soft fruit — strawberries, blueberries, stone fruit — requires the kind of dexterous manipulation that remains at the frontier of robotics capability. Harvest CROO Robotics has conducted strawberry picking trials in Queensland, and several CSIRO-partnered programs are developing perception systems for yield estimation and selective harvesting. The economics are compelling: a single robotic strawberry harvester that achieves even 60% of human picking rates would be cost-effective at current labor rates.

CSIRO: World-Class Field Robotics

CSIRO's Robotics and Autonomous Systems group, headquartered in Brisbane, is one of the world's premier field robotics research organizations. Their work spans agricultural sensing (multispectral drone surveys for crop health), autonomous navigation in unstructured outdoor environments, and the application of AI to yield prediction and resource optimization. CSIRO's field robotics research

has produced multiple spin-out companies and has been instrumental in establishing Australia's reputation for practical, deployment-ready agricultural automation.

The drone spraying revolution: Drone-based crop spraying has seen particularly rapid adoption in Australia, driven by the economics of covering vast acreages with minimal labor. Australian regulatory frameworks (CASA rules for agricultural drone operations) are among the most permissive in the developed world, giving Australian operators a regulatory advantage over counterparts in the EU and parts of the US.

CHAPTER 04

Construction & Infrastructure

Infrastructure Australia's 2026 pipeline identifies more than A\$230 billion in infrastructure projects over the next decade — highways, rail, hospitals, energy transmission, and water infrastructure. This pipeline is creating enormous demand for construction labor that the domestic workforce cannot supply. Construction trades are among the most chronically understaffed occupations in Australia, and immigration policy changes have not closed the gap. Automation is not optional; it is the only plausible path to delivering the infrastructure pipeline on schedule.

FBR (Fastbrick Robotics): The Hadrian X

FBR, listed on the ASX as FBR, has developed the Hadrian X — an autonomous bricklaying robot capable of laying approximately 1,000 bricks per hour, compared to roughly 500 for a skilled human bricklayer. The Hadrian X operates from a truck-mounted boom and uses a dynamic stabilization system to compensate for wind and vibration, allowing it to work in outdoor conditions that would challenge conventional robotic systems. FBR has completed demonstration builds in Western Australia and is pursuing commercial deployment with residential and commercial construction partners.

Off-Site Manufacturing and Modular Construction

Laing O'Rourke, one of the largest construction companies operating in Australia (headquartered in the UK but with major Australian operations), has invested heavily in off-site manufacturing facilities that use robotic systems for precast concrete production, steel fabrication, and modular building assembly. Their "Engineering Excellence" strategy explicitly targets 70% off-site manufacturing for major projects — a shift that fundamentally changes the labor profile of construction from on-site trades to factory-based robotic operations.

Autonomous Earthmoving

The autonomous earthmoving techniques developed for mining are finding direct application in infrastructure construction. Several Tier 1 Australian construction contractors are piloting autonomous dozers and graders on highway and rail projects, leveraging the same GPS-guided autonomy stacks that Caterpillar and Komatsu have proven in the Pilbara. The crossover is natural: the technical requirements (GPS-guided navigation, obstacle avoidance, fleet coordination) are essentially identical, and many of the operators have direct experience with mining automation.

Scale of opportunity: With A\$230B+ in infrastructure projects and a construction labor shortage projected to reach 100,000 workers by 2028, construction automation in Australia represents one of the largest addressable markets for robotics deployment in the Asia-Pacific region.

CHAPTER 05

Research Ecosystem

Australia punches well above its weight in robotics research. With a population of 26 million, the country produces a disproportionate share of the world's field robotics publications, open-source software tools, and commercially deployed autonomous systems. This output is concentrated in a handful of institutions that have built deep, sustained expertise over decades — not through sudden investment, but through patient, long-horizon research programs anchored in Australia's unique environmental and industrial challenges.

CSIRO Data61

CSIRO's Data61 group is Australia's largest data science and robotics research organization. Their robotics program spans aerial, ground, and underwater autonomous systems, with particular strength in SLAM (simultaneous localization and mapping), field perception, and multi-robot coordination. Notable outputs include bushfire detection drone systems deployed operationally during the 2019–2020 Black Summer fires, underwater AUVs for reef monitoring and offshore inspection, and mining robotics systems developed in partnership with industry.

Australian Centre for Field Robotics (ACFR)

The ACFR at the University of Sydney, founded in 1998, is one of the world's seminal field robotics laboratories. The ACFR's research has been foundational in agricultural automation (automated orchard management, yield estimation), underwater robotics (autonomous reef surveys for the Great Barrier Reef), and mining perception systems. Several successful spin-out companies — including Agerris and Abyss Solutions — trace their origins to ACFR research. The centre's emphasis on practical, deployment-ready systems (rather than purely theoretical contributions) has made it a model for applied robotics research globally.

QUT Centre for Robotics

The Queensland University of Technology's Centre for Robotics has emerged as one of the Southern Hemisphere's leading robotics research groups. Their strengths include robot vision, agricultural robotics, and human-robot interaction. QUT's proximity to Australia's agricultural heartland in Queensland has driven a particularly strong research program in horticultural robotics, including crop sensing, autonomous navigation in orchards, and robotic harvesting.

Broader University Programs

Beyond the three flagship institutions, active robotics research programs operate at Monash University (legged locomotion, soft robotics), RMIT (autonomous systems, Industry 4.0), the University of Western Australia (subsea robotics, aligned with the offshore oil and gas sector), and the Australian National University (computer vision, manipulation). Collectively, these programs produce

approximately 400 robotics-focused PhD graduates per year — a talent pipeline that supports both domestic industry and the global research community.

INSTITUTION	PRIMARY STRENGTHS	NOTABLE OUTPUTS
CSIRO Data61	SLAM, field perception, multi-robot systems	Bushfire drones, reef AUVs, mining robots
ACFR (Univ. of Sydney)	Agricultural, underwater, mining robotics	Agerris, Abyss Solutions spin-outs
QUT Centre for Robotics	Robot vision, agricultural robotics, HRI	Horticultural sensing and navigation
Monash University	Legged locomotion, soft robotics	Bio-inspired actuator research
UWA	Subsea robotics, offshore inspection	Oil & gas autonomous inspection

CHAPTER 06

Healthcare & Assistive Robotics

Australia's healthcare robotics market is smaller than its mining or agricultural counterparts, but it has a unique structural advantage that no other country shares at the same scale: the National Disability Insurance Scheme (NDIS). The NDIS, which provides funding for disability support services to more than 600,000 Australians, has created a domestic market for assistive robot technology that is unparalleled in the Asia-Pacific region.

Surgical Robotics

Adoption of surgical robot systems — primarily the Intuitive Surgical da Vinci Xi — has accelerated across Australian hospitals. Cabrini Hospital in Melbourne and Royal Brisbane and Women's Hospital are among the leading institutions, with surgical robot programs spanning urology, gynecology, colorectal, and thoracic surgery. The installed base of surgical robots in Australia grew from approximately 80 systems in 2022 to more than 120 in 2025, driven by both public hospital procurement and private health insurer support for robot-assisted procedures.

Pharmacy Automation

Automated dispensing systems — from manufacturers including Tosho (Japan), Omnicell (US), and BD Rowa (Germany) — are now widespread in Australian hospital pharmacies. These systems automate the storage, retrieval, and dispensing of medications, reducing dispensing errors and freeing pharmacists for clinical consultation. More than 60% of Australian public hospitals with over 200 beds now operate some form of automated dispensing, a penetration rate that exceeds both the UK and Canada.

NDIS and Assistive Technology

The NDIS represents a unique structural opportunity for assistive robotics in Australia. The scheme's funding model allows participants to access assistive technology — including robotic devices — as part of their individualized support plans. This has created a funded domestic market for care robots, communication aids, powered mobility devices, and environmental control systems. While the market for fully autonomous care robots remains nascent, the NDIS funding pathway removes the most significant barrier to adoption: the ability to pay. Several Australian startups and international companies are developing NDIS-eligible robotic assistive devices, and the scheme's annual expenditure on assistive technology exceeded A\$1.4 billion in 2025.

The NDIS advantage: No other country in the Asia-Pacific region has a comparable, government-funded mechanism for directly purchasing assistive robot technology at individual patient scale. This makes Australia a uniquely attractive testbed for international assistive robotics companies seeking to validate products in a well-funded, English-speaking market.

CHAPTER 07

Investment & Startup Landscape

Total robotics-focused investment in Australia reached A\$580 million in 2025, up 47% from A\$395 million in 2024. While this figure is modest compared to US or Chinese robotics investment, the rate of growth exceeds both markets on a percentage basis. The Australian robotics investment ecosystem is characterized by a small number of highly active venture capital firms, a growing number of ASX-listed robotics companies, and substantial government co-investment through national funds.

Key Venture Capital Firms

Four firms dominate Australian robotics venture investment. Main Sequence — CSIRO's venture arm — has the deepest domain expertise, investing exclusively in science and deep-tech companies and providing direct access to CSIRO research infrastructure. Blackbird Ventures, Australia's largest venture capital firm by AUM, has made multiple robotics investments and brings significant operational support. Square Peg Capital has invested in robotics-adjacent AI and automation companies with global ambitions. AirTree Ventures rounds out the top tier with investments in defense-tech and industrial automation.

ASX-Listed Robotics Companies

The Australian Securities Exchange hosts several publicly listed robotics and autonomous systems companies that provide retail and institutional investors with direct exposure to the sector:

- **FBR (ASX:FBR)** — Hadrian X bricklaying robot, targeting residential and commercial construction automation
- **Swoop Aero (ASX:SWP)** — Autonomous drone logistics, focused on medical supply delivery in remote and developing regions
- **DroneShield (ASX:DRO)** — Counter-drone defense systems, benefiting from rapidly growing defense procurement budgets

Government Co-Investment

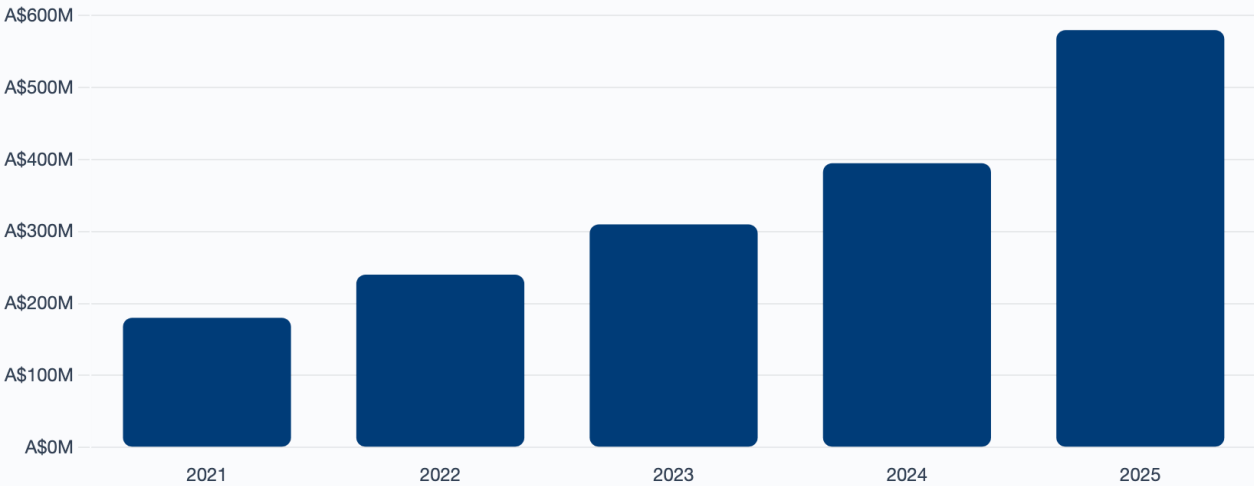
The Australian government has created multiple pathways for robotics investment:

- **National Reconstruction Fund:** A\$15 billion fund with robotics and automation eligible under the value-adding in resources and advanced manufacturing priorities
- **Modern Manufacturing Initiative (MMI):** Co-funded manufacturing automation projects, with a specific robotics and automation stream
- **CSIRO ON Accelerator:** A startup accelerator program that provides early-stage robotics companies with access to CSIRO research facilities, mentorship, and seed funding
- **Defence Innovation Hub:** A\$730 million pipeline for autonomous systems development for the Australian Defence Force, spanning autonomous vehicles, inspection drones, and logistics

robots

- **Digital Economy Strategy:** A\$1.2 billion in funding that includes robotics workforce development and digital skills training

Australian Robotics VC Investment (A\$M)



Source: RCSV Research, PitchBook, Cut Through Venture

Robot Deployment by Sector 2026



Source: RCSV Research, IFR, Australian Bureau of Statistics

COMPANY	ASX CODE	SECTOR	KEY PRODUCT
FBR	FBR	Construction	Hadrian X bricklaying robot
SwarmFarm Robotics	Private	Agriculture	Autonomous inter-row weeding
Agerris	Private	Agriculture	Field robots, weed detection
Abyss Solutions	Private	Underwater Inspection	Autonomous underwater robots

COMPANY	ASX CODE	SECTOR	KEY PRODUCT
DroneShield	DRO	Defense	Counter-drone systems
Swoop Aero	SWP	Logistics	Medical drone delivery
Thales Australia	Subsidiary	Defense	Autonomous defense systems

CHAPTER 08

RCSV + Australia: Partnership Opportunities

RCSV views Australia as its most strategically important English-speaking market in the Asia-Pacific region. The combination of world-leading deployment in mining automation, a strong research ecosystem, an investment community that is actively seeking robotics exposure, and the structural cost advantages of the Australian dollar makes this a market where Robotics Center's core capabilities — data collection, hardware sourcing, and research collaboration — can generate immediate value.

Data Collection for Mining Robotics

Australia's mining automation sector generates enormous volumes of operational data, but the data collection infrastructure for training next-generation AI models — VLA models, world models, and perception systems — is underdeveloped. RCSV is positioned to fill this gap. Our teleoperation data collection platforms, operator training programs, and standardized dataset formats are directly applicable to mining automation use cases: loader operation, drill pattern optimization, haul road navigation in degraded conditions, and maintenance inspection. No other organization specializes in robotics data collection for the mining vertical at this level.

Agricultural Data Collection Partnerships

The same data collection capability applies to Australian agriculture. SwarmFarm, Agerris, and CSIRO-affiliated programs all need large-scale, high-quality demonstration data to train the next generation of agricultural robots. Robotics Center's data collection cost structure — leveraging international operator networks and standardized tooling — offers Australian agricultural robotics companies a path to training data at 40–60% of the cost of building collection capability in-house.

Research Collaboration

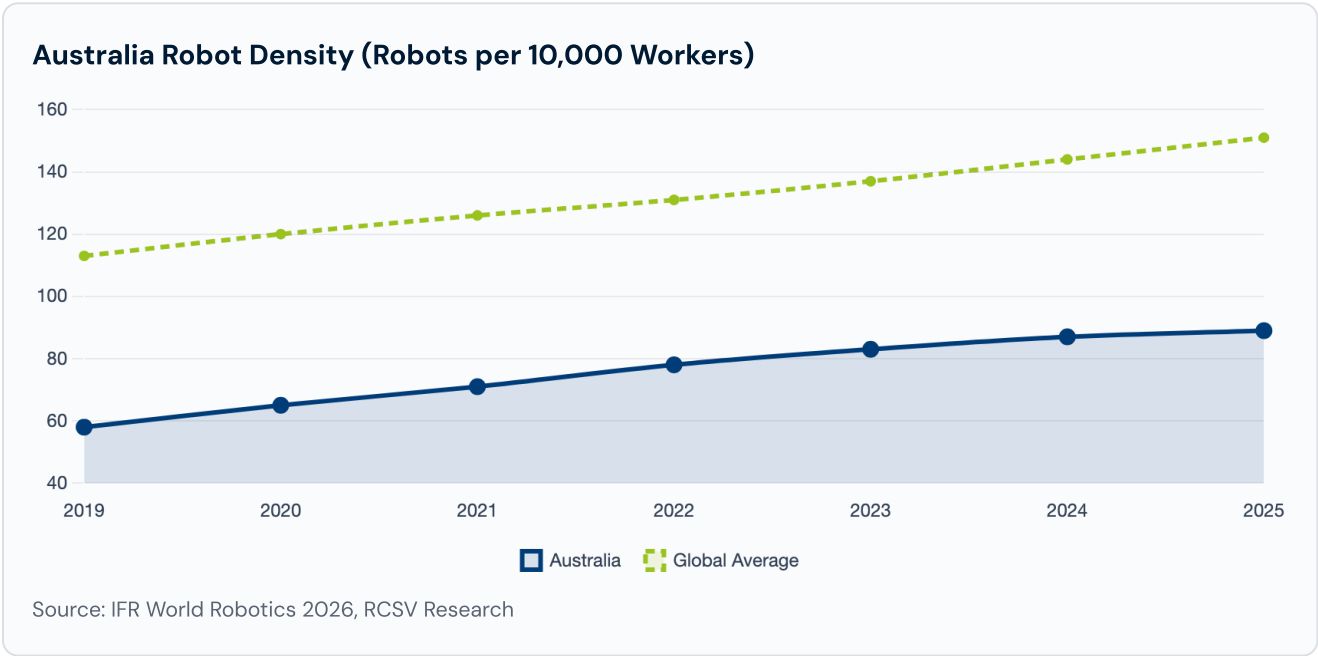
RCSV is actively seeking collaborative research partnerships with Australian institutions. Specific areas of mutual interest include:

- **CSIRO Data61:** Joint research on field robotics perception and multi-robot coordination, with a focus on data standards and dataset quality frameworks
- **ACFR (University of Sydney):** Collaborative work on agricultural robot demonstration datasets, leveraging ACFR's domain expertise and Robotics Center's data infrastructure
- **QUT Centre for Robotics:** Partnership on robot vision benchmarks and horticultural manipulation datasets

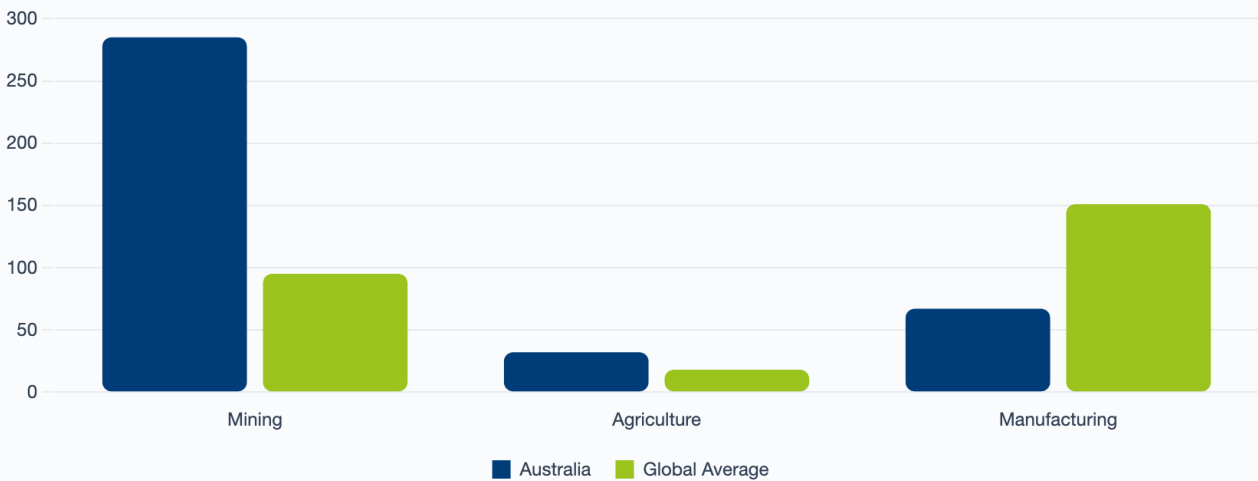
Australian Dollar Cost Advantage

At current exchange rates (A\$1 = US\$0.65), Robotics Center’s data collection operations priced in Australian dollars offer a significant cost advantage for domestic customers compared to US-based alternatives. For Australian companies and research institutions, this means access to Robotics Center’s global data collection network at effectively 35% lower cost in local currency terms — a compelling economic proposition for organizations operating under grant-funded or government-contracted budget constraints.

Get in touch: We are actively seeking Australian partners — mining operators, agricultural technology companies, research institutions, and government agencies. If you are building or deploying robots in Australia, we want to work with you. Contact us at contact@roboticscenter.ai or visit roboticscenter.ai/contact.



Australia vs Global Average — Robot Density by Sector



Source: IFR, RCSV Research, Australian Bureau of Statistics

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