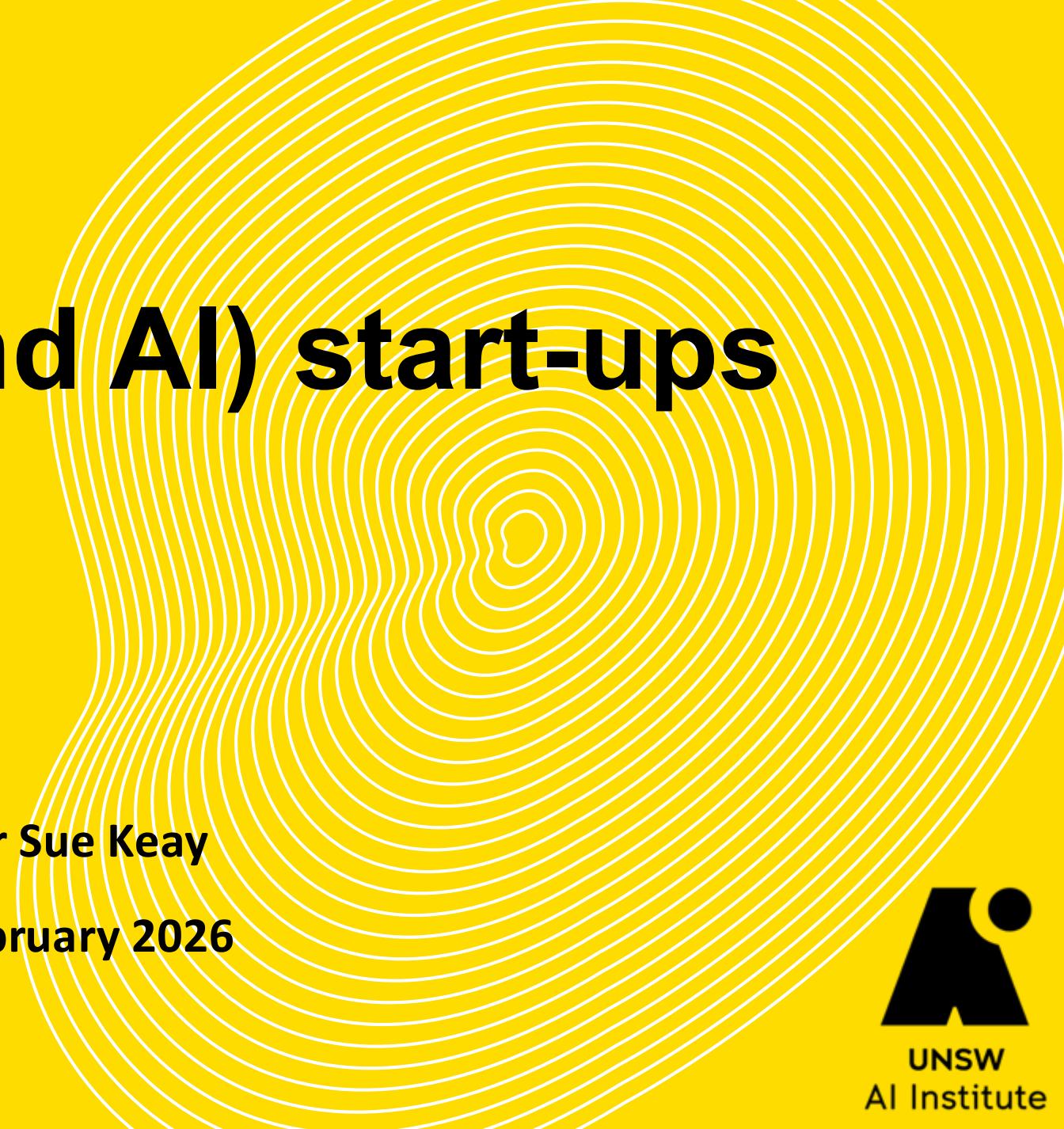


Robotics (and AI) start-ups

Dr Sue Keay
February 2026



UNSW
SYDNEY



 **UNSW**
AI Institute



FROM LAB TO LAUNCH: HOW (AND WHY) TO START A ROBOTICS (OR AI) COMPANY IN AUSTRALIA

Dr Sue Keay

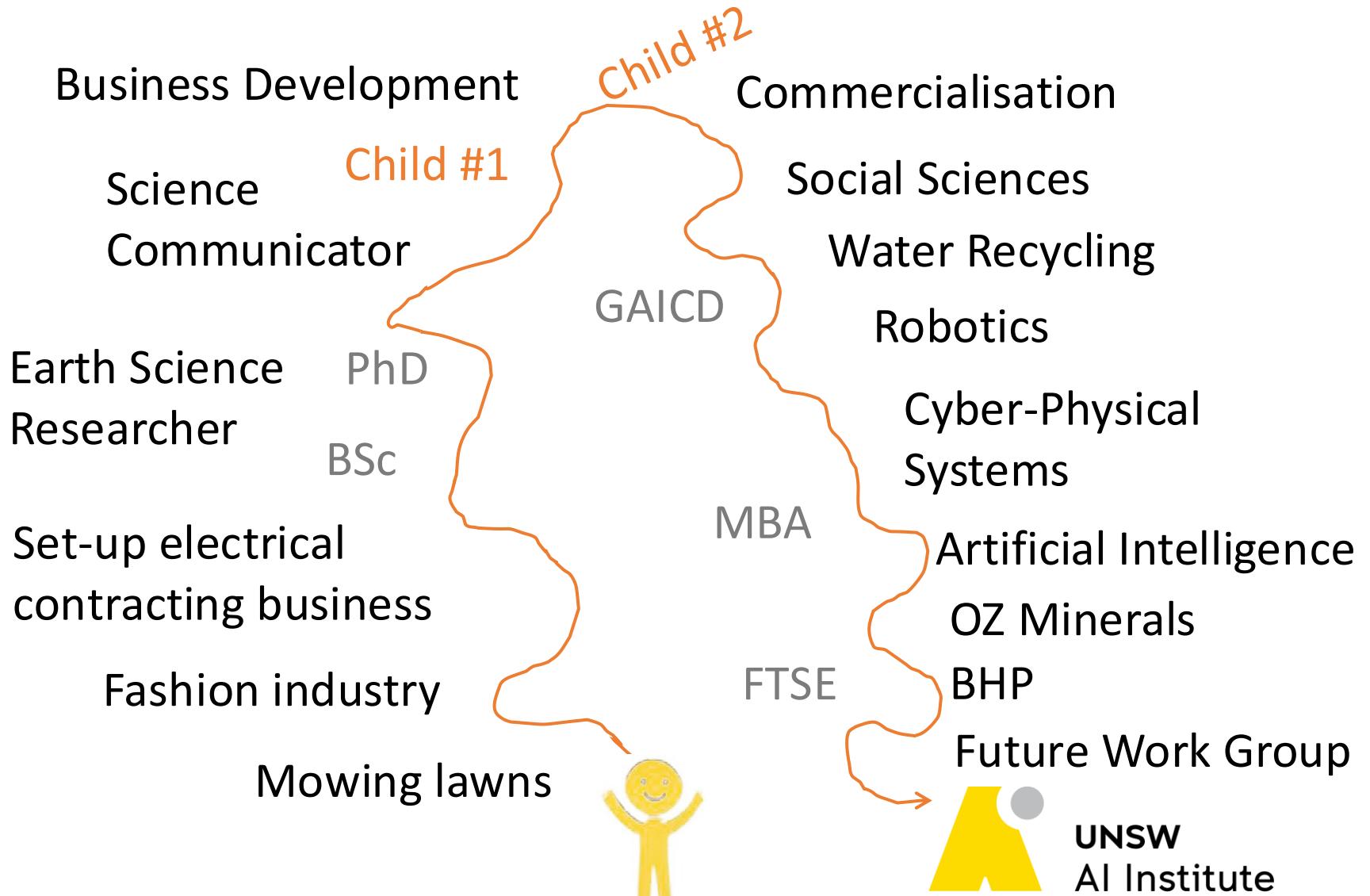
February 2026



DANGER
STAY INSIDE
FENCE

MINE LOOKOUT
OBSERVE MINE
FROM FENCED AREA
5000' ELEVATION

From rocks to robots and AI





AUSTRALIAN CENTRE
ROBOTIC
VISION







Where are all the robots?





A Robotics Roadmap for Australia 2025

ROBOTICS
AUSTRALIA GROUP

Australia's Robotics Industry

SNAPSHOT

>1,000 companies

>50,000 employees

>\$18b revenue



Australia's Robotics Industry

DEEP DIVE – How-To-Robot report (2023)

- 466 robot suppliers
- 730 locations

Top 3 target industries in Australia
Robotics
Metal & Machinery
Logistics

Top 3 robot brands sold in Australia

ABB - KUKA - Fanuc

- 13 advisors
- 70 component suppliers
- 32 distributors
- 264 integrators
- 87 robot manufacturers

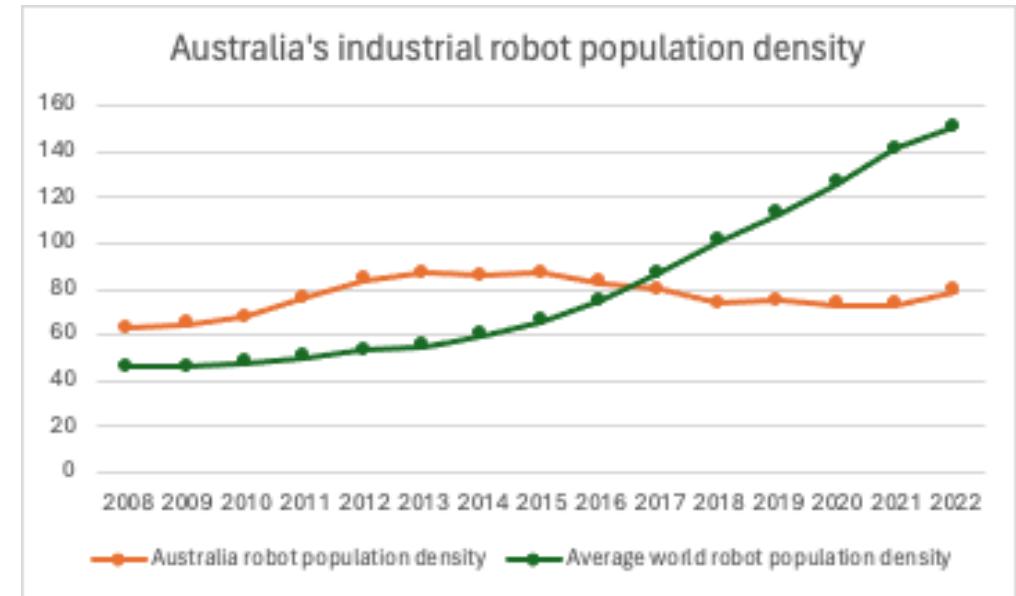
Robotics in Australia

Australia ranks **28th** in industrial robots (out of 38)

83 robots per **10,000** employees

South Korea = 1,012
world average = 151

- » No sovereign industrial robot capability
- » Sales arms rather than manufacturing or R&D from major suppliers
- » Integrators – modify existing industrial robots for export or for niche applications

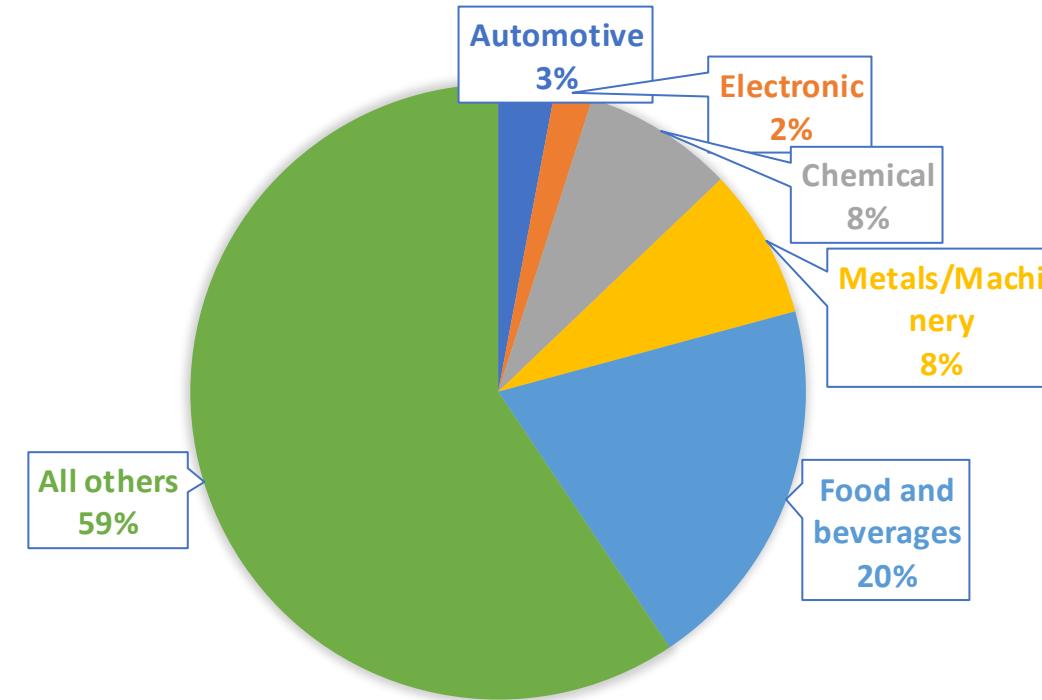
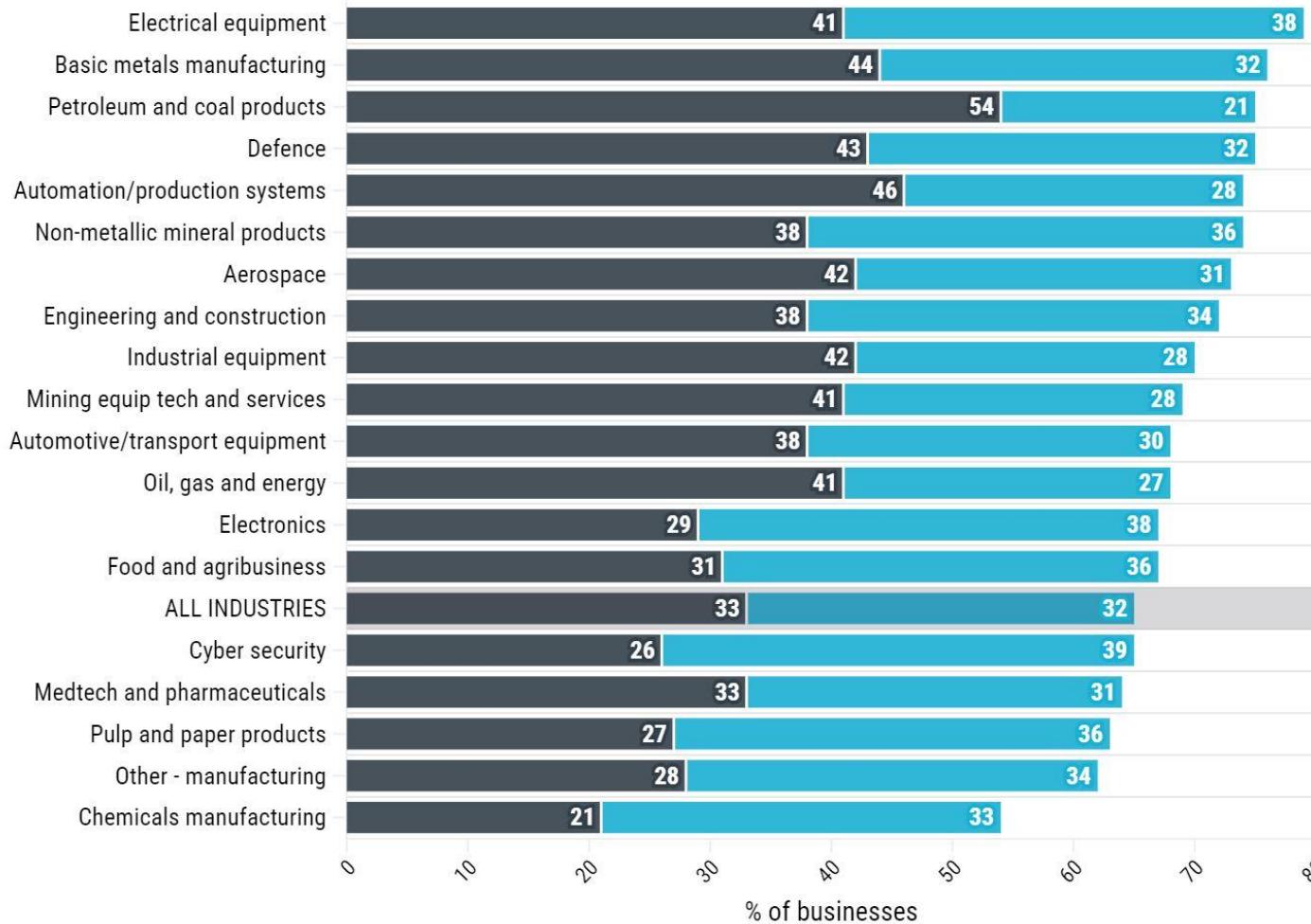


Robotics utilisation in Australian industry

One third of industrial firms use robotics, another third are exploring



■ Currently utilising robotics ■ Not currently utilising but exploring





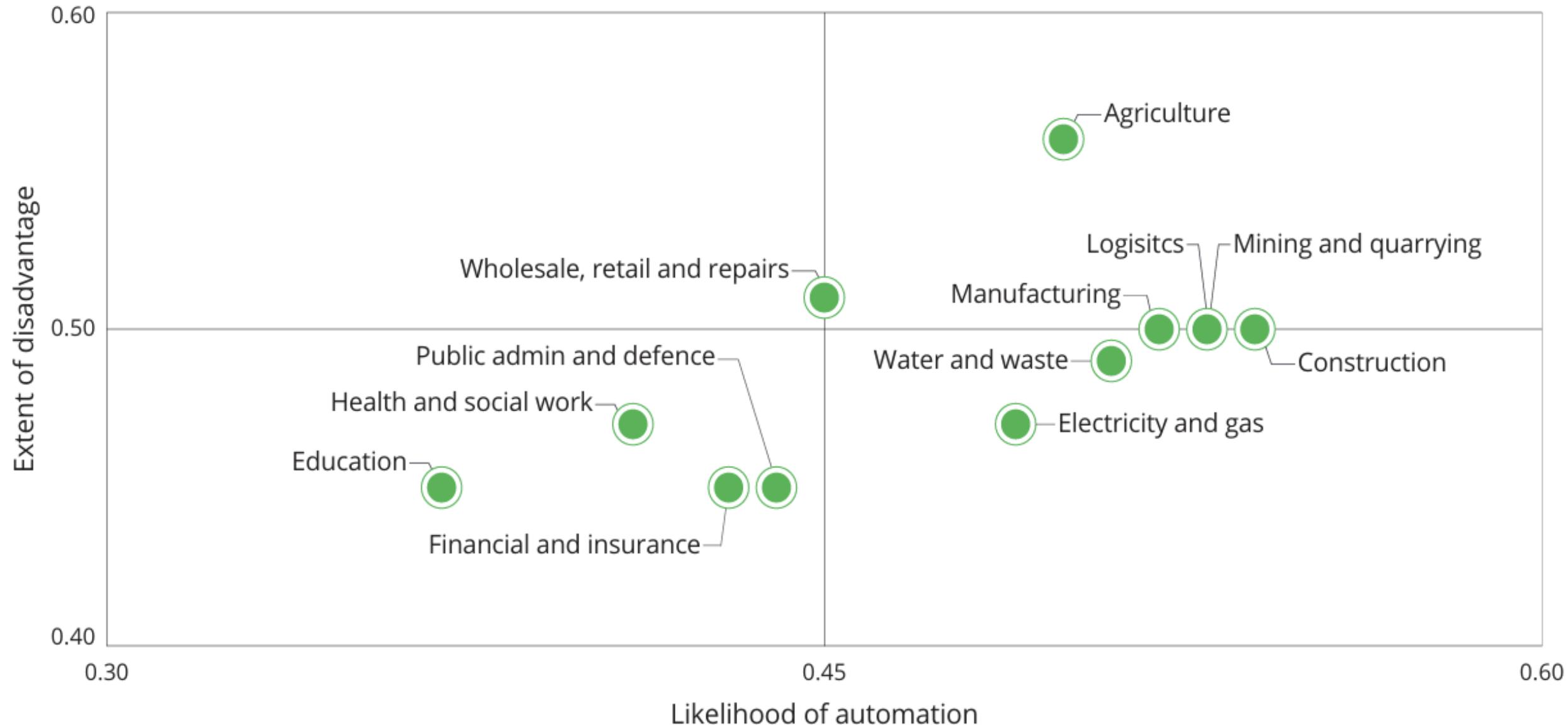




Remedy Robotics Remote Surgery



Chart i: Impact Index by industry



Robotics in Australia

Founded in research



Crest Robotics
2023 - UTS



Contactile
2019 - UNSW



Hullbot
2014 - UNSW



Advanced Navigation
2010 - UWA



SwarmFarm
2012 - QUT



Lyro Robotics
2019 - QUT



Emesent
2018 - CSIRO



Agerris
2019 - USyd



Marathon Robotics
2007 - USyd

Robotics in Australia



Australian Droid and Robot
2016 \$2.8m



BiA5
2017 - Deakin



Universal Field Robotics
2015 (sold to Sandvik)



Emesent
\$39m



Advanced Navigation
\$134m

Robotics Case Study: Advanced Navigation

What problem are they solving?

- GPS is unreliable or unavailable in defence, subsea, space, mining, autonomy
- High-precision navigation is mission-critical and safety-critical

What's the tech?

- World-leading inertial navigation systems, works where GPS, comms, and vision fail

Why it works as a startup

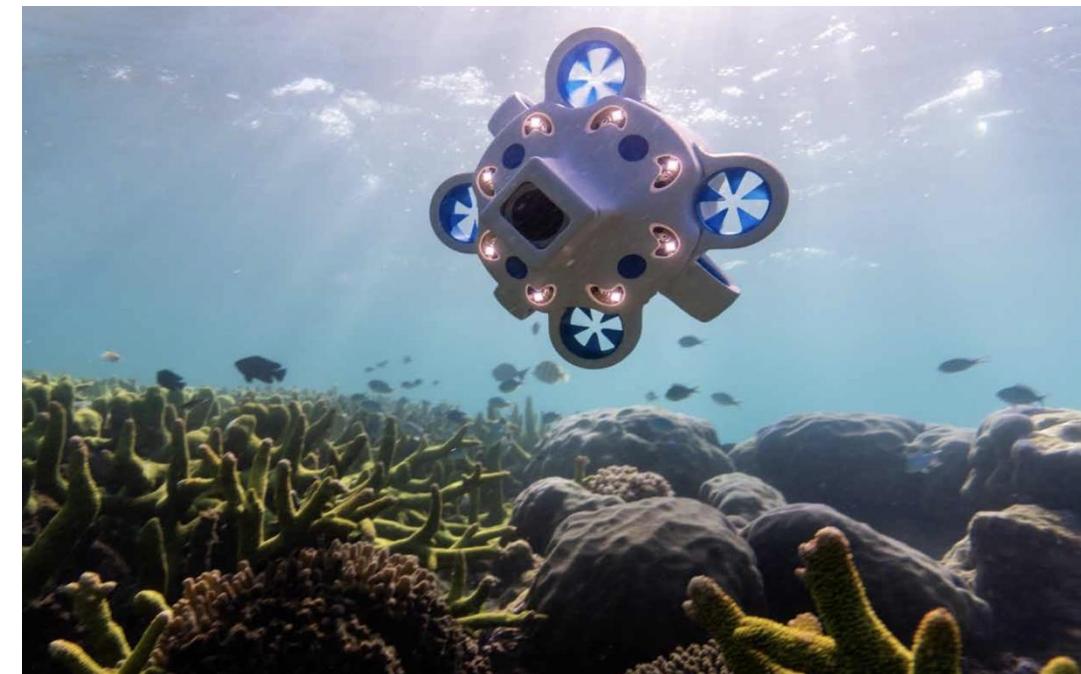
- Reliable, trustworthy, solves hard problem
- Deep technical moat built over many years
- Customers value reliability and trust, not novelty

Opportunity

- Capital-intensive, slower to scale
- Long validation and procurement cycles

Funding

- AU\$108 M Series B (+ AU\$130+ M total raised)
- Market valuation approaching AUD \$1 billion



Case Study – Advanced Navigation

Early 2000s Co-founders worked in drone tech start-up (1 x sensors 1 x software)



Late 2000s Co-founders studied at UW while also pursuing “side-hustles”



2010 Founded Advanced Navigation

2012 Initial Seed Funding

2019 Series A \$20m AUD



2022 Series B \$108m AUD

+\$5m Assorted Government grants

Main market = US

Valued at \$1 billion (Sept 2023)

+150 staff
Service range of sectors incl. Robotics, Defence, Aerospace, Space, Maritime, Mining, Oil & Gas



The long road to usefulness

2022 – 1000 spots in 35 countries

2023 - automated more than **1 million data captures**



Wildcat 2011



Spot Classic 2015



Spot Yellow 2020
(commercial release)



Big Dog 2004



Ghost 2019



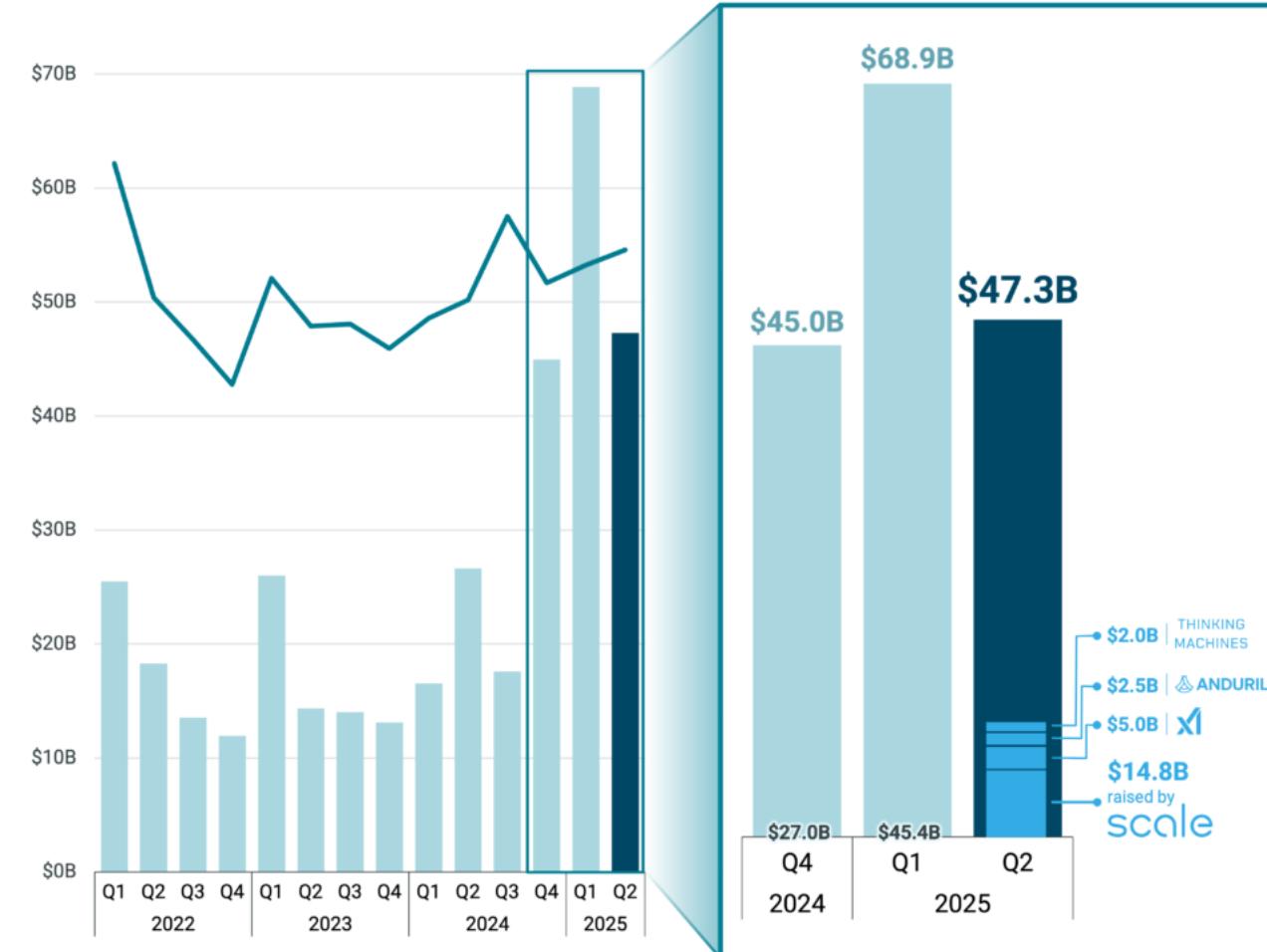
Unitree B2 2024

Key Statistics



	USA	Canada	Australia
Population (m)	346.8	41.3	27.1
GDP (trillion)	29.2	2.2	1.8
VC investment per capita (Pitchbook)	\$609	\$143	\$100
Robot Density (robots /10k)	392	198	83
Population Density (pp/km²)	38	4	3.5
# AI companies seeking to raise capital since 2012	41,149	1421	593
Total capital raised (\$USD)	\$1.1tr	\$24b	\$7b
Avg raised per company	\$28m	\$1.7m	\$1.2m
Avg people employed (2018 data)	-	23	11
# Commonwealth Gold Medals	-	510	1,001

AI funding tops \$40B for the third straight quarter



State of AI Q2'25
As of 7/1/2025

CB INSIGHTS

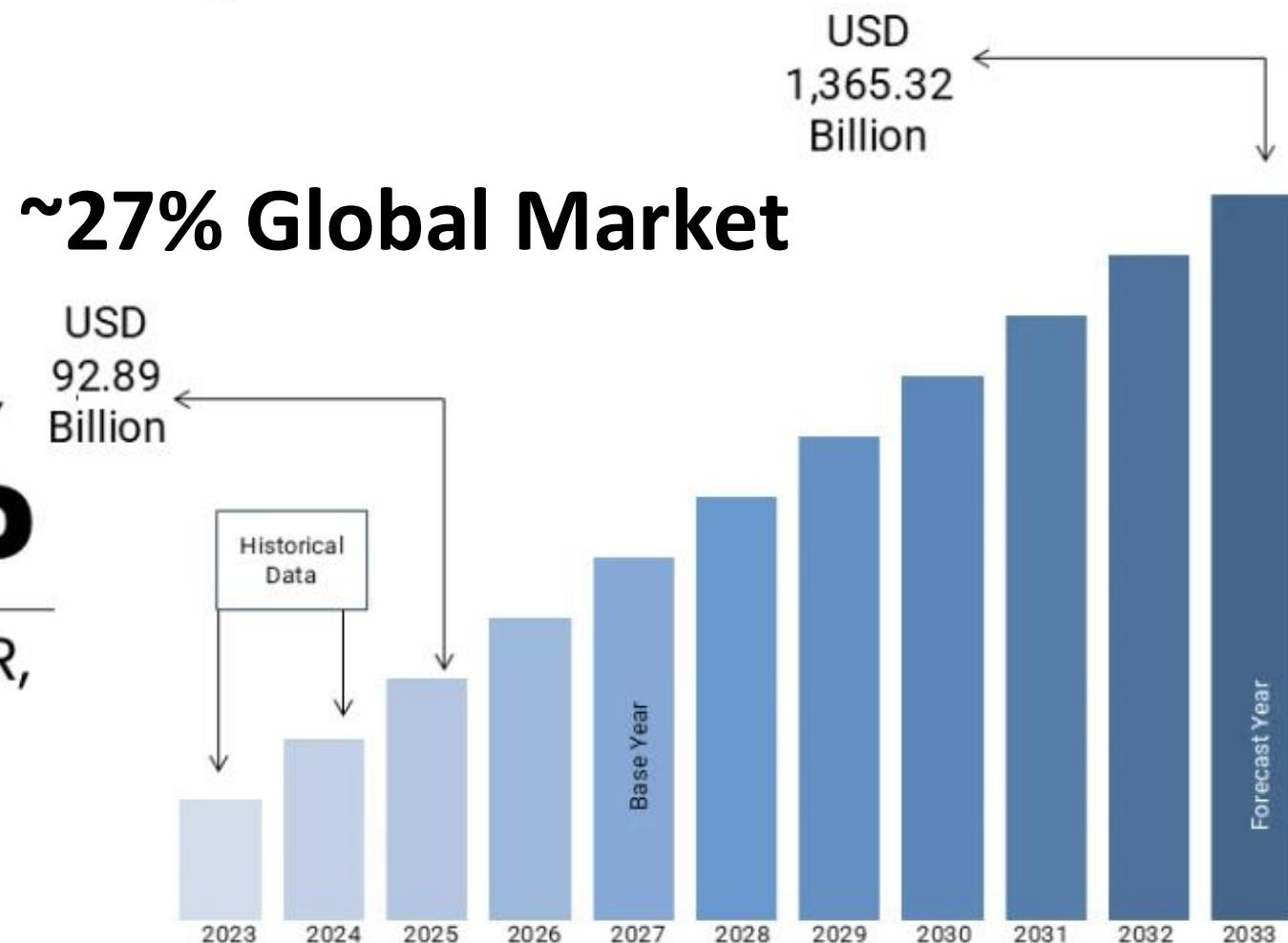
Asia Pacific Artificial Intelligence Market

Market Size Overview



39.93%

Asia Pacific market CAGR,
2025 - 2033



2025 Robotics Funding Environment

The US had a total of USD\$40.7 billion of investment in 1,138 separate funding rounds for Robotics

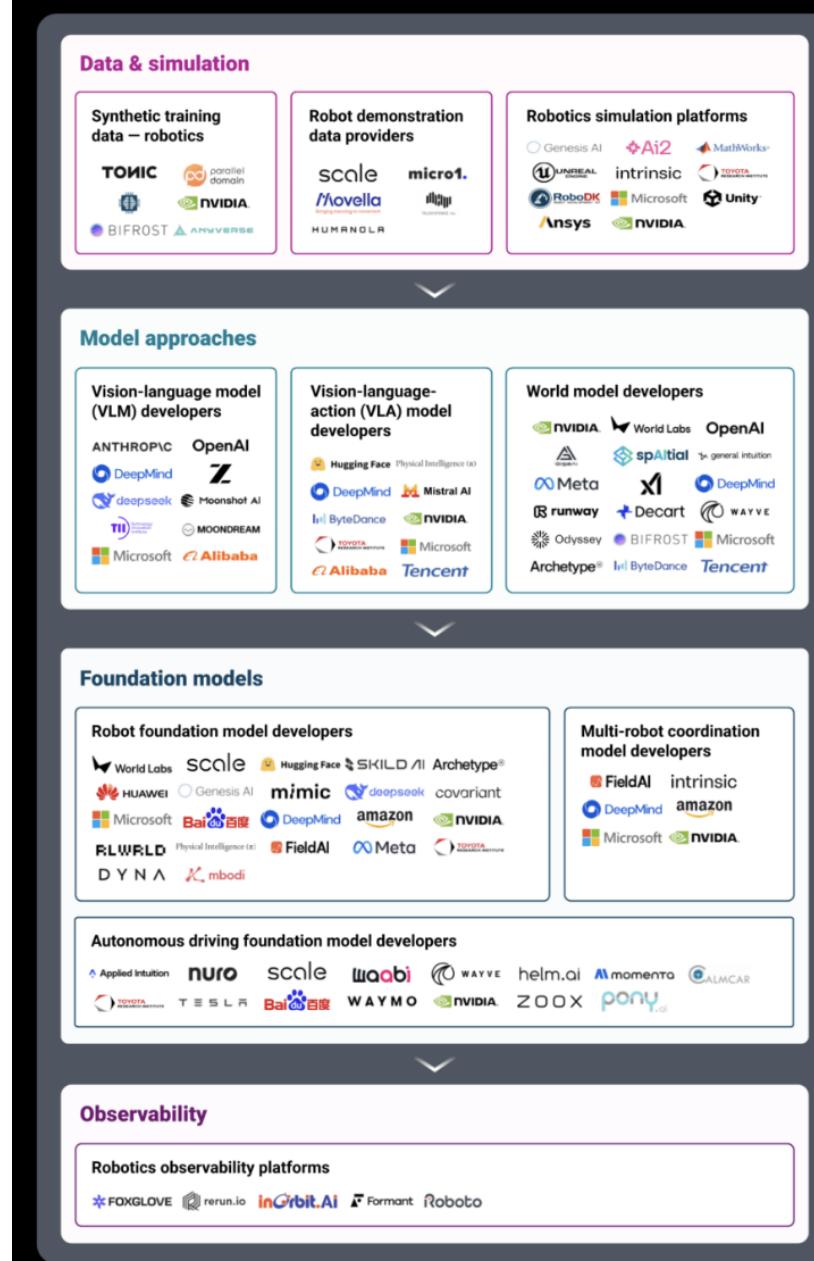
Up 74% YoY and representing 9% of all venture funding

In Australia, total start-up funding was AU\$5bn over 500 deals (including data centre investments)

Robotics funding maybe AU\$150M

The physical AI models market map

CB INSIGHTS



<https://www.cbinsights.com/research/the-physical-ai-models-market-map/>

2025 Examples of AI Funding in Australia

AI Deals

- Heidi Health — \$65M Series B
- Medow Health AI — \$3M fundraise
- Multiple seed & venture AI rounds (~\$1M–\$16M)

Robotics Deals

- SwarmFarm Robotics — ~\$30M Series B
- Andromeda Robotics — ~\$15M Series A
- Hullbot — ~\$16M Series A



AI dominates by deal count and total capital

AI start-ups scale because:

- Capital-light (software, data, services)
- Shorter time-to-revenue
- Easier global market access
- Fits VC fund models (\$1–5m seed → \$20–50m growth)

Robotics struggles (comparatively) because:

- Hardware + manufacturing risk
- Long sales cycles (mining, ag, defence)
- Certification, safety, deployment friction
- Few local late-stage investors willing to fund cap-ex heavy

Start-up Founder Readiness Test

Score each question 0 = No / 1 = Maybe / 2 = Yes

1. I can clearly name a specific customer (not a sector) and a painful problem they will pay to solve this year.
2. I have spoken to ≥ 10 real customers outside my lab in the last 60 days.
3. I am willing to spend more time selling than building for at least the first year.
4. I can explain the product in one sentence without technical jargon.
5. I am emotionally prepared for 12–18 months of ambiguity, rejection, and slow progress.

Score guide (Out of 10):

0–5: Not founder-ready yet → explore, don't quit.

6–8: Early signal → test with pilots or part-time.

9–10: Strong base → proceed to AI/Robotics section.

AI Start-up Founder Readiness Test

Score each question 0 = No / 1 = Maybe / 2 = Yes

1. My advantage is data, distribution, or workflow lock-in — not “better architecture”.
2. I can ship a usable product in ≤90 days using existing models or infrastructure.
3. I am comfortable building on third-party platforms (clouds, APIs, foundation models).
4. I understand how this becomes a business, not just a demo (pricing, churn, CAC – Customer Acquisition Cost).
5. If OpenAI/Google/Anthropic ship something similar tomorrow, I know why I still win.

Score guide (Out of 10):

0–5: Likely still thinking like a researcher.

6–8: Good applied-AI founder signal.

9–10: Venture-scalable AI startup profile.

Robotics Start-up Founder Readiness Test

Score each question 0 = No / 1 = Maybe / 2 = Yes

1. I understand the full deployment environment (safety, maintenance, downtime, training).
2. I am prepared for 18–36 month timelines before meaningful revenue.
3. I am comfortable raising non-VC capital (grants, strategics, customers, defence, mining, ag).
4. I can design for manufacturing, reliability, and cost, not just performance.
5. I can survive selling to slow, conservative buyers who demand proof and pilots.

Score guide (Out of 10):

0–5: Excellent research, weak founder fit (for now).

6–8: Strong technical founder, needs commercial partner.

9–10: Rare but powerful robotics founder profile.

AI Case Study: Maincode – Australian-made LLM

What problem are they solving?

- Australia relies heavily on foreign-controlled foundation models
- Sensitive government, legal, and enterprise data often can't be sent offshore – strategic risk

What's the Tech?

- Development of Australian large language models (LLMs)
- Focus on sovereign data, local context, and Australian deployment

Opportunity

- Clear government and regulated-industry customers
- AI as critical infrastructure, not hype

Challenges

- Fewer customers, but high-trust, high-value contracts
- Slower sales, heavier compliance burden

Funding

- ~AU\$30 million private investment



Robotics Case Study: SwarmFarm Robotics

What problem are they solving?

- Broadacre farming faces labour shortages, rising input costs, and soil damage
- Large tractors are expensive, inflexible, and inefficient for many tasks

What's the Tech?

- Small, autonomous agricultural robots operating as a coordinated swarm
- Robots perform weeding, spraying, and field operations with high precision

Why it works as a startup

- Clear ROI - lower labour, fuel, and chemical costs
- Robots operate in a well-defined environment

Opportunities/Challenges

- Hardware manufacturing and servicing complexity
- Seasonal purchasing cycles, slow to scale

Funding

- ~AU\$30 M Series B (2025)



Robotics Case Study: Andromeda Robotics

What problem are they solving?

- Loneliness, isolation, and social disengagement – aged care and assisted living

What's the Tech?

- Robots combine AI (including conversational models), machine vision, emotion-aware interaction, and physical presence to personalise connections with residents.

Why it works as a startup

- Clearly defined customer problem. Robots positioned to complement (not replace) staff

Opportunity/Challenges

- Requires deep integration with care workflows and empathy-centric design
- Production scaling and hardware manufacturing are capital-intensive
- Company has moved from trials to deployment

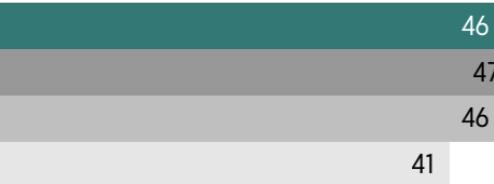
Funding

- AU\$23 million Series A funding in 2025
- US expansion +accelerated robotics development
- Reported valuation around AU\$100 million

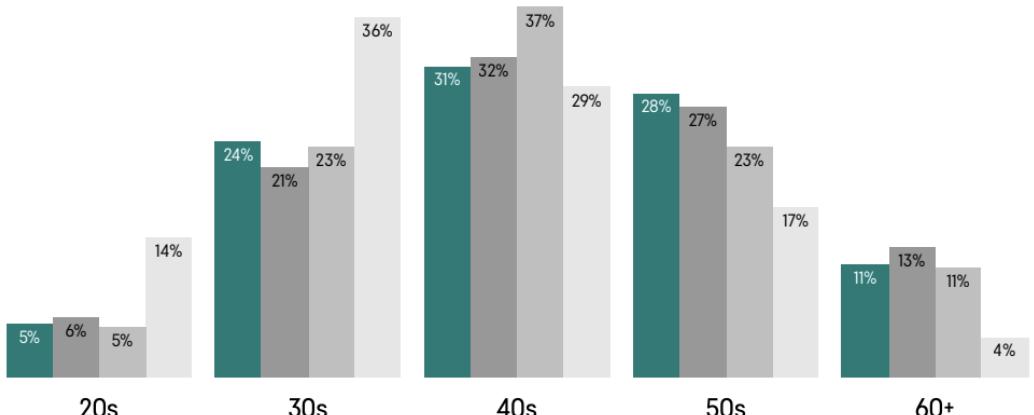


WHO IS LAUNCHING?

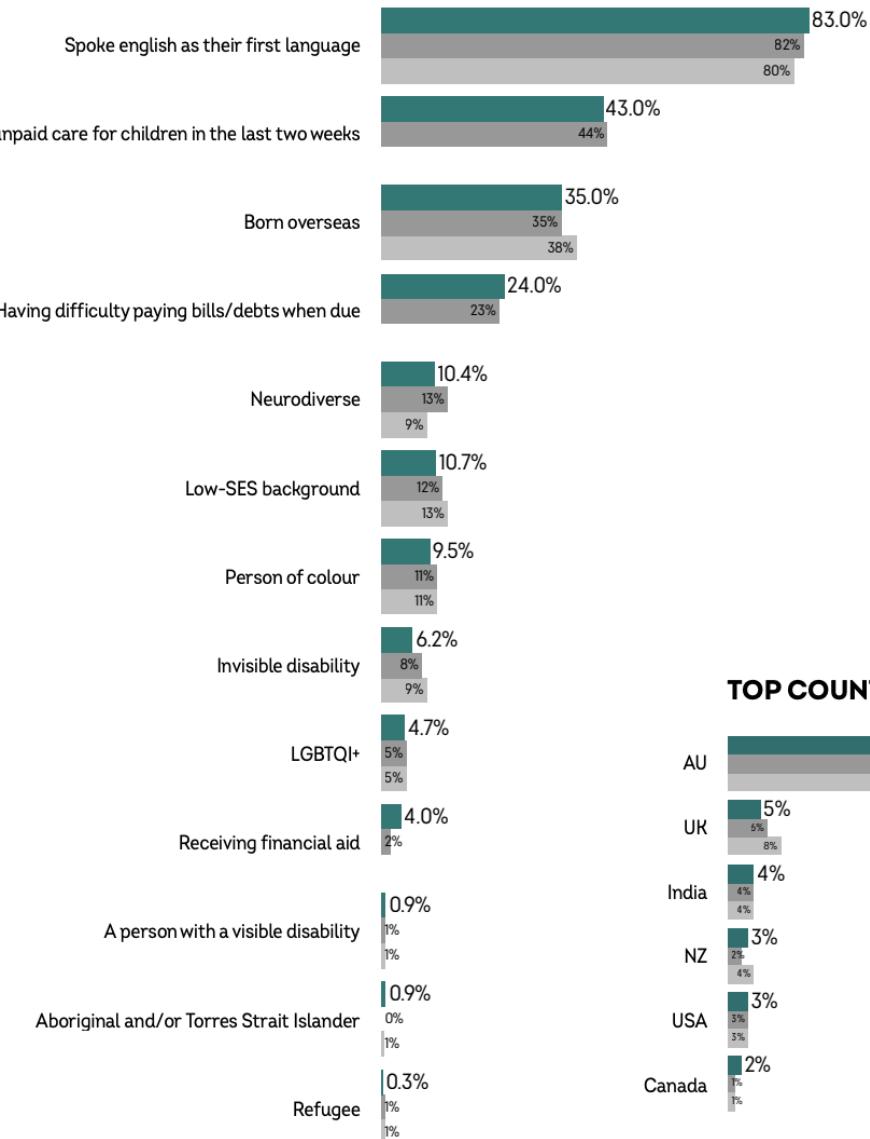
AVERAGE FOUNDER AGE



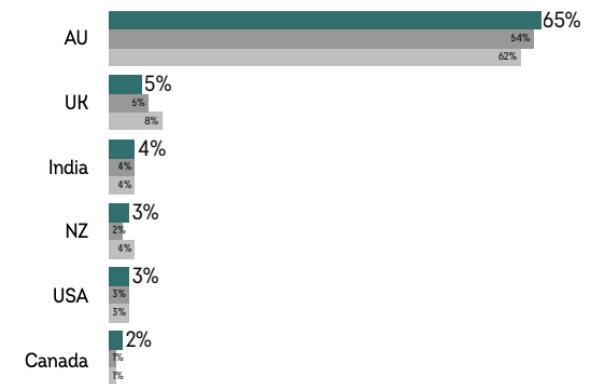
AGE DISTRIBUTION



FOUNDER DEMOGRAPHICS

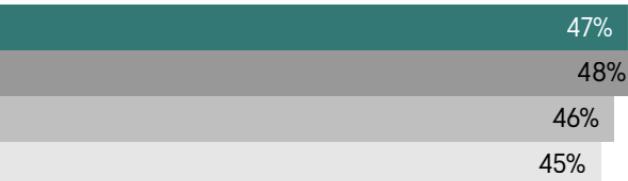


TOP COUNTRIES OF BIRTH

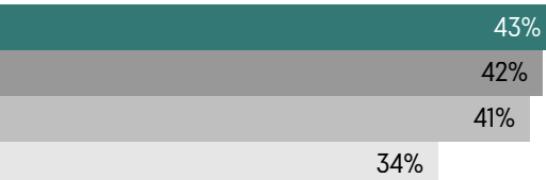


WHO IS LAUNCHING? (cont'd)

FOUNDERS WITH PAST STARTUP FOUNDING EXPERIENCE



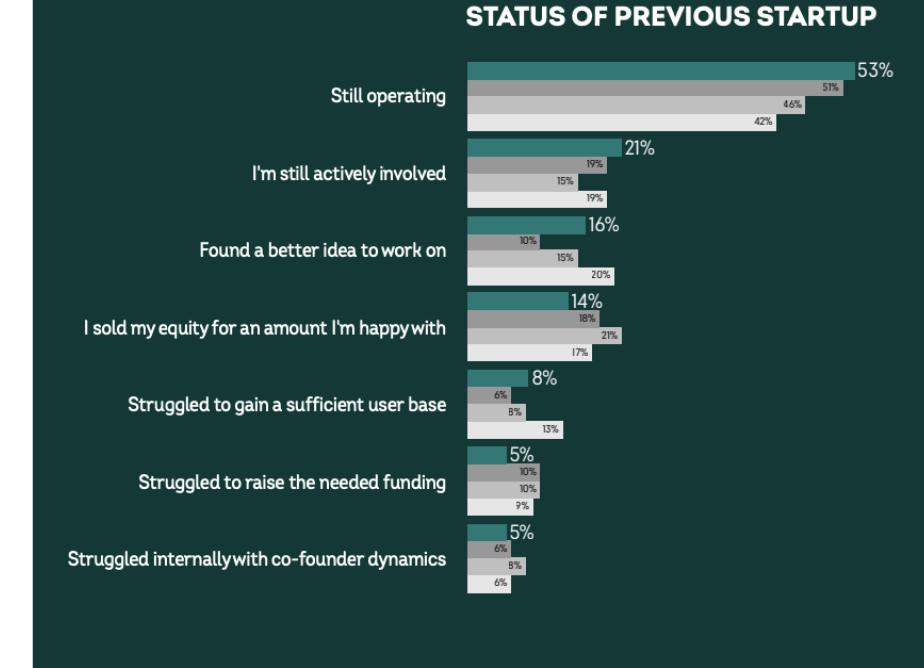
FOUNDERS WORKING A JOB OUTSIDE THEIR STARTUP



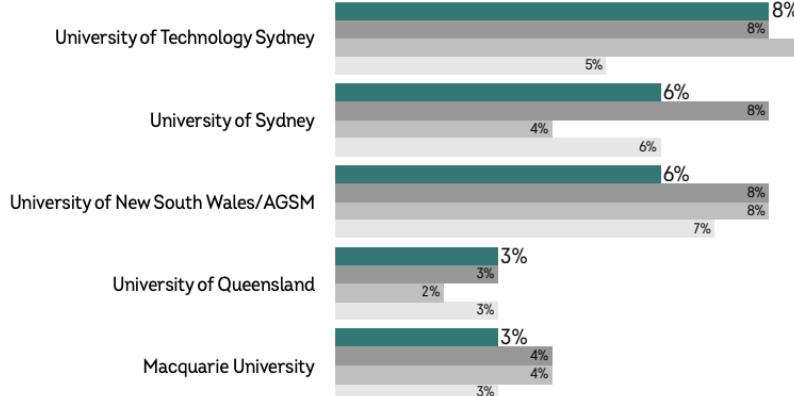
FOUNDERS CURRENTLY STUDYING



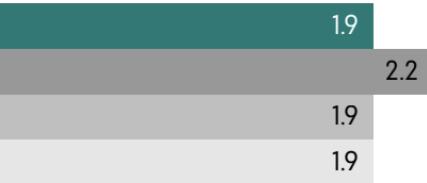
FOUNDERS WHOSE STARTUP IS RELATED TO THEIR CURRENT OR PAST AREA OF STUDY



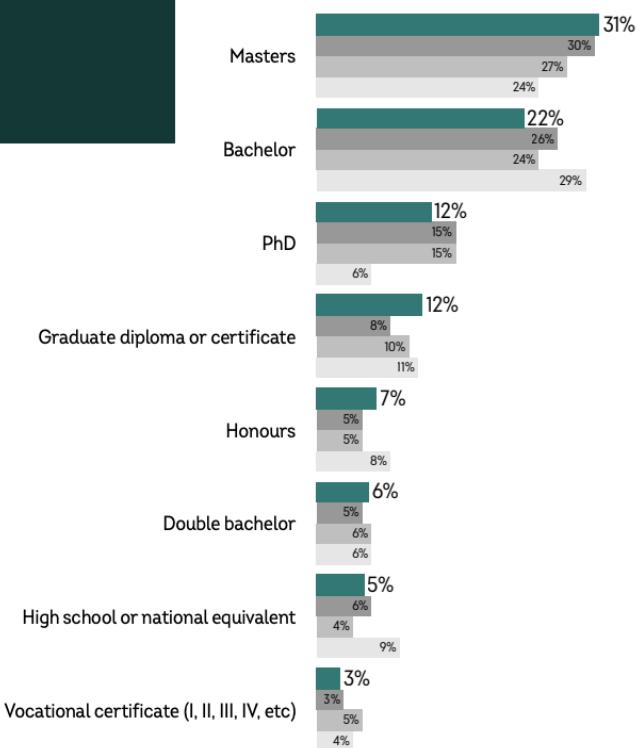
TOP INSTITUTES FOR HIGHEST LEVEL OF EDUCATION



AVERAGE NUMBER OF PAST STARTUPS



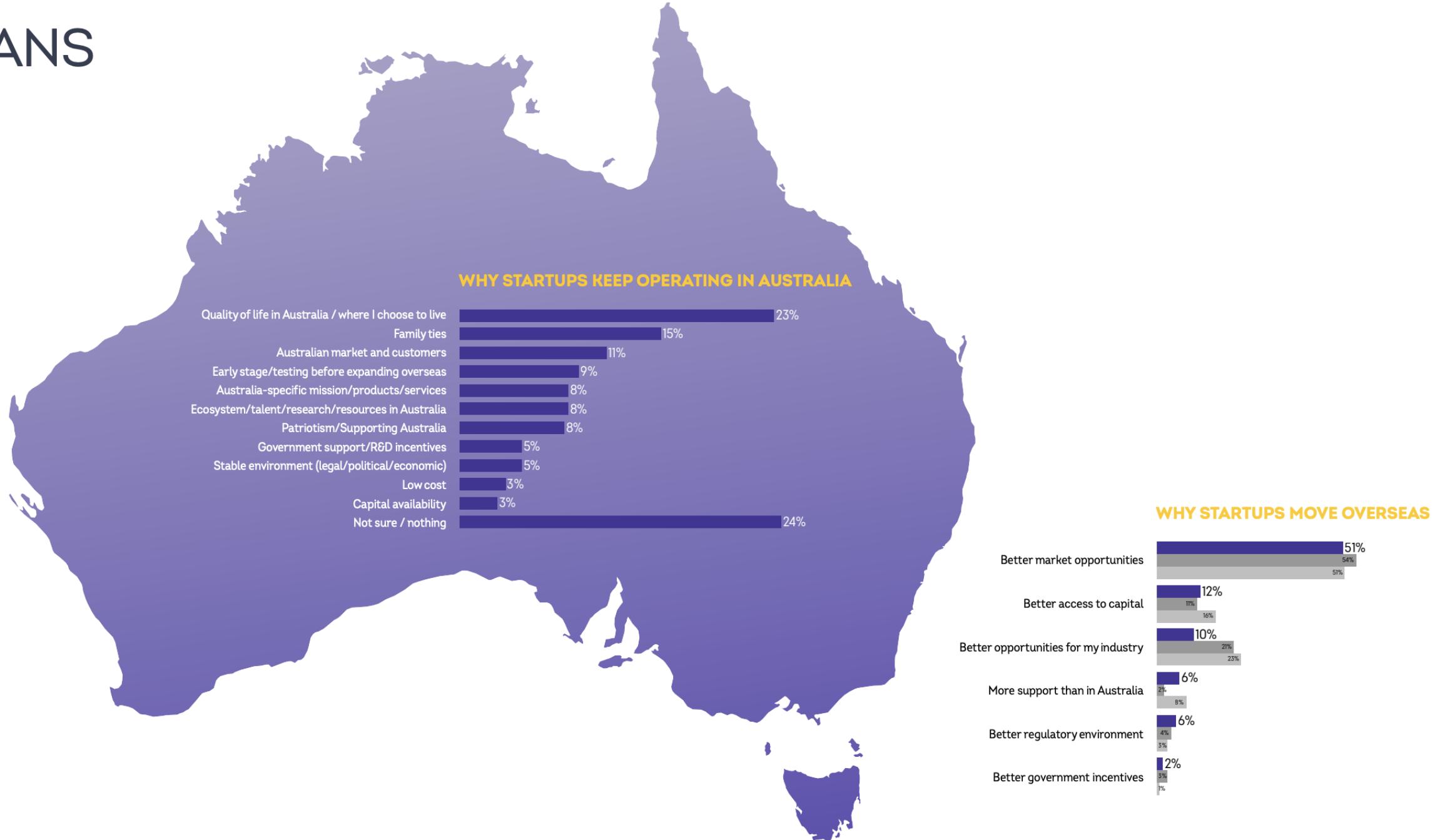
LEVEL OF EDUCATION



Deep tech 30.8% founders have PhDs

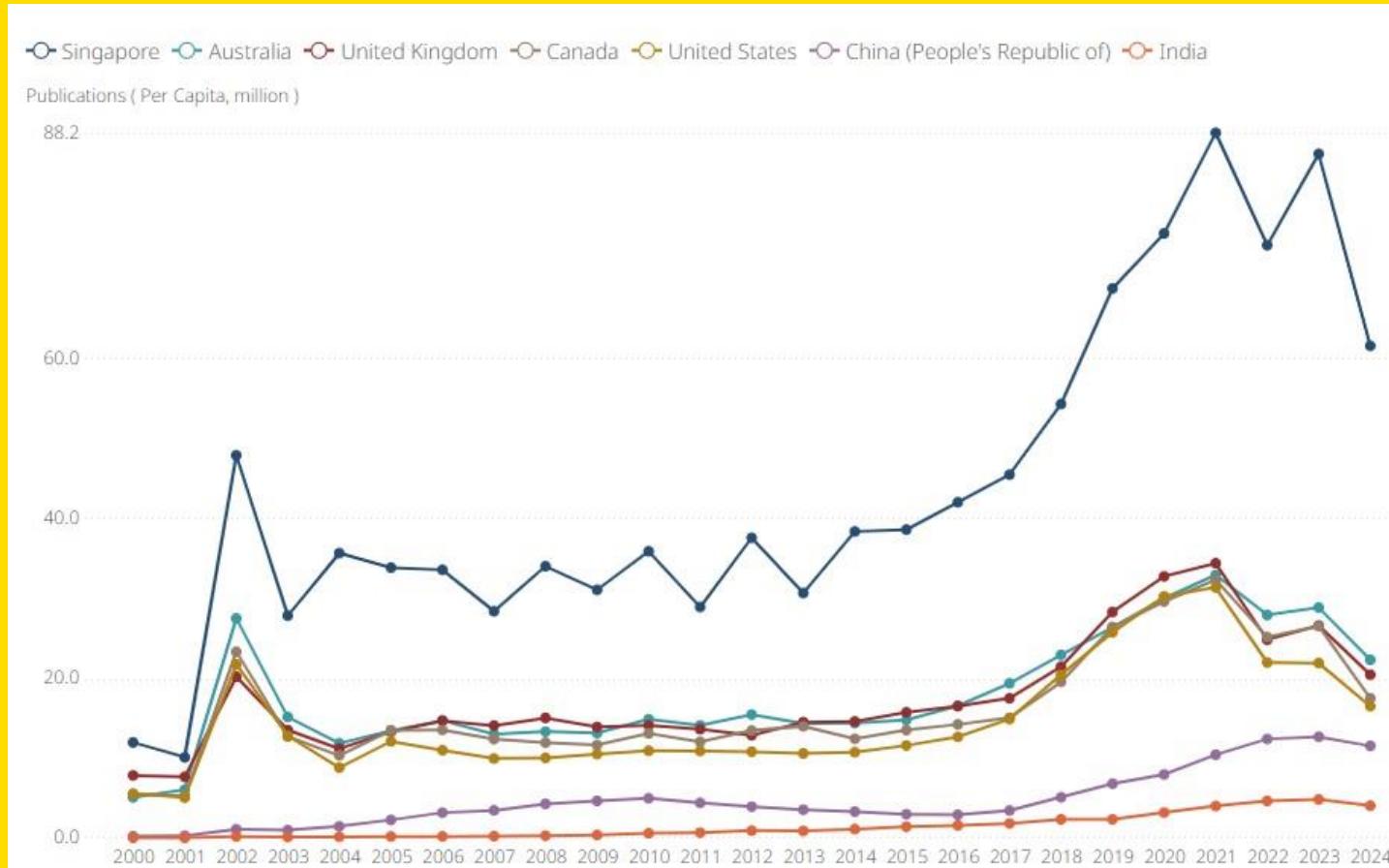
<https://startumuster.com/>

PLANS



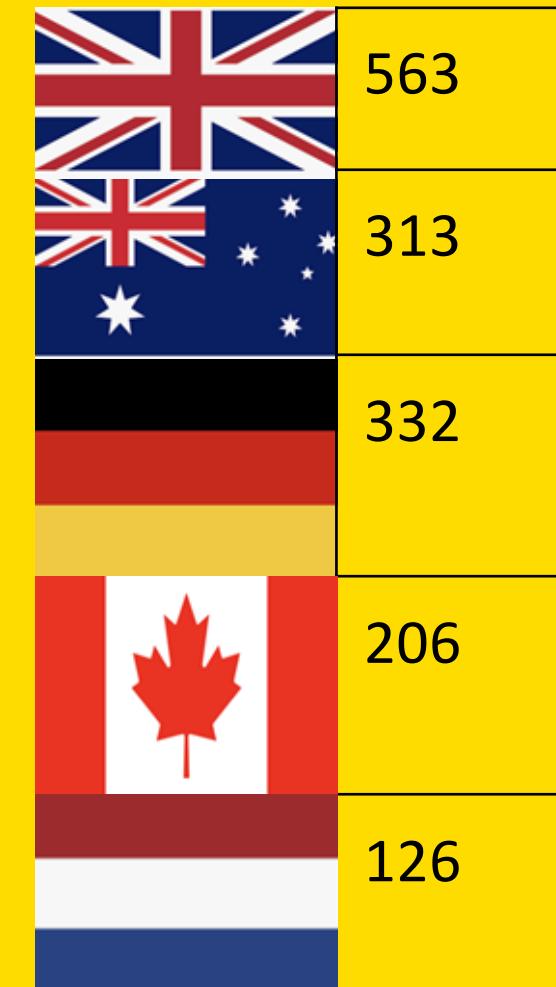
Australia's share of global AI research output

Australia contributes 1.6% of all research publications on AI globally. AI research intensity Australia is higher than the global average, 9.6% compared to 7.2% globally

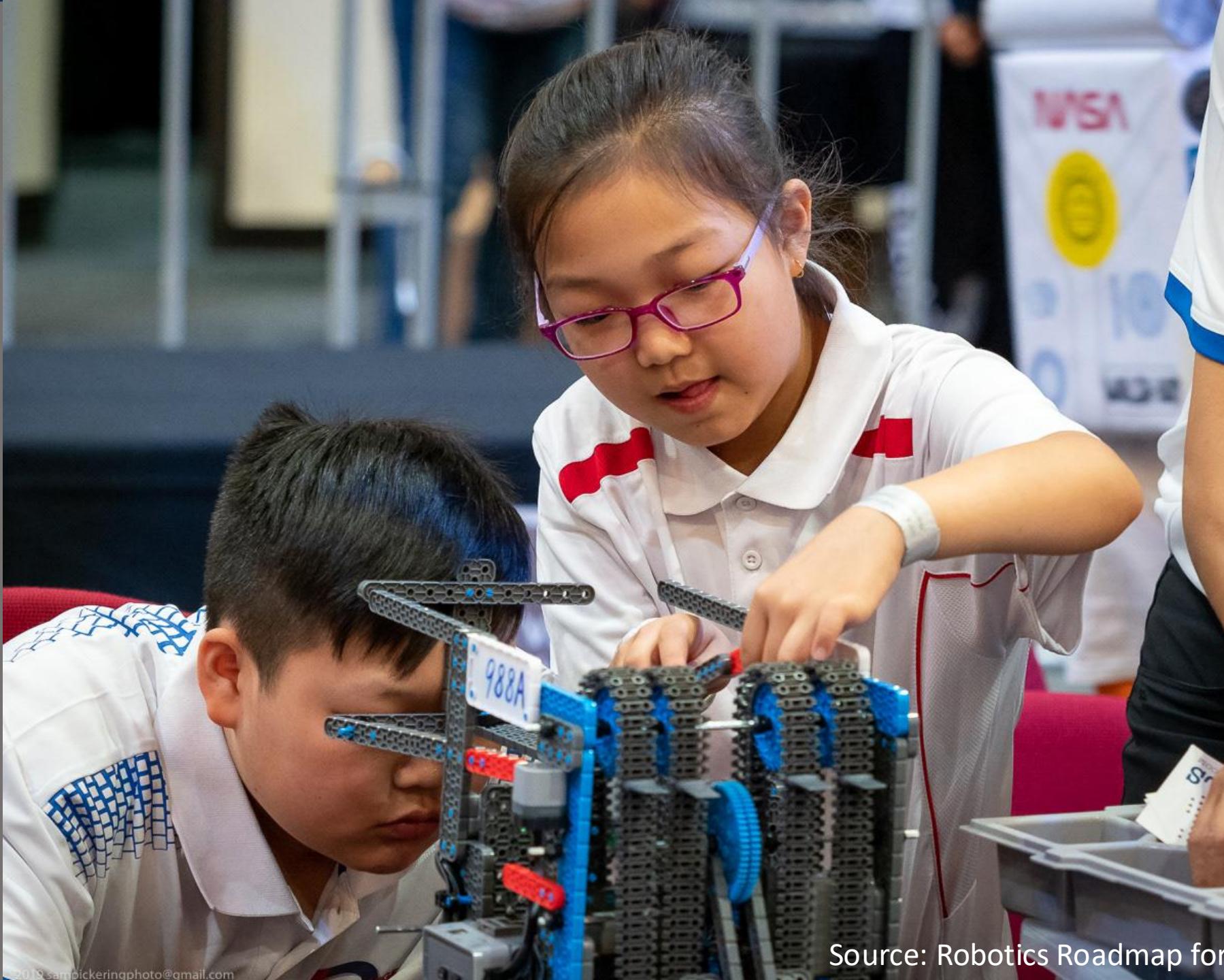


Top countries in AI publications per capita. This chart compares the number of AI publications by country relative to population size. Source: CSIRO 2023.

Highly Cited Researcher 2024
Number per Country



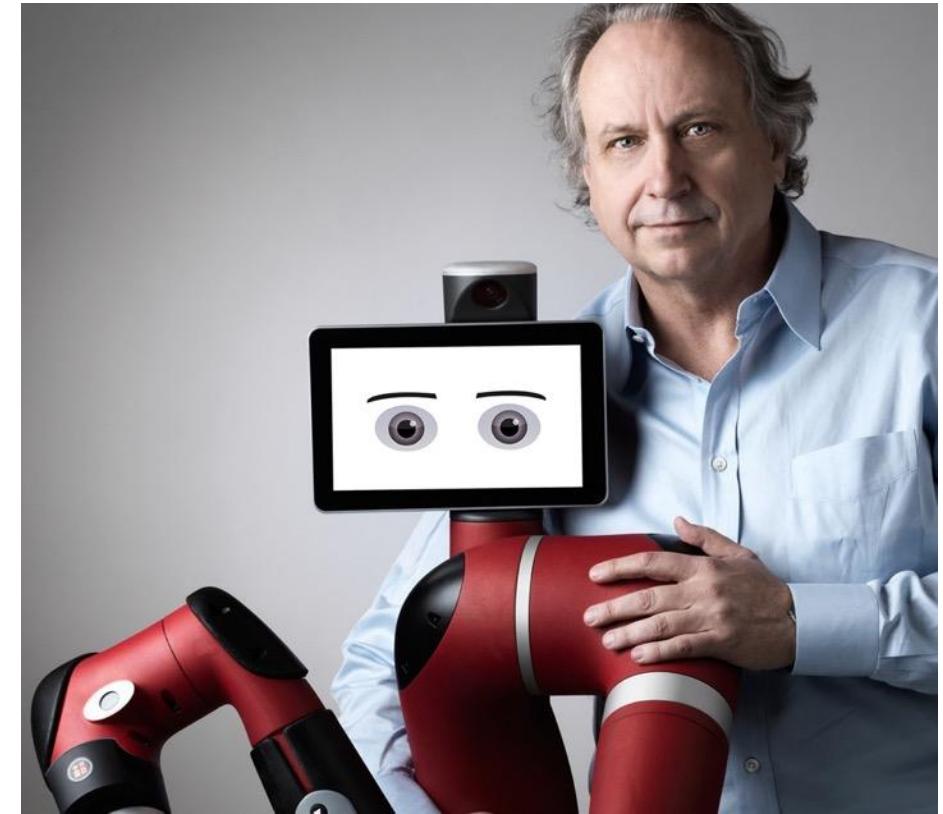
Source: Clarivate 2024



Source: Robotics Roadmap for Australia 2022

Australia's Strengths

What we need	What we have
Talent	✓
Infrastructure (hardware, \$\$)	✗
Datasets	✓
Policies, awareness, regulation	✓
AI literacy	✗



Australia's share of global AI Talent is decreasing

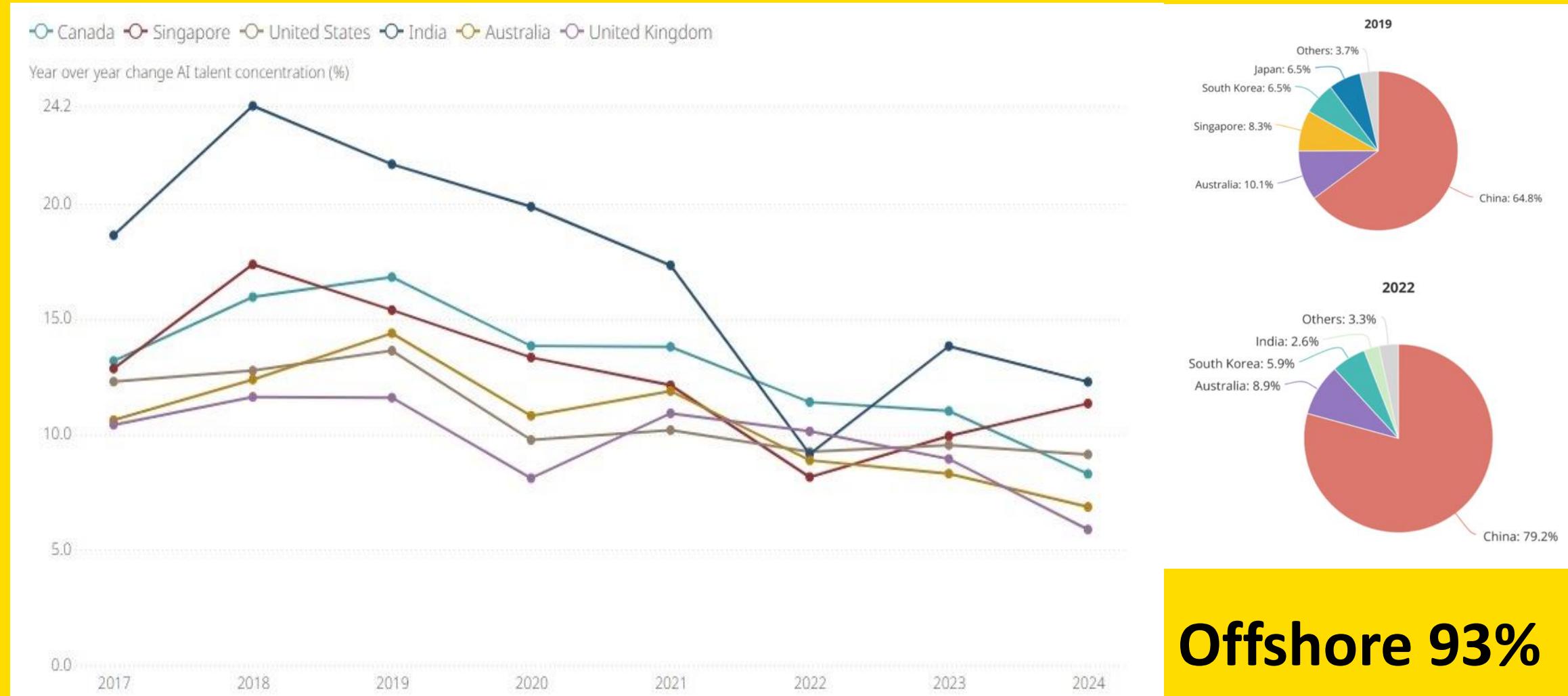
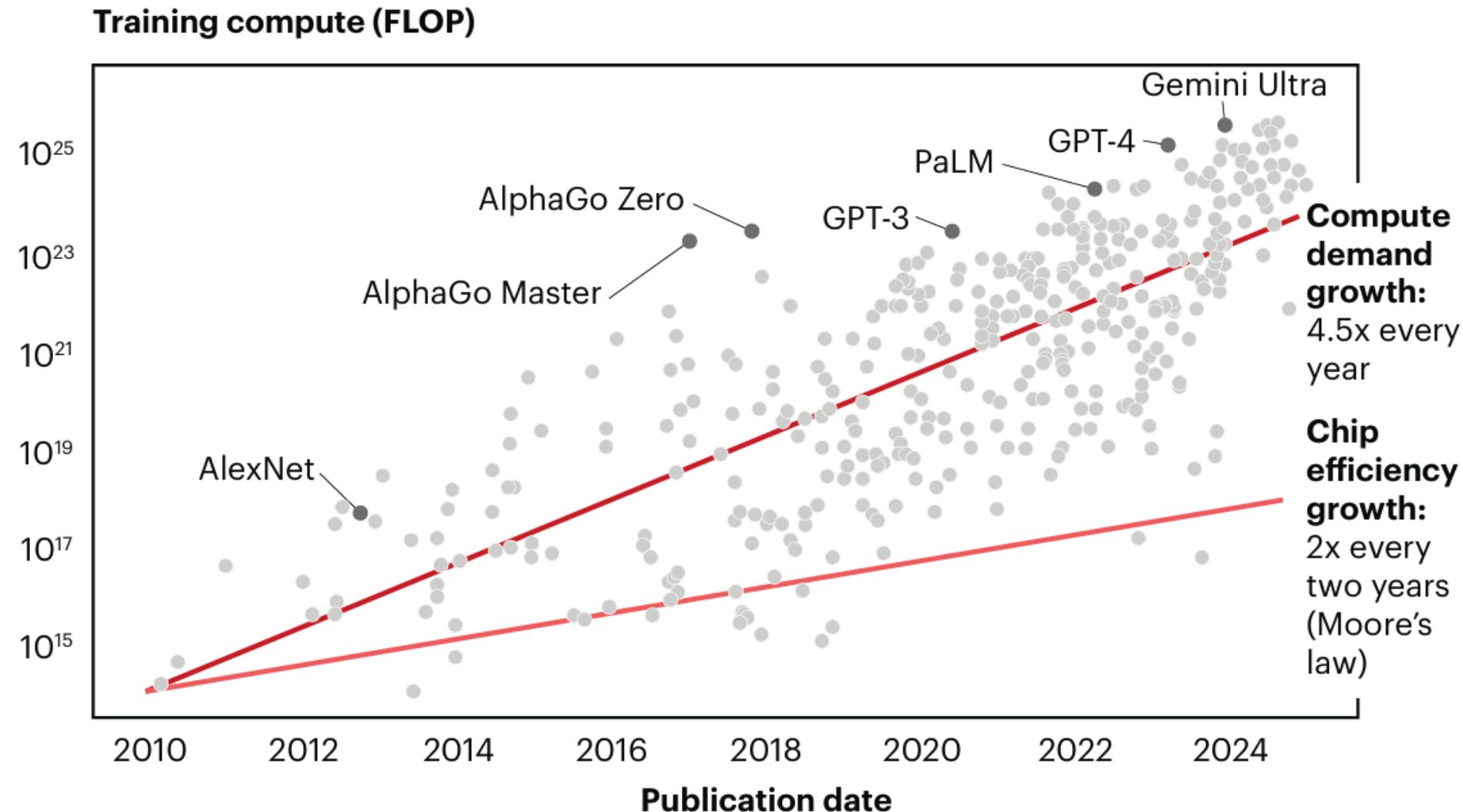


Figure 2. **AI talent concentration by country.** This chart shows the concentration of LinkedIn members with at least two AI engineering skills or who perform an AI occupation per country and in time. The year over year computations start in 2017. [Live data from OECD.AI - OECD.AI](#)

Compute demand growing twice as fast as chip efficiency

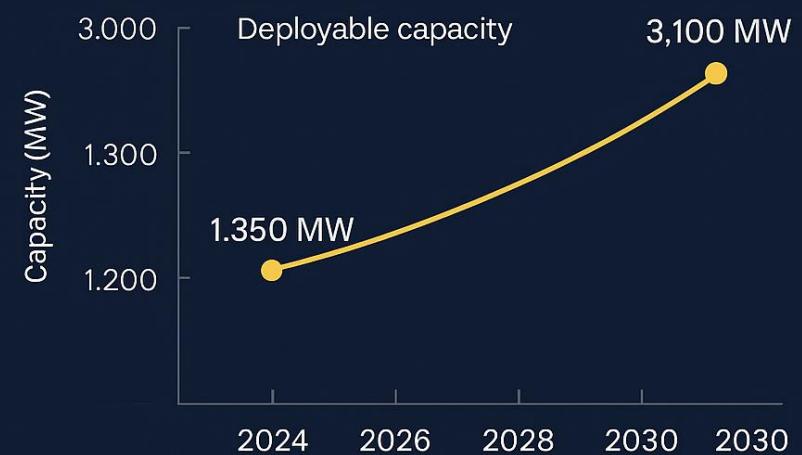


Source: Bain and Company Technology Report 2025

S

Meeting Australia's Demand for Compute

Deployable capacity is projected to more than double by 2030



\$26 billion
investment required

Amazon to invest AU\$20B in Aussie data centres, powering The future of AI

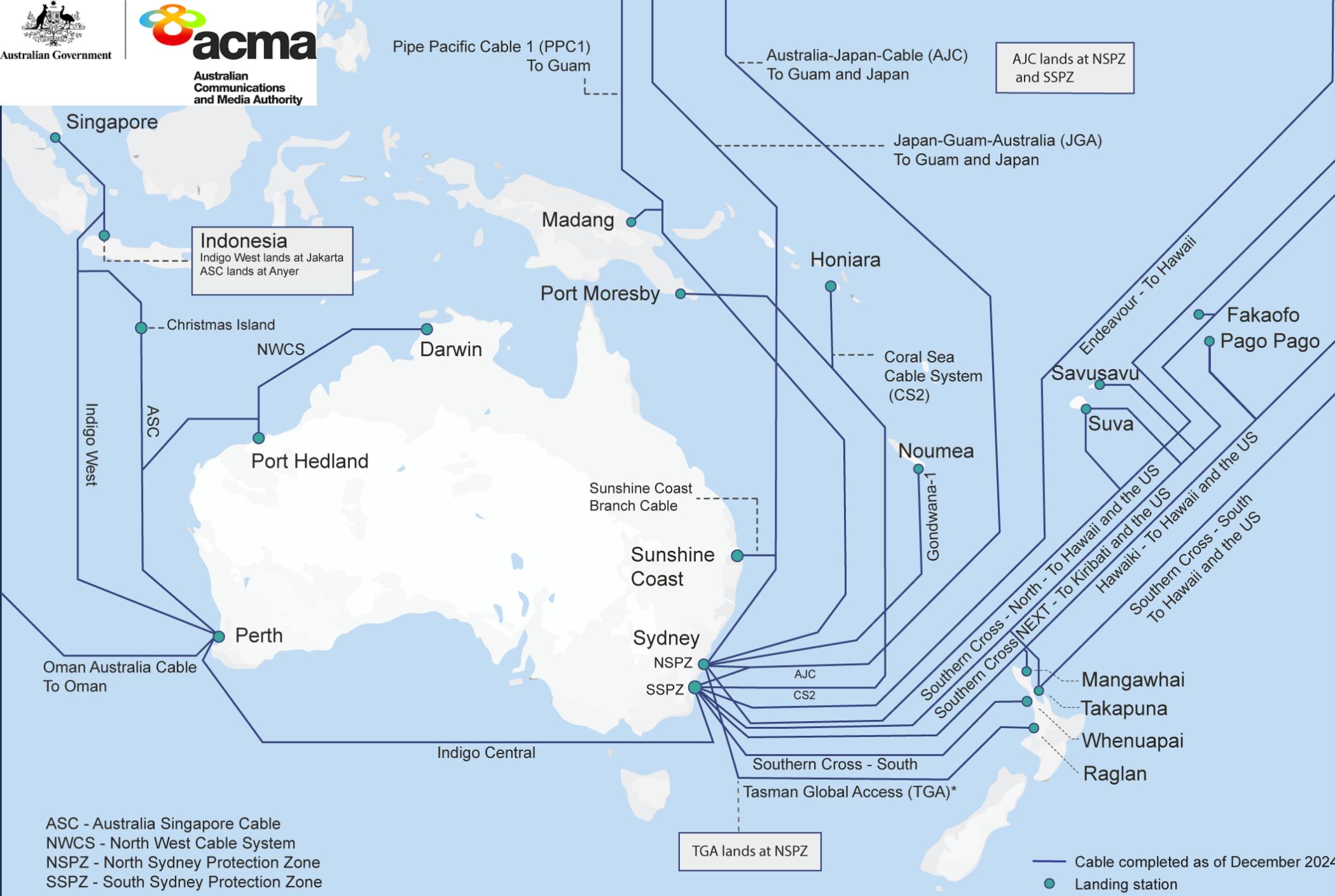
Source: Mandala Partners "Empowering Australia's Digital Future" Data Centres: Essential digital infrastructure underpinning everyday life



UNSW
SYDNEY



Australian Government



Infrastructure =
People
Data
Software
Hardware

Strategic Advantages for Data Centres in Australia



High Land Availability

Supports hyperscale builds
in urban proximity



Political Stability

Reduces risk for long-term
digital infrastructure investment



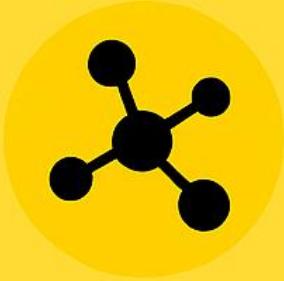
Renewable Energy Supply

Aligns with global net zero goals
and AI sustainability requirements



Competitive Electricity

Reduces operating costs
for compute-heavy workloads



Network Infrastructure

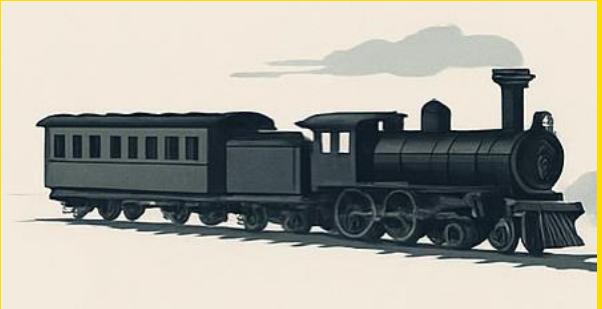
Ensures low latency and
global interconnectivity



Security & Sovereignty

Trusted location for sensitive
workloads and data

Waves of Investment in Australia



1850s



1920s



1950s



1950s & 2020s



2010s



2020s







The humanoid robots market map

Hardware systems

Industrial humanoid robot developers



Laboratory R&D humanoid robot developers



Healthcare humanoid robot developers



Customer service humanoid robot developers



Educational humanoid robot developers



Emotional companion humanoid robot developers



Software model

Humanoid robot foundation model developers



Big tech leaders are going all-in on humanoid robots

Summary of big tech¹ investments and pilots in the humanoid robots space

Company	Internal	Investment	Partnership / Pilot	Key Relationship ²	Details
amazon	○	✓	✓	Ability Robotics	Invested in Skild AI (July 2024) and Agility Robotics (April 2022); piloting Agility's Digit robot in warehouses (Oct. 2023)
Apple	✓	○	○	N/A	Exploring humanoids per reports (Feb. 2025)
Baidu	✓	○	✓	UBTECH	Developed its ERNIE Bot AI model and integrated into Ubttech's Walker S robot (April 2024)
Google	✓	✓	✓	APPTRONIK	Invested in (Feb. 2025) and entered strategic partnership with Apptronik via Google DeepMind (Dec. 2024)
HUAWEI	✓	✓	✓	LEJUROBOT	Developed its PanGu AI model (July 2023); implemented PanGu into Leju Robotics (June 2024); invested in Leju Robotics (Dec. 2024)
intel.	○	✓	○	FIGURE	Intel Capital invested in Figure (July 2023)
Meta	✓	○	○	N/A	Formed new unit under its Reality Labs hardware division to develop humanoids (Feb. 2025)
Microsoft	✓	✓	✓	SANCTUARY AI	Invested in Figure (Feb. 2024); partnered with Sanctuary AI (May 2024); released Magma multimodal foundation model (Feb. 2025)
NVIDIA	✓	✓	✓	Foxconn 鸿海科技集團	Released Project GR00T foundation model for humanoids; invested in Figure (Feb. 2024); partnered with Foxconn (Feb. 2025)
OpenAI	○	✓	✓	1X	OpenAI Startup Fund invested in 1X and listed as a partner (Jan. 2023); exploring building its own humanoids (March 2025)
SAMSUNG	○	✓	○	RAINBOW ROBOTICS	Acquired a minority stake in Rainbow Robotics (Jan. 2023); Samsung NEXT invested in 1X (Jan. 2024)
TESLA	✓	○	○	N/A	Developed its Optimus general-purpose humanoid robot for internal uses and to sell commercially

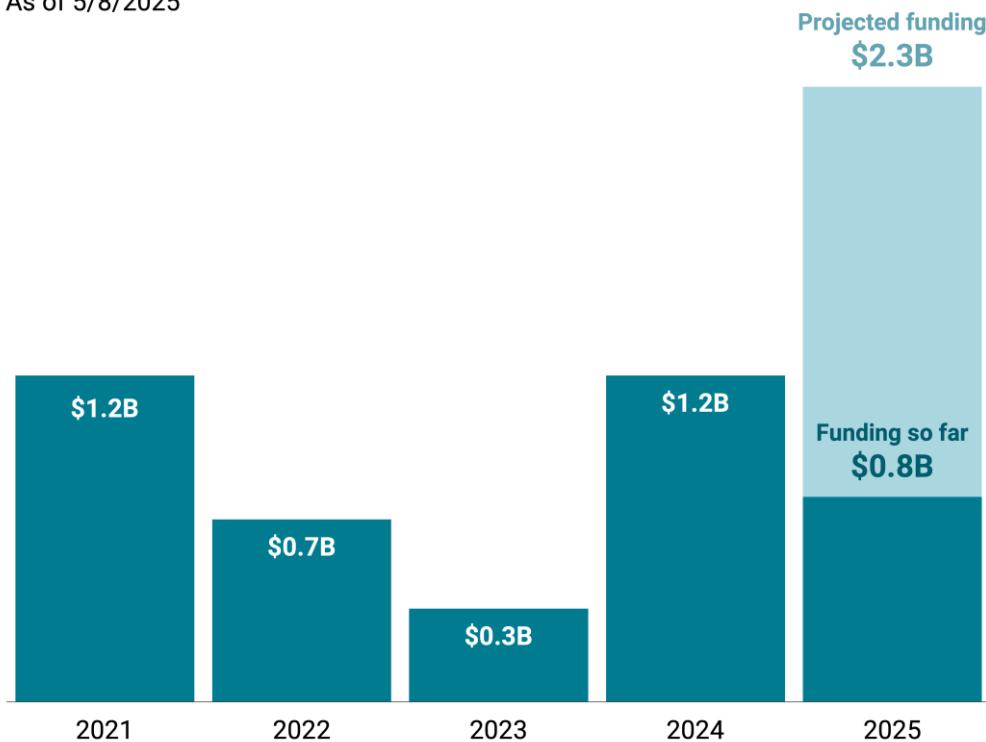
Source: CB Insights commercial transaction data as of 5/8/2025.

¹Big tech includes the largest and most influential global technology companies.

²Does not include all relationships with that company.

Humanoid robot companies are on pace for a record \$2.3B in 2025

As of 5/8/2025



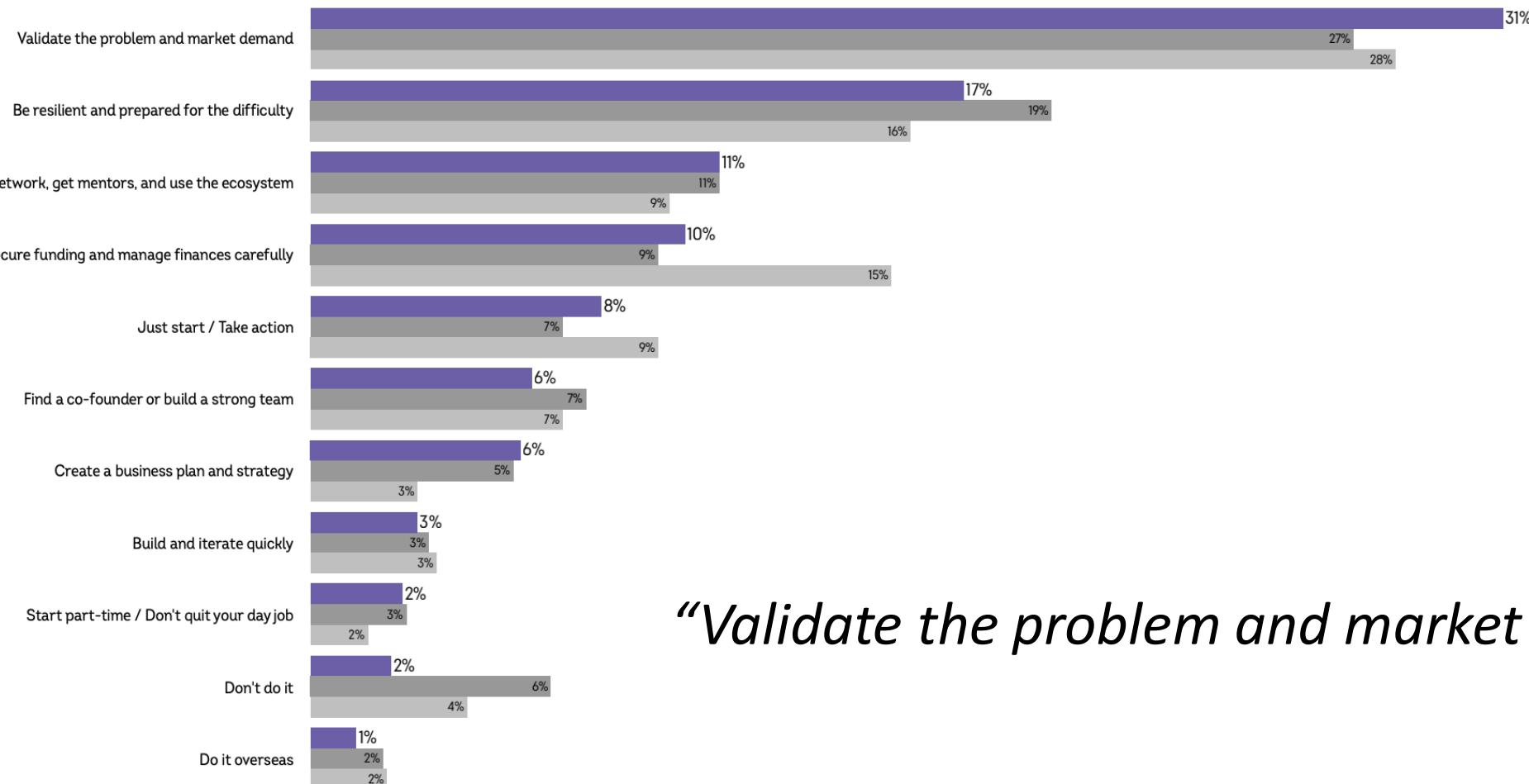
Source: CB Insights funding data. Includes humanoid robot developers and companies developing humanoid robot foundation models.

 CB INSIGHTS

ADVICE

FROM FOUNDERS, FOR FOUNDERS

IF A FRIEND WANTED TO START A COMPANY, WHAT WOULD YOU TELL THEM TO DO?



"Validate the problem and market demand"

UNSW AI Institute

LinkedIn:



[linkedin.com/company/
unsw-ai-institute](https://linkedin.com/company/unsw-ai-institute)