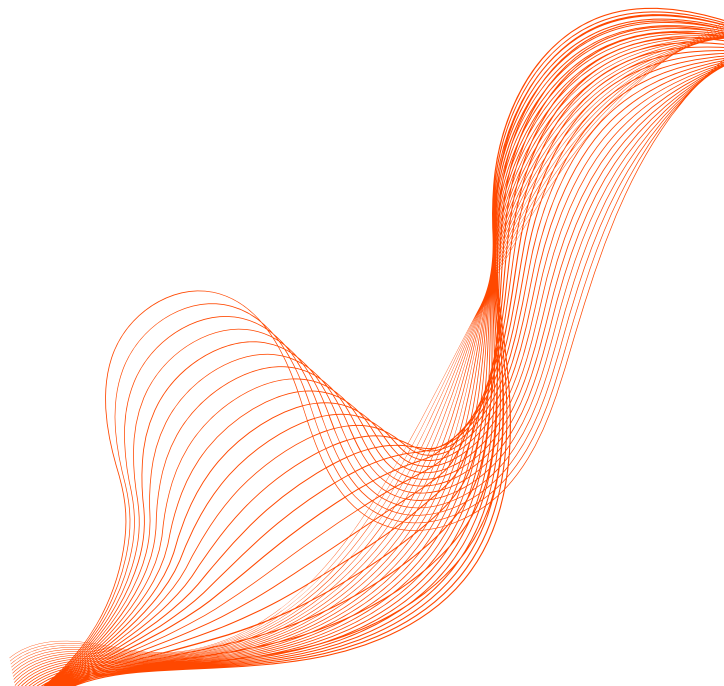


Physical AI Position Statement

July 2026

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About Us



Why the Alliance?

Connected technology is now critical infrastructure. From water networks to hospitals, from smart homes to connected consumer products. Sensors, data and connectivity underpin how Australia operates. Yet adoption remains fragmented, security concerns persist, and businesses struggle to find trusted guidance.

For close to a decade, the Alliance has existed to solve this. We're the independent body where competing interests collaborate, where government listens, and where practical guidance emerges.

In 2025, we won the federal government contract to implement Australia's Security Labelling Scheme for Smart Devices, ushering in a new era of national security for connected technology and accelerating a trust agenda for the technology sector.

Who's Involved

Our members include Australia's leading technology providers, major utilities, universities, and industry bodies. We work directly with government agencies responsible for the nation's digital security.

Our membership is diverse, and includes some of the nation's largest critical infrastructure providers, such as Telstra and Sydney Water, leading research institutions such as RMIT, UTS, and Monash University, global consultants such as TATA, and 50+ specialist connected technology manufacturers, integrators, and advisors. Our membership also includes manufacturers of smart consumer products, from home appliances and wearables to security devices and connected entertainment.



Overview

Physical artificial intelligence (AI) — artificial intelligence embodied in machines that sense, think and act in the real world — is rapidly moving from idea to deployment across Australia's economy. The opportunity is real and potentially substantial, with the right policy setting and collaboration among industry and academia. This is AI native to the physical world: not software bolted onto hardware, but systems where the sense-think-act loop is the design starting point, not a retrofit.

The core constraint on responsible adoption and benefit realisation of physical AI is not the technology itself but rather trust. The Alliance's position is that structured, standards-aligned voluntary disclosure is an effective way to build that trust and accelerate safe adoption.

The Opportunity

Australia is well placed to benefit from the trusted adoption of physical AI. We have hard, hazardous and remote work at a national scale, including mining, agriculture, logistics and defence sector advancements. And globally we are recognised for our research strength. The Australian Government's own analysis, reflected in the National Robotics Strategy [i] frames robotics and automation as central to productivity, safety and a more diversified economy, with estimates pointing to up to approximately \$600 billion in additional GDP a year by 2030 [ii]. Beyond this topline figure, the social dividend is just as compelling, with its ability to remove people from dangerous tasks, better serve remote communities, improve healthcare precision, and support lower-emission asset operations.

The Challenge

Unlike software-only AI, Physical AI acts 'on the world': when it gets a decision wrong, mass moves and the consequences are physical. Therefore, there are three gaps the Alliance has identified as potential barriers to responsible physical AI adoption:

1. A definitional gap. Australia has no agreed-upon definition of Physical AI, and interpretations vary across government, industry, and academia, making consistent policy and procurement difficult.
2. A trust deficit. Policymakers, operators, customers, and the public cannot easily verify a system or product's claims, so investment in and adoption of Physical AI could face challenges.
3. A new security reality. As operational technology (OT) connects to information technology (IT) networks, the traditional "air gap" between the two begins to disappear. The attack surface now spans sensing, decision-making and physical actuation, and governance remains layered and uneven.

[i] National Robotics Strategy, Australian Government Department of Industry, Science and Resources (2024): <https://www.industry.gov.au/sites/default/files/2024-05/national-robotics-strategy.pdf>

[ii] Economic figures are drawn from cited public sources (National Robotics Strategy, 2024; CSIRO) and are directional indications of scale, not precise forecasts.

Disclosure as a Tool for Transformation

Australia needs a formal, structured approach to disclosure as the primary tool for building justified trust in Physical AI systems. Trust is earned by making a system's claims checkable. Structured disclosure via a consistent, auditable statement of what a system is for, how it was tested, its limits, and its failure modes helps convert high-level principles into verifiable evidence. This lets buyers push obligations upstream through the supply chain and gives policy makers and the public a basis for justified confidence.

This approach to building trust aligns directly with standards already recognised in Australia, including ISO/IEC TR 24028 on AI trustworthiness and the AS ISO/IEC 42001 (Information technology - Artificial intelligence - Management system) and AS ISO/IEC 23894 management and risk standards (Information technology - Artificial intelligence - Guidance on risk management).

Recommendations to Government

The Alliance recommends the following steps to build the trust needed for Physical AI to scale safely in Australia:

1. Adopt a common definition of Physical AI to anchor consistent policy, procurement and assurance. The Alliance recommends the following: “An AI system whose architecture unifies sensing, thinking, and physical actuation into a single, continuous sense-think-act cycle, in which perception of the physical environment drives reasoning and decision-making, which are executed as direct physical actions, with each cycle's outcome informing the next [iii].”
2. Make structured, standards-aligned disclosure the backbone of trust, embedded in national AI guidance and expected of suppliers.
3. Partner with the Alliance to co-design a disclosure scheme. As Australia's leading industry body with a decade's experience governing the IoT and connected technology sector, it has members who have designed, built, and deployed the infrastructure that Physical AI runs on. The Alliance offers a ready disclosure framework and convening capacity to help operationalise these steps and present a clear platform for policy implementation.
4. Use government procurement as the lever, testing and requiring disclosure and conformity evidence from vendors of physical AI and cyber-physical systems.
5. Govern Physical AI as cyber-physical, aligning AI guidance with operational-technology security and workplace health and safety obligations, including existing frameworks already in force — SOCI Act obligations, the Essential Eight, and IEC 62443 for OT security — rather than starting from scratch.

[iii] Physical AI Fact Sheet No.1: What is Physical Artificial Intelligence?, Connected Technology Alliance, (2026): <https://www.connectedtechnologyalliance.com.au/physical-ai>



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