From Field Robotics to Trusted Industrial Data

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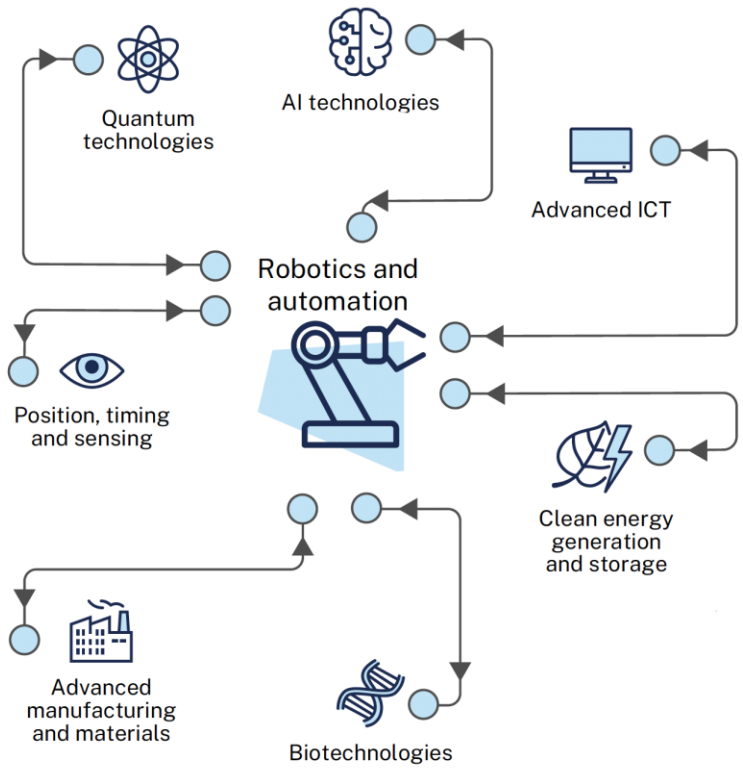
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Australia’s robotics opportunity

The opportunity

Convert research strength into adoption, domestic scale and export-ready systems.



Australian strengths: field robotics, autonomy in harsh environments, safe systems and integration

Source: Australian Government, National Robotics Strategy (2024), pp. 6, 12–22

National Robotics Strategy and IMX

The strategy defines the national goals. IMX supplies a practical data layer across them.



National capability

Scale Australian solutions and connect them to global markets



Increasing adoption

Reduce integration cost and make industrial data reusable



Trust and responsible use

Apply identity, access, security and assurance across firms



Skills and diversity

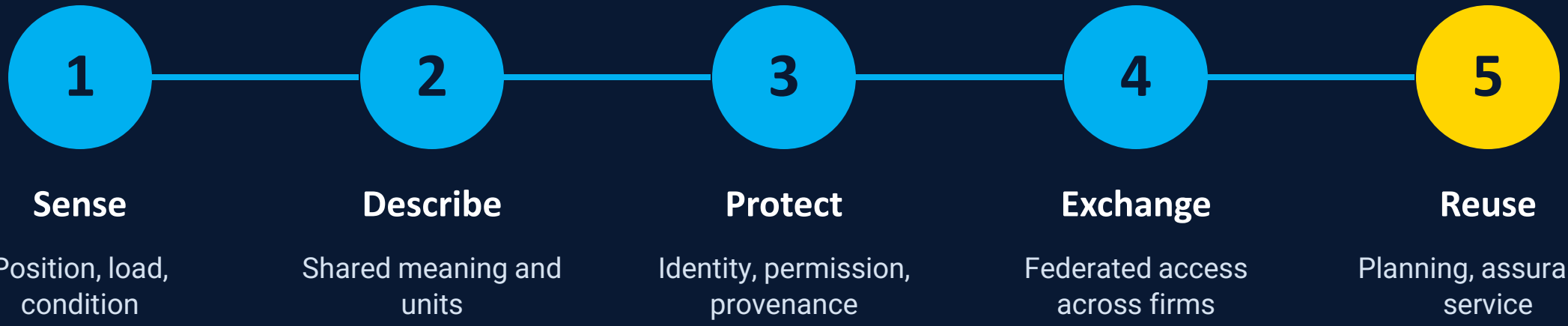
Build capability in data engineering, standards and system integration

IMX contribution **Federated, decentralised and collaborative exchange of manufacturing data**

Sources: Australian Government, National Robotics Strategy (2024); IMXC Session 3-3 briefing (2026)

Robots create more value when their data travels

A robot creates local evidence. IMX makes selected evidence usable across the value chain.



The value shifts from one machine on one site to trusted evidence that supports many decisions.

Australia’s data, AI and standards policy stack

Australia now has complementary policy layers. Industrial implementation remains the missing connection.

DATA FOUNDATIONS

Data and Digital Government Strategy to 2030

AI CAPABILITY

National AI Plan: capability, adoption and safety

GOVERNANCE

Guidance for AI Adoption and the Office of AI

STANDARDS

AS ISO/IEC 42001 for AI management systems

IMX OPPORTUNITY

Turn policy into trusted industrial practice

Common semantics
Portable credentials
Secure data exchange
Traceable AI inputs

Sources: Australian Government AI and data policies (2025–26); AS ISO/IEC 42001

EU Digital Product Passports and Australian export readiness

The EU is turning interoperable product data into market infrastructure.



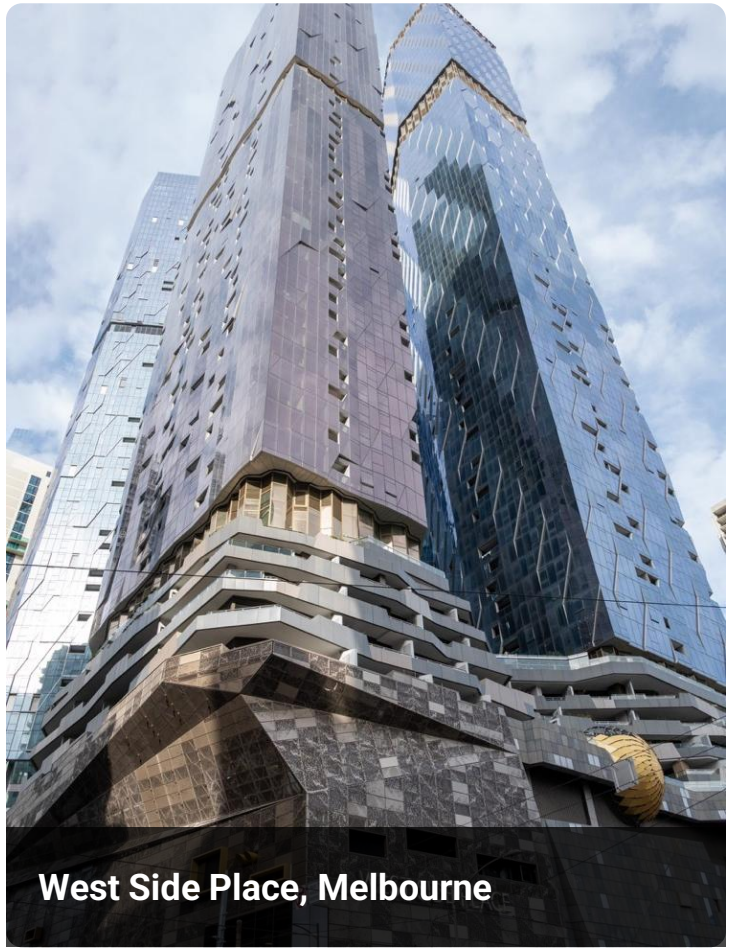
IMX alignment can reduce the cost of preparing Australian product data for overseas customers and regulators.

Australian export readiness

- **Unique identity** — Products, components and materials
- **Structured data** — Machine-readable and transferable
- **Interoperability** — Open standards and shared meaning
- **Assurance** — Evidence for compliance and circularity

Source: European Commission, Digital Product Passport and DPP Registry pages (updated July 2026)

CSIRO BLEAT, Ynomia and West Side Place



West Side Place, Melbourne

CSIRO PROTOTYPE

250+ devices
25 floors

BLEAT used low-power beacons and tags for room-level tracking on a live construction site.

The physical façade panel gained a persistent digital history across organisations and borders.

YNOMIA COMMERCIAL USE

Façade data followed the component

Manufacture in China

Transport and off-site storage

Delivery and installation

Sources: CSIRO BLEAT; CSIRO–Ynomia impact study; Ynomia West Side Place project record

RoboRigger, IoT lifting data and IMX



Remote load control keeps people away from suspended loads and records the lift.

EACH LIFT CAN RECORD

1. **Weight**
   Onboard load cell
2. **Time and location**
   Operational trace
3. **Image and load ID**
   Evidence linked to the lift

Relationship to IMX

Portable lift records could support contractors, crane providers, asset owners and auditors.

Sources: RoboRigger product brochure (2025); Leighton Asia Hong Kong implementation (2024)

Lessons from the construction case studies

Tag the product

BLEAT and Ynomia

A component needs identity, status and provenance from factory to installation.

Shared identity meaning access provenance

Instrument the process

RoboRigger

An operation needs time, load, location and evidence linked to responsible parties.

Construction extends the IMX problem beyond the factory wall

The same data must survive changing sites, suppliers, equipment owners and contractual boundaries.

Brisbane 2032 infrastructure stress test

Several large delivery programs will compete for the same workforce, supply chains, equipment and power system.



Games projects

17 new or upgraded venues
$7.1 billion program



Housing

1 million new homes
by 2044



Data centres

About 6% of grid electricity projected by 2030



Energy-intensive industry

Green metals and critical minerals
need complex project delivery

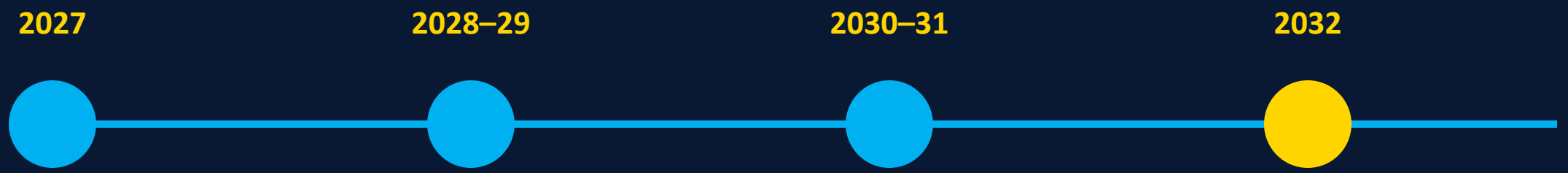
Shared industrial data can expose bottlenecks early and verify delivery across programs.

Sources: Queensland 2032 Delivery Plan and Budget 2026–27; Queensland Housing Plan; AEMO; Future Made in Australia

A proposed Australian IMX pathway to 2032

PROPOSAL FOR DISCUSSION

Use major infrastructure delivery to build an exportable industrial data capability.



Align

Map Australian initiatives to IMX and DPP standards. Select two construction pilots.

Pilot

Test shared semantics, credentials and access across suppliers and sites.

Scale

Use procurement to require trusted digital records in major projects.

Demonstrate

Show cross-project data exchange for Games, housing and industry.

Start with real data from real assets. Keep the architecture federated and internationally aligned.

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End.