



PCB CONNECT INITIATIVE

Enabling Sovereign Capability

A National Initiative with Global Relevance – Scaling Australia’s Electronics Sovereignty

Defining the ambition. Aligning the nation.

PCB Connect is a national initiative established to address a critical gap: Australia's lack of sovereign printed circuit board (PCB) manufacturing. Printed circuit boards (PCBs) are the silent enabler behind every electronic device—from microcontrollers in children's toys to mission-critical systems in defence and aerospace. Their quality, traceability and performance directly influence Australia's industrial strength and security.

Led by RDA Moreton Bay & Sunshine Coast, Australian Industry & Defence Network (AIDN) and Manufacturing Excellence Forum Sunshine Coast (MEFSC), the initiative is progressing with cross-sector momentum and strategic clarity.

What are printed circuit boards (PCBs)?

PCBs are the foundation of modern electronics, embedded in every high-tech product—from sensitive military systems to satellites, UAVs to surgical robotics. Yet:

- **Sovereign capability** in this domain is currently niche, high end and short run
- **\$74.6m was spent on importing PCBs** in 2023 with most coming from China

A lack of PCB manufacturing weakens Australia's economy, innovation potential, and national security by increasing reliance on fragile global supply chains and eroding sovereign control over critical technology. With **the global PCB market forecast to exceed USD \$100 billion by 2030**, Australia must invest in capability now.

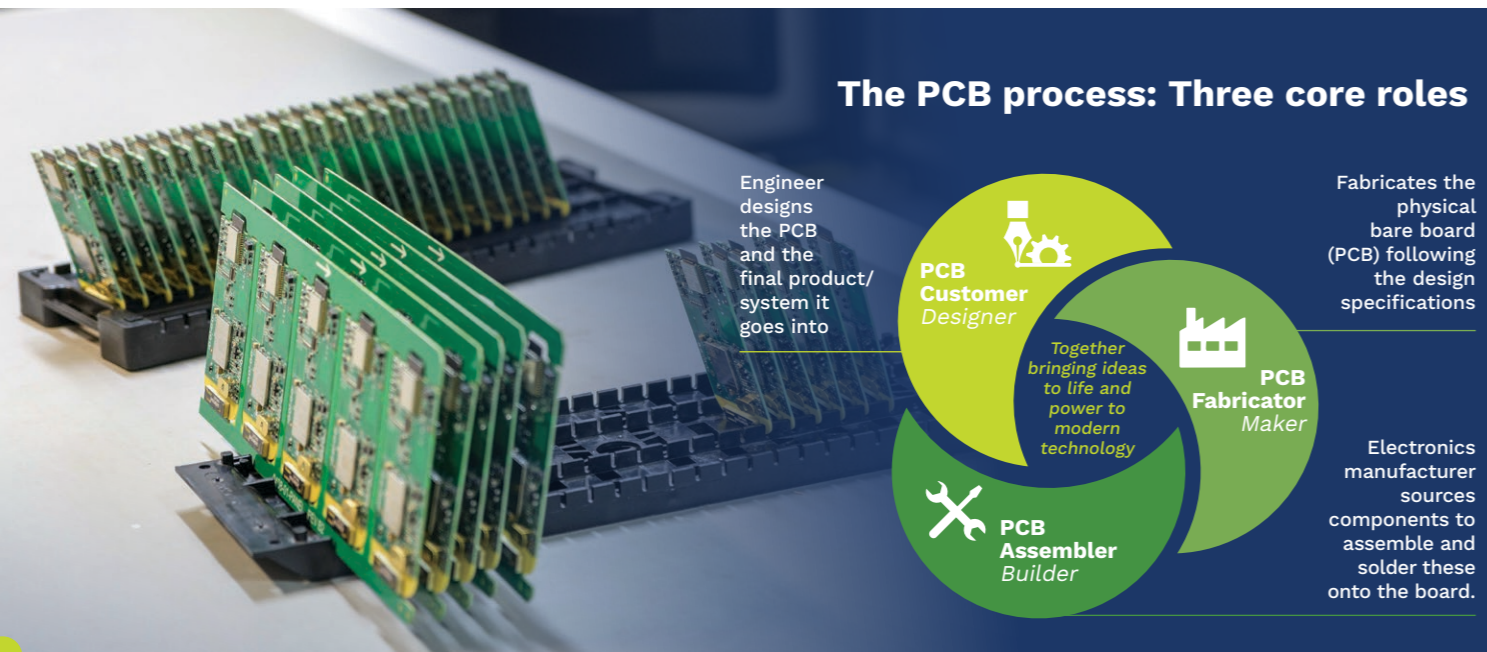
Key objectives

- **Define** a clear national ambition for sovereign PCB capability
- **Conduct** a feasibility study to establish the business case, involve stakeholders from the region, nationwide and overseas.
- **Elevate** PCBs capability as critical to defence, advanced tech, and future industries
- **Build** Defence Industry Security Program (DISP) compliant, secure, and cyber-resilient manufacturing within regional Australia
- **Address** supply chain vulnerabilities through diversification and enhanced sovereign capability
- **Strengthen** Australia's regional and national competitiveness in advanced manufacturing.



Geo-strategic diversification of supply lines via sovereign capability.

The PCB process: Three core roles



L-R: Tim Kelly, Carl Quarterman, Frank Faller, Jacqueline Steel

Meet the leadership team

The initiative is driven by a multidisciplinary team of industry, academic, and regional development leaders:

Frank Faller – advanced manufacturing strategist, PCB connect initiator and industry champion

Jacqueline Steel – CEO, Regional Development Australia (RDA) Moreton Bay and Sunshine Coast Inc.

Tim Kelly, Manufacturing Excellence Forum Sunshine Coast

Carl Quarterman – National Chair, AIDN

Everything starts with a PCB

Printed circuit boards (PCBs) are the silent enabler behind every electronic device—from microcontrollers in children’s toys to mission-critical systems in defence and aerospace. Their quality, traceability and performance directly influence Australia’s industrial strength and security.

Global industry and trends

Global demand for reliable and technologically advanced Bare Printed Circuit Boards (BPCBs) continues to surge alongside the rapid development of electronic products. Over the past 40 years, many countries, including Australia, have shifted BPCB manufacturing offshore, making the industry heavily reliant on global supply chains – particularly in East and South-East Asia, where lower costs and mature manufacturing ecosystems have enabled market dominance.

However, this global dependence also exposes vulnerabilities. For Australia, having sovereign BPCB manufacturing options is increasingly important—not only to improve supply chain resilience and reduce reliance on imports, but to support innovation, secure critical industries, and strengthen national capability in high-tech and defence sectors.

Global PCB production

52% China

Dominates global production, accounting for approximately 52% of worldwide output by value as of 2023

13% Taiwan

Global production, specialising in high-end boards

11% South Korea

Strong in advanced packaging substrates

9% Japan

Focused on high-reliability and specialty PCBs

5% USA

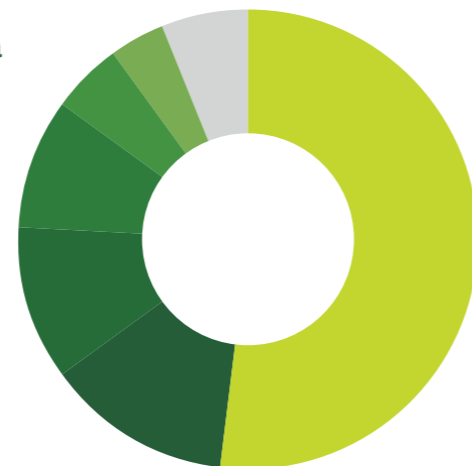
Concentrating on defence and aerospace applications

4% Europe

Strength in automotive and industrial sectors

6% Other countries

Emerging production regions include Southeast Asia (Thailand, Vietnam, Malaysia) and India, as companies pursue “China Plus One” diversification strategies.



Demand for printed circuit boards

The demand for PCBs is highly variable as it can depend on the specification of the board. More complex and advanced electronic products such as phones and computers will more commonly use complex PCBs which will use higher end components and be up to 16, 20 or even 32 layers thick.

The recent trend towards miniaturisation is pushing layer counts higher again, for example up to 40 layers. Additionally, Defence and more sensitive complex equipment have a range of other requirements allowing for a multitude of other factors not typically experienced in consumer grade devices.

End-user benefits

- **Faster product development** with local prototyping
- **Reduced risks** through secure, verified local sourcing
- **Stronger innovation** cycles across research, design, and production
- **Improved performance** and reliability across all sectors



Board types & technical scope

- **Single-sided** – Cost-effective; used in basic electronics
- **Double-sided** – Common for consumer and industrial products
- **Multilayer (HDI)** – Compact, high-speed signal processing for advanced systems
- **Rigid-flex / Flexible** – Used in medical, aerospace and wearables
- **High-frequency & RF** – For communications, radar, and defence systems

PCB Connect aims to enable local PCB fabrication aligned with IPC Class 3, Adjustable Speed Drive (ASD) Essential 8 cyber readiness, and DISP compliance—meeting the highest standards for critical infrastructure.

From startups to defence primes

Australia’s innovation ecosystem relies on access to reliable PCB prototyping and production.

PCB Connect supports:

- **Startups & SMEs** developing hardware and Internet of Things (IoT) products
- **Mid-tier manufacturers** in mining, medtech, energy, and automation
- **Defence Primes** and aerospace leaders requiring cyber-secure, high-reliability boards



A nationally significant initiative with regional activation

PCB Connect is a national-scale solution activated through a regional response. While the initiative's foundation is rooted in the Moreton Bay–Sunshine Coast corridor, its reach and impact will be felt across Australia's sovereign manufacturing ecosystem.

Why this matters nationally

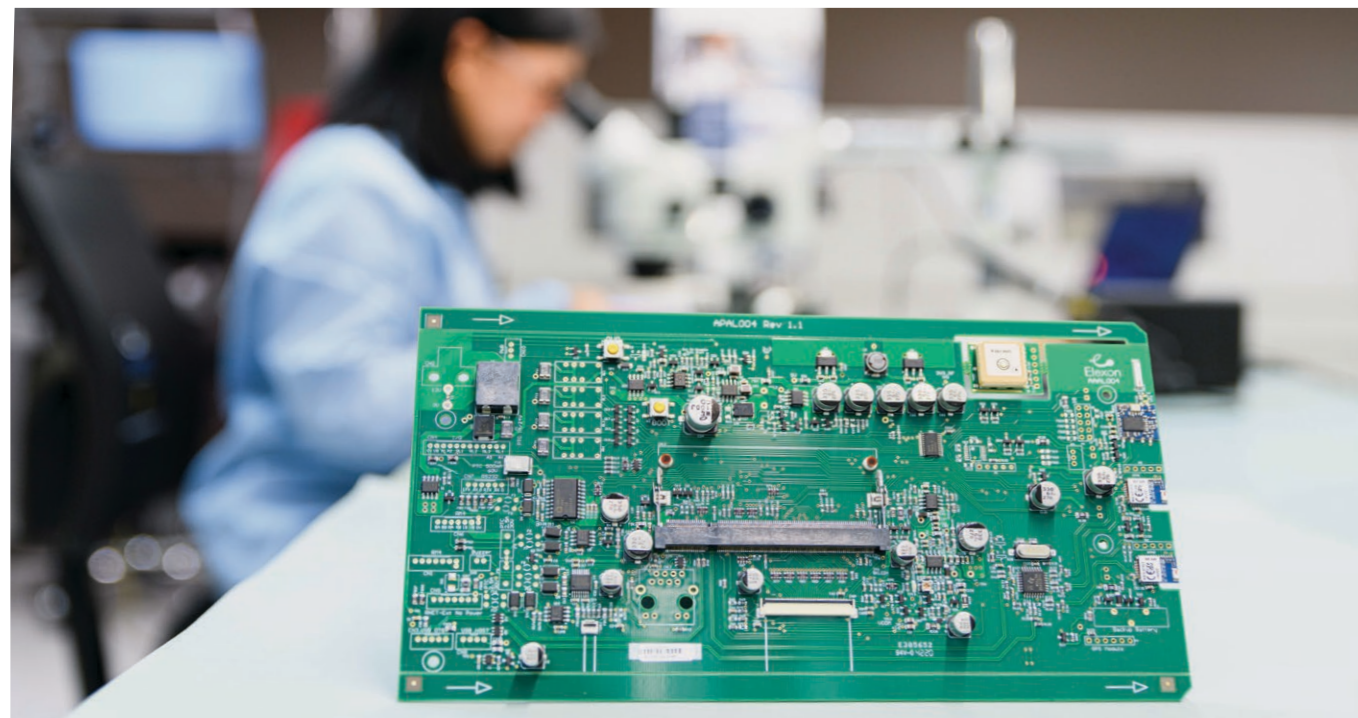
- Reduces Australia's dependence on overseas PCB suppliers—enhancing sovereignty and resilience
- Enables DISP-accredited supply chains for defence, aerospace, and infrastructure projects
- Contributes directly to the Federal Government's *Future Made in Australia* strategy
- Unlocks new opportunities in quantum, artificial intelligence (AI), medtech, unmanned aerial vehicles (UAV), and other high-value sectors
- Supports Australia's positioning as a trusted supplier within existing and future international military procurement relationships

The regional activation zone

Moreton Bay – Sunshine Coast – Noosa

This region offers ideal conditions to activate sovereign PCB capability:

- Proximity to Brisbane and major infrastructure (port, rail, air)
- Industrial-zoned land and digital infrastructure in place
- Active advanced manufacturing base with skilled workforce
- Leading research institutions and VET sector support

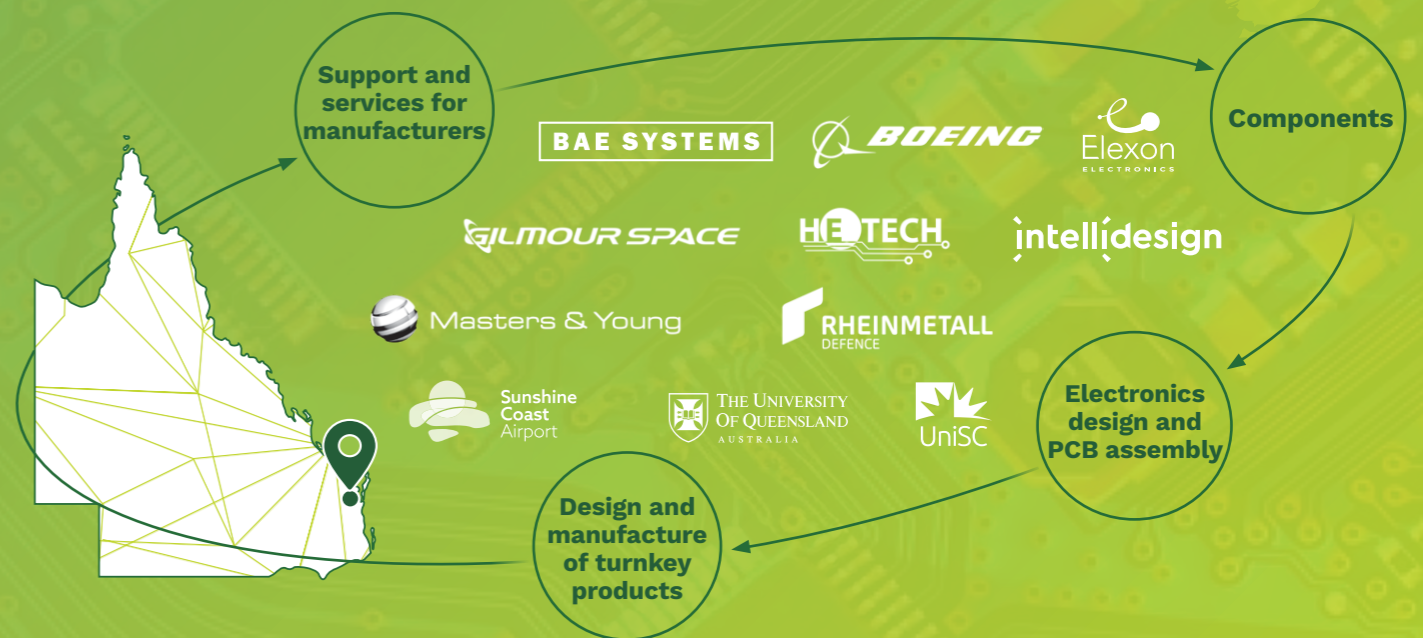


Australia's manufacturing backbone

Across the nation, manufacturing remains one of Australia's most significant and valuable sectors:

- The manufacturing sector contributed **\$133.85 billion to Australia's economy**
- Manufactured goods represent **24.5% of Australia's merchandise exports**
- **Manufacturing employed 899,000 individuals**, accounting for approximately 6.5% of Australia's total workforce.

Source: Australian Bureau of Statistics



Moreton Bay regional snapshot



Proximity to the capital city, road, rail, port and air infrastructure



Major economic growth corridor



High speed digital connectivity



Quality and growing manufacturing industry base



Affordable green and brownfield industrial land



Access to skills, talent, research and education facilities



Manufacturing is the largest export industry, valued at approximately **\$923.8 Million**

Combined GRP **\$49.37 Billion**

473,883 Residents employed

78,825 Businesses operating locally

Phase 1 Achievements

Momentum built. Connections forged. Vision clarified.

The PCB Connect Forum, held in February 2025, brought together industry, government and academia to launch a focused national dialogue: how can Australia reclaim capability in one of the most fundamental components of modern manufacturing—printed circuit boards?

This was not a one-off event, but the start of a long-term initiative to deliver economic, strategic, and technological outcomes for the nation.

- PCB Connect demonstrated what's possible when regional manufacturers, government, and research groups come together with intent.
- While sovereign capability is a national issue, the opportunity is also deeply regional — investments in Australia translate directly into jobs, skills, and long-term capability development.

Progress at a glance

Concept developed

Industry and regional leaders define the vision



Launch event (Feb 2025)

PCB Connect Expo draws 350+ attendees



Communicate signed

National intent formalised by all partners



Working group formed

Strategy, engagement, and business case in motion



Investment preparation

Facility planning and capability mapping underway



PCB Connect expo and forum

National Launchpad: 26th February 2025

Location: Queensland Air Museum, Caloundra

Backed by: RDAMBSC, AIDN, MEFSC, and Elexon Electronics

Sponsored by: AusIndustry

350+

Attendees from across industry, government and academia

5

strategic workshops exploring sovereign supply chains and future industry potential

“

This event spotlighted the risks in our current supply chain and identified domestic PCB manufacturing as a gateway to broader sovereign capability.

Carl Quarterman, AIDN



35+

high-level stakeholders from government, industry and academia across the country

AIDN

Micro-credential program offering specialised industry knowledge

26+

speakers discussing industry challenges, opportunities, and trends

54%

of attendees travelled from outside the Moreton Bay-Sunshine Coast-Noosa region

23

exhibitors showcasing cutting-edge innovations in electronics and PCB manufacturing

20%

of attendees travelled from interstate.



Strategic impact of sovereign PCB capability

Transformative benefits for Australia's economy, industry and security

Establishing a sovereign PCB capability delivers tangible benefits across industry, technology, and national resilience.



Economic benefits

- Creates skilled jobs in Industry 4.0 advanced manufacturing
- Attracts investment in high-tech sectors
- Increases Australia's local production capacity



Technological benefits

- Enables faster product development
- Reduces lead times and reliance on overseas support
- Supports high-performance, secure applications in defence and critical systems



Social & environmental benefits

- Reduces offshore dependency and IP risks
- Cuts freight emissions through local production
- Supports long-term supply chain sustainability



Future outlook

Building the capability Australia needs — Now and for the future

The long-term vision for PCB Connect extends far beyond the build of a single facility. It's about laying the groundwork for a scalable, export-ready, globally aligned capability that meets Australia's sovereign needs and opens new frontiers in technology and manufacturing.

Long-term vision

- Establish a national centre of excellence for PCB design, fabrication, and PCB assembly
- Scale from initial capability to full commercial production, with defence-grade certification
- Adopt emerging technologies including automation, high-frequency materials, and miniaturisation
- Create export pathways to trusted international partners, particularly across Five Eyes networks
- Position Australia as a global leader in secure, sustainable, and high-performance electronics

Market and industry outlook

- The global PCB market is forecast to exceed **USD \$100B annually by 2030**
- **Driven by growth** in AI, 5G, EVs, quantum computing, UAVs, and multiband radar systems
- **Increasing demand** for miniaturised, high-performance boards with advanced materials
- **Automation, traceability, and cyber assurance** are essential for long-term competitiveness
- **Australia's future in PCBs depends on investment, policy alignment, and public-private collaboration**

Strategic alignment

PCB Connect directly supports the goals of:

- **Defence Strategic Review** – secure sovereign supply chains for mission-critical components
- **Modern Manufacturing Strategy** – building scale and competitiveness in priority sectors
- **Sovereign Industrial Capability Priorities** – delivering onshore capability in high-security applications
- **Future Made in Australia** – supporting Australia's drive to net zero and adapting to changing global conditions.

Potential roadmap to 2028

2025

- Prospectus finalised
- Task force team PCB Connect setup
- Stakeholder engagement and co-investment planning
- Feasibility study commences

2026

- Feasibility completion and site selection
- Business case and capital alignment

2027

- Facility construction begins
- Talent pipeline programs initiated

2028

- **STAGE 1** capability operational (prototyping and short-run manufacturing)
- Defence, aerospace and medtech contract readiness

NOW is the time to lead



Join us in our efforts to secure this national opportunity.

The time for action is here. Let's work together to take this opportunity to the next level.

Use the QR Code below to join the conversation and share expertise, co-develop solutions, activate investment and stay up to date on progress and opportunities to engage.

We seek to establish a Working Group of Australian Government and Queensland Government representatives in defence and industry portfolios with Commercial Industry players involved in PCBs. This Working Group would explore two streams.

The first stream would seek to capture industry and government knowledge of the opportunities of building downstream supply chains.

We need to take the existing industry feasibility analysis to the next level of detail to understand the capacity for PCB manufacture and fabrication to be expanded and established more broadly, and the extent to which this tilt toward sovereign capability would open up a range of new secondary industries in this country.

A second stream would look at our existing foreign relationships and government's capacity to assist in nurturing supply chains through targeted procurement policies. This would explore the nature and scope of manufacturing capability that would provide sufficient diversification to manage supply chain risks from future exogenous shocks (like a global pandemic, trade sanctions) and deliver stable demand.



Through these conversations we seek to make electronic manufacturing a national priority, for it to be recognised as a building block of our future security, jobs and prosperity.

PCB Connect Communique, February 2025

Engagement Opportunities

- Strategic advisory roles
- Co-investment pathways
- Capability and infrastructure funding
- Procurement partnerships
- Skills and R&D collaboration

Be Part of Building Australia's Electronics Future

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Scan the QR code provided to register your interest or request more information on the **PCB Connect Initiative:**

