

NIIN

National Industry
Innovation Network



Partnerships



Innovation
Central



Specialised
Centres



Research
Chairs



Skill & Talent
Development



Cyber and
Health Alliances

A Model to Augment R&D

Accelerating and Scaling Innovation
and Digital Technology Adoption

NIIN Partners & Collaborators



NIIN Partner Universities



NIIN Industry Collaborators



Technology



Health & Community



Defence & Aerospace



Agriculture



NIIN Partners & Collaborators



Transport & Logistics



Mining & Resources



Retail, Finance & Consumer Services



Manufacturing & Industrial



Government



Education & Research



Note: Industry partners listed above have engaged with Innovation Central or research initiatives with the participating University NIIN members. They are active participants in the initiatives delivered through the NIIN. These industry partners have not directly endorsed this submission.

Forewords	5
1. The opportunity for Australia	7
2. What's needed to capture the opportunity	10
3. The NIIN's role in capturing more value for Australia	15
4. Perspectives on questions from the Australian Government's <i>Strategic Examination of R&D</i> discussion paper	26
5. What's stopping the NIIN from scaling its impact?	37
6. How government can use the NIIN to drive impact	40

Message from NIIN's Chair

Australia's economic future depends on how effectively industry adopts and scales digital technology. Australia has long been recognised for world-leading research but capturing economic opportunity relies on rapidly translating and applying that research. The National Industry Innovation Network (NIIN) was established to accelerate digital adoption and digitisation in critical sectors and de-risk the process of innovation.

The NIIN is industry-driven but aligns university capability with national priorities. It provides the infrastructure, expertise, capability and practical pathways that Australian industries need to explore and adopt emerging technologies to create new markets and improve productivity and competitiveness. The NIIN is a comprehensive response and acknowledges that economic outcomes will only be delivered if there is investment in future skills and talent, as well as research and innovation.

The early success of the NIIN demonstrates what is possible when we tilt our system towards industry need. The challenge now is to scale this model – to embed this approach as the norm rather than the exception, ensuring Australia remains at the leading edge of digital transformation, workforce capability, and global economic competitiveness.

The NIIN stands as a proven pathway to achieve this vision, and we remain committed to working closely with industry and government to ensure Australia captures the full economic potential of digital innovation. The NIIN – and models like it – need to be part of the national response to R&D and commercialisation.



Prof John Dewar AO
NIIN Chair

Message from NIIN's Founder

When we established the NIIN in 2020, Cisco's ambition was to make Australia's world-class research capabilities more accessible to industry. We saw that improving and accelerating adoption of digital technology was fundamental. The NIIN is focused on developing practical solutions so firms and governments can be more productive, competitive and resilient.

Through the NIIN we have created pathways that directly address barriers to industry innovation. These barriers include misaligned timelines for innovation, internal skill and talent gaps, information asymmetry and the high cost of collaboration using formal pathways. By providing structured programming, dedicated infrastructure like Innovation Centrals and matched investment Cisco is helping companies and universities take the steps towards collaboration and moving swiftly to innovation in solving real industry challenges

Five years since the NIIN was first established the need is just as great, but we have the green shoots in place to do something about it. The NIIN is a proven vehicle for digital transformation, driving measurable economic outcomes and ensuring Australia remains globally competitive in the digital age.



Reg Johnson
NIIN Founder and Director,
Education & Strategic Industries,
Cisco ANZ

Message from the Chair of NIIN's Research Chair Advisory Committee

Universities have always been sources of innovation and discovery, but our impact is exponentially greater when we align research with industry need.

As Chair of the NIIN Research Chair Advisory Committee, I see first-hand how NIIN's structured approach strengthens the connection between universities and industry. The NIIN not just collaboration but true integration – ensuring that researchers and industry partners share common goals, resources, and outcomes. Through matched funding, dedicated infrastructure, and specialist resources, the NIIN ensures university research responds rapidly and effectively to the evolving demands of industry.

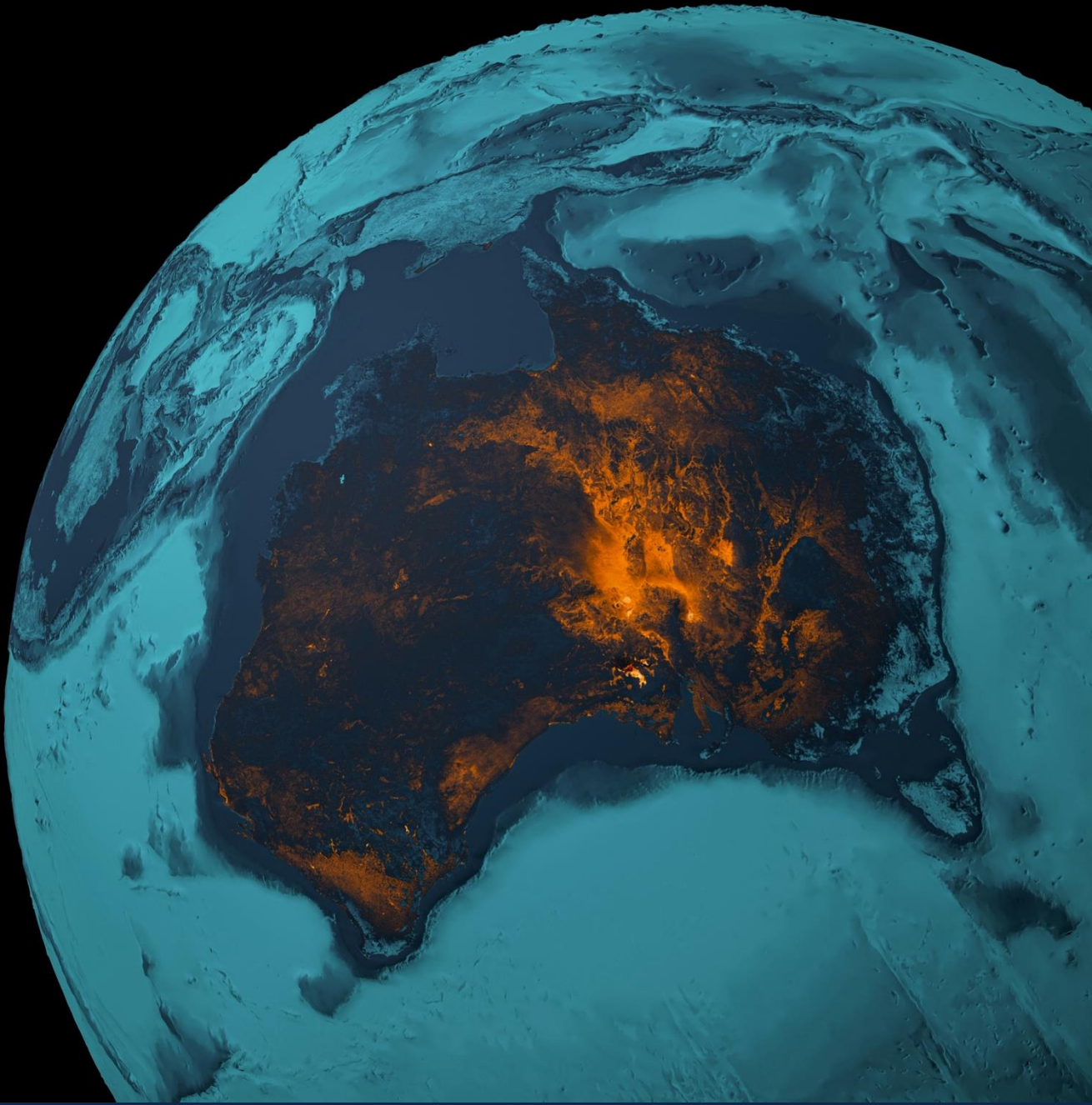
The dynamic model creates an environment where digital technologies are not just studied but practically applied and embedded across industries. By embedding real-world needs into research and education, the NIIN is preparing Australian industry and the future workforce to thrive in a digitally driven economy.

The NIIN's collaborative approach represents a crucial shift toward more practical, industry-aligned innovation, essential for Australia's ongoing competitiveness and prosperity.



Prof Ross Young
Chair of NIIN Research Chair
Advisory Committee and DVC
(Research and Innovation), UniSC





1 The opportunity for Australia

The digital technology adoption imperative

Australia's economic future depends critically on our capacity to adopt digital technologies at scale. While developing new technologies remains important, the greatest economic gains comes from integrating them into processes, supply chains and service models.

Emerging technologies in areas such as cybersecurity, artificial intelligence (AI), quantum computing, and the Internet of Things (IoT) are fundamentally reshaping sectors. They are driving productivity through automation, transforming labour markets and re-shaping products, services and business models.

Global evidence demonstrates a widening gap between economies that successfully embed digital technology within industry and those that fail to do so, with digital-first nations such as Singapore and South Korea consistently outperforming global averages.¹ Critically, the importance of well-resourced and specialised intermediaries who are embedded in place, has been demonstrated as key to successful R&D and innovation collaborations.

Australia is uniquely positioned to be an early adopter in industries such as mining (where Australia is already considered a leader in autonomous operations), agriculture, defence, healthcare, and construction.

Australia had a global reputation for early adoption and digital innovation, demonstrated by pioneering achievements such as the invention of Wi-Fi. Australian universities have deep expertise in critical digital technologies, supported by strong global research networks. But none of this guarantees future success, particularly in an era dominated by AI and machine learning which is accelerating innovation and development cycles and fundamentally changing the job market.

1. ITIF. 2020. "Does Investment in Physical Infrastructure Really Drive Growth?" Information Technology and Innovation Foundation.
<https://itif.org/publications/2020/04/20/does-investment-physical-infrastructure-really-drive-growth>.

Emerging research from Cisco reveals worrying signs about Australia's slow adoption of AI.



What success looks like for Australia

The lead indicators of success for Australia will be reflected in the quality and scale of our:



Process, system and technology innovation

The extent to which Australian industries effectively integrate digital technologies to realise productivity gains, strengthen global competitiveness, and sustain long-term growth.



Digital skills and talent

The capability and readiness of the Australian workforce to adopt and leverage digital in response to industry demands



Industry-led collaboration models for prototyping and research translation

The effectiveness of agile mechanisms that connect industry with universities to enable translation of academic discoveries into tangible commercial outcomes and measurable economic impacts.

Focusing on these measures of success – with decisive action and investments at the necessary scale – will result in profound and enduring benefits for Australia, including:

1

A more complex and diversified economy with a higher proportion of advanced, technology-driven industries.

2

Better access to new global markets and international partnerships, establishing Australia as a recognised player in global innovation and technology ecosystems.

3

Improved productivity and greater sovereign capability, increasing Australia's economic resilience and international competitiveness.

4

A workforce that is better prepared, more adaptable, and resilient in responding to technological changes and evolving labour-market needs.

5

Increased private-sector investment in research and development, fostering continuous innovation and sustained economic growth.



2 What's needed to capture the opportunity

AI is the latest digital battleground for Australia, and we are falling behind

Recent research by the AI Group+ indicates that industry is optimistic about technology upgrades, with 84% of businesses reporting active adoption. Most consider digital an essential adjunct to achieving their strategic goals for new business development, managing workforce constraints and competitive positioning.

There are clear imperatives for Australia to realise value from digital technologies:

Accelerating and de-risking industry adoption of new technologies

Australia has historically been an early technology adopter, particularly in sectors like higher education and areas such as mobile phone uptake, cloud and Wi-Fi.

However, there are worrying signs that Australia's natural advantage is being eroded. The most notable example is adoption of artificial intelligence. Cisco's 2024 AI Readiness Index¹ highlights that only 4% of Australian

businesses are considered AI "Pacesetters" – organisations leading in AI adoption – compared to 13% of businesses globally. Australia also has a significantly higher proportion of AI "Followers" (63%) compared to the global average (51%).

From an industry perspective, global technology companies such as Cisco and its Silicon Valley peers consider the pace of adoption as an indicator of a market's attractiveness. This is particularly true in Australia which has been treated as a 'test market' given its sophistication but also its contained nature. It is also a factor in where companies such as Cisco invest strategically in R&D. If Australia remains slower in adopting AI and other critical technologies, it risks becoming less attractive as a destination for international investment, which could further impede the development of local industry capabilities.

Cisco 2024 AI Readiness Index Reveals Worrying Signs; Australia is Losing its Early Adopter Edge

Global



Australia



1. https://www.cisco.com/c/m/en_us/solutions/ai/readiness-index.html



Attracting strategic investment by multinational corporations

Multinational corporations (MNCs) have a critical role to play in Australia's innovation ecosystem given their scale, resources, expertise and global connections.

In Australia, MNCs have historically been a sales and marketing outpost rather than strategic hubs for innovation or core R&D. This issue is evidenced by the fact that:

- Only 45% of R&D staff are employed within Australian industry compared to the OECD average of 68¹
- Australian SMEs provide the majority of private-sector R&D investment² despite lacking the scale, resources, and global reach necessary to drive national-level economic transformation.

Cisco – alongside its industry partners in the NIIN – has directly addressed this challenge by successfully securing substantial international investment from the United States to seed significant innovation projects and establishing direct partnerships with Australian universities to enhance industry-aligned research. Cisco's strategic initiative demonstrates the untapped potential for other MNCs to leverage the NIIN as a proven pathway to evolve beyond a limited branch office presence into genuine innovation partners contributing to Australia's technological sovereignty.



Aligning workforce skills with industry requirements

Australia continues to face workforce shortages and skills mismatches in critical digital technology areas, limiting industry's ability to adopt and scale new technologies. Educational and training programs frequently lack direct alignment with the practical skills industry demands, creating gaps in specialist technical roles as well as "blue tech" jobs – vocational roles essential to supporting technology-intensive industries.

A major gap in Australia is industry commitment to the design and delivery of skills programs, particularly future skills. There needs to be much a greater focus on creating practical training pathways directly aligned to industry needs, particularly in high-demand sectors such as cybersecurity.

Case Study: Cisco's Skills Focus

Cisco Networking Academy supported approximately 50,000 Australian students in 2024, partnering with over 100 education institutions nationwide to deliver targeted vocational and technical skills training aligned to the digital skills needed by industry.

Cisco also participates in initiatives such as the AI-Enabled ICT Workforce Consortium, bringing together industry leaders including Accenture, Google, IBM, Intel, Microsoft, and SAP to address skills gaps driven by emerging technologies like Generative AI.

1. OECD (2020)
2. ABS (2022)



Creating dynamic models for industry and universities to collaborate

Australia relies heavily on highly formalised collaboration instruments, such as Cooperative Research Centres (CRCs), which demand high upfront commitments and protracted payback periods that are out of step with typical industry budget and planning cycles. Australia has few mechanisms to support agile, small-scale innovation projects that can grow into something larger with economic and industry impact.

This structural deficiency directly contributes to Australia ranking last among OECD nations for industry-research collaboration¹ and is exacerbated by university research outputs that frequently lack alignment with industry needs and national strategic priorities (largely due to limited incentives or effective structures supporting ongoing productive collaborations between academia and industry).

Collaboration models such as the NIIN have been developed precisely to address this critical gap by providing a flexible industry-university collaboration platform that enables rapid prototyping, testing, and scaling of innovative digital solutions aligned closely to industry priorities. However, initiatives like the NIIN currently operate organically with severely limited resources and minimal integration into national policy and innovation frameworks—representing a significant missed opportunity for Australia to leverage its full innovation potential.

Case Study: ICB – Accelerating Digital Transformation Through Industry-University Collaboration

Innovation Central Brisbane (ICB) at Queensland University of Technology (QUT), established in 2022 as part of the National Industry Innovation Network (NIIN), accelerates digital innovation, builds talent pipelines, and addresses complex challenges through agile collaboration.

Instead of traditional research-first models, ICB offers a comprehensive innovation ecosystem under a "low-barrier, high-trust" framework:

- Purpose-built innovation spaces for rapid prototyping and collaborative workshops.
- Expert facilitation accelerating ideas into functional pilots within weeks.
- ProtoComps (prototype competitions), internships, and curriculum-based industry challenges.
- Access to cutting-edge Cisco technology and emerging technology sandpits.
- Pathways translating academic research into applied industry solutions.
- Community initiatives forging connections between government, industry, and academia.

In 2024 alone, ICB delivered impressive outcomes that demonstrate the effectiveness of its approach:

- 24 innovation projects delivering 19 fully functional digital prototypes.
- 46 activation events engaging over 800 participants across industry, government, and community.
- Expanded partnerships (e.g., Rivernet Communications, NTT Data) focused on graduate employment, digital skills development, and joint innovation pilots.
- Signature programs such as MasterTECH, Sports Innovation ProtoComp, and Digital Skills masterclasses building capability in AI, cybersecurity, and smart health systems.

1. OECD (2021)



Securing strategic, multi-year government investment in industry-driven innovation

Australian government investment in R&D has declined precipitously over the last decade, from 0.27% of GDP in 2008–09 to a critically low 0.16% in 2021–22.¹ Current funding models are fragmented, short-term and government rather than industry-driven. This approach makes it difficult to commit to confidently commit, mobilise private-sector investment, undertake strategic workforce planning and accelerate innovation projects that can deliver measurable economic growth.

Drawing insights from international models, notably Europe’s Horizon Program (formerly European Framework Programs), offers a clear pathway forward. These models effectively bridge the gap between academia and industry by directly funding collaborative

research without requiring cash transfers from industry to academia. This approach incentivises pre-competitive innovation and has resulted in significant economic outcomes, including ground breaking technologies such as 3G/4G/5G networks and Airbus.

The recent AUKUS agreement powerfully demonstrates how clear, long-term government-backed strategic commitments can unlock substantial international technology-sharing opportunities and trigger significant private sector investment cascades. This strategic approach positions government as an innovation catalyst rather than merely a funding source. Australia urgently requires similar bold, strategic domestic commitments to foster vibrant local innovation ecosystems capable of competing globally. Without immediate, decisive action to establish stable, long-term innovation funding frameworks, Australia risks permanent structural disadvantage in the global knowledge economy.

1. OECD (2020)



Women in IT, Cisco Live, November 2024



3 The NIIN's role in capturing more value for Australia

What is the NIIN?

The National Industry Innovation Network (NIIN) is a collective of industry and university partners committed to advancing the use of digital technology. The NIIN was founded by global technology leader Cisco in 2020 in direct response to many of the challenges Australia faces in terms of realising the economic potential of digital technologies and improving collaboration between business and universities.

The NIIN de-risks the adoption of digital technologies in Australia by:

- Transferring international best practice and insights into the Australian context.
- Creating test-bed environments linked to global R&D activity, enabling Australian industries to safely trial, validate, and refine new technologies in practical, real-world conditions before broader implementation.

- Building targeted skills and capability initiatives to ensure Australia has the necessary talent pool to effectively utilise and scale digital innovations, addressing current workforce gaps and preparing for future job demands.

Since 2020, the NIIN has grown to become Australia's largest industry-university innovation network, now comprising Innovation Centrals, University Research Chairs, Specialist Centres, dedicated Alliances in Health and in Cybersecurity, targeted skills and talent initiatives, and a program engaging former Cisco engineers and business leaders in academia.

The NIIN is a unique model that brings out the best of our universities' capability to solve industry problems.



The NIIN operates at the intersection of research, industry innovation, and commercialisation. Unlike traditional Research and Development (R&D) models – often confined to theoretical knowledge generation – the NIIN model prioritises Innovation and Development (I&D), focusing explicitly on translating ideas into practical, commercially viable industry applications. The model’s distinctive approach ensures a strong alignment between university expertise and industry-driven challenges.

The NIIN model is:

1. Focused on industry need

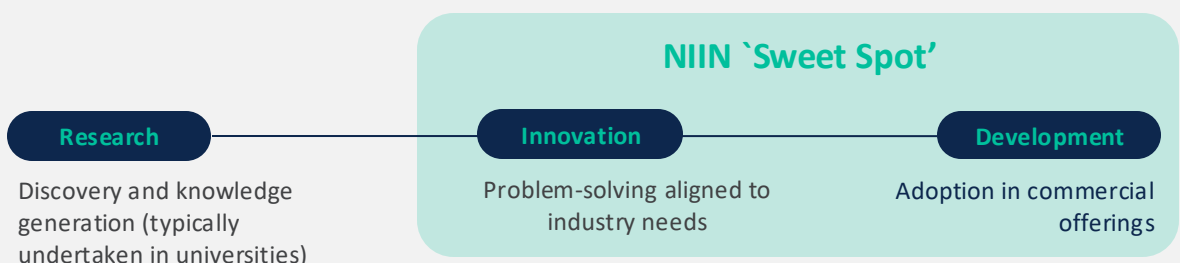
The NIIN aligns research closely to industry-defined priorities, shifting from traditional academic discovery to practical, commercially viable innovation through:

- **Matched funding.** Industry and universities co-invest, ensuring research addresses genuine market needs.
- **Translators.** Alliance Managers and Cisco alumni actively facilitate collaboration and perform a translation function.
- **Dedicated infrastructure.** Innovation Centrals and specialised research centres provide state-of-the-art facilities for businesses to prototype and commercialise technologies.

Unique to the NIIN is its:

- **Industry orientation.** NIIN universities and industry partners collaborate to identify, de-risk, and solve industry and national challenges.
- **Digital-intensity.** NIIN accelerates early adoption of digital technologies such as cybersecurity, secure networking, AI, IoT, and quantum, providing universities with an early-adopter advantage.
- **Focus on skills and talent.** NIIN builds digital skills to address workforce shortages and productivity challenges, notably in sectors like healthcare.
- **Global connections.** Partnerships with global technology leaders like Cisco give NIIN visibility into global innovation critical for Australian competitiveness in areas like Mining, Defence, Health, and Renewables.
- **Low barriers to entry.** NIIN effectively engages SMEs and companies traditionally challenged by cost or complexity when collaborating with universities.

Research & Development Continuum



2. Anchored in real world practice

The NIIN ensures activities translate directly into tangible industry outcomes, emphasising commercially relevant prototypes, proofs-of-concept, and market-ready solutions rather than solely academic outputs. Complementing these practical outcomes, the NIIN embeds a deliberate focus on developing the digital skills essential to support sustained technology adoption across Australian industries. This includes targeted initiatives that enhance:

- Specialist digital and technical skills
- Vocational "blue tech" skills supporting technology-intensive industries
- Broad-based digital literacy essential to workforce adaptability
- Industry-aligned credentials / short courses that respond to emerging skill needs

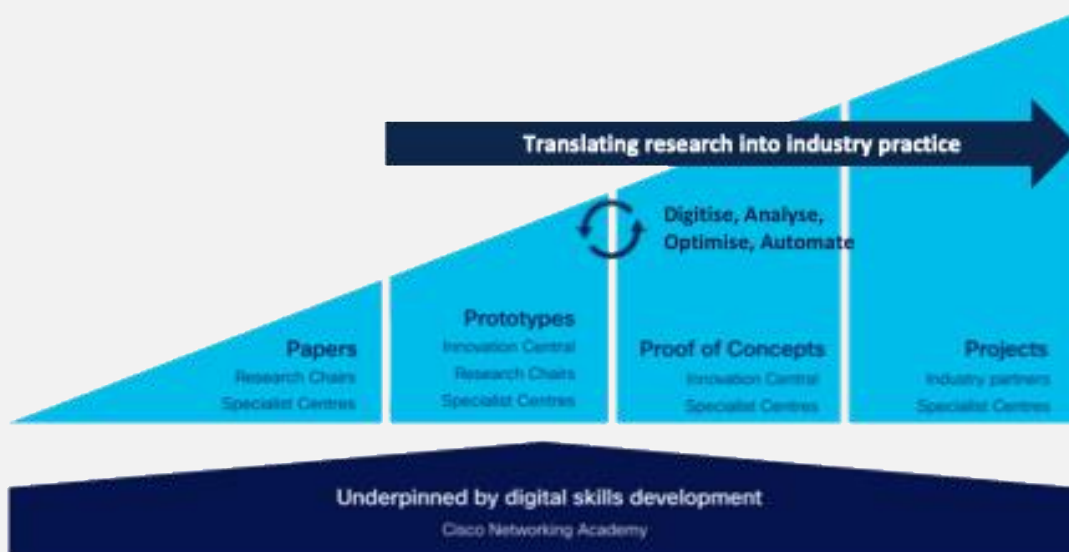
3. Centred around nationally significant challenges

The NIIN aligns innovation activities with clearly defined national priorities like the Modern Manufacturing Initiative and 'A Future

Made in Australia', ensuring targeted impact on Australia's sovereign capability, economic security, and competitiveness. Core areas include:

- **Digital resilience and cybersecurity.** Enhancing national security, aligning with priorities.
- **Critical infrastructure and technological sovereignty.** Building domestic capabilities in semiconductors and quantum.
- **Skills and workforce readiness.** Addressing skill shortages by aligning to government training investments.
- **Digital health innovation.** Accelerating healthcare technology innovation to improve national health outcomes.

By co-designing solutions with university and industry partners, the NIIN rapidly addresses urgent national challenges, supporting Australia's net-zero transition, manufacturing capabilities, and sustainable job creation.



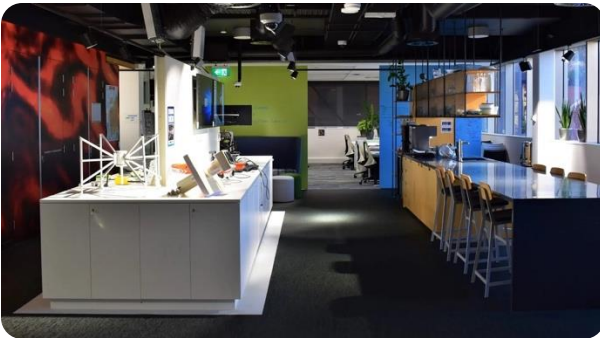


Innovation Central

An Australia-wide network of Innovation Central facilities co-located on university campuses that focus on creating new models for universities and industry to collaborate on digital innovation at scale.

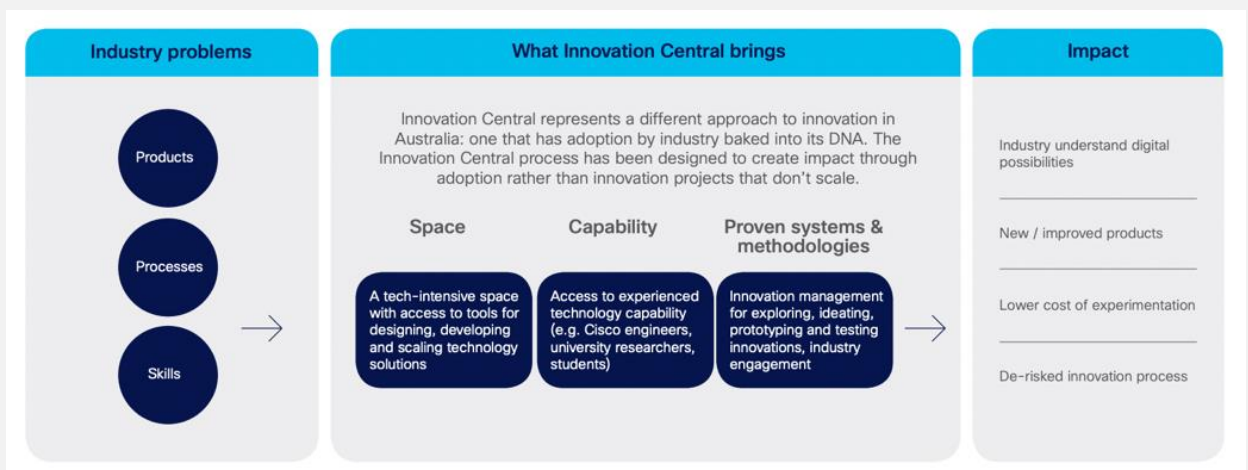
Industry get to build prototypes and solutions, not just hear about what's possible, using a bank of talented staff, students and industry collaborators. Innovation Centrals are staffed by Alliance Managers that ensure dedicated project management and coordination.

Innovation Centrals have been established in Perth, Adelaide, Melbourne, Canberra, Sydney and Brisbane.



Key features of Innovation Central include:

- **Talent ecosystem:** Teams of innovation specialists, researchers, industry experts, and students delivering agile projects.
- **End-to-end methodology:** Structured innovation processes from ideation to rapid prototyping and testing, reducing risk and accelerating outcomes.
- **Specialised infrastructure:** State-of-the-art facilities including IoT testbeds, digital fabrication labs, and advanced technology environments.
- **Collaborative spaces:** Flexible spaces that encourage interaction between industry, academia, and government.
- **Capability building:** Hands-on programs developing skills in cybersecurity, AI, digital health, and process automation.
- **Rapid outcomes:** Practical, short-term solutions creating immediate business value.

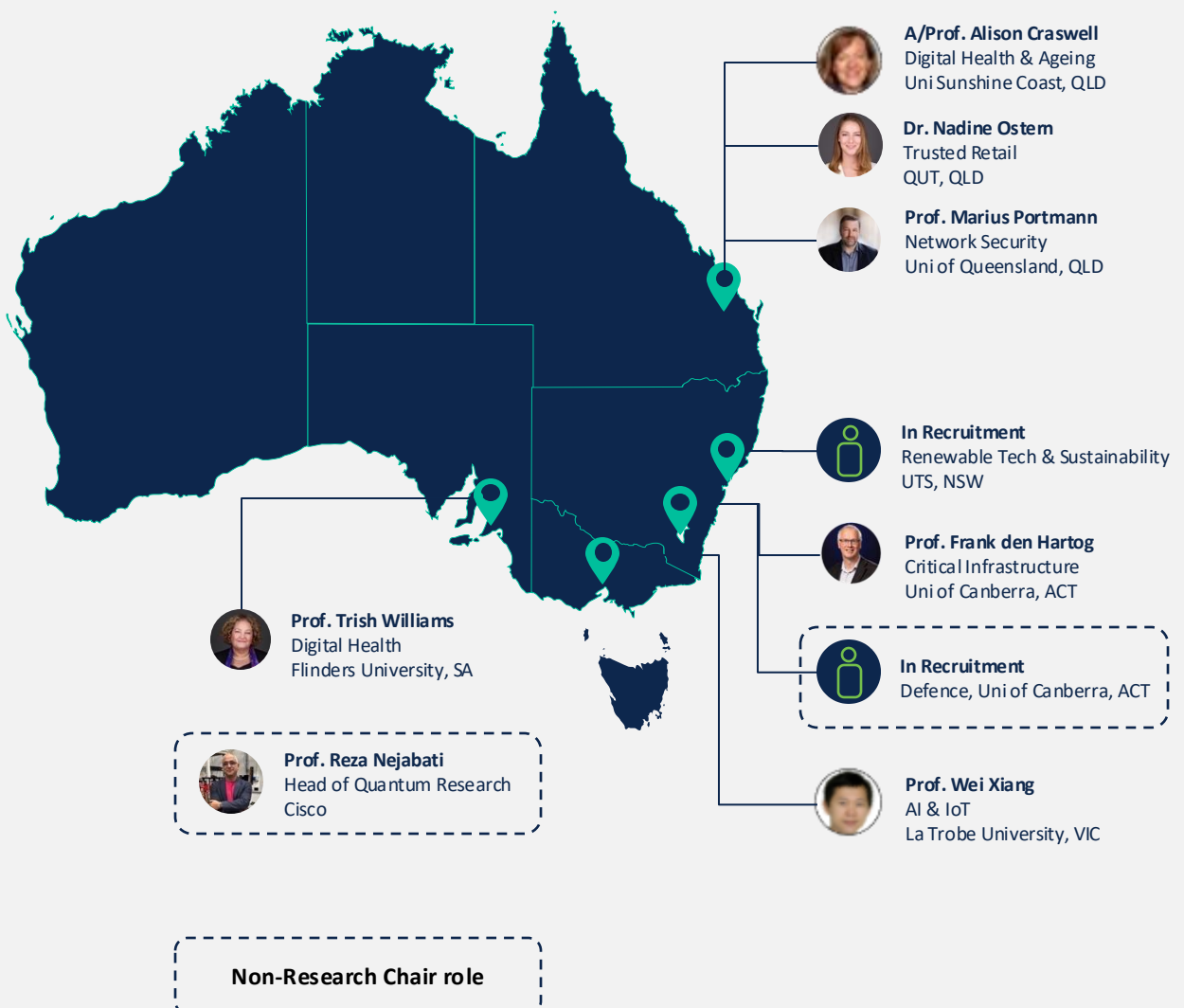




University Research Chairs

A program connecting industry needs directly with university research expertise to rapidly translate innovations into practical applications. The University Research Chairs, supported by early access to next-generation technologies and deep industry engagement,

lead high-impact projects in areas of national significance. The model ensures research is closely aligned with real-world industry challenges, accelerating digital transformation and delivering tangible economic and societal benefits.





Specialised Centres

Specialised Centres at partner universities drive targeted innovation in specific technologies or industry applications. They combine academic expertise with practical, real-world solutions, addressing critical industry and societal challenges.

Through close industry-academia collaboration, Specialised Centres rapidly develop and test innovations, positioning Australia at the forefront of technological and industrial advancement.

Technology-focused centres



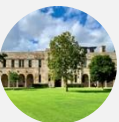
Cisco-La Trobe Centre for AI and IoT

A first-of-its kind research centre in Australia focused on exploiting the synergy between state-of-the-art AI and IoT technologies through partnering with industry and end-user communities.



UQ Centre for Future Networks

A new specialised research centre focused on advancing secure, resilient, and trusted networks to meet future industry and societal demands. The centre collaborates closely with industry to develop innovative network solutions that address emerging digital challenges and enable transformative connectivity.



Industry-focused centres



Cisco-Flinders Digital Health Research Centre

A multidisciplinary research centre focused on developing and deploying computational solutions which provide benefits to the management of health in numerous social and clinical settings, including home and workplace.



RMIT Health Transformation Lab

An innovation lab that brings together design, systems thinking, technology and communication process transformation to reshape healthcare. The lab is headed by Professor Vishal Kishore who was a former Deputy Secretary of the Victorian Department of Health.



UniSC Health Productivity Lab

An innovation-focused research lab dedicated to digital health solutions in aged care and patient experience. The lab combines health research with cutting-edge technology to enhance efficiency, improve patient outcomes, and create practical, industry-aligned innovations.



Cyber & Health Alliances

The NIIN is accelerating progress in health and cyber security domains, priority areas for Australia. Leveraging extensive resources and expertise, including specialised technology centers, research, and partnerships, it's

formed two alliances - NIIN Health and NIIN Cyber. These alliances utilise the NIIN's collective capability, promoting idea exchange and enhancing network connectivity.



NIIN Health Alliance

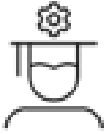
An Australia-wide, industry-led partnership driving digital innovation in healthcare at scale. It provides practical, scalable solutions by connecting health providers, researchers, universities, and industry partners to collaboratively solve national health challenges. The Alliance supports the rapid translation of health research into tangible improvements in patient care, workforce productivity, and health system efficiency.



NIIN Cyber Alliance

A national collaboration focused on enhancing Australia's cybersecurity posture through joint industry and university partnerships. The Cyber Alliance enables collective responses to Australia's most pressing cyber security challenges by pooling industry expertise, threat intelligence capabilities, and cutting-edge cyber infrastructure.

The Alliance is operated by the Australian Centre for Cyber Collaboration (Aus3C) in Adelaide and connects global and local industry partners to universities with cyber-focused research and training.



Skills & Talent Development

The NIIN's Skills & Talent Development initiatives include dedicated training hubs that complement the existing network of over 100 Cisco Networking Academy sites operating across Australia and New Zealand. These hubs provide targeted digital skills training aligned with industry demand, covering areas such as cybersecurity, networking, IoT, programming, and infrastructure automation.

Through hands-on projects, events, and real-world industry experiences, students gain practical skills and valuable insights, building a robust talent pipeline to address Australia's critical skills gaps.



Case study: University of Canberra

Cisco and UC have partnered to help address the national cybersecurity skills shortage. The partnership is comprehensive; bringing together Innovation Central Canberra, the Cisco-UC Research Chair in Critical Infrastructure, and an expanded Cisco Networking Academy offering that includes topics such as cyber threat management, network defence, endpoint security, and cloud security.

Innovation Central Canberra (based at UC) has also partnered with education providers and startups to deliver age-appropriate technical skills development with pathways to Cisco Networking Academy. Students at regional primary and secondary schools and Snowy Monaro Country Universities Centre are participating in interactive workshops while professionals are enrolled in industry relevant and university support short courses in AI and cyber security. Innovations around Virtual reality and cyber security have been developed and integrated within school curriculum throughout 2024, with over 200 participants involved in programs delivered through ICC

"The University of Canberra is working with Cisco and other education partners to tackle some of the nation's most pressing challenges related to cybersecurity, and digital adoption more broadly."

- Professor Janine Deakin, Executive Dean, Faculty of Science and Technology UC



NIIN Industry Alumni Program

One of the most significant barriers to innovation in Australia is the lack of translational capability – individuals who can connect academic research with industry needs. The NIIN Industry Alumni Program directly addresses this gap by embedding experienced former industry engineers / business leaders in universities to be translators, mentors and advisors.

Example NIIN Industry Alumni



Andrew McLean

Experience: 36 years of IT experience (incl HP, IBM, Nearmap and most recently ANZ Country Manager and Managing Director for Intel)

Currently engaged at: UTS

Specialist skills: Microprocessor industry ecosystems, compute infrastructure (client, data centre, cloud, HPC, AI), SaaS, organisational leadership, general management, and corporate governance.

Alumni typically work one to two days per week inside NIIN partner universities, contributing deep technical knowledge, commercial insight, and global industry networks. Their role is to help shape research with a clearer line of sight to industry application, mentor staff and students, and **accelerate collaboration and commercialisation**.

The program is already delivering tangible outcomes across several partner universities. Alumni are:

- Helping universities stand up new projects, navigate industry partnerships, and fast-track the design of industry-oriented learning programs.
- Advising on digital transformation and innovation in areas such as cybersecurity, mining and energy, and digital health
- Acting as a bridge between research programs and industry application including helping secure government funding for joint industry-university initiatives

Since its launch in 2020, the NIIN has delivered:

350+



Industry
Projects

\$550M



Attracted in Funding
(government & co-investment,
including Trailblazer)

190+



Industry
Events

1,500+



Client Engagements

150+



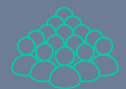
Collaborative
Workshops

200+



Collaborators

3,000+



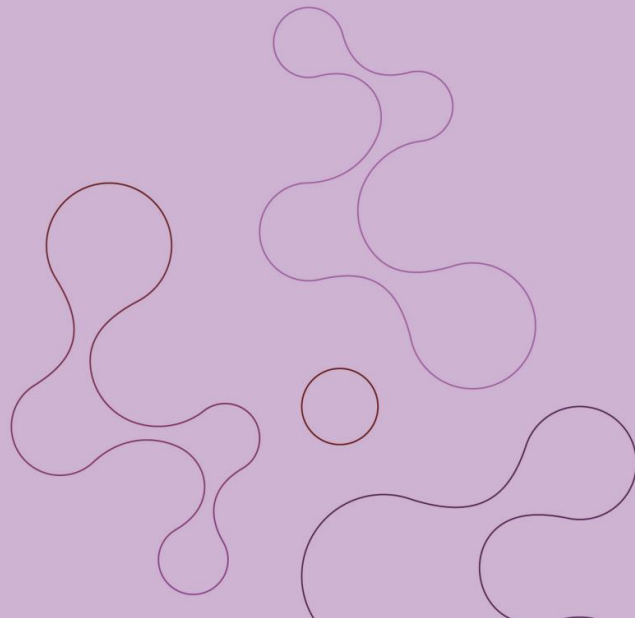
Engaged
Students



Strategic Examination of R&D discussion paper

12 February 2025

| industry.gov.au/StrategicR&D



4 Perspectives on questions from the Australian Government discussion paper

Question 1

What should an integrated, sustainable, dynamic and impactful Australia R&D system look like?

NIIN's perspectives on what's needed in Australia

Australia stands at a critical inflection point. To build a truly integrated, sustainable, dynamic, and impactful national R&D system, we must undertake bold, transformative reform that fundamentally reimagines our approach to innovation. This requires shifting beyond conventional research paradigms to embrace a comprehensive Innovation & Development (I&D) framework that strategically balances foundational research with purposeful translation and commercialisation, explicitly aligned with industry needs and national strategic imperatives. Critical reforms include:

- Broader Innovation & Development (I&D) model:** Expand Australia's approach beyond traditional R&D, placing stronger emphasis on translating research into commercially viable, industry-relevant outcomes. While fundamental research remains critical, greater incentives for practical translation and implementation are essential for real economic impact.
- Government as active adopter and lead user:** Government should not only fund innovation but actively adopt emerging technologies in its own operations. This not only demonstrates leadership but also de-risks private-sector investment and accelerates market adoption. This is particularly critical in areas such as healthcare where genuine proof of concepts are difficult to deploy into production environments.
- Frictionless mechanisms for collaboration:** Establish well-defined, accessible platforms that incentivise and sustain collaboration between universities, industry, and government, explicitly designed to rapidly prototype, test, validate, and scale commercially relevant innovations.
- Prioritisation of deep-tech commercialisation:** Foster investment in deep-tech innovations (e.g., quantum computing, AI-driven agriculture, renewable energy, space technologies), which typically require patient capital and targeted support mechanisms. Move beyond conventional commercialisation methods, replacing them with genuine market-oriented approaches driven by experienced industry leaders and entrepreneurs.
- Strategic prioritisation of digital technologies:** Explicitly prioritise adoption of digital innovations across key national sectors including cybersecurity, quantum technology, digital health and MedTech, critical infrastructure, and advanced manufacturing – areas critical for productivity and global competitiveness.
- Global and regional integration for knowledge spill overs:** Enhance strategic international partnerships and actively engage with global innovation ecosystems. Leverage international expertise, diaspora networks, and strategic alliances to position Australia as an innovation leader, not just a follower.

Role NIIN currently plays addressing these issues

The NIIN currently bridges the gap between research excellence and practical industry adoption. Using targeted, industry-designed programs, infrastructure, and partnerships, the NIIN accelerates and de-risks the adoption of digital for industry and government. It has:

- **A focus on industry-driven collaboration (not just industry participation):** Established from deep industry partnerships, the NIIN provides structured platforms for collaboration.
- **Practical mechanisms that allow industry to work on innovations at different scale / time horizons:** The NIIN operates specialised facilities such as Innovation Centrals which support rapid prototyping, testing, and commercialisation of new digital solutions. The national footprint allows for geographic and industry sector diversity to be accommodated.
- **Dissemination of digital across critical sectors:** The NIIN delivers targeted innovation programs through specialist centres in nationally significant areas including cybersecurity, digital health, critical infrastructure, and advanced manufacturing.
- **International engagement and knowledge spill over:** The NIIN facilitates international knowledge exchange and strategic partnerships through activities such as leading delegations to global innovation forums (e.g., Singapore Health Summit) and study tours, enhancing Australia's visibility and influence in international innovation networks.

Case Study: Supporting government as a lead adopter – Virtual ED in Health

Through Innovation Central Melbourne, the NIIN piloted the Victorian Virtual Emergency Department, integrating augmented reality and AI analytics to enable remote patient assessment and real-time triage. The system provides virtual care at home, aged care facilities, and roadside emergencies, significantly reducing unnecessary hospital visits and speeding up clinical decisions. Initially adopted by Northern Health, VIC Virtual ED now serves Victoria's population of over 9 million, highlighting NIIN's role in accelerating government adoption of transformative digital health solutions.

Future role for the NIIN

With targeted investment, the NIIN can scale and extend its role in delivering practical, industry-aligned innovation at national scale. Specifically, the NIIN could:

- **Expand Innovation Centrals into new strategic domains** such as quantum networking, secure networking, and advanced digital infrastructure – building on Cisco's global leadership and Australia's national priorities.
- **Accelerate government adoption of emerging technologies** by formalising the NIIN as a delivery partner for real-world pilots, building on examples like the Virtual Emergency Department.
- **Scale targeted translational programs** by growing the Research Chair and Specialist Centre models into additional sectors such as renewable energy and semiconductors.
- **Deploy additional Innovation & Development capacity in critical technologies**, including AI, cyber, and digital health, to meet urgent demand from industry for practical, low-barrier adoption pathways.

Question 4

What types of funding sources, models and/or infrastructure are currently missing or should be expanded for Australian R&D?

NIIN's perspectives on what's needed in Australia

Australia's current R&D funding mechanisms and innovation infrastructure require fundamental restructuring to compete effectively in the global innovation landscape. Our existing approaches—characterised by fragmentation, excessive administrative burden, and limited scalability—actively inhibit meaningful industry engagement and constrain innovation impact. Critical reforms should focus on:

- **Accessible innovation infrastructure:** Develop nationally coordinated, easily accessible infrastructure specifically targeting critical technology areas (e.g., quantum, semiconductors, advanced manufacturing), including dedicated testbeds, demonstrator facilities, and rapid prototyping centres. These facilities reduce barriers for industry adoption and enable rapid validation and scaling of innovations.
- **Next generation funding models:** Shift from fragmented, short-term grants towards predictable, multi-year investment frameworks that explicitly support industry-academic collaboration and shared financial risk. Adopt low-bureaucracy, agile funding mechanisms inspired by successful international examples (e.g., Europe's Horizon model) that fund both industry and university partners directly, removing cash-transfer burdens on industry.

- **Design of seamless scaling pathways:** Establish structured 'scaffolding' funding that allows proven early-stage innovations to transition smoothly into larger investment rounds without repeatedly redesigning or reapplying. Such models create continuity, reducing transaction costs and accelerating innovation.
- **Different types of incentives for SMEs and multinational corporations to collaborate:** Introduce explicit incentives to encourage SMEs and multinationals to participate more actively in applied R&D, recognising their distinct needs. Effective incentives include direct R&D credits, matched government-industry funding, and enhanced tax mechanisms clearly linked to real-world commercial outcomes.

Role NIIN currently plays addressing these issues

NIIN is already demonstrating effective alternative funding and infrastructure approaches, significantly enhancing innovation adoption through practical initiatives, collaborative incentives, and strategic co-investment. This includes:

- **Matched funding:** NIIN uses matched-funding models to encourage practical collaboration between industry, government, and universities. For instance, NIIN secured \$900k through the Victorian Government Skills Solutions Partnerships (SSP) initiative for a joint project with Grampians Health, Cisco, and RMIT. This initiative is upskilling healthcare workers in critical digital health areas like cybersecurity, IT networking, and artificial intelligence, addressing urgent skills gaps and enhancing innovation across the healthcare sector.
- **Practical innovation infrastructure:** The NIIN has developed and continues expanding a national network of Innovation Centrals and specialised centres, offering low-barrier entry points for industry partners to prototype, test, validate, and scale new digital technologies.

- **Leveraging strategic investments for greater impact:** The NIIN investments have directly enabled partners to attract substantial additional funding from industry and government sources. For instance, La Trobe University's Digital Innovation Hub secured \$9 million, enhancing the national infrastructure for innovation.

Case Study: Establishing Quantum Networking Capabilities – Quantum Lab at UQ's Centre for Future Network

The NIIN is advancing Australia's position in quantum networking with the aim to embed a dedicated Quantum Lab at the University of Queensland's Centre for Future Network. Leveraging Cisco Quantum Research's expertise—currently demonstrated through advanced quantum networking labs in Santa Monica and San Jose—the new UQ facility will develop technology and use cases for future networking. The lab will pursue a collaboration to support Cisco's Quantum Network Digital Twin initiative, which creates digital replicas of quantum networks to simulate, test, and refine quantum technologies in a virtual environment. This accelerates real-world implementation and significantly strengthens Australia's quantum innovation capabilities and global leadership.

Future potential NIIN role

NIIN can play a central role in delivering the types of infrastructure and funding models Australia currently lacks. Specifically, with further investment, the NIIN could:

- **Expand its matched funding model** to support a broader range of SMEs and deep-tech collaborations that currently fall outside traditional grant cycles.
- **Develop and scale testbed infrastructure** in nationally significant areas like private 5G/6G, quantum-secured networks, and secure digital health systems – providing industry with environments to de-risk adoption.
- **Strengthen the NIIN's role as a vehicle for strategic co-investment**, enabling partners to attract additional domestic and international capital (e.g. replicating the La Trobe Digital Innovation Hub model).
- **Support staged innovation funding** by piloting new scaffolding-style mechanisms that help projects transition from prototyping to national deployment without repeated funding redesign.

Case Study: Private 5G/6G Lab at Innovation Central Canberra

The NIIN is addressing Australia's limited industry understanding and uptake of Private 5G/6G (P5G) technologies by establishing a dedicated Private 5G/6G Lab at Innovation Central Canberra. This infrastructure provides industry partners, initially for critical transportation infrastructure, with an accessible, real-world environment to validate P5G capabilities such as interference-free spectrum, ultra-low latency, and high-capacity data transfer. By showcasing these use-cases, the lab significantly lowers barriers to industry adoption, accelerating practical deployment of advanced digital technologies critical for Australia's economic competitiveness and innovation capability.

Question 5

What changes are needed to enhance the role of research institutions and businesses in Australia's R&D system?

NIIN's perspectives on what's needed in Australia

Australia's research institutions and businesses represent our greatest innovation assets, yet structural barriers significantly constrain their collaborative potential. Changes are required to enhance the role of universities and businesses within Australia's R&D system. This includes new incentives, engagement frameworks and innovation champions. Specifically, Australia requires:

- **Comprehensive academic incentive reform:** Expand academic incentive frameworks beyond traditional publication metrics to explicitly reward industry-engaged innovation outcomes. While maintaining competitiveness in fundamental research, universities must also value practical impacts such as patents, spinouts, contributions to international standards, and industry-driven solutions.
- **Frictionless industry-university engagement frameworks:** Provide clearer, lower-risk engagement frameworks for businesses, enabling simpler pathways to utilise university innovation infrastructure. Clearly defined, flexible collaboration models (including prototype and proof-of-concept projects) can reduce barriers, friction, and transactional costs for industry partners.

- **A sophisticated venture capital ecosystem:** Address the gap in Australian venture capital markets beyond early-stage funding. Create incentives for sustained, larger-scale private capital investment (Series B and beyond), potentially through tax incentives, co-investment and strategic engagement with superannuation funds.
- **Industry-academic talent exchange pathways:** Establish attractive pathways for senior industry professionals to transition into academic or public-service roles, enriching research environments and government policy development with valuable real-world industry expertise. In successful international models, notably within the US and European contexts, industry professionals frequently hold visible, influential roles within universities. This visibility fosters a culture of practical collaboration, ensuring research programs remain closely aligned with industry challenges and opportunities.

How the NIIN currently addresses these issues

NIIN actively supports enhanced industry-research engagement through structured programs, accessible infrastructure, and strategic talent development. Key NIIN initiatives include:

- **National Footprint of Innovation Centrals:** The NIIN's network of Innovation Centrals provides structured, low-barrier entry points for businesses, especially SMEs, to access innovation infrastructure and collaborative expertise, significantly simplifying industry engagement.

- **Research Chair Program:** The NIIN's Research Chairs deliver projects closely aligned with industry priorities, incentivising academics to balance theoretical research with practical industry outcomes. This dual-role structure reinforces academia's connection to real-world market challenges.
- **NIIN Alumni Program:** The NIIN Alumni Program is an innovative, high-impact model that embeds experienced former Cisco engineers and business leaders into university environments to act as trusted intermediaries between academia and industry. These alumni bring deep commercial expertise, global insights, and real-world delivery experience into research ecosystems – a capability often missing in traditional R&D structures. The program systematically bridges the translation gap, ensuring that industry priorities are embedded in research projects from the outset. With additional investment, the NIIN Alumni Program could be rapidly scaled across more universities and extended into other sectors, creating a national network of embedded innovation translators capable of accelerating commercialisation and workforce development at scale.

Case Study: Digital Innovation Hub (DIH) at La Trobe University

La Trobe University, supported by the NIIN, successfully secured \$9 million of government funding to establish the Digital Innovation Hub (DIH), a purpose-built facility designed to drive practical industry-university collaboration. Home to Innovation Central Melbourne (ICM) and the Cisco Centre for AI and IoT, the DIH facilitates direct industry engagement through structured innovation projects involving students and researchers.

Over 100 students have already participated in industry-led initiatives across various sectors, including developing drone technologies for precision agriculture, creating artificial intelligence solutions for healthcare companies like Medibank, and prototyping digital solutions in collaboration with major retail businesses such as Coles.

This facility exemplifies how NIIN lowers barriers for industry partners and research institutions to collaborate effectively, delivering tangible commercial and educational outcomes.

Future role of the NIIN

The NIIN can strengthen the role of both universities and businesses in the national R&D system by scaling successful engagement models that have already delivered impact. With further support, the NIIN could:

- Expand the NIIN Industry Alumni Program, placing more experienced professionals into universities to drive industry engagement and translation, especially in deep-tech fields.
- Grow the footprint of Innovation Centrals, making it easier for SMEs to access innovation infrastructure and engage in short-cycle collaborative projects.
- Broaden the Research Chair model, enabling additional universities to establish roles focused on high-impact, industry-aligned problem solving.

Question 7

What should we do to attract, develop and retain an R&D workforce suitable for Australia's future needs?

NIIN's perspectives on what's needed in Australia

Australia's future prosperity depends critically on our capacity to develop, attract and retain world-class R&D talent. While targeted international recruitment provides necessary short-term capability, Australia must prioritise comprehensive domestic talent development with industry-aligned education pathways and compelling career trajectories. Key focus areas include:

- **Developing domestic talent:** Sustain long-term investment in building domestic talent across emerging technology sectors essential to national competitiveness (e.g. cybersecurity, AI, digital health, quantum technology, advanced manufacturing). Particular focus is needed on developing the translational talent that links research with real-world application – professionals with the capability to operate across both academic and industry contexts and drive commercialisation, partnerships, and innovation delivery. This category of workforce – often overlooked – is in critically short supply and essential to Australia's ability to scale practical innovation outcomes.

- **Practical, industry-aligned education:** Embed structured industry exposure and hands-on learning at all education stages – from high school and undergraduate to early-career research – ensuring practical, market-ready skills are central to workforce training programs.
- **Incentives for senior industry experts to transition to academia or policy roles:** Create attractive, clearly defined roles that encourage experienced industry professionals to move into academia or public service, enhancing the teaching and policy-making environment with direct industry expertise.
- **Industry-supported post-doctoral opportunities:** Develop jointly funded, government-industry postdoctoral programs, allowing early-career researchers to gain meaningful industry experience while contributing directly to real-world innovation projects.

How the NIIN currently contributes

The NIIN is currently addressing these workforce challenges through targeted skills training, industry-aligned projects, and structured education-industry collaboration:

- **Innovation Centrals and Research Chair projects:** The NIIN annually engages hundreds of students in applied, industry-led innovation projects, directly developing practical, market-ready skills and enhancing students' industry experience and employability.

- **Cisco Networking Academy (NetAcad) and Skills Training Hubs:** The NIIN's extensive training network (including 100+ training hubs delivering NetAcad curriculum) delivers practical, industry-recognised skills training in emerging technologies, directly addressing critical workforce skill gaps.
- **Hackathons:** The NIIN-supported initiatives such as Innovation Central Brisbane's ProtoComp demonstrate effective pathways for developing Australia's future innovation workforce.

Case Study: Coles Hackathon

The MasterTech Challenge was a five-day hackathon-style event sponsored by the ColesGroup and facilitated by Innovation Central Melbourne at La Trobe. It was supported by Flinders University, QUT, University of Canberra and Curtin University. The challenge was structured with teams competing to create the best solution to a real-world problem presented by Coles. Participants had access to tech and experts to solve the following problem statement:

What does the sustainable store of the future look like?

Teams of students came up with potential solutions to this problem statement including working prototypes. Students came from different disciplinary backgrounds and had industry mentors able to clarify the problem and provide guidance on some of the practical complexities particularly when solving for an organisation the scale of ColesGroup.

"There's just so much application for that type of technology... for our suppliers. Knowing how customers are actually interacting with their products on the shelves (testing how it performs) at the promotional end of the aisle would be incredibly interesting for us as a business and also for our suppliers. I found that that that sparked a lot of ideas in me.

-Roslyn McKay, Head of Innovation, ColesGroup

Future potential NIIN role

The NIIN can play a much greater role in building a future-ready innovation workforce by scaling programs that connect education, research and industry. With additional support, NIIN could:

- **Expand its student engagement model** to more universities and sectors, replicating initiatives like ProtoComp to build early-stage applied innovation skills.
- **Broaden the Cisco Networking Academy and Skills Hub model**, ensuring more students receive accredited, industry-aligned training across digital and emerging tech roles.
- **Grow the number of Research Chair and alumni-led projects** involving students, embedding hands-on industry experience within education at scale.
- **Systematically place senior industry professionals into academic institutions**, using the NIIN Alumni Program as a tested model for scalable workforce development that helps retain industry-oriented knowledge and talent in academia and provide opportunities to support the transition of PhD students into industry roles through dedicated mentoring.

Case Study: Developing future innovation workforce – ProtoComp at Innovation Central Brisbane

Innovation Central Brisbane's ProtoComp program, with Queensland Government seed funding, has engaged over 250 students in creating digital prototypes related to national sustainability, future food, and supply chain challenges. Structured into ideation, prototyping, and showcasing phases, ProtoComp provides students hands-on industry exposure, digital innovation skills, and pathways to future employment. Now scaled with industry co-investment, ProtoComp exemplifies NIIN's focus on developing a skilled, innovation-ready R&D workforce aligned to Australia's future needs.

Question 10

What should be measured to assess the value and impact of R&D investments?

NIIN's perspectives on what's needed in Australia

Australia's current R&D measurement frameworks remain excessively focused on traditional academic outputs, critically undermining our capacity to accurately assess real-world impact and return on investment. While publications and citations serve as useful indicators of knowledge creation, they fundamentally fail to capture genuine economic, societal, and innovation outcomes. Essential measurement priorities include:

- **Comprehensive economic and industry impact metrics:** Explicitly measure evidence of technology adoption, industry transformation, economic impact, job creation, scalability, and policy influence – not merely research outputs.
- **Balanced risk and innovation measures:** Measurement frameworks should acknowledge and reward high-risk, potentially transformative innovation efforts, not just proven successes. This ensures Australia remains globally competitive by encouraging bold, ground-breaking R&D rather than just incremental improvements.
- **Standardised cross-sector impact frameworks:** Develop universally accepted standards of impact measurement, aligning industry, academia, and government to demonstrate clear outcomes and justify continued co-investment.

- **Recognition of indirect and spillover innovation effects:** Recognise that innovation can have significant indirect impacts beyond immediate commercial success – such as improvements in workplace safety, well-being, job satisfaction, societal benefit, and organisational culture.

Role NIIN currently plays addressing these issues

NIIN is already demonstrating impact-driven measurement practices focused explicitly on tangible industry outcomes and real-world innovation impacts. Current and planned measurement activities include:

- **Tracking technology adoption and implementation:** Evaluating the extent to which industry partners adopt, implement, and scale technologies developed through collaborative projects, reflecting direct commercial and economic impact.
- **Measuring economic outcomes and job creation:** Assessing the broader economic impact of initiatives, including tracking jobs created, sustained employment, and industry growth enabled through successful technology adoption.
- **Evaluating industry transformation and capability uplift:** Measuring how effectively initiatives enhance industry capability, such as improvements in productivity, competitiveness, and operational efficiency resulting directly from industry-university collaboration.

Future potential NIIN role

The NIIN is well-positioned to lead development of more comprehensive and outcomes-based impact frameworks. With additional support, the NIIN could:

- **Support government to establish national standards for measuring industry adoption**, drawing on its experience tracking technology deployment and commercial outcomes across hundreds of projects.
- **Co-design shared metrics for university-industry collaboration success**, focused on job creation, commercialisation, and skill development rather than just academic outputs.
- **Pilot performance frameworks for high-risk, deep-tech projects**, ensuring these are assessed on long-term value creation and ecosystem impact, not short-term outputs.





5 What's stopping the NIIN from scaling its impact?

The NIIN has demonstrated substantial impact in driving industry adoption of digital technology, yet several barriers currently limit its ability to fully realise its potential. To amplify NIIN's national impact, targeted actions are required in three key areas:



1. Scale: Expanding NIIN into strategically significant areas

While NIIN's existing capabilities – including Innovation Centrals, Research Chairs, and Specialist Centres – have successfully delivered practical industry outcomes, resources are currently insufficient to support expansion into new strategic areas aligned with Australia's national priorities.

Priority areas for expansion include:

- **Quantum Networks:** Australia can leverage Cisco's global leadership in secure networking (e.g. Cisco's leading R&D effort focused on the quantum connectivity - secured network). Expanding infrastructure and workforce capability in quantum networking positions Australia to become a global leader, attracting strategic investment from multinational companies keen to develop and trial quantum solutions here first.
- **Renewables (UTS chair focus):** Accelerating adoption of renewable technologies through targeted research collaborations and workforce development, with potential for partnerships between Cisco, industry leaders, and government to scale renewable infrastructure projects and workforce readiness initiatives nationally.

- **Semiconductor supply chain:** Australia has an opportunity to enhance its sovereign capability and international influence by strengthening its role within global semiconductor supply chains. Leveraging Cisco's international relationships and expertise in secure supply chains, NIIN can play a critical role in identifying strategic gaps and catalysing investment and partnerships required to establish Australia's strategic presence and sovereign capability in the semiconductor supply chain.
- **AI adoption:** Building workforce capability and accelerating industry readiness for AI adoption through targeted programs like Cisco's AI-Enabled ICT Workforce Consortium, which brings together global technology leaders such as Intel, Google, Microsoft, SAP, and Accenture. NIIN can replicate and scale this collaborative model nationally, driving industry adoption through direct multinational investment and leadership.
- **Digital Resilience and Cyber Security:** Enhancing Australia's digital resilience and cybersecurity capabilities through Cisco's global leadership, expertise and partnership experience. NIIN's established alliances in cybersecurity can attract multinational engagement, bringing best-practice models and advanced cybersecurity solutions directly into Australia's critical sectors.

Additional resources are critical to unlocking these high-impact, nationally significant initiatives, allowing NIIN to leverage existing expertise into new strategic fields.



2. Visibility and policy integration: Formal recognition of NIIN within national innovation frameworks

Despite proven outcomes in fostering industry adoption and collaboration, NIIN currently lacks formal recognition within Australia's national innovation strategies. This limited policy visibility means:

- NIIN initiatives are not routinely considered in broader national investment planning, limiting co-investment potential from government and industry.
- Opportunities for scale and systemic industry transformation remain under-exploited, with NIIN often viewed as complementary rather than integral to Australia's innovation agenda.

Formal policy integration would:

- Provide a platform for greater industry participation and co-investment.
- Embed NIIN capabilities in national innovation initiatives, ensuring alignment with Australia's long-term economic goals.



3. Sustained funding: long-term, strategic investment

NIIN currently operates via matched funding commitments from industry and universities and project-specific grants (e.g., Trailblazer). While this has successfully delivered immediate, impactful projects, the model is limited by:

- Short-term, project-based funding cycles that prevent NIIN from undertaking ambitious, longer-term initiatives.
- Funding uncertainty, reducing industry's ability to commit confidently to large-scale strategic partnerships and infrastructure investments.

The impacts of these limitations include:

- Reduced strategic investment by multinational corporations and major Australian businesses.
- Lost opportunities for sustained workforce development initiatives critical to technological resilience.

Transitioning to longer-term funding commitments would:

- Foster strategic industry investment and enhance certainty, enabling more ambitious, transformational projects.
- Support development of critical infrastructure and workforce capabilities necessary for sustained economic and industry growth.

Addressing the barriers of:

- 1) scale,
- 2) visibility, and
- 3) sustained funding

...will enhance NIIN's ability to de-risk industry adoption of digital technologies and deliver long-term economic impact for Australia.



6 How government can use the NIIN to drive impact

How government can support the NIIN

The NIIN is strongly positioned for government support, having built a sustainable and impactful model that is industry-driven and delivers measurable results. Its organic, industry-led structure and demonstrated track

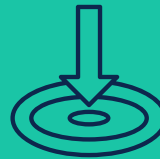
record provide a compelling case for strategic government investment to further amplify its benefits nationally.



A proven model built by industry

The NIIN was founded on industry-driven design. From the outset, NIIN recognised that impactful innovation requires:

- **Industry leadership:** Projects and initiatives must be driven and controlled by industry, ensuring market relevance.
- **University participation on industry terms:** Universities engage in genuine, practical collaboration, aligning their research closely with industry needs.
- **Government investment as supplementary:** Government support is viewed as an enhancement, not as foundational to the NIIN's business model, ensuring sustainability through genuine commercial engagement.



Demonstrated success and impact

Five years on, the NIIN has demonstrated significant outcomes, validating its model through measurable achievements, including:

- Over 300 innovation projects directly addressing industry-defined problems.
- Over 150 applied research projects creating practical, commercially viable solutions.
- Major skills and talent outcomes, with hundreds of students gaining direct industry experience and digital skills in critical sectors.
- Growth from 3 to 10 university partners, establishing NIIN as Australia's largest industry-driven collaborative innovation network.
- An estimated \$50 million in investment leveraged across five years through matched university-industry funding and in-kind contributions.
- A growing and diverse list of industry partners, validating industry commitment and confidence in the NIIN approach.

A tipping point and strategic choice

The NIIN model has reached a critical juncture. A recent independent review validated its impact and identified broader opportunities to scale national innovation. The two main strategic pathways for future impact include:

1 **Incremental organic growth (the status quo):** A slower, resource-constrained expansion that builds on existing partnerships and infrastructure without additional systemic support.

2 **Enable system-wide scaling through national investment (preferred):** This approach supports the creation of a dedicated fund to grow industry-led innovation networks across Australia. It would accelerate impact, enhance cross-sector collaboration, and embed innovation infrastructure aligned with national priorities.

RECOMMENDED

Pursuing option 2 offers a number of advantages but short-term funding remains a challenge. This is mainly due to the fact:

- Industry investors require clear signals of national support / government visibility to justify deeper engagement and co-investment.
- Institutional investors view early-stage investment as high-risk without seeing how it fits into the broader ecosystem.
- Public-private collaboration models like the NIIN create broad economic spillovers rather than necessarily creating direct and immediate impact for a single entity
- Universities have made substantial co-investments but don't necessarily have the resources needed to scale governance, infrastructure, and operational capacity in a sustainable way.

Government support needed

To unlock the full potential of industry-university collaboration and accelerate national innovation outcomes, we recommend the establishment of a dedicated fund to support the development and sustainability of industry-led innovation networks that actively engage universities.

Such a fund would provide a platform for models like the NIIN to scale in a transparent, competitive, and outcomes-focused manner. It would enable networks that demonstrate strong governance, measurable impact, and alignment with national priorities to access funding that supports:

✓ **Scaling industry-led innovation** by expanding proven models of collaboration between industry and universities, embedding robust governance, and exploring new operational approaches.

✓ **Targeted capital investment** to update, modernise, and maintain critical specialist infrastructure (e.g., Cyber Ranges and Innovation Centrals) on university campuses, ensuring alignment with industry needs.

✓ **Strategic support for new industry partnerships**, amplifying impact across priority sectors and accelerating the adoption of emerging technologies.

This targeted approach ensures funding is directed to initiatives that deliver broad-based economic and innovation benefits for Australia, without advantaging any single industry partner. It would help de-risk private investment, foster inclusive participation, and enhance Australia's sovereign innovation capability.

Capturing Australia's digital opportunity

The NIIN has proven its value as a transformative model, uniquely positioned to ensure Australian industry does not merely keep pace with global trends but leads at the forefront of digital innovation. As NIIN continues to scale, there is enormous potential to deepen its impact, driving meaningful collaborations between industry, universities, and government.

To realise this potential, we are seeking support to scale a series of nationally significant initiatives across high-priority technology domains already identified by government and industry. These initiatives will focus on practical application, commercial readiness, and workforce development in areas where Australia has a strategic interest but currently lacks enabling infrastructure and delivery capacity.

Government support would allow networks like NIIN to:

- Expand proven infrastructure models like Innovation Centrals and Research Chairs into emerging and underdeveloped sectors
- Scale successful programs such as the NIIN Alumni network to deepen translational capability
- Enable new testbed environments and application pilots in strategic technology areas
- Strengthen Australia's sovereign innovation capability and international competitiveness.
- Extend the model with Australian universities into the region to support the international presence and influence of our universities in the region.

Realising this potential requires sustained commitment and strategic investment. With clear government endorsement and targeted support, networks like NIIN will significantly amplify their reach and influence, transforming digital technology adoption across all major sectors of our economy. In doing so, they can play a critical role in preparing Australian industry and the broader community to confidently embrace the digital future.

The opportunity is compelling and achievable. Through deliberate, coordinated action we can make a substantial contribution to securing Australia's economic prosperity, resilience, and global competitiveness.