

Defence & National Security Research Strategy



Our strategic alignment

The Adelaide University Research Strategy connects the five Signature Research Themes (SRTs) strategies individually and collectively.

Adelaide University Research Strategy

The Adelaide University vision for research is to be Australia's premier for-purpose research university, delivering outstanding locally-embedded, globally relevant research having impact.

Creative & Cultural

Food, Agriculture & Wine

Defence & National Security

Sustainable Green Transition

Personal & Societal Health

Our research ambitions



Be recognised among the world's top 100 universities on an ongoing basis.



Be globally recognised as Australia's leading for-purpose research university.



Be the research partner of choice and Australia's most industry-engaged university.

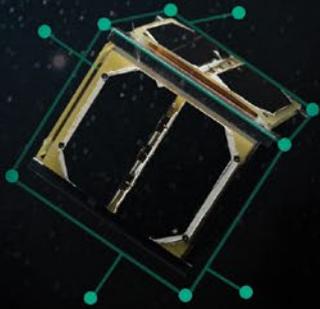


Be the destination of choice for the best global researchers, innovators, thinkers, and entrepreneurs in our priority areas.



Be Australia's most connected university, partnering with the communities we serve, and an engine for innovation, productivity and growth.





Defence & National Security Research Strategy

The Defence and National Strategy SRT will drive research of the highest global standard, anchored in excellence and focused on real-world applications. By concentrating investment, multidisciplinary talent and strategic alliances on key research pillars and priority sectors, the SRT will position Adelaide University for global recognition, catalyse leadership, define South Australia as an innovation hub, and deliver significant meaningful outcomes for society.

This approach is complemented by a genuine partnership with Aboriginal and Torres Strait Islander Peoples and knowledge systems, that is supported by a dedicated research strategy and embedded throughout the SRT strategy.

Our vision, purpose and goals

The Defence & National Security SRT has a vision, a purpose and goals to generate research outcomes and drive impact.

Vision

Adelaide University is Australia's leading university for defence and national security research, innovation and translation.

Purpose

Adelaide University anticipates the needs of defence and national security and responds through accelerating and translating ethical, multidisciplinary research into impactful outcomes in partnership with government, industry and other academic institutions.



Goals

- 1 Lead defence and national security research locally and globally**
Build on a strong foundation to grow as a top national institution and globally recognised leader in defence and national security research, shaping Australia's strategic interests.
- 2 Enhance the defence and national security innovation workforce**
Lead in the development and skilling of the next generation of defence and national security researchers, creating a pipeline of talent capable of addressing critical workforce shortages in the sector.
- 3 Deliver transformative innovations for Australia**
Accelerate the translation of research into real-world applications that address defence challenges and national security interests, ensuring ethical and responsible innovation.
- 4 Foster global collaborations and partnerships**
Strengthen and expand global partnerships to drive international collaboration on defence and national security research, bolstering South Australia as a leading hub for defence innovation.
- 5 Advance ethical and human-centred capabilities**
Establish ethical frameworks and human-centred design principles as the foundation for all defence and national security research, ensuring innovations uphold societal values and democratic resilience.
- 6 Create and connect world-leading research infrastructure**
Develop and sustain cutting-edge physical and digital research infrastructure, positioning Adelaide University as a hub for state-of-the-art defence and national security research facilities.

Our strengths and differentiators

The value proposition for the Defence & National Security SRT is built on the existing unique strengths of Adelaide University.





Extensive talent and security culture

Australia's largest cohort of security-cleared researchers, in addition to professional staff cohorts, with established domain leadership/capability in several core research fields (e.g. AI, autonomous systems, quantum, cyber, AI/ML, advanced manufacturing).

Our unrivalled scale and deep domain expertise enable us to win large-scale defence projects, deliver high-impact outcomes, and establish national thought leadership.



Leading facilities and institutes

Leading purpose-built infrastructure and secure research environments underpin a globally recognised ecosystem of institutes and centres that harness the breadth and depth of interdisciplinary research excellence.

Our cross-disciplinary expertise is unique and not readily replicable in Australia, enabling high-impact solutions grounded in both technical innovation and societal understanding.



Proven research translation pathways

Leadership in significant national programs – Defence Trailblazer, Defence AI Research Network, and SmartSat CRC – provide a validated framework for accelerating research translation into commercial outcomes.

Our proven ability attracts industry investment, accelerating the transition to sovereign capability and generating sustainable revenue streams.



Major ongoing alliances

Proven ability to lead major ongoing government (e.g. Defence Science and Technology Group (DSTG)) and industry alliances positions us as the partner of choice for collaborating on research problems, producing commercial solutions, and leading large-scale initiatives.

Our program leadership and trusted relationships secure preferential funding access, influence policy, de-risk collaborations, and strengthen our strategic value.



Strategic location advantage

Our dual presence in the northern suburbs and at Lot Fourteen places us in close proximity to South Australia's major defence hub and innovation precincts, providing direct access to world-class companies, emerging industries and city-based innovation.

Our location positions us as the preferred research partner and creates a unique ecosystem that provides direct access to real-world research engagements and elite talent.

Our pillars of research focus and priorities

Focusing on six research priorities positions the Defence & National Security SRT to achieve its strategic goals.

Context

Research priorities span multiple domains such as space, air, land, undersea, maritime and cyber, supported by cross-cutting capabilities such as human factors, AI, quantum tech, cybersecurity, information warfare, immersive technologies, linguistics and ICT, realised through directed investment and resource concentration.

Pillars of research focus

1

Resilient communities

Optimised human performance, capability, wellbeing, social systems and policy.

Priorities

Strengthen leadership in defence-related **human factors** research that contributes to **national security and defence readiness**, at the intersect of social sciences expertise to deliver a unique multidisciplinary approach.

2

Protective & secure environments

Physiological and chemical, biological, radiological and nuclear (CBRN) resilience.

Advance sovereign capability and innovation in **CBRN solutions and quantum sensing technologies**, through strategic use of our premier facilities and investments.

3

Secure & trusted information environment

Real-time communication and cyber protection.

Solidify position as the leading research capability nationally for **trusted information and secure digital environments** by integrating technical cyber capability with our advanced cyber research.



4

Safe frontiers

Space, maritime and emerging domains.

Establish ourselves as Australia's leading research and innovation hub for sovereign capability, specifically **space, undersea, maritime, and defence** domains, using our expertise and AUKUS proximity, while ensuring our care for land/Country.

5

Trusted autonomy

AI, autonomous and immersive systems.

Extend global leadership in **AI, Machine Learning (ML), and autonomous systems development**, taking advantage of our world-renowned institute for machine learning, to continue delivering cutting-edge solutions for industry.

6

Resilient systems

Sustainable defence and advanced manufacturing.

Enhance competitive position in **advanced manufacturing** by harnessing our state-of-the-art facilities at the advanced manufacturing facility, funding, and alliances to drive innovative solutions in **automation, materials and hypersonics**.

Our initiatives and strategic enablers

Pursuing four initiatives, supported by strategic enablers, generates value for the Defence & National Security SRT.

Strategic initiatives

These concepts will help us to deliver on our priorities:

ReAL Innovation

Research-engaged Action Laboratories for Innovation, a new model of engaged impact

ReAL - National Security

Encompasses end-to-end development, from early-stage co-design and rapid prototyping to security testing and validation, critical analytical insights into social and legal aspects of Australia's national security, and accelerating translation toward the Advanced Defence Technologies Training Academy (ADTA), all within a secure, agile environment. ReAL National Security achieves this through a 'think and build' Solutions Lab concept as well as a 'test and prove' Sandpit concept.

ReAL - Space

ReAL Space brings together key Adelaide University infrastructure and expertise across campuses (e.g. EXTERRES Laboratory, AIML, Trailblazers, CRCs) to drive space innovation in fields including human factors, governance, sustainable agriculture, automated construction, and low impact resource processing.

Australian Defence Technologies Academy

Build a national centre of excellence at Lot Fourteen for defence industry research, featuring world-class facilities to drive research, workforce training, and sovereign R&D to scale and deliver defence solutions.

First Nations Academy

Dedicated First Nations Academy, serving as the connecting 'structure' across SRTs and the home for relevant talent. It will be resourced to attract, steward, and mentor talent, and support the implementation of the Defence and National Security Strategy.

Strategic enablers

Institutional capabilities support our research efforts:

Research talent

Establish attraction, retention, professional development initiatives, and mobility programs to connect industry and academia, including the (Defence) Industry Exchange Program, to attract top international researcher talent.

Research training and development

Leverage the innovative, contemporary and flexible pathways to attain research skills and qualifications provided by the Master of Research and suite of graduate certificates, increasing accessibility and the diversity of our graduates, including industry professionals.

Research business development

Deploy dedicated business development resources in Canberra to drive federal thought leadership, influence key stakeholders and maximise funding opportunities, with defence-cleared staff providing agility and responsiveness through secure, embedded support.

Engaged research translation

Leverage the Enterprise Hub to create a dedicated gateway that enables seamless, bi-directional engaged research with industry partners, uniting multidisciplinary expertise across the university for meaningful collaboration.

Research translation pathways

Establish dedicated expert research translation and commercialisation support, export control expertise for dual-use technologies, and support for dual-use technology research.



Defence and National Strategy also requires a strong security function and culture – at Adelaide University this is led by the Office of the Chief Security Officer who oversees clearances and secure infrastructure for defence research, supported by emerging roles such as Research Security Officers to embed best practice research protection and community awareness across the university.

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Printed November 2025.