



The University of South Australia is the Australian university that industry and government approach, to help solve problems and get things done. I've worked in industry and I know what it takes to get the best out of university research.

It's why we're ranked Number One in Australia for Industry income by The Times Higher Education for universities under 50 years of age. With more than 2500

successful industry collaborations around the world, the University of South Australia has proved itself as a leading research and development partner.

We're international in outlook, and we're creative and enterprising in our approach. We're Australia's University of Enterprise.

Professor David Lloyd
Vice Chancellor & President,
University of South Australia



University of
South Australia

A Culture of Innovation

- The University of South Australia is ranked in the top 2% most innovative universities in Asia. (Reuters Most Innovative Universities 2017).
- We are engaged in research that is set to transform the future of defence – not just in Australia but internationally.
- Innovative new defence-related projects include passive submarine tracking systems, anthropometric modelling for naval garments and equipment, behaviour modelling systems for testing combat strategies, and nano-engineered colour-changing camouflage coatings that can be applied to vehicles.

Partnerships with Industry

- As Australia's University of Enterprise, we translate the knowledge generated by our research into real world outcomes. We are committed to solving complex, real-world problems.
- Our strong focus on supporting defence industry excellence and innovation is demonstrated in our long-standing collaborative relationships with the DST Group and with major defence industry companies such as:
 - Saab (with which UnISA has established a Joint Defence Technology Institute);
 - BAE Systems;
 - ASC;
 - Lockheed Martin;
 - and many others.

- We collaborate closely with industry, business, the professions, government and other community groups to ensure our education programs and research meet the needs of the 'end-user'.
- Our industry partnerships include a strong strategic partnership forged with **University College London (UCL)**.
 - UCL hosts Europe's strongest Maritime Engineering and Naval Architecture group and the UK's Naval Engineering Centre of Academic Excellence (NAME), sponsored by MoD (UK) and Industry.
 - UCL's programs in Naval Architecture and Marine Engineering address advanced analytical skills, and ship design in multi-disciplinary teams.
 - UCL programs feature an individual research project and a Submarine Design and Acquisition Course which introduces Naval Architects and Naval Engineers to the basic elements governing the design and acquisition of submarines and underwater craft.
- The University of South Australia brings UCL's acknowledged world leading strengths in Naval Architecture and Maritime Engineering to Australia.
- The Future Industries Institute (FII), located in the flourishing technology and innovation hub at our Mawson Lakes Campus is focused on building knowledge and capacity in core future industries, including defence. It delivers innovative solutions to industry and has recently received significant funding from the South Australian Government to support its objectives.
- The University has established streamlined pathways to partner with industry, including co-developed degree programs (such as that developed with DXC Technology which includes embedded internships) and an Industry Professor scheme.

Your First Line of Defence

*Defence Industry Expertise
and Engagement at the
University of South Australia*

Australia's University of Enterprise



Partner with us

Prof Andy Koronios

Dean: Industry & Enterprise
andy.koronios@unisa.edu.au
+61 8 8302 7405
+61 438 851 905

Natalie Forde

Head of Partner Engagement and Deputy Director:
Research and Innovation Services
natalie.forde@unisa.edu.au
+61 8302 5854
+61 412 725 734

unisa.edu.au/defence



With more than 35 years' experience globally in the defence industries, including as Chief Executive of BAE Systems Australia, I understand what it takes to ensure defence projects thrive.

I know that through research, through education and building a network of partnerships, the University of South Australia brings the right kind of support to companies in the defence, shipbuilding and aviation industries worldwide.

With a commitment to innovation at the heart of our research, we're ready to play a pivotal role in building defence industries' capacity in Australia.

Ranked as one of the fastest moving young universities in Australia, the University of South Australia is firmly focussed on future industries and supporting defence excellence and expansion.

The University of South Australia also has one of the longest running formal relationships with the Australian Defence Science and Technology Group of any Australian university and is continuing to hone its defence industry engagement through both education and research.

Jim McDowell
Chancellor,
University of South Australia

Defence Industry Engaged Research

Our extensive research strengths and partnerships with the defence sector include:

- **The Future Industries Institute (FII);**
- **The Institute for Telecommunications Research;**
- **The Advanced Computing Centre;**
- **The Data Analytics Group;**
- **The Defence and Systems Institute** (Australia's largest provider of consultancy, research, and education in defence-related systems engineering, systems integration and information assurance);

- UniSA is a leading member of the **Defence Innovation Partnership** designed to generate defence-related research and development activity for South Australia;
- UniSA was ranked 8th in Australia for research and 97% of our research was rated at or above world standard (2015 Excellence in Research for Australia assessment);
- We are involved in a range of significant Defence research consortia and national programs and have strong, sector-leading partnership with Australia's Defence Science and Technology Group (DSTG);

- This is reflected in our engagement with the **DSTG Human Performance Research network (HPRnet)** under the guidance of the Australian Army. The project investigates enhancing human performance in complex environments through the integration of virtual reality, wearable computing, cognitive neuroscience and mental training.

Research strengths include:

UniSA's Defence-relevant Research Capability	Artificial Intelligence & Complex Systems	Knowledge-based systems System Integration & Interoperability
	Autonomous Systems	Robotics & Mechatronics Advanced Controls
	Biodefence Countermeasures	Vaccine Platform Technologies
	Biomaterials Engineering	Thin film coating Microfabrication
	Data Analytics	Data Mining & Machine Learning Large Scale Data Visualisation
	Energy & Advanced Manufacturing	Energy Capture, Storage & Systems Advanced Materials
	Human Factors	Human Mental & Physical Performance
	Human Machine Interface	Augmented & Virtual Reality Wearable & Empathic Computing
	Sensors & Laser Engineering	High Energy Laser & Materials Spatial & Spectral Sensing
Telecommunications	Wireless Communications Signal Processing	

Education and High Level Skills

- As the largest university in South Australia, we meet the defence industry's needs to develop and transform Australia's future workforce.
- We have a proven track record of education and capacity building, research and development and industry partnering.
- University of South Australia offers an extensive range of key defence-related degree programs in a wide range of Engineering and IT programs:
 - Defence Systems Integration;
 - Industrial Design;
 - Data Analytics;
 - Cybersecurity;
 - Complex Project Management;
 - Computer Networking;
 - Data Management System Integration;
 - Leadership and Management Development;
 - Executive Education.
- Our flagship Masters in Military Systems Integration, developed in conjunction with a wide range of defence companies has educated generations of defence sector professionals.
- Graduate programs include:
 - multidisciplinary material sciences,
 - trusted autonomous systems, sensors, communications and signal processing;
 - cybersecurity;
 - data analytics;
 - artificial intelligence;
 - space science;
 - enhanced human performance;
 - augmented reality;
 - human/systems interaction and other human factors elements such as combatting fatigue in naval and aviation contexts.

The University of South Australia is developing a pre-degree Defence Industry-Focused Foundation Program, designed to provide pathways through STEM skills to careers in the maritime, aviation and defence sectors.

Undergraduate:

- **Bachelor of Aviation (Flight)**
- **Bachelor of Design (Product Design)**
- **Bachelor of Engineering (Honours)**
 - Civil and Project Management
 - Civil and Structural
 - Civil
 - Electrical and Electronic
 - Electrical and Mechatronic
 - Mechanical and Mechatronic
 - Mechatronic
 - Mechanical
 - Mechanical and Advanced Manufacturing
- **Bachelor of Information Technology**
 - Networking and Cybersecurity
 - Mobile Application Development
 - Software Development
- **Bachelor of Mathematical Science (Data Science)**
- **Bachelor of Science**
 - Science and Mathematics
 - Advanced Materials
- **Bachelor of Software Engineering (Honours)**

Postgraduate:

- **Master of Applied Project Management (Defence Industries)**
- **Master of Cybersecurity**
- **Master of Data Science**
- **Master of Design**
 - Industrial Design
 - Design and Construct
- **Master of Engineering**
 - Autonomous Systems
 - Military Systems Integration
 - Civil and Infrastructure
 - Engineering Management
 - Telecommunications
 - Electrical Power

- **Graduate Diploma in Human Factors and Safety Management Systems**
- **Master of Information Technology (Enterprise Management)**
- **Master of Project Management**
- **Master of Surveying**
- **Graduate Certificate and Graduate Diploma in Human Factors and Safety Management Systems**
- **University of South Australia degrees with UCL**
 - Masters of Applied Project Management (Defence)
 - Master of Science in Naval Architecture
 - Master of Science Marine Engineering
 - UCL-University of South Australia Master of Data Science

The University of South Australia is one of nine partners of the **Defence Industry Education and Skills Consortium (DIESC)**.

- DIESC is an initiative of a cross-state group of universities, vocational education providers and industry bodies to provide a practical and effective solution to the coordination of education and skills provision in the defence industry sector.
- DIESC membership consists of leading industry-focused universities, vocational education providers and industry organisations across South Australia, Western Australia and Victoria, with alliances nationally and internationally, and a long experience of working with the defence sector.
- The consortium is uniquely positioned to provide the key components to realise the future vision of the Australian defence industry; driving the skilling of the workforce to meet future needs and deliver the ambitious suite of defence projects in the coming years.
- Our current DIESC partners include the Defence Teaming Centre; The University of Adelaide; Flinders University; RMIT University; Edith Cowan University; TAFE SA; South Metropolitan TAFE and the Indigenous Defence Consortium.

TOP RATING IN AUSTRALIA FOR ENGINEERING
2015 ERA

8TH IN AUSTRALIA FOR RESEARCH
2015 ERA

RANKED 9TH BEST IN AUSTRALIA
(THE University rankings 2018)