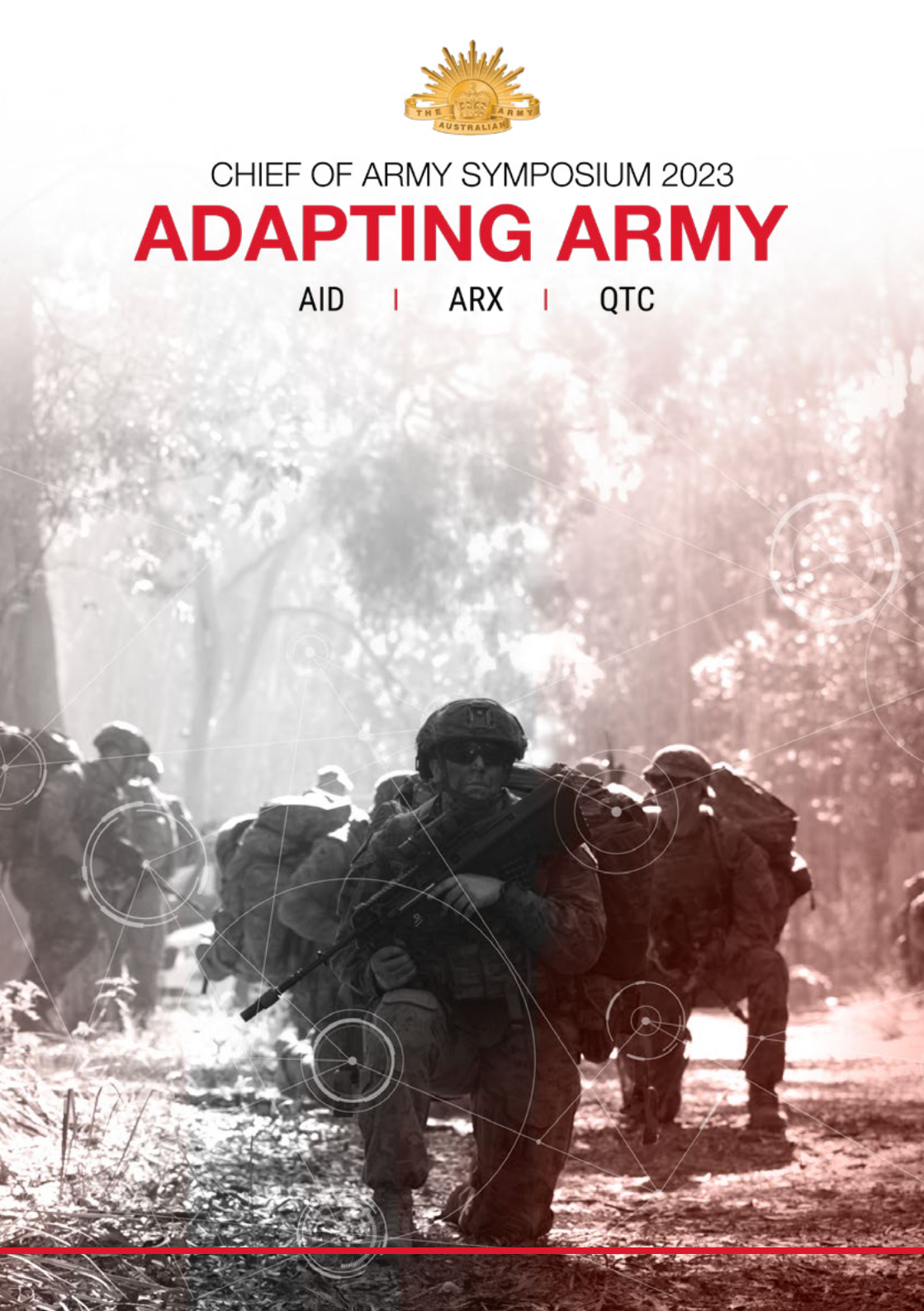
CHIEF OF ARMY SYMPOSIUM 2023

# ADAPTING ARMY

AID | ARX | QTC



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## Chief of Army

Welcome to this year's Chief of Army Symposium.

2023 is another inflection point in our Army's story – where the decisions made today will come to define our future.

We have been directed "to transform and be optimised for littoral manoeuvre operations by the sea, land and air from Australia" as part of the integrated force. To do so requires us to achieve balance by evolving as an organisation, constantly experimenting and analysing, and applying new emerging technologies to our systems and capabilities.

That is the purpose of the Chief of Army Symposium – soldiers teaming with a broad range of innovative thinkers from across academia and industry, the ADF, and with our allies and partners. Engaging in a contest of ideas forces us to think differently, realise our potential, and leverage the possibilities for our future.

The Army Innovation Day, Army Quantum Technology Challenge and Army Robotics Expo brings together innovators from large and small enterprises for practical, mission-focussed collaboration around new and emerging technologies. These events are incubators for applied thinking and experimentation on Army's present and future operational challenges.

Now is the time to apply our imagination to the possibilities of the future, for as the English poet William Blake once wrote, "what is proven was once only imagined".

Thank you for your commitment and contribution towards adapting our Army, and for your individual and collective efforts at CAS 2023.

**Lieutenant General Simon Stuart, AO, DSC**
Chief of Army





## Regimental Sergeant Major

It is great to have you here at the Chief of Army Symposium 2023; an opportunity for you to engage with like-minded people from across Defence and Industry, both domestic and international.

In addition to the Army Innovation Day, Army Quantum Technology Challenge and Army Robotics Expo, I am pleased to be concurrently running the Senior Enlisted Leadership Forum and The Fellowship Program. These programs are specifically designed for the soldier.

Innovation is at the heart of adaptation. It is the unrelenting drive to break the status quo and develop anew where few have dared to go. It is about seeing ourselves in a different light, challenging assumptions, learning fast and drawing on the views and perspectives of others. Innovation seeks to drive progress in the face of tradition.

I know that soldiers have always been innovative, solving problems and contributing to new ways of thinking. From Gallipoli, where they developed the 'drip' rifle; Afghanistan, where they improved IED counter-measures; through to the MakerSpace hubs we have across our Army today, soldiers achieve great outcomes when they are enabled to improvise, adapt and overcome. It's in our DNA.

The Chief of Army Symposium encourages all soldiers to apply their mindset to the opportunities and challenges of the future. It is an exciting time, and we need you all to be part of the discussion and contribute your ideas and perspectives on adapting our Army for the future.

**WO Kim Felmingham, NSC, OAM**
Regimental Sergeant Major – Army

## Tuesday 29 August 2023

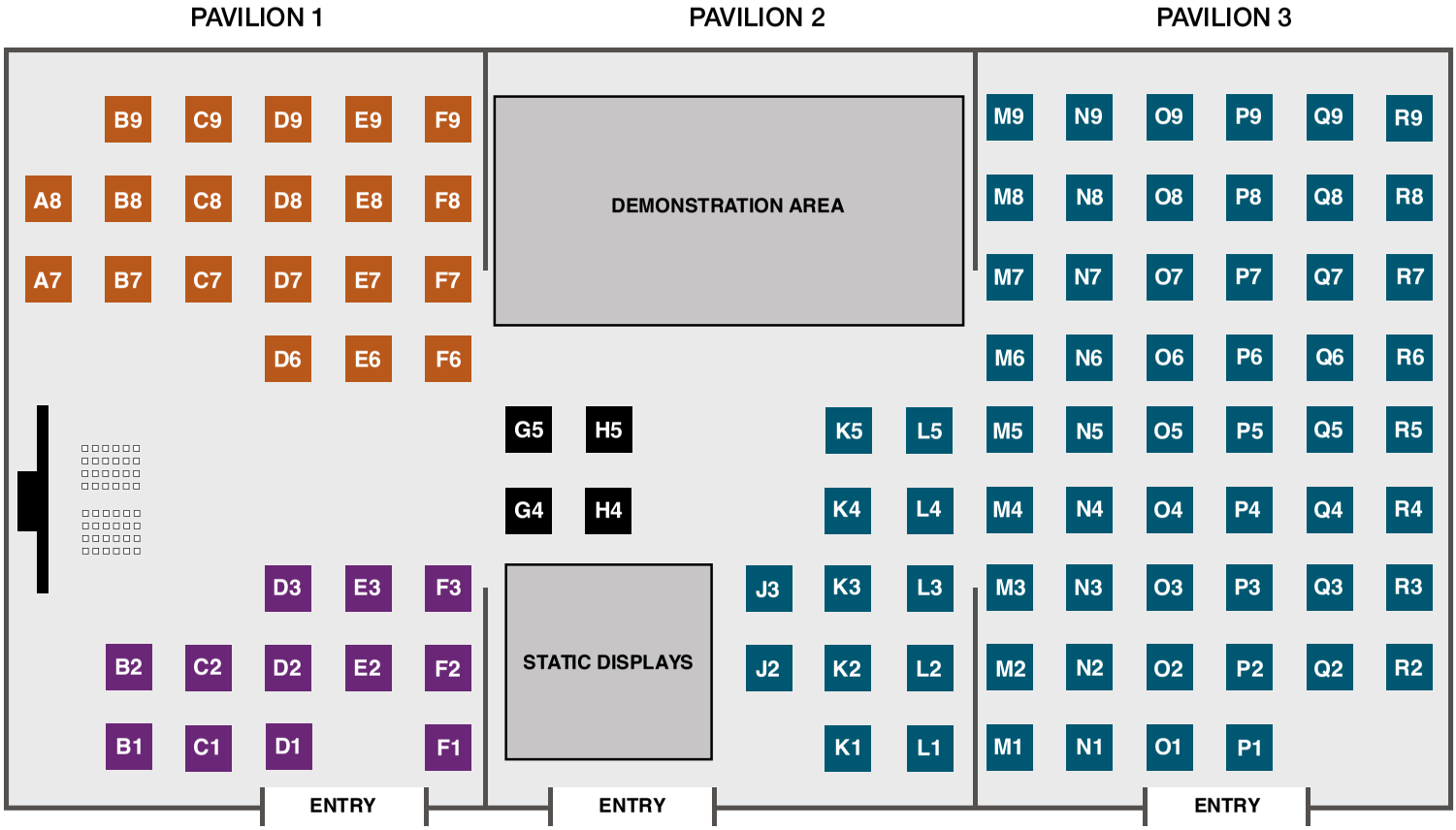
| Time | Speaker | Topic |
|---|---|---|
| 0900 - 0910 | **Brigadier Brett Chaloner, CSC**<br>Master of Ceremonies | *CAS 2023 Opening* |
| 0910 - 0920 | **Barry Winmar**<br>Nyoongar leader and traditional owner of Whadjuk peoples of the Noongar Nation | *Welcome to Country* |
| 0920 - 0940 | **Lieutenant General Simon Stuart, AO, DSC**<br>Chief of Army | *Opening Address* |
| 0940 - 0950 | **The Honourable Matt Keogh, MP**<br>Minister for Defence Personnel<br>Minister for Veterans' Affairs | *Ministers Address* |
| 0950 - 1025 | **Professor Peter Dean, PhD**<br>Director Foreign Policy and Defence, United States Studies Centre, University of Sydney | *Geography, History and the ongoing Utility of Land Power in the Contemporary Indo-Pacific Maritime Operating Environment* |
| 1025 - 1100 | Morning Tea | |
| *Adapting Army: Through Innovation* | | |
| 1100 - 1130 | **Tim Fountaine**<br>Senior Partner, McKinsey and Company | *Innovation in the Age of AI* |
| 1130 - 1225 | **Commodore Darron Kavanagh, AM, CSC, RAN**<br>Director General Warfare Innovation Navy<br>**Colonel Lauren Sanders, CSC, PhD**<br>Senior Research Fellow TC Beirne School of Law, University of Queensland<br>**Professor Emily Hilder**<br>Interim Head Advanced Strategic Capabilities Accelerator<br>**Steve Baxter**<br>Entrepreneur and Investor | *Panel: Adopting Emerging and Disruptive Technologies at Speed* |
| 1225 - 1240 | **Brigadier James Davis**<br>Director General Future Land Warfare | *Introduction to the CAS Expo Series* |
| 1240 - 1330 | Lunch | |
| 1330 - 1530 | Dedicated time to visit the CAS Expo Series and demonstrations in Pavilions 1 – 3 | |
| *Adapting Army: Leading Adaptation* | | |
| 1530 - 1600 | **Lieutenant General (Ret'd) Richard Nugee, CB, CVO, CBE**<br>Non-Executive Member for the Defence Safety and Environmental Committee, Ministry of Defence (UK) | *Climate Change and Security: Understanding and Acting* |
| 1600 - 1655 | **Lieutenant General Simon Stuart, AO, DSC**<br>Chief of Army<br>**Vice Admiral David Johnston, AC, RAN** (Virtual)<br>Vice Chief of the Defence Force<br>**Lieutenant General Natasha Fox, AM, CSC**<br>Chief of Personnel<br>**Lieutenant General John Frewen, AO, DSC**<br>Chief of Joint Capabilities<br>**Vice Admiral Mark Hammond AO, RAN** (Virtual)<br>Chief of Navy<br>**Air Vice-Marshal Glen Braz, AM, CSC, DSM**<br>Air Commander Australia | *Panel: Leading Adaptation Together* |
| 1655 - 1700 | **Lieutenant General Simon Stuart, AO, DSC**<br>Chief of Army | *CAS 2023 Day 1 Closing Address* |





## Wednesday 30 August 2023

| Time | Speaker | Topic |
|---|---|---|
| 0900 - 0915 | **Brigadier Brett Chaloner, CSC**<br>Master of Ceremonies | *CAS 2023 Day 2 Opening* |
| *Adapting Army: Through People* | | |
| 0915 - 0945 | **Dr Rebecca Jackson**<br>The Jackson Company | *The Power of Hope and Optimism in Leading a Resilient Future Force* |
| 0945 - 1015 | **Gaston Carrion**<br>Managing Director, Strategy and Consulting, Talent and Organisation Growth Markets and Asia Pacific Lead, Accenture | *Unveiling the New Paradigms of People and Work* |
| 1015 - 1100 | **Lieutenant General Natasha Fox, AM, CSC**<br>Chief of Personnel<br>**Amanda Holt**<br>Chief Executive Officer SYPAQ<br>**Kieren Perkins, OAM**<br>CEO Australian Sports Commission<br>**Marni Poropat**<br>Managing Director, Global Defence Talent and Workforce Lead, Accenture | *Panel: Equip, Enhance, Empower* |
| 1100 - 1130 | Morning Tea | |
| 1130 - 1300 | Dedicated time to visit the CAS Expo Series and demonstrations in Pavilions 1 – 3 | |
| 1300 - 1400 | Lunch | |
| *Adapting Army: Through Partnership* | | |
| 1400 - 1430 | **Brigadier Nerolie McDonald**<br>Director General Pacific and Timor-Leste | *Landing Defence Partnerships – the Indo-Pacific and Beyond* |
| 1430 - 1500 | **Professor John Blaxland**<br>Professor of International Security and Intelligence Studies | *Australian Regional Engagement: A Historical and Strategic Perspective* |
| 1500 - 1545 | **Air Marshal (Ret'd) Geoff Brown, AO**<br>Chairman, Sir Richard Williams Foundations<br>**Kate Louis**<br>Executive Director and Head of Defence and Industry Policy, Ai Group<br>**Elsabe Muller**<br>Group Health, Safety and Environment Officer, BHP<br>**Linda Dawson**<br>Deputy Director General, Industry, Science and Innovation | *Panel: Doing More Together* |
| 1545 - 1600 | **Lieutenant General Simon Stuart, AO, DSC**<br>Chief of Army | *CAS 2023 Closing Address* |




### Army Innovation Day (AID)

| | |
|---|---|
| **AID A7** | HIROCO |
| **AID A8** | Post Office Red |
| **AID B7** | DroneShield |
| **AID B8** | University of Technology Sydney |
| **AID B9** | ecoJet Engineering |
| **AID C7** | Lockheed Martin Australia - STELaRLab |
| **AID C8** | Raytracer |
| **AID C9** | ECLIPS Logistics |
| **AID D6** | Visionary Machines |
| **AID D7** | Advanced Design Technology |
| **AID D8** | DefendTex |
| **AID D9** | Cubic Defence Australia |
| **AID E6** | Codarra Advanced Systems |
| **AID E7** | Innovaero |
| **AID E8** | Platypus Instruments |
| **AID E9** | Geodrones Australia |
| **AID F6** | Hydrogen At Home |
| **AID F7** | Elbit Systems of Australia |
| **AID F8** | OneTide |
| **AID F9** | Jabiru |

### Army Quantum Technology Challenge (QTC)

| | |
|---|---|
| **QTC B1** | Quantum Attacks and Defences on Machine Learning |
| **QTC B2** | Quantum Algorithms and Security Team |
| **QTC C1** | Quantum Compiler Attack & Defence |
| **QTC C2** | University of Queensland - QGrav Team |
| **QTC D1** | Green and Grey |
| **QTC D2** | KPMG-RMIT |
| **QTC D3** | QDM - Quantum Diamond Magnetometry |
| **QTC E2** | Thaum |
| **QTC E3** | Monash Optical Magnetometer (MOM) |
| **QTC F1** | Sheperd Taylor Superconducting |
| **QTC F2** | Infleqtion |
| **QTC F3** | UWA: Disrupting Quantum Communications |

### Defence Precinct (DEF)

| | |
|---|---|
| **DEF G4** | Defence Science and Technology Group |
| **DEF G5** | Office of Defence Industry Support |
| **DEF H4** | Advanced Strategic Capabilities Accelerator |
| **DEF H5** | Diggerworks |
| **Static Displays** | MakerSpace |

### Army Robotics Expo (ARX)

| | |
|---|---|
| **ARX J2** | Praxis |
| **ARX J3** | QinetiQ |
| **ARX K1** | 3ME Technology |
| **ARX K2** | DefendTex |
| **ARX K3** | BAE Systems Australia |
| **ARX K4** | Acacia Systems |
| **ARX K5** | EPE Trusted to Protect |
| **ARX L1** | Athena AI |
| **ARX L2** | Ichor Autonomy |
| **ARX L3** | Criterion Solutions |
| **ARX L4** | Precision Technic Defence |
| **ARX L5** | Boeing Defence Australia |
| **ARX M1** | Rheinmetall Defence Australia |
| **ARX M2** | RAIDER Targetry |
| **ARX M3** | Nova Systems |
| **ARX M4** | Cyborg Dynamics Engineering |
| **ARX M5** | Chironix 'advanced uncrewed ground vehicle technology' |
| **ARX M6** | Omega Dev Group |
| **ARX M7** | Visionary Machines |
| **ARX M8** | Outlook Industries Australia |
| **ARX M9** | Lvndship |
| **ARX N1** | AMSL Aero |
| **ARX N2** | Mawson Rovers |
| **ARX N3** | Agili8, Chironix, Motium, UWA, ECU |
| **ARX N4** | W&E Platt |
| **ARX N5** | Mirragin |
| **ARX N6** | ECLIPS Logistics |
| **ARX N7** | Hanwha Defense Australia |

### Army Robotics Expo (ARX)

| | |
|---|---|
| **ARX N8** | Innovaero |
| **ARX N9** | Frazer-Nash Consultancy |
| **ARX O1** | Radlink |
| **ARX O2** | Codan Communications \| DTC |
| **ARX O3** | Elbit Systems of Australia |
| **ARX O4** | Leidos Australia |
| **ARX O5** | Universal Field Robots |
| **ARX O6** | Advent Atum |
| **ARX O7** | Skyborne Technologies |
| **ARX O8** | Tekuma |
| **ARX O9** | Klas Australia |
| **ARX P1** | Autonoma |
| **ARX P2** | GaardTech |
| **ARX P3** | Microsoft |
| **ARX P4** | EOS Defence Systems |
| **ARX P5** | AVI |
| **ARX P6** | Critical Infrastructure Technologies |
| **ARX P7** | Insitu Pacific |
| **ARX P8** | AIM Defence |
| **ARX P9** | Brokk Security and Rescue Solutions |
| **ARX Q2** | Aerostructures Innovation Research (AIR) Hub |
| **ARX Q3** | UBH Group |
| **ARX Q4** | Nightingale Intelligent Systems, Inc. |
| **ARX Q5** | SYPAQ |
| **ARX Q6** | Commercial ROV Australia |
| **ARX Q7** | Agent Oriented Software |
| **ARX Q8** | Arkeus |
| **ARX Q9** | Moog Australia |
| **ARX R2** | Cognitive Advantage |
| **ARX R3** | Project iBis |
| **ARX R4** | Swoop Aero |
| **ARX R5** | Orion Sovereign Group |
| **ARX R6** | Tdl Aviation |
| **ARX R7** | UWA Defence & Security Institute |
| **ARX R8** | Raytracer |
| **ARX R9** | Saab 'drone awareness and tracking' |

# Lieutenant General Simon Stuart, AO, DSC

## CHIEF OF ARMY

Lieutenant General Stuart assumed command of the Australian Army on 02 July 2022.

Enlisting as a soldier in 1987, Lieutenant General Stuart was commissioned into the Royal Australian Infantry Corps in 1990. He has over thirty five years' experience across a range of leadership, operations, training and program management appointments in Australia and overseas.

Lieutenant General Stuart's regimental experience was in the 2nd/4th and 2nd Battalions, Royal Australian Regiment, culminating in command of the 8th/9th Battalion from 2008-10.

He has commanded on operations on five occasions at the company, Joint Task Force, brigade and force levels in East Timor, Afghanistan and Egypt/Israel respectively. His early career included significant training experience, while his staff appointments have largely been in capability development. He has worked in joint, whole of government, international and multi-national environments for most of the past 20 years. Most recently, Lieutenant General Stuart has fulfilled the role of Head of Land Capability in Army Headquarters after a three year deployment in command of the Multinational Force & Observers from 2017-19.

Lieutenant General Stuart is a graduate of the Royal Military College – Duntroon (1990), the United Kingdom's Joint Services Command and Staff College (2003), the United States Army War College (2015) and the Harvard Business School Advanced Management Program (2022). He holds a Bachelor's Degree from the University of New England and Masters' degrees in Project Management (UNSW), Arts - Defence Studies (Kings College, London) and Strategy (US Army War College).

Lieutenant General Stuart's honours and awards include his appointment as Member of the Order of Australia (2011), the Distinguished Service Cross (2014) and advancement to Officer of the Order of Australia (2020). He has also received a number of foreign awards, including those from the United States, Timor Leste, Columbia, Uruguay, Czech Republic and Japan.

Lieutenant General Stuart and his wife Katy are from Perth, Western Australia. They have two teenage children and a labrador retriever. He is also the patron for the Army Drone Racing Team.





# Warrant Officer Kim Felmingham, NSC, OAM

## REGIMENTAL SERGEANT MAJOR – ARMY

On 01 July 2022, Warrant Officer Kim Felmingham commenced her appointment as the 12th Regimental Sergeant Major - Army.

Warrant Officer Felmingham enlisted in the Australian Regular Army in July 1986 and became a Medical Attendant in 1990. She has had a balance of trade, instructional, regimental and operational appointments throughout her career. Her first appointment as a Regimental Sergeant Major (RSM) was in 2006. Her subsequent appointments have provided her the opportunity to gain extensive experience from the tactical to strategic levels of command. She has extensive all-corps training experience due to instructing at each level of Army's All Corps Soldier Training Continuum from the Recruit to the Regimental Sergeant Majors Course, and the United States Army Sergeants Major Course. Warrant Officer Felmingham has deployed on operations at every rank level from Junior Non Commissioned Officer to Warrant Officer.

Warrant Officer Felmingham has had significant professional development opportunities across combat and combat service support environments. These opportunities include attendance at the United States Army Sergeants Major Academy in 2007, Faculty Advisor, Military Operations Division in 2008, RSM JTF 633 in 2013 and attendance at multiple international seminars and leadership conferences in the United Kingdom, Canada, South Korea and the United States of America. In 2018, Warrant Officer Felmingham attended KEYSTONE at the National Defence University, Washington DC which provided her development in current United States of America strategic interests, Department of Defence capability, foreign policy and military strategy.

Warrant Officer Felmingham has been awarded the Nursing Service Cross in 2000, the United States of America Meritorious Service Medal in 2010 and the Medal of the Order of Australia in 2018. On 14 June 2023, Warrant Officer Felmingham was inducted into the International Military Student Hall of Fame at the United States Army Non-Commissioned Officer Leadership Centre of Excellence Sergeants Major Academy, for her proven leadership and significant contribution to Australia's Defence Force.

A career highlight for Warrant Officer Felmingham was her appointment as the Regimental Sergeant Major, 2nd Division. This appointment provided her the opportunity to be an ambassador for reform and change due to the division's unique, integrated, diverse and dispersed workforce.

Warrant Officer Felmingham is a Director on the Board of the Army Amenities Fund which provides amenities and related services to Army members and their families.

## Professor Peter Dean, PhD

### DIRECTOR FOREIGN POLICY AND DEFENCE, UNITED STATES STUDIES CENTRE, UNIVERSITY OF SYDNEY

Professor Peter J. Dean PhD SFHEA is the Director, Foreign Policy and Defence at the United States Studies Centre at the University of Sydney.

Professor Dean has an extensive background in military and defence studies. An international award-winning author he has authored numerous books, policy papers and articles on the US-Australian alliance, Australian defence policy, military operations and regional security. He is a member of numerous international Editorial Boards including the Australian Army Journal.

Professor Dean has been a Fulbright Fellow and Endeavour Research Scholar, was the University of Western Australia's (UWA) first Chair of Defence Studies and the inaugural director of the UWA Defence and Security Institute and held a number of senior roles at the Australian National University's College of Asia and the Pacific and Strategic and Defence Studies Centre.

Professor Dean was Co-Lead of the 2023 Defence Strategic Review (DSR) Secretariat where he served as senior advisor and a principal author for the Independent Leads, His Excellency Professor the Hon. Stephen Smith and Air Chief Marshal Sir Angus Houston AK AC AFC (Retd).

## Tim Fountaine

### SENIOR PARTNER, MCKINSEY & COMPANY

Tim is a Senior Partner in McKinsey & Company's Sydney office.

Tim helps private and public organizations adapt to a world increasingly shaped by AI and digital technology.

Tim's expertise in digital, data, and AI comes from more than 15 years working with institutions in Australia, Asia, America, and Europe, in addition to the experience gained through his PhD in neuroscience from the University of Oxford. His work spans industries as diverse as financial services, retail, mining, technology, defence, and healthcare. He also chairs the board of the Digital Sciences Initiative at the University of Sydney.

Tim's perspectives have been published multiple times in Harvard Business Review, and his article "Building the AI-Powered Organization" featured in the magazine's special edition, 10 Must Reads on Leading Digital Transformation.





## Commodore Darron Kavanagh, AM, CSC, RAN

### DIRECTOR GENERAL WARFARE INNOVATION NAVY

Commodore Darron Kavanagh leads the RAN's Warfare Innovation Navy (WIN) Branch whose mission is Navy's agent of disruptive innovation to maximise early adoption of asymmetric warfighting capabilities for joint integrated effects. WIN Branch is involved in the development of Combat Ready Prototypes leveraging artificial intelligence, robotics and autonomous systems, modelling and simulation and other emerging technologies. DGWIN reports to RADM Stephen Hughes – Head Navy Capability.

Darron has served at sea on numerous major surface combatants as a Weapons Electrical Engineering Officer and his staff appointments have primarily been involved in the development and realisation of innovative capability by leveraging technology.

## Colonel Lauren Sanders, CSC, PhD

### SENIOR RESEARCH FELLOW TC BEIRNE SCHOOL OF LAW, UNIVERSITY OF QUEENSLAND

Colonel Lauren Sanders, PhD, CSC, has served in the ADF for 23 years across a variety of strategic legal advisory positions, also having deployed to Iraq, Afghanistan, Timor Leste, and on HADR and domestic counter-terrorism operations.

Now a Reservist, she is a Senior Research Fellow with The University of Queensland Law and Future of War project, where she focuses upon international law and export controls impacting emerging and disruptive technologies.

Her doctoral studies were in international criminal law accountability measures, and her expertise is in the practice of international humanitarian law including advising on the accreditation and use of new and novel weapons technology.

She is also the Managing Director of a law firm, which specialises in international law relevant to the weapon review of new weapons, means and methods of warfare including autonomous and AI-enhanced systems.

## Professor Emily Hilder

### INTERIM HEAD, ADVANCED STRATEGIC CAPABILITIES ACCELERATOR

As Interim Head of the Advanced Strategic Capabilities Accelerator (ASCA), Professor Hilder is leading the establishment of ASCA, the Defence Accelerator, which will accelerate the development and transition into service of disruptive solutions to priority defence challenges at the pace and scale required to deliver advantage to our military.

Emily joined Defence as Chief Maritime in DSTG in November 2020, and held the role of Chief Platforms from July 2022 to April 2023. Prior to joining Defence she was Director of the Future Industries Institute (FII) and Deputy Director of the ARC Research Hub for integrated devices for end-user analysis at low levels (IDEAL) at University of South Australia.

## Steve Baxter

### ENTREPRENEUR AND INVESTOR

Steve Baxter is a proud Queenslander, born in the remote town of Cloncurry and raised in Emerald in the State's central highlands. He left school at 15 and joined the Army, enlisting in its apprenticeship program. There, he became a technician working in the field of electronics, telecoms and guided weapon systems.

In 1994, at the age of 23, Steve launched his first start-up, the pioneering internet service provider SE Net, from his spare room. Servicing more than 35,000 customers, SE Net was eventually acquired by Ozemail/UUNet under the stewardship of its founding Director and Former Prime Minister, Malcolm Turnbull.

In 2001, Steve launched his second start-up, PIPE Networks, in 2005, selling eight years later to the TPG Group for $373 million. Steve then spent a year working with Google in California, leading a project to deliver high-speed telecommunications systems across North America.

He was a Shark on Channel 10's Shark Tank Australia for its first four seasons, and was appointed 'Queensland's Chief Entrepreneur' in 2018.

Steve is now the Co-founder and Executive Chairman of TEN13, Australia's leading tech startup investment platform, and Founder and Lead Investor with Beaten Zone Venture Partners which is dedicated to early stage investments in Australian sovereign legal defence technology.



SPEAKERS AND PANELLISTS DAY 1 | CHIEF OF ARMY SYMPOSIUM 2023

## Lieutenant General (Retd) Richard Nugee, CB, CVO, CBE

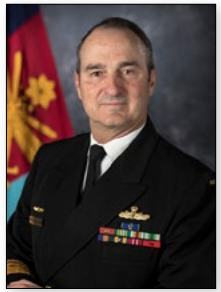
### NON-EXECUTIVE MEMBER FOR THE DEFENCE SAFETY AND ENVIRONMENTAL COMMITTEE, MINISTRY OF DEFENCE (UK)

General Richard Nugee has earned international recognition for bringing the implications of Climate Change and Sustainability to the Defence and National Security sectors. After a full operational career in the British Army, as his final role he wrote a Review of Defence's approach to Climate Change and Sustainability. He is now the Non Executive Director for Climate Change and Net Zero for the Ministry of Defence. He has expanded this policy interest into delivery, as the Chair, Director and Advisor of a number of renewable energy and environmental sustainability start-ups.

He is CEO of a medical research charity, The Scar Free Foundation, Chair of the Royal NAAFI Board, Director of his own Strategic Advisory Company, a strategic advisor to a number of consultancies and organisations, including the Hague Centre for Strategic Studies, Oxford University's Climate Change (In)Security Project and a climate-focused venture capitalist group.

## Vice Admiral David Johnston AC, RAN

### VICE CHIEF OF THE DEFENCE FORCE



Vice Admiral Johnston joined the Royal Australian Naval College as a junior entry Cadet Midshipman in 1978. Graduating as a seaman officer in 1982, he later specialised as a Principal Warfare Officer.

Appointed as the Vice Chief of the Defence Force on 07 July 2018, he has extensive experience across a range of leadership, maritime and joint operations, training and capability management appointments in Australia and overseas.

Vice Admiral Johnston's senior command appointments include Commanding Officer of HMAS Adelaide (FFG 01) and HMAS Newcastle (FFG 06), Commander Border Protection Command ahead of his appointment as Chief of Joint Operations Command in 2014. His operational experience includes Operation RELEX (2002), Operation QUICKSTEP to Fiji (2006) and Operation SLIPPER (2010).

Vice Admiral Johnston's honours and awards include his appointment as Member of the Order of Australia (2012), advancement to Officer of the Order of Australia (2018) and Companion of the Order of Australia (2022) 'for eminent service to the Australian Defence Force through strategic stewardship and capability engagement.'

## Lieutenant General Natasha Fox, AM, CSC
### CHIEF OF PERSONNEL

LTGEN Natasha Fox entered the ADFA in 1988 and graduated from the RMC in 1991. Her early appointments included logistics specialising in combat supplies and logistics planning, and training positions culminating with her being the CO/CI at the ADFA for which she received a Conspicuous Service Cross.

LTGEN Fox has been employed across the ADF in Forces Command, Joint Logistics Command, Special Operations Command, Training Command - Army, Defence People Group and Army Headquarters. She has deployed to Lebanon, Syria, and Israel and was the Chief of Staff for Joint Task Force 633 in the Middle East. In 2023, LTGEN Fox was appointed an Officer (AO) of the Order of Australia for her service as Head People Capability and Deputy Chief of Army.

LTGEN Fox is a graduate of the Australian Command and Staff College, and the Defence and Strategic Studies Course. She has completed a Master of Business Administration, Master of Politics and Policy, and Master of Management in Defence Studies. She is a graduate of the Australian Institute of Company Directors, the Lee Kwan Yew School of Public Policy, The Wharton School, and The Said Business School.

LTGEN Fox was appointed Chief of Personnel on 5th June 2023.

## Lieutenant General John Frewen, AO, DSC
### CHIEF OF JOINT CAPABILITIES

John Frewen is one of Australia's most senior and experienced defence leaders. His current appointment as the ADF's Chief of Joint Capabilities encompasses the ADF space and cyber domains, ICT operations, strategic effects, logistics and civil military cooperation.

He previously led the Australian Government's National COVID-19 Vaccine Task Force, achieving COVID-19 vaccination rates among the world's highest. LTGEN Frewen's four decades of military service has included command of all Australian forces deployed to the Middle East Area of Operations (2017); command of the multinational intervention force, RAMSI, in Solomon Islands (2003); and operational deployments to Afghanistan and Rwanda.

He is a distinguished graduate of the US Army War College, and has served as the Principal Deputy Director-General with the Australian Signals Directorate. In January 2023 he was made an Officer in the Order of Australia (AO) for national leadership during the COVID-19 pandemic.





## Vice Admiral Mark Hammond AO, RAN
### CHIEF OF NAVY

Vice Admiral Mark Hammond joined the Royal Australian Navy in 1986 as an Electronics Technician, before commissioning as a Naval Officer in 1988. Hammond served in Australia's Oberon and Collins Class submarines and also gained experience in British, Dutch, French, and U.S. submarines. Hammond's Command of HMAS Farncomb included submarine operations across the Indo-Pacific. Subsequent, notable shore postings include Assistant Naval Attaché in Washington DC, Chief of Staff to CDF, Director General Maritime Operations and Liaison Officer to the Chairman of the U.S. Joint Chiefs of Staff.

In 2018 Hammond was appointed a Member of the Order of Australia (AM) for exceptional service. Hammond was then selected as Deputy Chief of Navy in 2018 and Commander Australian Fleet in 2020. Vice Admiral Hammond assumed Command as Chief of Navy on 7 July 2022. In 2023 Hammond was appointed an Officer of the Order of Australia (AO) for distinguished service in senior command roles. He is the first RAN Recruit School and ADFA graduate to do so, and only the second submarine Commanding Officer to be appointed to the role. Vice Admiral Hammond holds a Bachelor of Science, Masters in Management and Masters in Maritime Studies, and is a graduate of the Harvard Business School Advanced Management Program.

## Air Vice-Marshal Glen Braz, AM, CSC, DSM
### AIR COMMANDER AUSTRALIA

Air Vice-Marshal Glen Braz joined the Royal Australian Air Force in 1987, graduated the Australian Defence Force Academy and went on to complete pilot training in 1991.

In 1997 he became a flying instructor before undertaking the F-111 Fighter Combat Instructor Course and being promoted to Flight Commander. In 2006, Air Vice-Marshal Braz was appointed Deputy Director Air[1]Land Integration, served as Deputy Director of the Super Hornet Transition Team then as Commanding Officer of No.1 Squadron.

In 2011, he was posted to the United States to serve as Air Staff Officer Plans and Operations, followed by the role of Director EA-18G Growler Transition. He then deployed and served as Commander Australian Air Task Group – Middle East Region in 2015. On return to Australia, he assumed command of No. 82 Wing at RAAF Base Amberley.

As commander of Air Force Training Group, Air Vice-Marshal Braz oversaw significant functional and training reforms. In December 2019 he assumed the position of Director General Military Strategic Commitments and, and was promoted to Air Vice-Marshal in July 2020. In January 2023, Air Vice-Marshal Braz was appointed as Deputy Chief of Air Force, and took up his current role as Air Commander Australia in July 2023.

## Dr Rebecca Jackson

THE JACKSON COMPANY

Dr Bec Jackson's middle name is literally "Joy" and she aspires to spread as much of it as possible by empowering her clients to live their best lives, with joy, purpose and meaning.

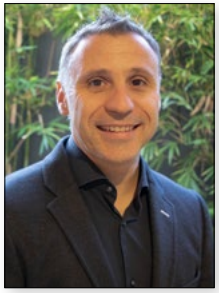
She uses the science of psychology in practical ways together with her lived organisational experience in the government and military sector, to support clients in increasing engagement and meaning in their personal and professional lives.

A demonstrated subject matter expert on professional leadership and development, a visiting fellow at the Australian War College, monthly contributor to The Leadership Review magazine, published author and speaker, Dr. Bec Jackson is highly regarded for her contributions in the fields of psychology, mental health, leadership and professional development.

From her meditation and psychology training and research, she uses the science of well-being, research-based assessments and interventions to bring about greater fulfilment in the lives of those she coaches. Her extensive experience as a psychological clinician means she has a deep professional understanding of clients with co-morbid therapy needs and can provide advice and guidance on additional services that would benefit them outside the coaching space.

## Gaston Carrion

MANAGING DIRECTOR, STRATEGY AND CONSULTING, TALENT AND ORGANISATION GROWTH MARKETS AND ASIA PACIFIC LEAD, ACCENTURE



Gaston is a Managing Director based in Australia, leading the Talent and Organisation practice across Africa, Middle East and Asia Pacific. Gaston also leads the Global Employee Experience offering. Gaston provides strategic advisory to global clients in the Human Capital and HR agendas.

Gaston has more than 20 years' experience in Human Resources and supporting strategic and large business transformation programs. He holds a Global Executive MBA from the London Business School, Columbia Business School and Hong Kong University.

His recent studies and projects are related to the Workforce of the future and future of HR trends. He is currently supporting some of our global clients in their transition to new HR models and enterprise digital transformation. Gaston is passionate about the topics of Future of Work and Transformation of the industry.





## Amanda Holt

CHIEF EXECUTIVE OFFICER, SYPAQ

Amanda holds tertiary qualifications in Aerospace Engineering and Business, complemented by post-graduate studies in Remote Sensing, Systems and Software Engineering, and has recently completed the Senior Executive MBA at Melbourne Business School.

In 2015, Amanda was appointed as SYPAQ's Chief Executive Officer, having joined the business back in 2007. SYPAQ employs almost 200 engineering and technical personnel across Australia, delivering specialist services in the fields of C4ISREW, trusted autonomous systems, military communications, artificial intelligence, and DevSecOps platforms.

Amanda is a Fellow and Engineering Executive of Engineers Australia, a member of Defence Council of Victoria, and a member of the RMIT Aerospace Engineering Advisory Board.

## Kieren Perkins, OAM

CHIEF EXECUTIVE OFFICER, AUSTRALIAN SPORTS COMMISSION

Kieren Perkins OAM is regarded as one of the world's greatest distance swimmers having won four Olympic medals. Following his retirement from swimming in 2000, Mr Perkins transferred his knowledge and experience to build a successful career across the consulting and banking sectors, including 10 years at NAB before taking on the Chief Executive Officer role at Australia's Unity's retail banking unit in 2021.

Having seen sport from all angles over four decades, Mr Perkins is passionate about the whole sports sector, from grassroots to high performance. Mr Perkins was President of Swimming Australia until he took on the role of Chief Executive Officer of the Australian Sports Commission in March 2022. His focus in this role is to ensure sport has a place for everyone and delivers results that make Australia proud.

## Marni Poropat

### MANAGING DIRECTOR, GLOBAL DEFENCE TALENT AND WORKFORCE LEAD, ACCENTURE

Marni Poropat is Accenture's Managing Director, Global Defence Talent and Workforce Lead. She partners with Accenture's Defence and Defence Industry clients to design for people, to create an authentic Human Experience for the needs of your workforce and workplace. To gain value from your people technology and ultimately a future of work that inspires people and their organisations to be able to focus on their reason for being.

Marni is committed in focussing on people at the centre of the workforce experience, enabled by great technology, data insights, AI to provide an experience that puts people at the centre of what we are designing for. Marni has 9 years of experience in Accenture, with many roles across our government business. Prior to that Marni was the Global Product Manager in Human Capital Management & People Analytics.

## Brigadier Nerolie McDonald

### DIRECTOR GENERAL PACIFIC AND TIMOR-LESTE

Brigadier McDonald joined the Australian Regular Army in 1992, attending the Australian Defence Force Academy. She graduated from the Royal Military College Duntroon in 1995 into the Intelligence Corps. Over her career, Brigadier McDonald has been employed in a wide variety of tactical, operational and strategic level intelligence roles within land, training and joint environments. She has also completed international policy, capability, strategy, operations and command postings.

Brigadier McDonald is currently Director-General Pacific and Timor-Leste Branch within Defence's Pacific Division. She was the Chief of Defence Force Liaison Officer to the United States Central Command (2016); Australian Defence Attache to Vietnam and Laos (2017-2019); and Vice Director for Intelligence at United States Indo-Pacific Command (2020-2021).

Her operational deployments include: Op TANAGER - East Timor (2002); Op CATALYST - Iraq (2005); Op SLIPPER - Afghanistan (2009/10); and Op MAZURKA – Sinai, Egypt (2014) as Commander of the Australia Contingent.

Brigadier McDonald has a Bachelor of Arts Honours (Economics) and a Master of Arts (Strategy and Policy) from the University of New South Wales. She is also a Vietnamese linguist.

Brigadier McDonald has a young daughter and when not spending time with family and friends, enjoys reading, hiking and perfecting her golf swing.





## Professor John Blaxland

### PROFESSOR OF INTERNATIONAL SECURITY & INTELLIGENCE STUDIES

John Blaxland is Professor of International Security and Intelligence Studies in the Strategic and Defence Studies Centre, Coral Bell School of Asia Pacific Affairs, College of Asia and the Pacific at the Australian National University. He has been appointed Director of the ANU North America Liaison Office from September 2023. He is a Senior Fellow of the Higher Education Academy and a Fellow of the Royal Society of New South Wales. He has previously been a Chief Intelligence Staff Officer at HQ Joint Operations Command, defence attaché to Thailand and Myanmar, Head of SDSC and Director of the ANU Southeast Asia Institute.

His more recent books include Revealing Secrets: *An Unofficial History of Australian Signals Intelligence and the Advent of Cyber The US-Thai Alliance and Asian International Relations, (Routledge, 2021), Niche Wars: Australia in Afghanistan and Iraq (ANU Press, 2020), In From the Cold: Reflections on Australia's Korean War, 1950-1953, (ANU Press, 2020).*

## Air Marshal (Ret'd) Geoff Brown, AO

### CHAIRMAN, SIR RICHARD WILLIAMS FOUNDATIONS

Air Marshal (Ret'd) Geoff Brown AO retired as Chief of the Royal Australian Air Force in 2015. Over his 35-year career, he commanded at all levels and flew Chinooks, F-111s and F/A-18s, also serving as a flying instructor and in the Roulettes. He also deployed as operational commander for RAAF assets on Operation Iraqi Freedom.

He holds a BEng (Mech), a Master of Arts (Strategic Studies), and is a Fellow of both the Institute of Engineering Australia and the Royal Aeronautical Society.

Since leaving RAAF, he has worked as Director of Lockheed Martin (Australia), Electro Optic Systems, GCB Stratos Consulting, and as a Director on the Governing Council for the Temora Air Museum. He has also served as Chairman of the ACT Defence and Industry Board, the Sir Richard Williams Foundation, and the Advisory Board of CAE Asia Pacific and Middle East. Currently, he mentors in Leadership and Strategic Studies at the Australian Defence College.

His honours include appointment as an Officer in the Order of Australia, and recipient of the United States Legion of Merit Medal and Singapore Meritorious Service Medal.

## Kate Louis

### EXECUTIVE DIRECTOR AND HEAD OF DEFENCE AND INDUSTRY POLICY, AI GROUP

Kate joined the Australian Industry Group in 2017 following an extensive career in the Department of Defence.

Kate joined the Department of Defence as a graduate in 1997. She has extensive experience with Defence capability development, acquisition, contestability and industry policy. Her final position with Defence was First Assistant Secretary Defence Industry Policy Division where Kate was responsible for the effective implementation of the Government's approach to Defence Industry policy.

As the Executive Director of the Ai Group Defence Council, Kate has the privilege of working with industry and Defence to provide trusted policy advice and help build the Defence and industry partnership.

Kate has a Bachelor of Laws (1st Class Honours) and Bachelor of Arts from the Australian National University.

## Elsabe Muller

### GROUP HEALTH, SAFETY AND ENVIRONMENT OFFICER, BHP

Elsabe Muller is the Group HSE Officer who leads the team responsible for the strategic direction of HSE for the company.

Elsabe has almost 30 years of international experience in the resources industry, working across six commodities and four continents; with almost 28 years working at BHP across Marketing, as well as the Iron Ore, Nickel and Coal businesses.

She holds a Bachelor of Science from North West University, South Africa, and an MBA from Heriot Watt University (Edinburgh Business School).

Elsabe commenced at BHP in 1994 and has held various roles during this time including: Asset President for BMC and NSW Energy Coal mines; General Manager at Jimblebar Mine WAIO, General Manager of Integrated Production and Remote Operations WAIO, General Manager Non-Process Infrastructure WAIO, General Manager Marketing and Group Manager Business Optimisation/Business Planning for the global Nickel business.

In August 2022, Elsabe was appointed as the Group HSE Officer for BHP based in Perth.



SPEAKERS AND PANELLISTS DAY 2 | CHIEF OF ARMY SYMPOSIUM 2023

## Linda Dawson

### DEPUTY DIRECTOR GENERAL - INDUSTRY, SCIENCE AND INNOVATION

Linda Dawson is a senior executive with more than 25 years' experience working in large Australian and multinational organisations across the resources and utilities sectors. Over Linda's career she has led corporate services, community development, human resources, health safety and environment, corporate affairs and operational functions. Linda currently works for the Department of Jobs Tourism Science and Innovation in the Western Australian Government, as Deputy Director General Industry Science Innovation.

Linda has a strong belief in equality and respect for all in society, learning from our First Nations people, empowering women and giving back to the community. She has been a Chair of the MCA Indigenous Community of Practice, mentor with WIMWA and a past Chair of the CMEWA Pilbara Regional Council.

Linda is currently a Board Member of Workpower, Vice Chairperson of Midland Women's Health Care Place and a Member of the Sir Charles Gardiner and Osborne Park Hospital Human Research Ethics Committee.

She holds a Masters of Education and Bachelor of Physical Education from the University of Western Australia, is a Member of the Australian Institute of Company Directors, Certified Professional of the Australian Human Resource Institute and Fellow of the Australian Institute of Management.

ARMY INNOVATION DAY

## AID 2023 Exhibitors


HIROCO ..... **AID A7**
Post Office Red ..... **AID A8**
DroneShield ..... **AID B7**
University of Technology Sydney ..... **AID B8**
EcoJet Engineering ..... **AID B9**
Lockheed Martin Australia - STELaRLab ..... **AID C7**
Raytracer ..... **AID C8**
ECLIPS Logistics ..... **AID C9**
Visionary Machines ..... **AID D6**
Advanced Design Technology ..... **AID D7**
DefendTex ..... **AID D8**
Cubic Defence Australia. ..... **AID D9**
Codarra Advanced Systems ..... **AID E6**
Innovaero ..... **AID E7**
Platypus Instruments ..... **AID E8**
Geodrones Australia ..... **AID E9**
Hydrogen At Home ..... **AID F6**
Elbit Systems of Australia ..... **AID F7**
OneTide ..... **AID F8**
Jabiru ..... **AID F9**

# Army Innovation Day 2023

| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID A7** | **HIROCO** |
| HI·RO·CO HUMAN INTELLIGENCE ROBOT COLLABORATION | Hiroco was founded in April 2021 by Dr Colm Flanagan, a specialist in human-robot collaboration and automated planning, with a singular, ambitious objective: to bring the pinnacle of robotic and artificial intelligence technology to the Australian Defence Force. Building upon Dr Flanagan's foundational insights, Hiroco initiated the development of a product called the Multi-Agent Resource Task Allocation System, or MARTAS. MARTAS aims to simplify the complexities inherent in multi-agent planning while significantly reducing the cognitive burden on human operators. The core mission of this product is to maximise the potential of human-machine teams, enhancing mission success rates. |
| **AID A8** | **Post Office Red** |
| POST OFFICE RED | Post Office Red is built on decades of leading defence innovation across space, air, land, sea and subsea domains. With a primary focus on robotic and autonomous systems we create robust solutions to challenging problems. Our breakthrough program, Apex Predator, is redefining how, where and when combat power can be massed and delivered. It aims to mitigate risks across the spectrum of operations and provide the power to shape, deter and respond with confidence. At Post Office Red we are committed to pushing the boundaries of defence capabilities, providing cutting-edge solutions that help redefine the future of defence operations. If you have a wicked problem or want to support or join our journey, reach out at info@pored.com.au. |
| **AID B7** | **DroneShield** |
| DRONESHIELD | DroneShield is a global counter-drone company, headquartered and manufacturing in Sydney. We provide handheld, vehicle mounted and fixed systems to allied countries around the world – employing world leading Artificial Intelligence-based sensor fusion and signal processing are at the core of our systems. Our sensors & effectors are already integrated with our own Command-and-Control solution and are fully interoperable with third-party platforms. |

| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID B8** | **University of Technology Sydney** |
| UTS UNIVERSITY OF TECHNOLOGY SYDNEY | University of Technology Sydney (UTS) is ranked 90th in the world and delivers research solutions and new technologies to the Defence and Aerospace industries. We work closely with Defence Science and Technology Group (DSTG), Australian Defence Force, Office of National Intelligence, U.S. Department of Defense, Primes and SMEs. We host the NSW Defence Innovation Network and co-host the NSW Space Research Network. We have invested over AU$1bn on our facilities over the past decade. Our Sydney city campus is in the heart of Tech Central, Australia's largest technology and innovation hub, and is home to our purpose-built Department of Defence compliant secure facility. Our Human Performance Research Centre is situated within Sydney's sporting zone at Moore Park. Our industry collaboration facility, Tech Lab, is conveniently located beside Sydney airport. |
| **AID B9** | **ecoJet Engineering** |
| ecoJet ENGINEERING | ecoJet Engineering Pty Ltd is a small team of specialists from Adelaide, South Australia focused on innovating microturbine power solutions. Founded in 2016, ecoJet's team was inspired by achieving a world-leading matchbox-sized jet engine to develop microturbine solutions to modern energy problems. Through ongoing collaboration with Defence, industry, government, and academia, ecoJet is delivering the next generation in small, lightweight, adaptable on-demand power. ecoJet has partnered with ozXcorp to develop our Microturbine Inverter Genset (MTIG). ozXcorp is an Australian designer and manufacturer of world-leading power and connectivity solutions for mobile platforms. ecoJet's microturbine technology combined with ozXcorp's power electronics has yielded a world-leading capability in deployable power, pico-grid scalability and multi-platform interoperability. |

| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID C7** | **Lockheed Martin Australia - STELaRLab** |
| LOCKHEED MARTIN AUSTRALIA | Lockheed Martin Australia is the Australian Defence Force's trusted partner for realising a fully integrated, interoperable and future ready force for the 21st century battlefield. Headquartered in Canberra, Lockheed Martin Australia and New Zealand is a wholly-owned subsidiary of Lockheed Martin Corporation. The company employs more than 1,500 people across Australia and New Zealand working on research, design, development, logistics, integration and sustainment of advanced technology systems, products and services spanning the aerospace, defence and civil sectors. As part of Lockheed Martin's R&D ecosystem, STELaRLaB is the company's first world-class multi-disciplinary research facility to be established outside of the US, in Australia. Our STELaRLab researchers explore and drive innovation across several fields including artificial intelligence, autonomy, hypersonics, image and signal processing, tracking and sensor fusion, operations analysis and complex optimisation. |
| **AID C8** | **Raytracer** |
| RAYTRACER | Raytracer is a leading space and defence focused SME, based in Brisbane, Australia. Within a short period, Raytracer has strategically aligned projects with defence primes such as Rheinmetall and the Australian Space Agency. Raytracer has recently secured coveted federal grants from the Australian Space Agency to develop a world first Neutral Buoyancy VR technology and $2.8m from the Moon to Mars Initiative Demonstrator Program, greatly accelerating its efforts to develop world leading capabilities in robotics and AI. |
| **AID C9** | **ECLIPS Logistics** |
| ECLIPS logistics engineering | ECLIPS Logistics Pty Ltd is an Australian, veteran-owned engineering company specialising in project management, systems engineering, integrated logistics support (ILS), product development and contracted logistics support (CLS). ECLIPS Logistics has developed innovative Health and Usage Monitoring Systems (HUMS), Vehicle Information Management Systems (VIMS), Condition Based Maintenance Software Systems (CBMSS), ReadyFleet™ and Automated Identification Technology (AIT) for installed or in-transit assets. ECLIPS Logistics focuses on the systems required to enable the Military Internet of Things (MIoT) and digitalise the supply chain for the future, with significant investment in Robotic Autonomous Systems (RAS) and Artificial Intelligence (AI). |



| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID D6** | **Visionary Machines** |
| VISIONARY MACHINES | Visionary Machines creates super-human vision for trusted machines that enhance community safety and productivity. Visionary Machines' PandionTM camera-based technology is equipping next generation autonomous machines with the ability to safely perceive and interact with the world, removing the need for humans to operate in complex, repetitive and dangerous environments. Visionary Machines is launching its Intelligence Surveillance Reconnaissance (ISR) perception product at ARX23 — Vanguard, powered by our PandionTM technology.<br><br>Vanguard equips the user with:<br><br>- Accurate real-time 3D geospatial intelligence in GPS denied environments<br>- Super-human vision — sees in the dark, fog, dust, smoke, and rain -Passive operation — does not emit any signals<br>- Flexible implementation — can be easily retrofitted to any military vehicle.<br><br>Visit the Visionary Machines stand for a demonstration of our capability. |
| **AID D7** | **Advanced Design Technology** |
| ADVANCED DESIGN TECHNOLOGY | ADT specialises in the design, development and manufacture of Electronic Warfare (EW), signal processing, Cyber Secure IT Infrastructure and Communication products for use in sensitive & military environments. We are specialists in advanced signal processing, digital, RF and software design, development, use and manufacture, tailored to meet the needs of our customers. We are an agile and innovative Small-to-Medium Enterprise able to rapidly deliver effective and efficient solutions to complex problems. |
| **AID D8** | **DefendTex** |
| DEFENDTEX | DefendTex is an established leader in multi domain asymmetric warfare solutions. Innovation drives the development of cost effective capabilities to deliver combat mass. These are designed to significantly increase the strike range, survivability and lethality of existing systems. DefendTex leverages a strong commitment to R&D combined with state of the art facilities to deliver world leading capabilities to the war fighter. New capabilities are derived from developing truly collaborative partnerships with the end user community. |

| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID D9** | **Cubic Defence Australia** |
| | Cubic Defence Australia is an integrator of performance-based training, readiness and mission solutions, and is a key partner for training and technical support services to the Australian Defence Force. As a subsidiary of Cubic Corporation, Cubic Defence Australia provides live, virtual and constructive (LVC) training and simulation solutions. Cubic is also a provider of networked Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) capabilities. Cubic is experienced in the delivery of military training simulation and large-scale exercise support services, as well as operations, support and maintenance for simulation systems. With a footprint in many key defence locations within Australia, our ex-military and civilian team draw on their experience and knowledge to provide high-end training, simulation and instrumentation services and systems support. |
| **AID E6** | **Codarra Advanced Systems** |
| | Codarra Advanced Systems is an Australian SME that specialises the detection, countermeasures and exploitation of drones. |
| **AID E7** | **Innovaero** |
| | Innovaero is a wholly Australian owned SME with a pedigree in aeronautical engineering and advanced aerial camera arrays for rapid wide area high resolution survey. We are currently developing a range of multi-mission, multi-domain uncrewed aerial systems including for ISR and strike missions. We are currently developing the OWL-B, an anti-armour capable medium range Loitering Munition. OWL-B is the first of a family of MOSA expendable UAS. In addition to the OWL family, we are partnered with BAE Systems Australia to design and develop a large uncrewed combat aerial system named STRIX, which BAESA unveiled at AVALON23. |



| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID E8** | **Platypus Instruments** |
| | Platypus Instruments is a Canberra based OEM and professional design engineering company. Servicing the Defence, academic, industrial and consumer markets for 20 years, our staff possess a wide range of applied engineering and scientific skills to deliver timely, bespoke solutions. We provide an end-to-end, multidisciplinary product and subsystem design service, coupled with low-volume manufacturing of electromechanical, electro-optical, radio frequency and high-speed digital systems. |
| **AID E9** | **Geodrones Australia** |
| | Geodrones Australia is a 100% Australian-owned and operated Defence company headquartered in Canberra, ACT. Geodrones specialises in the design and manufacture of unmanned systems that have use cases across both military and civilian sectors. |
| **AID F6** | **Hydrogen At Home** |
| | Hydrogen at Home was founded in 2019 to take a technology leadership position in the acceleration of hydrogen energy technology with a focus in Green hydrogen technology solutions. Based on the Central Coast, NSW, we use renewable energy sources in mobile and static applications to achieve energy resilience, independence, and control. The Hydrogen at Home team are an experienced, cross functional team working with research partner, the University of Newcastle to deliver best in class emerging sustainable energy technology for hydrogen; generation, compression, drying, storage, fuelling and fuel cells.<br><br>Hydrogen at Home is developing solutions now for:<br><br>- Zero carbon energy storage systems (stationary)<br>- Zero carbon energy storage systems (mobile)<br>- Interseasonal energy storage<br>- Vehicle to Home (V2H)<br>- Vehicle to Grid (V2G)<br>- Virtual Power Plant (VPP) |

| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID F7** | **Elbit Systems of Australia** |
| | Elbit Australia is an innovative technology company providing disruptive solutions for homeland security, emergency services and defence customers. We access leading-edge technology from our global network and adapt it for the environment in which our customers operate. ELSA takes an Australian approach to project delivery, assurance and local content to supply technology across a broad portfolio of solutions including airborne, UAS, Land, C4I and Cyber and Maritime applications. Elbit's Autonomous capabilities enable customer defined and trusted RAS/CRAS missions using a layered heterogenous swarm system of system solution via our vendor agnostic and open RAS architecture C2 Solution (Legion-X). |
| **AID F8** | **OneTide** |
| | Onetide is a national award winning, proudly Australian owned and operated engineering SME. Point of difference is our ability to consider a multitude of challenges and draw upon our technical limit expertise in modern and AM sovereign capability to provide, practical, time optimised, efficient, novel, and safe solutions. Championing AIC through support of local SME's, we deliver our proprietary innovations in remote energy, logistics and maritime infrastructure to Defence, Resources, Marine Logistics, HADR sectors. We take pride in demonstrating the measurable safety, time, cost, and ROI benefits of our solutions.<br><br>Capabilities include:<br>- Advisory and Engineering services<br>- Novel concept design, prototyping, and production<br>- Efficient, expedient, on time & budget as low as reasonably practicable (ALARP) risk engineering solutions<br>- 3D concept modelling<br>- Additive manufacturing<br>- Remote site operations optimisation |



| POD NO. | EXHIBITOR BIO |
|---|---|
| **AID F9** | **Jabiru** |
| | Jabiru is an innovative and entrepreneurial Australian company whose mission is to develop and enhance affordable flying throughout the world. Jabiru is proudly Australian, exporting Australian technology to the world from its base in Bundaberg, regional Queensland. In business in the recreational aviation arena for over 30 years, Jabiru is one of the worlds very few airframe and aero engine manufacturers in the world. Jabiru has sold over 2,000 aircraft and over 7,000 engines in its lifetime and exported to over 30 countries around the world. |

## ARX 2023 Exhibitors


Praxis Labs ..... **ARX J2**
QinetiQ ..... **ARX J3**
3ME Technology ..... **ARX K1**
DefendTex ..... **ARX K2**
BAE Systems Australia ..... **ARX K3**
Acacia Systems ..... **ARX K4**
EPE Trusted to Protect ..... **ARX K5**
Athena AI ..... **ARX L1**
Ichor Autonomy ..... **ARX L2**
Criterion Solutions ..... **ARX L3**
Precision Technic Defence ..... **ARX L4**
Boeing Defence Australia ..... **ARX L5**
Rheinmetall Defence Australia ..... **ARX M1**
RAIDER Targetry ..... **ARX M2**
Nova Systems ..... **ARX M3**
Cyborg Dynamics Engineering ..... **ARX M4**
Chironix 'advanced uncrewed ground vehicle technology' ..... **ARX M5**
Omega Dev Group ..... **ARX M6**
Visionary Machines ..... **ARX M7**
Outlook Industries Australia ..... **ARX M8**
Lvndship ..... **ARX M9**
AMSL Aero ..... **ARX N1**
Mawson Rovers ..... **ARX N2**
Agili8, Chironix, Motium, UWA, ECU ..... **ARX N3**
W&E Platt ..... **ARX N4**
Mirragin ..... **ARX N5**
ECLIPS Logistics ..... **ARX N6**
Hanwha Defense Australia ..... **ARX N7**
Innovaero ..... **ARX N8**
Frazer-Nash Consultancy ..... **ARX N9**





Radlink ..... **ARX O1**
Codan Communications | DTC ..... **ARX O2**
Elbit Systems of Australia ..... **ARX O3**
Leidos Australia ..... **ARX O4**
Universal Field Robots ..... **ARX O5**
Advent Atum ..... **ARX O6**
Skyborne Technologies ..... **ARX O7**
Tekuma ..... **ARX O8**
Klas Australia ..... **ARX O9**
Autonoma ..... **ARX P1**
GaardTech ..... **ARX P2**
Microsoft ..... **ARX P3**
EOS Defence Systems ..... **ARX P4**
AVI ..... **ARX P5**
Infrastructure Technologies ..... **ARX P6**
Insitu Pacific ..... **ARX P7**
AIM Defence ..... **ARX P8**
Brokk Security and Rescue Solutions ..... **ARX P9**
Aerostructures Innovation Research (AIR) Hub ..... **ARX Q2**
UBH Group ..... **ARX Q3**
Nightingale Intelligent Systems, Inc. ..... **ARX Q4**
SYPAQ ..... **ARX Q5**
Commercial ROV Australia ..... **ARX Q6**
Agent Oriented Software ..... **ARX Q7**
Arkeus ..... **ARX Q8**
Moog Australia ..... **ARX Q9**
Cognitive Advantage ..... **ARX R2**
Project iBis ..... **ARX R3**
Swoop Aero ..... **ARX R4**
Orion Sovereign Group ..... **ARX R5**
Toll Aviation ..... **ARX R6**
UWA Defence & Security Institute ..... **ARX R7**
Raytracer ..... **ARX R8**
Saab 'drone awareness and tracking' ..... **ARX R9**

# Army Robotics Expo 2023

| POD NO. | EXHIBITOR BIO |
|---|---|
| **ARX J2** | **Praxis Labs** |
| PRAXIS LABS | Praxis Labs is the leading provider of Structural Solar to the global Defence market. When Defence equipment can collect its own energy from the sun, Defence can increase its power capabilities without increasing its amount of equipment. Praxis Labs' Structural Solar technology enables any surface touched by the sun, to become its own solar collector and generate its own energy. Praxis Labs works across Air, Land and Ocean applications providing enhanced energy resilience and transformative capabilities to Defence equipment with the toughest, and most versatile solar integration technology on the market. |
| **ARX J3** | **QinetiQ** |
| QINETIQ | We are a globally focused company of over 6,600 dedicated people providing technological and scientific expertise that helps our customers protect, improve and advance their vital interests. Through collaborating with industry, academia and governments, we stay at the forefront of technology development and expansion, innovating for our customers' advantage in the Defence industry. In Australia, we specialise in program delivery, engineering and advisory services across the land, air and maritime domains. We employ more than 600 people on QinetiQ and customer sites across Australia. We leverage our deep technical expertise and engineering capability to deliver advantage to our customers. This includes leveraging advanced global technologies to develop trusted, assured, combat-ready Robotic & Autonomous Systems optimised to meet ADF operational requirements. |



| POD NO. | EXHIBITOR BIO |
|---|---|
| **ARX K1** | **3ME Technology** |
| 3ME TECHNOLOGY | 3ME Technology is an Australian battery and heavy electric vehicle technology company. We design and manufacture lithium-ion battery systems that power Mining and Defence equipment. This enables our customers to replace diesel powered vehicle fleets with cutting-edge electric battery systems, providing enhanced capability and safety. We support sovereign Defence capability with a growing reputation in Australia and overseas. We have core engineering skills and proprietary technology integration capabilities; Bladevolt® battery system (protect against thermal runaway, threats for air cargo, maritime moves). BladeDRIVE (control system, traction system), BladeNET telemetry/power system management with cyber security for future integration into defence networks, electrical integration and power management competence at all voltages (eLV, LV and HV), CAN systems integration expertise, experienced engineering team with in-house mechanical, electrical, software, hardware and systems integration capabilities. |
| **ARX K2** | **DefendTex** |
| DEFENDTEX | DefendTex is an established leader in multi domain asymmetric warfare solutions. Innovation drives the development of cost effective capabilities to deliver combat mass. These are designed to significantly increase the strike range, survivability and lethality of existing systems. DefendTex leverages a strong commitment to R&D combined with state of the art facilities to deliver world leading capabilities to the war fighter. New capabilities are derived from developing truly collaborative partnerships with the end user community. |
| **ARX K3** | **BAE Systems Australia** |
| BAE SYSTEMS | BAE Systems Australia is a world-leader in autonomy including uncrewed vehicles, advanced sensors and missile guidance technology. Our talented team of engineers and specialists push the boundaries of autonomous systems to advance technology and redefine the art of possibility. BAE Systems Australia has teamed with Perth-based Innovaero to present Australia's first domestically designed, manufactured and armed VTOL (vertical take-off and landing) uncrewed air system: STRIX. To meet the challenges of today's complex and evolving Electronic Warfare battlefield, we have developed high-performance digital ESM solutions to provide radio frequency (RF) situational awareness to enable rapid decision-making. |

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| **ARX K4** | **Acacia Systems** |
| | Supporting the Australian Defence Force since 1992, Acacia is a leading Australian defence software and systems engineering company engaged primarily in developing advanced mission management systems and tactical support applications. The company maintains significant depth of skills in the areas of data fusion, tracking, sensor performance, data analysis and environmental mathematical modelling. Translating these into advanced deployed systems is achieved through the application of disciplined systems, software and hardware engineering practice. |
| **ARX K5** | **EPE Trusted to Protect** |
| | EPE is a trusted partner delivering reliable and proven solutions to Defence for over 25 years. Our focus is enabling and protecting Australians and allies operating in hazardous environments. We work with the world's leading uncrewed ground and aerial systems OEMs to provide Defence, Emergency Services and Government with game-changing capabilities and competitive advantage. Our accredited technicians provide in-country through-life-support for a fleet of 250 robotics and thousands of sensors. We deliver specialist training, consulting, validation and verification, NIST test evaluations, and operate MILTECS range facilities in Queensland. EPE collaborates with CSIRO and DST to commercialise technologies for Defence, and received a $4 Million Trailblazer grant from DISR and the Australian Space Agency to design an Australian Lunar Rover to go to the moon in 2026. |
| **ARX L1** | **Athena AI** |
| | Athena AI is committed to realising the RASAI enabled warfighter. Athena leverages Artificial Intelligence to handle and process information saturated environments and assists soldiers to exploit information for maximum effect. Athena AI uses state of the art Machine Learning and Artificial Intelligence to enhance situational awareness, geospatial analysis, mission planning, dynamic targeting, and other use cases. Athena's products are a result of over 3 years of R&D, funded by Australian Defence Force capability grants. Athena also includes the Australian Defence Force's ethical AI pragmatic tools, consideration for lethality systems, and forward planning for Article 36 reviews to support sensor to effector links. |



| POD NO. | EXHIBITOR BIO |
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| **ARX L2** | **Ichor Autonomy** |
| | Ichor Autonomy strives to create autonomous robotic solutions capable of operation in contested, GPS-denied complex environments. Our Autonomy enables real time mapping, target detection, and autonomous behaviours through unstructured environments such as buildings and urban terrain, creek lines and forests. This is a low cognitive load, fire and 'almost forget' solution to enable embedding at team, section and vehicle level. We are vertically integrated to a component level and the majority of our components are off the shelf, sourced from US and allied suppliers. Our software is predominately proprietary and this enables us to respond to user and customer input to develop specific solutions to their problems. We are a fully Australian and veteran-owned company, focused on the delivery of autonomy to defence. |
| **ARX L3** | **Criterion Solutions** |
| | Criterion Solutions Pty Ltd (Criterion) provides ISR and autonomous solutions to Australian and New Zealand state and national government entities in support of their missions. The company was established in 2011 with a focus on autonomous (UAS and UGS) and niche radio frequency survey solutions.Criterion is proud to partner with Teledyne FLIR and has sold and supports over 500 airframes into the Australian market for Defence and other government agencies. |
| **ARX L4** | **Precision Technic Defence** |
| | Precision Technic Defence delivers "best of breed" integrated mission solutions to the end user underpinned by emerging technology and common soldier architectures. We pride ourselves on ensuring that the solution is integrated into the end users' needs to meet capability and maximise mission success. |

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| **ARX L5** | **Boeing Defence Australia** |
| | For more than 100 years, Boeing has continually found newer and better ways to provide the best products and services to our customers and meet their needs where they are today — and where they will need to be tomorrow.<br><br>Phantom Works Global, Boeing Defense, Space & Security's advanced research, development and prototyping division, has answered the call by dedicatedly investing in facilities, people, technology and techniques – allowing us to offer the most advanced weapons systems in the industry.<br><br>Phantom Works Global is an advanced rapid prototyping and innovation-focused subsidiary of The Boeing Company and uses agile R&D methods to create the next generation of defence products for Australia and its allies.<br><br>Phantom Works Global in Australia includes a team of engineers, scientists, and researchers who relentlessly pursue innovation in design, thinking and execution to create world-class solutions and advanced military products and technologies, many of them highly classified.<br><br>Key focus areas for Phantom Works Global includes Autonomous Systems, Mission Systems, Support Systems and Simulation & Analytics. |
| **ARX M1** | **Rheinmetall Defence Australia** |
| | Rheinmetall Defence Australia Pty Ltd, headquartered in Redbank, is the entity representing Rheinmetall's range of products and services in Australia and New Zealand, and is a trusted partner to the Australian Defence Force and New Zealand Defence Force.<br><br>The ties to the Australian Government date back to more than 40 years ago through the provision of munitions. Today, we are proud to be the largest supplier of military vehicles to the Australian Defence Force. We are growing our Australian footprint to deliver system solutions and capability in the areas of mobility, lethality, reconnaissance, protection and sustainment during this important time in the life of the nation's defence industry. |



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| **ARX M2** | **RAIDER Targetry** |
| | RAIDER is a leading provider of global threat representation with comprehensive solutions for live-fire training and weapon systems testing. With key expertise designing full-scale, moving vehicle, littoral, and NOE-flight aerial targets they remain at the forefront of live-fire and live-sim capabilities, delivering Turn-key multi-signature moving and static targetry solutions for RAS, high explosive, anti-armour, direct fire, and air-to-ground engagements. From single high-priority missions to large-scale joint exercises, the modular ecosystem allows both an unmatched flexibility and integration to existing ranges, and swift establishment on new/remote sites, with proven durability and reliability in any conditions. By bringing the concept of "Train as you Fight, Fight as you Train" into the 21st century, RAIDER sets a new standard in Targetry, empowering military personnel to hone their skills with the greatest possible effectiveness. |
| **ARX M3** | **Nova Systems** |
| | Nova Systems is a leading, 100% Australian owned and controlled engineering services and technology solutions company, engaged across multiple Defence domains and delivering specialist systems engineering, advisory and management services alongside advanced technology, software and hardware systems integration solutions.<br><br>Robotics & Autonomous Systems (RAS) capabilities include:<br><br>- Digital Mission Engineering: use of digital and physics-based modelling, simulation and analysis to evaluate & enhance operational mission outcomes and effectiveness.<br>- Test & Evaluation (T&E) centre of excellence: utilising synthetic and physical T&E to optimize assessment and employment of RAS and support development of Tactics Techniques and Procedures (TTPs).<br>- Geospatial and Electromagnetic expertise enabling the development of a fully representative synthetic operational environment.<br>- Development of deployable digital mission engineering software tools, sales and support of the STK suite. |

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| **ARX M4** | **Cyborg Dynamics Engineering** |
| | Cyborg Dynamics Engineering are an experienced, highly motivated team constantly innovating in a variety of engineering sectors. Our core focuses are robotics, embedded systems design, and software development. Our team's most ambitious and successful project to date is the Warfighter Unmanned Ground Vehicle (UGV) developed in partnership with BIA5. The Warfighter is a sovereign developed UGV capable of offensive and support roles to the dismounted serviceperson. The product combines BIA5's patented 'go anywhere' suspension system, with Cyborg Dynamic Engineering's cutting-edge user interface and robotics control stack. Other enhancements have been added to include onboard power generation, optics suites, various weapons options, and logistics configurations. |
| **ARX M5** | **Chironix 'advanced uncrewed ground vehicle technology'** |
| | Chironix develops software and applied robotics solutions and implements them in the field. We specialise in integrating automated robotics solutions to add value to operations particularly within the defence, resource and energy sectors Chironix specialises in technologies that enhance the capability of humans by teaming with robotics. We see a future where we can work with reliable robotic systems in a human-centric manner. We embrace the technology of Industry 4.0, using robotics automation, machine learning, and wearable devices to deliver human-centred products which reduce cognitive load and enhance capabilities. We work with government and enterprise clients focusing on developing highly capable robotic systems that can perform key functions in support of humans. |
| **ARX M6** | **Omega Dev Group** |
| | Omega Dev Group is a veteran owned company that specialises in systems integration, manufacturing, R&D and procurement.<br><br>Omega's vision is to be the premier systems integrator of choice for the Government and Defence Industries both internationally and domestically.<br><br>We are committed to develop robust, cutting-edge technology utilising skills and labour from our sovereign workforce and partner network. |



| POD NO. | EXHIBITOR BIO |
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| **ARX M7** | **Visionary Machines** |
| | Visionary Machines creates super-human vision for trusted machines that enhance community safety and productivity. Visionary Machines' PandionTM camera-based technology is equipping next generation autonomous machines with the ability to safely perceive and interact with the world, removing the need for humans to operate in complex, repetitive and dangerous environments. Visionary Machines is launching its Intelligence Surveillance Reconnaissance (ISR) perception product at ARX23 — Vanguard, powered by our PandionTM technology. Vanguard equips the user with:<br><br>- Accurate real-time 3D geospatial intelligence in GPS denied environments<br>- Super-human vision — sees in the dark, fog, dust, smoke, and rain<br>- Passive operation — does not emit any signals<br>- Flexible implementation — can be easily retrofitted to any military vehicle<br><br>Visit the Visionary Machines stand for a demonstration of our capability. |
| **ARX M8** | **Outlook Industries Australia** |
| | Outlook Industries Australia Pty Ltd (Oi)<br>Oi is a small mechatronics company which makes the "GUS" remote power, reconnaissance and surveillance platform, based in rural Victoria. The company started by making robots for elephant and rhino conservation in very remote African parks and has developed from those lessons into the defence space. GUS is affordable, simple and expendable and is currently being trialled by the ADF. We pride ourselves on our:<br><br>a. Ability to iterate very quickly.<br>b. Team – which has a huge amount of experience from across industries and countries.<br>c. Ongoing collaboration with customers. |

| POD NO. | EXHIBITOR BIO |
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| **ARX M9** | **Lvndship** |
| | Lvndship ('landship') is a Perth based husband and wife team focused on the development of remote autonomous systems and software. Our systems and software are designed, engineered and manufactured in-house, with an emphasis on relying on as few externally sourced components and software as possible. We are currently developing Mini Unmanned Ground Vehicle (MUGV), a small-form fully autonomous tracked vehicle capable of carrying heavy payloads across difficult terrain. A MUGV variant has been specifically developed for donation to Ukraine's war effort, where it will conduct support, trench clearance and one way attack missions. MUGV supports various methods of operation and missions, which may be locally or remotely programmed. In future, we aim to develop a range of autonomous systems and supporting software to enhance Australia's remote autonomous Defence capabilities. |
| **ARX N1** | **AMSL Aero** |
| | AMSL Aero is an Australian company founded to develop fast, efficient, low noise, electric Vertical Take Off and Landing (e-VTOL) with applications in the defence environment. (Aircraft for CASEVAC, heavy cargo and personnel transport.) Up to date we have flown multiple proof of concept aircrafts and have achieved hover stage for the first Australian large-scale e-VTOL aircraft. AMSL AERO is a dynamic team of over 40 specialists that bring new designs and collaboration with bespoke specialist companies and research institutions with the aim of achieving the right solutions for our Vertiia autonomous or piloted aircraft. |
| **ARX N2** | **Mawson Rovers** |
| | Mawson Rovers offers an Australian capability for robotic system design and development. We design and manufacture powerful and easy-to-use robots for defence, space and extreme environments. |



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| **ARX N3** | **Agili8, Chironix, Motium, UWA, ECU** |
| | We are a cooperative of three Western Australian technology companies, Chironix robotics, Agili8 AR smart glasses, and Motium ruggedised computers, and two universities, The University of Western Australia, and Edith Cowan University. Our team brings together expertise in robotics, artificial intelligence, augmented reality, and human factors and cognitive psychology.<br>Our demonstration project allows a soldier to control robot locomotion simply by making gestures with the non-dominant hand, with the option to also view live video feed from the robot via AR projection. Our system has been designed to minimise the cognitive burden on soldiers and maximise trust through human-automation teaming and naturalistic communication methods. |
| **ARX N4** | **W&E Platt** |
| | W&E Platt has been designing and manufacturing manually operated machine gun mounts for over 40 years, supporting the Australian Defence Forces, and exporting these weapon mounts to over 40 countries worldwide. The company identified a capability gap that exists in the current Australian and global weapon mounts market between the manually operated machine gun mount (provided by W&E Platt) and the Remote Weapons Stations (RWS) provided by other companies. A cost-effective and versatile solution that does not require a continuous power supply (as a conventional RWS do) with Mini Gun capability able to be mounted/positioned anywhere. In stationary locations or on optionally crewed platforms, this optionally crewed capability represents a significant opportunity for rapid mass generation, allowing for flexible operational concepts with relatively low enhancement or augmentation to in-service platforms. |

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| **ARX N5** | **Mirragin** |
| | Mirragin is an award-winning, veteran-owned consultancy, specialising in drones, robotics and AI. Founded by Rob Sutton, an Aviation Engineer formerly with the Australian Army, Mirragin has a vision to transform the way organisations utilise drones to enhance safety and optimise their operations.<br><br>We help government agencies and businesses to develop a clear RAS strategy, by taking a problem-first approach, where we define, design and deliver your RAS solution. Mirragin has a team of highly skilled subject matter experts, many of whom are veterans, with extensive experience in the defence, government and commercial sectors.<br><br>Mirragin is also at the centre of a vast network of autonomous systems organisations. Each year we produce the Australian Drone Ecosystem Directory. The Directory is the most comprehensive listing of drone service providers in Australia. |
| **ARX N6** | **ECLIPS Logistics** |
| | ECLIPS Logistics Pty Ltd is an Australian, veteran-owned engineering company specialising in project management, systems engineering, integrated logistics support (ILS), product development and contracted logistics support (CLS). ECLIPS Logistics has developed innovative Health and Usage Monitoring Systems (HUMS), Vehicle Information Management Systems (VIMS), Condition Based Maintenance Software Systems (CBMSS), ReadyFleet™ and Automated Identification Technology (AIT) for installed or in-transit assets. ECLIPS Logistics focuses on the systems required to enable the Military Internet of Things (MIoT) and digitalise the supply chain for the future, with significant investment in Robotic Autonomous Systems (RAS) and Artificial Intelligence (AI). |



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| **ARX N7** | **Hanwha Defense Australia** |
| | Hanwha Defense Australia (HDA) is committed to bringing together South Korean and Australian relations through establishing a secondary defence supply chain and partnering with best of breed companies between the two countries. HDA draws upon the strong pedigree of RAS capabilities in service to the South Korean Army. Our current focus for RAS focuses on developing automated protected logistics to the edge under the codename 'VenomX'.<br><br>Hanwha is the largest defence company in South Korea servicing more than 3 million personnel. HDA has established the Hanwha-Armoured Vehicle Centre of Excellence (H-ACE) manufacturing hub in the Greater Geelong area from where it will support current and future Australian defence capabilities |
| **ARX N8** | **Innovaero** |
| | Innovaero is a wholly Australian owned SME with a pedigree in aeronautical engineering and advanced aerial camera arrays for rapid wide area high resolution survey. We are currently developing a range of multi-mission, multi-domain uncrewed aerial systems including for ISR and strike missions. We are currently developing the OWL-B, an anti-armour capable medium range Loitering Munition. OWL-B is the first of a family of MOSA expendable UAS. In addition to the OWL family, we are partnered with BAE Systems Australia to design and develop a large uncrewed combat aerial system named STRIX, which BAESA unveiled at AVALON23. |
| **ARX N9** | **Frazer-Nash Consultancy** |
| | Frazer-Nash is a leading systems, engineering and technology company. Part of KBR Group, we help organisations deliver innovative engineering and technology solutions to make lives safe, secure, sustainable, and affordable. With over 1000 employees, we work from a network of nine UK and four Australian locations. Our people apply their expertise to develop, enhance and protect our clients' assets, systems and processes. We use our skills and talents to ensure a sustainable future for society. Our work helps deliver a safe and secure world, where natural resources are conserved, and clean energy is available to all. And we focus on actions to reduce climate change; supporting rapid and far-reaching transformations in the delivery of energy, security, industry, and transport. |

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| **ARX O1** | **Radlink** |
| | Radlink Communications is a leading Australian technology integrator. With proven expertise in design, supply, installation, commissioning, and support of technology and communications networks, Radlink has earned a reputation for delivering high-quality solutions nationally and internationally. Our extensive experience spans defence, resource, government, public safety, private industrial, and telecommunications sectors.<br><br>Our ability to design and build technology solutions in harsh and remote locations sets us apart. Leveraging our purpose-built services, we optimise your existing communications backbone, expanding your network reach. We also offer additional data services and comprehensive system monitoring to ensure reliability and security.<br><br>Choose Radlink Communications as your trusted technology partner, and benefit from our expertise in delivering high-quality solutions. Together, we will overcome the unique challenges of the defence landscape with resilient and advanced technology solutions. |
| **ARX O2** | **Codan Communications \| DTC** |
| | Codan Communications \| DTC is an Australian headquartered designer and manufacturer of premium communication solutions for customers globally. Employing more than 300 Australians, Codan continually invests in research and development ensuring our radios are always a step ahead of our competitors, and adversaries.<br><br>The only fully sovereign Australian company with field proven MANET / Mesh and HF radio technology, Codan has a 60+ year track record of supplying high profile customers worldwide.<br><br>Codan's Robotics and Autonomous Systems offering features a complete range of BluSDR MANET / Mesh radio modules spanning from sub-matchbox sized modules for small UAVs through to high power radios providing 300+ km range for large UAV, UGVs and USVs. All of these modules benefit from the power of our MeshUltra battle hardened waveforms. |



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| **ARX O3** | **Elbit Systems of Australia** |
| | Elbit Australia is an innovative technology company providing disruptive solutions for homeland security, emergency services and defence customers. We access leading-edge technology from our global network and adapt it for the environment in which our customers operate. ELSA takes an Australian approach to project delivery, assurance and local content to supply technology across a broad portfolio of solutions including airborne, UAS, Land, C4I and Cyber and Maritime applications. Elbit's Autonomous capabilities enable customer defined and trusted RAS/CRAS missions using a layered heterogeneous swarm system of system solution via our vendor agnostic and open RAS architecture C2 Solution (Legion-X). |
| **ARX O4** | **Leidos Australia** |
| | Leidos Australia has been a trusted partner to the Australian Government for over 25 years, having delivered some of the most complex software and systems integration projects in Australia. Led by a local leadership team, we deliver projects and services through five lines of business – Airborne Solutions, Civil Services & Projects, Defence Digital Solutions & Support, Defence Mission Systems and Intelligence – supported by local corporate functions. Leidos Australia's government and defence customers enjoy the advantage of a 2000+ person local business, backed by Leidos' global expertise, experience and capabilities. With a focus on sovereign development and support, the company invests locally in R&D both directly and in combination with local SMEs. |
| **ARX O5** | **Universal Field Robots** |
| | Universal Field Robots (UFR) is a Brisbane-based company specialising in automation of heavy machinery. UFR's vision is to elevate work quality by automating hazardous, repetitive and mundane tasks through their innovative field robots. Central to UFR's mission is UFRautonomy, a package of intelligent software and hardware that transforms mass-produced machines into advanced robotic tools. The package facilitates automated driving, hydraulic arm control, machine perception, and mission planning, enhancing operational efficiency and safety while cutting costs. It also enables remote or autonomous machine operation. Versatile and brand-agnostic, UFRautonomy is adaptable to a wide range of vehicle platforms. By delivering flexible, customised automation swiftly, UFR is reshaping the future of the Australian defence industry with innovation and sovereign robotics capabilities. |

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| **ARX O6** | **Advent Atum** |
| Advent Atum | Advent Atum, founded in July 2021, is a product of the prestigious D.Start incubators run by DSTG. From these foundations, we emerged as creators of autonomous defence and specialised commercial platforms, products and systems, always intertwining traditional wisdom with cutting-edge technology and promoting diversity within the tech sphere. Our solutions are driven by the most advanced AI technologies, incorporating computer vision, radar, acoustics and deep learning algorithms. We are continually exploring and embracing state-of-the-art technology to craft solutions that exceed industry standards and push the boundaries of what is possible. Our mission is clear and ambitious: to rapidly advance defence and commercial industry capabilities, focusing on autonomy and sustainability. As a majority Aboriginal-owned company, we uphold this mission with pride, harmonising the wisdom of tradition with the innovation of technology. |
| **ARX O7** | **Skyborne Technologies** |
| SKYBORNE TECHNOLOGIES | Skyborne Technologies develops smart aerial robotics for Defence and security customers. Our flagship product is the Cerberus GLH UAS, a tri-tilt rotor Group 2 weaponised UAV capable of firing 5-shot 40mm. The company was founded in 2014 with 22+ staff and is located in Brisbane. |
| **ARX O8** | **Tekuma** |
| Tekuma | Tekuma's six-degrees of freedom orb is a control component that can be integrated into any human-machine interface, making it easier to control drones, robots, and other devices. Drastically improving the user experience, it can save your business time and money, as well as personnel and training costs. Two years ago they joined the universal Soldier Robotic Controller (SRoC) program under the US Defense Innovation Unit, to develop the EMU (easy manoeuvre unit) controller utilising feedback from US soldiers. They are based in and manufacture in Adelaide, and have bootstrapped since originally launching in Sydney in 2016. Already serving customers in the US and Australia, Tekuma is seeking new partners to ensure a friendlier, one-handed control experience for all sorts of technologies. |



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| **ARX O9** | **Klas Australia** |
| KLAS | Klas is an engineering and design company with over 30 years of experience developing innovative communications solutions for the extreme edge. Klas manufactures rugged, scalable and modular deployable networking solutions for use in remote and austere environments where size, weight, and power is . Its markets include the military/defence, intelligence and security, public safety transportation, mining and resources, and agriculture sectors. The company specialises in integrating best-of-breed enterprise networking capabilities from global IT leaders, with its own hardware and software technology to deliver class-leading solutions to its customers. Klas deployable communications systems deliver unparalleled performance and reliability in the most extreme environmental and operational conditions. Klas Australia brings Klas' innovative technology solutions to the Australian marketplace connecting users to the 'Internet of Battlefield Things' in ways never thought possible. www.klasgroup.com |
| **ARX P1** | **Autonoma** |
| AUTONOMA | AUTONOMA understand that industry is evolving at rate never seen before, with a key focus on technological investment and automation of processes. AUTONOMA was born to help our customers with this journey into Industry 4.0 and to demystify the complexities of the continuously changing landscape. We have significant experience when it comes to turn-key automation of difficult, dangerous, and repetitive tasks in the workplace, using the latest robotics and software. We work closely with clients to bring their automation vision to life in an efficient and cost-effective manner that maximises their return on investment. We understand that not one size fits all, thus our AUTOMATION solutions are tailored to our customers, their processes, and their unique quirks. |
| **ARX P2** | **GaardTech** |
| GAARD TECH | GaardTech is a global leader in Military Combat Robotics, with systems currently deployed in the highest intensity combat zones and in service with the ADF, UK MOD, US DOD and Bundeswehr. Our focus is in developing the Robotic Fighting Echelon to remove soldiers from the direct fight to increase force protection and to enable our home nations and allies to fight differently. We specialise in three core product lines: Jaegers: Robotic Fighting systems Robotic Decoys: High fidelity robotic deception platforms Training Systems: Enemy formations for battlefield recreation for dry and live-fire We have factories in Australia and the United Kingdom, and have an office in the USA and Germany and support customers globally. |

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| ARX P3 | **Microsoft** |
| | Microsoft has played a leading role in network-centric innovation and Defence for more than 40 years. We are leading the way across the strategic, operational, and tactical operations areas, giving organizations the ability to use digital technology to meet their complex needs. Microsoft's approach to support Defence and Intelligence organizations in their transformation efforts spans five segments:<br><br>1. Deliver a trusted and secure digital backbone to distribute secure cloud enabled capabilities across platforms, infrastructures, and services;<br><br>2. Empower personnel and modern facilities to securely meet the needs of military personnel and their families and digitally improve facilities and services;<br><br>3. Transform the capability lifecycle to optimize the design, procurement, build, maintenance, and disposal of military capabilities, in partnership with the Defence Industrial Base;<br><br>4. Optimize decision advantage, leveraging AI/ML and automation to modernize intelligence, underpin readiness and optimize mission planning and execution; and<br><br>5. Enhance Interoperability, to enable secure data and information sharing with partners. |
| ARX P4 | **EOS Defence Systems** |
| | Electro Optic Systems (EOS) is an Australian high-tech business operating globally in the space, defence, and communications domains. With headquarters in Canberra since its establishment in 1983, EOS specialises in space domain intelligence, laser technologies, remote weapon systems, counter-drone solutions, and high-performance naval satellite communications. EOS provides advanced optical and laser assemblies, thermal imagers, day cameras, gimbal units, and laser rangefinders that are utilised across a wide range of civilian and military contexts, including operations on land, at sea, and in space. |



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| ARX P5 | **AVI** |
| | AVI designs, develops and manufactures specialised communication systems, data management protocols and components for military, mining, transport, security or space application where trusted operational performance is demanded. AVI's physical and software-defined solutions have the capability to transform to different missions, including land, sea, air and space; permitting an unmet level of agility, responsiveness, interoperability and performance. Offering a complete design-to-delivery in-house solution, with a focus on Australian sovereign capability, AVI products are born to perform in harsh and hostile environments. State-of-the-art in-house manufacturing facilities, supply chain surety and a world-class testing facility ensure reliable delivery to clients, and trusted performance of these hardened communications systems in zero-fail environments. AVI's products deliver time-, low jitter, low latency, data across secure networks and specialised communications systems to machines, people and platforms. |
| ARX P6 | **Critical Infrastructure Technologies** |
| | Critical Infrastructure Technologies "CiTech"<br>Introducing The Nexus 16 Radio Tower<br>The Nexus 16 is an innovative and versatile radio communications tower that is rapidly deployable to remote locations and for sectors. Contained within the dimensions of a standard 20-foot shipping container, it houses a walk-in equipment room, battery reserves, solar arrays, and generators to create a fully self-contained communications solution.<br><br>Able to be transported by any truck that accommodates a 20-foot container, the Nexus 16 promises exceptional adaptability. It can load and unload itself and smoothly adapt to uneven or sloping terrain. Then, within the span of just 30 minutes, it can deploy its robust, cyclone-rated 16m radio tower - all contributing to its unparalleled efficiency and utility in the field. |

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| **ARX P7** | **Insitu Pacific** |
| | Insitu Pacific delivers industry-leading uncrewed systems and services to Australia and the Asia-Pacific region. Our expertise and operational experience has established Insitu Pacific as a leading provider of end-to-end advanced multi-domain intelligence, surveillance and reconnaissance (ISR) solutions. Our successful history of support to the ADF continues with the delivery of the Integrator Tactical UAS to Army through LAND129 Phase 3. We are committed to maintaining and further developing our local supply chains and supporting Australia's sovereign capability as a vital component to a strong Australian Defence sector. The Insitu Family of Systems are proven and trusted, and have accumulated over 1.3 million flight hours globally. Designed against open and extensible architecture standards, our platforms and software offer enhanced interoperability with other preferred ADF systems, facilitating combined and collaborative mission effects. |
| **ARX P8** | **AIM Defence** |
| | AIM Defence builds the most advanced tactical laser systems in the world. Pairing in-house built high power laser systems with bleeding edge control algorithms and AI targeting, AIM's systems out-perform competitors by an order of magnitude.<br><br>AIM's Fractl:1 counter-drone laser is the size of a bar fridge, less than 100kg, and completely battery operated. It has been repeatedly tested and is capable of Group 1 hard kill at > 750m and sensor defeat/mission-kill at ranges beyond 1.5km. The system is designed to be either used for base protection or to be fit onto current in-service vehicles as a rapid path to deployable directed energy. The Fractl:1 system is approaching the Combat Ready Prototype and is available as Minimum Viable Capability with a 6 month lead time.<br><br>In concert with DSTG, AIM also researches and develops novel methods of further reducing system SWaP-C and increasing laser safety to further widen our capability advantage. Through this collaboration there are a number of future capabilities due to move towards production over the next 24 months |



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| **ARX P9** | **Brokk Security and Rescue Solutions** |
| | With a long-standing history, Brokk excels in offering unmanned vehicle systems for security, rescue, and defence purposes. Having evolved over the years through extensive global operations since the 1970s, their solutions are built on proven expertise. Established in 2017, the Security and Rescue Solutions (SRS) division consolidated knowledge and feedback from this unique market sector, with this division focused on translating expertise into standardised solutions for the global security, rescue, and defence community. Since then, Brokk SRS have engineered nine robotic systems, alongside modular options, which cater to the specific requirements of our core customers. These robust and standardised unmanned vehicle systems address the distinct challenges faced by security, rescue, and defence operations globally. |
| **ARX Q2** | **Aerostructures Innovation Research (AIR) Hub** |
| | Swinburne University of Technology's Aerostructures Innovation Research Hub – AIR Hub – is one of the largest and most active aerospace research collaborations in Australia. The AIR Hub is developing the next generation of aerostructures for use in civil aviation, electric vertical take-off and landing aircraft, uncrewed aerial systems, advanced air mobility, and space. AIR Hub embraces digitalisation and Industry 4.0 to develop intelligent manufacturing processes using advanced composite materials, to design and produce innovative aerostructures and clean propulsion systems for next generation aircraft. The AIR Hub's mission is to deliver advanced development projects and elevate the Australian aerospace industry through a secure and dedicated aerospace research and development capability. It is achieving this by combining cutting edge research, state-of-the-art facilities and expert teams across partner organisations. |

| POD NO. | EXHIBITOR BIO |
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| **ARX Q3** | **UBH Group** |
| | Founded in 2020 by Greg Underwood, Jeff Batten and Dave Herbertson, supported by our Canberra-based Director, Tim Laurins, and our Strategic Advisor, BRIG (Ret'd) Associate Professor Ian Langford, DSC and Bars, UBH Group exists to bring People & Technology together to operationalise capability. We are an Australian and Veteran owned company providing services across the entire Information Domain with the background and experience to successfully merge and operationalise technology with the people and processes fundamental to operational success. We can do this because of our unique pedigree: born and bred technologists that have supported the entire spectrum of Government operations. We are experts across the Information Domain and have found our portfolios naturally aligned with customer needs in Communications, Information and Cyber Warfare, Advanced Technologies, and Operations Management support. |
| **ARX Q4** | **Nightingale Intelligent Systems, Inc.** |
| | Nightingale Security is a leading autonomous drone security company listed on the ASX. It utilises advanced robotics, artificial intelligence and machine learning technology to provide robotic aerial security that protects infrastructure and provides real-time surveillance and threat detection. The drones are equipped with advanced sensors, cameras and thermal imagers to monitor vast areas of interest with speed and efficiency. The drones operate 24/7 under all inclement weather conditions. The flights can be pre-programmed to fly autonomous scheduled patrols or controlled manually using proprietary mission manager software. Each drone has a base station that houses, launches, re-charges and stores the encrypted mission data. Nightingale's drones are deployed to a wide-ranging global client base including the US Air Force, Law Enforcement, Haliburton, Lucid Motors and locally, Snowy Hydro. |



| POD NO. | EXHIBITOR BIO |
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| **ARX Q5** | **SYPAQ** |
| | As a wholly Australian, veteran owned organisation, SYPAQ continues to invest in the workforce, infrastructure and technologies necessary to deliver a rapid, secure and responsive capability advantage to the Department of Defence through the provision of trusted systems, services and support. As a trusted strategic partner to the Department of Defence, SYPAQ's secure, Advanced Manufacturing and Emerging Technologies Laboratory Facilities provide an enduring Sovereign Industrial Capability for the delivery of autonomous systems and C4ISREW solutions, providing collaborative research and development programs that underpin the rapid design and manufacturing of next generation technologies. In collaborating with the Australian Department of Defence, DST Group, academia and industry, we continue to be a lead military systems innovator in the 4th Industrial Revolution, providing adaptive innovation to both disruptive innovation and legacy systems. |
| **ARX Q6** | **Commercial ROV Australia** |
| | National dealer for Canadian manufactured Deep Trekker ROVs providing force protection through the use of robotic equipment to perform inspections on land or in water with live feed images. Providing situational awareness with underwater GPS and sonar accessories, commonality across the swimming and crawling ranges ensures minimal training between equipment. Fully autonomous mission planning with IMUs, USBL and DVL sensors interpreting live positional data. Set waypoints by dragging and dropping on site or uploading preset coordinates to follow a designated path, recording data along the way. Commercial ROV Australia offers a fully equipped workshop for training and servicing of equipment Australia wide. Factory trained technicians with extensive operational experience ensure trouble shooting and support at the highest level. |

| POD NO. | EXHIBITOR BIO |
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| **ARX Q7** | **Agent Oriented Software** |
| | Australian-owned Agent Oriented Software Pty. Ltd. (AOS) is an AI and robotics company that specialises in developing autonomous systems for Defence (air, land, maritime, EW), mining and agriculture. AOS's 'Teamed Autonomy Stack' is the basis for its multi-vehicle, autonomous products and combines:<br>- Symbolic AI ('top-down' AI).<br>- Machine learning ('bottom-up' AI).<br>- Intelligent search.<br>- Constraint programming. with advanced sensor technologies enabling situational awareness.<br><br>Key technologies include:<br>- C-BDI™ - a software platform for developing joint cognitive systems, based on intelligent software agents.<br>- Kelpie® - an autonomous ground vehicle system developed for Defence, mining and agriculture.<br>- iWatchdog™ an intelligent autonomous system for tasking multiple autonomous vehicles. Integral to AOS's vision is Human-Machine teaming, which is based on distributed autonomous teams and human-machine collaboration where humans remain responsible for strategic decisions. |
| **ARX Q8** | **Arkeus** |
| | Arkeus accelerates decision making through the fusion of optics and autonomy. Arkeus specializes in rapid design, innovation and fabrication of autonomous optical capabilities - designed to deliver transformative effects for Search, Intelligence, Surveillance and Reconnaissance (SISR). Arkeus wide area autonomous optical search and surveillance systems are optimised for aircraft or drones conducting a range of missions including ISR, border protection, city size surveillance, force protection, counter terrorism, illegal activity monitoring or search and rescue. Arkeus optical surveillance systems operate across land, sea and space domains - specialising in extracting intelligence and surveillance information and disseminating that data in challenging or contested environments. |



| POD NO. | EXHIBITOR BIO |
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| **ARX Q9** | **Moog Australia** |
| | Moog is a global supplier delivering motion control and electronic solutions to the military. With a heritage in defence dating back to the early 1950s, Moog's customers recognise us for accurate weapon systems, fast ammunition handling, precise steering control of missiles, and near silent actuation for submarines. Moog Australia Pty Ltd established in 1979, is a wholly owned subsidiary of Moog Inc. Moog provides mission systems and components across Land, Air and Sea platforms including the ASLAV, Boxer CRV, M113AS4, M1A1. Our mission is to design and manufacture mission Defense Solutions from Australia for the Indo-Pacific, focused on weaponization and precision motion control. PRODUCTS: Unmanned Turreted Weapon Systems, Weapon Stores Management Systems, Turret Control and Stabilization, Ammunition Handling Systems, Missile Actuation, Laser Dazzler systems. |
| **ARX R2** | **Cognitive Advantage** |
| | Cognitive Advantage are experts in digital resilience. We design, prototype, and manufacture mobile communications and edge computing solutions for defence and emergency services. Visit us at ARX23 to see Edge Spark Connect, our ruggedised adaptation of Starlink for rapidly deployable, unlimited range, encrypted mesh networking. Edge Spark Connect is currently in use by the Air Warfare Centre as a key enabler of their UAS innovation program. |
| **ARX R3** | **Project iBis** |
| | Project iBis is working to develop methods and technologies to construct low cost drones for reconnaissance and payload delivery that are robust to the disruption of international supply chains for drone flight controllers and other components. |

| POD NO. | EXHIBITOR BIO |
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| **ARX R4** | **Swoop Aero** |
| | Swoop Aero is the only end-to-end drone logistics platform on the planet. We unlock the potential of the sky, for the good of us all. Currently we serve over 4.5 million people in 6 continents. By 2030, our reach will extend to 1 billion. We've been commercially operational for over 4 years, creating value from day one and we're scaling to reach new users every day. We also operate in some of the harshest, most inaccessible places on the planet, which has enabled us to deliver over 1.4 million items across 24,000 flights worldwide. We overcome vast distances, location accessibility, inhospitable terrain, and data shortages — to realise the next giant leap in how essential supplies and services are delivered. |
| **ARX R5** | **Orion Sovereign Group** |
| | OSG Australia is a Sovereign, majority Veteran owned and led, Integrated Facilities Management and Security Company, focused on Protecting Infrastructure and People. OSG's mission is to provide Australia with a modern, highly capable, integrated services and security organisation that can meet the full range of challenges and threats, current and emergent. We will contribute to the Australian national interest.<br><br>OSG values are:<br>- Integrity and Humility<br>- Inclusion and Team<br>- Relentless Pursuit of Excellence<br>- Agility and Adaptability<br>- Service and Sense of Purpose |
| **ARX R6** | **Toll Aviation** |
| | Toll Uncrewed Systems, part of Toll Aviation, is a leading Australian UAS flight operations and training provider. Toll Uncrewed Systems provides turnkey high-end UAS operations and training with the comprehensive CASA delegations and approvals. The capabilities of Toll Uncrewed Systems, combined with Toll's existing aviation business, can deliver both standalone and integrated rotary and uncrewed operations and training to support Government, Defence, and the civil sector. Toll Uncrewed Systems operates over 100 aircraft across multi-rotor, fixed wing and Vertical Take off and Landing Systems. An extensive range of payloads and support equipment is in place for a range of operations including surveillance (day and night) and search and rescue. |



| POD NO. | EXHIBITOR BIO |
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| **ARX R7** | **UWA Defence & Security Institute** |
| | The University of Western Australia (UWA) is in the top 100 universities in the world, ranked by the Academic Ranking of World Universities, and as such, we attract world-renowned researchers to work in our globally-recognised research centres. UWA Defence and Security Institute was set up to provide a central point for industry, government and global researchers to partner with UWA to support national defence initiatives In advancing the commitment to our long-term security.<br><br>UWA delivers multidisciplinary research, technology and business solutions for the challenges facing the nation's defence industry today and for the future. UWA is supporting the Australian government's defence programs by contributing to the national defence industry with leading strengths in coastal & maritime defence, human decision science; Indian Ocean defence and security law & policy, sensing, quantum & AI; health & biosecurity. |
| **ARX R8** | **Raytracer** |
| | Raytracer is a leading space and defence focused SME, based in Brisbane, Australia. Within a short period, Raytracer has strategically aligned projects with defence primes such as Rheinmetall and the Australian Space Agency. Raytracer has recently secured coveted federal grants from the Australian Space Agency to develop a world first Neutral Buoyancy VR technology and $2.8m from the Moon to Mars Initiative Demonstrator Program, greatly accelerating its efforts to develop world leading capabilities in robotics and AI. |
| **ARX R9** | **Saab 'drone awareness and tracking'** |
| | Saab Australia has been providing high-technology military systems to the Australian Defence organisation since 1988. Our primary business is the development, integration, production and support of advanced operational systems, mainly for Defence, but also civil security applications. Our core capabilities in engineering, through-life support, integration, innovation and project management deliver services to customers across the naval, air, land and security domains.Most notably, we provide Australia's Defence Force with a world-class naval combat management system and ground-based air defence solutions. Interoperable with allies, but sovereign-built, adapted and supported on Australian soil, Saab provides cutting-edge technology that Defence can expand as needed to meet emerging threats.The skills and knowledge from these programs, coupled with innovation, has led to further successful locally developed capabilities in security, unmanned systems and mixed reality. |

## QTC 2023 Exhibitors


Quantum Attacks and Defences on Machine Learning ..... **QTC B1**
Quantum Algorithms and Security Team..... **QTC B2**
Quantum Compiler Attack & Defence ..... **QTC C1**
University of Queensland - QGrav Team..... **QTC C2**
Grey and Green ..... **QTC D1**
KPMG-RMIT..... **QTC D2**
QDM - Quantum Diamond Magnetometry..... **QTC D3**
Thaum ..... **QTC E2**
Monash Optical Magnetometer (MOM)..... **QTC E3**
Sheperd Taylor Superconducting..... **QTC F1**
Infleqtion..... **QTC F2**
UWA: Disrupting Quantum Communications..... **QTC F3**

# Army Quantum Technology Challenge 2023

| POD NO. | EXHIBITOR BIO |
|---|---|
| **QTC B1** | **Quantum Attacks and Defences on Machine Learning** |
| | Quantum Systems Team at CSIRO's Data61 is working on cutting-edge quantum computing technologies by developing quantum software tools, quantum algorithms and quantum security framework. Data61 is the data and digital specialist arm of Australia's national science agency CSIRO, which is the home to one of the largest collections of research and development expertise in artificial intelligence and data science in the world." |
| **QTC B2** | **Quantum Algorithms and Security Team** |
| | CSIRO is Australia's national science organisation. Since started as the Advisory Council of Science and Industry in 1916, CSIRO has advanced Australia with a range of inventions and innovations that have had significant positive impact on the lives of people around the world |
| **QTC C1** | **Quantum Compiler Attack & Defence** |
| | The University of Melbourne is the Premier Research University in Australia and ranked 14th in World by QS World University Rankings. |
| **QTC C2** | **University of Queensland - QGrav Team** |
| | The QGrav team aims to support logistics by enabling contactless mass measurement of close objects. |
| **QTC D1** | **Green and Grey** |
| | Green and Grey was formed between colleagues on the Joint Basic Cyber Course in October 2022. SIG Andrew Lei (MQF) and ABMCW Joe Toce (MDataSc) harnessed their skills to tackle Army's Quantum Technology Challenge and have a keen interest in how mathematics can be leveraged to enable the technologies of the future. |

| POD NO. | EXHIBITOR BIO |
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| **QTC D2** | **KPMG-RMIT** |
| | KPMG and RMIT University are partnering to employ quantum sensors to enhance Army's maintenance regime and materiel performance. KPMG has been supporting the Army and the Department of Defence in areas such as predictive maintenance, reliability engineering, and strategic planning just to mention a few. KPMG has worked closely with both to implement resourcing solutions, develop simulation and analytics, and improve efficiency in maintenance processes. RMIT University as one of the world's leading universities in quantum technology, provides some of the world's top scientists in quantum physics together with state-of-the-art facilities and laboratories to develop state-of-the-art quantum sensors with enhanced capabilities. KPMG and RMIT bring together the knowledge, facilities, and experience required in engineering and quantum physics to advance the application of leading-edge quantum sensor technologies in Defence. |
| **QTC D3** | **QDM - Quantum Diamond Magnetometry** |
| | Phasor Quantum is a deep technology company that specialises in world-leading scientific and engineering research and development of quantum diamond sensors. Our company is a spin-off from the successful academic and industry partnership between the University of Melbourne, RMIT University and Phasor Innovation. Our team consists of quantum science leaders and engineering specialists. As part of the inaugural Army Quantum Technology Challenge in 2020, our team demonstrated Australia's first quantum nitrogen-vacancy diamond magnetometer outside of the laboratory and since then we have further developed our technology under Army Research Explore and DST Next Generation Technology Fund projects. Our vision is to develop the next generation of quantum diamond sensors to provide a capability edge for Defence in the areas of magnetic surveillance, chemical detection, and magnetic navigation in GPS-denied environments. |

| POD NO. | EXHIBITOR BIO |
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| **QTC E2** | **Thaum** |
| | Thaum is a technical services company specializing in creating market-ready, full-stack solutions from hard science. Our distinctive attribute is our competence in managing the entire process, from research and problem-solving to hands-on implementation and delivery of finished products to end-users. We're proud to have worked collaboratively with various high-profile clients in the government and private sectors.<br>Our multidisciplinary team possesses competencies in robotics, computer vision, advanced data analytics, and the physical sciences, with the overwhelming majority being physicists. Thaum is introducing AUTUMN, a plug-and-play solution that leverages machine intelligence to ensure quantum sensors can achieve their maximum capabilities. This project won the Army Quantum Next Generation Challenge in 2022. |
| **QTC E3** | **Monash Optical Magnetometer (MOM)** |
| | Monash University's School of Physics and Astronomy are leaders in applied and theoretical physics. With expertise in device fabrication, optics and applied quantum technology. |
| **QTC F1** | **Sheperd Taylor Superconducting** |
| | STS Profile:<br><br>1. measurement and control of the magnetic environment<br>Expertise in controlling background magnetic field variations using distributed dynamic magnetic field generators (fixed and variable sources of magnetic fields). The understanding of appropriate magnetic transducers, including quantum and semiconducting based transducers, and their interface requirements in a complete magnetic control system.<br><br>2. 3D printing of High Temperature Superconductor Thick Films<br>The creation of HTS components utilising 3-D printing techniques producing customised HTS components that may be part of a larger industrial device.<br><br>3. RF communication system for satellites incorporating metallic additive manufacturing (AM) Investigating high-temperature superconductor-enabled Quantum-Enhanced Communications and Sensing and to de-risk the coupling of high-temperature superconductor devices with quantum-optical systems. |



| POD NO. | EXHIBITOR BIO |
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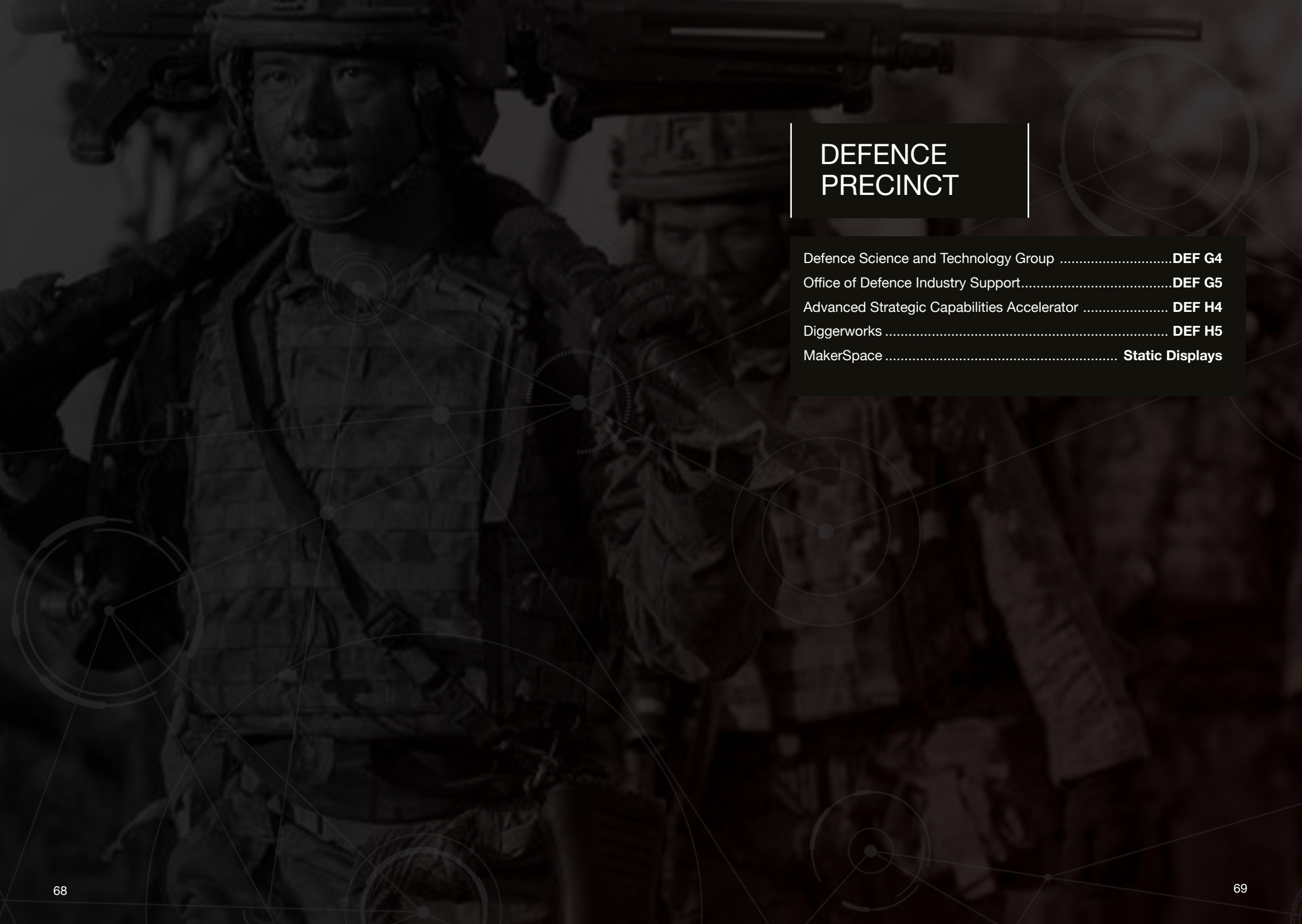
| **QTC F2** | **Infleqtion** |
| | Infleqtion is building an ecosystem of quantum technologies and commercial products for today, that will drive the company and the entire industry toward tomorrow. The company believes in taking quantum to its limit and leading from the edge. Infleqtion is built on 16 years of pioneering quantum research from ColdQuanta. Its scalable and versatile quantum technology is used by organizations around the globe and deployed by NASA on the International Space Station. Infleqtion is based in Boulder, CO, with offices in Chicago, IL; Madison, WI; Melbourne, AU and Oxford, UK. |
| **QTC D3** | **UWA: Disrupting Quantum Communications** |
| | The University of Western Australia is WA's premier public research university. The Astrophotonics research group under UWA's International Space Centre develop advanced photonics technologies for sensing and communication in space |



# DEFENCE PRECINCT


Defence Science and Technology Group ..... **DEF G4**

Office of Defence Industry Support..... **DEF G5**

Advanced Strategic Capabilities Accelerator ..... **DEF H4**

Diggerworks ..... **DEF H5**

MakerSpace ..... **Static Displays**

# Defence Precinct 2023

| POD NO. | EXHIBITOR BIO |
|---|---|
| **DEF G4** | **Defence Science and Technology Group** |
| Australian Government Defence | Defence Science and Technology Group (DSTG) brings together interdisciplinary expertise from across Australia and around the world to address Defence and national security challenges. Our role is to work closely with the Australian science, technology and innovation ecosystem to deliver scientific advice and solutions that provide capability enhancement for Defence and the national security community. |
| **DEF G5** | **Office of Defence Industry Support** |
| ODIS Office of Defence Industry Support | The Office of Defence Industry Support (ODIS) provides a seamless experience for small and medium enterprises (SMEs) to engage with Defence.<br><br>ODIS is the trusted link for Australian SMEs looking to enter or expand their footprint in the Defence industry.<br><br>The core function of ODIS, through its industry engagement teams around Australia, is to provide advisory, guidance and mentoring services to SMEs.<br><br>ODIS works closely with State and Territory agencies, industry associations and Defence business partners, to help deliver capability that equips and sustains the Australian Defence Force. |

| POD NO. | EXHIBITOR BIO |
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| **DEF H4** | **Advanced Strategic Capabilities Accelerator** |
| Australian Government Defence | The Advanced Strategic Capabilities Accelerator (ASCA) officially commenced operations 1 July 2023 to deliver the technologies needed for Australia's security.<br><br>ASCA offers an incredible opportunity to fundamentally change the way Defence develops and acquires emerging disruptive technologies. It's a One Defence approach to innovation that brings together key functions from across the department to accelerate the delivery of solutions to Defence's highest priority challenges. We have been charged to demonstrate how innovators from inside and outside of defence can work together and deliver Defence capabilities quickly.<br><br>ASCA signals a new and ambitious approach to transition game-changing ideas into capabilities that give the sailors, soldiers and aviators of the Australian Defence Force (ADF) an asymmetric advantage. |
| **DEF H5** | **Diggerworks** |
| Diggerworks | Diggerworks is a unique multi-disciplinary team, consisting of operationally experienced soldiers, APS technical advisors, professional engineers, and project managers – strategically positioned to drive combat innovation and soldier systems integration. We engage continuously with our soldiers and commanders, industry, Defence projects and capability managers and international partners, to identify, develop and integrate soldier combat system solutions to enhance the capability of the Australian Defence Force (ADF) warfighter. |
| **Static Displays** | **MakerSpace** |
| MAKERSPACE | MakerSpace is an Army initiative providing a place for learning-by-making and education in innovative approaches, creative thinking, and agile methodologies. All Army personnel are invited to join their local community of makers to gain a professional toolbox of problem-solving techniques to tackle Army's current and emerging challenges. |