

ADM

AUSTRALIAN DEFENCE MAGAZINE

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DEFENCE WEEK PREMIUM EDITION



Professor Ben Eggleton of the University of Sydney's Nano Institute

@PROFBENEGGLETON

PLAN JERICHO AND THE INTERNET OF DEFENCE THINGS

In May 2019, the University of Sydney Nano Institute and the RAAF launched a scientific collaboration focused on developing nano-scale sensing technology and artificial intelligence-driven (AI) fusion across networks of sensors.

LINCOLN PARKER | SYDNEY

For the lay person, this means developing advanced capabilities to enable more sensors to see further more precisely, working in tandem with other sensors – at a micro scale. And with the reams of data collected, AI is incorporated to make sense of it all and provide commanders with a more accurate and detailed picture of the domain they're monitoring.

The tiny sensors will assess physical, chemical, biological, acoustic and electromagnetic environments. Importantly, because the sensing chips use photons – particles of light – they cannot be affected by

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electromagnetic fields in the way that electronic chips can be. The massive reduction in size, weight and power of these thumbnail-sized photonic chips is a game-changer, allowing them to be easily fitted onto aircraft, satellites and vehicles.

The driving force behind this collaboration is Group Captain Jerome Reid, of RAAF's Plan Jericho initiative. Plan Jericho is nimble and progressive, enabling RAAF to proactively develop new technologies to maintain Australia's air combat advantage, in a world where technology is morphing rapidly, leaving laggards behind.

GPCPT Reid's partner and enabler in this effort is the director of Sydney Nano, Professor Ben Eggleton. I toured the facility and later sat down with Prof Eggleton to discuss this exciting new initiative at the University of Sydney.

Prof Eggleton said the project's ultimate aim is about providing Defence with "more efficient decision making capabilities, enhanced situational awareness, and disruptive technology." With advances in technology, the sheer amounts of data collected is increasing exponentially: "What we don't want to see is engineers staring at screens, we want this automated," he said.

Importantly, the program itself is transformative with a focus on collaboration and bringing multiple cross-disciplined researchers together whether they originated from a defence background or not. As such Associate Professor Cara Wrigley from the Sydney School of Architecture, Design and Planning has been appointed the Jericho Chair of Design Innovation. A/Prof Wrigley's world-leading design methodologies has been crucial to the project. Prof Eggleton explained that "we're not the old school academics that just sit within their silos, we're very much about bringing researchers together across disciplines to address the most important problems."



On the scene at Sydney Nano.

LINCOLN PARKER

INTERNET OF DEFENCE THINGS

As part of the ADF's push into advanced technology development via DST Group, the Internet of Defence Things has been seen to present significant opportunities.

**"WHAT WE DON'T WANT TO SEE IS
ENGINEERS STARING AT SCREENS,
WE WANT THIS AUTOMATED"**

Size, weight & power have always concerned the ADF, particularly the RAAF. With the expansion of technology capabilities and the many "things" (sensors, systems, data sources) that come along with that, there is a need to make sense of it all, coordinate it and then be able to act on the vast quantities of information and data collected.

"When I fuse those sensors together, my pattern of recognition, which is all machine learning is, is much more powerful. Now I can classify that behaviour and I can give my commander a text instruction. That's what sensor fusion is all about," Prof Eggleton said.

The partnership between Plan Jericho and Sydney Nano could provide a blue print for future collaborative efforts between the ADF and our academic institutions. No doubt security issues need to be actively addressed, in consultation with Defence, right across our university sector. But there are no reasons why this cannot be achieved and further defence related collaborations undertaken.

Note: Lincoln Parker works for the NSW Defence Innovation Network (an initiative of the NSW Government, Defence Science & Technology Group and seven NSW universities). The author's views are his own.

AIRBUS UPGRADES SYDNEY'S MARITIME SERVICES

Every Navy warship that sails through Sydney Heads, either inbound to Garden Island or outbound to sea on deployment or exercise, owes its safe passage to the Port Authority of NSW.

NIGEL PITTAWAY | MANCHING

Indeed, every surface vessel using Sydney Harbour or Port Botany in Botany Bay falls under the Port of Sydney's jurisdiction and the system for controlling all this traffic is the Authority's Vessel Traffic Services (VTS) system, supplied and supported by Airbus Defence and Space.

Airbus first signed an agreement to supply the VTS in 2010 and on September 4, 2019 it announced it had completed a major upgrade of the system to its STYRIS maritime surveillance and control system.

STYRIS is a scalable and integrated maritime traffic control solution, which consolidates data from a number of sources, including primary radar systems, Radio



Every surface vessel using Sydney Harbour or Port Botany is controlled by the Vessel Traffic Services (VTS) system.

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Direction Finders (RDF), Automatic Identification System (AIS) transponders, weather stations, cameras and sonars, to provide a highly accurate Recognised Maritime Picture.

Airbus Defence and Space head of communications, Intelligence & Security, Evert Dudok said that Airbus has also extended the Port of Sydney's radar coverage of the Sydney VTS with the integration of a new radar at Circular Quay, following relocation of the former 115-metre AMP building radar to a new site at Darling Harbour.

"The biggest port we are serving at the moment is in Australia, with Sydney Harbour and the Port of Botany. Our system completely supports surface vessel traffic," Dudok explained.

"If you look at the port of Sydney, it was visited by 1,200 vessels in 2018, 350 of which were cruise ships – each with up to 5,000 passengers, and 1.6 million passengers passed through Port Authority terminals. So, you can imagine the services that the authorities need, and the security and reliability of the solutions are fundamental to this success."

"THE BIGGEST PORT WE ARE SERVING AT THE MOMENT IS IN AUSTRALIA"

Disclaimer: The writer travelled to Germany as a guest of Airbus Defence and Space

MOST READ ONLINE AT WWW.AUSTRALIANDEFENCE.COM.AU



1. [Superpower launches direct attack on Australia](#)
2. [A busy year ahead for RAAF KC-30As](#)
3. [Rheinmetall to deliver on Bundeswehr truck order](#)
4. [US State Department approves FMS sale for RAN warships](#)
5. [ADM's Top 40 Defence Contractors 2019](#)

NAVIGATING THE COMPLIANCE DILEMMA OF DEFENCE EXPORT CONTROLS

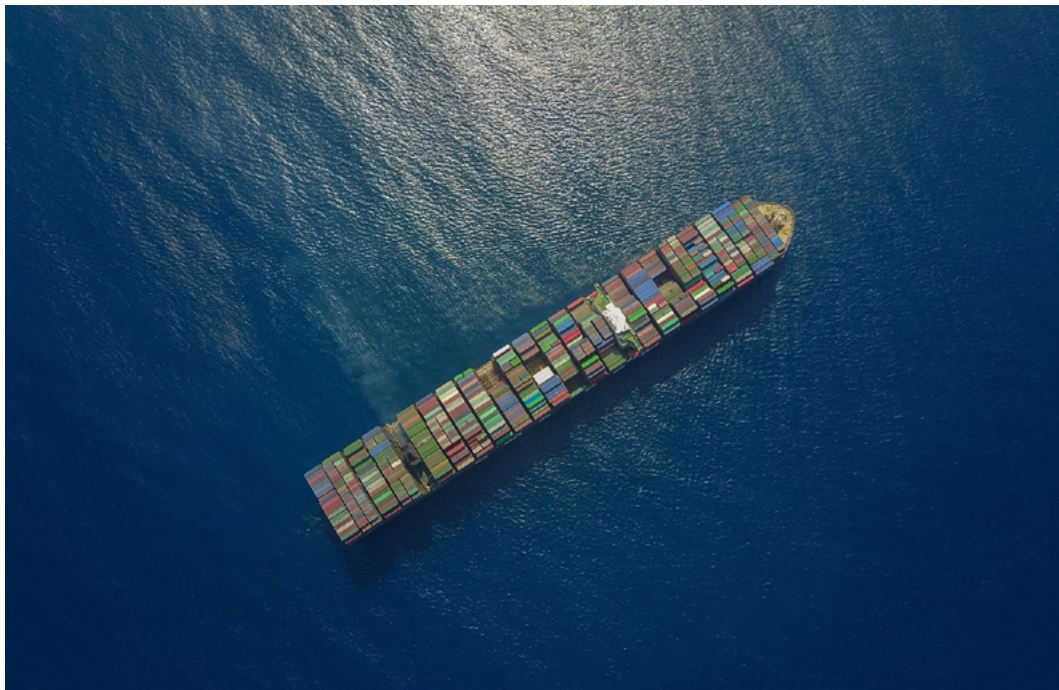
The spectre of Defence Export Control Regulations for Australian Defence businesses is ever-present, and there are emerging changes and challenges that will require a renewed focus.

KEVIN CHENNEY | NEWCASTLE

Factors such as the Cybersecurity Maturity Model Certification (CMMC), National Technology Industrial Base (NTIB), and the 2018 Defence Trade Control Act Review have been introduced or reviewed in the past twelve months. They have created a current and impending compliance dilemma for many businesses that will become clearer as 2020 progresses.

The challenges for businesses attempting to maintain compliance are increasing, while pressures to maintain work and open new markets remains the core focus. These challenges are even more pertinent when we consider the US International Traffic in Arms Regulations (ITAR) and Export Administration regulations (EAR), which Australian businesses must ensure they factor into any risk assessments linked to Defence business associated with US technology.

ITAR is an often confusing and challenging concept for many Defence businesses, particularly SMEs. It requires businesses to be aware of the regulations as they impact



The Canadian Controlled Goods Program could serve as a model for easing the compliance burden on Australian defence industry. PIXABAY

their business, and for them to initiate compliance requirements to mitigate the associated risks. Assistance in navigating these regulations is only occasionally given by government, so what do they do to remain compliant?

The implementation of the NTIB for Australia indicates that the US Government wish to encourage US Defence business involvement in Australia, leading to exposure to ITAR and EAR products and technical data. Canada is a long established NTIB member as a result of its geographic location, and has an accepted process for assisting their Defence Industry with compliance measures in the field.

**“THE CHALLENGES FOR BUSINESSES
ATTEMPTING TO MAINTAIN
COMPLIANCE ARE INCREASING”**

Australia has the pre-existing Australia-US Defence Trade Cooperation Treaty, which was established in 2013 in order to facilitate the efficient transfer of controlled goods between the members of an Approved Community without the need for export licences. The importance of such a Treaty cannot be denied, but the operation of the Treaty is restricting the ability for Australia SMEs to take advantage of it.

Reported difficulties with the Treaty include: Treaty articles authorised for export are limited to those listed on the Defense Trade Cooperation Munitions List 2017; the use of the Treaty is limited to Australian and US Government approved end-use only; and the administrative burden in facilitating changes to projects where items may be required to be exported outside the Treaty boundaries.

In comparison, the Canadian Controlled Goods Program is a dual-focussed Export Control and Security Program. Originating from US revocation of ITAR exemptions for Canada in 1999 due to increased security concerns, it was developed to introduce legislative measures to strengthen defence trade controls in Canada. It ensures that Canadian businesses have the necessary measures in place to not only protect Canadian interests, but also those of the US through ITAR. Notwithstanding numerous changes to this policy construct since establishment, the Program remains in force.

Using the construct already established under the Australia-US Defence Trade Cooperation Treaty, Australia should look to mirror the Canadian example by doing the following:

- Requiring all businesses looking to export or handle US goods to be registered for notification to US and Australian Governments;
- Widening the list of treaty articles to as far as possible mirror the US Munitions List (USML); and
- introducing complementing Defence Industry Security Program (DISP) requirements for businesses to ensure security is maintained.

Amendment of the Treaty scope and eligibility should allow for the changes and challenges prevalent in the current world geo-political environment.

More on this will be available through the year as the effects of recent legislative changes are realised.

Note: Kevin Chenney is a Senior Consultant with Goal Professional Services. The author's views are his own.

GEOPOLITICS IN THE AGE OF CYBER WARFARE

Technology is radically changing the nature of warfare, with the risk moving from a physical disruption to an unpredictable cyber risk that is much more complex. The speed at which technology is developing brings has introduced the next phase of cyber warfare.

EDDIE STEFANESCU | SINGAPORE

The effects of cyber warfare are not limited to the digital domain and can have real-world consequences. For instance, an attack on a hospital, or nuclear facility can cause injury or even worse loss of life. To navigate this new threat landscape, it is important to be able to control the cyber world just as allied forces seeks control in traditional domains, with air supremacy or command of the sea.

The *New York Times* for instance reported that, in June, the US military had launched a cyber-attack on Iran just hours after Iran shot down a US surveillance drone knocking out a crucial database used by Iran's Republican Guard to target oil tankers and shipping traffic in the Persian Gulf.

The article went on to claim: "The US and Iran have long been involved in an undeclared cyberconflict, one carefully calibrated to remain in the grey zone between war and peace."

Responding to Iran's downing of a US drone with a surface-to-air missile by targeting these same systems with cyber capabilities is a proportionate response that limits collateral damage, although these operations are not totally risk free.

Cyber operations generally come with a temporary loss of intelligence so these responses are not without cost. However, it is important the US demonstrates that



Members of No. 462 Squadron partake in Exercise Pink Pill – a Defensive Cyberspace Exercise.

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it has the will and capability to conduct precision and timely cyber operations against conventional military targets.

In an environment of heightened tension such as that in the Persian Gulf 'grey zone', cyber capabilities are being increasingly used and proving effective in establishing deterrence whilst avoiding escalation.

THE THREAT OF CYBER DESTRUCTION

Today almost every system on which civilisation depends has some sort of control network, which means there are few limits to the potential for disruption and destruction by a cyber-attack.

While most cyber-attacks to date have resulted in disruption, the potential for destruction has been well demonstrated. For instance, in 2007 the US Department of Homeland Security destroyed a large diesel generator in minutes by cyber tampering with its circuit breakers.

As society becomes ever more networked the potential for damage caused by a cyber-attack can only increase. Certainly, the tools and techniques for defence will evolve, but as the history of cybercrime over the past decade has demonstrated, these developments are available equally to the good and bad actors.

"THE US DEPARTMENT OF HOMELAND SECURITY DESTROYED A LARGE DIESEL GENERATOR IN MINUTES BY CYBER-TAMPERING WITH ITS CIRCUIT BREAKERS"

"Australia's national security could be compromised by cyber threats targeting Defence and wider governmental, commercial or infrastructure-related networks," former Australian Signals Directorate (ASD) deputy director Mike Burgess

said. "The potential impact of such activity has grown with Defence's increasing reliance on networked operations."

The use of artificial intelligence (AI) in both cyber-attack and cyber defence is certain to be a major feature of cyber warfare in the future, and it's hard to predict the capabilities of AI 5-10 years in the future.

AUSTRALIA RESPONDS TO CYBER WAR THREATS

In this sensitive environment Australia needs strong cyber defence and cyber offence capabilities to be able to respond appropriately to a cyber-attack from a foreign power.

The government has recognised this and in 2017 established the Information Warfare Division tasked with developing both cyber defence and offence capabilities.

But as recent as February 2019, Australian political parties were the target of a malicious cyber-attack that made its way into the Parliament House computer network.

Cyberspace and crime play an important part in internal relations, often creating conflicts and tensions among different governments. Moreover, with nations of poor conventional arsenals increasingly turning to cyber capabilities as a way of responding to physical force, Australia must prepare for the unexpected.

Note: Eddie Stefanescu is the Regional VP Business – APJ for Claroty. The author's views are his own.

HELP AND HARDWARE FROM ACROSS THE TASMAN

Deploying NH90 helicopters overseas is a well-rehearsed routine for the Royal NZ Air Force (RNZAF), as bushfire relief operations in Australia have demonstrated.

EAMON HAMILTON | RAAF RICHMOND

On January 5, NZ Defence Minister Ron Mark announced the deployment of three NH90s from RNZAF Base Ohakea's No. 3 Squadron.

The following day, a RAAF C-17A Globemaster arrived to collect the first NH90 for the trip across the Tasman Sea.

No. 3 Squadron is well-practised in deploying abroad according to its Maintenance Flight Commander, Squadron Leader Rebecca Willis.

"We've previously deployed via an Australian C-17A, and onboard HMNZS Canterbury, on a number of occasions," Squadron Leader Willis said. "Last year, we took three NH90s to Exercise Talisman Sabre [in Queensland] and we deployed two aircraft in support of the Solomon Islands election in 2019."

The RNZAF NH90s were initially destined to support NZ Defence Force combat engineers on bushfire recovery efforts in SA. A late decision was made however for No. 3 Squadron to work as part of a multinational Rotary Wing Task Group based in NSW.

The NH90 can accommodate up to 18 passengers or lift several tonnes of equipment,



RNZAF Corporal Damo Herlihy prepares the main rotors on an NH90 at RAAF Base Richmond in preparation to help with the bushfire efforts.

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making them extremely useful in carrying defence personnel, emergency services, or even civilian evacuees in areas ravaged by bushfires.

Each helicopter weighs 6.7 tonnes for transport (up to 11 tonnes in flying configuration) and the C-17A will carry one NH90 at a time to Australia.

To fit inside the C-17A's cargo bay, the NH90's main and tail rotor blades are removed, and the aircraft's tail section needs to be 'folded' during the loading and unloading process. Loadmasters, air movements personnel, and RNZAF technicians carefully move the helicopter onto the C-17A's cargo ramp using a winch, and secure it to the floor of the cargo cabin.

"NO. 3 SQUADRON IS WELL-PRACTISED IN DEPLOYING ABROAD"

For the three-hour trip across the Tasman, the C-17A also carried RNZAF personnel, servicing equipment and the helicopter's rotor blades which were individually packed into purpose-built trunks.

RAAF Base Richmond was chosen over Nowra as the location to reassemble the NH90s due to the availability parking space and spare hangars for No. 3 Squadron to work in.

"We've previously done this rebuild in more austere conditions – so doing it in a hangar, with accommodation for us to sleep in every night, is actually quite luxurious for us," Squadron Leader Willis said.

"We've also recently purchased a 'spider crane', which will be a real enabler for the squadron."

The 'spider crane' derives its name from stabilising arms that give it an arachnid appearance, and it is used by technicians to hoist each of the NH90's rotor blades into position.

Each rotor blade weighs 112kg and measures nearly eight metres in length, and is largely constructed from carbon fibre and titanium.

An Aircraft Technician with No. 3 Squadron, Sergeant Nick Hare, said the mechanisms for mounting the rotor blades were quite simple.

"The helicopter was designed to be disassembled and reassembled quite quickly," Sergeant Hare said.

"As soon as we get [the NH90] off the C17A, we can be putting blades on the helicopter within about half an hour of rolling it into the hangar. We can have all of the blades back on the helicopter within about 45 minutes, but you then need to check and secure the bolts and other connections – and that takes some time."

Once each NH90 was declared ready, it was flown by a No. 3 Squadron crew to Nowra, and tasked in support of bushfire recovery operations.

PEOPLE ON THE MOVE

Amaero is establishing a new Industry Advisory Board consisting of leading industry professionals across three major industry disciplines: Aviation/Aerospace, Defence & Industrial Tooling. Aviation manufacturing expert and former Vice President of The Boeing Company, David Carbon, has been appointed as the first member of the Industry Advisory Board.

Boeing has appointed Dr Brendan Nelson as the next president of Boeing Australia, NZ and the South Pacific. Maureen Dougherty, who has served as the company's president for the Oceania region since 2014, will retire in March after a transition with Dr Nelson.

The departure of each NH90 from RAAF Base Richmond often coincided with a RAAF C-17A bringing the next helicopter and personnel from RNZAF Base Ohakea.

Soon, No. 3 Squadron found itself needing to balance its workforce and equipment between assembling an NH90 at RAAF Base Richmond, and supporting operations at Nowra.

No. 3 Squadron Logistics Officer, Flight Lieutenant Pete Homburg, said the Australian Defence Force's Joint Movements Control Office (JMCO) had provided essential logistics support for the RNZAF team across two bases.

"We've had about 15 tonne of freight brought across from Ohakea on the three C-17As," Flight Lieutenant Homburg said. "The freight has come into Richmond which is being used as a staging post to rebuild the aircraft. Once rebuild has been completed it will all then require road-freighting down to Nowra."

The list of items ranges from servicing equipment to reassemble the NH90s, spare parts and specialist mission equipment, IT and communications systems, and even medical items.

By road, it's almost three hours from RAAF Base Richmond to Nowra.

"The transport for all of these items has been organised through the Australian JMCO, and they've been essential to supporting our deployment here," Flight Lieutenant Homburg said.

By the evening of January 10, all three NH90s had been assembled at RAAF Base Richmond and flown to Nowra.

Having completed the deployment across the Tasman, the No. 3 Squadron maintenance team shifted completely into supporting day-to-day operations with the NH90 – a mission it expects to continue until at least late January.

"The quicker we get the capability where it's needed, the sooner it's working where it matters," Squadron Leader Willis said.

"It's all part of the job."

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PUBLISHED BY

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FORTHCOMING EVENTS

ADM EVENTS

More detail on ADM Events can be found on our [dedicated website](#).

- [ADM 2020 Congress](#) – 19 February 2020
- [ADM Space Summit](#) – 28 April 2020
- [ADM STEM and Defence Summit](#) – 19 August 2020
- [ADM Defence Estate and Base Services Summit](#) – 22 September 2020
- [Defence in the North](#) – 28 October 2020

DEFENCE EXPORT CONTROL COURSE (PERTH)

DATE 11 February 2020
LOCATION 4 McGrath Road, Henderson.
WEBSITE www.stickytickets.com.au/UGCHD

Join us for a 1-day face-to-face training course to de-mystify the complex area of Export Control regulations. The course is suitable for SME's and will address ITAR, EAR and DEC, advice on employing dual and third country nationals, licensing requirements, and much more.

DEFENCE EXPORT CONTROL COURSE (ADELAIDE)

DATE 13 February 2020
LOCATION 19 Young Street, Adelaide
WEBSITE www.stickytickets.com.au/UGCHD

Join us for a 1-day face-to-face training course to de-mystify the complex area of Export Control regulations. The course is suitable for SME's and will address ITAR, EAR and DEC, advice on employing dual and third country nationals, licensing requirements, and much more.

AIDN NATIONAL DEFENCE INDUSTRY GALA DINNER 2020

DATE 19 February 2020
LOCATION QT Hotel Ballroom
WEBSITE consec.eventsair.com/aidn-2020/dinner/Site/Register

AIDN National invite you to attend a defence industry gala event not to be missed. The dinner will include pre dinner drinks and canapes on arrival followed by a gourmet two course dinner served with premium beverages. Guests will enjoy an evening of networking, socialising and fun which includes a VIP guest speaker, presentation of the AIDN National Young Achiever Award and Silent Auction with all proceeds donated to Legacy

CERTIFICATE IV IN RESPONDING TO ORGANISATIONAL COMPLEXITY | ADELAIDE

DATE 19-21 February, 2020
LOCATION to be confirmed
WEBSITE iccpm.com/events/certificate-iv-adelaide-2020

Developed and offered exclusively by ICCPM (RTO number 41394), the Certificate IV in Responding to Organisational Complexity helps project leaders develop the skills and attributes they need to respond to complexity, as defined in the Complex Project Manager Competency Standards. This is a highly interactive course which introduces project leaders to useful tools and methodologies with a strong focus on the practical application of concepts to real-world situations.

CERTIFICATE IV IN RESPONDING TO ORGANISATIONAL COMPLEXITY | CANBERRA

DATE 24-26 March, 2020
LOCATION to be confirmed
WEBSITE iccpm.com/events/certificate-iv-canberra-2020

Developed and offered exclusively by ICCPM (RTO number 41394), the Certificate IV in Responding to Organisational Complexity helps project leaders develop the skills and attributes they need to respond to complexity, as defined in the Complex Project Manager Competency Standards. This is a highly interactive course which introduces project leaders to useful tools and methodologies with a strong focus on the practical application of concepts to real-world situations.

WILLIAMS FOUNDATION SEMINAR: NEXT-GEN AUTONOMOUS SYSTEMS

DATE 26 March 2020
LOCATION: National Gallery of Australia
WEBSITE www.williamsfoundation.org.au

Building upon the existing foundations of ADF capability, the aim of the March seminar is to explore the force multiplying capability and increasingly complex requirements associated with unmanned systems. From its origins at the platform level, the opportunities and potential of increased autonomy across the enterprise are now expected to fundamentally transform Joint and Coalition operations.

ASIA-PACIFIC SECURITY INNOVATION SUMMIT

DATE 16-17 April, 2020
LOCATION Queenstown, NZ
WEBSITE www.apsisummit.com/page/apsi-summit-2020

The theme of this year's APSI summit, to be held in Queenstown on the South Island, is Strengthening Security Resiliency Through Partnerships and Alliances.

AUSCERT 2020

DATE: 02-05 June 2020
LOCATION: The Star, Gold Coast
WEBSITE: www.auscert.org.au/giveaway

The AusCERT Conference is the oldest information security conference in Australia. Each year, we attract in the vicinity of 800 participants and approximately 50 sponsors. AusCERT is hosting more than 50 speakers at AusCERT2020, as well as an array of tutorials, workshops, networking events & much more.

QUANTUM TECHX

DATE 08 June, 2020
LOCATION TBC
WEBSITE <https://www.quantumtx.com.au/qtX-program>

TechX is powered by leading innovation providers, Atomic Sky, and its team of experienced business scale-up facilitators. It's supported by a range of financiers, corporate and government partners who provide access to sites, specialist sector expertise, technical mentors and networks. Through the program each company will be provided condensed capability building, tailored site visits and direct mentoring to build capability, capital and connections.

ROTORTECH 2020

DATE 16-18 June 2020
LOCATION Royal International Convention Centre, Brisbane
WEBSITE www.rotortech.com.au

RotorTech 2020 is the region's premier helicopter and unmanned flight systems showcase and forum, bringing together operators, manufacturers, suppliers, regulators and government across the Indo-Asia-Pacific. With a comprehensive three-day free industry conference program, RotorTech 2020 will also feature manufacturers technical workshops and an industry exhibition showcasing more than 100 helicopter and unmanned flight related companies.

43RD COSPAR SCIENTIFIC ASSEMBLY

DATE 15 – 22 August 2020
LOCATION International Convention Centre Sydney
WEBSITE www.cospar2020.org

The Australian space research community enthusiastically extends the invitation to you, to meet with us for COSPAR 2020, and in so doing to forge the friendships and opportunities that will connect space research for global impact. The 2020 Assembly will combine the latest in space research findings with activities designed to enrich the global space research community – including helping equip our future leaders, and workshopping with space industry – and inspire the next generation of scientists and engineers.

PROJECT AND PROGRAM MANAGEMENT SYMPOSIUM 2020

DATE 25-26 August 2020
LOCATION Canberra Rex Hotel
WEBSITE www.pgcsymposium.org.au

PGCS 2020 is designed to help project and program managers, and their sponsors and senior managers, develop the skills and understanding needed to deliver projects success in the next decade. Now in its 8th year, PGCS 2020 will focus on ways to build the foundations needed to create project and program success.

LAND FORCES 2020

DATE 01-03 September 2020
LOCATION Brisbane Convention Centre
WEBSITE www.landforces.com.au

The biennial LAND FORCES exposition is an international industry event to showcase equipment, technology and services for the armies of Australia and the Indo-Asia-Pacific. The Land Forces 2020 team is now setting about ensuring the event will achieve its goals of providing an effective platform for the exchange of ideas on key land forces issues and of taking Australian industry to the world

2021

AVALON 2021**DATE** 23 – 28 February 2021**LOCATION** Avalon Airport

The Australian International Airshow and Aerospace & Defence Exposition is one of Asia-Pacific's most prestigious aviation and aerospace events and the most comprehensive aviation, aerospace and defence exposition in the southern hemisphere. Avalon hosts multiple concurrent conferences and expo streams, across the spectrum of Defence, Airlines, Business and General Aviation, Sport and Recreational Aviation, Airports, MRO, Space, Unmanned Systems, Air Safety and Ground Equipment.

VARIOUS DATES

NSW DEFENCE INNOVATION NETWORK'S REGIONAL ROAD SHOW**DATE:** Various**LOCATION:** Various**WEBSITE:** defenceinnovationnetwork.com/din-regional-road-show-2019-20

NSW Defence Innovation Network and AIDN will be undertaking a series of small business focused regional forums across NSW. Register to attend and hear about the programs, grants, opportunities and services the NSW Defence Innovation Network (DIN) provides to the small business community across NSW. We encourage small businesses to engage with us and participate in opportunities across our networks, including DIN's seven partner universities, as well as with other state and federal agencies.

DEFENCE READINESS SEMINAR SERIES**DATE** Various**LOCATION** Various**WEBSITE** <https://bit.ly/37fipjH>

The Defence Readiness Seminar Series kicked off in November last year. If you are considering entering the Defence market, or have staff you consider require orientation to the Defence market, you are strongly encouraged to consider this invaluable series, shaped and developed by people in the Hunter that have worked closely in the Defence Industry over many years. Please see the website for more information on how to get involved.