

ADM

AUSTRALIAN DEFENCE MAGAZINE

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DEFENCE WEEK PREMIUM EDITION



The Hawk Mk.127 has a current planned withdrawal date of 2026.

NIGEL PITTAWAY

DEFENCE GOES FISHING FOR HAWK REPLACEMENT

Defence released a Request For Information (RFI) to industry on June 2 with a view to replacing its Lead In Fighter Training System (LIFTS), currently provided by the BAE Systems Hawk Mk.127 platform.

NIGEL PITTAWAY | MELBOURNE

The Hawk has recently completed a significant mid-life upgrade under Project Air 5438 and has a current planned withdrawal date of 2026.

The RFI for a replacement capability is part of Air 6002 Phase 1 (Future Lead-In Fighter Training System) which, according to the 2016 Defence White Paper and associated Industry Investment Program, is a \$4-5 billion project scheduled to run between 2022 and 2033.

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Air 6002 has two major requirements, the primary role being the means of providing training for RAAF pilots and Weapons Systems operators streamed for fast jet operations, between the undergraduate PC-21 and the F/A-18F, F-35A or EA-18G. The secondary requirement will be to support other ADF capabilities in both the friendly (Blue Air) or opposing (Red Air) forces.

Defence anticipates that a mix of Live and Virtual means will be required for the training role, which includes air vehicles and full mission simulators as currently employed by the Hawk LIFTS capability. For the support role the new capability platform must be able to employ both kinetic and non-kinetic effects.

“THE HAWK MK.127 PLANNED WITHDRAWAL DATE OF 2026 MEANS THAT IT IS NOW APPROPRIATE FOR DEFENCE TO SEEK INITIAL INDUSTRY ENGAGEMENT”

The RFI stresses that industry responses address the high-level performance of their solution against requirements, as well as providing details of estimated delivery timeframe and indicative cost.

“The Hawk Mk.127 planned withdrawal date of 2026 means that it is now appropriate for Defence to seek initial industry engagement via an RFI, as part of the early steps leading into Air 6002 Phase 1. The responses will help inform Defence on industry’s views and considerations for the Future Lead-In Fighter Training System,” Air Vice Marshal Cath Roberts, head of Air Force Capability, explained.

“In parallel, Air Force will continue enhancing its understanding of what it needs from LIFTS as the output from the Pilot Training System (PC-21) and the input requirements into the Australian F-35A operational conversion mature. Both of these activities will aid in the development of the Air 6002 Phase 1 requirement.”

AVM Roberts said that, while Defence is yet to fully define its requirements for the program, it is likely that a Hawk option will be considered, but the scope of any further upgrade of the existing LIFTS capability cannot be decided until the requirements are fully understood.

“Aircraft performance and aircraft mission systems that bridge between the Pilot Training System and fast jet conversion courses will be critical requirements,” AVM Roberts added.

“The Future LIFTS will be expected to remain relevant to its role in training fast jet aircrew and supporting Joint Force training, to be adaptable to those needs as they evolve, to be affordable, and to be safe out to an indicative timeframe of 2050.”

The RFI closing date is 4 pm on July 31.

MOST READ ONLINE AT WWW.AUSTRALIANDEFENCE.COM.AU



1. [Major industry support plan struggles to materialise](#)
2. [NZ confirms C-130J selection and NH-90 upgrade](#)
3. [Eight White Paper contracts awarded for sub combat system](#)
4. [Jamaica buys six new Bushmasters](#)
5. [Clearbox Systems chosen for global satcom control segment solution](#)

HMAS ARMIDALE UNDOCKS IN CAIRNS

HMAS *Armidale* has undocked in Cairns after undergoing a major servicing and restoration project.

Local Cairns businesses played an essential role in delivering the first of several major maintenance projects coming up over the next two years.

“Thales Australia will continue to partner with local Australian businesses to maintain this important capability for the Navy while growing the local industry workforce,” Minister for Defence Industry Melissa Price said.

Federal Member for Leichhardt, Warren Entsch said the project was conducted at the Norship's shipyards and supported around 100 local jobs.

“HMAS *Armidale*'s docking and maintenance period required significant technical expertise provided by eleven local Cairns suppliers delivering over 200 crucial tasks during the project. This compliments the significant work undertaken by Navy's Fleet Support Unit and the Ship's crew,” Entsch said.

“With a substantial number of local companies qualified to provide expertise for later services this is a great example of how capable our local defence industry is, and the diverse range of companies taking up opportunities in the defence supply chain.”

Other than Norship, local suppliers involved were: Alpha Cool (Heating Ventilation and Air Conditioning works); Electrotech (electronics, radar and communications systems); Kelly's Australia (ultra-high pressure water blasting); Northern Waters (potable water systems); Pasma (specialist marine electronics repairs); Royal Wolf (container rental); Tinus Electrical (catering equipment); TQN (hydraulic systems); Trinity Fire (fire control and gas monitoring); and Far North Fabrication and G.A. Glanville (hull repairs and maintenance).



HMAS *Armidale*'s sister ship, HMAS Larrakia.

DEFENCE

SABER ASTRONAUTICS CHOSEN FOR MISSION CONTROL CENTRE

Australia's first Mission Control Centre is one step closer to lift off with local company Saber Astronautics chosen to establish the state-of-the-art space hub in Adelaide.

Saber will receive \$6 million from the Federal Government to establish the facility, while the SA Government will invest \$2.5 million through the Adelaide City Deal – a 10-year agreement between the Australian and SA Governments and the City of Adelaide.

The Mission Control Centre will provide facilities for space businesses and researchers to control satellite and space missions, and include a live link to the International Space Station so visitors can watch astronauts on-board.

Head of the Australian Space Agency Megan Clark said the centre would become a focal point for Australia's national space activities.

"The centre will be available for use by start-ups and SMEs, as well as research and educational institutions to control space assets. It will also be used for real-time testing and fast-tracking the improvement of satellite technology," Clark said.

Minister for Industry, Science and Technology Karen Andrews said the Mission Control Centre would help grow Australia's space sector, which will be an important part of our economic recovery from the COVID-19 pandemic.

"People may question why focus on space when things are so tough here on Earth, but this is about investing in our future and developing an emerging industry which can grow our economy and create new jobs," Minister Andrews said. "The Mission Control Centre will support the creation of high-tech jobs and boost the growth of space-based communication technologies and services sectors."



A concept image of the Mission Control Centre.

ASA

**“THIS IS ABOUT INVESTING IN
OUR FUTURE AND DEVELOPING
AN EMERGING INDUSTRY”**

SA Premier Steven Marshall said Mission Control will cement SA as a global leader in the booming space industry.

“Our state is at the heart of the nation’s endeavour to triple the size of the Australian space sector by 2030, creating thousands of jobs,” Premier Marshall said.

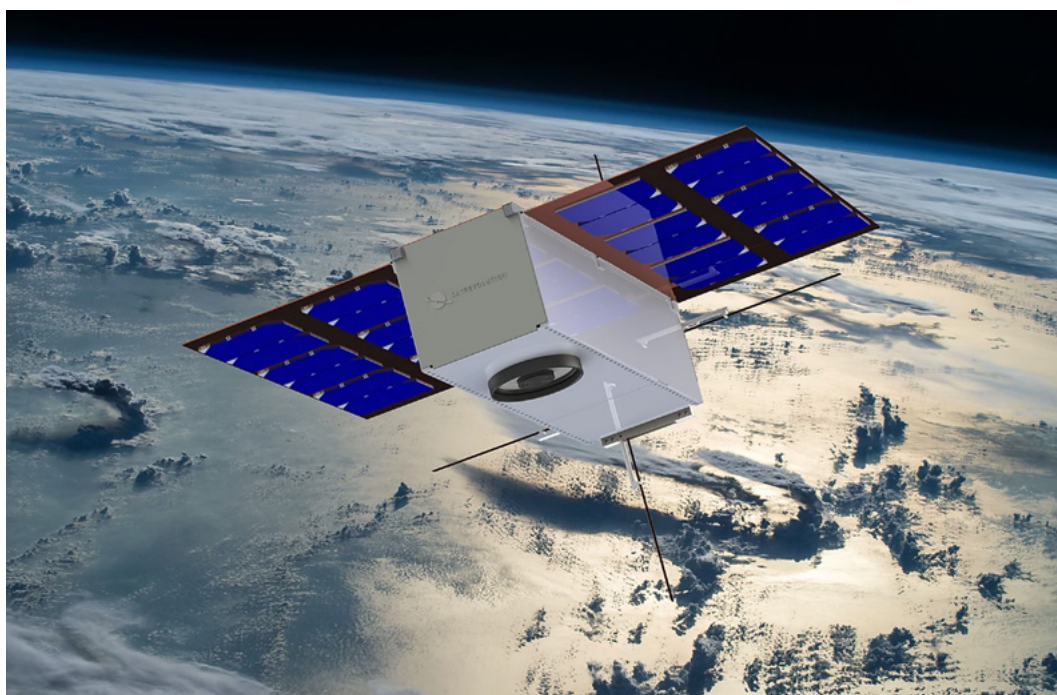
The Mission Control Centre will be located at the Australian Space Agency’s headquarters at Lot Fourteen in Adelaide. It is due to launch alongside the Space Discovery Centre, an interactive educational facility, in early 2021.

AUSTRALIAN SPACE START-UP PLANS ORBITAL DEMONSTRATION

Australian-based start-up Spiral Blue has signed an agreement with Polish satellite manufacturer SatRevolution to launch and test its first prototype Space Edge Zero (SEZ) computer in orbit.

The SEZ allows for in-situ processing of satellite imagery, eliminating the need to send large volumes of raw data back to Earth.

In a release, Spiral Blue founder Taofiq Huq said that the SEZ computer will be hosted by SatRevolution’s SW1FT satellite, set for launch on a SpaceX Falcon 9 no earlier than December 2020. Following in orbit qualification, the SEZ will be tested throughout 2021.



Spiral Blue is an Australian space start-up.

SATREVOLUTION VIA SPIRAL BLUE

“WE INTEND TO TEST A VARIETY OF ALGORITHMS ON THESE IMAGES”

SatRevolution’s SW1FT will also be carrying an optical payload capable of capturing RGB imagery at six-metre resolution. This imagery will be passed to the SEZ to process earth observation imagery in real time.

“We intend to test a variety of algorithms on these images, such as our Vessel Detect AI,” Huq said. “This gives us the opportunity to do a full end-to-end test of Space Edge computing from both a technological and commercial perspective – taking images, processing them, and delivering the processed data.”

Early development of Space Edge Zero began in August 2019 when Spiral Blue was awarded the Minimum Viable Product Grant from the NSW Government. The grant project including testing of the various components of the SEZ computer, including running and testing representative algorithms on representative hardware, thermal testing in a vacuum, and radiation testing.

According to Huq, Spiral Blue has since been focused on building a fully integrated prototype of SEZ and anticipates completing an initial engineering model in the coming weeks.

UAS FLOWN FROM A C-130J

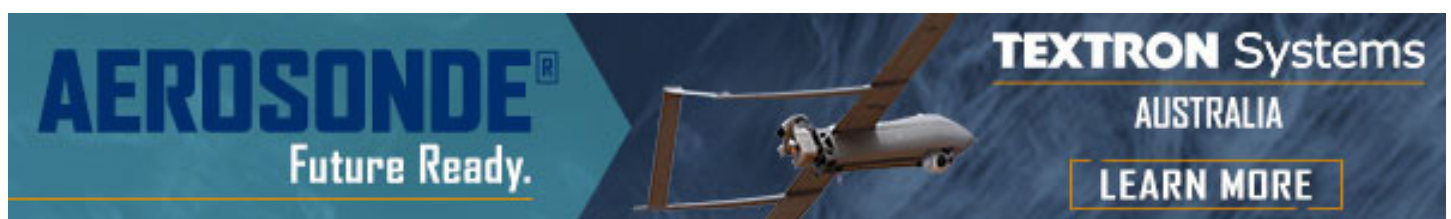
A first-of-its kind trial to remotely pilot a small Unmanned Aerial System (UAS) from the back of a C-130J has the potential to open up a range of capability options for the joint force.

The effort was a collaboration between Plan Jericho, 3SECFOR, 37 Squadron and Army.

The trial, recently undertaken at RAAF Edinburgh, tested the viability of operating a UAS via the aircraft’s onboard Satellite Communications (SATCOM) link. This has opened up future potential to operate UAS, or other networked capabilities, from anywhere in the world and, vice versa, demonstrating an ability to upload live imagery from off-board sensor systems.

Squadron Leader Peter Cunningham highlighted that this trial was the first time that airborne control UAS has been attempted from a C-130J Hercules.

“We used our wide-band SATCOM systems to provide a link to the UAS controller on the C-130J beyond the line of sight, and received video from the UAS throughout





No. 3 Security Forces Squadron Leading Aircraftman Rhys Mitting (left) and Chaddyn Bray prepare the drone for operation from an airborne C-130J Hercules. DEFENCE

“WE CAN SEE MUCH FURTHER AND BE MORE DISTANT FROM OUR TARGETS”

the flight,” SQNLDR Cunningham said.

Using 3SECFOR’s UAS capability together with the Air Mobility Innovation C-130J aircraft, enabled the team to conduct the trial within a very short timeframe.

“Working together with different skillsets and stakeholders such as 3SECFOR, Army and Plan Jericho has shown how we can be responsive to meet the needs

of Air Force in pretty short order,” SQNLDR Cunningham said.

Corporal Mitchell Blight sees enormous potential for Army Commanders on the ground.

“With this sort of technology, we can see much further and be more distant from our targets, while still getting a comprehensive understanding of the ground in front of us through a streamlined information feed,” CPL Blight said.

“While this is still in the proof of concept phase, we were very pleased to see how rapidly the team were able to get the unclassified concept off the ground in just two weeks,” Plan Jericho’s Advanced Sensors lead, Wing Commander Paul Hay said.

During the airborne operation, the team were also able to capture overarching video of the trial, using the Litening sensor pod, which was recently mounted on a pylon underneath the wing of the C-130J demonstrator.

This proof of concept further extends the connected sensor network.



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IMAGE COURTESY OF GA-ASI.



L3HARRIS

GLADSTONE COMPANY WINS ASMTI ROAD CONTRACT

A Gladstone-based company has secured a contract worth more than \$18 million as part of the Australia-Singapore Military Training Initiative (ASMTI) at Shoalwater Bay Training Area.

Golding Contractors has been awarded a civil works package to construct an access road on the south eastern boundary of the training area which is being expanded under the ASMTI.

Minister for Defence Industry Melissa Price welcomed the announcement and boost for jobs in Central Queensland.

"I am delighted to see another local company win a major contract to deliver services central to the expansion of the Shoalwater Bay Training Area," Minister Price said.

"Around 160 contracts will be made available over the duration of the project, with its construction workforce set to peak at 450 people."

Federal Member for Capricornia Michelle Landry also announced another contract under the ASMTI worth more than \$140,000 had been awarded to Tunuba, as a joint venture between the Darumbal People and Central Queensland Group Consulting for internal traffic management.

"Today's announcement brings the number of companies based in Rockhampton and Livingstone Shire regions who have been awarded work under the ASMTI to 20, with contracts valued in the order of \$59 million," Landry said.

"The ASMTI supports Singapore's training in Australia. It will deliver advanced military training areas in Central Queensland and the establishment of a new training area near Greenvale in North Queensland."

The Golding Contractors works will commence next month and is likely to be completed in mid-2021. The Tunuba works will commence in August 2020.



A soldier from 8th/9th Battalion RAR participates in dry training serials with Singaporean Army members.

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SILENTIUM TO PARTNER WITH WESTERN SYDNEY UNI ON REMOTE SA OBSERVATORY

Silentium Defence has been selected to lead a \$1.5 million project partnering with Western Sydney University for the development of an international multi-sensor Space Observatory in remote South Australia.

The observatory will be the first of its kind in the Southern Hemisphere and will provide critical data for Australian and international space users to help them more effectively detect, track, and monitor space objects from low earth orbit to geosynchronous orbit.

“South Australia is the ideal location for an observatory of this kind, uniquely positioned on the cusp of one of the world’s few dark-sky reserves,” Dr James Palmer, CEO of Silentium Defence, said.

“As the number of objects in low-earth-orbit continues to increase and space becomes more congested and contested, the need for continuous detection and tracking is critical to help keep space users and assets safe.

“To be able to provide that capability from Australia for the international space community, using local skills and local technology is an exciting step in defining our nation’s role in the fast-growing industry.”

Announced by the Minister for Industry, Science and Technology Karen Andrews, the project received grant funding from the Australian Space Agency’s ‘International Space Investment: Expand Capability grant’ and will combine two complimentary Australian developed space sensors – the Silentium Defence MAVERICK S-series passive radar for wide-area-monitoring of objects in low earth orbit and the Astrosite



The observatory combines the Astrosite Mobile Observatory (pictured) Silentium’s MAVERICK S-series passive radar.

SUPPLIED

Mobile Observatory developed by the International Centre for Neuromorphic Systems (ICNS) at Western Sydney University for detection and tracking of objects from low-earth-orbit to geosynchronous and other orbital regimes.

Professor Andre van Schaik, Director of ICNS at Western Sydney University says the use of innovative multi sensing technologies is an Australian first approach to space imaging.

“We have developed a dynamic imaging system that runs faster, computes more efficiently, uses far less power and needs less data than ever before,” Professor van Schaik said. “The Astrosite can capture objects in space with unprecedented temporal resolution, making space a safer place.”

“THE NEED FOR CONTINUOUS DETECTION AND TRACKING IS CRITICAL TO HELP KEEP SPACE USERS AND ASSETS SAFE”

The Silentium Defence MAVERICK S-series system is the world’s first commercial-scale passive radar for Space Situational Awareness (SSA). It detects and tracks objects, measures range and rate of movement, and derives orbits of objects in Low Earth Orbit regardless of weather, visibility, or time-of-day.

The combined data from both systems will allow for more effective detection and tracking of current ‘known’ objects in orbit, as well as capability for orbital prediction on newly detected objects. This ability helps address the gap in local and international object cataloguing for safe and sustainable use of space.

International partner, the Swedish Space Corporation, will combine observations from its Northern Hemisphere location to compliment Southern Hemisphere detections and assist with more effective, continuous object tracking across a wider arc of space.

Works are due to commence on the observatory by September 2020 with a target date for completion, operation, and data collection beginning in July 2021.

PEOPLE ON THE MOVE

SME Gateway (SMEG) Chairman Gary Allan today announced the appointment of Brigadier Alison Creagh AM CSC (Ret’d) and Air Vice Marshall Peter Yates AM CSC (Ret’d) as non-executive Directors to the Board of SMEG, with immediate effect.

Silentium Defence has announced the appointment of Kim Scott to the position of Chair of its Board of Directors. Scott brings more than 35 years’ experience in Defence and Defence Industry to the role where he will be responsible for overseeing design and implementation of company strategy alongside the CEO.

Quickstep Holdings has announced the appointment of Air Vice Marshal (AVM) Kym Osley as Non-Executive Director (Defence & Aerospace) at Quickstep, filling an existing casual vacancy on the Board.

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EVALUATE

A MULTI-DOMAIN DATABASE COULD DELIVER THE FUTURE OF C4ISREW CAPABILITIES

As global powers exploit emerging technologies for strategic advantage, the convergence of operating domains means that Multi-Domain Operations (MDO) are becoming a key requirement to gain superiority – especially in contested anti-access and area denial zones (A2/AD).

■
NATHAN COOK | OPINION

Joint integration is essential to deliver the right fusion of firepower. Different domains across air, land, maritime, cyber and space come together to create a point of advantage in one domain to enable effects in other domains. An example: a cyber effects mission can take down an Air Integrated Defence System, creating a semi-permanent window of superiority as part of a campaign.

Increased situational awareness in real-time, across multiple domains is essential, even more so when fusing Command, Control, Computers, Communications, Intelligence, Surveillance, Reconnaissance and Electronic Warfare (C4ISREW) capabilities.

INFORMATION SUPERIORITY

Achieving information superiority requires a rethink in the foundations of how we build out these platforms. Many sovereign entities are already realising a shift from platform to sensor network and distribution of information. This provides a decoupling of the sensor from the platform and views it in light of data direct to the consumer.

The shift is also a reverse of information push to information pull, where the network is used to transfer timely and accurate information required of the any sensor/



Members of No. 462 Squadron conduct training during the Cyberspace Incident Analyst Course at DSTO Edinburgh.

DEFENCE

any shooter consolidated environment. This therefore achieves a paradigm shift by ensuring minimising backhaul processing and greater synthesis of information through the right command and control (C2) node in theatre to the right “shooter” leveraging artificial intelligence and machine learning.

In addition, actively utilising AI or machine learning to support decisions through weapon systems, or fusing F-35 terrain analysis with scouts to inform decision making on the ground without waiting for direct comms, will increase as deployed and tactical edge clouds are already a reality and actively being tested/implemented for mission outcomes.

**“THE IDEAL END STATE IS A
SINGLE PANE OF GLASS THAT
INTEGRATES ACROSS DOMAINS”**

The migration to ‘Network Centric Warfare’ has already seen the connectedness of the battlefield increase. However, actionable intelligence is only as good as the ability to have access to all relevant data in real time. Sensor connectivity can no longer be viewed as a resource available to a user or sensor owner, but rather as an information gathering resource for C4ISREW outcomes.

MULTI-DOMAIN DATABASE

Data management, replication, command and control, multi-level security and multi-domain should become key tenets for future C4ISREW capabilities. A cloud capable Multi-Domain Database (MDDDB) that provides support for incompatible networks and previous systems will be key. The ideal end state is a single pane of glass that integrates across domains while fundamentally delivering a single source of truth for missions while providing a unified insider threat capability across all these domains.

An MDDDB can provide the next generation information management platform that removes one of the main challenges in C4ISREW sensor management; the interface between these security domains and systems.

Historically, C4ISREW solutions have been point solutions and the most important performance measure of a sensor management system is related to the speed of acquiring, managing and making available information to all that require it across any security domain or geography. The ability to seamlessly link multiple levels of data, security domains (multi-domain), and multiple security levels provides greater situation assessment of the battlespace of information fusion.

This becomes most relevant when viewing the Common Operating Picture, largely underpinned by Oracle technology globally. The once restrictive use of various data-guards or one-way diodes required for every read or replication of data may now be repurposed as part of a one-time content verification write on initial ingest of information. This expedites the access of data from a single repository by users on differing



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security domains while maintaining the original security level.

In a nutshell, MDDB users can access data from multiple domains based on their access rights. An MDDB can provide the analyst with the information they need at the right time, the right place, and in the right domain at mission speeds.

Operating at the speed of mission is where defence needs to be. MDDB capabilities exist today and are already fielded in allied partner environments with Australia yet to move forward.

Note: Nathan Cook is Vice President & CTO of National Security & Defence for EMEA & JAPAC.

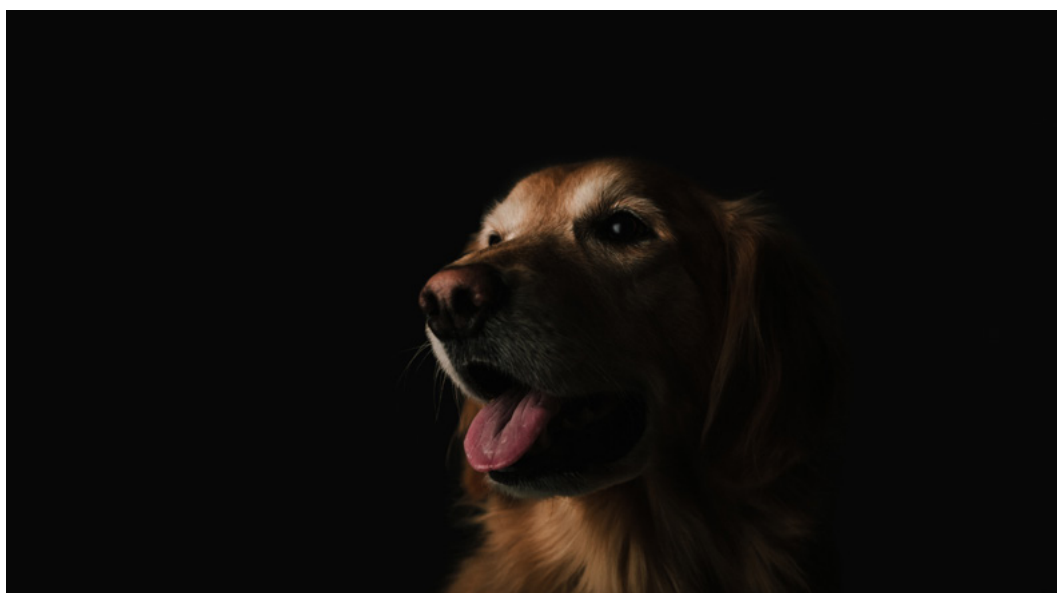
OPERATIONS K9 TO HELP PTSD

Operation K9, an initiative of the Royal Society for the Blind (RSB), provides veterans with combat related Post Traumatic Stress Disorder (PTSD), access to an RSB assistance dog.

The RSB holds accreditation from both the International Guide Dog Federation and Assistance Dog International. These highly trained and accredited assistance dogs provide social interaction, independence and companionship.

PTSD is an anxiety disorder that is caused by a traumatic experience or experiences. The symptoms can be social isolation, poor emotional regulation, impaired cognitive functioning, emotional numbing and avoidance, hypervigilance, problems with sleep, flashbacks and physical aches and pains.

Operation K9 Dogs are accredited assistance dogs that provide companionship, comfort, support, independence and social interaction.



Operation K9 Dogs are accredited assistance dogs that provide companionship, comfort, support, independence and social interaction.

UNSPLASH

They also perform a range of tasks tailored to each veteran's specific needs, such as interruption and distraction from increased anxiety, providing physical grounding during a flashback, searching for misplaced or required items such as medication, and more.

It costs in excess of \$30,000 to breed and train each Operation K9 Dog.

Operation K9 Dogs are provided to eligible clients free of charge. All initial equipment and accessories are provided, and Operation K9 covers all veterinary and routine health costs for the dog.

"HIGHLY TRAINED AND ACCREDITED ASSISTANCE DOGS PROVIDE SOCIAL INTERACTION, INDEPENDENCE AND COMPANIONSHIP"

As an example, ADF veteran Matt has found help through Operation K9 Assistance Dog, Laney. Following deployments that included Timor, Bougainville, the Solomon Islands and Afghanistan, his story follows a similar pattern to many of our veterans who return experiencing PTSD.

"I talk to Laney as if she's a person," Matt said.

"We've been together constantly since we met.

If I'm showing signs of a flashback or the night terrors, she reads the situation and places her nose on me. She's grounding me and calming me down. She's saying, 'it's alright, I'm here, you're safe'."

Matt can't remember anything from his toughest times or the triggers behind his PTSD. "We haven't started working on the trauma yet," he said. "But with Laney by my side, I know that when the time comes, we'll get through it together."

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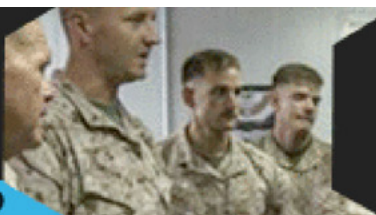
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FORTHCOMING EVENTS

ADM EVENTS

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

- [ADM Defence Estate and Base Services Summit](#) – 22 September 2020 | Canberra
- [ADM Women in Defence Awards](#) – 23 October 2020 | National Arboretum
- [Defence in the North](#) – 28 October 2020 | Darwin Convention Centre
- [ADM Space Summit](#) – 2 December 2020, Hyatt Hotel | Canberra
- [ADM Congress](#) – 3 February 2021, Hyatt Hotel | Canberra

ONLINE COMPLEX PROJECT SIMULATION

DATE 18 June 2020
LOCATION Online
WEBSITE iccpm.com/events/major-project-simulation

ICCPM was established by the Australian Government with support from the Australian, UK and Canadian Departments of Defence to build organisational capability in the successful delivery of complex projects. It is now offering an exciting opportunity for project leaders, organised in competing teams, to manage and “live” a complex project in the safety of a virtual simulated environment. It enables participants to work on a project from start to finish; to make critical decisions and to see the impact of those decisions – all in a virtual team.

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.

2020 INTERNATIONAL ROUNDTABLE WORKSHOP – BRISBANE

DATE 27 August 2020
LOCATION QUT Brisbane, Gardens Point Campus, Brisbane City
WEBSITE <https://iccpm.com/events/2020-rts-brisbane/>

The International Centre for Complex Project Management (ICCPM) invites project leaders to participate in the 2020 International Roundtable Series. Workshops will be held in key Australian locations and internationally.

AUSCERT 2020

DATE: 15-18 September
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.

2020 VERNON PARKER ORATION AND DINNER

DATE 13 October 2020
LOCATION Hotel Realm, Canberra
WEBSITE navalinstitute.com.au/2020-vernon-parker-oration-and-dinner

Sir Peter Cosgrove has kindly agreed to deliver the 2020 Vernon Parker Oration on 17 June. Sir Peter was Governor-General from 2014-2019 and former Chief of the Defence Force. In January 2020 Sir Peter accepted the voluntary role as chairman of the Business Council of Australia's Community Rebuilding Initiative in response to the 2019/20 bushfires.

2020 ANI GOLDRICK SEMINAR – REMOTE AND AUTONOMOUS SYSTEMS AT SEA

DATE 13 and 14 October 2020
LOCATION Adams Auditorium, Australian Defence Force Academy
WEBSITE navalinstitute.com.au/latest-ani-events-and-archive/

The 2020 ANI Goldrick Seminar will discuss a wide range of issues around Remote and Autonomous Systems at Sea. It will comprise six sessions over 1.5 days covering an overview of Remote and Autonomous Systems at Sea (RAS); RAS in the Littoral Domain; RAS in the Maritime Air Domain; RAS in the Undersea Domain; Measuring Effective, and Legal and Ethical Considerations.

ROTORTECH 2020

DATE 14-16 October 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.

MILCIS 2020

DATE 10 – 12 November 2020
LOCATION National Convention Centre, Canberra
WEBSITE <https://www.milcis.com.au>

In November each year, the Defence Chief Information Officer Group (CLOG) partners with the UNSW Canberra and the Institute of Electronic and Electrical Engineers (IEEE) to present MilCIS. The annual Military Communications and Information Systems (MilCIS) Conference welcomes military and government organisations, academia, and defence industries to contribute to the future direction of military communications and information systems.

10TH BIENNIAL SIA CONFERENCE 2020

DATE: 17-18 November 2020
LOCATION Hotel Realm, Canberra
WEBSITE <https://www.submarineinstitute.com/sia-conferences>

The 10th Biennial SIA Conference will be held 17-18 November 2020 at the Hotel Realm, Canberra. This year's theme is 'Submarine Build and Sustainment Programs: The Strategic Nature of Reliable, Sovereign Supply Chains'. The Call for Presentations is available on the website.

AIRBUS DEFENCE AND SPACE INDUSTRY ENGAGEMENT ROADSHOW

DATE postponed until further notice
LOCATION Various
WEBSITE www.airbus.com/space.html

The purpose of the briefings is to engage Australian industry and identify potential roles in the pursuit, delivery and support of projects of interest to Airbus Defence and Space such as but not limited to satellite and terrestrial communication networks, processing of imagery and data and surveillance sensors. Airbus are particularly interested in companies with the following capabilities, but not exclusive to: Advanced manufacturing; Electronics/Electrical engineering; Antenna design and manufacturing; Mobile Terminals; Electrical harness; Software development; Payload development; Infrastructure.

CYBER DEFENCE NEXT GENERATION TECHNOLOGY & SCIENCE CONFERENCE

DATE: postponed until further notice
LOCATION: Brisbane
WEBSITE: wp.csiro.au/cdng

The Cyber Defence Next Generation Technology and Science Conference, is a first of its kind scientific and technology focused Cyber Defence Conference. The aim is to have the community of cyber-security under the "Next Generation Defence Technologies | Cyber Research" program in collaboration with DST-Data61 and partner universities meet together, expose relevant research activities and discuss future collaborations.

CERTIFICATE IV IN RESPONDING TO ORGANISATIONAL COMPLEXITY | CANBERRA

DATE postponed until further notice
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 postponed until further notice
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 postponed until next year
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.

2021

43RD COSPAR SCIENTIFIC ASSEMBLY

DATE 28 Jan-4 Feb 2021
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 workshoping with space industry – and inspire the next generation of scientists and engineers.

LOCATE21

DATE 30 March – 1 April 2021 (rescheduled dates)
LOCATION Brisbane Convention and Exhibition Centre
WEBSITE <https://www.locateconference.com/2021/>

Due to COVID-19, Locate20 has been rescheduled for Locate21 happening in Brisbane March 30 – 1 April 2021. The event will focus on how geospatial technologies are intersecting with business, Government and defence to address national challenges. It's Australia's premier spatial conference with the inclusion of over 50 inspiring thought-leaders including speakers from government, academia, the defence force, technology, mining, natural resources and more. We believe this conference is of interest to defence personnel.

LAND FORCES 2021

DATE June 1-3 2021
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.

PROJECT AND PROGRAM MANAGEMENT SYMPOSIUM

DATE 10 – 12 August 2021 (rescheduled dates)
LOCATION Canberra Rex Hotel
WEBSITE <https://www.pgcsymposium.org.au>

Foresight is more valuable than hindsight! 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. Creating the organisational capability needed to underpin the consistent delivery of successful projects in the 2020's starts at the top. Now in its 8th year, PGCS 2020 will focus on ways to build the foundations needed to create project and program success

AVALON 2021**DATE** 23-28 November 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.

2022**PACIFIC 2020 BECOMES INDO PACIFIC 2022****DATE** May 2022**LOCATION** Sydney Convention Centre**WEBSITE** www.pacificexpo.com.au

Reflecting the increasing importance of the Indo Pacific region to the entire world, the PACIFIC International Maritime Exposition will become the INDO PACIFIC International Maritime Exposition from 2022. Initially, there will be a new timing. Instead of the previously planned PACIFIC dates in August 2021, INDO PACIFIC will now, in the wake of COVID 19, initially be held during May 2022.

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 postponed until further notice
LOCATION Various
WEBSITE 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.

2020 ICCPM INTERNATIONAL ROUNDTABLE SERIES

DATE Various (August)
LOCATION Various
WEBSITE iccpm.com/2020-rs

One of the characteristics of complex projects is that they emerge over time. This creates uncertainty for project leaders. To support project success, project leaders need to understand how to manage risk in uncertainty and identify new opportunities. The International Roundtable Series is a Thought Leadership initiative that brings together senior project leaders and leading academics from different industries to share their experience and international perspectives. The outcomes report will share these insights to improve project success.

ICCPM ONLINE WORKSHOPS

DATE Various
LOCATION Online
WEBSITE www.iccpm.com/online-workshop-webinars

Designed to support project teams who are experiencing new challenges due to COVID-19 concerns – Learn how to mitigate new risk levels, effectively deploy virtual teams, manage messy problems and more. ICCPM Online Workshops and Webinars provide you with an easily accessible and engaging option to continue your training from anywhere in the world. These options provide you and your team with a conducive learning environment to support your complex project success.

DEFENCE READINESS SEMINAR SERIES

DATE Various (25 February – 20 October 2020)

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. This series is designed to educate, prepare, grow and mature NSW businesses who are either active in or considering Defence as a business opportunity.

ICCPM ONLINE WORKSHOPS

DATE Various

LOCATION Online

WEBSITE www.iccpm.com/online-workshop-webinars

Designed to support project teams who are experiencing new challenges due to COVID-19 concerns - Learn how to mitigate new risk levels, effectively deploy virtual teams, manage messy problems and more. ICCPM Online Workshops and Webinars provide you with an easily accessible and engaging option to continue your training from anywhere in the world. These options provide you and your team with a conducive learning environment to support your complex project success.