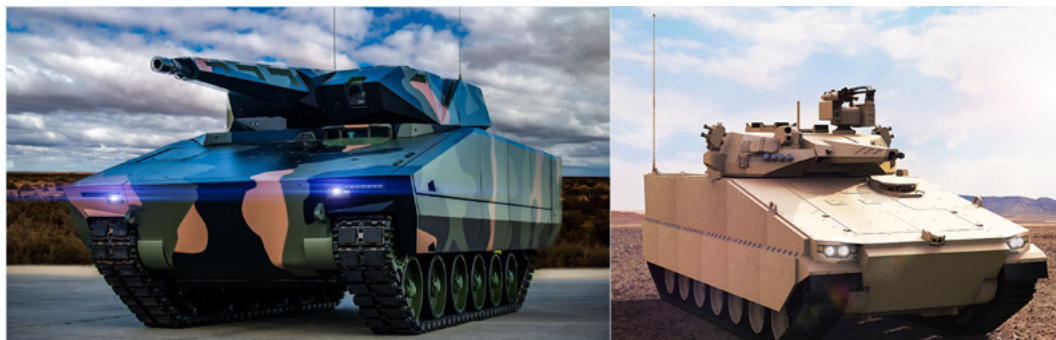


ADM

AUSTRALIAN DEFENCE MAGAZINE

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DEFENCE WEEK PREMIUM EDITION



Rheinmetall's Lynx and Hanwha's Redback IFVs have been downselected for Land 400 Phase 3.

HANWHA/RHEINMETALL

EARTHQUAKES HIT LAND 400

Some recent developments in Land 400, Army's most expensive acquisition program ever, have hardly raised eyebrows but nonetheless are worth noting.

JULIAN KERR | SYDNEY

Firstly, Brigadier Greg McGlone, leader of the multi-billion dollar project for the past five years, was recently unexpectedly and abruptly replaced.

Sources said the Land 400 Phase 3 contenders, Rheinmetall Defence Australia and Hanwha Defense Australia, each received an advisory telephone call from the head of CASG's Armoured Vehicle Division, Major-General David Coghlan, less than 24 hours prior to BRIG McGlone's 22 July replacement on an acting basis by Sarah Myers, Assistant Secretary in CASG's Land Vehicle Systems branch.

In the absence of any official statement and responding to ADM questions, a Defence spokesperson said that Defence "could confirm that BRIG McGlone is no longer in the role of Director-General Armoured Fighting Vehicles and thanks him for his contribution to the program over a number of years.

"Any announcement of a replacement will be officially communicated with other Defence senior appointments at an appropriate time. A key consideration for any replacement will be to ensure long term continuity in the leadership of the Armoured Vehicle program in the years ahead."

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MOST READ ONLINE AT WWW.AUSTRALIANDEFENCE.COM.AU

1. [Hanwha rolls out Redback IFV prototypes](#)
2. [Manufacturing begins on Land 19 Phase 7b subsystem](#)
3. [Government to consider howitzer acquisition strategy](#)
4. [Southern Launch selects DART rocket for DEWC payload](#)
5. [Tectonica Australia secures Boxer contract](#)

Missing was any explanation for the move, its method, or its timing, which came five years to the month since BRIG McGlone was appointed Director-General Armoured Fighting Vehicles, and eight months into the crucial Risk Mitigation Activity phase for what is officially titled the Mounted Close Combat Capability, aka Land 400 Phase 3.

This will deliver and support up to 450 Infantry Fighting Vehicles (IFVs) and 17 manoeuvre support vehicles that will replace the Army's expensively-upgraded but now obsolete and vulnerable M113AS4 armoured personnel carriers (APCs).

"THE PHASE 3 ESTIMATE SOARED BY AN EXTRAORDINARY 80 PER CENT TO \$18-27 BILLION"

Officially-forecast Phase 3 expenditure has remained at \$10-15 billion since the 2016 Defence White paper – that is, until 1 July and publication of the 2020 Force Structure Plan, in which the Phase 3 estimate soared by an extraordinary 80 per cent to \$18-27 billion.

Defence subsequently told ADM that the "additional investment" included an increased initial procurement of spares and a larger stockholding of munitions to support greater operational readiness, together with increased investment in supporting infrastructure and training ranges specific to the IFV capability.

"A longer, more feasible and sustainable vehicle build scheduled in Australia also impacts the out-turned cost of the project," the spokesperson added without further explanation.

Neither Rheinmetall nor Hanwha would comment on this statement.

However, Defence told ADM that Army's combat brigades would continue to operate the M113AS4 "until the capability is fully replaced by the IFV being delivered by Project Land 400 Phase 3.

"M113AS4s will be progressively withdrawn from service as the Land 400 IFV is introduced. Army does not intend to maintain an operational fleet of M113AS4s beyond this date."

Initial Operating Capability (IOC) for the selected IFV is set for 2024-25 while Final Operating Capability is anticipated by 2030-31, although movement on this timeline is possible.

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VICOR

EVALUATE

COMPANIES LINE UP FOR POTENTIAL HAWK REPLACEMENT OPPORTUNITY

The Commonwealth's Request For Information (RFI) for its proposed Lead In Fighter Trainer (LIFT) program to be delivered under Air 6002 Phase 1 closed on Friday, eliciting responses from at least three companies.

NIGEL PITTAWAY | MELBOURNE

Air 6002 Phase 1 is a \$4 to \$5 billion program between 2022 and 2033 to replace the current LIFT capability, which is a system of simulators and training devices, based on the BAE Systems Hawk Mk.127 platform. The Planned Withdrawal Date (PWD) for the Hawk is currently set at 2026 and the new program aims to deliver a replacement capability that will be in service until around 2050. Beyond the RFI however, the Commonwealth is yet to define its requirements for the future LIFT capability and has not released any further milestones.

The RFI itself calls for a solution which has the primary role of training RAAF fast jet pilots and weapons systems operators (WSOs) in transition from the Pilatus PC-21 to the F/A-18F Super Hornet, EA-18G Growler and F-35 Lightning II platforms. A secondary role is to support the ADF, either as a friendly or adversary force.

The solution is required to be "configurable and scalable" supported by a Defence Aviation Safety Authority (DASA) approved organisation and, in its secondary ADF support role, be capable of representing 4.0 and 4.5 generation forces and able to employ both kinetic and non-kinetic effects. While the document does not specify a military off the shelf (MOTS) solution, it does require respondents to state whether their proposed platform is either in service with, or is being acquired by, other defence forces. The Australian Industry Capability (AIC) aspect seeks to maximise opportunities for Australian industry.

BOEING DEFENCE AUSTRALIA

Boeing Defence Australia announced on August 2nd that it had submitted a response to the RFI, with a proposal based on the T-7A Red Hawk platform now under development for the US Air Force.

"The T-7 stands apart as a compelling solution for Australia's future training requirements. We believe it meets Australia's current and future fast-jet training needs with its



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IMAGE COURTESY OF GA-ASI.



L3HARRIS



The planned withdrawal date for the Hawk is currently set at 2026.

NIGEL PITTAWAY

next generation system that combines live, virtual and synthetic training requirements,” commented BDA vice president and general manager, Scott Carpendale.

The US Air Force will acquire 351 T-7As as part of its T-X program to replace the elderly Northrop T-38 Talon and expects an Initial Operational Capability (IOC) in 2024, with Final Operational Capability (FOC) to follow in 2034. The flight test program is currently 80 per cent complete at the current time and a Boeing spokesperson said the program is on track to meet the USAF’s entry into service requirements.

The USAF T-7A variant is not required to employ live weapons and it is not yet clear if the development of such a capability for export customers would affect Air 6002 timelines, or who would pay for it to be undertaken, however Boeing has previously said that the program has sufficient flexibility to accommodate export customers.

KOREA AEROSPACE INDUSTRIES

Korea Aerospace Industries (KAI) had not responded to ADM’s request for information on any likely bid by press time, but the South Korean manufacturer is expected to have proposed a solution based on its T-50 Golden Eagle platform.

The T-50 variant is an advanced trainer, but the aircraft is also produced as a Lead-In Fighter Trainer/Light Combat Aircraft (LIFT/LCA) as the TA-50, and as a multi-role fighter (FA-50). Across the three variants the aircraft is already in service in the Asia-Pacific region, with the air forces of South Korea, Indonesia and the Philippines and also with the Iraqi Air Force.

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LEONARDO

Italy's Leonardo has confirmed that it has responded to the Air 6002 RFI, with a solution based on its M-346 Master advanced trainer/LIFT aircraft. The M-346 is in service with several air forces around the world, including Italy, Israel and Poland and regionally by the Republic of Singapore Air Force, albeit with their aircraft physically based in Europe. The company is also developing a light fighter version, equipped with a radar and weapons capability, known as the M-346FA.

The Leonardo proposal is to replace the Hawk with the M-346 in the fast-jet training role immediately, while allowing the existing platform to continue in its ADF support role for several years longer.

"THE NEW PROGRAM AIMS TO DELIVER A REPLACEMENT CAPABILITY THAT WILL BE IN SERVICE UNTIL AROUND 2050"

"Our proposition to the ADF is that they can use the right solution at the right time without compromise. The RAAF can immediately have the best available solution for LIFT and advanced training, saving the life of the Hawk 127 fleet for the less technologically demanding mission such as ADF combat support," a Leonardo spokesperson said to ADM.


The spokesperson added that the M-346 is already performing in the fast-jet transition role to the F-35 in Italian and Israeli service and will be doing the same for Poland and Singapore in the future.


"We are confident that our M-346 is a perfect match for Australia's short-term requirements for LIFT and advanced training, but also in the longer term for ADF combat support," the spokesperson said.

BAE SYSTEMS AUSTRALIA

The Hawk Mk.127 has recently undergone upgrade to essentially the same standard as the RAF's new-build Hawk T.2 under the Lead In Fighter Capability Assurance Program (Hawk LIFCAP) and is currently providing fast-jet transition training to the RAAF's F-35, Super Hornet and Growler fleets. The aircraft is celebrating 20 years of operations in Australia this year and, despite the 2026 PWD being set some time back the average airframe age, in terms of flying hours, is only around one-third of its verified fatigue life.

Speaking with ADM recently, Head Air Force Capability Air Vice Marshal Cath Roberts said that, while Defence is yet to fully define its requirements, the option of retaining the Hawk will be considered in the Air 6002 context. Post-LIFCAP, Australia has signed a Commander's Intent agreement with the UK, which is intended to create a "scalable, flexible, sustainable support and capability enhancement solution for the UK and Australian Hawk that delivers the required output at the optimal cost".





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This agreement sets the framework for future sustainment synergies should Hawk prove to be the preferred solution to Air 6002, including a spiral capability development upgrade process to ensure the platform and training systems continue to meet the Commonwealth's requirements as they evolve.

"As part of our current role as the Hawk platform steward we have answered the Commonwealth's questions as part of the RFI," explained BAE Systems Australia's director Aircraft Sustainment and Training Andrew Chapman. "We're working on the basis that, with two-thirds of the Hawk's fatigue life remaining, we think it is absolutely the most cost-effective way moving forward."

NUSHIP SUPPLY COMMENCES SEA TRIALS

ADM can confirm that NUSHIP Supply has commenced sea trials off the coast of Ferrol, Spain where she was built.

KATHERINE ZIESING | CANBERRA

The first of the two new Supply class ships (with *Stalwart* already in the water as well) was launched in November 2018 but thanks to COVID delays in particular, has seen some slippage in the original sea trials schedule.

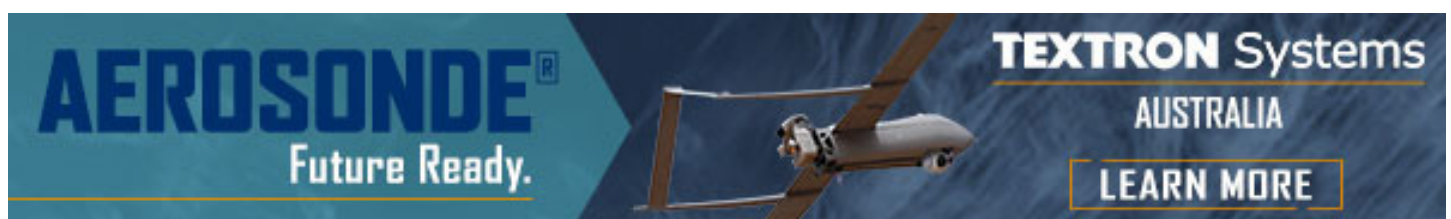
Staff from Teekay, Navantia and the RAN are on board during these trials. *Supply* is due to start her voyage to Australia later this month where she will undergo further testing with the RAN before acceptance into the fleet.

"THE AUSTRALIAN AORs ARE DESIGNED WITH THE INTENT TO REPLENISH FUELS, DRY CARGO, WATER, FOOD, AMMUNITION, EQUIPMENT AND SPARE PARTS"

In 2016 Navantia was awarded the contract to build two auxiliary oiler replenishment ships (AORs). These ships will replace existing vessels HMA Ships *Success* and *Sirius* and will be known as the Supply Class. The AORs will provide operational support to the Navy's fleet by providing fuel, ammunition and stores.

The contract to build these vessels was awarded in 2016 with both ships due to be delivered in 2020.

The design of these vessels is based on the Navantia built and designed, Spanish oiler *Cantabria* (which the RAN had on loan for a 13-month period earlier this decade)



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NUSHIP Supply has commenced sea trials off the coast of Ferrol, Spain.

NAVANTIA AUSTRALIA

that is currently operated by the Spanish Navy. The Australian AORs are designed with the intent to replenish fuels, dry cargo, water, food, ammunition, equipment and spare parts to the operational deployments of the Australian naval and combat forces operating far from port, on the high seas for longer periods. HMA Ships *Supply* and *Stalwart* are due to commence service with the RAN from mid-2020 and are expected to remain in service for a minimum of 25 years.

The commissioning crew of NUSHIP *Supply* (II) donned ships hats and badges for the first time on Monday, 13 January 2020 at Garden Island, Sydney with Captain Ben Hissink in command.

PEOPLE ON THE MOVE

Veritec has appointed Tony Nazon to the role of Account Director, Defence and National Security. Tony is an experienced senior sales professional with a demonstrated history of working in the information technology and services industry, with a focus on servicing Federal Government customers, including Defence.

Oceania University of Medicine has named Professor Hugh Bartholomeusz, retired Air Vice-Marshal and noted plastic surgeon in Brisbane, as its new Dean for Australia. Professor Bartholomeusz brings decades of leadership experience to the medical school.

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THALES

UNNECESSARY CHALLENGES FACE AUSTRALIAN HIGH-TECH SMES SUPPLYING DEFENCE

A quick look at ADM's list of the Top 40 Defence contractors reveals that it is dominated by local subsidiaries of foreign owned prime contractors, with only one single Australian supplier of high technology systems on the list (EOS).

BRENT CLARK | CANBERRA

One might be forgiven for concluding that Australian owned industry – generally SME's – are just not particularly good at developing high technology Defence systems, and that they are simply not competitive against overseas suppliers.

After all, Defence acquisition, is run according to competitive principles, so the list at face value would indicate that Australian suppliers are not up to the mark.

Is this really the case?

Australian higher education institutions are well regarded in the science and technology areas, and the basic human resources needed for a strong defence high technology sector are readily available. And we are prepared to invest in it and have the capacity to continue to invest.

So why is the acquisition of advanced Defence technology from Australian-owned suppliers not more prevalent?

The start of the problem appears to lie with the Departments interpretation of the Commonwealth Procurement Rules in relation to the consideration of project risk during tender evaluation. Proposals involving technical development appear to be actively marked down. This acts to advantage overseas suppliers (or the local subsidiary of a



Australian higher education institutions are well regarded in science and technology – so why don't we buy more advanced technology from Australian-owned suppliers?
NATHAN DUMLAO

foreign owned prime) which may have an offering that is already in service with their own defence force, as a result of development contracts funded by that country's defence force. The risk has already been taken by another nation.

This immediately puts the Australian technology supplier behind the eight ball.

Yet the assumption that any need to undertake technical development poses a risk to project delivery is overly simplistic. After all, the technical risk to project delivery is not simply a matter of how much technical development is proposed but is also a question of how good the proposing company is at undertaking the relevant type of development.

**“LOCAL TECHNOLOGY SUPPLIERS
ATTAIN AT BEST AN INTERMITTENT
STREAM OF DEVELOPMENT
PROJECTS FROM DEFENCE IN
THEIR AREA OF EXPERTISE”**

For example, a local supplier might have an exemplary track record of delivering development intensive projects; yet even with such a record, a tendered proposal from this Australian company would still be ranked behind a proposal from an overseas supplier requiring a lesser degree of development.

The results of this approach are predictable. Local technology suppliers attain at best an intermittent stream of development projects from

Defence in their area of expertise. Unsurprisingly, this causes the technologies and products from the overseas suppliers, with continuous (rather than intermittent) support from their own defence forces, to further improve their competitive position.

The result is a self-reinforcing system. Australian suppliers are competitively disadvantaged, which reduces their ability to win projects with Defence, which then further reduces their competitive position.

The outcome is bad for all Australians.

The acquisition organisation believes it has eliminated technical risk – but is left with different risks: the impacts of export controls, forex fluctuations, and managing engagements with suppliers for whom Australia is not their most commercially valuable customer.

The Defence end user becomes even further bound to technology supplied from overseas, compounding further the vulnerability of the ADF to disruptions of supply and/or support.

The silver lining of this sorry state of affairs is that the solution becomes obvious.

Rather than having a system that self-reinforces in a negative way, Australia's acquisition system needs to self-reinforce in a positive way.

Where local technology suppliers have a strong record of delivery on projects involving further development, the technical risk of further tenders involving development should be rightly assessed as minimal. This will immediately improve the ability of local suppliers of technology to win further development contracts, which in turn further improves the competitive position of the offerings of those companies.

The ADF benefits through the responsiveness both during the delivery project and subsequent support arrangements that can only be attained with local suppliers; and it reduces its vulnerability to overseas supply disruptions.

Local industry, being placed on a better footing, will become a more attractive proposition for the investment capital accumulating in the nation's superannuation system, enabling further expansion and maturation of sovereign industrial capability.

But the key to inverting what is currently a negatively reinforcing system to become a positive reinforcing system is to address the approach to assessing the technical risk of tendered offers.

The risk associated with the existence of development within a tender can only be evaluated in conjunction with an assessment of the ability of the supplier to undertake development of that nature. Where local suppliers' track records indicate that they consistently succeed at undertaking such development, the technical risk must rightfully be considered to be minimal.

**"NOW MORE THAN EVER AUSTRALIA
NEEDS TO FOCUS ON OUR DOMESTIC
ECONOMIC GROWTH."**

This simple and logical change will unleash material growth in the high technology SME sector of the defence industry and should be immediately implemented.

Australia needs to support a local defence industry. Now more than ever Australia needs to focus on our domestic economic growth. We also need to ensure

that we are investing in fostering high technology knowledge through education – but without a vibrant and receptive industry sector to absorb, use and continually grow this knowledge it remains fundamentally impossible to achieve a self-reliant and sovereign industrial base.

Note: Brent Clark is the CEO of AIDN National.

RAN CONTRACTS FRENCH COMPANY FOR COMPLIANCE RESPONSE

Bureau Veritas (BV), a Paris-based testing, inspection and certification (TIC) services company, is working with the RAN to support a component of the Navy's compliance response to the Defence Seaworthiness Management System (DSwMS).

Bureau Veritas will work with the RAN to prescribe the naval materiel policies and the new standardised naval material rule set for Australia. This framework will provide a necessary ecosystem for the trusted design, build, and commissioning of naval ships as Australia's sovereign shipbuilding capabilities grow.

"This is an exciting project for Bureau Veritas," Pierre de Chateau Thierry, Business Director, BV Marine & Offshore in Australasia said. "The naval shipbuilding capacity being built in Adelaide and related projects require a strong framework providing the practical foundation for the supply chain and standards.

"Assisting the Navy develop its DSwMS compliance response is a foundation and we are looking forward to commencing this important and substantial task which also has a challenging delivery timeline. Building modern warships is a complex design, procurement, and supply chain management challenge. We will be focused on helping ensure that the complexity of the challenges involved can be managed in confidence."



HMAS Toowoomba alongside the French aircraft carrier Charles de Gaulle during flight operations while on exercise.

SUPPLIED

BV says it has a 'significant' expertise and deployable capacity in Australia and overseas to support the RAN, CASG and the naval shipyards.

"We are far more than a classification society, but this project will also draw on our core marine technology capabilities in hull systems, propulsion, electrical systems, ship survivability, stability and trimming, submarine systems, and control systems," Thierry continued. "We combine the best of marine and other industries to provide the sophisticated capabilities required.

"To support its activities focused on the sovereign shipbuilding projects, Bureau Veritas is opening a new Liaison and Support office with dedicated staff, located in Adelaide's new Defence & Space Innovation Precinct. If we are going to be a key player in the ecosystem we need to be in that ecosystem."

SONAR UPGRADES NEAR COMPLETION

Upgrades to the Spherion B sonar processing systems in the Anzac class frigates under Sea 1408 Phase 2 are almost complete, reports Lieutenant Gary McHugh in the Navy Daily.

The 'ship build' fitted sonar processing system is being replaced with the Broadband Sonar Advanced Processing System (BSAPS), a collaboration between Defence Science and Technology (DST), Saab Australia, BAE Systems and Thales Australia.

The existing Spherion B Hull Mounted Sonar Wet End remains in use.

"The submission was picked up and commercialised by Thales Australia, and showcases Australia's world class ability to convert science and technology concepts into



HMA ships Anzac, right, and Arunta have both undergone the Broadband Sonar Advanced Processing System upgrade
POIS JAMES WHITTLE/DEFENCE

successful commercial enterprises," Deputy Director Combat Systems Commander Danielle Radnidge said.

According to the Navy Daily, the upgrade offers significant improvement in sonar passive capability, a greater level of sonar and Combat Management System integration, improved levels of sonar functionality and significant improvements in equipment reliability.

The new sonar system has been integrated with the 9LV Combat Management System.

The technology delivers advanced anti-submarine warfare and torpedo self defence capability to the Anzac class.

The upgrade project management occurred through the Warship Asset Management Agreement Alliance with the Anzac Ships Program Office and Sea 1408 Project Office.

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FORTHCOMING EVENTS

ADM EVENTS

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

- [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
- [ADM Defence Estate](#) – 23 February 2021, Hotel Realm | Canberra

STRATEGIC VISION 2020: THE ASPI CONFERENCE SERIES

DATE 22 July – 14 August 2020
LOCATION Online – Free registration
WEBSITE <https://www.aspi.org.au/event/strategic-vision-2020-aspi-conference-series>

The Australian Strategic Policy Institute (ASPI) is delighted to invite you to our virtual conference series, Strategic Vision 2020. Over the course of four weeks, join Australian Walkley Award winning journalist, Stan Grant, in conversation with global thought leaders and policy makers on the big, strategic challenges Australia and the world are facing.

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.

4TH ANNUAL SYSTEMS MODELLING CONFERENCE 2020

DATE 27 October 2020
LOCATION Online
WEBSITE <https://www.unsw.adfa.edu.au/conferences/SMC-2020>

The Capability Systems Centre runs one-day conference on the use of whole-systems approach to design and manage complex problem in socio-technical and socio-ecological systems. The daylong virtual conference on October 27th will feature showcases on the use of systems thinking and systems modelling in a wide range of areas. The event provides a platform for researchers and practitioners to communicate about scientific and practical aspects of real-world problems, receive feedback, and share learning lessons.

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.

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 workshopping 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.

ROTORTECH 2021

DATE 15-17 June 2021
LOCATION Royal International Convention Centre, Brisbane
WEBSITE www.rotortech.com.au

The new dates for Rotortech will be Tuesday 15 June to Thursday 17 June 2021. The venue, the Royal International Convention Centre in Brisbane, is unchanged. Rotortech is the region's premier helicopter and unmanned flight systems showcase and forum, featuring more than 100 participating companies and key speakers from industry and government. We believe that deferring Rotortech to its new June 2021 dates will achieve this goal by moving the event to a time where the COVID situation will have improved and the current uncertainties will have passed.

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.

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.

ICCPM ROUNDTABLE WORKSHOPS

DATE Various
LOCATION Various
WEBSITE <https://iccpm.com/2020-rs/>

ICCPM, with Series Partner QUTeX, is pleased to confirm the upcoming Workshops for the 2020 International Roundtable Series Harnessing Emergence in Complex Projects: Risk, Uncertainty and Opportunity. The International Roundtable Series is an exciting Thought Leadership initiative where senior practitioners and leading academics come together and discuss the Series Theme to produce new insights and practical steps to improve complex project success. Registrations for in-person workshops are strictly limited to comply with COVID-19 venue safety guidelines. Please refer to each event page for more details.