

ADM AUSTRALIAN DEFENCE MAGAZINE DEFENCE WEEK PREMIUM EDITION

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HMAS *Hobart* berths alongside her sister ship HMAS *Brisbane* at Fleet Base East.

DEFENCE

AWD helicopter upgrades are underway

Julian Kerr | Osborne

Long-planned modifications are underway on HMAS *Hobart* to improve the storage of Mk54 torpedoes and AGM-114N Hellfire missiles for the Air Warfare Destroyer's MH-60R naval combat helicopter.

To avoid construction delays, these modifications were held over until the ship's first scheduled maintenance period, now underway at Sydney's Garden Island.

Commodore Steve Tiffen, CASG's Director General Naval Construction Branch, told *ADM* the same modifications would be completed on NUSHIP *Sydney*, probably at Osborne, before delivery in the first quarter of

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2020, and on second-of-type HMAS *Brisbane* in the near future.

Other work will involve changing the external lighting systems, in particular the flight deck lights, to be more compatible with night vision devices.

Prior to the changes now underway, HMAS *Hobart* has been able to deploy with the MH-60R together with Mk54s and Hellfires, but not with the full combat load.

The magazines of the Hobart-class AWDs were originally designed for the Mk 46 torpedo but were modified during construction to accommodate the ship-launched Eurotorp MU90. The Hellfire AGM-114N air to surface missile is also a new weapon for Navy although the AGM-114M – the same missile

but with a blast fragmentation rather than a metal-augmented thermobaric warhead – was already in service with Army's Tiger armed reconnaissance helicopters.

The modifications include racks for Hellfire and Mk54 storage and the installation of blowout doors for the magazine.

While the MU-90 torpedo is battery powered, the Mk54 is powered by liquid Otto Fuel II, a toxic combination of propylene glycol dinitrate, nitrodiphenylamine, and dibutyl sebacate.

The modifications include an Otto fuel detector being fully integrated into the ships' management systems and Otto fuel spill kits properly integrated into the magazine.

In comparison with the MU90 the Mk54 is about one and a half inches shorter and some 50Lb lighter. However, flight-in-air material adds to the overall length of the Mk54 by about eight inches.

Additional magazine space will enable flight-in-air material such as the suspension bands that attach the weapon to the MH-60R, the drogue parachute that decelerates the torpedo after launch and positions it at the right angle entering the water, and a frangible nose cap protecting the face of the sonar transducer that separates on water entry, to be fitted to the Mk54 in the magazine rather than the hangar.

Work on NUSHIP *Sydney* is now about 95 per cent complete, and a number of interior compartments are being certified as complete and locked until sea trials begin in the last quarter of this year.

Arrival in Sydney is scheduled for the first quarter 2020, with the ship likely to be handed over from CASG to the RAN towards the end of that period and commissioning expected to take place early in the second quarter.

Defence Minister Christopher Pyne has announced a six-year \$40 million limited tender by which Raytheon, the combat systems integrator for the Hobart-class AWDs, will act as Defence's agent in ensuring Lockheed Martin and Saab's work in integrating the combat systems of the Hunter-class frigates "is second to none in the world."

Pyne said Defence did not want to lose the capabilities created by Raytheon over the AWD program.

"It's also important for the Department of Defence to have its own independent agency, its own independent capability, to ensure that our interests are being absolutely protected," he added.

**"Arrival in Sydney
is scheduled for the
first quarter 2020"**

Review rejects Defence push for greater export control

Ewen Levick | Sydney

The review of the Defence Trade Controls Act (DTCA) 2012 has been released.

Established in April 2018, the review was conducted by Dr Vivienne Thom, a former Inspector-General of Intelligence and Security. Dr Thom assessed whether the DTCA “provides appropriate levels of regulation and security for controlled technologies; aligns with international best practice for export controls; and is not unnecessarily restricting trade, research and international collaboration.”

The review found that whilst stakeholders were generally pleased with administration of the DTCA, an increase in processing times put collaboration and negotiations at risk. Dr Thom also highlighted the need for Defence to better raise awareness of the DTCA's existence, particularly to SMEs and researchers.

Crucially, the review rejected the recommendations set out in Defence's submission: “The review recognises that changes in the national security environment require that the legislation

be amended in order for it to remain effective, but does not support the broad approach implied by the recommendations in the Defence submission.”

Dr Thom, however, “was also persuaded that Defence should be given appropriate powers to monitor compliance or to effectively investigate suspected non-compliance, to determine whether cases should be referred to the Australian Federal Police.”

Dr Thom's findings were drawn from 75 written submissions and personal meetings with stakeholders from government, industry, universities, and peak bodies. Defence has expressed support for all nine recommendations.

“We're very pleased that these concerns have been heard and believe that the recommendations in the review strike the right balance”



A Bushmaster, a famous Australian export story, during testing at Woomera.

DEFENCE

The review was welcomed by universities and the scientific community.

Australian Academy of Science President Professor John Shine said that the review confirmed the original intent of the DCTA to balance Australia's international trade and security obligations with the need for researchers to engage collaboratively with partners around the world.

"The Academy of Science was very concerned at proposals put forward by defence officials in 2015 to introduce sweeping new powers to restrict the international exchange of knowledge and ideas," Professor Shine said.

"Further restrictions would effectively have limited Australian researchers' ability to engage in international research collaboration and to benefit as a nation from the many international research collaborations and expertise on which a substantial proportion of our economy relies.

"We're very pleased that these concerns have been heard and believe that the recommendations in the review strike the right balance in Australia's national interests."

"The Group of Eight Universities was dismayed and concerned with the Defence Department's submissions for extended powers," chief executive Vicki Thomson said.

"It went against everything that made the Defence Trade Controls Act such a sensible and workable piece of legislation."

"Importantly, Defence Minister Christopher Pyne has supported Dr Thom's considered views," she said. "For the Go8 that is a win for common sense."

"The Coalition Government recognises the importance of strong protections against the transfer of critical military technology which can pose a pressing threat to the security and defence of Australia," Minister for Defence Christopher Pyne said.

"It is also important, as the review has highlighted, that any future amendments do not unnecessarily restrict trade, research and international collaboration and impede on the development of Australia's defence capability."

Dr Thom has now been engaged to lead a consultation phase to develop legislative proposals.

Industry briefed on integrating land targetry RFI

The Integrated Land Target System (Integrated LTS) Program has briefed around thirty separate industry entities on the Request for Information (RFI).

The Integrated LTS Program is a whole of capability approach to land targetry systems to support challenging, realistic, effective and safe combat training. Via the RFI, it is endeavouring to identify targetry and related systems that: mimic an operational adversary such as a soldier or a tank; mimic other targets such as a materiel target or a mine; enable skills for the individual and

"The days of shooting at yellow and black human shaped silhouettes are over"

team such as speed of action and accuracy; mimic the battlefield physical environment such as peepholes and walls; simulate battlefield effects such as the smells and sounds of battle; and assist the shooter to learn about his/her physiological reactions like heart rate and breathing, in response to battle conditions.

Additionally, it seeks value for money commercial arrangements that are commensurate with the capability being offered including procurement, leasing or full service arrangements.

LTCOL Dan Harrison of Army Headquarters, the program sponsor, emphasised the new approach being taken.

"The days of shooting at yellow and black human shaped silhouettes and plywood tanks are over. Combat places the ultimate demand on the human mind," LTCOL Harrison said.

"The more that the mind of a combatant can rely upon experience and familiarity, the greater a soldier's capacity to deal with the unexpected and that experience provides us with preparedness.

"So the broader intent for the Land Combat Training System of which targetry is a part, is the replication of the operational environment in our training areas, ranges and combat effects and the replication of operational actors, and those are our targetry systems."

"Army now recognises targetry as an important element of the training cycle as it trains soldiers to take decisive and often lethal action at a critical point, specifically that sometimes heartbeat moment when the enemy is contacted or detected," LTCOL Harrison added.

"Accordingly, because of that recognition of importance by Army, we are now emphasising a whole of capability approach to targetry with the establishment of the Integrated LTS Program at CASG which is a program approach to supporting the delivery and sustainment of targetry systems for training," Iain Dunn, Director of Simulation at CASG said.

"To date Land targetry has been procured on a relatively ad hoc basis and frequently by projects that are procuring a particular weapon system such as a new



Army now recognises targetry as an important element of the training cycle.

DEFENCE

rifle or a new platform such as a light armoured vehicle.”

Dunn emphasised that “the Program will be largely responsible for land targetry requirements, contracts and ongoing support and will support projects and other initiatives in delivering and sustaining land targetry.”

The RFI provides a comprehensive functional and non-functional overview of the requirement and examples of the types of services and commercial arrangements that Defence might consider.

“We would like to encourage industry to provide a response to the RFI as the requirement is broad covering many target types and other needs as well as requiring simple targetry items all the way through to complex autonomous robotic targets,” program manager Pat Byrne said.

Byrne also reiterated CASG’s desire for industry to offer innovative commercial options: “CASG is resource constrained so we are looking for genuine partnerships with industry capability to help us deliver against this broad requirement.

“If industry has any questions then please go to AusTender and download the documents and subsequent presentation and current questions and answers, we would love to hear from you.”

“There is plenty of time to respond as we have not sought any specific response format so even if you only have one simple target you feel might offer Defence value for money, please submit a response by close of business Friday 8th March.”

The RFI is available [here](#).

Munich Security Conference 2019: who will pick up the pieces?

Jacky Westermann | Commentary

For the 55th time, international leaders and representatives came together in Munich to seek dialogue in order to resolve international conflicts, prevent military escalations and find solutions to global challenges.

Last year’s conference concluded that the world was still on the brink, so this year the organisers posed the theme “The Great Puzzle: Who will pick up the pieces?”

“Australia needs to attend this annual meeting as a middle power with international responsibility and global interests”

The shocking state of transatlantic relations had analysts and security-watchers concentrating on speeches delivered by American Vice-President Mike Pence and German Chancellor Angela Merkel. The latter surprised with a bold, direct and enthusiastic speech—clearly working on her legacy with the end of her career approaching. Merkel included various aspects of security, ranging from climate change to national defence spending. Merkel also pleaded for multilateralism and reminded the audience that it is easier to find solutions to common challenges together than to find solutions unilaterally – rebuking a trend propagated by the current US government.



US VP Mike Pence and German Chancellor Angela Merkel put forth differing visions in Munich.

@VP

However, her plea towards more international cooperation was contrasted by Vice-President Pence. His remarks made the deep divide between the Atlantic neighbours obvious – a constant adulation of Trump and his policies as he referred to the president as the ‘champion of freedom’ and the US as ‘leading on the world stage’. Furthermore, Pence also threatened the US would fight any opposition towards their policies and expects the Europeans to follow suit on withdrawing from international treaties.

Acting Secretary of Defense Patrick Shanahan also contributed to the rhetoric divide between the White House and its NATO and European allies: he announced that the US might pull out all its troops from Afghanistan, and apparently also expects coalition partners to secure a zone in north Syria following the withdrawal of US troops there.

European countries, on the other hand, are trying to find their place in this changing world of decreasing US leadership and to take more initiative – as High Representative Federica Mogherini called for in her remarks. She highlighted recent developments and steps taken that are realising a ‘Europe of defence’ that will overall contribute to an ‘EU of security’.

Many speeches also touched upon the ongoing conflicts in the Middle East, in Ukraine, and instability across the African continent. The trade war and the general US-China relationship also received attention as both countries sent their ‘largest-ever delegations’.

After last year’s Munich Security Conference, I argued that Australia needs to attend this annual meeting as a middle power with international responsibility and global interests. Distance cannot be used as an excuse. Likewise, Australian media should increase coverage of the conference to inform the Australian public of developments, as the conference is growing in stature and expanding its focus beyond transatlantic relations.

Official representatives came from China, Russia, African nations, Bangladesh and many more. They all attested that the world has not moved from the brink, and agreed that it is upon all of us to pick up the pieces— including Australia.

Research agreement signed on autonomous maritime vehicles

A new international collaboration between Australian and French academic institutions and industry is set to research autonomous maritime vehicles.

A Memorandum of Understanding (MoU) covering research, development and education has been reached between Flinders University and the French Graduate School of Engineering ENSTA Bretagne, alongside Naval Group.

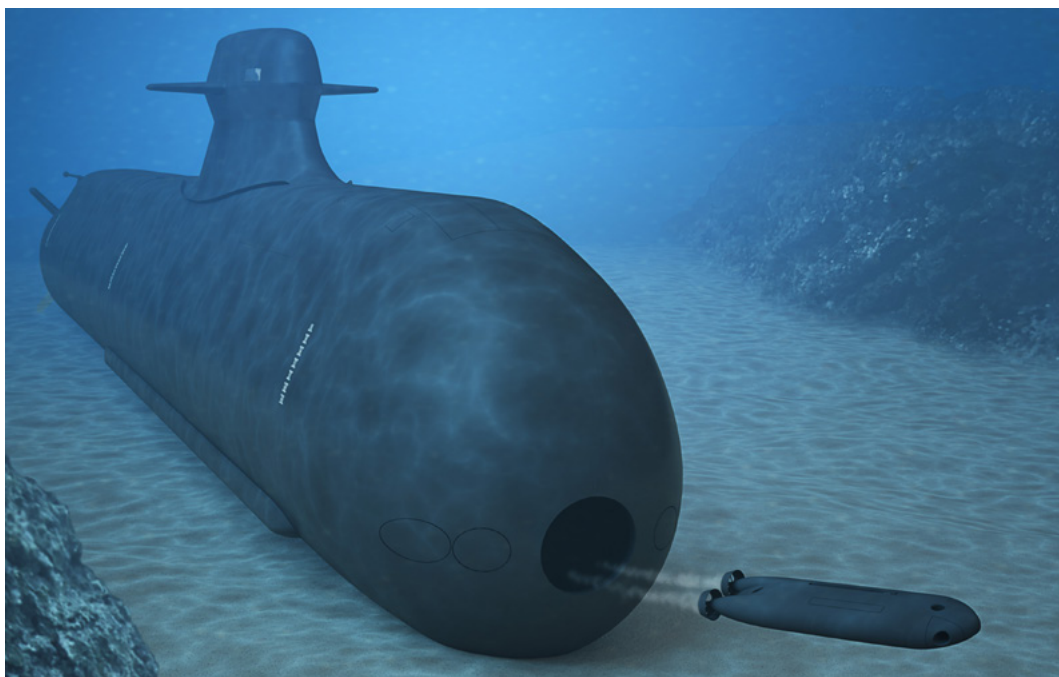
“There is growing global interest in the emerging field of autonomous marine vehicles”

The agreement was signed in Adelaide by the CEO of Naval Group Hervé Guillou, Director of ENSTA Bretagne Pascal Pinot, and Vice-Chancellor of Flinders University Professor Colin Stirling at a ceremony attended by the Premier of SA Steven Marshall and President of the Regional Council of Brittany Loïg Chesnais-Girard.

Autonomous maritime vehicle research is an increasingly important area for defence and civilian applications. Researchers at Flinders have established a close research relationship with ENSTA Bretagne and the institutions will work collaboratively with Naval Group.

Students from Flinders and ENSTA Bretagne will also benefit from the agreement thanks to a focus on internships and work experience programs for students across both countries. The collaboration opens the pathway for Flinders students to undertake internships in France as well as French students to spend time in Flinders research laboratories.

“I am delighted that Flinders University continues to strengthen its relationship with ENSTA Bretagne and Naval Group in the vital area of autonomous systems



Concept art of an unmanned underwater vehicle deploying from a submarine.

PYRAMID COMMUNICATION

and maritime vehicle research,” Professor Stirling said.

“This relationship will enable our students to benefit from exchange opportunities that will expose them to some of the most advanced research in this area and to create opportunities that will strengthen the relationship between SA and the Brittany region of France.”

“There is growing global interest in the emerging field of autonomous marine vehicles and we are pleased to be further building our relationship with Flinders University and Naval Group as a historic partner in developing these exciting technologies,” Pinot said.

“Naval Group is proud to be part of this tripartite effort covering research, development and education; it will allow our team to progress towards smarter naval products,” Naval Group’s Innovation Director Eric Papin said.

In July 2018, Flinders became the first research institution outside of France invited to join CELADON, an association of leading industry and academic institutions (including ENSTA Bretagne) that operates land-based and marine facilities adjacent to the French Naval Academy in Brest.

The partnership is one of a number made between SA and the Brittany region, including [an agreement](#) between UniSA and Region Bretagne.

MOST READ ONLINE AT WWW.AUSTRALIANDEFENCE.COM.AU



1. [Defence picks Raytheon for Aegis integration support](#)
2. [Australia chosen as JSF maintenance hub](#)
3. [Future Submarine SPA signed in Canberra](#)
4. [Albury-based Milspec wins Land 121 supply contract](#)
5. [Essington Lewis 2019 finalists announced](#)

Ultra takes underwater lead on Canadian frigates

Ultra Electronics has signed a significant sub-contract with Lockheed Martin Canada as part of Canada’s Combat Ship Team.

Ultra, as the ASW lead, will provide a low-frequency active and passive towed sonar system paired with hull-mounted sonar, and will integrate these sensors with sonobuoys and other capabilities for wide-area underwater battlespace surveillance.

“Ultra is proud to be a member of Canada’s successful CSC Home Team,” Bernard Mills, President of Ultra Electronics Maritime Systems, said.

“As the underwater warfare lead, we are using our

“Ultra will provide a low-frequency active and passive towed sonar system paired with hull-mounted sonar”



Ultra is responsible for ASW capabilities on both the Canadian and Australian versions of the Type 26.

BA

considerable depth of ASW experience and capability to ensure Canada's new ships will provide an enduring operational advantage to the Royal Canadian Navy."

The Canadian Surface Combatant project is the largest and most complex procurement ever undertaken by Canada.

Ultra is also responsible for two elements on Australia's Hunter-class future frigates – the S2170 torpedo defences and S2150 hull-mounted sonar.

As ADM has [reported previously](#), the Type 26's ASW displays are unlikely to offer commonality with DDG user interfaces. Ultra's S2150 hull-mounted sonar, however, is a low-risk path to achieving interface commonality as its software is known to contain the ISS integrated processing layer and ISS-derived user interfaces.

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Forthcoming Events

ADM EVENTS

More detail on **ADM** Events can be found on our dedicated website: admevents.com.au

- [ADM Space Summit](#) – 30 April 2019
- [Women in Defence Awards](#) – 11 July 2019
- [ADM STEM and Defence Summit](#) – 14 August 2019
- [ADM Defence Estate and Base Services Summit](#) – 12 September 2019
- [ADM North Australian Defence Summit](#) – 23-24 October 2019

Avalon Airshow 2019

Date: 26 February – 3 March 2019

Location: Avalon Airport

Website: airshow.com.au/airshow2019

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.

Emerging and Disruptive Technology Assessment Symposium (EDTAS)

Date 05-06 March 2019

Location Perth

Website <https://www.minister.defence.gov.au/>

Western Australia will host a major space technologies symposium that will bring together internationally recognised academic, industry and Defence leaders to explore and shape the long-term vision for space technologies.

Project Leaders as Humble Iconoclasts

Date 14 March 2019

Location Online, 13:30-14:30

Website <https://iccpm.com/events/project-leaders-as-humble-iconoclasts-with-dr-kaye-remington/>

A 1-hour webinar hosted by Dr Kaye Remington, internationally renowned author, academic & complex project specialist. In preparation for her book *Leading Complex Projects*, Kaye and her research team interviewed over 100 successful senior project leaders. These highly successful project leaders consistently exhibited certain key characteristics and behaviours. In this webinar, Kaye discusses some of the outstanding characteristics that distinguished those leaders.

What Does a Project Manager of the Future Look Like?

Date 28 March 2019

Location EAST Hotel, Canberra

Website <https://iccpm.com/events-2/what-does-a-project-manager-of-the-future-look-like/>

The future success of an organisation relies on the ability to manage a diverse body of talent that can bring innovative ideas, perspectives and views to their work. The challenge and problems created by workplace diversity can be turned into a strategic organisational asset if an organisation is able to capitalise on this melting pot of diverse talents. Come and join our ICCPM hosted Breakfast Panel Discussion where our panellists will be sharing their experiences and perspectives from different industries and positions on managing and leveraging diverse talents.

The National Police, Defence and Emergency Services Women's Leadership Summit

Date 29 March

Location Hyatt Hotel, Canberra

Website www.wla.edu.au

The National Police, Defence and Emergency Services Leadership Summit is a major annual event for women at all levels to connect, share ideas and build their leadership skills. Created by Australia's leading authority on women's leadership, Women & Leadership Australia, the Summit has been developed in consultation with a broad range of stakeholders across these sectors.

Export Control Training Session

Date 03 April 2019

Location 60 Clarence St, Sydney

Web <https://www.stickytickets.com.au/81012>

Join us for a 1-day face-to-face training course to de-mystify the complex area of Export Control regulations. The course will address an overview of the ITAR, EAR, and DEC; how the ITAR and EAR apply to all areas of your business; advice on employing dual and third country nationals; licensing and permit requirements; and more.

International Military Writers' Festival

Date 5 – 7 April 2019

Location Double Tree by Hilton Hotel Darwin

Website <https://www.territorytribute.com.au/events/international-military-writers-festival/>

A new three-day festival themed around military writing, the International Military Writers' Festival is part of the inaugural Territory Tribute series of events. The festival will feature author talks, panel discussions and literary sessions bringing together writers, historians and researchers from around Australia to entertain, inform and inspire those with a passion for wartime history. His Excellency

General the Honourable Sir Peter Cosgrove AK MC and Festival Ambassador and best-selling author, Peter Fitzsimons AM, will speak at the event. With over 20 sessions and 30 participants, the program offers something for everyone.

Williams Foundation – Seminar: Hi-Intensity Operations and Sustaining Self Reliance

Date 11 April 2019

Location National Gallery of Australia – ACT

Website <http://www.williamsfoundation.org.au/event-3159758>

Since 2013 the Sir Richard Williams Foundation seminars have focused on building an integrated fifth generation force. In doing so they have, among other things, highlighted the challenges of making the strategic shift from counterinsurgency operations in Iraq and Afghanistan to higher tempo and higher intensity operations involving peer competitors. Allies are crucial to the Australian concept of defence; however, the emerging strategic circumstances demand it is vital we reconsider the ways and means of enhancing Australian sovereignty to better contribute to our relationships and ensure a more sophisticated and independent defence of Australian interests. During the 2019 seminars, the Sir Richard Williams Foundation will develop this theme and address more broadly the question of how to look at the evolution of the Australian Defence Force from the perspective of the sovereign lens and setting the conditions for future success.

Defence Synthetic Environment Working Group (SEWG)

Date 15 April

Location QT Hotel – Canberra

Website

Established as a government and industry communication forum; the requirement for the SEWG has evolved into an interactive working group exploring innovative uses of Modelling and Simulation (M&S) and investigate the future for emerging M&S technologies. Additionally, the SEWG represents an opportunity to explore how to integrate the M&S Industry as part of the ninth Fundamental Input to Capability.

ASPI China Masterclass – Canberra

Date 15 Apr 2019

Location Hotel Realm

Website <https://www.aspi.org.au/>

The ASPI China masterclass is a one-day intensive event that will give participants a strategic understanding of how China is seeking to shape the world around it. Participants will learn and debate with specialists on China with deep knowledge of the current security, political and thematic landscapes. The Masterclass will track China's global and regional ambitions, and review the Chinese Communist Party's (CCP) investments in cyber, intelligence, defence, space & social credit. This event will offer a deeper understanding of China, the CCP and its rapidly evolving place in the world and explore the policy implications for Australia and the Indo-Pacific region more broadly.

ASPI China Masterclass – Melbourne

Date 17 April 2019

Location Melbourne

Website <https://www.aspi.org.au/>

The ASPI China masterclass is a one-day intensive event that will give participants a strategic understanding of how China is seeking to shape the world around it. Participants will learn and debate with specialists on China with deep knowledge of the current security, political and thematic landscapes. The Masterclass will track China's global and regional ambitions, and review the Chinese Communist Party's (CCP) investments in cyber, intelligence, defence, space & social credit. This event will offer a deeper understanding of China, the CCP and its rapidly evolving place in the world and explore the policy implications for Australia and the Indo-Pacific region more broadly.

Overture to Peace

Date 24 April 2019

Location TIO Stadium – Darwin

Website <https://www.territorytribute.com.au/events/overture-to-peace/>

From literature to live stage entertainment – acclaimed artists, musicians and Indigenous performers will converge on Darwin for the Overture to Peace spectacular concert event at twilight on Anzac Day Eve. Overture to Peace will take the audience on a journey – it will honour the men and women who have fought for our precious democracy, reflect on the enormity of the sacrifices made in order to ensure the freedoms, and shine a light on the Territory's unique wartime story. Directed by Australian musician and television personality, John Foreman OAM, the event will feature performances by Human Nature, Dami Im and Marina Prior as well as local artists and the much-loved Darwin Symphony Orchestra at TIO Stadium at Marrara in what promises to be a unique and emotive ceremonial event

BMT's Introduction to Fleet Life Cycle Management (Perth)

Date 01-05 May 2019

Location Perth

Website <https://www.bmt.org/training/introduction-to-fleet-life-cycle-management-course/>

BMT's, five-day Introduction to Fleet Life Cycle Management course covers all aspects of naval life cycle management. The modules provide detailed insight into Asset Management and its applications to naval ships and support systems in Defence's maritime environment.

IMDEX Asia 2019

Date 14-16 May

Location Changi Exhibition Centre, Singapore

Website imdexasia.com

Coming to its 12th edition, the biennial IMDEX Asia is Asia Pacific's premier international maritime defence show and a must-attend event in the global naval

and maritime security calendar. With established conferences and real-time discussions on maritime security, IMDEX Asia draws a plethora of global leaders and distinguished guests.

AusCERT Conference 2019

Date 28-31 May

Location Surfers Paradise Marriott, Gold Coast Australia

Website <https://conference.auscert.org.au>

The AusCERT Conference is the oldest information security conference in Australia. Each year, we attract in the vicinity of 700 participants and approximately 50 sponsors. This year's conference is focused on gaining as many tools for you and your team's toolbox as possible to ensure you are armed and ready for any battle you may face.

Paris Air Show

Date 17-23 June 2019

Location Le Bourget

Website siae.fr/en/

The 53rd Paris Air Show will once again bring together all the players in this global industry around the latest technological innovations. The first four days of the Show will be reserved for trade visitors, followed by three days open to the general public.

PGCS 2019

Date 20 – 22 August 2019

Location The Canberra Rex Hotel, Canberra

Website <https://www.pgcsymposium.org.au>

Now in its 7th year, PGCS 2019 will focus on ways to build the foundations needed to create project and program success. Creating the organisational capability needed to underpin the consistent delivery of successful projects in the 2020's starts at the top. Leadership and a sustained focus are required to build a culture of excellence that can balance innovation with surveillance and accountability, encourage learning, and manage knowledge effectively.

Australasian Simulation Congress

Date 2 – 5 September 2019

Location Gold Coast Convention and Exhibition Centre, Gold Coast

Website www.simulationcongress.com

The Australasian Simulation Congress provides a focused opportunity for industry development, business growth, training, discussion and distribution of information related to Simulation, Modelling, Training and Decision Support. Simulation Australasia can help you directly engage with industry, policy makers, Government and relevant stakeholders to facilitate you and your organisation achieving the success only a truly international Congress can provide.

Australian Cyber Conference 2019

Date 7-9 October 2019

Location Melbourne Convention and Exhibition Centre

Website <https://cyberconference.com.au>

The Australian Cyber Conference 2019 will provide business leaders with insights and best practices taught by the industry's top experts through keynotes, panel sessions and live demonstrations. Attending the conference will enable you to network with these practitioners to help you better understand and manage current threats, as well as identify and prepare to meet emerging challenges.

Pacific 2019

Date 8-10 October 2019

Location Sydney Convention Centre

Website pacific2019.com.au

As the only comprehensive international exhibition of its kind in the Indo-Asia-Pacific region, PACIFIC 2019 will again provide the essential showcase for commercial maritime and naval defence industries to promote their capabilities to decision-makers from around the world.

MilCIS 2019

Date 12-14 November 2019

Location Canberra Convention Centre

Website <http://www.milcis.com.au/>

In November each year, the Defence Chief Information Officer Group (CIOG) 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.