

ADM AUSTRALIAN DEFENCE MAGAZINE DEFENCE WEEK PREMIUM EDITION

SERVING THE BUSINESS OF DEFENCE



The ADM Essington Lewis Awards recognise excellence in collaboration.

WENLI SWANSON

ADM Essington Lewis Awards for 2020 now open

Katherine Ziesing | Canberra

Now in its 14th year, ADM's [Essington Lewis Awards](#) are the Defence community's top award for excellence in collaboration between Defence and Defence Industry.

With entries open to companies of all sizes working in Defence, the five categories are:

- a. Major acquisition – Over \$50 million
- b. Minor acquisition – Under \$50 million
- c. Major sustainment activity – Over \$20 million/year
- d. Minor sustainment activity – Under \$20 million/year
- e. Support/services (e.g. assistance to the Department of Defence reform/above the line support, or corporate support services, etc.)

Entries are open to Defence/Industry teams in CASG, DSTG, E&IG, CIOG and any Defence procurement agency where there is genuine collaboration between partners.

While FMS cases are not eligible, the integration of FMS equipment into ADF assets is.

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There will be two finalists in each category, all of whom are eligible to be winners of the Essington Lewis Trophies; one for a Prime and one for an SME.

Entries in this prestigious event close **January 24, 2020 at 4pm.**

Finalists will be announced at the *ADM Congress* on February 19, 2020 at the Playhouse Theatre in Canberra, with winners announced at the D+I Gala Awards evening.

Why more gender equality means fewer women in STEM

Ewen Levick | Melbourne

One of the most frequent discussion topics I encounter at defence industry conferences is the STEM-qualified workforce problem.

BAE Systems Australia CTO Brad Yelland illustrated it best at the National Defence Industry Skilling and Workforce Summit in Perth a few weeks ago.

"In [the next three years], Australian universities will graduate about 34,000 engineers. That may seem like a lot, but of those, only around 25 per cent are eligible to work in defence industry," Yelland said. "That's about 8,500 people.

"Let's be optimistic and say that half of those actually want to work in defence industry," he continued. "We're now down to around 4,000 engineers. BAE Systems Australia needs a third of those, so I don't know what the rest of you are going to do."

One of the most frequent answers to this problem is to diversify the workforce. According to [ADM Top 40 survey data](#), defence industry reports average female workforce participation at 24 per cent, which is about half the national average (47 per cent). That looks like ample room to recruit more STEM-qualified women into defence industry. Moves to invest in girls' STEM education and improve gender equality at a national level should help – right?



Countries with higher levels of gender equality have fewer female STEM graduates.

GETTY

Not quite. According to [a paper](#) published last year in Psychological Science, women make up about 24 per cent of STEM graduates in Australia, a similar level to Ireland, Sweden, Spain and Switzerland. Yet women make up 41 per cent of STEM graduates in Algeria, 38 per cent in Tunisia, 37 per cent in the UAE and 36 per cent in Turkey. The paper reports a paradox; more gender equality means fewer women in STEM.

To be clear, the paradox isn't the product of capability. The survey covered 475,000 students across 67 countries and found that boys and girls show similar levels of science literacy globally. In Finland, a country with a high level of gender equality, girls show more science literacy than boys. Yet Finland has one of the largest STEM gender gaps in the world, just ahead of Norway and Sweden.

Instead, the paradox is the product of each individual's own academic strengths. Boys and girls are equally competent at science worldwide, but girls tend to be even better at other subjects, whereas boys tend to be stronger in science than they are elsewhere. In other words, a girl who is good at science and maths will likely be even better at reading: a boy who is good at science and maths is less likely to be better at reading. She is more likely to identify reading as her strength whereas he is more likely to stick with science. She goes on

to study humanities; he goes on to become an engineer.

Women in less equal countries don't have that choice. They might be even better at reading, but STEM fields pay much more and so more girls choose that path. The cycle may also be self-reinforcing – as more girls choose STEM, perceived barriers to participation lower.

As Olga Khazan wrote in [the Atlantic](#): "It's not that gender equality discourages girls from pursuing science. It's that it allows them not to if they're not interested."

So what does this matter? Well, it means that improving science education for girls and wider gender equality won't solve the STEM-qualified workforce problem. Efforts to get more women into STEM, and especially into defence industry, need a more personalised understanding of individual academic strengths.

In a more equal society, girls who are excellent at STEM but even better at other things won't choose defence industry simply because it pays well and there's plenty of opportunities. They'll only choose it if they find it more interesting than all their other options. This message is critical for defence industry to understand if it wants to actually solve the workforce problem.

"Efforts to get more women into STEM, and especially into defence industry, need a more personalised understanding"

MOST READ ONLINE AT WWW.AUSTRALIANDEFENCE.COM.AU



1. [MQ-9B SkyGuardian chosen over Reaper](#)
2. [Thales signs agreement with Australian Space Agency](#)
3. [SA company wins Defence satellite contract](#)
4. [Minister Price rejects AIDN criticism on AIC](#)
5. [C-130J LAIRM ready to go with FOC reached](#)

CMMC: what you can do to prepare

Ray Harvey | Melbourne

Cybersecurity Maturity Model Certification (CMMC) is a significant and fast-moving compliance model that signals a major shift in the US DoD's treatment of supply chain security.

Up until now, US suppliers had been required to work toward compliance with NIST SP 800-171 using a self-validation model. The rate of data breaches in the last three years has clearly exhausted the DoD's patience with the self-validation model, and the "Trust but Verify" CMMC is the result.

US stakeholders have already expressed deep concern with the pace of CMMC implementation. The US DoD has reiterated that the new compliance requirement is coming and in the specified time frame.

In the previous articles we've seen a very brief overview of what the new compliance model is, what it is intended to do and some of the required compliance structure. So what are Australian SMEs to make of this?

In light of all the preceding points, it is imperative that defence supply chain businesses take a more serious and *immediate* approach to their cyber security posture. In the past, contractors have been content to wait for explicit contract requirements before addressing the required levels of cyber security.

CMMC explicitly eliminates that option.

As CMMC explains, organisations will only be included in discussions that involve CMMC Levels that your organisation has been assessed to have attained. In short, if you cannot demonstrate compliance certification to the level required in the RFI, don't bother calling!

According to the CMMC website, new RFIs after June 2020 will be subject to CMMC. That then will be the price of admission to the game.



CMMC compliance will be key to unlocking the US market.

GETTY

“The current shortage in competent cyber personnel in Australia is a potential obstacle to achieving CMMC”

The Australian Cyber Security Centre's (ACSC) *Essential Eight Maturity Model*, the UK National Cyber Security Centre's (NCSC) *Cyber Essentials* (a prerequisite for meeting the UK's Def Stan 05-138) and NIST SP 800-171 are principal reference materials used in the drafting of CMMC. This is good news for Australian SMEs because these documents are already linked to the Defence Industry Security Program (DISP) certification.

Therefore, it would seem obvious that certification to DISP (conducted by the Australian Defence Industry Security Office) would be an excellent springboard towards meeting CMMC. If you've already jumped on the DISP/NIST train, your journey has already begun!

Contributing factors to consider

The current shortage in competent cyber personnel in Australia is a potential obstacle to achieving CMMC. It is not clear where the Australian certification assessors will be drawn from, other than the Australian Defence Industry Security Office. It is also not clear where SMEs are going to find specialists capable of undertaking the remediation tasks necessary to meet CMMC ML-2 and beyond.

Given the current wait times for DISP accreditation, delays can only increase as more businesses self-nominate to gain the obvious advantage. Acting sooner rather than later is a prudent strategy.

First, implement the [Essential Eight Maturity Model, Australian Cyber Security Centre \(ACSC\)](#).

Second, review [48 CFR 52.204-21 – Basic Safeguarding of Covered Contractor Information Systems](#) with the objective of addressing any gaps not covered by the Essential Eight.

More advanced contractors need to embrace [NIST SP 800-171r1](#) – Protecting Controlled Unclassified Information in Non-federal Systems and Organizations

With the final release of CMMC due in January 2020, there are still refinements and tweaks expected to published maturity level requirements. That being said, those contractors who act early will be the ones in the best position to achieve compliance.

To quote a famous saying, “Act now to avoid the rush!”

Note: Ray Harvey works as a Custodial Information Security Specialist, BDM Defence/Aerospace/Space at Cider House ICT in Melbourne.

PEOPLE ON THE MOVE

Naval Group Pacific has appointed Dr Margaret Law as Chief Technology Officer (CTO). Dr Law will be responsible for establishing Naval Group Pacific's Australian Technical Strategy, in close coordination with Naval Group's CTO team in charge of the Technical Research and Innovation Strategy. This will include developing and executing on the associated research and developing the program of work.

Report released into near-miss in military airspace

The Australian Transport Safety Bureau (ATSB) has released a report into an incident that saw two civilian passenger aircraft heading towards each other in military-controlled airspace near RAAF Amberley last year.

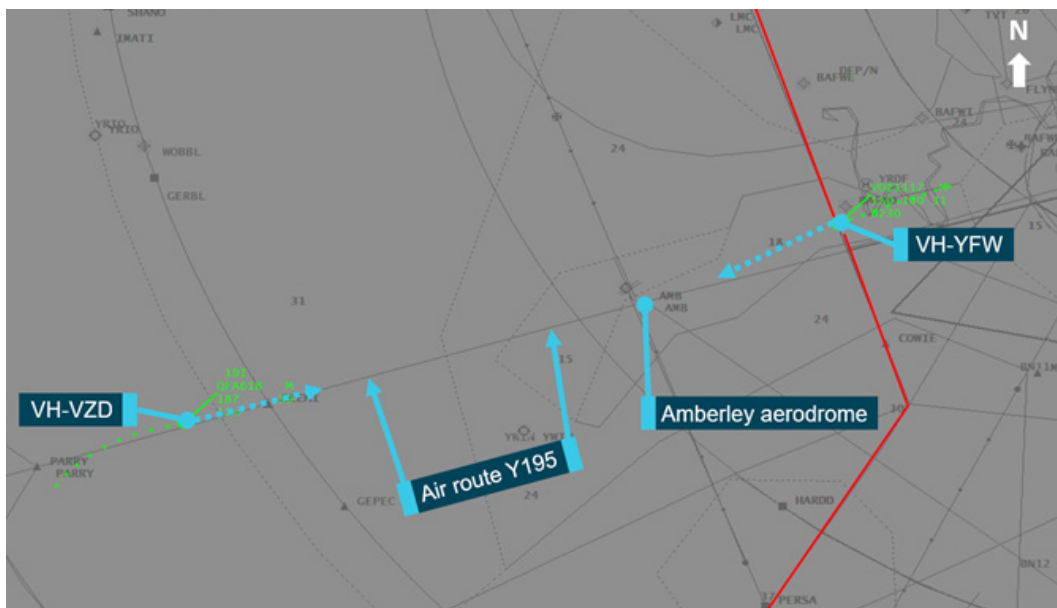
The 11 October 2018 incident occurred when a Qantas 737-800, registration VH-VZD, was on descent to Brisbane Airport through military-controlled airspace near RAAF Amberley while a Virgin Australia 737-800, VH-YFW, which had departed Brisbane Airport, was approaching Amberley airspace on a reciprocal track.

Airservices Australia, which operates Australia's civil air traffic management system and the RAAF currently operate separate air traffic management systems at Brisbane and Amberley. As a result, in this scenario traffic information had to be shared manually.

Due to thunderstorms in the area, the Virgin aircraft was flying air traffic control (ATC)-assigned radar headings, rather than using a procedural standard instrument departure. As the Virgin aircraft approached Amberley airspace, the Brisbane departures controller (operating from Airservices' Brisbane terminal control unit at Brisbane Airport) provided an identification of the Virgin aircraft to the Amberley approach controller, who advised that there was an aircraft on an inbound air route.

Brisbane replied that the Virgin aircraft would soon be turning right, and thus would avoid Amberley airspace; however when advised to turn right, the crew of the Virgin aircraft replied that due to the weather they wished to continue on their current heading for another 70 or 80 nautical miles.

It was around this time that the Virgin aircraft entered Amberley airspace without a hand-off from Brisbane ATC and without instructions to the crew to change to Amberley frequency.



The incident involved Qantas and Virgin 737-800 airliners.

ATSB

Prior to this, the Brisbane terminal control unit had not advised Amberley ATC of a changed terminal control unit configuration. This delayed Amberley ATC in being able to contact the correct controller position at the Brisbane terminal control unit to inform them of the inbound aircraft, thus reducing the opportunity for Amberley ATC to resolve the impending conflict.

Once appropriate communication between Amberley and Brisbane ATC was established, the Virgin aircraft was transferred to the Amberley frequency, and the two aircraft were diverted away from each other.

The ATSB's investigation found the aircraft had incurred a vertical and lateral loss of separation with a minimum-recorded distance between the aircraft of 2.1 nautical miles horizontally and 650 feet vertically, respectively, where the required separation was 3 nautical miles horizontally or 1,000 feet vertically.

"This investigation highlights the importance of clear communication and coordination between air traffic controllers operating in different, yet immediately adjacent airspace, and the need for a clear understanding of the responsibility for separation assurance, especially when operating without a shared traffic picture," ATSB Director Transport Safety Dr Stuart Godley said.

As a result of the incident, both Brisbane and Amberley ATC have taken a number of steps to improve communication between their two systems.

"Brisbane and Amberley ATC have taken a number of steps to improve communication"

Operation Christmas Drop 2019 begins

The RAAF has deployed a C-130J Hercules and crew to Guam in the West Pacific for Operation Christmas Drop 19.

Held annually since 1952, Operation Christmas Drop is led by the US Pacific Air Forces (PACAF) and is the world's longest running humanitarian airdrop activity.

This year, Australia will join participants from the US, Japan and for the first time, NZ.



A C-27J Spartan from No 35 Squadron delivers stores to Lockhart River.

DEFENCE

Hercules crews will conduct airdrops by parachute to remote island communities spread across six million square kilometres that are home to people from the Republic of Palau, Northern Marianas, and Federated States of Micronesia.

Each airdropped load weighs up to 200 kilograms and contains items such as construction materials, fishing nets, rice, sporting equipment, and school supplies.

PACAF personnel and their families have secured donations and sponsorship for the airdropped items, with RAAF personnel also sourcing donations from Australia.

Flight Lieutenant Andrew Morgan is participating in his second Operation Christmas Drop this year.

"We plan missions to atolls or islands that are thousands of kilometres from Guam, and airdrop loads to unfamiliar drop zones that are just metres wide," Flight Lieutenant Morgan said.

"The training benefit for us can't be understated, but we also get tremendous satisfaction from bringing some Christmas cheer to some of the most isolated communities across the Pacific.

"And working alongside crews from other nations allows us to share knowledge and different approaches firsthand, enabling us to work better together in future operations."

"We also get tremendous satisfaction from bringing some Christmas cheer"

ATSB to support new aerospace careers

The Australian Transport Safety Bureau (ATSB) has signed an agreement of intent to support the Australian Air Force Cadets' (AAFC) 'Pathways to an Aerospace Future' program in 2020.

The AAFC Pathways program seeks to provide opportunities and experiences for cadets with a desire for a career or connection within the civil and military aerospace industries to help that become a reality.



Air Vice-Marshal Kym Osley and ATSB Chief Commissioner Greg Hood.

ATS

Signing the agreement with AAFC Foundation Chair, Air Vice-Marshal Kym Osley, following the Canberra based AAFC units' annual parade at the Burgmann Anglican School Forde Campus on 30 November, ATSB Chief Commissioner Greg Hood said the Bureau intends to provide opportunities and access that supports four of the program's six pillars.

"There are around 8,000 young people in the AAFC nationally because they have a keen interest in aerospace," Chief Commissioner Hood said. "Many of

"ATSB is delighted to support the program and offer cadets opportunities"

them aspire to a career in the industry, and the ATSB is delighted to support the program and offer cadets opportunities focusing on leadership and personal development; technology and innovation; pathways to an aerospace career; and aerospace experiences."

During a number of planned visits to the ATSB's offices next year, cadets will learn about the role of the ATSB and how the agency works to improve safety for the travelling public, and will be given an overview of career opportunities at the ATSB and the entry requirements.

Both Greg Hood and AVM Osley are former Air Training Corps cadets (the predecessor organisation to the AAFC), and several ATSB staff and family members are also either current or former members of the AAFC.

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Forthcoming Events

ADM EVENTS

More detail on **ADM** Events can be found on our dedicated website:

- [ADM 2020 Congress](#) – 19 February 2020

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.

2020

Defence Export Control Course (Perth)

Date 11 February 2020

Location 4 McGrath Road, Henderson.

Website www.stickytickets.com.au/UGCHD

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

Defence Export Control Course (Adelaide)

Date 13 February 2020

Location 19 Young Street, Adelaide

Website www.stickytickets.com.au/UGCHD

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

AIDN National Defence Industry Gala Dinner 2020

Date 19 February 2020

Location QT Hotel Ballroom

Website consec.eventsair.com/aidn-2020/dinner/Site/Register

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

Certificate IV in Responding to Organisational Complexity | Adelaide

Date 19-21 February, 2020

Location to be confirmed

Website iccpm.com/events/certificate-iv-adelaide-2020

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

Certificate IV in Responding to Organisational Complexity | Canberra

Date 24-26 March, 2020

Location to be confirmed

Website iccpm.com/events/certificate-iv-canberra-2020

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

Williams Foundation Seminar: Next-Gen Autonomous Systems

Date 26 March 2020

Location: National Gallery of Australia

Website www.williamsfoundation.org.au

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

Asia-Pacific Security Innovation Summit

Date 16-17 April, 2020

Location Queenstown, NZ

Website www.apsisummit.com/page/apsi-summit-2020

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

AusCERT 2020

Date: 02-05 June 2020

Location: The Star, Gold Coast

Website: www.auscert.org.au/giveaway

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

Rotortech 2020

Date 16-18 June 2020

Location Royal International Convention Centre, Brisbane

Website www.rotortech.com.au

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

43rd COSPAR Scientific Assembly

Date 15 – 22 August 2020

Location International Convention Centre Sydney

Website www.cospar2020.org

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

Project and Program Management Symposium 2020

Date 25-26 August 2020

Location Canberra Rex Hotel

Website www.pgcsymposium.org.au

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

Land Forces 2020

Date 01-03 September 2020

Location Brisbane Convention Centre

Website www.landforces.com.au

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

2021

Avalon 2021

Date 23 – 28 February 2021

Location Avalon Airport

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