

# **DEFENCE WEEK** AUSTRALIAN DEFENCE MAGAZINE SERVING THE BUSINESS OF DEFENCE **PREMIUM EDITION**



Minister Pyne speaking to the crowd at Land Forces.

NIGEL PITTAWAY

## Land Forces a big success

Katherine Ziesing | Adelaide

**The 2018 Land Forces conference this week managed to break a few records, with the metrics for success showing impressive growth.**

"I first attended Land Forces two years ago and this event is now 50 per cent bigger than that one," Minister for Defence Christopher Pyne said on day one. "There are 15 equivalent chiefs from our region and elsewhere with 26 countries represented. What we've seen in the last two years has been a dramatic change, improvement and growth in people's interest in Defence industry and the capabilities that we here in Australia can export."

"This is a great opportunity for Army to partner with industry," Chief of Army Lieutenant General Rick Burr said. "This event is an excellent opportunity to build relationships between industry, academia, the military and our wider regional partners. It's great to see so many companies here, especially SMEs, with so much innovation on show."

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Land 400 Phase 3 contenders put on a good show.

NIGEL PITTAWAY

**“What we’ve seen in the last two years has been a dramatic change”**

Between about a dozen different seminars and conferences running alongside the biggest trade show element that Land Forces has seen, it was a big event in every sense.

Of the 624 participating companies from 26 countries, there were 328 SMEs, 67 official Defence, government and trade delegations, 16 conferences, symposia and seminars, and over 15,000 total attendances during the event.

Technologies to support all elements of the ground battle with a digital and joint focus were on display along with Land 400 Phase 3 contenders putting in a good showing.

ADM will be covering some highlights both [online](#) and in the October edition. Our biggest edition in 25 years of publishing is now available in the September edition, which is now available in hard copy.



# Scindicate 2018 highlights the importance of partnerships

Nigel Pittaway | Melbourne

**Formerly known as Partnerships Week, Scindicate 2018 took place at DST's facility at Fisherman's Bend on the edge of the Melbourne CBD on August 29 and 30.**

The event is DST's annual showcase of some of the work it is doing in the Defence Science and Technology area, with the aim of forming mutually beneficial partnerships with industry and academia. First held (as Partnerships Week) at DST's facility at Edinburgh in SA in 2015, it has since alternated between the two sites.

According to Chief Defence Scientist (CDS) Dr Alex Zelinsky, the event highlights the continuing importance of strengthening DST's external engagement with industry and academia, while at the same time opening up opportunities for collaboration to achieve capability outcomes for Defence and national security.

"Our people are seeing how they can work with others, how can we work together to deliver a bigger outcome together than we could alone," Dr Zelinsky explained as he opened the second full day of activities. "A lot of things quite frankly we can't do on our own. We have many, many good people here in DST, but we don't have all the best people."

Dr Zelinsky said that much of the talent needed to develop what he called game-changing technologies – those aimed at either creating or denying strategic surprise – resides outside DST elsewhere in Australia and he is seeking to work collaboratively with industry and academia, to the benefit of both.

"We have a very modern way and effective way of handling Intellectual Property (IP). Security is always a concern to us, but we have built frameworks around



RAAF took delivery of the NIFTI flight test system at Scindicate 2018. NIFTI is designed for use on operations.

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that, so there are now just great ways to work together," he told delegates. "This is really a wonderful opportunity."

Commodore Phil Spedding from Navy Capability later provided an end user's perspective of the value that partnerships between DST, academia and industry bring to Defence.

"DST is helping us to exploit our future opportunities; they help us in some of the early concept exploration and the concept development stage (and) they provide key support to our projects as they work through the approval stages," he said.

"A relatively small DST can't possibly build and maintain a depth of knowledge and expertise across all Defence science and technology-related disciplines, hence it's not just desirable, but absolutely essential, that DST develop and sustain mutually productive relationships and collaborations with industry and with academia.

"I can only stress, as an ADF warfighter, the absolute need to develop those partnerships."

The opening address on the first day of Scindicate 2018 was delivered by newly-

appointed Minister for Defence Christopher Pyne, who went on to make a range of announcements highlighting the work already done in this regard.

Minister Pyne announced that multi-spectral simulation software developed by DST has been licensed to Consilium Technology, an Adelaide-based SME. Consilium will now market the software globally.

Known as Infinite Studio, the software builds on DST's multi-spectral visualisation system but has been further developed by Consilium Technology.

"This is a great outcome for Australian innovation, Defence and industry collaboration and jobs growth," Minister Pyne said.

Minister Pyne also presided over the handover of the Non-Intrusive Flight Test Instrumentation (NIFTI) system to the RAAF. NIFTI was conceived by DST, in collaboration with the RAAF's [Air Warfare Centre](#), and developed by SME Defence Innovations for use in an operational environment.

"In trials NIFTI has reduced flight test instrumentation down-time from months to days with significant cost savings," Minister Pyne said. "This is another impressive example of an innovation technology transitioning to Defence capability."

Finally, Minister Pyne congratulated Professor Andre Luten and his team from the University of Adelaide for their DST Eureka Prize for Outstanding Science in Safeguarding Australia. Dr Luten's team has developed [a sapphire clock](#), capable of keeping time to unprecedented accuracy over extremely long periods of time – measured in tens of millions of years. The technology will be used in future upgrades to the Jindalee Operational Radar Network (JORN) system.

"This is an example of world-leading research with a positive impact on Australia's defence and national security," Pyne added. "It is a fantastic result which will be a game-changer for Defence capability."

**"It is absolutely essential that DST develop and sustain mutually productive relationships and collaborations with industry and academia"**



Vladimir Putin addressing participants and guests of the Army 2018 forum in Moscow.

KREMLIN

## Russia fits assault rifles onto underwater drones

Ewen Levick | Sydney

**News has emerged that Russian arms company Rostec is in the late stages of developing a UUV armed with an assault rifle.**

Rostec exhibited the armed UUV at the Army-2018 defence industry conference in Moscow. The company told [Sputnik News](#) that the drone had undergone preliminary sea trials, with full trials expected to begin later in the year.

"The drone is fitted with an underwater assault rifle. It has undergone sea trials. Full-fledged trials will begin closer to the start of winter," Rostec said.

"It is a unique project since no one has so far fitted [an underwater drone] with small arms. Moreover, very few [countries] in the world have underwater automatic small arms."

According to the Sputnik report, the purpose of the drone is to protect port facilities, bridges, naval bases and ships from enemy combat divers and underwater drones.

It is not clear how well the UUV functions given the effects of water on bullet trajectory.

In 1970, the US Naval Ordnance Laboratory in Maryland ran [tests](#) and found that conventional small arms ammunition has "little underwater effectiveness against personnel or light gauge metal containers."

"Effective range is not more than one foot in water," the study said.

The study did make some efforts to improve results. It found that staying within certain constraints, such as using standard cartridges with standard powder loads, increased effective range to 7.5 feet (2.3 metres).

Around the same time, the Russians developed a smoothbore underwater rifle known as the APS, which fired 5.6mm darts with greater underwater stability than bullets.

The APS is understood to have an effective range of 30 metres at a depth of five metres. Decreasing depth decreases range, down to 11 metres at a depth of 40 metres.

**“The purpose of the drone is to protect port facilities, bridges, naval bases and ships from enemy combat divers and underwater drones”**

The Russian UUV raises numerous questions for Western analysts, particularly in terms of how it will be used. Aside from the technical complications that come from firing small projectiles underwater, or the tactical challenge of closing to within metres of an enemy, the UUV must also overcome the significant difficulties involved in transmitting data through water, either to a human operator or to other UUVs.

Assuming the UUV actually functions effectively (which is by no means certain), and if Rostec forgoes the communication problem by programming the UUV with a high degree of autonomy, the tech wanders deep into the Pandora’s box of ethical issues surrounding armed robots with a mandate to make lethal decisions – a capability Western states have rightly steered clear of thus far.

## TAE Aerospace acquires Victorian company

**TAE Aerospace announced at Land Forces that it has acquired the rights to take over the operations of Victorian-based Kidde Aerospace and Defence Australia (KADA), a UTC Aerospace Systems company (UTAS).**

Completion of the transaction is expected to occur by the end of September 2018, following completion of closing conditions.

The deal includes an agreement with UTAS that will designate TAE Aerospace as the only licensed overhaul facility in Australia, NZ and much of the region for certain UTAS businesses.

According to TAE Aerospace Chief Strategy Officer Darren Hutchinson, the opportunity to take on KADA’s capabilities arrived as the company was looking for ways to expand its service offer to land-based operators, as well as airlines.

“It has been part of our growth strategy for a while now to look for ‘interoperability’ between the platforms we service – particularly between air and land-based platforms, but also marine in the future.

“Four years ago, we signed an agreement for total logistics support of the AGT1500 tank engine that powers the Abrams main battle tank for the Australian Army.

“At the time, it was considered unusual for an aerospace company to work





It was considered unusual for an aerospace company to work on a tank engine, but both have gas-turbine engines and operate similarly.

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on a tank engine, but they are both gas-turbine engines and operate in a similar way – it's just that one runs on diesel and the other on jet fuel - and we knew the skills were transferable," he said.

Approximately half of KADA's business supports the Australian Army's fleet of land vehicles, including the M1A1 Abrams, ASLAV, Bushmaster and Hawkei vehicles.

**"The deal will designate TAE Aerospace as the only licensed overhaul facility in Australia, NZ and much of the region"**

In addition, KADA services a number of aircraft customers including Qantas, for which TAE Aerospace currently supplies wheel and brake MRO services, as well as Virgin Australia aircraft, military transport helicopters and others.

KADA General Manager Ray Walton said that both KADA and its parent company UTAS welcomed the deal and the benefits it would bring to their customers.

"UTAS decided that KADA would benefit from an in-country business structure and was open to partnering with a company whose operations were closely aligned with the KADA business. It wanted a partner that had the local experience, reputation and capability to support KADA's growth into the future," Walton said.

"The KADA capabilities are applicable to military and civilian, air and land based customers and we have the same mix in our customer base," Hutchinson said. "To service the products effectively you need deep MRO experience as well as the backing of the OEM. We have the largest MRO capability in the region, and a long history of working closely with OEMs under license arrangements. We could see the synergies and the opportunity came along just at the right time for us."

The deal will expand TAE Aerospace's national footprint, with the company currently operating from locations in Queensland, SA and NSW and now Victoria.

Speaking at Land Forces, Hutchinson said he welcomed the opportunity to expand the relationship with Army further, as well as widen industry partnerships with land-based Defence operators in the future.

"There is an exciting opportunity for further collaboration between TAE Aerospace and Army, and a chance to build on the strong relationship that already exists. We welcome the opportunity to expand that relationship further, and the KADA capabilities open up many opportunities for us to do that."

## Defence Innovation Hub lays out strategic priorities

**Newly-minted Minister for Defence Christopher Pyne has announced the Government's 2018-19 investment priorities for the Defence Innovation Hub.**

"The Government's approach to innovation in Defence is driven by its Defence Strategy, ensuring innovation investment is linked to our capability priorities," Minister Pyne said.

"The Defence Innovation Hub has made significant progress since its launch in December 2016, receiving over 510 proposals and signing 59 innovation contracts with a combined value of more than \$77.9 million. Around 85 per cent of the proposals align to the top three investment priorities I first announced at the 2016 Land Forces conference.

"Transparency and clarity on innovation investment priorities provides greater certainty to industry, and allows industry and research organisations to plan their research and development investments."



Amphibious operations have been identified as a strategic priority for the Innovation Hub.

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The Defence Innovation Hub is seeking proposals aligned with the six capability streams identified in the 2016 Defence Integrated Investment Program:

- intelligence, surveillance, reconnaissance, electronic warfare, space and cyber
- key enablers
- land combat, amphibious warfare and special operations
- air and sea lift
- maritime and anti-submarine warfare
- strike and air combat

Within these six capability streams, the top three priorities for investment in the 2018–19 financial year (in priority order) are:

### **1: ISR, Electronic Warfare, Space and Cyber**

“These capabilities are critical to maintaining the ADF’s decision-making superiority and ability to conduct operations safely and effectively. This is a continuation from the previous financial year with a focus on ISREW enabling Joint Decision Support, Cyber and Joint Integration Effects and the addition of Social Media Exploitation, Automated Dynamic Use of Spectrum Monitoring and Switching, Proximity Electronic Support/Electronic Attack (including development of EW Open Architectures) and Artificial Intelligence.”

### **2: Key Enablers**

“This is a continuation from the 2017-18 financial year with the removal of Autonomous Identification Technologies and the addition of Quantum Technologies, IT Automation, Machine Learning/Cognitive Computing, Cloud Adoption, Alternative Navigation and Positioning, and Rapid Manufacture.”

### **3: Land Combat, Amphibious Warfare and Special Operations**

“This is a continuation from the 2017-18 financial year with a continued focus on potential Special Operations capabilities and the addition of Enhanced Human Performance, Robotics and Autonomous Systems.

Land forces require the mobility, firepower, protection and situational awareness capabilities to deploy quickly, achieve their objectives, and return home safely. Defence is seeking innovative proposals for leading-edge equipment to bolster ADF land forces in these capability areas, including amphibious warfare.”

**“The top three priorities are: ISR, Electronic Warfare, Space and Cyber; Key Enablers; and Land Combat, Amphibious Warfare and Special Operations”**

## **MOST READ ONLINE AT [WWW.AUSTRALIANDEFENCE.COM.AU](http://WWW.AUSTRALIANDEFENCE.COM.AU)**



1. [ADF takes delivery of new howitzer ammunition](#)
2. [Rheinmetall launches bid for Land 400 Phase 3](#)
3. [Ex Kakadu kicks off in the Territory](#)
4. [New F-35 maintenance facility for Queensland](#)
5. [EOS remote weapons system for Land 400 Phase 2](#)

# Schiebel sets up Pacific hub in the Shoalhaven

**Schiebel Group has founded Schiebel Pacific to provide the Pacific region with a permanent program, logistics, and sales hub.**

Schiebel, a vertical take-off and landing (VTOL) Unmanned Air Systems (UAS) manufacturer, said it sees “considerable further potential in Australia and in the region at large, and as such is committed to developing a lasting and mutually beneficial presence.”

Schiebel chose the Shoalhaven because of the region’s location between Canberra and Sydney, positioning the company to support and service existing contracts as well as to aim for continued growth.

“Establishing a permanent base in Australia is a logical next step for Schiebel”

“Establishing a permanent base in Australia, managed and run by Australians, is a logical next step for Schiebel as the Pacific region is of significant strategic interest to us,” Hans Georg Schiebel, Chairman of the Schiebel Group, said.

“We already have a strong working relationship with customers in the area and are committed to growing our footprint, delivering outstanding support for our current contracts, providing end-to-end servicing to potential clients, and backing local value creation.”

The RAN has bought Schiebel’s Camcopter S-100 system as part of explorations of small shipborne UAS.

Under Navy Minor Project 1942, RAN sought to procure an interim vertical take-off and landing maritime UAS for shipborne intelligence, surveillance and reconnaissance. Schiebel’s heavy-fuel variant Camcopter S-100 UAS successfully completed its flying program for RAN’s validation and verification customer acceptance program at the Jervis Bay airfield in March.



Schiebel’s heavy-fuel variant Camcopter S-100 UAS completed its flying program for RAN’s customer acceptance program.

SCHIEBEL

# Call for submissions to Australian Military Sales Catalogue

**Applications have opened for the third edition of the Australian Military Sales Catalogue, providing an opportunity for Australian defence companies to showcase their capabilities around the globe.**

Minister for Defence Christopher Pyne called on Australian defence companies to submit their applications for inclusion in the 2019 edition of the Catalogue.

"Australian companies have a proven track record of success in international markets, and can offer innovative and niche capabilities in support of foreign capability requirements," Minister Pyne said.

"It is my aspiration that every allied defence minister has a copy of the 2019 Catalogue on their desk showcasing our great Australian capabilities."

While the Catalogue has traditionally focused on selling surplus ADF equipment, the 2018 edition of the Catalogue was expanded to include a defence industry section.

"This is a unique opportunity for Australian SMEs to promote their capabilities to our military allies: to utilise our overseas Australian Defence staff, extend the awareness

of their products and services, and grow their export opportunities," Minister Pyne added.

"I encourage every Australian defence company to submit their application to showcase their capabilities in the 2019 Catalogue."

More information on how to make a submission can be found [here](#). Submissions close on 19 October.

**"It is my aspiration that every allied defence minister has a copy of the 2019 Catalogue on their desk"**



The catalogue is an opportunity for Australian companies to showcase their capabilities.

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## PEOPLE ON THE MOVE

Boeing Australia has been invited to join the Prime Minister's Industry Advisory Committee on Veterans' Employment (IAC). The company has nominated vice president and managing director Darren Edwards as its representative. "Veterans' hard-earned skills and experiences are valued at Boeing because we know veterans make us better," Edwards said.

NIOA has added to its Defence and Law Enforcement team with the recent addition of Jackson Nioa as Corporate Development Manager. Jackson will be supporting strategic initiatives and growth activities within the Government Business Team.



The Board of WFEL has announced the appointment of Dan Thompson to the new position of Quality Director, with immediate effect. In this new position, Dan will continue to oversee all activities and tasks needed to maintain WFEL's Quality Management System, and will now include the forward-looking expansion of scope of Approvals to reflect WFEL's potential new product portfolio.



Elbit Systems of Australia is delighted to announce that the highly respected business leader and academic Dr Karen Stanton has accepted a position on the Board. Dr Stanton is also on the advisory board of the Centre for Defence Industry, the Queensland Government Industry and Manufacturing Advisory Board and she is also a lecturer for the MBA program at Queensland University of Technology.



Dr John White has recently been appointed as Director and Executive Chairman of Birdon. John has been a Director and/or CEO of several publicly listed and private Australian companies, formerly the Chairman of the Federal Government's Uranium Industry Framework Council, a member of the Federal Government's Defence Procurement Board and Director of the DefenceSA Advisory Board.

Saab Australia has appointed David Turnbull as NSW Construction Manager, who will take a lead role in new NSW security infrastructure projects to meet Saab's expansion goals in the region. Turnbull has led major capital projects throughout Australia, the UK, Southern Africa and Dubai for over forty years.

# Forthcoming Events

## ADM EVENTS

More detail on **ADM** Events can be found on our dedicated website: [admevents.com.au](http://admevents.com.au)

- [ADM Defence Estate & Base Services Summit](#) – 19 September 2018
- [ADM Defence in Northern Australia Summit](#) – 10-11 October 2018

## ANI Goldrick Seminar

**Date** 17 Sep, 2018

**Location** ADFA, Canberra

**Website** <https://navalinstitute.com.au/>

ANI will be holding its annual Goldrick Seminar at ADFA – with the title Naval Shipbuilding as Strategy. The event is well-attended every year by senior serving officers and by defence industry.

## ICCPM 2018 Thought Leadership Roundtable

**Date** September 21, 2018

**Location** Canberra, Melbourne

**Website** [admin@iccpm.com](mailto:admin@iccpm.com)

The International Centre for Complex Project Management (ICCPM) is delighted to invite you to attend this open discussion workshop which seeks to bring together the collective wisdom of senior leaders from both public and private sector organisations to share perspectives on project leadership.

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## 18th Australian Space Research Conference

**Date** 24 Sep – 26 Sep, 2018

**Location** Mantra on View Hotel, Gold Coast

**Website** <http://www.nssa.com.au/18asrc/>

The 18th Australian Space Research Conference (ASRC), will be held at Gold Coast in Queensland over September 24-26. The ASRC is intended to be the primary annual meeting for Australian space research. It welcomes space scientists, engineers, educators, and workers from across the university, industry and government parts of the space sector, and is not limited to Australian-based research. International participants are most welcome. The scope of the conference includes fundamental and applied research, operational matters, technology, and use of space data and facilities. We are accepting [abstracts](#) until July 14.

## Systems Modelling Conference 2018

**Date** 04 October 2018

**Location** Adams Auditorium, UNSW Canberra

**Website** <https://www.unsw.adfa.edu.au/conferences/systems-modelling-conference-2018/home>

Systems thinking and modelling is the science of integration, where every system is conceptualised as a set of inter-related components. Systems thinking and systems modelling provides a problem solving approach that helps us develop the capacity to understand and manage complexity in a systemic way and how to deal with it in multi-stakeholder situations. The Capability Systems Centre in partnership with IEEE runs a 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 conference on October 4th will feature showcases on the use of systems thinking and systems modelling in a wide range of areas.

## WA Indo-Pacific Defence Conference 2018

**Date** 30 October 2018

**Location** Crown Towers – Perth, WA

**Website** <http://perthusasia.edu.au/defence-forum-2018>

The 2018 Western Australian Indo-Pacific Defence Conference will convene strategic thinkers from the military, industry, academic and government in Perth Australia, home to Australia's largest naval base, a growing defence industry, and a vibrant civic and academic community. This conference will promote the State's defence capability to national and international defence stakeholders. The aim is to provide new and relevant information from high-level speakers to educate and inspire our local industry, and to assist them in becoming world class and globally competitive (export ready).

## NZDIA 2018 Forum

**Date** 30 October – 1 November 2018

**Location** Central Energy Trust Arena, Palmerston North (NZ)

**Website** <http://www.nzdiaforum.co.nz/page/528148>

The 2018 NZDIA Forum is our 21st forum. We aim to bring together industry (local, regional and international) and a wider range of government interests than has been achieved previously. The NZDIA forum has, for 20 years, been the most important



event on NZ soil for defence and industry to come together. This year we are creating the opportunity and space for a wider cross section of industry: local, Australasian and global with a broader interest in national security encompassing defence, to come together. The speaking and workshop program is coming together as we identify how best to deliver excellent value to our traditional constituency and new attendees.

## Veterans Film Festival

**Date** 1 November – 3 November

**Location** Palace Electric Theatre, ADFA, Canberra

**Website** [www.veteransfilmfestival.com](http://www.veteransfilmfestival.com)

The RSL National Veterans Film Festival (VFF) is an annual event, putting the spotlight on stories about veterans, first responders, their families and the influence of warfare on our society. The festival presents a curated program of carefully selected feature films, short films and media art from Australia and around the globe. Our focus is on recent work by talented indie filmmakers. However, within our program we also present mainstream films, retrospectives and provide opportunities to meet with filmmakers and content creators via Q&A's, panels, etc. All films submitted to the official competition will be eligible to compete for the coveted Red Poppy Awards.

## SIA Biennial Conference

**Date** 7-8 November 2018

**Location** Rex Hotel, Canberra

**Website** [www.submarineinstitute.com/sia-conferences](http://www.submarineinstitute.com/sia-conferences)

Join submarine professionals and key decision makers as the ninth in the biennial series of conferences run by the Submarine Institute of Australia returns to Canberra to explore the issues and opportunities emerging from the decision to extend the lives of the Collins class submarines.

## ACA Corrosion & Prevention 2018

**Date** 11-14 November 2018

**Location** Adelaide Convention Centre

**Website** <http://www.corrosion.com.au>

As always, the focus of the ACA's annual conference and trade exhibition will be the safe and effective management of the continuing challenge posed by corrosion. More than 400 delegates are expected to attend the conference and extensive exhibition supported of key industry suppliers. Industry experts will deliver five plenary presentations—including the F P Thompson Lecture, which will be delivered by Professor Brian Kinsella, Curtin University, Australia.

## MilCIS 2018

**Date** 13-15 November 2018

**Location** National Conference Centre, Canberra

**Website** [www.milcis.com.au](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.

## TEAM DEFENCE AUSTRALIA EVENTS

- **AUSA 2018** – 8-10 October 2018, Washington DC, US
- **Euronaval 2018** – 23-26 October 2018, Paris, France
- **Indo Defence 2018** – 7-10 November 2018, Jakarta, Indonesia

For more information go the business.gov.au TDA webpage [here](#). TDA EOIs will open a few months prior to the event – to keep up to date [register](#) for the CDIC newsletter.