Defence Business

Issue 60 September 2024

Land Forces

Thought Leadership on AUKUS DTC Awards Shortlist New Laws Warning Capability Guide



Interview: Hunter Class Update



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DTC Awards Announcing the three finalists in each category of the prestigious DTC annual Awards.

Defence Teaming Centre

Lot Fourteen, Margaret Graham Building Frome Road, Adelaide SA 5000 08 7320 1000 www.dtc.org.au **CEO** Libby Day

COVER CAPTION

A section commander from the 1st Brigade runs forward during an objective clearance at the Bradshaw training area, NT, during Exercise Predator's Run 2024.

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FROM THE DESK OF THE CEO

Libby Day, Chief Executive Officer

Clear Focus And Shared Ambitions

In the evolving and sometimes confusing defence sector, the Defence Teaming Centre (DTC) is focusing on three core priorities for members.

While our wide range of services will remain in place, our strategic focus is on:

- 1. AUKUS Pillar I and Pillar II
- 2. Workforce skills and training
- 3. Strengthening the mid-tier of local defence industry

I will go into each of these in more detail further on in this column. Firstly, however, I would like to reiterate where the DTC sits in the national and international landscape.

South Australia is increasingly strategic for defence business in Australia, largely due to the work that is already happening at Osborne – and the pipeline of projects that will continue for many decades to come. Accordingly, the DTC's role is to represent South Australian defence industry, and national defence industry that has an interest in SA-based business.

The DTC has invested considerable effort into achieving close alignment with a range of other bodies with shared interests, including Defence SA, the AUKUS office in Department of Premier and Cabinet, State Development and so on.

The Minister for Defence and Space Industries, Stephen Mullighan, and Premier Peter Malinauskas have been fantastic advocate for workforce skills and training for AUKUS into Canberra and beyond.

We are also forging even closer ties with industry bodies interstate, where the DTC's advice is increasingly respected and sought out.

These accomplishments are underpinned by a more sophisticated use of member data and insights to inform conversations with decision-makers. Evidence-driven positions and programs will continue to be a hallmark of the DTC as we move forward.

While competition is healthy for individual businesses, the success of our nation-building projects will be built

on cooperation, not competition, at all levels. It is critical that we continue to work together.

Focus 1: AUKUS Pillar I and Pillar II

We recognise the value of working with the right partners and providing channels for our members to make the right connections to enter global supply chains.

The SA Government's MOU with the State of Maryland and another with Huntington Ingalls are resulting in opportunities for local companies to work with the likes of HII and H&B Defence in Australia.

The DTC is working with international industry associations such as the Hampton Road Alliance (see p24) and has signed an MOU with Senedia (see p42). Both are the result of a deep, shared commitment to AUKUS.

We do not want to 'reinvent the wheel'. Instead, our ambition is to 'stand on the shoulders of giants'. We are looking to work with organisations that are already successful globally so that we can share expertise on workforce development, small business assistance, supply chain development and advanced research and commercialisation.

Focus 2: Workforce skills and training

There has never been a greater need for the defence sector to produce leaders through professional development programs. The DTC is a provider of two leading courses that I encourage industry to embrace – the Defence Industry Leadership Program (DILP) and The Defence Graduate Learning Program.

DILP has played a pivotal role in nurturing the personal and professional growth of more than 300 defence industry leaders since its establishment in 2010. Demand for adept, forward-looking and collaborative leadership is at an all-time high. Registrations for the 2025 intake are now open and places are limited.

In addition, we will be announcing an advanced DILP program in the coming months.

The Defence Graduate Learning Program is a collaboration between the DTC and Engineers Australia to offer graduate engineers a professional development program for an exciting career in the defence sector.

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September 2024 Defence Bus

It is hoped the program, the first of its kind in Australia, will contribute meaningfully to addressing the skills and workforce challenges faced by Australia in delivering on its SSN-AUKUS obligations. Engineering skills are already in short supply and are vital to AUKUS and Australia's evolving Defence capability needs generally. We have to substantially increase the pool of high-performing engineers we have at our disposal. Contact Engineers Australia's training arm, Engineering Education Australia by emailing graduate@eea.org.au or by visiting www.eea.org.au if you are interested.

Focus 3: Strengthening the mid-tier of local defence industry

Australia needs a larger and stronger mid-tier of defence companies. We have a number of highly successful SMEs in this space, including Nova (see p22) but we need more if we are to achieve our sovereign goals.

We are also encouraged that CASG is engaging with industry to improve its acquisition systems and reduce complexity for industry.

By learning from local success stories and showing members how they can better align with the needs of the Commonwealth Government, the DTC can play an important role in developing the mid-tier of the Australian defence industry.

DTC Awards

In this issue, we highlight the achievements of the nine finalists shortlisted for the prestigious DTC Awards (see p9).

The awards ceremony is always a great night, where we celebrate success, hear from incredible leaders and help those less fortunate than ourselves.

Good luck to all entrants and I look forward to catching up with you on the night.



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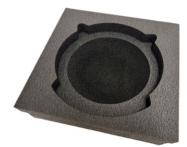
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ALL ROADS LEAD TO LAND FORCES

Land Forces is shaping up to be a key landmark on the 2024 defence calendar.

The event traditionally provides the perfect opportunity for governments and primes to make headline announcements – but this year, most eyes will be on the Chief of Army Symposium.

With fundamental changes being made to Australia's armed forces strategy since the last Land Forces event, the speech by the Chief of Army, Lieutenant General Simon Stuart, AO, DSC, will have added significance.

As the organisers promise, it's the chance to hear "direct" from Army.

Other sessions that are guaranteed to be well attended include:

- Uncrewed systems, including a two-day conference entitled Autonomy in the Joint Military Battlespace
- AUKUS Advanced Capabilities Panel

- Guided Weapons and Explosive Ordnance (GWEO) Update
- Fireside talk with Deputy Secretary CASG, Chris Deeble; and Chief GWEO, Air Marshal Leon Phillips OAM
- Defence Export Controls Information Session (see page 36).

The Chief of Army Symposium will incorporate Army Innovation Day and the Army Quantum Technology Challenge, both highlighting the ability of Australian academia and defence industry to innovate to address capability gaps for Army.

Continuing that theme, 21 Australian innovators will each deliver a three-minute pitch to win one of the three Land Forces 2024 Innovation Awards, collectively worth \$120,000.

The 2024 Land Forces International Land Defence Exposition will be held at the Melbourne Convention and Exhibition Centre, from 11-13 September 2024.

LEADERS, RISE

The Defence Industry Leadership Program (DILP) has played a pivotal role in nurturing the personal and professional growth of more than 300 defence industry leaders since its establishment in 2010.

Within the context of the rapidly evolving Australian defence landscape, the demand for adept, forward-looking, and collaborative leadership has never been greater.

DILP is a nine-month immersive leadership program co-ordinated and delivered by the Defence Teaming Centre (DTC) in collaboration with registered training provider, SkillsLab, a SAGE Group company. This comprehensive program is designed to nurture and elevate core leadership abilities within the distinctive context of Australia's defence industry.

Registrations for the 2025 intake are **now open** and places are limited. Scan the QR code for more information.



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Countdown To The DTC Awards

The DTC Awards recognise organisations that have significantly contributed to the development of Australia's defence industry, while showing excellence in ethical behaviour, service and commitment.

With only three awards presented each year, being selected as a winner carries great prestige in defence circles. In 2024, the awards will be presented at the DTC's annual Defence Industry Dinner & Awards Ceremony at the Adelaide Convention Centre on 4 December.

The following pages contain a brief overview of each finalist in each of the following categories:

DTC TEAMING AWARD

University of South Austral

- DTC SKILLING AWARD
- DTC INNOVATION AWARD

Don't Miss The Best Night Of The Year

2024 Defence Industry Dinner & Awards Ceremony Wednesday 4 December Book now via the DTC website Adelaide Convention Centre, North Terrace, Adelaide South Australia **Dress code:** Black tie (Mess kit or miniatures may be worn) 18:00 start



2024 DTC Teaming Award Finalists

The DTC Teaming Award is awarded to DTC members who have collaborated with other DTC members and/or other organisations to address a gap in the capacity or capability of the defence sector. The award recognises and celebrates organisations who achieve mutual business success as a result of the teaming arrangement with other organisations.

- Neumann Space
- REDARC Defence & Space
- CNES

Neumann Space is an Adelaide-based space technology company, developing, manufacturing and exporting dual-use electric propulsion systems for satellites and spacecraft.

REDARC Defence and Space (RDS) is part of the REDARC Group, which offers a wide range of solutions, including commercial off-the-shelf, military off-the-shelf, and customised build-to-print from its state-of-the-art manufacturing and testing facility.

Founded in 1961, the Centre National d'Etudes Spatiales (CNES, the French space agency) is the government agency responsible for shaping France's space policy and implementing it in Europe in five core areas of focus: Ariane, science, Earth observation, telecommunications and Defence.

RDS, Neumann Space and the CNES came together to develop an EMI test method to characterise a pulsed propulsion system as there is no suitable standard.

Neumann Space provided their propulsion system and bespoke test apparatus, RDS provided access to their test facility and access to personnel with extensive EMI/C experience, while CNES provided special antennas, guidance, technical knowledge and oversight of the methodologies being proposed.



Through the project (which is ongoing) all partners developed unique knowledge related to EMI testing of space hardware, increased the body of knowledge in the field and contributed to making the Neumann Drive a better product for commercial and defence satellites. The project also contributed to the development of test equipment and procedures, trained engineers at both RDS and Neumann Space on the complexity of spacecraft EMI testing, leading to increased capabilities at both companies.

This work helps Neumann Space to improve its propulsion system, while the collaborators learn more of the very complex art of EMI testing, positioning themselves to offer an exciting capability in both Australia and France as they develop a new test based on standard procedures for all to use.

- Axiom Precision Manufacturing
- CruxML
- RFTEQ
- Ebor Systems

The ACRE teaming arrangement was formalised in August 2022 between Axiom Precision Manufacturing, CruxML, RFTEQ and Ebor Systems for the design and manufacture of the ASCA/CATJAT Micro program.

Axiom Precision Manufacturing is the main lead. It is an Australian owned and operated Advanced Manufacturing business that services customers throughout Australia and internationally from a purpose built ITAR and Zone 3 Defence secure facility.

CruxML builds IP, systems and tools that can be combined with the domain knowledge of their customers to create novel solutions for the type of problems that are considered 'too hard' for today's tech.

RFTEQ delivers technical services across several parts of the communications and EW system life cycle, from research and development of new architectures to the development and testing of prototype systems.

Ebor Systems are industry leaders in RF propagation and enhanced communication solutions for difficult environments. They are specialists in defence capability and research projects, using data analysis, algorithm development and user-centric design to deliver cutting-edge software and hardware products to their customers.

Through high speed, high accuracy, wide band detection and suppression, CATJAT micro will enable the operator to manoeuvre safely through highly congested RF environments on the frontline.

CATJAT micro's compact prototype form factor has been designed to fit directly onto the in-service Soldier Combat Ensemble, enabling the soldier stowage flexibility and freedom of movement through constricted spaces while providing protection to the individual and near surrounds.

Currently at Technology Readiness Level 6 stage, ACRE will continue working towards TRL 9 status. CATJAT micro will provide a significant EW capability to Defence while offering an innovative, easy to use, Improvised Explosive Device protection solution to an ever-evolving threat.

CATJAT micro is locally designed and manufactured, bringing sovereign industry capabilities to the forefront, with the added potential for significant contributions to the local economy.

Hendon Semiconductors

PMB Defence

PMB Defence and Hendon have partnered on the development of battery probe systems for supply to the Royal Australian Navy.

Established in 1989, PMB Defence is a globally recognised manufacturer of submarine battery systems. It has evolved into a leading supplier of high-quality energy and specialised engineering solutions in Australia and select international markets.

PMB has a world-leading level of application knowledge in terms of battery monitoring and analysis for submarines.

Hendon Semiconductors manufacture advanced electronic solutions and are considered technology specialists, rather than application specialists. Hendon was the first manufacturer of semiconductors in South Australia and continues to design, manufacture and test electronic PCB and hybrid thick film assemblies from its Australian facility.

The companies have been collaborating since the first generation of the of the battery probe GEN1R, where PMB approached Hendon to be involved in the design and development of the hardware to support their battery analysis software. PMB recognised that Hendon having in-house manufacturing of electronics as well as a design capability meant that they understood design for manufacture and design for test best practices at a deeper level.

Hendon was also able to help review supply chains and part price and availability for PMB. The roles were therefore divided into electronic hardware (Hendon), firmware and mechanical (PMB). However, due to the trade-offs that need to occur in this type of complex development, it was necessary for them to work closely together throughout the development.

In the latest program, the team created a new wireless probe in a little over 3 months from concept to fully functioning prototype for a customer demonstration, which was only possible with close collaboration.

The project is now undergoing final test and evaluation and will hopefully be released for production by December 2024.



2024 DTC Innovation Award Finalists

The DTC Innovation Award recognises members who have designed an innovative product or service which addresses a Defence capability gap or enhances Defence capability. Products can be tangible or intangible and can include manufactured goods, equipment, professional services or programs.

The category includes domestic defence or export defence markets.

Consunet

Consunct delivers cyber and spectrum security-focused software and electronic engineering capabilities to government and commercial customers with the vision to build the Australian cyber and spectrum security future.

Since 2000, it has built a leading position in electronic warfare (EW) and enterprise scale to directly compete in the Defence market. Consunet embraced a strategy of innovation for growth via world-leading electromagnetic spectrum (EMS) technology, supported by an agile management and delivery approach.

EW capability supplied to Defence has traditionally been imported. Larger acquisitions focused on hardware systems and platforms with long lifecycles, often measured in decades. However, the increasing availability of software defined radios and cloud computing created an environment ready for software defined EW capability. This, together with the increasing spectral agility of radars, communication radios and other EMS systems, necessitated change in EW technology and delivery process.

At a stage when "winning was the only option for the business to survive", Consunet made an audacious bid for the JP9321 EMBM project, placing it as the prime supplier of a \$61 million procurement. It was successful against six multinational organisations, and the only Australian-owned organisation and SME. versity

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Once in contract, the company mobilised the project team, subcontracted a prime and other Australian SMEs, constructed an information age Capability Factory, and used its DevSecOps process to rapidly deliver EW technical excellence and capability success.

entre

Consunet's EMBM innovation is an adaptable and flexible cloud-native software solution. It provides the warfighter with the knowledge and tools to quickly make appropriate decisions about EMS use and prioritisation.

This success drove Consunet's growth from 75 staff at the start of FY2022 to over 130 in FY2024 with a revenue increase of 130%.

VPG Innovation

VPG-Innovation provides prototype, design to manufacturing optimisation, and engineering expertise to develop product ideas into scalable solutions for commercial success. Using Stärke-AMG Advanced Manufacturing capabilities to drive the products design and prototyping phase through CNC Machining, tooling, injection moulding, additive manufacturing and fabrication in a vertical model enables products to be launched into the market sooner.

The need for a product that could swiftly shut down leaking pipes to protect expensive assets and save lives was pitched to VPG-Innovation by the Royal

Australian Navy (RAN). After the initial concept for a simple, yet easy-to-manufacture solution, the company developed the groundbreaking Rapid Response Clamp. It is a unique chain and lever mechanism solution that uses local manufacturing and the company's internal assembly supply chain.

Rapid Response Clamp is a revolutionary pipeline repair device that can repair damaged pipelines and shut down leaking pipes in less than 60 seconds. It is five times faster than traditional methods. This unparalleled speed and efficiency make it the ideal solution for emergency response situations and organisations looking to enhance their preparedness against piping damage.

Developed with the Department of Defence, it can withstand pressures up to 100Bar and provides reliability in demanding marine environments.

Released after rigorous testing and quality certification, a period of stagnation ensued when the RAN did not initially order the expected amount of clamps. This was followed by a significant push that saw it receive approval from some of the most exigent organisations, including the US Navy.

Today, the clamps are in high demand across many industries in over 10 countries.

Rapid Response Clamp has achieved a remarkable milestone, with over 30,000 clamps installed in US Navy vessels.

Staffing has increased from three to 10 over the last three years, with improved product support and refined product and service delivery. Turnover has held steady over the COVID period and has begun increasing again with a 20% growth in sales.

QuantX Labs

EEstablished in 2016, QuantX Labs is a 100% privately-owned and controlled Australian company and is a world-leader in precision timing and quantum sensing technologies.

The foundation for the Cryoclock was owner Andre Luiten's PhD research in 1990-96. Andre's clock was even used to test Einstein's theory of relativity!

QuantX's Labs flagship product, Cryoclock, delivers the world's most pure and stable electronic signals. The culmination of twenty years of research, Cryoclock's signals have a purity that is 100-1000 times higher than that of any other device. The time-keeping ability of these sources is also world-leading: 100-fold better than the best previous solution available to the market. The world's most precise clock is being developed for inclusion into the Jindalee Operational Radar Network (JORN) upgrade program.

In addition, the company's Quantum Atomic Clocks are ground-breaking nextgeneration atomic clocks that will be deployed on land and in space to deliver sovereign access to secure timing. Secure timing underpins all distributed systems and represents a vulnerability for operations in denied or degraded environments.

A third innovation is Quantum Magnetometers, extremely sensitive devices to detect covert activities underwater and underground.

More recently, QuantX Labs has signed contracts for the first sale of their cuttingedge quantum atomic clocks with delivery due by the end of 2024. This will be the second product that QuantX Labs has successfully translated out of Institute of Photonics and Advanced Sensing (IPAS).

QuantX Labs exemplifies the power of strategic partnerships between academia, industry, and the defence sectors.

Revenue and workforce growth have averaged 50% pa since 2019, and over the last two financial years, as product awareness and capability has increased, growth has increased to over 65% pa. QuantX Labs employs over 40 people, doubled their tenancy at Lot Fourteen after just three years and has a 2025 forecast revenue of over \$10M.

It is now developing precision timing and sensor products across more than eight projects for Defence and the defence industry.



2024 DTC Skilling Award Finalists

The DTC Skilling Award recognises members who have developed an internal training program which addresses the skills shortage and benefits the defence sector. Training programs can include the use of external courses which benefit the employee and the employer.

Para Bellum Solutions

Para Bellum Solutions is a specialist provider of diverse management consulting services that provides its clients with services focused on the defence sector. It also supports the defence industry by assisting SMEs to successfully enter the defence supply chain with their products and services. It currently has 35 employees and associates, all of whom are specialists and are certified and up-to-date with the latest advances and thinking in their fields of expertise.

Para Bellum Solutions fosters a learning culture, enabling and empowering their people to expand their knowledge base, stay updated on emerging trends, and collaborate with Defence clients to explore innovative approaches that drive project success.

The company is training 90% of staff and offers courses to continuously improve critical skills and contemporary knowledge. As staff progress to senior levels, it enables the company to onboard junior staff.

The Para Bellum Upskilling Program includes certified courses in project and program management, change management and integrated logistics, as well as ICT and cyber security training, all of which are key areas that benefit defence clients and industry.



Having gained certification in Prosci, one of the company's consultants incorporated Prosci's ADKAR principles and latest thinking into a change management pilot for the client across two projects.

The completion rate for the Upskilling Program is currently 86%.

Para Bellum Solutions is an inclusive organisation, committed to offering equal opportunities to all staff. Its approach to training has been particularly valuable for veterans.

The company's Diversity Policy and accompanying Diversity Strategy aim to achieve the following deliverables:

- Increase female representation = 40% by 2026
- Increase partnerships with indigenous business = 10% Partnership or business contracts by 2026
- Increase engagement with disability-focused enterprise = 10% Disability Enterprise by 2026.

Para Bellum Solutions is a veteran-owned and operated Defence consulting firm that has been operating since 2017.

Shoal Group Pty Ltd

Shoal is complex systems design company. It uses systems engineering combined with modelling, simulation and analysis to help clients define, analyse, decide, optimise, and deliver technology-intensive projects in complex environments across Defence.

Founded in 2001 and headquartered in Adelaide, Shoal has a distributed team of around 70 staff across Australia, New Zealand and the UK. The majority of its team are graduates in engineering, physics or mathematics. They have a passion for learning and the pursuit of knowledge. Education, training, skills development and experiential learning are at its core, developing staff to support their clients and deliver solutions to their challenges. Shoal supports staff in their personal and professional pursuit of further training, with many holding advanced degrees (Masters or PhD), publishing peer reviewed papers and undertaking ongoing professional training.

Shoal's Experiential Framework supports the consistency and clarity of career progression for engineers and analysts at Shoal. The framework addresses professional and individual development behaviours and technical and leadership competencies, in line with their profession, industry project needs and defence strategy. Initiatives supporting application of the framework include our ShoalIntern and ShoalGrad, award-winning early careers programs, our Engineering Workforce Credentialling Program with Engineers Australia, and bespoke training programs that we design and develop specific to Shoal and our clients' needs to drive continuing leadership in our field.

Through their Blue Water innovation program, Shoal also offers development opportunities, and supports staff in tertiary study, and thought leadership through conference and event participation.

Since July 2023, Shoal has supported more than 30 engineers to attain Chartered status with the Engineering Australia Workforce Credentialling Program: a significant portion of its workforce. 100% of Shoal's female technical workforce have either participated in the ShoalGrad program (for early career engineers) or received chartered status through its EWC program.

Ascent Pty Ltd

Ascent is a proudly 100% Australian and veteran-owned consultancy specialising in engineering, project management, and risk management services for the Department of Defence, the Australian Space Agency, and Defence Prime Contractors.

In addressing complex challenges, Ascent has developed cutting-edge tools such as AeroATLAS – designed to solve ongoing issues with aviation weight and balance calculations – and CorroVision, an innovative solution tackling the problem of unscheduled corrosion. These tools reflect Ascent's commitment to creating a comprehensive, integrated environment within the fields of explosive ordnance engineering and aircraft structural integrity.

Since its founding in 2016, Ascent has expanded to establish offices in Adelaide, Canberra, Melbourne, and Texas, USA. The company prides itself on a diverse and dynamic workforce of 52 employees, of whom 37% are veterans, 20% are women, and 32% are graduate engineers undergoing on-the-job training. This diversity underscores Ascent's dedication to nurturing the next generation of engineering leaders.

Ascent maintains a strong partnership with the University of Adelaide, offering a twoyear graduate program focused on defence-related projects. This program is built on three key pillars: Becoming an Engineering Professional, Unique Learning Opportunities, and Learning from the Best. Graduates are also supported through the Engineers Australia Professionalisation Program, which helps bridge the gap between university education and professional practice.

Employees at Ascent are empowered to pursue continuous learning and professional growth. Each team member receives an annual professional development fund of \$5,000 and one week of professional development leave to engage in opportunities that align with their career aspirations, whether attending a conference, pursuing personal learning, or taking a specialised course.

Innovation is at the heart of Ascent's culture. The company's Innovation Policy ensures that staff receive a share of the profits generated from their innovations, fostering a workplace that celebrates creativity and forward-thinking contributions.

Supporting and advancing women in defence is a key pillar of Ascent's capability statement. With 20% of the team being female and the number of women in leadership roles nearly tripling in the past two years, Ascent is actively championing gender diversity within the industry.

Through its Graduate Program, Ascent not only attracts high-calibre candidates but also plays a pivotal role in retaining top talent within the defence sector.

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Hunted Becomes Hunter As Frigate Build Ticks Off Milestones

Hunter - side facing.

The largest surface shipbuilding program in Australian Defence history - the Hunter Class Frigate - has overcome early delays and is now ticking off an impressive array of milestones.

To meet these milestones, the project has focused on schedule, budget, workforce and local industry.

Schedule

In July 2021, the former Government agreed to an 18-month delay to manage risks associated with design maturity of the Type 26 reference ship design and the impacts of the COVID-19 pandemic. Since then, the project has continued to run on schedule.

The 18-month delay to cutting steel on the first ship enabled the project to reset and achieve a higher level of design maturity. This also enabled the project to produce ships with greater efficiency and continuous production.

"Since November of 2021 we have hit every contracted milestone on or ahead of schedule," said Defence's Director General of the Hunter Class Frigates, Commodore (CDRE) Scott Lockey (pictured right).

"We've done that within the budget that was allocated to us back in 2018. And we've applied a level of discipline that has set us up for success by taking a methodical fact-based decision-making approach to everything that we've done." During the project reset, the team commenced construction on six-schedule protection blocks in May 2023. This provided lessons learnt and has reduced risks to the Ship 1 construction schedule.

CDRE Lockey has been in the role for three years, commencing in 2021 and has recently extended his commitment to the project until at least 2027.



Stretch Milestone

The project's leadership team recognises that the Vessel Acceptance Date in 2032 may be a milestone too distant for most people.

The project's leadership team has set an intermediate challenge target of early 2027 for the Rollout Readiness Review. This occurs when the ship's 22 blocks are consolidated as a whole, minus the mast.

The project has adopted a concept of Excellence, not Perfection. This has set up the team for success to meet the deterministic approach to the Roll Out Readiness Review and the preceding milestones.

"What we are expecting to do is drive our teams, as hard as possible, to as close as possible to that date" said CDRE Lockey.

The global nature of BAE Systems' shipbuilding is a major asset in achieving that goal.

There is constant flow of information sharing – and not all of it from the more established UK- shipbuilder to the 'newcomer'. In fact, the findings of Osborne Naval Shipyard – where the Hunter class frigates are being built – prototyping on steel shrinkage during the welding and fabrication processes, have assisted Glasgow's schedule, where the Type 26 (reference ship design) is being built.

BAE Systems Maritime Australia's (BAESMA) Project Workforce

BAESMA project workforce has increased by 35% from 1,600 to over 2,200 in 12 months, with over 1,600 of those based at the Osborne Naval Shipyard in South Australia. Recruitment is still ongoing with the project anticipated to peak at 2,600 employees.

More than 1,800 Australian companies have signed up to compete for contracts on the project through the Industry Capability Network.

"And we're always looking for opportunities to work with more local companies," said BAESMA's Hunter Class Frigate Program Director, Jason Loveday (pictured right).

The number of contracts signed with Australian suppliers is fast approaching 100. These range from complex combat systems right through to fasteners and raw materials.

CDRE Lockey said the project is now working with Australian Small to Medium Enterprises (SME's) to "increase their capacity to contribute not only to our supply chain but potentially in the future to the global combat ship supply chain, or to future onshoring programs.

"Century Engineering and MG Engineering are two companies that immediately come to mind."

Strategic Suppliers

BAESMA has appointed both of these companies to its Strategic Supplier Panel. They are part of a pilot program



for the integration of production methods, processes and technologies to drive greater efficiencies and collaborative working relationships.

Port Adelaide-based MG Engineering is constructing bulkheads and side shells, the latter of which form the exterior of Hunter ship blocks.

Century Engineering, which has been manufacturing parts to support the Hunter prototyping phase, is a wholly Australian-owned business, headquartered in the Adelaide Defence hub at Edinburgh, South Australia.

"We want to consider companies like Century and MG as another 'building (within the Shipyard)'," said Jason.

"Century Engineering and MG Engineering are two companies that immediately come to mind."

"We've got 28 buildings, and we regard them as 29 and 30; so, it's more than them just supplying us the product.

"It's us being able to integrate our business systems, access our drawings and so on so that they're fully integrated. That's a really important element of Australian industry content and boosting our sovereignty."

Another local company, Cold Logic, has been awarded a multi-million-dollar contract to construct and install cold and cool rooms for the first batch of three Hunterclass frigates.

"Because we are building a reference ship design variant, we're always looking through our supply chain teams to understand how we can develop opportunities," said Jason, who has over 20 years' Defence experience, 15 of those at the Osborne Precinct.

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"One of these opportunities is through what we call targeted tasks".

Targeted tasks involve awarding contracts to Australian businesses to undertake activities in order to understand how they can participate in the project's supply chain.

"For example, there are companies in Western Australia we're looking at to 'Australianise' the manufacture of the propellers."

Other local companies in the supply chain include CEA in Canberra producing the Phased Array Radar.

SAAB, located primarily in Mawson Lakes in Adelaide, is producing the Australian Combat Management System.

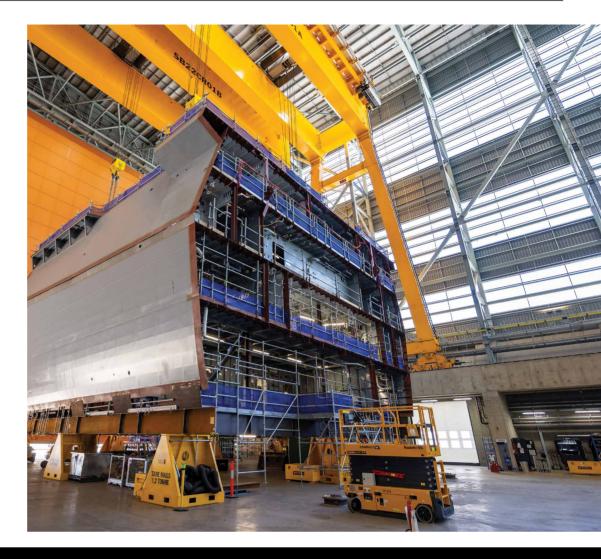
A major contract for the communication system has recently been awarded to Rohde & Schwarz Australia.

Lockheed Martin Australia is increasing local skills and capacity to commission and sustain the Aegis capability.

Criticisms: Weight and Missiles

A project of this magnitude is always going to be an easy target – and its complexity ensures there will be obstacles along the way.

The Hunter is interfacing a disparate array of features, including an Australian Radar, a US Aegis Combat Management System, German heritage communications and a US helicopter, into a British designed ship, and then building it with the highest level of automation of any shipyard in Australia.



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"Century Engineering and MG Engineering are two companies that immediately come to mind."

"Any one of those first-of-class activities done by itself would have been a challenging activity," said CDRE Lockey. "We're attempting to do all of them, at the same time.

"The test of the mettle of the organisation is not how you identify the risk, it's how you go about dealing with the risk when it gets realised.

"In terms of the very publicly discussed in-service weight growth margin there was an agreement made with Royal Australian Navy in the latter end of the previous decade about what the weight growth margin would be.

"We are still tracking well above the minimum margin that we are required to achieve at delivery.

"With respect to missile capability, the Hunter has been deliberately chosen as an anti-submarine warfare ship. It's optimised for anti-submarine warfare; it will be the quietest ship that the Royal Australian Navy has ever operated."

The missile capacity contributes to the ship's multi-role capabilities. When operating in a task group, the ship can be both a 'sensor' and a 'shooter'.

Insurance

In response to the criticism about cost, CDRE Lockey believes it is an important investment for Australia as an island nation.

"We are a three-ocean, island-trading nation that derives its economic benefits from the sea, either from supplies that travel across the sea or from data and information exchange that travels via fibre optic cables under the sea.

"What we are producing with Hunter and other military capabilities is an insurance policy."

The maritime sector alone in Australia contributes over \$55 billion to our economy.

"We take our responsibility for delivering the Hunter capability very seriously. While we are consuming a significant amount of taxpayers dollars, I believe that it is justified expenditure to help protect our way of life here in Australia."

Proud Lineage

CDRE Lockey is justifiably proud of the Hunter class frigate's pedigree.

"The lineage that the Type 26 comes from is out of the UK Type 23, which is recognised as possibly one of the world's best Cold War anti-submarine warfare frigates ever produced," he said.

"For two-and-a-half decades, the Type 23 has been protecting the North Atlantic waters from enemy submarines and doing it very, very effectively.

"The design techniques and sonar suite that comes with the Type 26 is building on that lineage.

"We can be very confident that this is going to be a very capable anti-submarine warfare ship."

THE TEAM'S FIVE KEY GOALS

- 1. Commence production of the first ship no later than 30 June 2024.
- Deliver the first ship into Navy's hands, ready to commence workups and trials, by 2032.
- 3. Contribute to Continuous Naval Shipbuilding.
- 4. Maximise opportunities for Australian industry.
- Remain within budget yearly and across the integrated investment program.





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AUKUS Implications For Local Industrial Base

By Nova Systems CEO Dean Rosenfield

AUKUS has changed the Australian defence industry landscape.

The trilateral security partnership transforms the outlook and potential composition of the industrial bases of Australia alongside the United Kingdom and the United States. While the scale of the Pillar I nuclear-powered submarines predominates, Pillar II is the mechanism by which the three nations will forge new industrial ties, co-producing and co-delivering next-generation warfighting capabilities across eight advanced technology areas.

Pillar II presents a significant opportunity for Australian companies, as well as challenges. To maximise the potential for Australian industry, there is a clear need for it to be given a seat at the national defence planning table, and this formalised mechanism remains a clear gap in national policy. There is no formalised framework for Australian defence industry participation in AUKUS planning processes.

Pillar II is focused, but its remit to address undersea capabilities, Quantum, Advanced Cyber, Artificial Intelligence and Autonomy, Hypersonic and Counter Hypersonics, and Electronic Warfare represents a vast undertaking.

The clear challenge now shared by Defence and industry is turning the "how" and "when" of Pillar II into a coherent, long-term, actionable roadmap. This includes solving the tri-nation challenge of how to collaborate in practice. A formalised, sophisticated way for Australian industry and government to partner is essential to our capacity to realistically contribute at the tri-national level.

It is important to acknowledge that foundational work on the industrial dimension of Pillar II is underway, removing barriers to AUKUS information sharing through legislative means in the US and Australia being a key element. Direct industry involvement in the planning of collaboration mechanisms is a next logical step. Nova Systems, as an example, is well



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experienced and positioned to help advise on policies and approaches to develop an AUKUS 'trusted' system of industry systems.

Defining Australia's contribution

The AUKUS vision must ensure that the defence industrial bases of each partner carry their part of the load, facilitating tri-national uplift, avoiding unnecessary duplication, and assuring sovereign means of supporting and sustaining shared capabilities.

It is here that an AUKUS industrial roadmap will deliver its most significant benefits.

No AUKUS partner can afford to separately advance eight different classes of advanced technologies. Rather, we should have focal areas of responsibility, allowing faster and more efficient capability development, bringing forward tangible contributions to the partnership without duplication and at speed. This approach would also assist in resolving workforce challenges across all three partners.

Australia's mid-tier

AUKUS without Australian sovereign capability is not an answer. As stated by the Defence Industry Development Strategy, Australia must re-build the middle tier of the national defence industrial base as part of its AUKUS preparations. This is a whole of Australian government and industry challenge.

In our defence industry, medium size companies are rare, but fundamental to the ability of Australia to act

independently. Such firms provide intellectual property and skills that reduce our dependence on other nations, and facilitate active capacity to contribute to the whole of AUKUS. Mid-tier companies are resilient by a combination of workforce numbers and resource allocation efficiencies. They retain agility, readily able to adapt to the changing requirements of Defence whilst contributing advanced technologies and skills.

Building out this mid-tier is a challenge. AUKUS goals require new ways of thinking by Australian industry about how to organise, collaborate and grow. There are enablers however, including new forms of middle, small and startup groupings; regional and local area collaborative capability networks; and more shifts in Defence and industry thinking about how best to contract capability.

Nova Systems

Nova is one of the uniquely positioned mid-tier entities that already exists. We support a supply chain of more than 500 primarily Australian-owned small businesses and have deep experience in coordinating and scaling industry.

Our corporate strategy consciously aligns our forward areas of activity with the full spectrum of AUKUS Pillar I and Pillar II requirements, as well as critical enablers such as Test & Evaluation (T&E), Certification and Systems Assurance. A clear achievement of the new Defence Industry Development Strategy relative to AUKUS has been the enhanced articulation of T&E as one of the seven Sovereign Defence Industrial Priorities (SDIPs).

"AUKUS goals require new ways of thinking by Australian industry about how to organise, collaborate and grow."

T&E is the lever that will enable Australia to assure ADF capabilities, support accelerated development and fully integrate within the AUKUS framework; independently assess potential AUKUS solutions from Australian industry; and enable genuine multinational technology development between AUKUS partners. In support of this, Nova is actively investing in next generation T&E core, leveraging a combination of digital engineering, model-based systems engineering, Artificial Intelligence (AI) and specialised new software tools.

With the full support of Australian governments at all levels, rebuilding and expanding the middle tier of Australian industry is achievable as an AUKUS outcome. As one of the few Australian owned and controlled companies within that space, Nova Systems already has much to contribute to this journey, and our own roadmap is AUKUS-ready.



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Call For Australian Businesses To Join US Alliance

All roads lead to Virginia - home to the biggest assembly of defence assets on the planet - for Australian companies planning to expand into the United States.

The US Government is making unprecedented concessions to encourage Australian SMEs to work with key defence centres such as the Hampton Roads Alliance (HRA) in Norfolk, VA.

Jared Chalk is the Alliance's Chief Business and Development Officer.

He is charged with the strategic recruitment of businesses from US allies, with a particular focus on defence to help facilitate the AUKUS agreement.

"There is a big opportunity for Australian companies to expand into our supply chain," Jared said.

"If you look at HII Newport News Shipbuilding who make the nuclear-powered submarines, as well as the aircraft carriers in our region.

"There is a lot of talent in Australia. With the new agreements between our countries, it is allowing us to open up the defence sector to UK and Australian companies."

Jared said training and the ability to upskill local workforces were two invaluable byproducts of expansion into the U.S.

"We really see this as a new business attraction opportunity where those companies can grow but also help us to support some of these submarines that need to be built. That then gives them the ability to take some of that technology and knowledge back to Australia."

De-Risking The Process

The HRA is doing everything in its power to entice interested parties by helping them overcome the tyranny of distance and "de-risk" their reconnaissance missions.

"We're a long way apart on the other side of the world," Jared said.

"It's a risky proposition sometimes to pack up and move, or to send a sales person over here, so we're trying to de-risk that for companies. They can come here knowing they've got a community, a point of contact, a place to have an office, have some meetings.

"We've created a space here in Norfolk in our World Trade Centre to provide a soft landing for Australian companies. We call it our IDEA lab – Innovation, Defence, Energy and Aviation.

"So we're offering free office space for Australian companies to come here, dip their toes in the market, try to build connections and grow here at Hampton Roads.

"For a period of time, you get free office space, we provide wraparound services, we introduce you to the local community and make sure you know who the prime contractors are.

"It's really so companies can come here and not have to work out of Starbucks and wonder who to talk to."

The incentives do not end there for Australians looking to establish themselves at the HRA, which is a 3.5-hour drive from Washington DC.



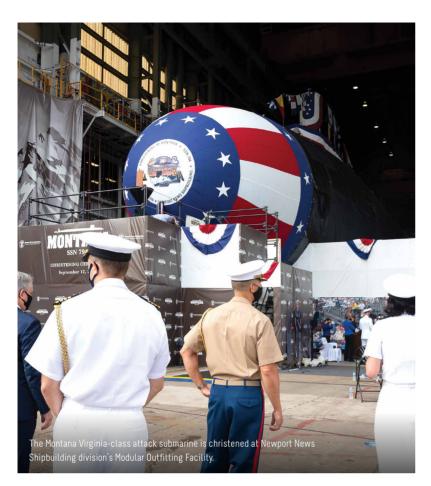
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"We're also here to provide a network of legal professionals who can advise you on how to open a new business, how to get a bank account, how to find office space, a place of residence, we'll tell you where to send your kids to school.

"So as people are coming here to learn about the US, there's a network around that can help."

Growth Opportunities

Jared said regulatory changes meant Australian companies could now bid for work within large defence and energy transition budgets and become part of US supply chains.

"There's a window here and we need to make sure people are aware of it.

"It's a win-win for everybody."

He pinpointed three lucrative areas in particular:

- remilitarisation
- reshoring (returning the production and manufacturing of goods back to the company's original country)
- decarbonisation.

Friendshoring

Jared said recent world events and shifting political dynamics had triggered the massive investment.

"We're in a very unique time right now in the US," he said.

"If you look at the wars in Ukraine and Gaza, the rising tensions with China, COVID-19 and the climate crisis, all of these things have created a catalyst for change in the US.

"We've had a big review of our Defence department, there's renewed focus on domestic manufacture following COVID where the vulnerabilities in our supply chain were exposed, and then there is the overarching theme to decarbonise the economy.

He said this had created "a new economic order" around remilitarization, reshoring and decarbonization.

"As we go around the world looking for potential partners to work with, a lot of this is friendshoring," he said.

"Who are our friends, who are our allies?

"We're really aligned with AUKUS Pillar Two.

"I think we have a lot of shared and unique assets with South and Western Australia, so for us we view Australia as a real friendly partner and someone who's always going to be a friend to the US."

The Alliance and their partners at the Hampton Roads Workforce Council have already signed a MoU with WA's South Metro TAFE to train the next generation of global shipbuilders.

In July, Jared and his team were headed to Australia to garner support for multiple projects, only to be stranded at Los Angeles Airport when a rogue Microsoft update crashed computers worldwide.

"Our flights got pushed back a week and most of our meetings were front-loaded so we went home," he said.

"We were trying to showcase who the Alliance is, what we do and how we can play a role in supporting Australian companies."

But he is not easily deterred.

"We are partners with Australia for the long term, so this one trip wasn't the only time we're coming.

"We'll be back in Adelaide in November and we're going to be there for the next several years.

"I've probably had 40-50 Australian companies in the last six months visit from South and Western Australia. We're building a lot of relationships, introducing them to our companies here."

So the message is clear: businesses keen to take that first step toward US expansion are encouraged to introduce themselves.

"The easiest thing is to just shoot us an email - jchalk@hamptonroadsalliance.com -

and reach out directly to us. That's what I'm being paid for, to help companies expand here and grow."





Industry Benefits From Land Transformation

The past 12 months has been a period of great change – and uncertainty – for companies that support the Australian Army.

However, on the eve of the Land Forces International Land Defence Exposition, there are growing signs that promises are being replaced with action for an increased pipeline of land-focused work for Australian defence industry.

A few examples include:

- The Federal government has committed to manufacturing GMLRS missiles in Australia by 2025.
- It has fast-tracked the build of Army's Landing Craft Medium in Western Australia, bringing first delivery forward by seven years.
- Redback infantry fighting vehicles will be built in Australia with the government claiming all 129 new vehicles will be delivered "by the time the first vehicle would have been delivered under the former government's plan".
- And it points to the deal to supply the German Army with Australian-made Boxer Heavy Weapon Carrier vehicles, the single largest defence export agreement in Australian history.

The focus, as outlined late last year by the Chief of Army, is transforming to be "optimised for littoral manoeuvre operations by the sea, land and air from Australia" as part of the integrated force.

"We must therefore adapt... We cannot do this alone. It is a team effort," said Lieutenant General, Simon Stuart.

AUKUS Benefits

The benefits of AUKUS extend well beyond maritime and into land capabilities as Army pursues a long-range land and maritime strike capability.



PHONE: 08 8401 9800 WEB: hendonsemiconductors.com EMAIL: hendon.info@hendonsemiconductors.com "... we look to be far more proactive in promoting the integration of Australian industry into global supply chains," said the Minister for Defence Industry, Pat Conroy. "And that means we stand on the cusp of an era of immense opportunity for small to medium businesses to grow their share of the Defence dollar.

"Truly awesome opportunities lie ahead as we implement our AUKUS trilateral partnership."

He said government is bringing "a laser-focus to sustaining the defence industry we have and growing the industrial base we need, much faster than we have before".

Assisting this is the Defence Trade Controls Amendment Act 2024 (DTC Act), passed in March this year, that would support local industry by unlocking defence trade, innovation and collaboration with AUKUS partners.

But not all agree, including critics such as Bec Shrimpton, Director Defence Strategy and National Security at the Australian Strategic Policy Institute.

"Australian Strategic Policy Institute's latest Cost of Defence report finds, the rhetorical urgency is not being matched by action in the form of defence investment," she wrote in The Canberra Times earlier this year.

"The May budget is the latest demonstration of this mismatch, lacking spending for swift increases in capabilities that the Australian Defence Force would need if our region were to deteriorate quickly.

"The budget does not fund necessary lines to build preparedness. There is almost no money going into capability that will be delivered in the forward estimates, and little to offer Australian industry in sustainment either in the coming years. This will see even more of the industry go offshore, pivot away from defence or go under.

"This budget risks entrenching mistakes of the past and failing to learn lessons from what is happening in the world right now. It does not make necessary decisions or investments but delays them. Meaningful spending, genuine reform of project management, new and more agile approaches to contracting and investment in research and development, are all necessary to get off the path we are on, which has hollowed out existing capability and puts preparedness at risk as we head into an increasingly dangerous time.

The Government's response is that the 2024 Integrated Investment Program involves "a complete rebuild of Defence's capability procurement plan" and that it is accelerating critical capabilities "in a practical and affordable way".

Together, the National Defence Strategy and Integrated Investment Program will ensure the Australian Defence Force has the capabilities, systems, structures and people to respond to threats, contribute to the stability of our region and keep Australians safe.

The Minister for Defence Industry, Pat Conroy, said the Integrated Investment Plan deliberately reshapes the ADF's acquisition program to ensure it has the critical capabilities needed for the next decade and beyond, backed by a record investment in defence capability.



"...we stand on the cusp of an era of immense opportunity for small to medium businesses to grow their share of the Defence dollar. Truly awesome opportunities lie ahead..."

- Minister for Defence Industry, Pat Conroy



DTC Members At Land Forces



DTC members will be out in record numbers at Land Forces, many as delegates, some as exhibitors and speakers, and all looking for new connections.

Nova Systems at Land Forces

Land Forces 2024 will see the return of The Hub, where subject matter specialists provide short, expert presentations.

One of these is Michaela Jeffery, a Systems Engineer at Nova Systems, who will discuss "The Challenge of Countering Small UAS".

Michaela is an experienced Defence and Aerospace Systems Engineer, based within the Aerospace Emerging Markets team at Nova Systems. She brings together her experience both in cybersecurity and emerging aviation technologies to advocate for the safe and secure adoption of UAS without hindering innovation.

Her presentation will argue that the land defence marketplace needs to understand the increasing

prevalence of publicly available unmanned aerial systems (UAS) susceptible to exploit, and the subsequent need for robust countermeasures against them. Despite their transformative potential across industries, drones present significant security risks.

Nova Systems is also hosting a panel event on Day 1: Analysis of AUKUS Pillar 2 with a Land Focus.

Through its Test & Evaluation (T&E) Centre of Excellence collaborations, Nova Systems is accelerating development of T&E methodologies for advanced technology capabilities such as Artificial Intelligence (AI), Machine Learning (ML), and uncrewed systems.

"The integration of artificial intelligence and autonomous systems into the Australian Defence Force is not just a strategic choice, but an imperative," Nova Systems CEO Dean Rosenfield said.

"Testing UAVs and other complex systems in a synthetic digital environment as well as a real-world environment provides the ability to assess the full potential of the capability."

Nova Systems has developed and tested cutting-edge AI technology to process sensor imagery from underwater vehicles to help detect anti-shipping mines, as well as image recognition technology equipped Uncrewed Aerial Vehicles (UAVs or drones) with the ability to detect and differentiate objects on the ground.

Both capabilities are in continuous development and have potential to significantly minimise risk for Defence personnel and civilians.

In addition, Nova Systems has collaborated with The University of Adelaide's Professional and Continuing Education and the Australian Institute of Machine Learning (AIML) to deliver a tailored introduction to AI and ML course.

"Knowing that we needed to upskill in artificial intelligence and machine learning to undertake, and teach, assurance of complex systems, we sought a partner who would work with us in developing courseware to meet industry needs," Ben Luther, Senior Test and Evaluation Engineer at Nova Systems said.

"It wasn't enough for the course to be technically brilliant, it needed to be useable in context and AIML were willing to lean into that, meeting us halfway and providing a true sovereign partnership."

APC Technology Secures Major Contract

APC Technology has been awarded a significant contract to supply Generic Vehicle Architecture (ASGVA) displays designed to the Australian GVA standard for Hanwha Defence Australia (HDA) for the Commonwealth's LAND 400 Phase 3 program.

This marks a major win for Australian industry, making APC Technology the sole domestic supplier of GVA screens for this critical military project.

The company is a leading Australian manufacturer of advanced display solutions, based in Adelaide, South Australia.

The contract signifies a major milestone in Australia's defence industry self-sufficiency.



APC Technology is Australian owned and operated and provides a full spectrum technology manufacturing capability from build to print through to build to specification.

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Phone 08 8363 0400 apctechnology.com.au The ASGVA screens, designed and manufactured by APC Technology, will utilise a predominantly Australian supply chain, fostering local job creation and expertise.

"This project is a testament to the worldclass capabilities of Australian engineering and manufacturing," said Craig Williams, Managing Director of APC Technology.

"We are incredibly proud to partner with HDA and contribute to the LAND 400 Phase 3 program with our innovative GVA screen technology."

Benefits

The selection of APC Technology as the sole GVA screen supplier offers significant advantages for both parties:

- Australian Industry Capability (AIC) supply chain partner for HDA: Utilising an Australian supplier reduces dependence on traditional European or American GVA screen providers, enhancing project sovereignty for HDA.
- Long-Term relationship: APC Technology has been collaborating with HDA since the company began in 2019, actively involved in developing the GVA screens. This established relationship ensured a smooth transition to production and ongoing support throughout the program's lifecycle.

Growth and Job Creation

The LAND 400 Phase 3 project is expected to generate substantial growth for APC Technology and the broader Australian defence industry. The company anticipates:

- Increased Design and Engineering Capacity: A dedicated team will be established to support the GVA screen program for a three-year period. This investment fosters long-term growth in design, engineering and through life support capabilities.
- Obsolescence Management: APC Technology will develop strategies to manage product obsolescence throughout the program, ensuring ongoing functionality and performance of the GVA screens.
- Capability Upgrades: The design will be adaptable to accommodate future capability upgrades required for the Redback Infantry Fighting Vehicle (IFV), and other vehicles.
- Staff Expansion: APC Technology anticipates adding at least 10 new positions to support project

management, engineering, and manufacturing.

 Supply Chain Growth: The project will leverage a predominantly Australian supply chain, stimulating growth and job security across various Australian companies.

"This project presents a unique opportunity to not only deliver high-quality GVA screens but also foster innovation within the Australian defence industry," said Craig.

"Future advancements in GVA screen technology will benefit from the knowledge and expertise gained through this program."

Leadership Appointments

After 55 years in Australia, Beca is experiencing an exciting time of change under new Managing Director Andrew Mailer, as it positions for sustained growth.

A key part of this evolution as an employee-owned professional services business is recent changes to the Australian leadership structure.

The company has identified three priority growth markets – Defence & National Security, Energy, and Water. Thus business is being aligned to provide better support to clients across these crucial markets.

Robyn Kierse has been appointed to the newly created role of General Manager Australia for Defence, Infrastructure and Advisory to build Beca's capabilities in this crucial domain. She will work closely with David Barter – Market Director, Defence & National Security who is responsible for overall market strategy and direction.

Robyn joined Beca in August 2023, following a distinguished career serving the defence, law enforcement and civil maritime sectors, including her previous role as Managing Partner at DXC Consultancy. David Barter has been a key member of Beca's Defence & National Security business since May 2013.

Both Robyn and David, based in Sydney, will be focused on building upon long-standing partnerships with key clients. This includes the Department of Defence's Security and Estate Group (SEG), Capability Acquisition and Sustainment Group (CASG), Royal Australian Navy (RAN), Naval Shipbuilding and Sustainment Group (NSSG) and various industry partners.



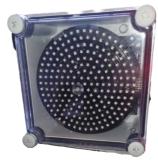


"I'm dedicated and passionate about helping clients and our team realise their full potential by delivering the best solutions for our clients, whilst maximising revenue and growth, through my extensive industry knowledge and professional networks," Robyn said.

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Developing South Australia's Defence Industry Workforce



South Australia's new Department of State Development (DSD) was formed on 1 July 2024 as the state's lead economic development agency. DSD adds Skills SA and Trade and Investment functions, including Invest SA with the former Industry, Innovation and Science Department.

Adam Reid, Chief Executive of DSD, is confident that the new Department of State Development will create significant value by partnering with business and industry to coordinate and align its policy advice, services and initiatives to the needs of industry and government priorities.

"DSD has a clear mission to enable projects of national importance to be delivered, including in defence and infrastructure and achieve sustainable economic growth by increasing South Australia's research, innovation and industrial capability, increasing workforce and skills capability and capacity and driving investment and trade," Reid said.

A key part of this mission is DSD's continued partnership with the Commonwealth Government, other Australian

jurisdictions, industry, unions and education and training providers to deliver the workforce development initiatives within the SA Defence Industry Workforce and Skills Report and Action Plan.

"Our detailed workforce planning demonstrates a significant uplift in the defence industrial base is required to deliver on the multi-generational defence projects slated for our state," Reid said.

For more than 20 years South Australian industry has supported the nation's most complex defence projects, including the Collins Class Submarine, Hobart Class Air Warfare Destroyers, the Arafura Class OPVs, the Jindalee Operational Radar Network and Short-range air defence missile system program – Land 19 Phase 7B.

Major defence companies across the maritime, aerospace, land, systems and cyber domains have their headquarters or significant operations in South Australia. This is underpinned by a deep defence supplier base with hundreds of SA suppliers that support our sovereign industrial capability.

"Australia is now in a very different geopolitical and security environment, requiring a shift towards deterrence-based approaches to national security," Reid said.

"We know that securing Australia's national interests requires a regionally competitive maritime capability, including the capabilities provided by the forthcoming conventionally-armed, nuclear-powered submarines.

"Delivering the necessary defence capability will need the collective effort of the manufacturing industry and thousands of highly skilled and experienced Australian workers, giving governments, industry, and education and training providers a clear and urgent agenda."

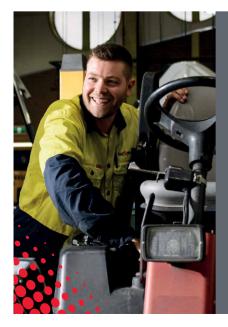
DSD, in partnership with Defence SA, is well placed to drive the complementary programs of work to build South Australia's defence industrial base: supporting greater productivity, sustainability, and the adoption of new technologies in local defence and supply chain businesses; attracting investment, connecting businesses with major defence projects, including global supply chains; and supporting businesses to get the skilled workers they need.

"While the number of South Australian defence industry workers is projected to peak at approximately 11,000 in the 2040s, we are proactively engaging school-aged students in STEM fields, particularly engineering, to prepare them as the future workforce for the defence sector," Reid said.

In addition to the defence industry aligned school programs designed to engage approximately 27,000 students in STEM learning, the integrated *SA Defence Industry Workforce and Skills Action Plan* steps includes initiatives designed to attract, train and retain a suitably qualified and experienced workforce, including:

- Commonwealth Supported Places: As part of the 2023-24 Budget the Australian Government provided \$128.5 million over four years for 4,000 additional Commonwealth Supported Places in STEM related courses.
- The Skills and Training Academy: The establishment of the Skills and Training Academy in South Australia will support the industrial training requirements for Australia's nuclear powered submarine program through a dedicated campus built at Osborne.
- Defence Industry Pathways Program: Introducing a new traineeship program to support entry-level trainees in acquiring essential skills through both classroom instruction and paid industry placements.
- Defence Industry Connections Program: Offering scholarships to students enrolled in defence-related university courses, alongside practical support to facilitate their transition into defence industry careers.
- Defence Industry Leadership Program: Expanding the Defence Teaming Centre's successful program to upskill existing defence industry personnel and prepare them for future leadership roles.

For further information on the initiatives underway to develop South Australia's defence workforce, or to connect with the Department of State Development, please visit statedevelopment.sa.gov.au.



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HEALTH

New Defence Industry Research Released

SURVEY RESULTS ARE IN: CHALLENGES DEFENCE INDUSTRY SMES FACE NAVIGATING DEFENCE PROCUREMENT AND CONTRACTING FRAMEWORKS

By Dr Colette Langos*



The Problem

The need for an optimal relationship between Defence and defence industry has never been more critical. In our current security environment, industry must be harnessed to the greatest extent possible in order to deliver capability expediently and ensure the resilience and capability of the Australian Defence Force (ADF).

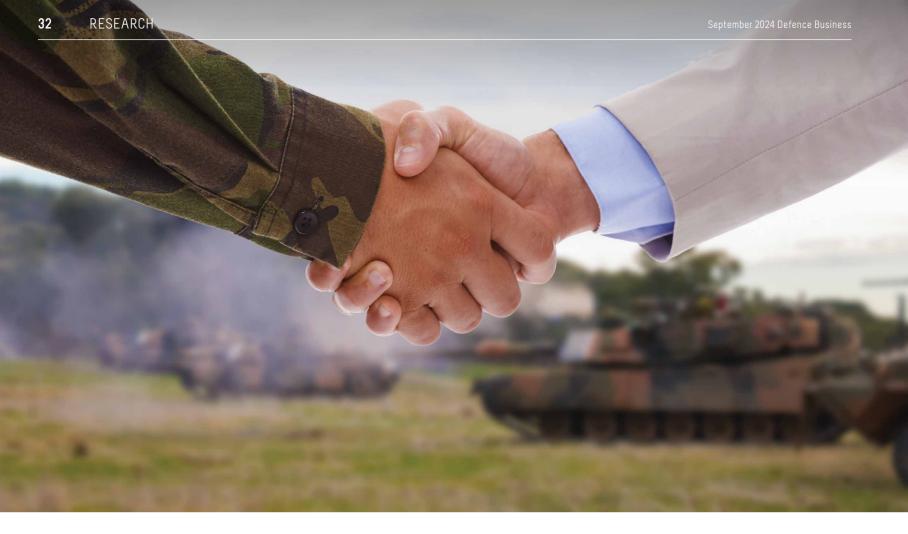
Presently, there are barriers preventing industry from meeting and sustaining Australia's strategic objectives. This was highlighted in the *Defence Strategic Review* (DSR) with unequivocal statements such as this: 'Defence's current approach to capability acquisition is not fit for purpose'.¹ Notably, the Interim Report on the 'Performance of the Department of Defence in supporting the capability and capacity of Australia's defence industry' ('The Interim Report') (2023) identified key themes raised by defence industry on this issue–the existing procurement process being marked as one of critical and consistent concern.² Based on submissions received by the Foreign Affairs, Defence and Trade Legislation Committee,³ it is clear that industry is calling out for meaningful reform to ensure contracting processes are not considered an impediment to suppliers. There is, however, a dearth of recent, published empirical data which identifies specific "pain points" existing and potential suppliers to Defence face when navigating defence procurement and contracting frameworks. This evidence is required to better understand exactly what aspects of the frameworks act as barriers for Australian defence industry who want to do business with Defence.

Addressing The Problem

Earlier this year, I conducted a pilot study⁴ (April 2024) which captures perspectives of Australian defence industry small or medium enterprises (SMEs) on this issue.⁵ Confidential survey research was employed to gather quantitative data. Findings

- 1 Australian Government, National Defence Defence Strategic Review ('DSR') (2023), 20.
- 2 Foreign Affairs, Defence and Trade Legislation Committee, Interim Report on the Performance of the Department of Defence in supporting the capability and capacity of Australia's defence industry (October, 2023) at [2.1], [2.67]-[2.87].
- 3 Ibid, Appendix 1 'Submissions',
- 4 Ethics Approval number: H-2024-029.
- 5 Definition applied in the survey: Small or Medium Enterprises Australian enterprises comprising of less than 200 full time employees who develop or produce products, services or technology that the Australian Defence Force may require.





indicate clear trends, shining a spotlight on the aspects of defence procurement and contracting which must be addressed to better support industry as it delivers capabilities to accelerate military preparedness.

Key Findings From The Study

Australian defence industry SMEs self-selected to participate in the survey.⁶ 70 completed responses were recorded. Participants fell into one of three possible groups:

- Those who had been awarded a Defence contract =75% of participants.
- Those who had not been awarded a Defence contract but had bid on a Defence contract = 16% of participants.
- Those who had not been awarded a Defence contract or bid on one but were intending to bid on one in the future = 9 % of participants.

"This clear inflexibility by the Commonwealth to shift risk away from suppliers does not fuel an industry base, rather, it stifles relationships between parties before the contract is underway."

6 The survey was open for participation for approximately 3 weeks.



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SMEs Awarded A Defence Contract

Given that most participants had been awarded a Defence contract, the data drawn from this cohort reflects lived experience, rather than perceptions. The data obtained is highly significant and indicates clears trends on the difficulties associated with existing processes.

In the majority of instances, contracts were governed by the Australian Standard for Defence Contracting suite (ASDEFCON) or Commonwealth Contracting Suite (CCS). Most participants found the tender process to be a challenging aspect of procurement procedures. Notably, completing the Request for tender documentation and Understanding request for tender documentation were rated as the second and third *most challenging* components of the process.⁷ This suggests that there is a great deal of work to be done by the Commonwealth to ensure that industry stakeholders feel equipped to engage with these foundational activities more confidently. The data also sheds light on aspects of the procurement process this cohort of SMEs would like greater assistance with – activities *relating to tender* procedures ranking as high priorities. Results show that Completing request for tender documentation and Understanding evaluation of tenders rank as the (equal) second highest areas where support is required, with Understanding the debrief process for unsuccessful tenders and Contacting defence industry support regarded as the (equal) third highest areas of priority for assistance.

It is clear that there is a current dearth of sufficiently useful information to better equip SMEs in regard to the tender process. Commonwealth practices ought to be reviewed with the aim of providing potential suppliers with more complete information on requirements and/or simplifying existing procedures to ensure industry is more capable and more incentivised to partake in the tender process. Results suggest that it would be highly beneficial to increase focused education opportunities for suppliers to improve these current "pain points" for industry.

Importantly also, the data shows that most SMEs were **not** able to negotiate **any** of the contract terms. Unsurprisingly then, the **most challenging** aspects of the procurement process were identified as Negotiating contract terms and Long lead times on negotiations (ranked as equally most challenging).⁸ This clear inflexibility by the Commonwealth to shift risk away from suppliers does not fuel an industry base, rather, it stifles relationships between parties before the contract is underway. Whilst the National Defence Strategy ('NDS') acknowledges a readiness to 'embrace greater levels of risk' in regard to acquisition processes⁹ (and this is certainly a positive step in the

right direction), it only becomes meaningful when evidence of the shift in risk appetite can be gleaned.

The data also identifies which specific terms used in standard Defence contracts are regarded by SMEs as the most complex/difficult to understand and negotiate. Of terms commonly included in Defence contracts,¹⁰ the top five most *difficult terms to understand* are:

- 'Liability of the supplier' (Indemnity) and 'Limitation of Liability' (ranked equal first as the most difficult terms to understand); 'Termination or Reduction for Convenience' (ranked second most difficult term to understand); Intellectual Property (third most difficult term to understand); Entire Agreement and Security and Safety (equal forth most difficult term to understand; and License Approvals and Warranties and Transition In and Out rounding out the top five.
- When asked which of these the terms are the *most difficult to negotiate*, 'Limitation of Liability' and 'Liability of the supplier' (Indemnity) also ranked as the terms considered *the most difficult to negotiate* (first and second place respectively).
- 'Payment Terms'; 'Intellectual Property' and 'Termination or Reduction for Convenience' came in at the third, fourth and fifth most challenging terms to negotiate. It is unlikely that any of the above referenced terms will be removed from Defence contracts in future iterations of contracting templates. However, results can be harnessed to introduce focused education to industry. Better understanding the meaning of complex terms and best practices surrounding negotiation of such terms, serves to limit legal and financial risk which flows from the knowledge vacuum at the critical stage of contract negotiation through to contract performance.

SMEs Who Have Bid On A Defence Contract (But Not Been Awarded One) And SMEs Who Intend On Bidding On A Defence Contract

Most participants who *have bid on a Defence contract* (but had not been awarded one) also found the tender process to be an arduous aspect of procurement procedures. In fact, of the available options," participants rated Understanding request for tender documentation and Request for tender documentation as the top two *most challenging* aspects of the procurement process, along with Long lead time on negotiations (equal second). *Understanding request for tender documentation*

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⁷ Survey answer options included: Finding information on the process; Contacting defence industry support; Synthesising information on the process; Navigating/Using AusTender; Understanding request documentation; Completing request for tender documentation; Understanding evaluation of tenders; Understanding debrief provided for unsuccessful tender; Understanding what the terms of Defence contracts mean; Long lead time on negotiation; Understanding security and accreditation processes; There are no challenges.

⁸ Ibid

⁹ Australian Government, National Defence Strategy (2024), 55 at [8.2].

¹⁰ Survey answer options included: Payment Terms; Entire Agreement; Subcontracting; Work Health and Safety; Delivery and Acceptance; Liability of the Supplier (indemnity); Limitation of Liability; Assignment; Termination or Reduction for Convenience; Termination for Cause; License Approvals and Warranties; Dispute Resolution; Public Interest Disclosure; Transition In and Out; Confidential Information; Personal Information; Notifiable Data Breaches; Compliance with Law and Policy; Security and Safety; Notification of Significant Events; Intellectual Property.



and Completing the request for tender documentation were rated as the aspects (equal first) this cohort requires greater assistance with. The commonality between results from this cohort and those discussed above, confirms the importance of simplifying procedures (to ensure clarity of criteria/process) and investing in education accessible to SMEs.

The smallest cohort in this study comprised of SMEs who are intending to bid on a Defence contract. Given that this group has not been awarded a Defence contract or bid on one, the results on the most challenging aspects of the procurement process reflect perceptions rather than lived experience. Rated the *most challenging* were Contacting defence industry support and Synthesising information on the process (equal first) with Understanding request for tender documentation and Understanding evaluation of tenders rated as the next most challenging aspects, along with long lead time on negotiations (equal second). Notably, Contacting defence industry support and Synthesising information on the process also rated as the aspects this cohort would like greater assistance with. One possible explanation for the results heavily focused on accessing support and information could be that these SMEs are overwhelmed with information they have been able to retrieve without investing the time into seeking out existing resources providing links/access to industry support.

Participants in these two groups have not yet been in a position to negotiate contract terms. Results indicate that across these cohorts, Entire Agreement; Termination or Reduction for Convenience and Termination for Cause were terms which were ranked in either first or second place as terms perceived as the *most difficult to understand*. Both terms were also rated within the top two terms the groups perceive as being the *most difficult to negotiate*.

Interestingly, of these two terms, Termination or Reduction for Convenience was also rated in the top two most difficult terms to understand by the cohort of SMEs who have been awarded a Defence contract. This trend in the data indicates that a great deal more education is required to upskill SMEs on understanding a Termination or Reduction for Convenience clause–a highly complex contract term providing the Commonwealth with a unilateral right to terminate (or reduce the scope of) a contract without cause. This clause is highly unlikely to be removed from future versions of standardised Defence contracts. However, given the indication of a shift in the Commonwealth's risk appetite (noted above), it would be prudent for suppliers to negotiate the parameters of this clause to narrow the power differential with the Commonwealth to the extent possible.

Additional Remarks On Common Trends Across All Three Groups

Most participants from all groups also found it difficult to understand how the Commonwealth Procurement Rules (CPRs) apply to a defence procurement. Whilst a Procurement Manual exists to support Defence members, no such comprehensive, pointed guidance exists to support industry. Investing in such a resource, or similar, could make the blueprint on how Defence does business clearer, assisting industry as they prepare tender documentation, enter into negotiations, contract award and manage procurement related complaints.

Importantly, most participants across the groups had *no awareness* of procurementrelated complaint options they could pursue prior to and after contract award. Most had never made a procurement-related complaint and of those SMEs (who had been awarded a Defence contract or had bid on a Defence contract) who did lodge a complaint, *none* had their matter resolved satisfactorily. This is very insightful data and likely reflects the relatively little effort which has been made by the Commonwealth to bring the complaint mechanisms to the attention of industry effectively¹² A more concerted investment into awareness raising needs to occur.

The data also revealed useful information on participants' understanding of several regulations/frameworks impacting on defence contracts. SMEs who had been awarded a Defence contract posited that International Traffic in Arms Regulations (ITAR); national regulations governing Export Controls; the Technical data and Intellectual Property Framework; and the Defence Security Principles Framework which applies to

¹² For further information on available procurement-related complaint mechanisms see: Colette Langos and Timothy Furin, 'An Update on procurement Complaint Reforms: Australia and the United Stated' (2022) (1) Procurement Law Journal.

Defence tenders, contracts and projects are *not well understood* by SMEs. SMEs who had bid on a Defence contract indicated that ITAR and national regulations governing Export Controls were *not well understood* and were undecided whether the Technical data and Intellectual Property Framework; and the Defence Security Principles Framework were well understood. It may be that this group did not have sufficient understanding of the aforementioned frameworks to confidently declare a position. SMEs who intended on bidding for a Defence contract in the future were *undecided* ¹³in regard to whether all regulations/frameworks were well understood by industry. Looking at the data holistically, an inference can be drawn that clarification of how these regulations/frameworks impact on Defence contracts is required. Currently, the evidence suggests that they represent "pain points" to industry. Empowering SMEs through education is required and can serve as a powerful way of safeguarding suppliers from being disadvantaged.

Most participants across all three cohorts indicated that Australian SMEs have a critical role in providing the ADF with capability and the majority also believe that Australian SMEs are currently **not** being harnessed to the extent possible to meet defence capability needs (see *Figure 1* below). This is not "new" news, rather, this empirical evidence confirms the sentiments apparent in both the DSR and the NDS: the relationship between Defence and defence industry is critical and if it is not nurtured, we do not meet the moment; we do not achieve speed to capability; we do not make the most of opportunities for industry to deliver key priorities. It also confirms the views expressed by submitters to the aforementioned Interim Report. The existing sub-optimal relationship between Defence and defence industry is the overarching barrier to increasing the breadth, depth and capacity of Australian defence industry. Alleviating the "pain points" explored throughout this article is a critical step which must be taken boldly. This needs to occur in consultation with industry and must be evidence-based.

Are SMEs currently being harnessed to the extent possible to meet capability needs?



Next Steps

It is uncontentious to state that industry is a critical contributor to Australia's national power. The DSR, notes that SMEs play an integral role in regard to building depth and breadth in Defence industry and the time-critical need for simplification of processes to ease the burden of working with Defence to achieve faster capability delivery.¹⁴ In order to achieve meaningful reform to support Defence sector needs, further data collection is required. A much larger study which:

- draws upon a more expansive participant base
- includes both defence industry SMEs and large businesses
- and employs a mixed method approach (involves collecting qualitative and quantitative data) to data collection

would provide a more complete insight into the issues/challenges pertaining to defence procurement and contracting frameworks.

To facilitate a cross-jurisdictional project of scale, funding is required. The University of Adelaide is looking to partner with the Commonwealth Government, the State Government of South Australia and the Defence Teaming Centre (DTC) to conduct this research and deliver results expediently. Outcomes will directly support the goal of lifting and sustaining defence industry and align with the Australian Government's goal of 'establishing strategic partnerships with industry that provide long-term opportunities on progressive capability development and innovation'.¹⁵ The moment to act is now. Aptly noted in *The Strategist*, AUKUS partnerships provide us with a 'once-in-a-generation opportunity' to build a robust domestic industry.¹⁶ Attaining an optimal relationship between Defence and defence industry has never been more paramount.

* Dr Colette Langos is a Senior Lecturer at the University of Adelaide Law School and is admitted as Barrister and Solicitor of the Supreme Court of South Australia and Legal Practitioner of the Northern Territory. She is a Management Board Member of the Adelaide Law School Research Unit on Military Law and Ethics (RUMLAE) and runs the Professional Certificate in Defence Contracting Law. Dr Langos specialises in teaching postgraduate commercial law and publishes in the area of defence procurement and technology and the law. Dr Langos is also a legal officer in the Royal Australian Air Force (active reserves) and an Honorary Faculty Member of the Judge Advocate General School (US Army).



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¹³ Ibid n1, 92.

¹⁴ Ibid n1, 92.

¹⁵ Ibid n 9 at [8.6]

¹⁶ George Henneke, 'Making the most of AUKUS: capitalising on Australian competitive advantage' The Strategist (17 May 2024), www.aspistrategist.org.au/making-the-most-ofaukus-capitalising-on-australian-competitive-advantage/.



Trade Advisor Urges Caution On New **Export Laws**

By Eva Galfi, princincipal consultant and founder of International Trade Advisors

The Defence Trade Controls Amendment Act 2024 (DTC Act), passed earlier this year, will un-lock defence trade, innovation and collaboration with AUKUS partners.

As reported in this magazine, "It will fast-track the delivery of high-end capabilities to the Australian Defence Force by streamlining trade and collaboration with AUKUS partners, to help improve Australia's capability edge."

How it works

The Act came into force on 1 September 2024, with offences applying a further six months after commencement of the Act.

Defence SMEs now benefit from the creation of an export licence-free environment between the AUKUS partners for some goods and services. It effectively removes the previous barriers to defence trade, collaboration, co-development, research and innovation for certain technology.

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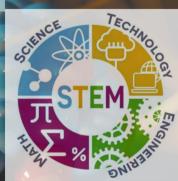
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enquiry.

"Companies that have a broad spectrum of customers across the world need to read the legislation to try to figure out how it affects their commercial relationships."

The US, UK and Australia have created exemptions for each other from their export control licencing requirements to create this licence-free environment.

"These exemptions will remove the licencing requirements for most military goods and tech-nology items exported, re-exported or transferred (in-country) to or within the 3 AUKUS part-ners," the government has stated.

Details

Defence is taking advice from working groups to provide much-need information about the process and responsibilities involved.

"Education and guidance materials to support stakeholders to understand and interpret the offences and exceptions are being co-designed and developed with the Industry and Investment Working Group and Higher Education and Research Sector Working Group," it stated.

"To ensure implementation is effective, Defence is:

- developing a suite of education and guidance materials for the Defence Export Controls website to support stakeholder decision-making on permit requirements
- co-designing online learning modules for the Defence Export Controls website with the working groups
- upgrading the ICT case management system to ensure it is user-friendly
- recruiting additional staff to process permit applications."

Note Of Caution

Eva Galfi is the principal consultant and founder of Sydney-based International Trade Advisors and has worked in the industry for more than 25 years.

She advises Australian defence primes and SMEs to ensure they comply with US export controls.

The potential downside to the benefits gained from the changes is the complexity – and the introduction of large fines and up to 20 years jail for breaches of the new laws. Eva recommended any companies or individuals that are unsure of their obligations regarding any aspect of the amendments contact a Defence Export Controls or an advisors specialising in trade controls for advice.

She is concerned that the speed with which the laws were passed will have unintended commercial consequences that defence business should be aware of.

One key amendment requires goods and technology on Part I of the Defence and Strategic Goods List (DSGL) to be restricted for re-export for 6-12 months post-export. It also demands foreign business partners apply for permits to re-export them in that timeframe where the recipient country is not on the DTCA Foreign Country List.

"These extra-territorial permit requirements have the potential to make our products slightly less attractive to foreign buyers," Eva said, pointing out that companies doing business with nations beyond our closest allies are most at risk.

"If your customer base is Singapore or Israel, you are left out of the license free trade benefits and you have all these additional regulatory requirements that might be unclear," she said.

"Companies that have a broad spectrum of customers across the world need to read the legislation to try to figure out how it affects their commercial relationships.

"The ability to engage in license free trade is only available for some goods and technologies as there is a rather large list of excluded defence technology. We have not created an environment in which we can trade any defence goods with the US and UK without a license. In addition if you misinterpret the law and inadvertently have a violation, the Australian government can levy a fine of \$782,000 per violation.

"As you can imagine, that could put many companies out of business." In addition, it is now unlawful to provide DSGL-controlled technology to anyone in Australia who is not an Australian citizen or permanent resident, without an NV1 security clearance or permit from Australia's Defence Export Controls (DEC).

Universities and entities that are employing engineers in Australia on a visa stand to be affected.

She said companies in Australia that had never exported and merely provided products to prime contractors in Australia or to the Commonwealth are now caught up in the Defence Trade Controls Act (DTCA) amendments.

"Instead of allowing trade to flow more freely, it's actually slowing trade as industry works to understand their obligations, and this will continue until all of the requisite approvals are obtained by Australian industry, their foreign business partners, and Australian universities. This may take weeks or months depending on how fast those requiring permits and security clearances can apply and how resourced the government is to grant them what they need.

SAMS Amendments

Eva also expressed concerns about the amendment to the Safeguarding Australia's Military Secrets (SAMS) Act.

The legislation requires any employee or contractor working in the Australian defence industry to obtain a Foreign Work Authorisation (FWA) permit from DEC if they are providing defence services to a foreign government and have served in the Australian Defence Force, Australian Public Service, ASIO or the Australian Signals Directorate prior to 2018.

The deadline for obtaining an FWA was 7 August 2024 and breaches can result in jail time of up to 20 years.

"I think this is the hardest one potentially to communicate to people who are affected and the penalties are for individual people not companies," Eva said.

"Individuals without a permit from our Government can find themselves in serious trouble if they have a Defence background and have gone on to work for companies overseas that have a contract with a foreign government that involves providing technical information or military training or anything that's described in the Act.

"How you communicate the requirements of the SAMS Act to people who potentially aren't even living in Australia anymore because they are already overseas doing this type of work, I don't know."

Eva said Australian companies registered for exporting from Australia had been emailed regarding the new requirements.

"But communication from the Australian Government is sent to a company, not individuals. There is no guarantee the information is disseminated to affected individuals in those companies," she said.

"I've been advising companies that they should help their staff understand whether or not they are obligated to obtain a Foreign Work Authorisation under the SAMS Act.

"Obviously we have a lot of veterans working in the Defence industry.

"The large prime contractors are already working on communicating SAMS Act obligaitons to staff. The smaller companies are probably where this communication falls down."

The Government argues that this reform strengthens the laws already in place by enhancing the Government's ability to prevent the unwanted transfer of sensitive Defence information to foreign militaries. The SAMS Act is about protecting Australia's military knowledge, skills and experience, as well as regulating the military training that Australians may provide to foreign countries.

Defence says it will continue to work with industry, higher education and research sector partners to ensure the effective and efficient implementation of these significant reforms.

EnergyFlex: A Veteran-Led Business Unlocking A Sustainable Future

In an extraordinary transition from military service to energy innovation, former Royal Australian Air Force (RAAF) veterans Garry Harding and Craig Phasey are navigating a path toward a sustainable future with their pioneering venture, EnergyFlex. This endeavour symbolises an unwavering dedication to service, showcasing the adaptability and resilience that veterans bring to some of today's most crucial challenges. For Garry and Craig, those challenges are climate change and the rising cost of living.

Veterans at the vanguard of the energy transition Garry and Craig have taken diverse yet impactful trajectories since leaving the RAAF. Garry, havingstarted as an RAAF apprentice, went on to become a founding member of Aerospace Technical Services, which led to acquisition by Raytheon Australia.

Craig, on the other hand, expanded on his RAAF Intelligence Officer expertise in integrated systems engineering, applying his skills in diverse sectors from rail to software, satellites and submarines.

Their pathways crossed post-service when they

leveraged their very different experiences to address complex system challenges, initially offering consulting services to Queensland's Coal Seam Gas industry. Here, they pioneered an approach to enhance energy situational awareness and promote operational flexibility, recognising that these principles had applications far beyond the defence sector, which led to the foundation of EnergyFlex.

Over three years, EnergyFlex has established a sound understanding of how all consumers, residential or business, can lead the fight against climate change and tackle the cost-of-living crisis.

Every Australian, young and old, can now participate in the energy transition to renewables and share in the many benefits that it can deliver.

EnergyFlex has developed a free app that educates consumers and provides a unique rating and simple approach to the growing problem of rising energy costs, energy market complexity, and Scope 2 emissions reduction. Importantly, EnergyFlex measures the problem first, using the participant's Consumer Data Right (CDR) protected energy consumption data to establish their unique EnergyFlex Rating out of 5. This patent pending rating measures how well they consume renewable energy from the grid or their own solar PV system.

This is all about behaviour – our behaviour

EnergyFlex was created by adapting well-developed systems engineering concepts from the modern battlespace and military aircraft operations. EnergyFlex have considered how human factors can play a major role in the development of products, behaviours, and operational models.

Like any weight loss program, the first step towards improvement is to measure the baseline and then track progress over time. Similarly, EnergyFlex measures how "Renewables Ready" you are and provides an improvement plan, suggested actions, and ongoing measurements.

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CommBank's Sustainability Action Tool

CommBank have recognised the value and importance of this approach and now provide EnergyFlex to small business customers that are seeking to drive down their costs and emissions.

CommBank's Sustainability Action Tool is a free tool available to CommBank's small business customers. The Tool is designed to help improve environmental outcomes and reduce operating costs by providing resources to help identify sustainable choices.

EnergyFlex is also available to all veterans for free through the CommBank for Veterans portal, but

there is still that gentle nudge required to help Australians feel more confident to take the first step.

"We know through our research that the top pain points for small businesses seeking to embed sustainability into their business model are costs, finding sustainable suppliers and a lack of time and resources," said CBA's General Manager for Everyday Business Banking Kerryn Saward.

"Our Sustainability Action Tool addresses these pain points – instead of spending their limited time visiting different websites, business owners can simply answer a few quick questions and access a range of information that best suits their needs in one easy-to-navigate resource," she said.

Enter EnergyFlex

The EnergyFlex approach addresses the fundamental issues of why, how, and when a consumer should act around energy cost and carbon emissions. They have also identified and solved the 'measure before you decide' problem using a rating system.

Additionally, they have addressed the age-old question of 'what's in it for me?' by developing a benefits framework for the consumer that can be linked to their EnergyFlex Rating. They strongly believe, as consumers themselves, that benefits have an important influence on human behaviour. Business, industry, and government agencies can now use this rating system to provide benefits and incentives for the consumer to participate and improve performance. This can include discounts, product offers, and service benefits that form part of the value chain for the vendor or employer.

The EnergyFlex mission: Change how Australians use energy

EnergyFlex is not your typical energy consultancy. It's a data analytics and insights platform designed to revolutionise how we interact with and use energy. By prioritising timing over consumption, EnergyFlex effectively addresses the obstacles associated with integrating renewable energy sources into our daily lives.

"Our mission is to make every Australian household and business 'Renewables Ready' and to maximise their energy asset, " says Garry. "We're catalysing a shift to a greener energy era, starting where you are, with what you've got. We are helping mums and dads demystify the renewable energy transition. But the best part is that EnergyFlex is free to use."

EnergyFlex provides users with essential insights into their energy usage patterns. The user-friendly interface calculates a personalised EnergyFlex Rating, guiding individuals to shift energy usage to times when renewable resources are abundant. This not only benefits the environment but also helps them save some money.

Veterans' leading role in the energy transition

Veterans are vital to the EnergyFlex narrative, with the platform holding special meaning for them.

"Our veteran roots tie back to serving the community," Craig explains. "EnergyFlex is a tool that helps veterans with spiralling living costs and empowers them to lead the community towards a greener energy system." Experienced in collaboration and achieving results, veterans can champion this cause. By embracing EnergyFlex's approach, they can help their communities become renewable energy leaders who understand the benefits of shifting their energy use to align with clean energy availability.

Garry and Craig envision a future where EnergyFlex reaches beyond individual homes to entire communities, promoting a nationwide adoption of flexible energy practices, and driving down electricity cost and carbon emissions across the country.

Reflecting on their journey, Garry says: "Our journey from military service to spearheading a green energy revolution, that is now supported by CommBank, has been unexpected but deeply rewarding. We strongly believe that by empowering individuals, especially our fellow veterans, we can make a significant impact on our planet and our future, and it starts with simple, practical changes in how and when we use energy."

Become "Renewables Ready" by visiting www energyflex.com.au to start reclaiming control of your electricity bills while helping your community fight climate change.

Things you should know:

This article is published solely for information purpose. As this article has been prepared without considering your objectives, financial situation or needs, you should before acting on the information in this report, consider its appropriateness to your circumstances and if necessary seek the appropriate professional advice.

Any opinions, views of contributors, conclusions or recommendations are reasonably held or made, based on the information available at the time of this article's compilation, but no representation or warranty, either expressed or implied, is made or provided as to the accuracy, reliability or completeness of any statement made in this article.

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Soldier's Five

Ever wondered how a facilities and infrastructure business can support you in the delivery of Defence capability? Well, this article provides you with the 'soldier's five' (military slang for a five-minute brief) on why it is important when doing business with Defence, even if your facilities are not on Commonwealth land.

Four distinct reasons why your next phone call about Defence facilities and infrastructure should be with Sitzler:

1. Sitzler operate within the Defence enterprise providing turnkey facilities and infrastructure solutions directly to Defence and more broadly within the enterprise

This means we can be engaged early - from your requirement stemming from an idea of the new CEO or you've just won a major capability project. We can project manage, plan, design, deliver, operate and maintain any of your facility requirements. This mitigates the need to have experienced staff, processes and safety systems. We manage the risk and can explore the opportunities. The turnkey approach allows us to work with people who know your business and requirements, we simply translate that into physical bricks and mortar. Our value lies in our experience across the Defence enterprise. Over the past 30 years, we have delivered a wide range of infrastructure including aircraft hangars, live fire training ranges, explosive ordnance facilities, regimental barracks, living-in-accommodation, flight test range facilities, runways, satellite communications, space surveillance ground stations and secure works (including SCIFs).

 Our project staff know the requirements to meet security, environment, safety and the wide range of other government standards

Do you know the partition requirements for physical and audio security of a Zone 3 facility or SCIF, what colour fibre cable and MUTO to install in your new office fitout, or the requirements to purchase furniture that meets Commonwealth Sustainable Timber policies? Well, we do, and we do it every day!

3. We have a niche operating capability for works in northern Australia, and secure works

These locations present unique challenges around weather, supply chain, travel distances and workforce. We have geographical reach to all regions of mainland Australia. Supporting secure works means we have the systems and processes to manage secure information, cleared staff who can interpret your needs and experienced trades who will ensure we deliver to the requirements. This is valuable at bases like RAAF Edinburgh and critical to ensuring the security of AUKUS submarine builds. Throughout northern Australia, Sitzler has supported:

- Airbus in the world's first Zephyr Solar High Altitude Pseudo-Satellite operating site development in Wyndham, WA
- The deployments of the Marine Rotational Force -Darwin into Bradshaw Field Training Area with the enhanced and upgraded Nackeroo Airstrip
- QinetiQ's approach to unmanned aerial systems at their Flight Test Range in Cloncurry, Qld.

In South Australia, the infrastructure works in support of LAND19 Phase 7B Short Range Ground Based Air Defence capabilities provide an excellent example of our geographic reach for a wide range of capabilities. LAND19 Phase 7B will deliver the Army-operated component of the Joint Integrated Air and Missile Defence capability with our scope supporting the relocation of the 16th Regiment, Royal Australian Artillery into the Edinburgh Defence Precinct.

4. We are a 100% Australian privately-owned company supporting projects ranging from several million through to large projects valued in the hundreds of millions

When you call Sitzler, you will deal directly with our owners and executive team. This enables you to satisfy policies like *Investing in a future made in Australia*, but more importantly you deal with real people who are invested in Australia's defence and ensuring your business can too.

Discuss your requirements with our Defence Sector Lead, Jason Miezio (M. 0408 533 748).

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Fat Cows Become Global Success

Why your brand story is essential to growth.

On the 27th of January 2011, three family members from a small business in Beachport, South Australia, walked through the door of Adelaide Film Works to begin a thirteen-year journey that would see them becoming a national and international success.

Kym and Chris Sutherland, along with daughter Kelly had developed a completely new way to supplement the diet of ruminants.

Their unique products not only increased weight gain and fertility rates but also solved the huge challenge of how to administer the supplements.

But by 2011 word of mouth was only getting them so far and Kym was keen to grow the business - principally because he cared about farmers and wanted to help them.

Born with bilateral talipes, Kym's feet were turned inward. Despite this challenge, he considers himself incredibly fortunate. A specialist in Adelaide gave him a second chance, and he seized it. After the operation, he returned to his parent's stud merino sheep and cattle property in S.A., helped on the farm, kicked a football, and rode horses. These experiences taught him the importance of seizing opportunities and making the most of them, a belief that has guided him ever since. The foundation of Beachport Liquid Minerals was laid during Kym's childhood, listening to his dad talk about better genetics, nutrition, and low-stress handling of stock. His family's coastal property provided a unique opportunity. Feeding seagrasses and kelps to their stock produced high-quality animals. Kym didn't realise how unique their practices were until he left the farm as a young adult. This realisation led him to explore his father's processes further, develop innovative products, and eventually found Beachport Liquid Minerals in 2006.

Five years after starting the enterprise, Kym went looking for help.

The products were proven and the company story compelling but the real challenge was communicating



with an industry that was slow moving and reluctant to change.

So, we developed a two-pronged approach.

Firstly, we pitched a TV campaign using authentic testimonials from well-known, big industry players who were already using the supplements. This would make others in the industry sit up and pay attention.

We travelled across South Australia, Queensland, and the Northern Territory to capture testimonials from a wide range of producers. The passionate testimonials were cleverly crafted into 30-second TV commercials, along with cinematic imagery of sheep and cattle properties across the three states.

Livestock producers are known to rarely watch television, so the advertisements were broadcast at a time when they do put their feet up - during various sporting events. The first TV Commercial aired during the Boxing Day Test Cricket match in 2012, and the amount of calls Kym received was unprecedented. Secondly, we created a video showcasing the brand's inspirational story. A combination of heartfelt, intimately filmed interviews and cinematic imagery was woven together. Telling the story of Kym's childhood, his seizing of opportunities, and the family's persistence in creating this innovative business.

The combined approach of TV commercials and website videos has resulted in huge growth for the business. Their customers hail from all over Australia, and they are now expanding to New Zealand and the U.S.

Kym's goal from the beginning has been to support the livestock industry, one which has many ups and downs. He genuinely wants his legacy to be that he worked to help farmers retain their businesses so they can pass them onto the next generation.

If we can leave a legacy, it is to help businesses like Kym's harness their stories and grow with confidence.

Contact us for a free no-obligation chat: 1300 724 513, hello@adelaidefilm.com, adelaidefilm.com



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SENEDIA And The Undersea Technology Innovation Consortium Forge Partnership With Defence Teaming Centre In Australia

Defence Industry Organisations Sharing Commitment to Building Workforce and Expanding Capabilities Through AUKUS



MIDDLETOWN, RI – SENEDIA - the Alliance for Defense Tech, Talent, and Innovation and the Undersea Technology Innovation Consortium (UTIC) have entered a partnership with the Defence Teaming Centre (DTC) in Adelaide, South Australia. The partnership is the result of a shared, deep commitment to the AUKUS (Australia, United Kingdom, United States) agreement aimed at promoting a free and open Indo-Pacific.

As partners, SENEDIA, UTIC, and DTC will share insights on their respective efforts related to workforce development, small business assistance, supply chain development, and advanced research and commercialisation. SENEDIA and UTIC will make some of their networking and education opportunities available to DTC members.

"The historic agreement made through AUKUS lays the foundation for the most significant integration of our undersea and military capabilities ever achieved between the United States, Australia, and the U.K," said U.S. Senator Jack Reed (RI), Chairman of the Senate Armed Services Committee. "For this partnership to protect global security, improve the capabilities of our allies, and ensure effective collaboration across nations, we need these points of connection at every level of the defence ecosystem, including our industry leaders."

"This new collaboration will deepen southern New England's leadership in executing the historic AUKUS security agreement. SENEDIA's support for job training and supply chain development perfectly fits the urgent requirements for Australia to uplift their submarine industrial base. Programs like eastern Connecticut's Manufacturing Pipeline Initiative, which SENEDIA helps fund, is a great example of how the US can strengthen Australia's maritime economy," said Rep Joe Courtney, Ranking Member of the House Seapower Subcommittee and Co-Chair of the Congressional AUKUS Working Group.

"Individually and together, our organisations are focused on supporting our collective submarine shipbuilding and undersea technology ecosystems, including closing the gaps in human capital, cyber resiliency, and modernisation of defence manufacturing capacity," said Molly Donohue Magee, Chief Executive Officer of SENEDIA and UTIC. "DTC is as trusted a partner and leader in Australia as SENEDIA and UTIC are to our members in the United States, so we look forward to finding ways to work together to build the global industry workforce and expand capabilities across both nations."

Like SENEDIA and UTIC, DTC is an industry association focused on supporting and growing Australia's defence sector. DTC brings together prime contractors, small and medium sized enterprises, academia, and professional service providers to collaborate for defence market opportunities and to meet Australia's defence needs. Seven out of ten of the world's leading defence businesses have a presence in Adelaide. "The Australian defence sector is rapidly evolving to help our nation capitalise on the opportunities presented by AUKUS and to meet our obligations as a strategic partner," said Libby Day, CEO of the DTC. "Our alliance with SENEDIA and UTIC will facilitate shared knowledge and innovation and introduce efficiencies that we can leverage to ensure the safety of our nations and the health of our industries."

To learn more about these organisations, visit www.SENEDIA.org, www.underseatech.org, and www.dtc.org.au.

SENEDIA, the alliance for Defense Tech, Talent, and Innovation, is a catalyst for thought leadership, technical innovation, and workforce development. SENEDIA connects, convenes, and partners across the industry to support talent, innovation, and growth. For more information on SENEDIA, please visit www.SENEDIA.org.

The Undersea Technology Innovation Consortium (UTIC) promotes the rapid development, prototyping, and commercialization of innovative undersea and maritime defence projects. The Consortium represents a united undersea and maritime industry voice, breaking down barriers to growth by identifying and integrating undersea and maritime technology resources and opportunities, and providing the environment to collaborate on innovative solutions.

The Defence Teaming Centre (DTC) is a not-for-profit defence industry member association dedicated to connecting, developing and supporting the Australian defence industry. Its focus is on enhancing Australia's sovereign defence industrial capabilities and increasing competitiveness in global defence markets. The DTC's vision is to create an ecosystem of SMEs and Defence Primes that can meet the ever-evolving needs of Australia's Defence Force.

Spitfire Fellowship Funding

The \$60,000 Spitfire Memorial Defence Fellowship supports the development of expertise that will enhance the defence of Australia and its sovereign capabilities.

Previously it has funded research into hypersonics, uncrewed drones, cybersecurity, and the impacts of physiology on the performance of defence personnel, amongst other innovations.

The Fellowship is named in honour of the iconic Spitfire

aircraft and the pilots of 457 Squadron Royal Australian Air Force, the Fellowship aims to nurture emerging talent and to deliver a measurable difference to the defence of Australia.

Entries for the 2025 Fellowship **close** on **Sunday 13 October**.

Details can be found at www.spitfireassociation.com/smdf.php



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| | | recisi | closur | y Ltd | way & | Defeno | Verita | s Educ | an Exe | Numin | stems | hnolo | or Peo | Engin | | agne R | Domo | s Pty I | nweal | et | | Clarke | s Ager | | ont le | I Syst | ano & o | ed Sys | e Coati | e Seals | c Auto | ervice | rading | Pty Lt | stems | Z Pty | nek | tions |
| | | xiom P | B&R Enclosures | Beca Pty Ltd | BL Shipway & Co | Boeing Defence Australia | Bureau Veritas - Naval | usines | Cambrian Executive | Capral Aluminium | CBG Systems | CEA Technologies | entre f | Century Engineering | CGI | Champagne Recruitment | odan | Coherics Pty Ltd | ommo | Consunet | Coras | owell (| ustom | CYLAD | Daronmont lechnologies | DCI Data Cantare | e Stefe | edicat | Defence Coating Systems | Defence Seals & Spares | Dematec Automation | DEWC Services | DG Air Trading Pty Ltd | Digitize Pty Ltd | Ebor Systems | EGIS ANZ Pty Ltd | Electromek | EM Solutions |
| | Robotics | Ŷ | B | ā | BI | ē | B • | Bı | ö | Ű | 5 | 5 | ŭ | ŭ | ö | ö | Ŭ • | ŭ | ŭ | ŭ | ŭ | ŭ | ō | ن د | | | | Õ | ă | ă | ă | ā | ā | D | | Ш | <u> </u> | |
| | Cyber Security | | | | | | - | | | | | | | | • | _ | - | • | | • | • | | | 1 | | | • | - | | | | | | • | • | | | _ |
| | ICT | | • | • | | | | | | | | | | | • | | | | | • | • | | | | | | | | | | | | | | • | | • | |
| | Intelligence, Surveillance & Recon | _ | | • | | | | | | | | • | | | • | | • | | | | • | | | _ | | | | • | | | | • | | | • | | _ | |
| | Systems Engineering Testing Equipment | • | | • | | • | | | • | | | • | _ | _ | • | _ | • | | | • | • | | | - | | | • | • | | | | • | | • | • | • | • | _ |
| RAL | Software Engineering/Architecture | | | • | | _ | | | | | | • | | | • | | • | • | | • | - | | | | | | | • | | | | • | | • | • | | | |
| GENERAL | Electronic Warfare | ٠ | | | | | | | | | • | | | | • | | • | | | • | • | | | - | • | | | • | | | | • | | | • | | • | |
| | Communications/Network | • | • | | • | | | | | | • | • | | _ | • | _ | • | | | • | • | | | | | | | • | • | | | | | • | • | | • | • |
| | Machine Learning/Artificial Intelligence Industrial | • | • | • | | | | | | | | | | • | - | _ | | • | | • | | | | - | | | | • | • | • | • | - | • | - | • | • | + | |
| | Construction & Infrastructure | | • | • | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | • | \uparrow | |
| | Missiles & Explosive Ordnance | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \square | | | |
| | Hypersonics Mechanical | • | • | | • | • | • | | | $\left \right $ | • | | | • | • | | | | | | • | | | | | | | | <u> </u> | • | | | | | Щ | | • | • |
| | Structural | • | - | • | - | • | • | | | | - | - | - | - | _ | _ | | | | _ | - | - | _ | - | | | | - | | • | | | | | | • | - | - |
| 9 | Electrical | • | • | • | | | • | | • | | | • | | | | | | | | | • | | | | | • | • | • | | • | • | • | | | • | | • | • |
| EERING | Civil | | | • | | | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | | • | | |
| ENGIN | Mechatronic Software | • | | • | | | | | | | | | | _ | | _ | | | | | • | _ | | _ | | | - | • | | | • | • | | | | _ | _ | • |
| | Software Systems | | | • | | • | • | | • | | _ | • | _ | - | • | _ | • | • | | • | • | - | | - | _ | | • | • | | • | • | • | | • | • | • | - | • |
| | Safety | | | • | | | • | | | | | | | • | | | | | | | • | | | - | | | | | | • | | - | • | | | • | | • |
| | Electronics | ٠ | | | | | | | | | • | • | | • | | | • | | | | | | | | • | | | | | | | | | | • | | | • |
| IUFACTURING | Sheet Metal | • | • | | | | | | | • | • | _ | _ | • | | | | | | | | | | _ | _ | _ | | | | | | | | | \square | | _ | |
| FACTI | Medium to Heavy Steel Fabrication Plastics | • | | | | | _ | | | | | _ | _ | • | _ | _ | | | | _ | _ | _ | | + | - | - | | | | | | | | | $\left - \right $ | | - | _ |
| MANU | Composites | | | | | | | | | | • | | | | | _ | | | | | | | | + | | | | | | | | | | | | | | |
| < | Precision | • | | | | | | | | | | • | | • | | | | | | | | | | | | | | | | | | | | | | | | |
| | Design/Creative | • | | • | | | | | • | | | | | • | | | | | | | | | | _ | | | | | | | | | | | • | | $ \rightarrow$ | |
| | Legal Workforce/HR Support | - | | | | | _ | • | | $\left \right $ | | - | _ | _ | _ | • | | | | _ | • | - | _ | + | - | + | - | - | | | | | | | $\left - \right $ | | -+ | |
| | Banking/Finance | | | | | | | - | | | | | | | | - | | | • | | - | | | + | | | | | | | | | | | \vdash | | - | _ |
| ICES | Bidding/Tender Writing | | | | | | | | • | | | | | | • | | | | | | • | | | • | | | | | | | | | | | | | | |
| PROFESSIONAL SERVICES | Marketing / Communications | | | _ | | | | • | • | | | | | | | | • | | | | • | _ | | | | • | | • | _ | | | | | | • | • | \dashv | |
| ONAL | Project Management Consultants | • | | • | | | • | • | • | $\left \right $ | | _ | | • | • | • | | • | | • | • | _ | | • | | • | | _ | • | | • | • | | • | • | • | \dashv | |
| FESSI | Logistics/Transport | ⊢ | | • | | | - | | | | | | | | • | - | | - | | - | • | | • | - | | | | • | | | - | | • | | | • | + | |
| PRO | Research & Development | • | • | | | | • | • | • | | | | | | • | | • | | | • | • | | | | | | | • | | | | • | | • | • | • | | • |
| | Training & Education | | | _ | | | • | • | • | | | _ | • | | | • | | • | | | | | | | | | • | | | | - | | • | | Ц | • | \square | |
| | Through-Life Support Inspection, Testing, Certification | • | | • | | | | • | | | | _ | | • | | _ | | • | | • | | _ | | | | | | • | | • | • | | | | • | • | | • |
| | & Asset Integrity | • | • | • | | | • | | | Ц | | | | | | | | | | | • | | | | | | | | | | | | | | Ш | • | | • |
| | Advanced Manufacturing | • | • | | | | | | | | • | • | | - | | | | | | | | _ | | _ | | | - | | | | | | - | | μ | | \dashv | • |
| | Command Centre Data Processing and Management | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | • | | |
| | Design of Components, Instrumentation, Sensors or Satellites | • | • | | | | | | | | • | • | | | • | | | | | | | | | | | | | | | | | | | | | | | • |
| ы | Design Testing | | | | | | | | | | | - | | | | | | | | \neg | | | | | | | | | | | | | • | | $\left \right $ | • | + | • |
| SPACE | Global Positioning | | | | | | | | | | | | | | • | | | • | | | | | | | | | | | | | | | • | | | | | |
| | Ground Systems for Space Technology | - | | | | | | | _ | | | | | | • | | | | | | | _ | | | | | _ | | | | | | | | Ш | | | • |
| | Research & Development Space Launch Risk Hazard Analysis | - | | | | | | | • | | | • | | | • | _ | | | | • | | | | | | - | - | | | | | | | | $\left - \right $ | • | \rightarrow | • |
| | Telecommunications | • | | | | | | | | | • | \neg | | \neg | • | | | | | • | | | | | | | | | | | | | | | $\left - \right $ | - | + | _ |
| AR | Engineering and Design | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | | |
| NUCLEAR | Manufacturing | • | | | | | | | | | | | | | | | | | | \square | | | | | | | | | | | | | | | Ш | • | \square | |
| Z | Through Life Support | | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | • | | | • | | |

| | | | | | E | | | | E | | | | | | E | E | | | | | | | E | | | | | E | | | | | | | | | | E |
|--------------|---|-------------------------|---------------|-----------|---------------------------|----------|---------------------|-------------------|--------------------|-------------------------|------------------------------|--------------|--------------------|----------------|---|-----------------|----------------------------|-------------|----------------|------------|-----------------|---------|-------------------------------|-------------------|----------------------------|-------------------|--------------------|-------------------|---------------------------------|-------------------------|--|-------------------------------------|---------------------------|--------------------|----------------|------------------|----------------------|-------------------------|
| | | | | | | | | | | | | | | | tralia | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | General Dynamics Land Systems - Australia | | | | | | | | p | | | | | | | | | | | | | | | |
| ſ | | | | | đ | | | | | ~ | y Ltd | | | | System | | ns | | | | | | Hendon Semiconductors Pty Ltd | | ise | | | | :y. Ltd. | | - SS | Insight Via Artificial Intelligence | | | | | | |
| Ľ | APABILITIES | Eptec Defence Solutions | | | Ezy-Fit Engineering Group | | ~ | | | Frazer-Nash Consultancy | Fremantle Hydraulics Pty Ltd | | _ | | s Land | | Grant Law Public Relations | | | | | | luctors | _ | Hewlett Packard Enterprise | td | _ | - | ICF Insurance Brokers Pty. Ltd. | y Ltd | INKOSI Professional Services ADF Contractor Support | al Intel | 'ty Ltd | s | | | dno | attery |
| | | nce Sol | NC | | ineerin | | iversit | :y Ltd | ustralia | ר Cons | Hydrau | _ | ecurity | ies | namics | ering | ublic I | | APA | E | / Ltd | | nicond | s Globa | ckard E | Z Pty Li | ERING | Pty Lto | ce Bro | alia Pty | ssional ctor Su | Artifici | tralia P | artner | Ltd | alasia | ing Gro | nter SI |
| | | c Defer | Evolution CNC | Expert360 | Fit Eng | cast | Flinders University | Fluxlogic Pty Ltd | Form Cut Australia | er-Nasl | antle | Fyfe Pty Ltd | Gallagher Security | GBT Industries | eral Dyr | GPA Engineering | t Law F | Grove Scaff | H/Advisors APA | H&M Ferman | Hardcat Pty Ltd | lie | lon Sei | Hephaestus Global | ett Pao | Howwe ANZ Pty Ltd | H I K E NGINEEKING | Humanihut Pty Ltd | Isuran | Indra Australia Pty Ltd | SI Profe | ht Via | Intract Australia Pty Ltd | Inventure Partners | IOCANE Pty Ltd | IQMS Australasia | ISC Consulting Group | Johnson Winter Slattery |
| | | Epteo | Evol | Expe | Ezy-F | Fivecast | Flind | FluxI | Form | Fraze | Frem | Fyfe | Galla | GBTI | Gene | GPAI | Gran | Grov | H/Ad | H&M | Hard | Heatlie | Hend | Heph | Hew | How | Ĩ | Hum | ICFIL | Indra | INKO: ADF (| Insig | Intra | Inver | IOCA | IQMS | ISC C | John |
| | Robotics | | | | | | • | | • | • | | | | | | | | | | • | | | | | _ | | | | | | | • | | | | | | |
| | Cyber Security ICT | _ | | • | | | • | • | _ | _ | | | • | | | | | | | | • | | _ | | - | | | _ | _ | | | • | | | • | | • | |
| | Intelligence, Surveillance & Recon | | | | | • | • | | • | • | | | | | | | | | | | | | | | | | | | | • | | • | | | | | | |
| | Systems Engineering | | | | | | | | | • | • | | • | | • | | | | | | | | • | | | | | | | • | | | | | • | | | |
| AL | Testing Equipment Software Engineering/Architecture | - | | • | | • | • | • | _ | • | • | | _ | | | • | | | | | • | | • | | - | _ | | _ | _ | • | | • | | | | • | | |
| GENERAL | Electronic Warfare | | | | | | • | - | • | - | | | | | | | | | | - | - | | • | | | | | | | • | | • | | | | | | |
| | Communications/Network | | | | | | | | • | • | | | | | | • | | | | | | | | | | | | | | • | | • | | | • | • | | |
| | Machine Learning/Artificial Intelligence | • | | | | • | • | | • | • | • | | | • | • | • | | | | • | | • | • | • | _ | | + | • | _ | | | • | | | | • | | |
| | Construction & Infrastructure | • | • | | | | - | | - | _ | - | • | | - | - | • | | • | | • | | • | - | • | - | | + | • | _ | • | | | | | | - | | |
| | Missiles & Explosive Ordnance | | | | | | | | | | | | | | | | | | | | | | • | • | | | | | | | | | | | | | | |
| | Hypersonics | | | | | | | | | | | | | | | | | | | | | | | • | | _ | | _ | | | | | | | | | | |
| | Mechanical Structural | • | • | | • | | • | | • | • | • | • | | | • | • | | | | • | | • | • | • | _ | | | • | | • | | - | • | | | | | _ |
| 5 | Electrical | Ē | | | | | • | | • | • | | • | | | | • | | | | • | | - | • | - | | | | • | | • | | | • | | | | | |
| EERIN | Civil | | | | | | • | | | • | | • | | | | • | | | | | | | | | | | | | | • | | | • | | | | | |
| ENGIN | Mechatronic Seftware | _ | | | | | • | _ | • | • | | • | | | • | • | | | | • | | • | • | | _ | | | | _ | _ | | • | | | | | | |
| | Software Systems | - | | • | | • | • | • | - | • | • | • | • | | • | • | | | | | • | | • | | - | - | | _ | _ | • | | • | | | • | • | | _ |
| | Safety | • | | | | | • | | • | • | | • | • | | | • | | | | | | | | | | | | • | | | | | | | | • | | |
| (5 | Electronics | | | | | | | | • | | | | • | | | | | | | | | | • | | | | | | | | | | | | • | • | | |
| UFACTURING | Sheet Metal Medium to Heavy Steel Fabrication | ⊢ | - | | • | | - | | _ | _ | • | | _ | | | | | | | | | • | _ | • | _ | | + | • | | | | - | | | | | | |
| IFACT | Plastics | ⊢ | • | | | | | | • | | - | | • | | | | | | | • | | • | | • | | | + | - | | | | + | | | | | | |
| MANL | Composites | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Precision | _ | | | • | | _ | | • | _ | | | | | | | | | | • | | | | • | | | _ | - | | _ | | | | | | | | |
| | Design/Creative Legal | - | | | | | _ | | • | _ | | | _ | | | | | | | • | | • | • | • | - | | + | • | _ | • | | • | | | | • | | • |
| | Workforce/HR Support | • | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | • |
| S | Banking/Finance | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | | | | • |
| SERVICES | Bidding/Tender Writing Marketing / Communications | - | - | | | | _ | | _ | • | | | | | • | | • | | | | | | _ | • | _ | | - | _ | _ | | | • | | | • | • | | |
| AL SEI | Project Management | • | | • | | | | • | | • | | • | | | • | | - | | | | • | • | | • | - | | | • | | • | | | | | • | | | |
| PROFESSIONAL | Consultants | | | • | | | | • | | • | | • | • | | | • | • | | • | | • | | | | | • | | | • | | • | • | | | • | • | • | |
| IOFES | Logistics/Transport | | | | | | _ | | • | | | | | | | | | | | • | | | _ | | | | | • | | | • | | | | | | | |
| Ъ | Research & Development Training & Education | | | • | | | • | | • | | | | • | | • | | | | | • | • | • | • | • | + | | | • | | | | • | | | | • | • | |
| | Through-Life Support | | | | | | | | • | • | | • | | | • | • | | | | | • | | • | | | | | • | | | • | | | | | | - | |
| | Inspection, Testing, Certification & Asset Integrity | • | | | | | | | | | • | • | | | | • | | | | | | | | • | | | | | | • | | • | | | | | | |
| | Advanced Manufacturing | - | | | | | • | | | | | | • | | | | | | | • | | • | • | • | | | | | | | | | | | | | | |
| | Command Centre Data Processing and Management | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | • | | | | • | | |
| | Design of Components, | ⊢ | | | | | | | | _ | | | | | | | | | | | | | | • | - | | + | _ | | | | | | | | | | |
| ш | Instrumentation, Sensors or Satellites | ⊢ | | | | | _ | | | | | | | | | | | | | | | | • | • | _ | | _ | | | • | | | | | | | | |
| SPACE | Design Testing Global Positioning | | - | | | | | | _ | | | | _ | | | | | | | | | | • | | + | | + | | | | | • | | | | | | |
| | Ground Systems for Space Technology | | | | | | | | | | | | | | | • | | | | | | | | | + | | + | | | • | | • | | | | | | |
| | Research & Development | | | | | | • | | | • | | | | | | | | | | | • | • | • | | | | | | | | | • | | | | • | | |
| | Space Launch Risk Hazard Analysis Telecommunications | | | | | | | | | • | | | | | | • | | | | | | | | | + | | | | | • | | • | | | | | | |
| œ | Engineering and Design | | | | | | • | | | • | | | • | | | | | | | • | | | | | + | _ | | | | • | | • | | | | • | | |
| NUCLEAR | Manufacturing | | | | | | • | | | | | | | | | | | | | • | | | • | • | | | | | | | | | | | | | | |
| N | Through Life Support | | | | | | • | | | • | | | | | | | | | | | • | | • | | | | | | | | ٠ | | | | | | | |

| | | | E | | E | E | | | | EE | E | | | | | | | | | | | | | | | | E | | | | | E | | | | | |
|--------------------|--|-----|---------------------------------|------|-----------|---------------------------------|------------------|-------|---------------------------------------|------------------|----------------------------|-----------|--------------------|------------|------------------------------|----------------------------|---------------|----------------|-----------------------------------|-----------|-----------------------|------------------------------|------|-----------------|---------------------------------|----------------------------|----------------|---------------------|------------------------------------|--------------|-------------------------------|-------------|---------------------------|---------------------------------|------------------|------------------------------------|-----------------------|
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| | | | | | | | | | nce | | | | | | | | | | ~ | | | | | | | | | | A | | | | | IORS | | ent | |
| | | | Ltd | | | ralia | | | Leedall - Future Thinking for Defence | | 2 | | | | ili | | | | Marsh (Insurance & Risk Advisory) | | | g | | | / Ltd | | | | Mine Tech Operations / Plasteel SA | | | | s | MOSSOP CONSTRUCTION + INTERIORS | | My New Australian Life Recruitment | |
| | APABILITIES | | al Pty | | | s Aust | | | ing fo | | ΡΤΥL | | | | Austra | tralia | | | isk Ad | | d | Pty Li | | | lia Pty | | | | / Plas | | stralia | | terials | + N0I | | e Reci | |
| | | | ectric: | | | logie: | | | Think | | ERING | | alia | | tions / | tt Aus | | | ce & R | | g Grou | ering | | | Austra | eerin | | ons | ations | | ric Au | | ed Ma | RUCT | 5 | ian Lif | stralia |
| - | | | g & El | | _ | echno | acific | | uture | stralle | IGINE | | Austra | Ę | e Solut | rt Sco | rGrou | HVAC | surano | s | ainin | Engine | - | 10.01 | berg / | Engin | sering | Soluti | Opera | els | i Elect | ack | dvanc | CONST | Desiç | ustral | nb Au: |
| | | | Key Tubing & Electrical Pty Ltd | 16 | Laserbond | L3Harris Technologies Australia | LCC Asia Pacific | ы | dall - F | Leidos Australia | LEVETT ENGINEERING PTY LTD | Logi-Tech | Luerssen Australia | Lumination | Luscombe Solutions Australia | MacTaggart Scott Australia | ManpowerGroup | Marenav (HVAC) | sh (In: | MathWorks | Maxima Training Group | Maxiport Engineering Pty Ltd | A . | MCULARIA D+1114 | MCT Brattberg Australia Pty Ltd | MECHVAC Engineering | MG Engineering | Migration Solutions | e Tech | Minor Hotels | Mitsubishi Electric Australia | Monkeystack | Morgan Advanced Materials | SSOP C | Motion By Design | Vew A | Naval Group Australia |
| | | KBR | Key | KPMG | Lase | L3H | ĽC | Lecon | Lee | Leid | | Log | Lue | Lun | Luso | Mac | Man | Mar | Mar | Mat | Max | Max | MBDA | _ | _ | MEC | MG | Mig | Min | Min | Mits | Mon | Mor | MOS | Moti | My | Nav |
| | Robotics | | • | | • | • | | _ | | _ | | | | | | | | | | • | | | | | | | | | | | • | | | | _ | | _ |
| | Cyber Security ICT | | | | | • | _ | _ | _ | | | • | | | | | | | | • | • | | | | - | - | | | | | | | | | - | _ | _ |
| | Intelligence, Surveillance & Recon | | | | | • | | + | _ | | | | | | | | | | | • | - | | | | | | | | | | | | | | - | | |
| | Systems Engineering | | | | | • | | | • | | | | | | | • | | | | • | | | | | | | | | • | | • | | | | | | • |
| | Testing Equipment | | | | | • | | | | | • | | | | | • | | | | | | | | | | | | | | | | | | | | | |
| GENERAL | Software Engineering/Architecture | | | | | • | | | - | | | - | | • | | | | | | | | | | | _ | | | | | | • | | | | _ | | • |
| GE | Electronic Warfare Communications/Network | | | | | • | _ | _ | • | | | • | | | | | | - | | • | • | | | | - | | | | | | • | | | | - | _ | _ |
| | Machine Learning/Artificial Intelligence | | | | | • | | | - | | | f | • | • | | | | | | • | - | | | | | | | | | | - | | | | + | | \neg |
| | Industrial | | | | • | | | • | | | | | | | | | | • | | | • | | | | • | • | | | • | | | | • | | | | • |
| | Construction & Infrastructure | | | | • | | | • | | | | | | | | | | | | | • | | | | | • | | | • | | | | | • | | | |
| | Missiles & Explosive Ordnance | | | | | • | | | | | | - | | | | | | | | | | | | | | | | | | | • | | | | -+ | | |
| | Hypersonics Mechanical | | | | • | • | _ | _ | • | | | H | • | - | | • | | • | | • | _ | | | | | | | | • | | | | | • | \rightarrow | + | • |
| | Mechanical Structural | | | | • | | _ | • | | | | H | • | | | | | - | | - | - | | | | | • | • | | • | | • | _ | | • | - | | - |
| 5 | Electrical | | • | | | • | | _ | | |) | t | • | | | | | | | • | | | | | | • | | | • | | • | _ | | • | | - | • |
| ERIN | Civil | | | | • | | | • | | | | | • | | | | | | | | | | | | | | | | • | | | | | • | | | |
| IGINE | Mechatronic | | • | | | | | | | | | | | | | • | | • | | • | | | | | | | | | | | • | | | | | | |
| E | Software | | | | | • | | - | | | | • | | • | | | | | | • | | | | | _ | | | | | | • | | | | | | • |
| | Systems Safety | | • | | | • | | • | • | | _ | • | • | | | • | | | | • | | | | | • | | | | • | | • | | • | • | _ | _ | • |
| | Electronics | | • | | | • | | - | | | | t | | | | | | • | | - | | | | | - | | | | - | | • | _ | | - | - | - | • |
| DNI | Sheet Metal | | | | • | | | | | | | t | | | | | | • | | | | | | | | • | | | • | | | | | | | | • |
| UFACTURING | Medium to Heavy Steel Fabrication | | | | ٠ | | | | | | | | | | | | | | | | | | | | | ٠ | • | | ٠ | | | | | | | | • |
| NUFA | Plastics | | | | | | | | | | | - | | | | • | | | | | | • | | | | | | | • | | | | | • | | | |
| MAN | Composites | | | | • | | | _ | | _ | | - | | | | • | | _ | | _ | | • | | | _ | | | | • | | | | • | | _ | _ | • |
| | Precision Design/Creative | | • | | • | | | + | | + | • | • | • | • | | • | | _ | _ | _ | _ | • | | | | - | - | | • | _ | _ | • | | • | - | + | • |
| | Legal | | - | | | | | | | | | 1 | | - | | | | | | | | | | | | | | | | | | - | | - | | | |
| | Workforce/HR Support | | | | | | | | | | | • | | | | | • | | • | | • | | | | | | | • | • | | | | | | | • | |
| s | Banking/Finance | | | | | | | | | | | | | | | | | | | | • | | | | _ | | | | | | | | | | | | |
| VICES | Bidding/Tender Writing | | | | | | | _ | | _ | | - | | | | | • | _ | | _ | _ | | | | _ | | | | | | | | | | _ | | |
| L SEP | Marketing / Communications Project Management | | | | • | | | • | • | | | • | • | | | • | • | • | | | • | | | | - | • | • | | • | | • | | | • | - | -+ | _ |
| PROFESSIONAL SERVI | Consultants | | | | • | | - | - | • | | _ | • | | | | | • | - | • | • | - | | | | | • | | • | - | | - | _ | | - | | | - |
| FESS | Logistics/Transport | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | | | | | | | | |
| PRO | Research & Development | | • | | • | • | | | | | | | • | • | | • | • | | | | | | • | | • | | • | | | | • | | | | | | |
| | Training & Education | | | | | | | _ | | | | • | | • | | | • | _ | • | • | • | | | | • | | | | | | | | | | _ | | |
| | Through-Life Support Inspection, Testing, Certification | | | | • | • | _ | _ | • | • | | ⊢ | | | | • | | • | | _ | _ | | | | • | | • | | | | | | | | - | _ | _ |
| | & Asset Integrity | | | | • | | | | • | | | | | | | • | | | | | | | | • | | | • | | • | | | | | | | | |
| | Advanced Manufacturing | | | | • | | | | | | | | | | | | | • | | | | | | | | | | | ٠ | | • | | • | | | | |
| | Command Centre Data Processing and Management | | | | | • | | | • | | | | | | | | | | | • | | | | | | | | | | | • | | | | | | |
| | Design of Components, | | | | | • | | | | | | F | | | | | | | | • | | | | | | | | | • | | • | | | | \neg | | |
| ш | Instrumentation, Sensors or Satellites | | | | | | | | | | | - | | | | | | | | | | | | | - | | | | - | | - | | | | - | | |
| SPACE | Design Testing Global Positioning | | | | | • | - | | _ | - | | \vdash | | - | | | | | | • | | - | | | - | | | | _ | | • | | | | \dashv | - | - |
| | Ground Systems for Space Technology | | | | | • | | | | | | t | | | | | | | | • | | | | | • | | | | | | • | | | | + | | \neg |
| | Research & Development | | | | • | • | | | | | | | | | | | | | | • | | | | | | | | | • | | • | | | | | | |
| | Space Launch Risk Hazard Analysis | | | | | | | | | | | | | | | | | | | • | | | (| | | | | | | | | | | | | | |
| | Telecommunications | | | | | • | | | | | | - | | | | | | | | • | | | | | | | | | _ | | • | | | | \rightarrow | | |
| NUCLEAR | Engineering and Design Manufacturing | | | | • | | | | | | | - | | | | | | • | | | | | | | - | | - | | • | | | | | | \dashv | | |
| NUCI | Through Life Support | | | | • | | | | | | | | | | | | | • | | | | | | | _ | | - | | - | | | | | | + | | - |
| | | | | | - | | | | | | | | | 1 | | 1 | | - | | | | | | | | | | | | | | | | | | | |

| | | E | | | E | | | E | | | 1 | Ï | | | | | | E | E | | | | | | | | | | - | 1 | E | E | E | | | | E | |
|--------------|--|-----------------------|-------------------------------------|--------------------|-----------------|-----------|---------------------|--------------|------|---------------------------|----------------------------|--------------------|-----------------------------|-----------------------|------|------------------------|-------------------------|-------------|--------|------------------|---------------|-----------------------------|-----------------------|-------------------|-----------------|----------------|-------------|---|-----------------------|---------|--------------------|--------------------|------------------------|--|-------------------|---------------------|------------------------|--|
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| | | | cts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | uring | | | | Safran Electronics & Defense Australasia |
| | | | NHP Electrical Engineering Products | | | | | | | | _ | | | | | | | | | | | | | | | | | | | | | | | Redback Drilling Tools & Manufacturing | | | | e Aust |
| | CAPABILITIES | g | ering F | | | | | | | | Odense Maritime Technology | | y Ltd | | | ers | _ | | | | | Protube Engineering Pty Ltd | _ | | | | | | | | | | ace | & Mai | | | _ | efens |
| | | PtyL | Jginee | | | | arine | | 2 | | e Tech | SS | ies Pt | ıtions | | -awye | 'ty Ltd | | | | | ring P | ulting | bu | | | | | tmon | | | P | e & Spi | Tools | đ | vorks | 'ty Ltd | cs & D |
| _ | | Space | ical Er | | y Ltd | | ser M | Bacot | | 8 | ritime | drauli | nolog | n Solt | | man l | aide F | е | | ytica | nce | iginee | e Cons | acturi | Ltd | (NACE | S | | CO CEL | | Ueren (| Austra | efence | rilling | ce Gro | Metalv | ions F | ctroni |
| | | Neumann Space Pty Ltd | Electr | | Norseld Pty Ltd | Northline | Noske-Kaeser Marine | Nova Systems | 1001 | NHI AUSTRAIIA Nylastex | Ise Ma | Oilpath Hydraulics | Oliver Technologies Pty Ltd | Para Bellum Solutions | | Piper Alderman Lawyers | Pirtek Adelaide Pty Ltd | PMB Defence | s | Priori Analytica | Prism Defence | ube En | Providence Consulting | PRP Manufacturing | QinetiQ Pty Ltd | QMS NDT & NACE | QuantX Labs | | Daiov Dov Docruitmont | y Day I | Bauthood Austrolia | ray meon Australia | REDARC Defence & Space | ack D | RMB Service Group | Rowlands Metalworks | SA Simulations Pty Ltd | in Elec |
| | | Neur | NHP | NIOA | Nors | North | Nosk | Nova | | NHI AUSTI Nylastex | Oden | Oilpa | Olive | Para | PEER | Pipe | Pirte | PMB | Praxis | Prior | Prisn | Protu | Provi | PRP | Qinet | QMS | Quar | | DAID | | Dintal Dout | науп | RED/ | Redb | RMB | Rowl | SA Si | Safra |
| | Robotics | | | | | | | | | | | • | • | | | | | | | | | • | | | • | | | | | | | | | | | | | |
| | Cyber Security | | • | | | | | | _ | | | | | • | | | | | | | | | | | _ | _ | | | | | | | _ | | _ | | | |
| | ICT Intelligence, Surveillance & Recon | | • | | | | | • | | | | | | • | | | _ | _ | • | • | - | _ | _ | _ | • | - | | - | - | - | | - | _ | | _ | _ | _ | • |
| | Systems Engineering | • | • | | | | | • | | | • | | • | • | | | | _ | • | • | | _ | | - | - | - | | - | - | | | | | | | | _ | • |
| | Testing Equipment | | | | | | • | • | | • | | | | | | | • | | | | • | | | | | • | | | | | | | | • | | | _ | |
| GENERAL | Software Engineering/Architecture | | • | | | | | • | | | | | | • | | | | | • | • | • | | | | | | | | | | | | | | | | | • |
| GEN | Electronic Warfare | | | | | | | • | | _ | | | | | | | | | | | | | _ | _ | _ | _ | | | | | | | _ | | _ | | | |
| | Communications/Network Machine Learning/Artificial Intelligence | | • | | | | | • | - | | | • | | • | | | _ | _ | • | • | • | _ | _ | _ | - | + | _ | - | - | - | | + | - | | _ | - | _ | • |
| | Industrial | | • | | • | | | | | • | | • | • | | | | • | | - | - | - | • | | _ | • | • | | | | | | | | • | • | • | • | • |
| | Construction & Infrastructure | | • | | | | | | _ | | • | | | • | | | | • | | | | • | | | - | • | | | | | | | | | \neg | | | |
| | Missiles & Explosive Ordnance | | | | | | | • | | • | | | | | | | | | | | | | | | | | | | | | | | | • | | | | |
| | Hypersonics | | | | | | | • | _ | • | | | | | | | | | | | | | | | _ | _ | | | | | | | _ | | _ | | | |
| | Mechanical Structural | | | | • | | • | | - | • | • | • | • | | | | • | | • | | _ | • | _ | • | - | • | _ | + | + | - | | _ | • | • | • | _ | | • |
| 5 | Electrical | | • | | | | | | | - | • | | | | | | | _ | • | • | | _ | | - | - | | | + | + | | | - | • | | • | | | • |
| ERINO | Civil | | | | | | | | | | | | | | | | | | | | | | | | - | • | | | | | | | | | - | | _ | |
| GINE | Mechatronic | | | | | | | | | • | ٠ | • | | | | | | | • | | | • | | | • | | | | | | | | • | | | | | • |
| ENG | Software | | • | | | | | • | | | | | | • | | | | | • | • | • | | | | • | | | | | | | | | | | | • | • |
| | Systems | | • | | | | | • | | | • | | - | | | | | | • | • | • | _ | | _ | • | _ | | _ | _ | _ | | | • | | _ | | _ | • |
| | Safety Electronics | | • | | | | | • | | | | | | | | | _ | • | • | | • | _ | _ | • | - | - | | - | + | + | - | + | • | | + | - | _ | • |
| NG | Sheet Metal | | | | | | | | | • | | | • | | | | _ | - | _ | | - | | | - | | + | | + | + | + | | | - | | • | • | | _ |
| UFACTURING | Medium to Heavy Steel Fabrication | | | | | | • | | | | | • | | | | | | | | | | • | | | | | | | | | | | | • | • | • | | |
| | Plastics | | | | | | | | | • | | | | | | | | | | | | | | • | | | | | | | | | | • | | | | |
| MAN | Composites | | | | • | | | | | • | | • | | | | | _ | | | | _ | _ | | • | | | | | | | | | _ | _ | _ | _ | _ | |
| | Precision Design/Creative | | - | | • | | | | _ | • | • | • | - | | | | • | _ | • | | • | • | _ | • | - | + | | | + | + | | - | - | • | • | • | _ | • |
| | Legal | | | | | | | | | | | - | | | | • | - | | - | | - | | | - | - | + | | | + | | | | - | | - | | | |
| | Workforce/HR Support | | | | | | | | | | • | | | • | • | • | | | | | | | • | | | | | | | | | | | | | | • | |
| ~ | Banking/Finance | | | | | | | | | | | | | | | ٠ | | | | | | | | | | | | | | | | | | | | | | |
| SERVICES | Bidding/Tender Writing | | | | | | | | | | | | | • | | | | | • | | _ | | • | | _ | | | | | | | | _ | | _ | | | |
| | Marketing / Communications Project Management | | • | | | • | • | • • | | | • | • | • | • | | | | _ | • | | _ | • | • | _ | - | • | | | + | | | - | - | • | \rightarrow | • | | |
| PROFESSIONAL | Consultants | | • | $\left - \right $ | | • | | • | | | • | | | • | | • | | | • | • | • | • | • | | | | | | | - | | | + | • | + | - | \neg | |
| FESS | Logistics/Transport | | | | | • | | • | | | | | | | | | | | | | | | • | | | | | | | | | | | | + | | | |
| PRO | Research & Development | | | | • | | | | | • | • | • | | | | | | • | | | • | | | | | | | | | | | | | | | • | • | |
| | Training & Education | | • | | | | | • | | | • | | | | • | • | | | | | | | • | | | | • | | | | | | _ | | \square | | | |
| | Through-Life Support Inspection, Testing, Certification | | • | | | | | • | | | • | | • | | | | • | | • | | | | | | | | | | | - | | - | + | | • | | - | |
| | & Asset Integrity | | • | | | | • | • • | | | | • | | | | | • | | • | | • | | | | | • | | | | | | | | • | • | | | |
| | Advanced Manufacturing | | | | • | | | | | • | | | | | | | | | | | | | | | | _ | | | | _ | | | _ | • | _ | • | _ | |
| | Command Centre Data Processing and Management | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Design of Components, | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| щ | Instrumentation, Sensors or Satellites Design Testing | - | | | | | | • • | | | - | | | | | | • | | | | _ | | - | | - | | | | | | | | + | | + | - | _ | _ |
| SPACE | Global Positioning | - | | | | | | • | | | - | | | | | | - | | | | | | \neg | | - | | | | | | | | + | | + | | \neg | _ |
| | Ground Systems for Space Technology | • | | | | | | • | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Research & Development | | | | • | | | • | | • | | | | | | | | | | | | | | | | | | | | | | | | | \square | | | |
| | Space Launch Risk Hazard Analysis | _ | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | + | | \neg | |
| | Telecommunications Engineering and Design | | | $\left \right $ | | | | • | | • | - | | \vdash | | | | _ | | _ | | - | _ | _ | | _ | | | | - | + | | | \dashv | _ | \dashv | _ | \neg | |
| NUCLEAR | Manufacturing | | | | | | | • • | _ | • | | | | | | | • | | | | | | \neg | | | | | | | + | | | + | • | + | | - | |
| NUC | Through Life Support | | | | | | | • | _ | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | E | | | E | | EE | | E | | E | E | | | E | | | E | | | | E | | | | | | | | | | | | | | |
|-----------------------|--|------------|---------------------|-----------|---|--------------|----------------------|-----------|-------|---------|------------------|-----------|-----------------|---|------------|----------------------|-------------------|--------------------|------------|------------|----------------------------|------------------|-----------------------------------|------------------|------------------|-----------------------------|---------------------|-----------------------|------------|-----|--------------------------------|--------------------------|-----------------------------|------------------------|-------------------------------|--|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | APABILITIES | SAGE Group | Sarah Constructions | Scan N Go | School of Information Operations (S010) | Sevaan Group | Shipley Asia Pacific | SimLabsXR | SiNAB | Sitzler | SoftWire Systems | Sogeclair | Sphere Advisory | St Patrick's Technical College Northern Adelaide | Stärke-AMG | Stramech Engineering | Swanbury Penglase | Sydney City Marine | TALON ZULU | Technoweld | TESS Appointments Pty Ltd. | Thales Australia | The Centre for People Development | Them Advertising | Thinklogical | Toolcraft Australia Pty Ltd | IQCSI-Yaran Pty Ltd | Trident Cyber Pty Ltd | Two Swords | UCI | Ultimate Profiling & Machining | Ultra Maritime Australia | United Fasteners SA Pty Ltd | University of Adelaide | University of South Australia | ventia Vipac Engineers & Scientists |
| | Robotics | Š | ŝ | S | S | ري م | | _ | No. | S | ۍ ا | ۍ ا | S | N A | 5 | 55 | Ś | Ś | 4 | ₽ | = | | = = | Ē | | - | = | 4 | ⊨ | - | <u> </u> | | | | <u> </u> | 5 5 |
| | Cyber Security | • | | | • | - | | | | | - | - | | | | | | | • | _ | • | _ | | - | | | | • | • | _ | | | | • | • | • |
| | ICT | • | | | - | | | • | • | | | • | | | | | | | • | | • | | | | | | | • | - | | | | | • | - | |
| | Intelligence, Surveillance & Recon | • | | | • | | | | • | | | | | | | | | | • | | | | | | • | | | | | | | • | | • | • | - |
| | Systems Engineering | | | | | | | | • | | • | • | | | | | | | • | | • | • | | | | | | • | | | • | • | | • | • | - |
| | Testing Equipment | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | • | | | • | • |
| RAL | Software Engineering/Architecture | | | | | | | | • | | • | • | | | | | | | | | • | | | | | • | | • | | | | • | | • | • | • |
| GENERAL | Electronic Warfare | • | | | • | | | | | | | | | | | | | | | | | | | | • | | | | | | | • | | • | • | |
| | Communications/Network | • | | | | | | | | | | | | | | | | | | • | | | | | • | | | • | | | | • | | • | • | |
| | Machine Learning/Artificial Intelligence | | | | | | | • | | | | | | | | | | | • | • | | | | | | | | | | | | • | | • | • | |
| | Industrial | • | | | | • | | | | | | | | | • | • | | • | | | | | | | | | | | | | • | | | | • | |
| | Construction & Infrastructure | | • | \square | | | | | | • | | | | | | | | • | | | _ | | | | • | | | | | • | | | | Ш | • | |
| | Missiles & Explosive Ordnance | | | | | | | | | | _ | • | | | • | | | | | | | | | | | | | | | | | | | | | |
| | Hypersonics | | | | | | | | | | _ | | | | • | | | | | | | | | | | | | | | | | | | | | |
| | Mechanical | | | | | • | • | | • | | _ | • | | | • | • | | • | • | • | _ | | | | | • | | | | _ | • | • | | • | | |
| | Structural | | | | | _ | | | - | | _ | | | | | • | | • | _ | • | _ | | | - | | _ | _ | | | _ | | • | | • | • | • |
| ERING | Electrical | • | | | | _ | | | _ | | _ | • | | | | | | | • | | _ | | | | | _ | | | | _ | | • | | • | | |
| EER | Civil | | | | | _ | | | _ | | _ | | | | | | | | | | _ | | | | | | | | | | | | | • | - | |
| ENGIN | Mechatronic | • | | | | _ | | | | | • | | | | • | | | | | | _ | | | - | | _ | | _ | | | | | | • | • | • |
| | Software | • | | | | _ | | - | • | | • | • | | | | | | | • | | • | _ | | - | | | _ | _ | _ | _ | | • | | • | • | • |
| | Systems | • | | | | _ | | - | • | | • | • | | | | | | | • | | • | | | _ | • | • | | • | • | • | | • | | • | • | _ |
| | Safety | • | | | _ | _ | | • | | | _ | | | | | | | | _ | | | _ | | - | | _ | | _ | | _ | | • | | • | - | |
| G | Electronics Sheet Metal | • | | | | • | | | | | - | | | | • | | | | _ | | • | _ | | - | • | • | _ | _ | _ | • | | • | | | • | _ |
| UFACTURING | Medium to Heavy Steel Fabrication | | | | _ | • | | | | | - | _ | | | • | • | | | _ | _ | - | _ | | - | | • | - | _ | _ | - | | | | | - | _ |
| ACT | Plastics | | | | | • | | | | | - | | | | • | - | | | _ | | - | | | - | | • | - | _ | _ | _ | | | | | • | — |
| | Composites | | | | _ | • | | | | | - | | | | • | | | | _ | _ | - | | | - | | • | - | | | _ | | | | | • | _ |
| MAN | Precision | | | | | • | | | | | - | | | | • | | | | _ | - | - | | | | | • | - | _ | | _ | • | | | | • | - |
| | Design/Creative | | | | | • | | | | | - | • | | | • | | | | • | - | - | - | | • | $\left \right $ | - | - | _ | _ | • | • | • | | | • | _ |
| | Legal | | | | _ | - | | | | | - | - | | | - | | | | - | - | - | | | - | | | - | | | - | - | - | | | - | - |
| | Workforce/HR Support | | | | - | | | | | | | | | | | | | | | - | • | _ | | | | | - | | | | | | | • | | |
| | Banking/Finance | | | | - | | | | | | | | • | | | | | | | - | - | | | | | | - | | | | | | | - | | - |
| ß | Bidding/Tender Writing | | | | | | • • | | • | | | | - | | | | | | | - | | | | | | | - | | | | | | | • | | |
| ERVIO | Marketing / Communications | | | | | | | | | | | | | | | | | | | | | | | • | • | | | | | | | | | • | • | |
| PROFESSIONAL SERVICES | Project Management | • | | | | | | • | • | | • | • | | | • | • | | | • | | | | | | | | | • | | • | • | • | | • | • | |
| ION/ | Consultants | | | | • | | • | | • | | | • | • | | | | | | • | • | | | | • | | | | • | • | | | • | | • | • | • |
| FESS | Logistics/Transport | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | |
| PRO | Research & Development | • | | | | | | | • | | • | • | | | • | | | | • | | | | | | | | | | • | | | • | | • | • | |
| | Training & Education | • | | | • | | • | | | | | • | | • | | | | | • | • | | | | • | | | | | | | | | | • | • | |
| | Through-Life Support | ٠ | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | | • | | | • | |
| | Inspection, Testing, Certification | | | | | | | | | | | • | | | • | | | | | • | | | | | | | | | | | | • | | | | • |
| | & Asset Integrity | | | | | | | | | | | | | | | | | | | | | | | - | | - | | | | | | | | \square | | |
| | Advanced Manufacturing Command Centre Data Processing | | | | | • | | | | | - | | | | • | | | | | | • | | | - | | - | | | | | • | | | | | _ |
| | command Centre Data Processing and Management | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Design of Components, | | | | | • | | | | | | • | | | • | | | | | | | | | | | | | | | | | | | • | | |
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