DEFENCE BUSINESS Issue 54 December 2021

2021 Awards Issue

2021 Award Winners & Finalists
CASG's MAJGEN Andrew Bottrell
Navigating Subs Change





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search-and-rescue jets. For more information on our capabilities visit cobham.com.au

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Three awards have been presented at the Defence Teaming Centre Defence Industry Awards 2021: The Teaming Award, The Growing or Emerging Award and the Resilient & Adaptive Award.



The acceleration of the Sovereign Guided Weapons and Explosive Ordnance Enterprise (GWEO) marks a significant shift in Australia's approach to armament.



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

COVER CAPTION

Wing Commander Darren Clare, Commanding Officer of No. 3 Squadron sits in an Australian F-35A on the flight line at Luke Air Force Base, Arizona, USA.

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Responding To Change

FROM THE DESK OF THE CEO

Audra McCarthy, Chief Executive Officer

Dinner & Awards

As the 2021 calendar year draws to a close, I'm excited the DTC was finally able to host our flagship dinner event. Our desire to maximise the opportunity for members across Australia to attend our dinner prompted us to make the sudden decision to re-schedule the event to the 3rd of December. We are disappointed some members were still precluded from attending, however it was important to soldier on and celebrate the achievements of our members and we appreciate your flexibility and understanding. I'd like to personally thank all the members who submitted nominations for the DTC

awards. Just like grant applications, applying for an award is a time-consuming process. When production schedules are maxed, customer orders are rising and businesses are short-staffed, it's a tough decision to divert revenue generating resources to an overhead activity. I therefore thank all members who participated.

The process of applying for awards is an invaluable opportunity for business leaders to "chock their wheels" and celebrate their achievements. This is something Australian businesses rarely do.

Not only does it give you the opportunity to reflect, but to articulate your key achievements and success to a third person. We are all selling something and in business we must master the art of communicating our value clearly, highlighting our key achievements is integral to this.

A clearly defined value proposition, supported by objective success stories, underpins every successful tender submission. The work invested into applying for an award can be recycled into future grant and tender applications. This is a key reason why the DTC hosts an annual award ceremony, and encourages all members to nominate.

Our selection process is rigorous and outsourced to impartial judges who are selected due to their expertise and experience in the sector. These judges thoroughly assess all nominations to downselect finalists for each category. These finalists receive a video promoting their business and also coverage in DTC publications and social media.

Congratulations to all award finalists and I hope you enjoyed the night. See page 15 onwards to find out more about the finalists and the winners of each category.

Growing & Sustaining Sovereign Manufacturing

Recently I was invited as a panellist by Flinders University as part of their Fearless Conversation series to talk about the future of Advanced Manufacturing in Australia. In this session I highlighted the irony of Australian businesses having to go the extra mile to pay for additional branding and advertising to promote their product as being Australian made. Australian businesses are being choked by bureaucracy, red tape, certifications, legislation etc. And on top of this, they must go the extra mile, by incurring additional branding costs and license fees to use the Australian made logo. I presented the question, "Why aren't our imported products required to pay additional branding that clearly shows they are imported? Why do Australian businesses have to incur the cost to differentiate their product in their own backyard?"

In the same session I highlighted the need for our advanced manufacturing and defence industry support policies to be better aligned. The pandemic has highlighted that Australia needs sovereign manufacturing capabilities in key products and services,

especially defence sustainment supply chains. This needs to be underpinned by industrial policy that encourages, supports, and grows advanced manufacturing. Our advanced manufacturers need consistency and stability in policy development and execution, not a revolving door of ministers.

It's understandable the Government wants to have as much of its defence portfolio spent in Australia, thereby providing economic growth and stimulus to our local economy. However, the challenge for the Department of Defence is having the right capability, at the right time to keep both Australia and the Australian war fighter safe. Hence, sudden decisions like the AUKUS announcement will be made from time to time. As a fundamental input to capability, it is defence industry's responsibility to provide goods and services that keep the Australian war fighter safely deployed. The defence portfolio is not a normal market like other sectors because there will be times when rapid acquisitions must occur. For this reason, the DTC focuses on educating and developing members to understand the defence sector, its nuances, barriers and challenges. Surprise decisions like AUKUS will need to be made by Government to maximise Australia's defence capability.

In addition to our advice on how to navigate the defence sector, the DTC's role is to advise members how to overcome the barriers to entry and identify the risks associated with competing in the sector. We take pride in ensuring our members are prepared to meet the needs of Defence as and when required. We will continue to learn the standards and capacity expected from Defence to develop our members and create a sovereign defence capability.

DTC Strategic Review & New Board

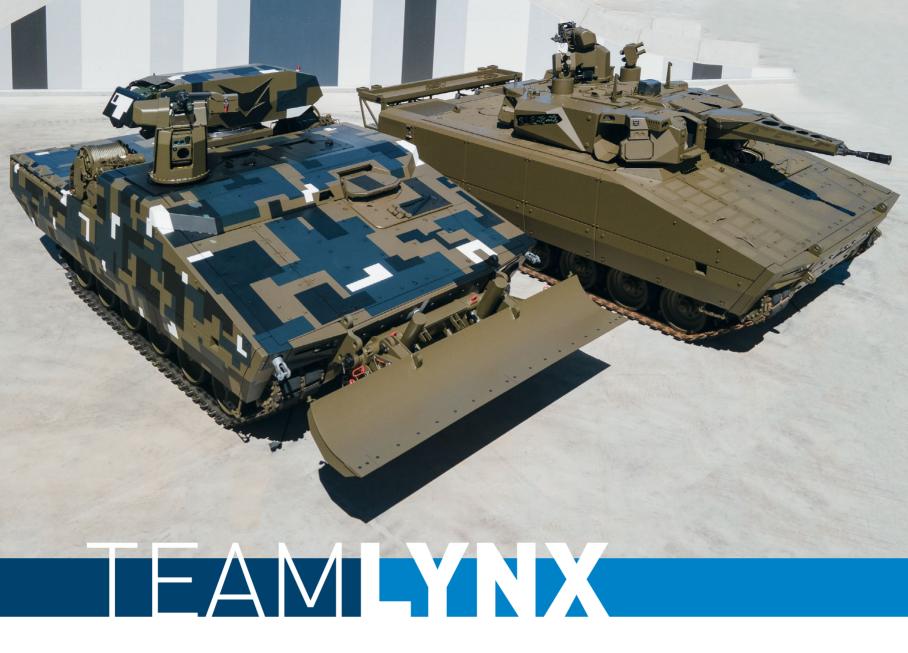
In October the DTC Board completed a strategic review to ensure our organisation remains aligned with members' needs and expectations. The Board scrutinised the environmental landscape, feedback provided by members and the impact of the AUKUS announcement on DTC members and the future of the DTC.

It was agreed the rate of change in environmental factors influencing our sector is increasing, highlighting the growing need for industry to have an industry association that is relevant, responsive and professional. The DTC will continue to advance Australia's defence industry to be world-leading contributors to national security and to create jobs for Australians through sovereign sustainment.

To achieve this, we will focus our advocacy on:

- Reducing the cost for Australian industry doing business in the defence sector
- Elevating the critical skilled workforce shortages in the defence sector.

As I write this piece, the rules surrounding the opening of borders across Australia are being published by the various States and Territories and I'm excited by the prospect of being able to visit and network with our interstate colleagues and members. Next year we have two trade shows to prepare for, Indo Pacific in May and Land Forces in October, presenting great opportunities for our members to connect and team. I look forward to seeing you there.



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PROFILE December 2021 Defence Business

CASG Sees New Opportunities For Industry By Lucy Brewer

The acceleration of the Sovereign Guided Weapons and Explosive Ordnance Enterprise (GWEO) marks a significant shift in Australia's approach to armament, and presents new opportunities for industry.

Major General Andrew Bottrell, Head Land Systems Division, Capability Acquisition and Sustainment Group (CASG), said the call is out to a wide range of industries in Australia - including small-to-medium enterprises and

The aim is to aid in defence resilience, and contribute to developing new skills and technologies via the Enterprise.

"The Enterprise comprises quite a few elements— there's a research and development piece, there's manufacturing, test and evaluation, storage and distribution, and maintenance and disposal," he said.

"As the Enterprise is established, there will be numerous opportunities for industry in all of these areas.

"Industry is really well placed to advise us on what can be achieved now and what investment is required in the medium to long term.

"But we need to be ambitious and we need to think big."

AUKUS Impact

Prior to the announcement of AUKUS in September, there was industry concern as to whether the United States, the leader in the guided weapon space, would support Australia's manufacturing capability of the weapons.

According to MAJGEN Bottrell, AUKUS is expected to increase diplomatic security and defence corporation in the Indo-Pacific region, which will only benefit the Enterprise.

"AUKUS will promote deeper information and technology sharing and will foster that deeper integration of security and defence-related science, technology, and industrial bases and supply chains," he said.

"You can anticipate there will be some elements that will support the Enterprise flowing from that."

He said the Enterprise would also encourage a sovereign capability that maximises Australia's "self-reliance", while reinforcing a relationship with its security partners.

"This doesn't mean all weapons must be manufactured in Australia but I expect that in the future some will be," he said.

"There's also a need in the future for increased maintenance and support in Australia, so we can ensure the availability of the weapons when they a re needed most. The bottom line is ensuring our strategic security and that of the region. It is not about economics."

Industry Callout

The Enterprise is still in its early stages, and while the Australian Government has clarified its desire to engage industry in the development process, the initial contribution callout only gave industry a short time to respond. Despite the briefness of this window, MAJGEN Bottrell said the quality of responses received was impressive.

"I fully acknowledge the very short timeframe that businesses had to respond to the request for information, but that timeframe was necessary to ensure that we were able to capture, analyse, and provide advice to government on how we might accelerate the establishment of the enterprise," he said.

"Our engagement with industry in establishing the enterprise will of course be ongoing.



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conference dinner.

December 2021 Defence Business

(Right) Head Land Systems Australian Army officer Major General Andrew Bottrell.

"We're currently developing a schedule of engagement activities to offer industry the maximum opportunity to become involved.

"So those elements of industry that may be worried they've missed out, I can assure them that they will have plenty of opportunity from here on to continue to engage."

Timeframe

MAJGEN Bottrell said he expects to commence a program of activity once the government has provided direction to defence, which could be as early as the end of this year.

In the meantime, CASG is working to identify opportunities for Australian industry to fill gaps in current international supply chains. According to MAJGEN Bottrell, this will improve supply chain resilience, and build the capability and experience of industry to support the Enterprise in the longer term.

"We're looking at this through the lens of short, medium, and long-term opportunities," he said.

"In the short-term and into the medium term, I

expect that our focus will be on expanding the skills and capabilities that we already possess, so doing more of what we already can do.

"And then mobilising the industrial base that will be needed for the longer term, as well as accelerating the co-development of future weapons systems and components.

"In the longer term, out to the 20-year mark, it's feasible to expect that Australia will achieve sovereign design, development, manufacture, and support of selected weapons, including integration with current and future platforms.

"There is a huge amount to consider and plan for, although we do need to wait for government direction to be able to act accordingly."

The complexity of the Enterprise means defence is encouraging businesses not traditionally linked to the sector to consider how they could support the initiative.

Upcoming industry engagement sessions on both the Enterprise and topics of interest will be posted on the Department of Defence website, and shared via state based defence advocacy groups.



PROFILE

"This is a really exciting period for defence as we explore the broad issues of workforce skilling, the technical prowess, the industrial capabilities, the roles of universities, research and development, and the infrastructure linked to that." MAJGEN Bottrell said.

"I'm increasingly impressed—the more I see of Australian industry—of its ability to turn its hand to new and challenging opportunities, and this certainly fits the bill in that regard.

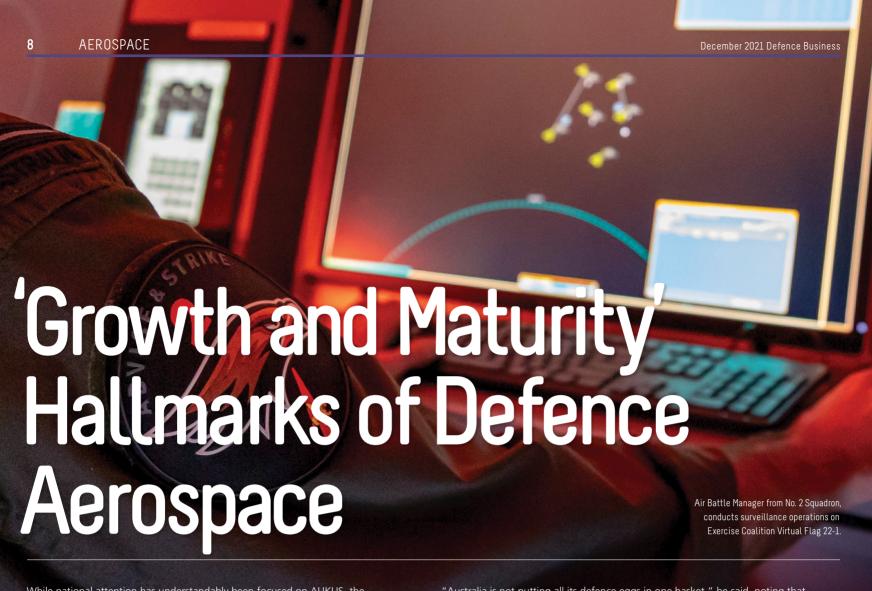
"My team have an enormous task ahead of it. We're thoroughly looking forward to undertaking this huge endeavour in close collaboration with industry."





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Workshop



While national attention has understandably been focused on AUKUS, the opportunities within the aerospace sector remain on a growth trajectory – despite the hurdles thrown up by COVID-19.

"With the AUKUS announcement and the maritime programs occurring in South Australia, people sometimes overlook the hub of aerospace and EW capability that we have in South Australia," said DTC CEO, Audra McCarthy.

"This is not a new undertaking; what we see is significant maturity and stability.

"It's important that we don't lose sight of the opportunities right across Australia and locally at RAAF Edinburgh."

This theme is reiterated by the Minister for Defence, Peter Dutton.

"Australia is not putting all its defence eggs in one basket," he said, noting that nuclear-powered submarines will "complement other defence capabilities".

"Australia has embraced the development of asymmetric capabilities – things like long-range missiles, hypersonic weapons, anti-access and area denial systems, offensive cyber technologies, autonomous craft and remotely piloted drones – capabilities which are essential for Australia to deter potential hostile actors with larger military forces.

"Australia's defence industry has unique skills and expertise in distinct areas which could see it become a leader in helping to develop asymmetric capabilities quickly, cheaply and at scale. By so doing, we will build our sovereign capabilities, bolster national resilience, enable the ADF to act with greater independence, expand export opportunities, and become a stronger defence partner to our allies and friends."



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CONTACT

Justin Struik, Managing Director M +61 414 655 564

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It could be said that Cobham has been something of the quiet achiever of Australian skies. Providing dependable airborne surveillance services to protect Australian borders and Australian waters for the past quarter of a century, and search-and-rescue (SAR) services spanning Australia's vast SAR region. The Special Mission arm of Cobham has largely "flown under the radar" when it comes to leaving a mark in this specialist field of aviation services.

That's set to change as Cobham Special Mission positions itself for growth and expansion with a pipeline of exciting opportunities.

Managing Director James Woodhams is heading the Special Mission team with a strong focus on expanding the organisation's remit into defence and adjacent markets to complement its existing well-established federal government contracts.

"Cobham is uniquely placed to leverage its extensive knowhow and resource capability in the provision of end-to-end aerospace solutions, encompassing ISR operations, aircrew training, aircraft modification, maintenance, sensor support and systems integration," lames said

"Take the airborne search-and-rescue capability that we provide to the Australian Maritime Safety Authority as an example.

"Not only did we design, integrate and now operate a highly specialised search-and-rescue jet capability, complete with an Australian developed ISR Mission Management System that integrates the platform, sensors and communications systems to provide real-time reporting of mission progress to the AMSA Response Centre, but also we recruit, train and deploy mission aircrew that conduct a range of operations in complex environments."

Since commencing operations on behalf of the AMSA, Cobham has played a key role in saving and assisting more than 1,500 lives.

"We have intimate knowledge of every aspect of what it takes to not only provide a turn-key operation, but to also consistently meet and exceed contract performance targets," he said.

Cobham's track record speaks for itself in terms of consistency and the ability to deliver a nationally critical service.

Surveillance

The team recently secured a six-year contract extension with the Australian Border Force to continue providing border surveillance services. Australia has strong economic and national interests in maintaining civil maritime security within and beyond Australian waters. It is a complex and dynamic environment where aerial surveillance services are critical and required to be

Over the course of the current surveillance contract of more than 13 years, Cobham has delivered 98 per cent of tasked surveillance missions and maintained an average contract performance score well above the contractual threshold.

James attributes much of the ongoing success of the operation to the calibre of the Special Mission team.

"We have an extraordinarily passionate and dedicated team operating out of strategic bases across the country, including regional hubs in Northern Australia," he said.

Cobham is the largest employer of mission aircrew in Australia outside the Australian Defence Force. Its pilot cohort are experienced in unique, hands-on, low-level flying. These pilots, mission aircrew and specialist aircraft are supported by dedicated engineering teams, who play a critical role in supporting Cobham's operations and are a key factor in the organisation's plans to expand into new horizons in future.

Future

"There are a number of opportunities we are pursuing together with defence primes and innovative Australian SMEs," James said.

Project AIR 5428 Phase 3 Aviation Mission Training System is one of these opportunities. The Aviation Mission Training System (AMTS) will be utilised to train Royal Australian Air Force mission aviators, including electronic warfare officers, maritime patrol and response officers, air battle managers, air traffic controllers and other mission specialists. The AMTS, to be deployed at the Air Academy located at RAAF Base East Sale in Victoria, will feature a comprehensive training solution, including ground-based and airborne training and a digitally-enabled integrated learning environment. Cobham is well positioned to provide deep airborne operational capability and mission expertise in relation to the airborne training component of this system.

Project AIR 7003 is another opportunity which Cobham is heavily engaged in. Cobham has a teaming agreement in place with General Atomics Aeronautical Systems, Inc. (GA-ASI) to introduce a Remotely Piloted Aircraft Systems (RPAS) into Australia and provide through-life support for this platform. The arrangement focuses on the provision of support for the MQ-9B SkyGuardian and SeaGuardian Remotely Piloted Aircraft System (RPAS).

The MQ-9B SkyGuardian was selected by the Australian Defence Force in November 2019 as the Armed RPAS for Project Air 7003, while the MQ-9B SeaGuardian is a candidate for the Australian Border Force Future Maritime Surveillance Capability (FMSC) program.

December 2021 Defence Business AEROSPACE 1

Focus On Defence Aerospace

Justin Struik, Managing Director of Aerobond, discusses the new opportunities in aviation maintenance and production in a COVID-impacted market.

How has your business been impacted by COVID?

Aerobond was proactive in managing the human and financial resources of the company to ensure we are here for the long haul. We have also been fortunate to have customers that have consciously sought to maintain their supply chain, which has assisted in managing the potential risk of reduced work flow. Furthermore, there has been a shift in competition, with some players exiting the market. This has opened up new business for us and will continue to be a source of growth as the industry re-boots and the specialist skill shortage becomes critical



You are known for your commercial aviation work. What is your strategy with regards to defence?

Aviation maintenance and production has been the backbone of our business. To support our strategy into the defence sector we have secured ISO 9001:2015 and AS 9100D approval to validate the processes we have long used to support our aviation customers. We are focused on offering prototype development, modifications to current systems and sustainment support to our current and potential defence customers. As an Adelaide-based SME we offer local and national

resources to our key defence partners, using our trusted and skilled team, dedicated to delivering not only quality but compliant product, with a strong safety focus.

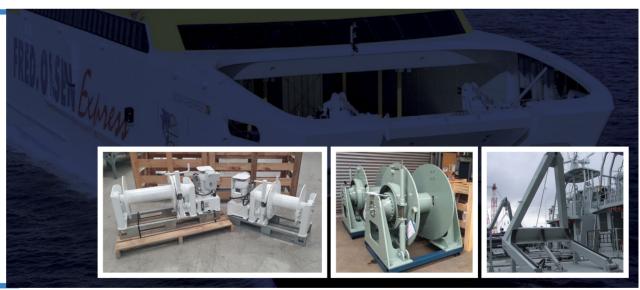
What role has the DTC played?

The DTC create a proactive networking environment, which enables us to connect with current and potential customers. I would like to take this opportunity to thank them for their tireless commitment to raising the profile of SMEs, which has been made even more difficult during the pandemic.

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Nova Systems: Strength And Security Through Sovereignty

Nova Systems has spent more than 20 years building a first-class sovereign test, evaluation and capability critical to ensuring the Australian Defence Force personnel are safe and their equipment is fit for purpose.

There are few recent complex major projects of national safety and security that Nova Systems has not been involved in, including the F-35A Joint Strike Fighter, the E-7A Wedgetail Boeing 737-700 IGW aircraft and the C-17A aircraft.

National security is reliant on the Royal Australian Air Force, Royal Australian Navy and Australian Army being armed with the right tools for the job, tools that are constantly evolving and advancing through rigorous evaluation.

Nova's team began work on its test and evaluation master plan in 2005 for the E-7A Wedgetail Boeing 737-700 IGW aircraft, now operated by No. 2 Squadron based at RAAF Base Williamtown, near Newcastle.

When Australia signed a deal with Boeing in the United States to buy its first C-17A aircraft for the Royal Australian Air Force in 2006, Nova Systems helped support their seamless addition to the fleet.

Now Nova Systems leads the Team Nova Major Service Provider (MSP) consortium with PWC (Australia) Pty Ltd and QinetiQ Australia Pty Ltd. The company is 100% Australian owned and controlled - making Team Nova the only Australian-led MSP to Defence



A C-17A Globemaster III from No. 36 Squadron RAAF Base Amberley conducts a low level rehearsal flight over Brisbane in preparation for Sunsuper Riverfire on 25 September.







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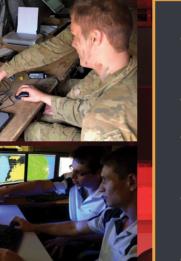
















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December 2021 Defence Business AWARDS 15

Congratulations to the following finalists for the Defence Teaming Centre Annual Member Awards 2021.

Teaming Award

- Smart Fabrication, Dematec Automation & Ingenia -Engineering Consultants
- Daronmont Technologies,
 Zenith Custom Creations,
 Cold Logic Leaders in
 Industrial Refrigeration &
 APC Technology
- Supashock & Rheinmetall

Growing or Emerging Award

- AML3D (ASX:AL3)
- REDARC Defence Systems (REDARC Electronics Pty Ltd)
- Axiom Precision
 Manufacturing

Resilient & Adaptive Award

- PMB Defence Pty Ltd
- RUAG Australia
- APC Technology
- AFL Services Pty Ltd



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Teaming Award

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Deployable C4I Shelters for the Australian Defence Force.

The DTC Teaming Award is awarded to a DTC member or group of organisations. The award recognises and celebrates organisations who achieve mutual business success as a result of collaboration (teaming arrangement) with other organisations.

The award:

- Acknowledges organisations who contribute to building the awareness of collaboration and teaming practices by sharing examples of best practice and their results, inspiring similar excellence in others; and
- Identifies those who drive greater awareness and understanding of the benefits of collaboration in the defence sector.



December 2021 Defence Business AWARDS 17

Winner: Daronmont Technologies, Zenith Custom Creations, Cold Logic And APC Technology

Daronmont Technologies, APC Technology, Cold Logic and Zenith Custom Creations joined forces to develop a deployable shelter system for the ADF, with Daronmont Technologies as the teaming lead.

Daronmont Technologies is an Australian Systems Integration SME that operates in the Defence C4IISREW sector, with expertise in EW, radar technologies and fixed and deployable shelter systems.

APC Technology is an innovative leader in design, manufacture and support of rugged computing solutions for global defence and industrial customers.

Cold Logic is a specialist supplier of bespoke refrigeration and controlled environment systems. Cold Logic is wholly Australian owned and proudly South Australian for over 35 years.

Zenith Custom Creations has been established since 2001, providing custom designed, fabrication solutions. Zenith is a diversified metal fabrication facility, specialising in transport engineering, Defence manufacturing and paint coating solutions.

In 2009 Daronmont was invited by CASG to address the critical domain of high performance deployable C2 systems for the rapidly evolving Air Force Air Battle Management capability. Daronmont teamed with Zenith for the project. This was Zenith's first exposure to Defence.

Daronmont then leveraged this into contracts with Raytheon, Indra (two contracts), Kongsberg Defence Australia, DSTG (entering into a third contract), Army, Air Force, Australian Border Force and the AFP.

In addition to shelter manufacture, air conditioning and power generation are essential sub-systems in a successful deployable shelter system.

Traditionally, these critical sub-systems have often been sourced from overseas suppliers, requiring significant modification to meet Australian requirements and contributing to downstream logistics support issues.

Recognising the benefits of a local team that could support all of these capabilities, Daronmont sought out APC Technology and Cold Logic to join with Zenith to provide all the key technologies that integrate to create superior deployable shelter systems.

Together, in various combinations, this team has delivered over 50 shelter systems to customers including CASG, DSTG, Australian Border Force and the AFP.

The development of Daronmont's latest iteration of deployable shelter systems offers increased AIC via the integration of new manufacturing techniques, generator/ UPS technologies and environmental conditioning systems from the team members.

The integration of local teaming partners significantly reduces the risks inherent in overseas supply chains and overseas OEM specifications unsuited to Australian environmental conditions and technical requirements.

In this case the teaming arrangements work naturally because the four companies are complementary and not competitive in any sense.

Benefits of Teaming

The development of the new shelter system with

Daronmont Technologies as the teaming lead required the coordination of bespoke design in small unit numbers.

This considered a whole range of items from physical envelope, through power consumption and environmental operating conditions that all have an impact on the design and execution of deployable shelter system projects.

The use of bespoke subsystems as part of the platform ensured that the performance requirements were addressed in an optimised manner. It also ensured that the solutions presented to Defence Primes, CASG and the ADF were able to be locally supported, in contrast to alternative solutions that use a significant amount of overseas procured items with no system knowledge in country.

It also ensured that items selected as part of the subsystems were suitable for the local requirements, rather than being designed for Europe or North America. Overall, this led to a reduction in risk for the end user, increase in operational capabilities and higher overall reliability.

In the case of APC Technology, this teaming opportunity has resulted in the commercialisation of a market leading generator based on footprint, weight and performance.

For Cold Logic, innovative, high performance and light weight environmental conditioning products have evolved from the teaming opportunity.

Zenith has broadened its manufacturing and customer base to support all team members and is now exposed to many more opportunities to support its growth ambitions. New manufacturing processes and capabilities have been incorporated into its Mt Barker facility.

All the team members have benefited from the opportunity to collaborate with like-minded Australian industry leaders to provide turnkey technologies for deployable systems that are Australian designed and manufactured.

Most importantly, the team has demonstrated a successful commercial business model that can be expanded to include additional DTC members in future projects, further enhancing South Australia's defence capabilities for further domestic and potential export opportunities.

FINALISTS

Smart Fabrication, Dematec Automation & Ingenia

- Engineering Consultants. These three companies have joined with like-minded values and goals to deliver continuity and ongoing support to SMEs.
- Smart Fabrication has been supplying to the defence industry since 2008, particularly in support of the sustainment of the Collins Class Submarines. A strong advocate for Australian Made Defence, Smart Fabrication delivers its services to the likes of ASC, AWD, Babcock, MacTaggart Scott Australia and Australian Aerospace. From the design and manufacture of pressure vessels to heavy engineering, Smart Fabrication excels most when the challenge at hand is a tough one. Many of its projects involve tight tolerances, in situ machining, post weld heat treatment and hydrostatic testing.
- **Dematec Automation** is a multidisciplinary engineering company specialising in integrated systems including industrial automation, robotics, and continuous

process control. It has been delivering projects and supporting systems in all parts of Australia, as well as internationally, since 1990. Its vision is to provide cost-effective solutions to enhance the safety, productivity, and capability of their clients through engineering and innovation. Dematec provides services for customers ranging from specification and conceptual design at the outset of a project through to design, build, installation, commissioning, and on-going support.

- Ingenia provides a range of specialised and complementary engineering and design services to both Australian and international clients. They offer full lifecycle project support, from project initiation through to commissioning and close out. Their services include project management, engineering, design & drafting and risk management. The company is expert in 'brownfield' projects and engineering. It offers specialist services in: Project Management Services Mechanical Engineering
- Structural and Civil Engineering Design and Drafting
- Risk Management Forensic Engineering
- UAV and point cloud services.

Supashock and Rheinmetall have teamed together to provide innovation and collaboration to the industry around sovereign industrial capability.

- Supashock is an advanced motion technology company. The innovative IP developer has diversified from the automotive industry into other industries, including defence. In 2018, Supashock reached an agreement with Rheinmetall Defence to take an equity holding in the company under a co-operative partnership. This has allowed Supashock to move into an accelerated growth phase, increasing the range of innovative defence technologies produced, the expanding of facilities, and improved security processes company wide.
- Rheinmetall Defence Australia is the entity representing the Rheinmetall Defence range of products and services in Australia and New Zealand. It includes the existing operations of Rheinmetall Defence Australia, Rheinmetall MAN Military Vehicles Australia, Rheinmetall Electronic Solutions Australia and Logistic Solutions Australia. It developed a Military Vehicle Centre of Excellence in Queensland and established a new national sovereign military vehicle capability that enables the design, development and local manufacture of military vehicles, platforms and turrets for the Australian Defence Force (ADF) and export to like-minded nations.

Evaluation Criteria

Nominees are assessed by the judging panel on the identified teaming arrangement between companies in the defence sector demonstrating one or more of the following:

- The teaming arrangement has successfully brought together businesses to realise a commercial outcome.
- The teaming arrangement addresses a gap in the capacity or capability of the Australian defence sector.



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PROCHEM Stainless & Alloy December 2021 Defence Business AWARDS 19

Research Engineering staff
at Defence Science and
Technology Group designed
a face shield that could be
manufactured as an emergency
replacement, using materials
and processes that were
already available locally. The
final version of this was created
in partnership with Axiom
Precision Manufacturing

Winner: Axiom Precision Manufacturing

The ability to adapt, survive and prosper is a hallmark of Axiom Precision Manufacturing. Faced with the exit of motor vehicle manufacturing in Australia, the company pivoted into the defence sector and its transition has been impressive.

"We started off as a 90% automotive company and over the last five years that's transitioned from about 10% defence now to 90% defence and zero automotive," Axiom General Manager, Craig Maynard said.

Axiom is a manufacturer of precision metallic components and electronic integration assemblies. Established in 1979, the advanced manufacturing prowess of this family-owned South Australian company sees it serving national and international markets.

Two purpose-built manufacturing facilities in Adelaide, deliver precision machined components, tooling and injection moulded components. The high quality assembly department and precision inspection services allow Axiom Precision Manufacturing to provide assemblies and sub-assemblies to the exacting standards required by customers.

Its internationally recognised certifications include ISO 14001 Environment, AS 9100 Aerospace and ISO 13485 Medical Device.

Earlier this year it was awarded a \$1 million Sovereign Industrial Capability Priority Grants by the Federal Government. The funding is for the development of capability to weld high precision structures, as well as to weld armoured steel whilst maintaining its mechanical properties.

It is the second Sovereign Industrial Capability Priority grant Axiom has received.

Axiom has contributed to Australia's COVID-19 response by producing face shields for health and aged care workers, and has recently signed a contract for component supply for the Joint Strike Fighter Program.

Defence

Axiom produces assemblies and sub-assemblies for air, land and sea defence projects. Working for defence primes, SMEs and directly for the Australian Defence Force, highly skilled and dedicated staff are utilised to deliver projects on time and within budget.



Craig stated "submarines are the space shuttles of the sea", emphasising both their complexity and technical interoperability requirements. Axiom manufactures many components for the Australian Collins Class Submarines, ranging from precision machined engine components (including main engine bearing assemblies), electronic hardware, manufacture and maintenance of tooling for battery components through to components rated to Safety of Hull and Safety of Life.

Project engineers are assigned to all major programs and provide a consistent point of contact for customers. These project engineers control all facets of their assigned programs from in-house design, procurement and certification of materials, quality manufacturing, coordinate measuring and reporting, sign off, delivery and total life cycle support.

Aerospace

Axiom Precision Manufacturing has a strong history of machining components for the aerospace industry and is a proud, sole provider to BAE Systems Australia for vertical tail components for the F-35 Joint Strike Fighter.

Strong investment in R&D, leading edge capital equipment and modern manufacturing processes are just some of the reasons why major corporations choose Axiom Precision Manufacturing as a supplier in the aerospace industry. Axiom Precision Manufacturing maintains an AS 9100 Aerospace certification with a scope of registration for machining components for aerospace and defence.

FINALISTS

AML3D (ASX:AL3) is redefining the standards of productivity, utilising 3D printing to solve complex challenges with metallurgy, proprietary software

and robotics in order to create certified, industrial products more sustainably. AML3D provides additive manufacturing on demand services and is the original equipment manufacturer of Arcemy, world's first large 'production ready' metal 3D printers that utilise local materials to create high performance products at the location of use. The process known as Wire Additive Manufacturing, WAM welds metal wire to create near net shapes, reducing material waste by 80%.

REDARC is a fast growing innovation and commercialisation success story. It offers a blend of commercial off the-shelf, modified off-the-shelf and customised and build-to-print electronic solutions that improve the capability, safety and flexibility of a variety of defence vehicles and applications. REDARC has supplied battery monitoring and power management solutions to defence vehicles domestically and internationally. It is an Australian-owned and operated design-to manufacture business, with 40 year's experience in the research, design, development and manufacture of a range of electronic products and technologies.

Evaluation Criteria

- Demonstrated growth in turnover in the defence market (domestic or export) or
- Recently entered the defence market and has a clear strategy, supported by a bid pipeline to continue this growth or
- The approach, product or service taken to market is innovative. It either addresses a defence capability gap or it enhances defence capability by reducing sustainment costs.





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Map out and quantify your legal risks

Bed down clear contracts with your key suppliers and employees

Consider and quantify obligations to pass through to suppliers and partners

Sort out IP access, protection and sharing rules

Consider the Trade Practices rules, they could apply

Enter into a Collaboration Agreement with key partners and suppliers

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Winner: PMB Defence

PMB Defence was established in 1988 with the specific purpose of manufacturing and supporting battery systems for the Collins Class submarines.

For much of its history this remained the focus, however with the emergent Australian Future Submarine Program (FSP) project the company decided to expand its capability in order to be considered a credible designer and supplier long-term.

PMB recognised that in order to be considered 'world class', and therefore an option for the FSP program, it needed to have success overseas. Through hard work, determination and resilience, PMB is now involved in substantial reference projects that include:

- A lithium battery development for Saab-Kockums in Sweden
- A Nickel-Zinc based battery development for the UK Ministry of Defence
- Manufacture of lead-acid based systems for multiple countries including the UK, Sweden and Canada
- A funded (but still competitive) design, development and qualification of a lead-acid based systems for FSP and Naval Group Australia.

In the past 10 years PMB has grown from a staff of approximately 60 that serviced one product for one customer in one geography, to in excess of 140, providing multiple products to multiple customers and geographies.

In the last few years it has successfully designed, built and moved into a new location adjacent the Osborne Naval Shipyard. This facility is likely the largest and most modern of its type in the world and has been a key enabler for PMB to target selected Tier 1 export markets and therefore grow sovereign capability.

The Future

Moving forward, the company must again demonstrate its adaptive and resilient qualities as it deals with the news that Australia will be building nuclear-powered submarines.

"As a company that has been aspiring to win the battery work on this program for the past 12 years or so, this change in direction is significant," Stephen Faulkner, PMB CEO said.

"For context, should we have been successful in winning battery work on the 12 conventional boats, our longerterm production rate was forecast to grow by close to 300% over our currently contracted Collins Class work. Should we now win the work to supply back-up batteries



to the nuclear version of this program it will reduce to between 30-40% of our Collins Class volumes.

"We wish to make clear that as a proud Australian supplier, the customer requirement comes first. If a nuclear submarine capability is considered the right solution for our submariners and the defence of Australia, then we will support that decision as best

"In the past several years PMB has grown to be arguably a world leader in submarine battery systems. They have been engaged by the UK Ministry of Defence to develop a Nickel-Zinc based battery system for their submarines, and by Saab Kockums and Sweden to develop a lithium-ion based battery system. In addition, we have acquired designs and capability that have resulted in lead-acid based contracts of supply with several nations including Canada and Sweden who operate conventional submarines, and the United Kingdom for their nuclear back-up batteries.

"We continue to seek work in other export markets that can leverage the considerable domain knowledge and expertise we have gained largely through our close collaboration with the Australian customer. As a result of the successful growth and diversification described above, we still anticipate a growth in production rates in the short to medium-term," Stephen said.

"The announcement clearly represents a challenge in the longer-term, and we will be working hard to identify any opportunities that this amended program may reveal.

"I would like to expressly thank the PMB team that have worked so hard and for so long to design a superior battery-system for the Attack Class. While now this will not translate into reality, I am sure the learning and capability we have developed will serve us well as we look to enter other markets."

FINALISTS

RUAG Australia combines fully-accredited manufacturing, MRO and engineering expertise to deliver best value expertise and service in the maintenance, repair and overhaul of aircraft mechanical, hydraulic and airframe components and systems. It specialises in: component/system level deeper maintenance; non-destructive testing, repair and overhaul of repairable items; design engineering, including research and development; adaptation and modification; build-to-print manufacture of airframe-related components; assembly and testing; specialist surface treatments and finishing. RUAG Australia focus its expertise on undercarriage

systems, flight control systems, fuel systems and environmental control systems.

APC Technology is a full spectrum tech manufacturing company capable of build-to-print through to build-to-specifications with a proven record in defence. It offers organic design, in-house manufacturing, industry standard testing, servicing as well as sustainment and obsolescence management. With over 30 years of proven capability, it supplies industry certified solutions including touchscreen displays and panel PCs, fanless PCs, rugged laptop/tablets, NVIS, UPSs, communication systems, generators, cabinets & consoles, keyboards and pointing devices. APC Technology specialises in customised solutions, designed and manufactured to fit the client's needs

AFL Services Pty Ltd is a privately owned Australian company providing the highest standard of blasting, coatings and corrosion protection to defence. It has one of the most highly trained and skilled teams in the industry and a reputation built on quality and delivery in the most demanding environments. AFL services through innovation will link specialist skills and provide a blanket approach to surface remediation, protection and through life maintenance issues. It offers Australian standards compliance, innovation and practical engineered packages of the highest quality.

Evaluation Criteria

Adaptive:

- Has created new products or services or adapted established products or services in the defence market to help Defence maintain a regionally superior capability.
- Has invested in training and skills to establish a workforce that supports the establish of a sovereign industrial capability for Australia.

Resilient:

- Has invested in new technologies and or has adapted its business model to produce a diversified business that is capable of withstanding the peaks and troughs of Defence expenditure or when faced with adversity?
- Can demonstrate periods of major scale-up and/or scale-down.
- Has pursued export or non-defence markets to increase diversity.

22 DILP December 2021 Defence Business

Minister for Defence Industry Appointed as Ambassador for DILP

Minister for Defence Industry, Melissa Price, has been appointed as the Ambassador for the 2022 Defence Industry Leadership Program (DILP).

This is an exciting opportunity for participants of the 2022 program, as Minister Price will be presenting at one of the program's workshops about her experience as a leader in the defence sector.

The program, which is offered by the Defence Teaming Centre (DTC), has evolved to ensure it stays relevant and meets the needs of the industry and its customers.

Julia Phillis, Manager Industry Development & Security at DTC and a retired Air Combat Officer, is very excited to work with defence industry and continue to develop tomorrow's defence industry leaders through the program.

"DILP is a very highly regarded program within the defence sector, and we are looking to build on all the great things Gordan has established," Julia said.

Though contemporary blended and hands-on learning, participants of the unique leadership program gain proficiency



Julia Phillis, Manager Industry Development & Security at DTC

in self-leadership and self-awareness. The course will help students become comfortable applying adaptive leadership in challenging environments, understand networks in the defence industry context, learn to effectively manage multi-party collaborations and work within the complexity of the defence industry.

DILP 2022 will be delivered in the same format as in previous years, however, next year will see the integration of virtual content and a data base of learning so participants have something to go back to once they have completed the course. Participants will have more hands-on experience with Small Medium Enterprises (SMEs), as well as the Primes, and the leaders of the DILP participants will also be given the opportunity to receive

some accredited training on mentorship in the workplace.

To ensure all additions to the program meet the requirements of the DILP's program to retain its accredited status DTC has collaborated with Skills Lab, who is part of the Sage Group of companies and a long-term DTC member.

"The defence sector has seen rapid growth and we have updated next year's program to keep it relevant to industry," Julia said. "Skills lab will be providing a diploma of leadership and management as part of the program, as we move towards a more industry focused program to make sure the training remains relevant.

"We have sourced state government funding for the continual improvement of the course so we don't have to pass this cost on to members. We are very happy to offer an improved course at the same cost."

DILP runs over eight months, between March to November, and is structured around four key pillars: self, organisation, industry and community. These pillars provide a framework to develop a leadership skillset realised through self-awareness and improvement, relationship development, innovation, teamwork and mentoring. For more information and to apply to the program visit www.dtc.org.au/developing. Applications close mid-February 2022.

Shaping tomorrow's defence leaders in today's climate is a challenge as the sector is constantly evolving, but it's a challenge that Julia Phills is excited to take on.

The former Air Combat Officer with the Royal Australian Air Force (RAAF) brings a wealth of knowledge on defence leadership and a passion to develop the leaders of tomorrow.

As one of the first group of women to be trained as aircrew, Julia is a pioneer in the defence force and helped create pathways for other women. It was this drive to help others that ignited her passion for training after being one of only seven women who flew a F-111. Building on a successful career as a F-111 Navigator, she went on to become an Aviation and Weapons Employment Instructor, AP3-C Navigator, Electronic Warfare Officer and Operations Planner.

"I have a passion for training and development and passing on knowledge to others," Julia said. "I am very excited to be able to apply some of the skills I acquired in training and development while I was in the Air Force to this program and make it relevant to defence industry." With over 20 years of defence force experience and a passion for sharing knowledge and developing people's skills, Julia was the perfect fit to pilot DILP into the new era of defence for the Defence Teaming Centre (DTC). She worked closely with the former DILP organisers since she started in March this year and assisted in managing the 2021 DILP program. Now she is looking forward to running the program from start to finish and working

"I found my training in the Air Force extremely rewarding

with Skills Lab and Minister for Defence Industry Melissa

Price, Ambassador of DILP.

and demanding, but often a one size fits all approach was adopted. As an instructor, I enjoyed the challenge to better shape training activities to individual strengths," Julia said.

"My goal is to empower students to develop their skills with a growth mindset to best prepare for the complexities of their future roles. I was able to envourage students who had the skill set but not the confidence, build their confidence and get them across the line and then they went off to do great things.

"I have always believed that 'you can't be what you can't see' and to me this translates to having inspiring leaders from diverse backgrounds. Quality training combined with authentic mentoring and learning experiences will enable leaders to grow as individuals and guide the growth of their industry."



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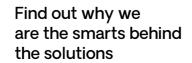
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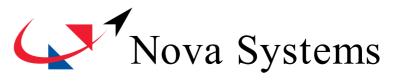
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24 INDUSTRY NEWS December 2021 Defence Business

Establishing A Workforce Development Strategy In Today's Defence Sector Landscape

By Rob Kremer, Kinexus

With industry projects booming and skill shortages at the top of everyone's mind, the Kinexus Defence Industry Insights has highlighted some key opportunities and challenges that face defence industry workforce stakeholders

Here are the 6 major influences and considerations any workforce planner indusry needs to consider.

1. What AUKUS means for the workforce

Whilst the AUKUS pact will have a bearing on more than just Australia's future submarines, it is the fall out from the decision to adopt a nuclear submarine capability that is currently being felt across the Australian defence industry community.

Cancellation of the Attack class submarine was a deeply disappointing decision for many organisations contracted to undertake work on SEA 1000. In addition to Naval Group and Lockheed Martin, many suppliers and SMEs have been impacted. So too have the employees of these organisations, some of whom are currently overseas working on the project.

In Adelaide, where a workforce of over 450 people was engaged on SEA 1000, it is expected that most will be readily absorbed by current Defence programs, including AWD, FCD or LOTE. This is especially true for workers with STEM skill sets.

Nationally, despite the pause in SEA 1000 recruitment, demand for workers across naval acquisition and sustainment projects remain very high. Kinexus' 2021 Hiring Intentions and Workforce Report showed that 41% of all hiring would be in the naval sector, with over 1,500 new positions created. SEA 1000 hiring made up less than a fifth of that figure.



(L-R) Chief of the Defence Force General Angus Campbell AO, DSC, Secretary of Defence Greg Moriarty and Prime Minister of Australia the Honourable Scott Morrison MP, during a press conference to announce the AUKUS alliance and nuclear submarine acquisition at Parliament House, Canberra.

2. Taking a fresh approach to workforce development

The worker shortage continues to be a core challenge for defence industry. Kinexus data shows that the industry was set to grow by over 10% in 2021, and supply is not in line with demand.

Employers must understand the potential impact of this on their business, and those with limited available worker populations must adopt innovative ways of growing their workforce. These methods include adopting distributed workforces, undertaking collaborative initiatives between employers, educators and various levels of government and implementing strategies to attract, asses, hire and integrate workers from adjacent industries.

3. Adjacent industries

The level of adjacent industry investment, on rail, infrastructure and civil projects, varies from state to state. In states such as NSW and VIC where infrastructure investment is very high, competition for certain skill sets is correspondingly high, and STEM skill sets are in especially great demand.

International border closures are exacerbating the worker shortage in Australia. Although non-citizen immigrants are largely ineligible to work in the defence sector, their absence is leading to greater overall competition for skills in adjacent industries.

Some defence industry organisations have already begun successfully hiring and integrating workers from adjacent industries. However, there is little concerted effort to undertake this at scale, and there remains resistance within some organisations.

Employers should prepare for employment strategies that include attracting, assessing, hiring and integrating workers from other industries.

4. The impact of an aging workforce

The workforce is aging, and employers must plan to facilitate the transfer of critical skills from older to younger workers. Opportunities to retain access to retirement age workers when flexible engagement methods or task specific work is available should be encouraged.

Enticing university graduates is an important strategy to grow the available pool of workers. The defence sector is investing in initiatives to stimulate interest among Science, Technology, Engineering and Maths (STEM) students and their parents, and to better promote defence industry opportunities to STEM workers in adjacent industries.

5. A shift to contracting

Kinexus data shows that the defence industry workforce is extremely confident in their career prospects.

Kinexus' Defence Industry Workforce Survey, most recently completed in April 2021, shows that 88% of respondents were 'very' or 'somewhat confident' that the defence industry would provide them with a long-

term career. This is four percentage points higher than the same survey in 2020.

Experience shows that when a workforce is very confident and there is plenty of work available, increasing numbers of workers will turn away from permanent employment and towards contracting.

Employers should plan for this. It's important to know the key skill sets in demand in defence industry, and to understand the exposure your business will have to those skill sets. Setting company policies on the proportion of the workforce that is contingent and the proportion that is permanent can also mitigate the impact.

6. Employee value proposition

In addition to finding innovative ways to grow workforces, defence industry employers should adopt robust Employee Value Propositions (EVP) to attract and retain the best talent available.

Average salaries have risen by 1.3% nationally, but salary alone cannot be relied upon as a primary employment motivator. In fact, salary should be considered a 'hygiene factor', an aspect of employment that must be provided at a fair rate, but one that sits alongside various other 'motivators' to create an overall EVP

In a tight employment market, businesses must establish and communicate a clear value proposition to both current and prospective workers, one that offers more than just salary.

Roughly 60% of the defence industry worker population receive some benefit in addition to salary and superannuation, most commonly bonus payments, salary sacrifice packages and parking.

The Kinexus survey shows that interesting work, work life balance and remuneration continue to be the top three factors that affect job satisfaction.

Flexible work, both in work hours and location, is no longer a nice-to-have. Employers should find a way to offer this to keep pace with workforce expectations and the industry at large.

Robert Kremer, Kinexus Director and Defence Sector Leader

Rob is the author of Kinexus' Defence Industry Insights - A must-read for all defence industry hiring managers and workforce planners download it for free at www.gr.kinexus.com.au/landing/DII8.

Kinexus is a defence industry focused recruitment and workforce strategy company. Kinexus supports the Commonwealth, primes, SMEs and consultancies by providing them with security-cleared engineering and ICT workers, workforce development strategy and training.

December 2021 Defence Business PACIFIC MARITIME 25

Putting Yourself In The Picture At Indo Pacific - A Scientific Approach

By Amanda Reid-Young, Director, Shipley Asia Pacific

Indo Pacific will take place in May 2022. Does this prospect fill you with anticipation and some anxiety?

Most companies attending the Expo would describe themselves as engineering or technology businesses. They are going to Indo Pacific because they are looking for ways to connect their ideas, innovations and products with opportunities in the maritime supply chain, either immediately or in the long term. At the Expo, however, they need to become Business Development people and for many that is not an easy transition.

So how do engineers approach this business development challenge? The answer is in the principles of scientific thinking.

Contrary to popular belief, business development is a science, not an art, but this truth is blurred because its subjects are people – your potential buyers. Every time you interact with them, you are acting on a theory. Sometimes you get the result you hope for, and sometimes you don't. But every time you don't, you learn something.

When you arrive at Indo Pacific, you want to maximise the chances of getting the right result, so now you have to start putting your scientific approach into practice to eliminate some unwanted results. Here's a 6-step plan to do just that.

Establish Your Goal

There's no point going to talk to potential customers if you don't know what you are trying to learn from them or tell them. Spend some time as a team thinking and talking about what you want to achieve at the Expo. This will depend upon the stage of development of your business, or your product or service.

You may have an idea you want to test before you ramp up your research investment. You may want to share with them some new capability you can provide. You may want to start a discussion about updating their current systems with what you offer. You may have a product that is successful in commercial applications that you want to introduce to Defence.

Whatever your goal, try to be clear about what would constitute a successful outing for you, whether that is gaining introductions to key people, making appointments for demonstrations or understanding customer responses to specific features.

Theorise

Next, you need to establish your theory about how you are going to engage with people at the Expo to achieve your goals. Again, working on this as a team helps you to understand collectively the reasons they might want to talk to you, work with you or buy from you.

Start from the point of view of the customer – and ask yourselves what they stand to gain by engaging with you and how you can help them to achieve their objectives. Write down what you want to communicate to potential customers or stakeholders at the Expo that you believe will speak to their interests and gain their attention.

Experiment

Once you have a theory, it's time to start experimenting to validate your assumptions. To do this you need to step outside your own community and test your ideas on third parties

Start by identifying independent advisers such as DTC who can give you feedback on your offer, value proposition or positioning and who might raise questions you haven't thought of yet. This will help you to address any immediate problems so that when you are put on the spot at Indo Pacific you have some answers ready.

Next, look for friendly insiders who are aligned with your potential market. Utilise your networks and talk to other vendors to understand the path into gaining acceptance as a supplier. Many Defence primes also have specific contact points and information for SMEs to encourage diversity and local innovation into their supply chains. These are very helpful in providing clarity about the prime's expectations of potential suppliers.

Embrace the Unexpected

It is important to approach the validation experiment with an open mind. Avoid confirmation bias, and really listen to what each person is telling you.

This information can save you much wasted effort and shift the direction you are travelling in to arrive at your goal. For example, a buyer may dismiss what you think is your most fascinating new feature but ask a lot of questions about your local manufacturing capability. Take the hint and work on developing the strength which meets the customer's need.

Any experimental result needs to be repeatable, however, so check new ideas with multiple parties before committing yourself to a new direction.

Analyse

Like all experiments, BD experiments need to be planned, recorded and reviewed. Plan meetings and identify what function each one is intended to fulfil. Keep notes and feedback from all interactions. Compare them and collate them to understand what you have learned and what aspects of your theory – aka your planned approach to prospects – you need to adjust.

Use your learnings to fine-tune your targeting by identifying the specific organisations or individuals you want to make contact with at the Expo. For each one, define the interaction that you want to have and how you will engage their interest.

Document

Finally, document your refined messaging and plan in a Quad Chart (or multiple Quad Charts for different prospects) and in notes you can share with your team.

Having gone through the process of experimentally eliminating less effective messages and paths to positioning for business, you will be prepared with these tools for an approach to the marketplace that has the maximum chance of success.

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Navigating The Subs Change

By Dr John Coyne, Head of Northern Australia Strategic Policy Centre

American comedian and actor Jim Carey argues that 'if you aren't in the moment, you are either looking forward to uncertainty or back at pain and regret'. While this is good advice for a mate in trouble, Australia's defence industry cannot afford the luxury of living in the moment nor spending time regretting what is changing. Instead, they'll need to engage with their rapidly evolving strategic context and all its prickly complexity. This task will not get any easier over the next several years as the Defence organisation grapples with several paradigm shifts in their thinking.

For a moment, let's ignore Carey's advice though, and look back. There ought to be little doubt that Australia's Defence industry has had a rather rosy outlook over the last five years. The 2016 Defence White Paper described a decline in the strategic environment that supported big defence spending. The strategic context was warm enough to encourage increased spending but not so hot as to demand speed of delivery. The federal government focused on maximizing the economic benefit of its defence spending.

In these circumstances, it's only natural the government oversaw the design of programs that maintained demand at a level which would sustain a sovereign defence industry over several decades.

With the addition of Hunter class frigates and attack class submarines, Australia's shipbuilding program was valued at AUD\$137 billion and counting. For many in the Defence Industry, this was the kind of spending certainty that made it easier to raise the kind of equity that allowed for long term investments in infrastructure and people.

By late 2019, several strategists were already considering the impacts of the Chinese Communist Party's (CCP) increasing assertiveness. A small number argued, mostly behind the scenes, that this was cause for considering the development of a stronger and more self-reliant Australian Defence Force (ADF).

The first few months of the COVID-19 crisis in 2020 highlighted that globalization and, just in time supply chains had left Australia vulnerable. The CCP's

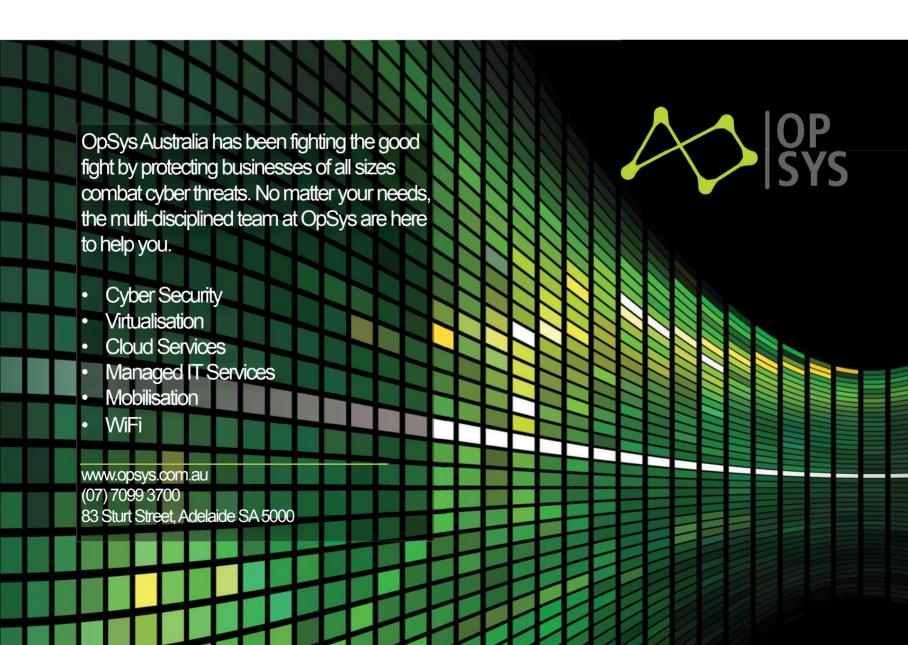
increasingly assertive behaviour across the Indo-Pacific and its wolf warrior diplomats didn't just increase strategists' concerns. It ensured that the idea of strategic uncertainty resonated with everyday Australians.

Late last year, the 2020 Defence Strategic Update noted that for the first time since the 80s, the warning time for a future conflict was now under ten years. It has taken the government and Defence almost a year to begin to get their collective heads around this change.

The news that Australia's future conventional submarine fleet will go nuclear is probably the most significant defence capability announcement in a generation. This decision provides the first tangible proof of the paradigm shift in Defence's thinking. It shows Defence's willingness to reverse or change big commercial decisions in response to the emerging strategic environment.

For industry, the impacts are worrying. Almost overnight, 40 per cent of the government's investment in local shipbuilding disappeared.

The formation of the trilateral AUKUS pact between Australia, the United States, and the United Kingdom, this year opens the door for rapid access to new



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MEMBER INFORMATION

Able Seaman Combat Systems Operator Gareth Feven mans his console in the operations room of HMAS Warramunga during a Air-Warfare serial as part of AUSINDEX 21.

technologies and capabilities, albeit in specific areas. In contrast, the 2021 AUSMIN meeting included unequivocal commitments to even greater cooperation and collaboration. These developments open the door to new capabilities, in shorter time frames, at a time when the government is intent on making a stronger ADF.

In September, the Minister for Defence, Melissa Price, announced that David Peever will review whether the ADF is value for money from innovation, science, and technology. This review is further evidence that some significant changes are likely.

It seems inevitable that Peever will identify problems with the Defence Organisation's approach to innovation and capability. The problems that have plagued Australia's submarine decisions aren't isolated; some issue or another besets most of Australia's big defence capability acquisition projects.

Firstly, I suspect Peever will find that Defence policymakers haven't acted with the urgency that 'less than ten years' warning time' actually demands.

Secondly, Peever is likely to find that the pursuit of perfect capabilities regularly get in the way of the good.

Australia's habit of creating bespoke capabilities is costly in terms of resources and time. A long list of projects including capabilities as diverse as helicopters and armoured vehicles illustrate this mindset isn't working.

Thirdly, Peever will likely conclude that Australia needs to break loose of the constant cycle of announcements about acquisitions that are inevitably followed, a few years later, by cost overruns and capability shortfalls.

This is sufficient evidence to suggest that Australia's

Defence industry faces a far more complex and uncertain
future than it previously anticipated

We can be reasonably sure that the strategic context will not improve. The submarine decision has revealed that defence can make dynamic and expensive course corrections

The Peever Review seems to signal a desire for faster innovation. If AUKUS and AUSMIN lives up to expectation, there'll be plenty of catalysts for further rapid changes.

More than a few in Defence and government will preference a continued commitment to existing programs and approaches. However, the events of

the last two years have created a paradigm shift in the government's thinking that won't be satisfied by steady as she goes thinking. 27

Ultimately, defence decision-makers must live up to their policies and strategies by breaking free from a 'long peace' mindset. They need to accept by rule, not exception, that they don't have the time and scale to be producing platforms that integrate multiple countries' technology over decades.

In this new strategic environment, they have to be more forthright in advising the government on balancing national security and economic dimensions of decisions, especially in areas like shipbuilding.

For the defence industry, the next five years look to be a very uncertain time. But this isn't all bad news. There'll be rewards for those companies able to pivot at speed and scale to support a rapidly changing market with yet to be defined demands.

For those that can establish strong collaborative and agile networks of SMEs, there'll be abundant opportunities. But there will be no room for regretting the past, nor time to linger thinking in the moment.





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MacTaggart Scott Growth Story

MacTaggart Scott
Australia was set up 10
years ago, predominantly
to look after and refurbish
the MTS items on Collins
submarines. The company
has grown from four to
24 people since then
and has recently moved
to a new, purpose built
facilities in Woodville.



South Australia. Apart from 2x10 ton overhead cranes, the company had a section of roof raised to 14m to enable testing of mast raising equipment internally, and additional power to run a variety of equipment for testing, prior to sending items back.

MacTaggart Scott's newest acquisition, through a Sovereign Industry Capability Grant, has been a large pressure vessel. This was designed and manufactured locally, and provides the capability to pressure test large items, and negates the requirement to take the items to Port Wakefield to use their pressure vessel. Several other companies have already expressed interest in potential use of the pressure vessel.

"Work continues in upgrading and improving our equipment. Apart from advanced manufacturing (3D printing) we are rolling out advanced coatings (HVOF) on items, particularly those exposed to seawater, as well as increased investigation into the use of composites."

Hobart Class Destroyers: Critical Role for Industry

Australia's defence industry will act as a 'steward' for the Royal Australian Navy's Hobart class destroyers under a new approach to sustainment that will optimise the destroyers' capability and create hundreds of jobs in South Australia.

Tenders have opened for a Capability Life Cycle Manager, which will see industry support and sustain the destroyers through their lifespan.

Minister for Defence Industry Melissa Price encouraged Australian industry to become part of an innovative new model sustaining Navy's ships.

"This model builds on the success of our continuous naval shipbuilding initiative and has been designed to ensure we can continue to deliver complex naval capability at sea that is reliable and fit-for-purpose," she said.

"It includes performing asset management for the capability and supporting the upgrade of their combat management system.

"Once again the Morrison Government is delivering enormous opportunities for Australia's defence industry, particularly in South Australia."

The Government will invest up to \$5.1 billion for the upgrades at the Osborne Naval Shipyard in South Australia – creating 300 jobs in the State – as part of a major expansion of Australia's naval capabilities announced on 16 September 2021.

The destroyers will be the first major platform to have a Capability Life Cycle Manager, a further step in the realisation of the Future Maritime Sustainment Model under Plan Galileo – Defence's new national, innovative approach to sustainment.

It follows the appointment of Raytheon as the Capability Life Cycle Manager for the new Arafura class offshore patrol vessels in December 2020.

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- 1. Long term plan for success
- 2. In marketing or war, of critical importance



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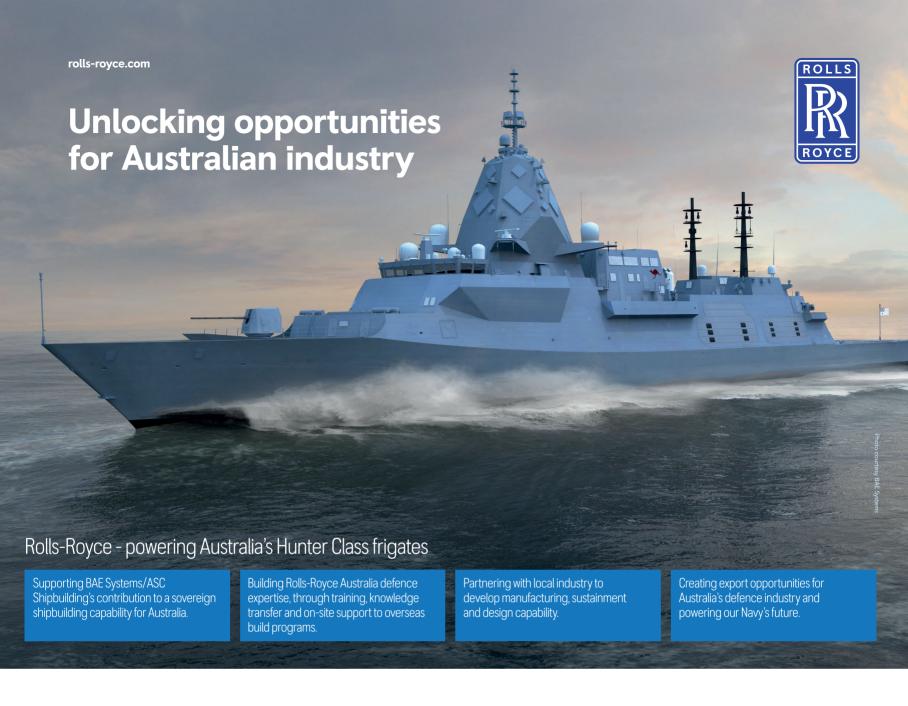
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